

BORING DESIGNATION: PZ001

INSTALLATION DATE: 11/17/00 BY: C. TATUM

DRILLING METHOD: Auger/Air Rotary

CONTRACTOR: Ogden

### MATERIALS DATA

Monument Footing (A) CONCRETE  
 Annular Seal (B) BENTONITE  
 Bottom Seal (C) N/A

### DIMENSIONS

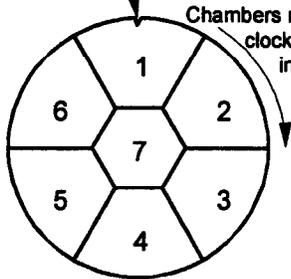
(W) Borehole Diameter 8" 6.25"  
 (X) Stick-up (Above ground) 2.0'  
 (Y) Tubing Diameter 1.7"  
 (Z) Protective Covering Diameter TBD  
 Well Centralizer Depths N/A

### NOTES:

Indentation marks septa number one

Chambers numbered clockwise from indentation

1. 5-7
2. 17-19
3. 29-31
4. 37.5-39.2
5. 51-53
6. 56.8-60
7. \_\_\_\_\_



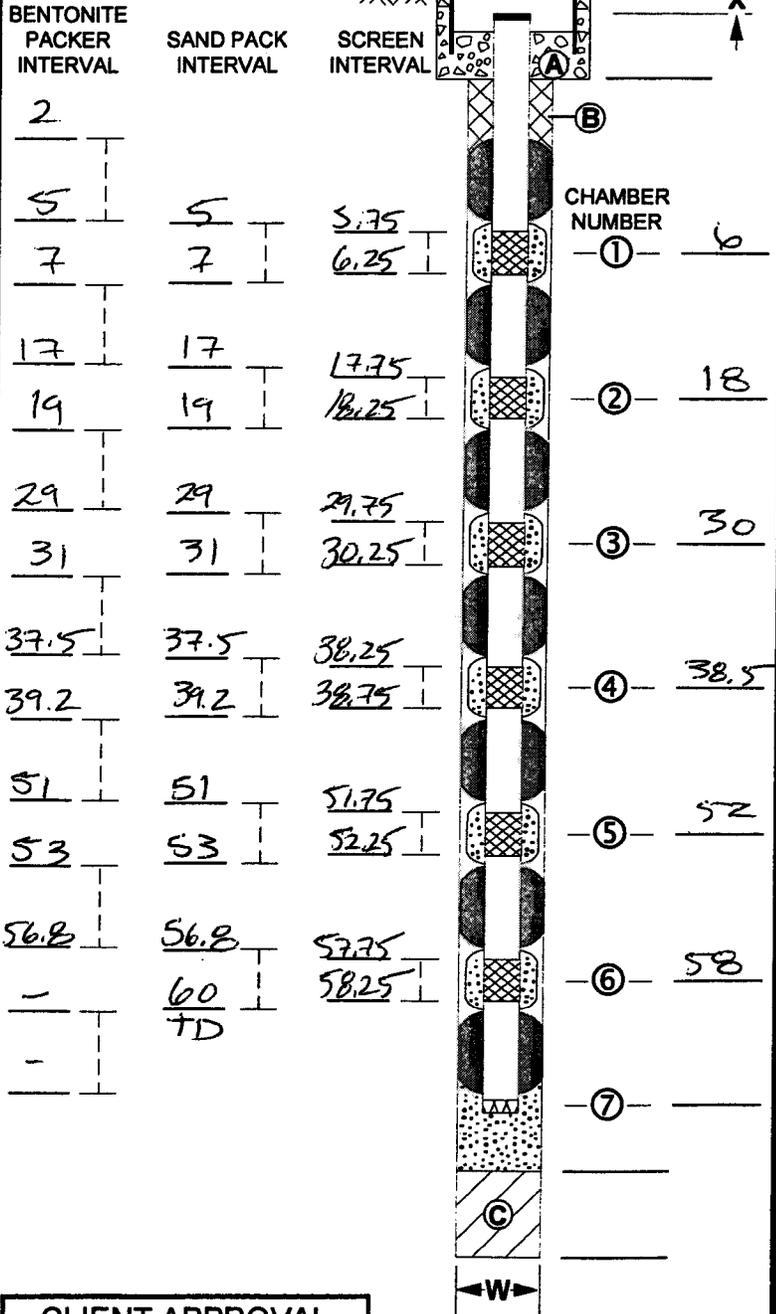
SITE: \_\_\_\_\_

PROJECT NO: \_\_\_\_\_

N. \_\_\_\_\_ E. \_\_\_\_\_

WELL PERMIT NO: \_\_\_\_\_

WELL DESIGNATION



CLIENT APPROVAL

SECTION VIEW  
(Not to Scale)

BORING DESIGNATION: PZ002

INSTALLATION DATE: 11/29/00 BY: C. TATUM

DRILLING METHOD: Hollow Stem Auger

CONTRACTOR: OGDEN

### MATERIALS DATA

Monument Footing (A) CONCRETE

Annular Seal (B) BENTONITE

Bottom Seal (C) NATIVE

Enviroplug coated pellets: 28-43

### DIMENSIONS

(W) Borehole Diameter 8"

(X) Stick-up +2.5 Ft

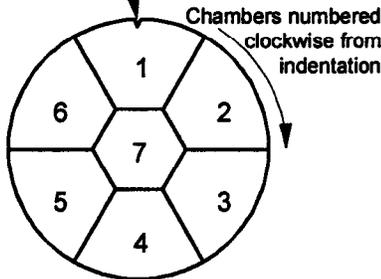
(Y) Tubing Diameter 1.7"

(Z) Protective Covering Diameter TBD

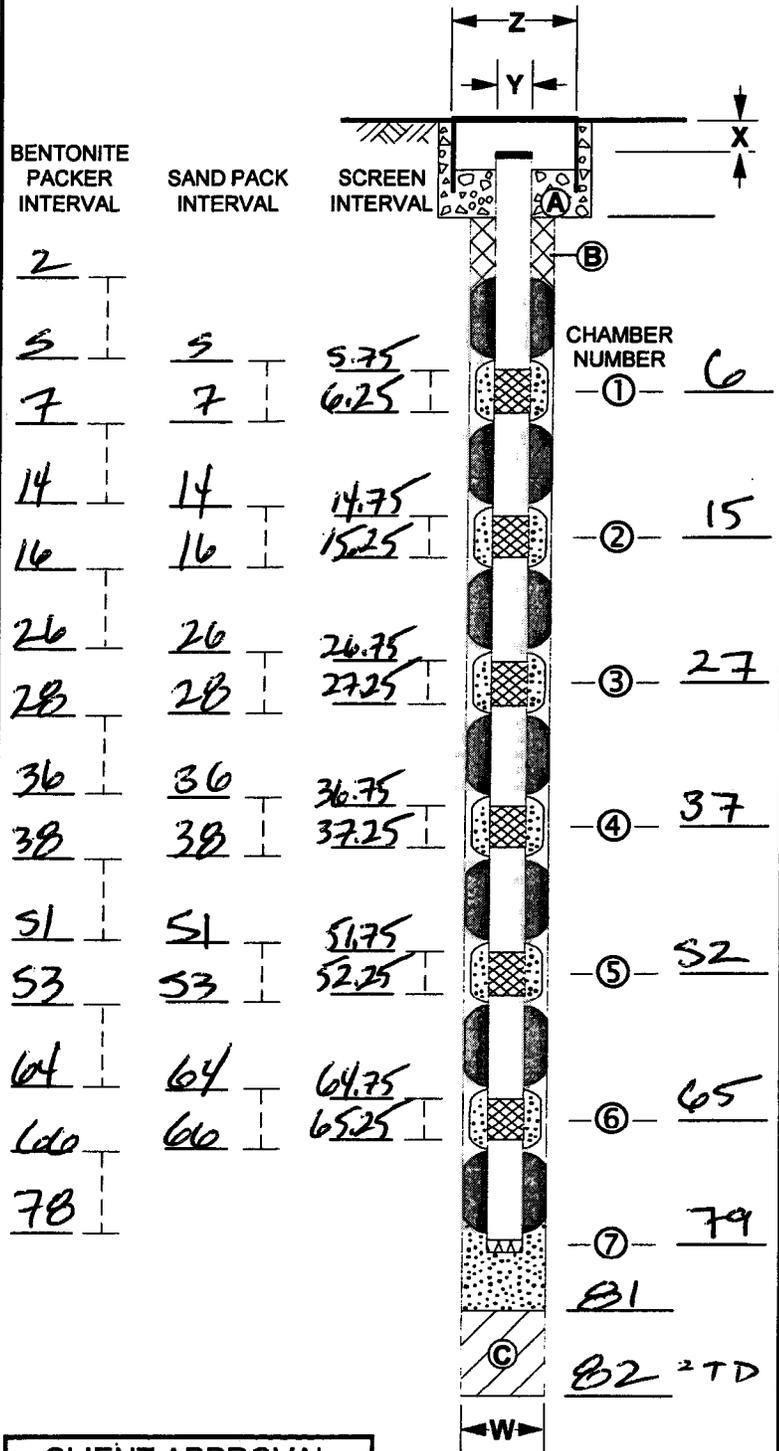
Well Centralizer Depths 77-78'

NOTES: Indentation marks septa number one

1. 5-7
2. 14-16
3. 26-28
4. 36-38
5. 51-53
6. 64-66
7. 78-81



WELL DESIGNATION

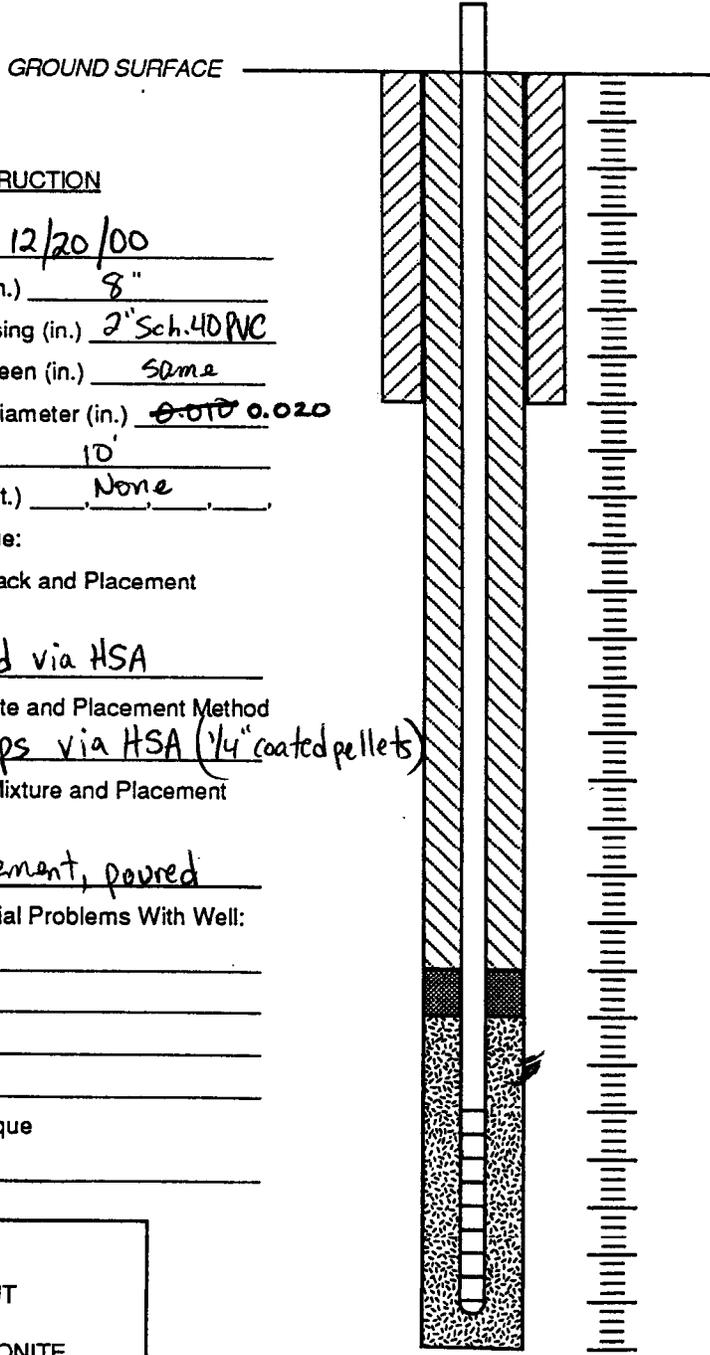


CLIENT APPROVAL

SECTION VIEW  
(Not to Scale)

## WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ003 HYDROGEOLOGIST T. Burton  
 CLIENT Rocketdyne DRILLER Layne  
 WELL LOCATION APTF PT-012 DATE/TIME 12/20/00 1630



### DETAILS OF CONSTRUCTION

Date Completed 12/20/00  
 Borehole Diameter (in.) 8"  
 Type and Size of Casing (in.) 2" Sch. 40 PVC  
 Type and Size of Screen (in.) same  
 Screen Perforation Diameter (in.) ~~0.010~~ 0.020  
 Screen Length (ft.) 10'  
 Centralizer Depths (ft.) None

### Completion Technique:

1) Type of Filter Pack and Placement  
 Method

RMC #3 sand via HSA

2) Type of Bentonite and Placement Method

Medium Chips via HSA (1/4" coated pellets)

3) Type of Grout Mixture and Placement

Method

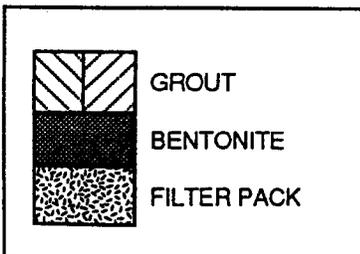
Portland cement, poured

### Description of Potential Problems With Well:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### Development Technique

\_\_\_\_\_



Well Head Elevation TBD

Ground Surface Elev. TBD

Well Head Completion Method  
Flush-mounted box

Drilling Method/Rig Type  
Air Rotary/HSA CME 95

Surface Casing: Type —  
 Diameter —  
 Length —

### MATERIALS

Cement (sks.) 2 (1.5)  
 Filter Pack Material (#<sup>3</sup>) 6 bags  
 Casing Material (ft.) 25  
 Bentonite (#<sup>2</sup>) 2.3 bags

Top of Bentonite Seat 10 ft.

Top of Filter Pack 13 ft.

Top of Screen 15 ft.

Bottom of Screen 25 ft.

Bottom of Hole 53 ft.

coated chips 53-27  
 slough 26-27  
 sand 26-13

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313100005 WELL NO. P2004A HYDROGEOLOGIST R. SINGER

CLIENT NASA DRILLER LAYNE

WELL LOCATION DELTA PT-094 DATE/TIME 12-13-00 8:10

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 12-13-00

Borehole Diameter (in.) 6"

Type and Size of Casing (in.) 2" PVC

Type and Size of Screen (in.) 2" PVC

Screen Perforation Diameter (in.) 0.020

Screen Length (ft.) 1.0

Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

1) Type of Filter Pack and Placement

Method

#3 SAND D.H

2) Type of Bentonite and Placement Method

med chip soil

3) Type of Grout Mixture and Placement

Method

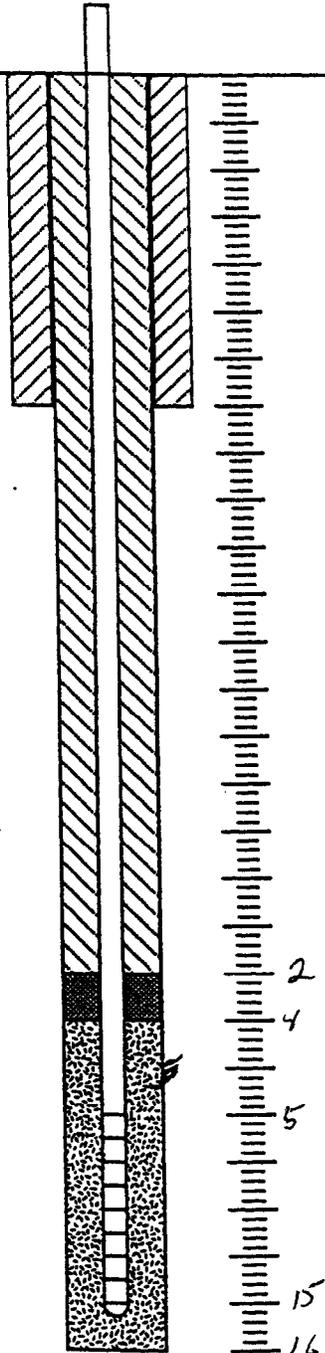
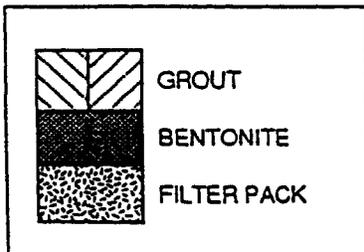
Port. Cem Type II/IV

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique

\_\_\_\_\_



Well Head Elevation \_\_\_\_\_

Ground Surface Elev. \_\_\_\_\_

Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type

CME - Air Rotary

Surface Casing: Type PVC

Diameter \_\_\_\_\_

Length \_\_\_\_\_

MATERIALS

Cement (sks.) \_\_\_\_\_

Filter Pack Material (ft.<sup>3</sup>) 2.6 @ 94

Casing Material (ft.) 15'

Bentonite (ft.<sup>3</sup>) 0.9 @ 50

Top of Bentonite Seal 2 ft.

Top of Filter Pack 4 ft.

Top of Screen 5 ft.

Bottom of Screen 15 ft.

Bottom of Hole 16 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313100005 WELL NO. P2004B HYDROGEOLOGIST T. Burton  
CLIENT NASA DRILLER Layne  
WELL LOCATION SSFL DELTA PT-094 DATE/TIME 12/12/00 1500

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 12-12-00  
Borehole Diameter (in.) 6"  
Type and Size of Casing (in.) 2" PVC  
Type and Size of Screen (in.) 2" PVC  
Screen Perforation Diameter (in.) 0.020  
Screen Length (ft.) 10  
Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

1) Type of Filter Pack and Placement

Method

#3 SAND O.H.

2) Type of Bentonite and Placement Method

med chips O.H.

3) Type of Grout Mixture and Placement

Method

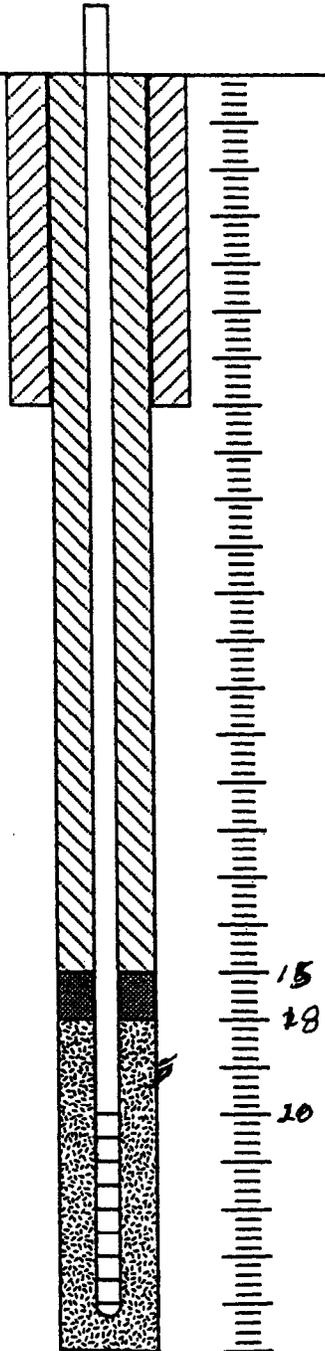
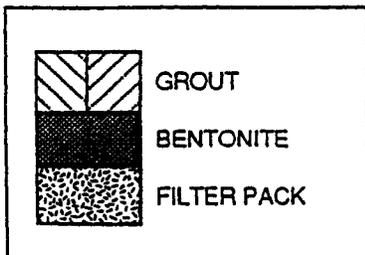
Port Cem Type II/IV O.H.

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique

\_\_\_\_\_



Well Head Elevation \_\_\_\_\_  
Ground Surface Elev. \_\_\_\_\_  
Well Head Completion Method CME-95 AIR ROTARY  
Drilling Method/Rig Type CME-95 AIR ROTARY  
Surface Casing: Type PVC  
Diameter \_\_\_\_\_  
Length 30'

MATERIALS

Cement (sks.) 2 bags @ 94 lbs  
Filter Pack Material (ft.<sup>3</sup>) 3 bags @ 140/16  
Casing Material (ft.) 30'  
Bentonite (ft.<sup>3</sup>) 1 bag @ 50/16

Top of Bentonite Seal 15 ft.  
Top of Filter Pack 18 ft.  
Top of Screen 20 ft.

Bottom of Screen 30 ft.  
Bottom of Hole 31.5' 36'  
**CAVED 31.5'-36'**

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



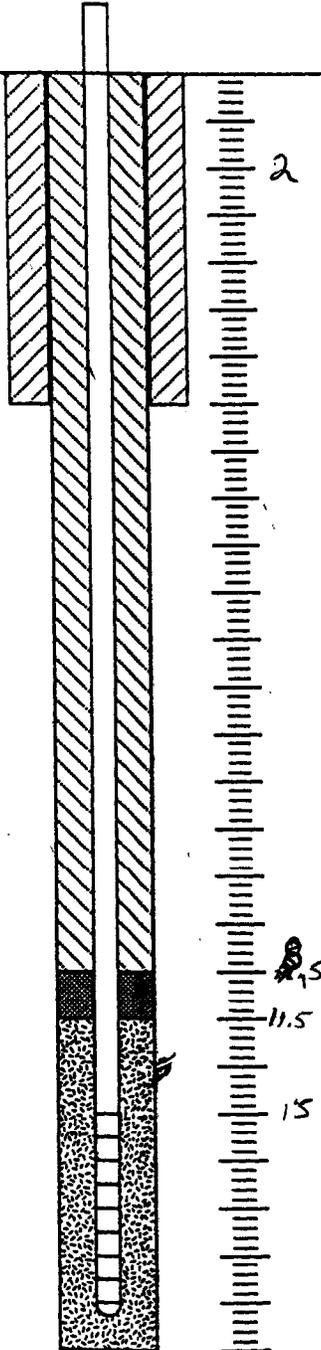
WELL COMPLETION RECORD

JOB NO. 31310005 WELL NO. PZ005 HYDROGEOLOGIST R. Singer

CLIENT DOE DRILLER LAYNE

WELL LOCATION SSFL-SNEA PT-102 DATE/TIME 12-11-00 0920

GROUND SURFACE



Well Head Elevation \_\_\_\_\_

Ground Surface Elev. \_\_\_\_\_

Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type

CM2-95 air rotary

Surface Casing: Type PVC

Diameter 2"

Length 10'

DETAILS OF CONSTRUCTION

Date Completed 12-11-00

Borehole Diameter (in.) 6"

Type and Size of Casing (in.) 2" PVC

Type and Size of Screen (in.) 2" PVC

Screen Perforation Diameter (in.) 0.020

Screen Length (ft.) 10'

Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

1) Type of Filter Pack and Placement

Method

#3 SAND O.H.

2) Type of Bentonite and Placement Method

ENVIROPLUG MEDIUM-CHIPS O.H.

3) Type of Grout Mixture and Placement

Method

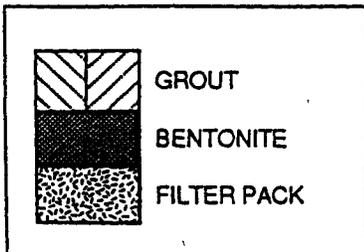
Portland Cement Type II/V O.H.

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique

\_\_\_\_\_



MATERIALS

Cement (sks.) 2 bgs @ 94lb

Filter Pack Material (ft.<sup>3</sup>) 8.66 bgs

Casing Material (ft.) 25'

Bentonite (ft.<sup>3</sup>) 1 bgs @ 50lb

Top of Bentonite Seat 8.5' ft.

Top of Filter Pack 11.5' ft.

Top of Screen 15' ft.

Bottom of Screen 25' ft.

Bottom of Hole 26.5' ft. 45

**CAVED 26.5'-45'**

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

## MULTI-LEVEL WELL CONSTRUCTION DETAILS

BORING DESIGNATION: PZΦΦ6

INSTALLATION DATE: 11/20/00 BY: C. TATUM

DRILLING METHOD: Auger / Air Rotary

CONTRACTOR: OGDEN

### MATERIALS DATA

Monument Footing (A) CONCRETE

Annular Seal (B) BENTONITE

Bottom Seal (C) N/A

### DIMENSIONS

(W) Borehole Diameter 6.25"

(X) Stick-up (Above ground) 2.5'

(Y) Tubing Diameter 1.7"

(Z) Protective Covering Diameter TBD

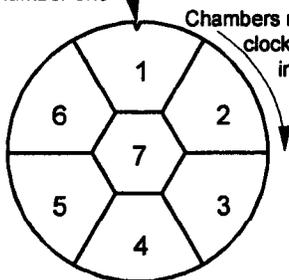
Well Centralizer Depths N/A

### NOTES:

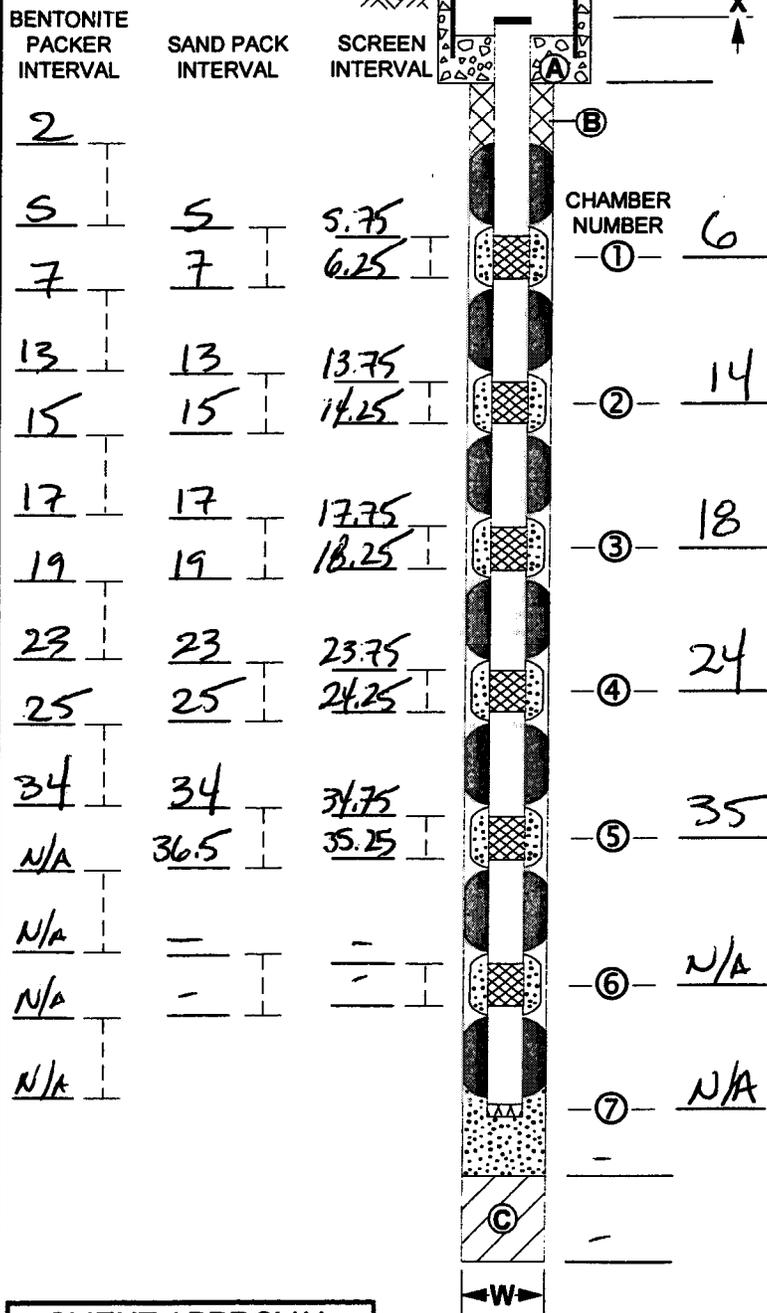
Indentation marks septa number one

Chambers numbered clockwise from indentation

1. 5-7
2. 13-15
3. 17-19
4. 23-25
5. 34-36.5
6. N/A
7. N/A



WELL DESIGNATION



CLIENT APPROVAL

SECTION VIEW (Not to Scale)

BORING DESIGNATION: PZ007

INSTALLATION DATE: 11/16/20 BY: C. TATUM

DRILLING METHOD: AUGER/AIR ROTARY  
(0-35) (35-46)

CONTRACTOR: OGDEN

### MATERIALS DATA

Monument Footing (A) CONCRETE  
Annular Seal (B) BENTONITE  
Bottom Seal (C) —

### DIMENSIONS

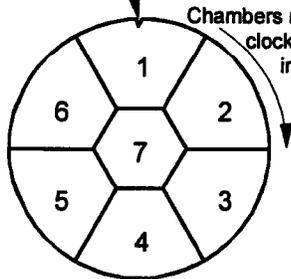
(W) Borehole Diameter (0-35) = 18" (35-46) = 6.25"  
(X) Stick-up (above ground) 2.5'  
(Y) Tubing Diameter 1.7"  
(Z) Protective Covering Diameter TBD  
Well Centralizer Depths N/A

### NOTES:

Indentation marks septa number one

Chambers numbered clockwise from indentation

1. 3-7
2. 10-12
3. 15-17
4. 24-26
5. 30-32
6. 35-37
7. 42.6-46



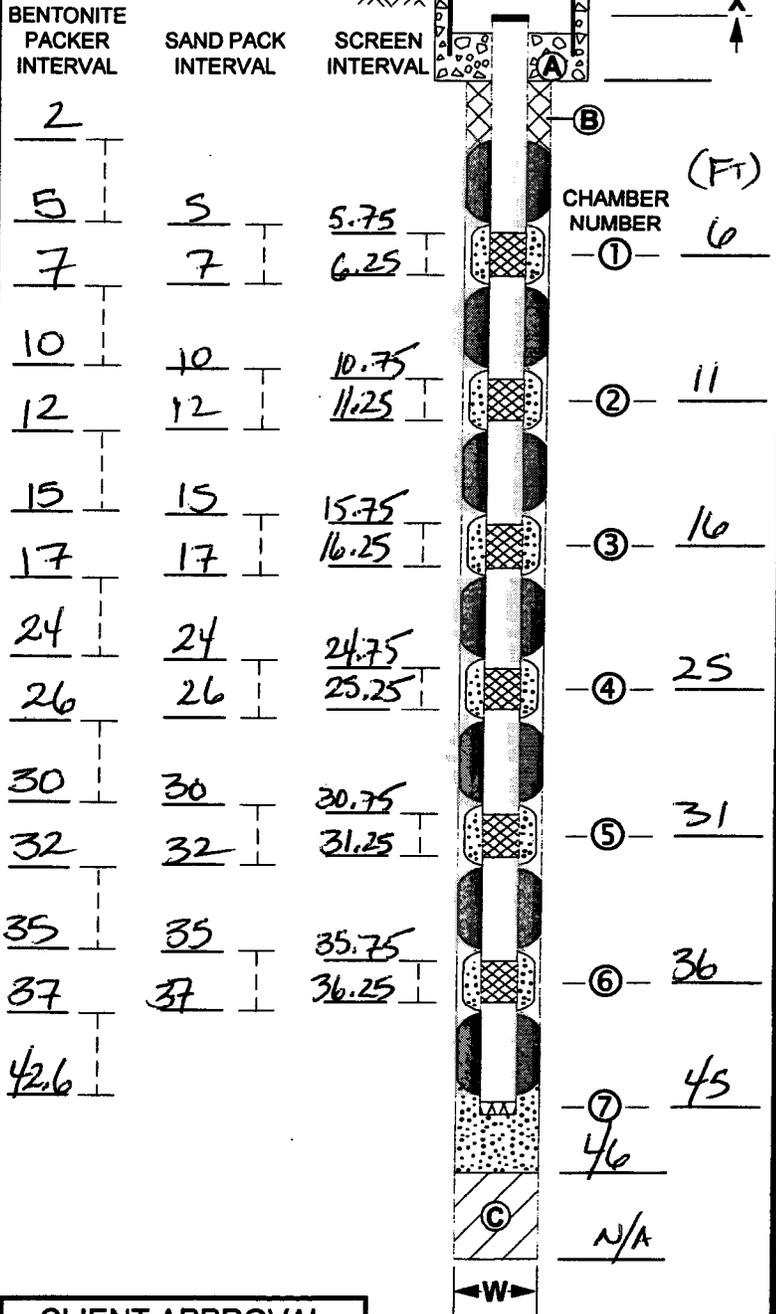
SITE: \_\_\_\_\_

PROJECT NO: \_\_\_\_\_

N. \_\_\_\_\_ E. \_\_\_\_\_

WELL PERMIT NO: \_\_\_\_\_

WELL DESIGNATION



CLIENT APPROVAL

SECTION VIEW  
(Not to Scale)

BORING DESIGNATION: P2008

INSTALLATION DATE: 12/6/00 BY: C. TATUM

DRILLING METHOD: AUGER/AIR ROTARY

CONTRACTOR: OGDEN

### MATERIALS DATA

Monument Footing (A) Concrete  
 Annular Seal (B) Portland Cement  
 Bottom Seal (C) NATIVE

### DIMENSIONS

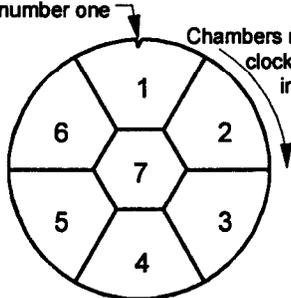
(W) Borehole Diameter 6.5"  
 (X) Stick-up +2.5'  
 (Y) Tubing Diameter 1.7"  
 (Z) Protective Covering Diameter TBD  
 Well Centralizer Depths N/A

### NOTES:

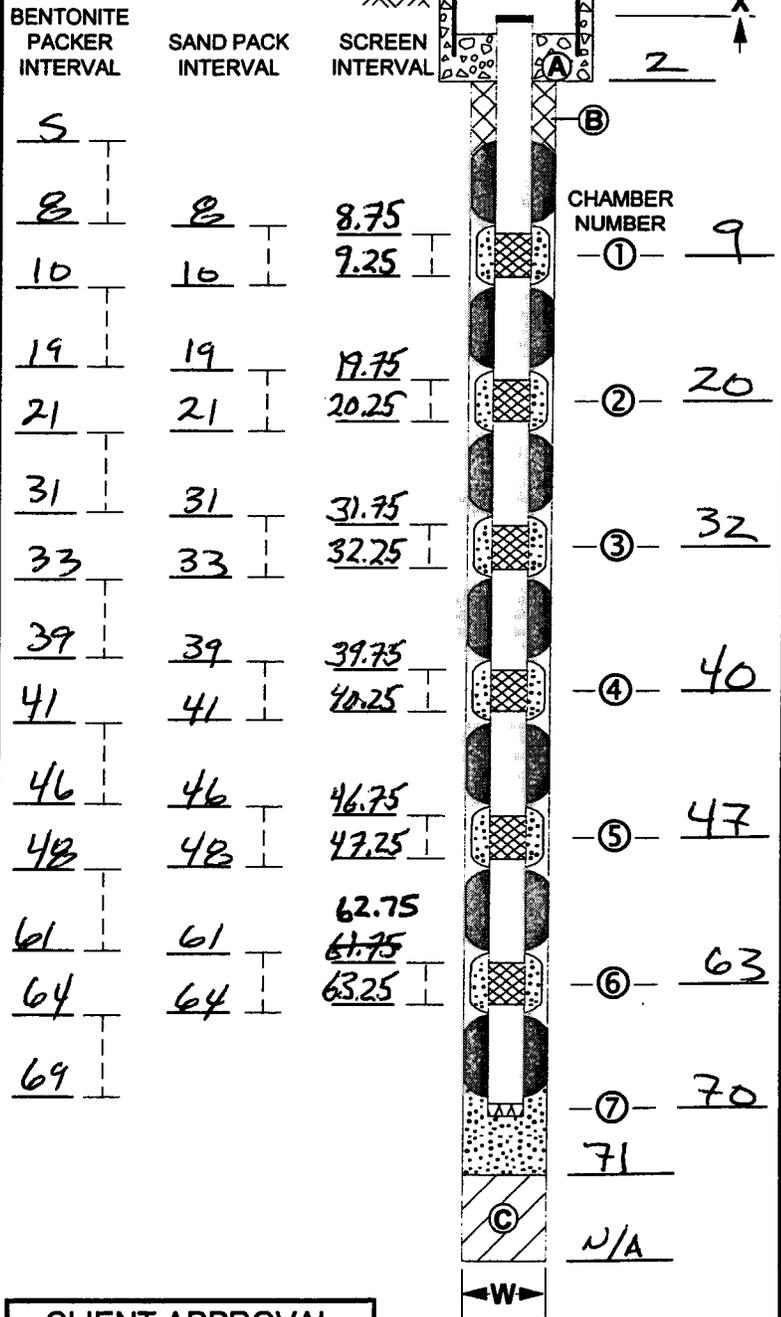
Indentation marks septa number one

Chambers numbered clockwise from indentation

1. 8-10
2. 19-21
3. 31-33
4. 39-41
5. 46-48
6. 61-64
7. 69-71



WELL DESIGNATION



CLIENT APPROVAL

SECTION VIEW  
(Not to Scale)

BORING DESIGNATION: PZ009

INSTALLATION DATE: 11/19/00 BY: C. TATUM

DRILLING METHOD: Auger/Air Rotary

CONTRACTOR: Ogden

### MATERIALS DATA

Monument Footing (A) CONCRETE  
 Annular Seal (B) BENTONITE  
 Bottom Seal (C) N/A

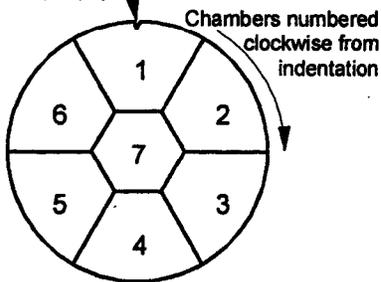
### DIMENSIONS

(W) Borehole Diameter 8" / 6.25"  
 (X) Stick-up Above ground 2.5'  
 (Y) Tubing Diameter 1.7"  
 (Z) Protective Covering Diameter TBD  
 Well Centralizer Depths N/A

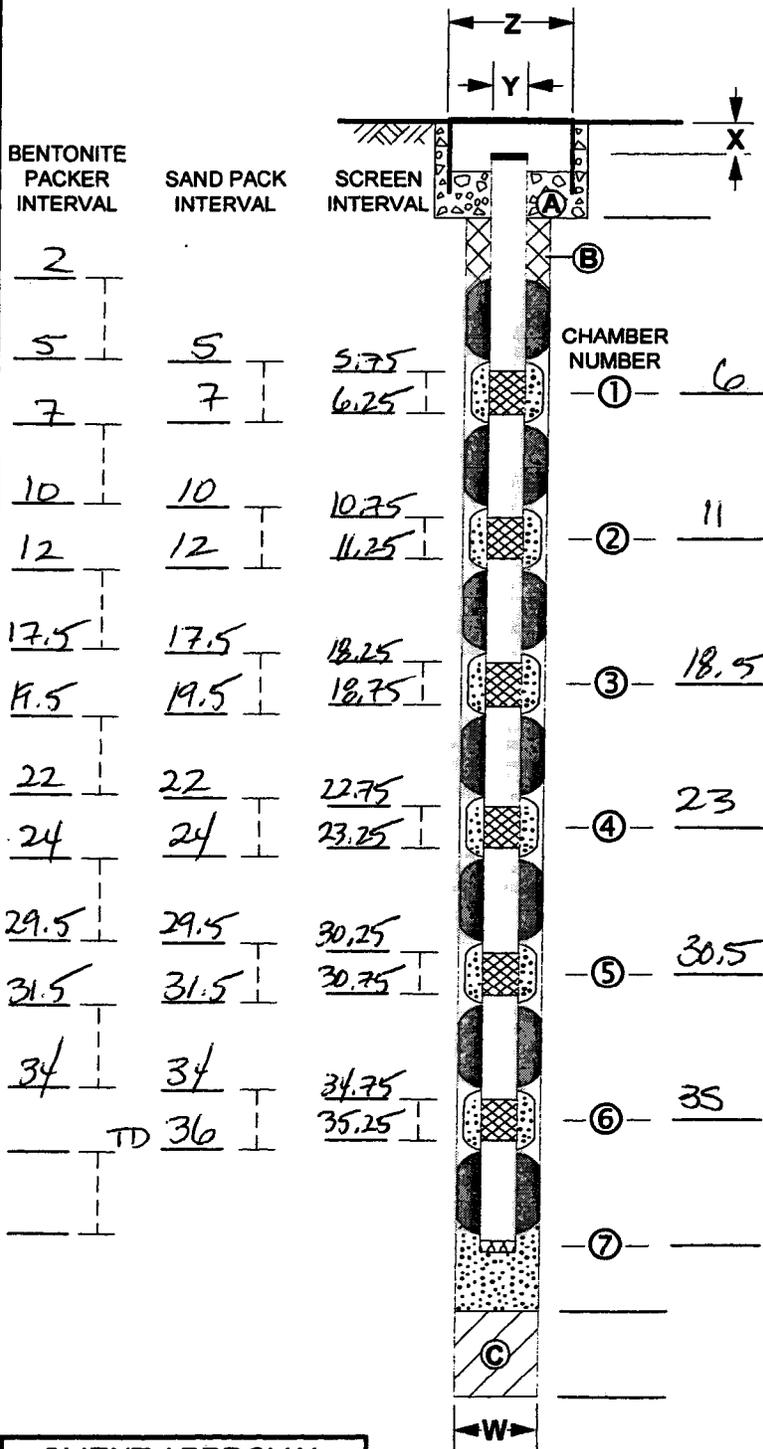
### NOTES:

Indentation marks septa number one

1. S-7
2. 10-12
3. 17.5-19.5
4. 22-24
5. 29.5-31.5
6. 34-36
7. \_\_\_\_\_



WELL DESIGNATION



CLIENT APPROVAL

SECTION VIEW (Not to Scale)

BORING DESIGNATION: PZ  $\phi$  1  $\phi$

INSTALLATION DATE: 11/18/00 BY: C. TATUM  
 DRILLING METHOD: Auger/Air Rotary

CONTRACTOR: OGDEN

### MATERIALS DATA

Monument Footing (A) CONCRETE  
 Annular Seal (B) Portland Cement  
 Bottom Seal (C) N/A

### DIMENSIONS

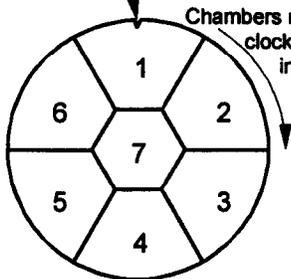
(W) Borehole Diameter 8" / 6.25"  
 (X) Stick-up 4"  
 (Y) Tubing Diameter 1.7"  
 (Z) Protective Covering Diameter TBD  
 Well Centralizer Depths N/A

### NOTES:

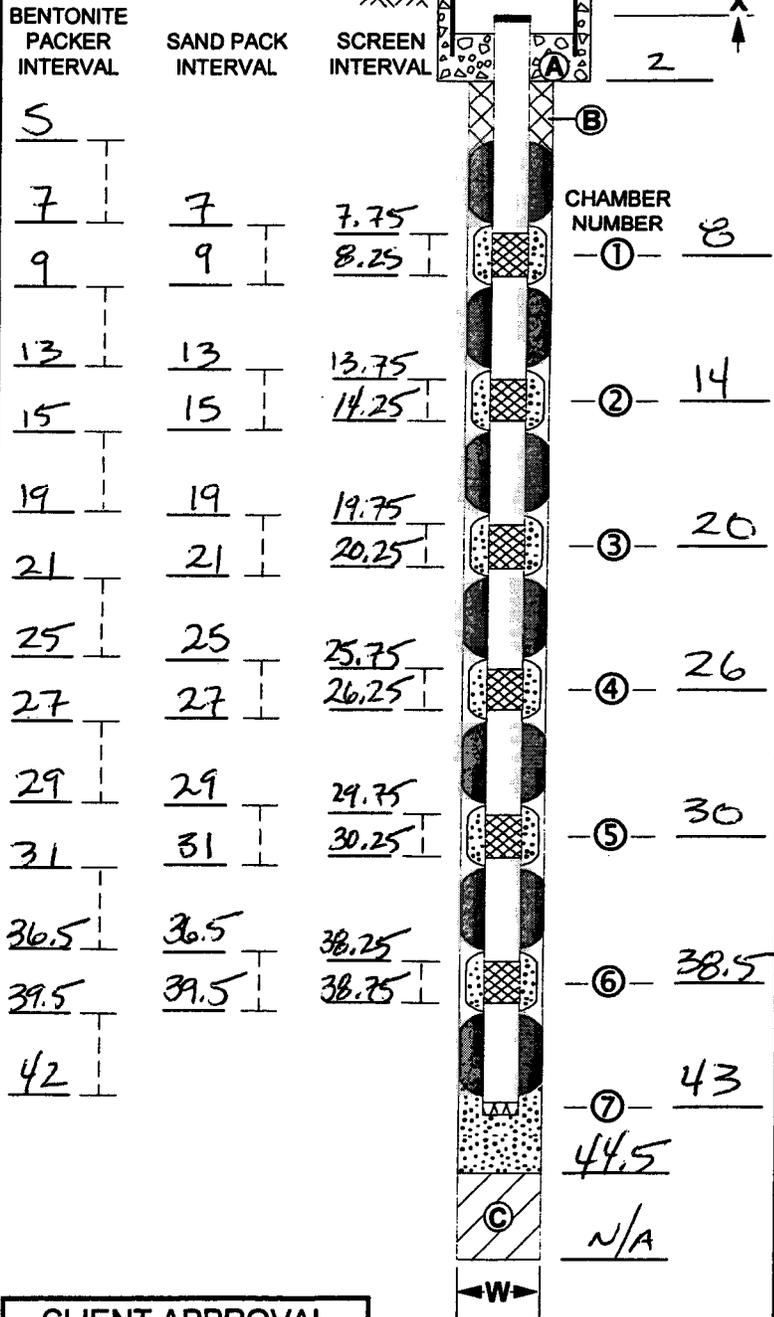
Indentation marks septa number one

Chambers numbered clockwise from indentation

1. 7-9
2. 13-15
3. 19-21
4. 25-27
5. 29-31
6. 36.5-39.5
7. 42-44.5



WELL DESIGNATION



CLIENT APPROVAL

SECTION VIEW  
(Not to Scale)

BORING DESIGNATION: P2011

INSTALLATION  
 DATE: 12/5/00 BY: C. TATUM  
 DRILLING METHOD: AUGER/AIR ROTARY

CONTRACTOR: OGDEN

### MATERIALS DATA

Monument Footing (A) Concrete  
 Annular Seal (B) Portland Cement  
 Bottom Seal (C) —

### DIMENSIONS

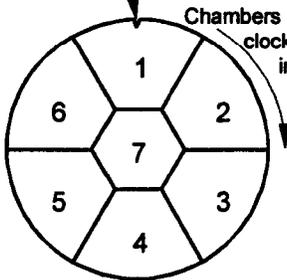
(W) Borehole Diameter 6.5"  
 (X) Stick-up 4"  
 (Y) Tubing Diameter 1.7"  
 (Z) Protective Covering Diameter TBD  
 Well Centralizer Depths N/A

### NOTES:

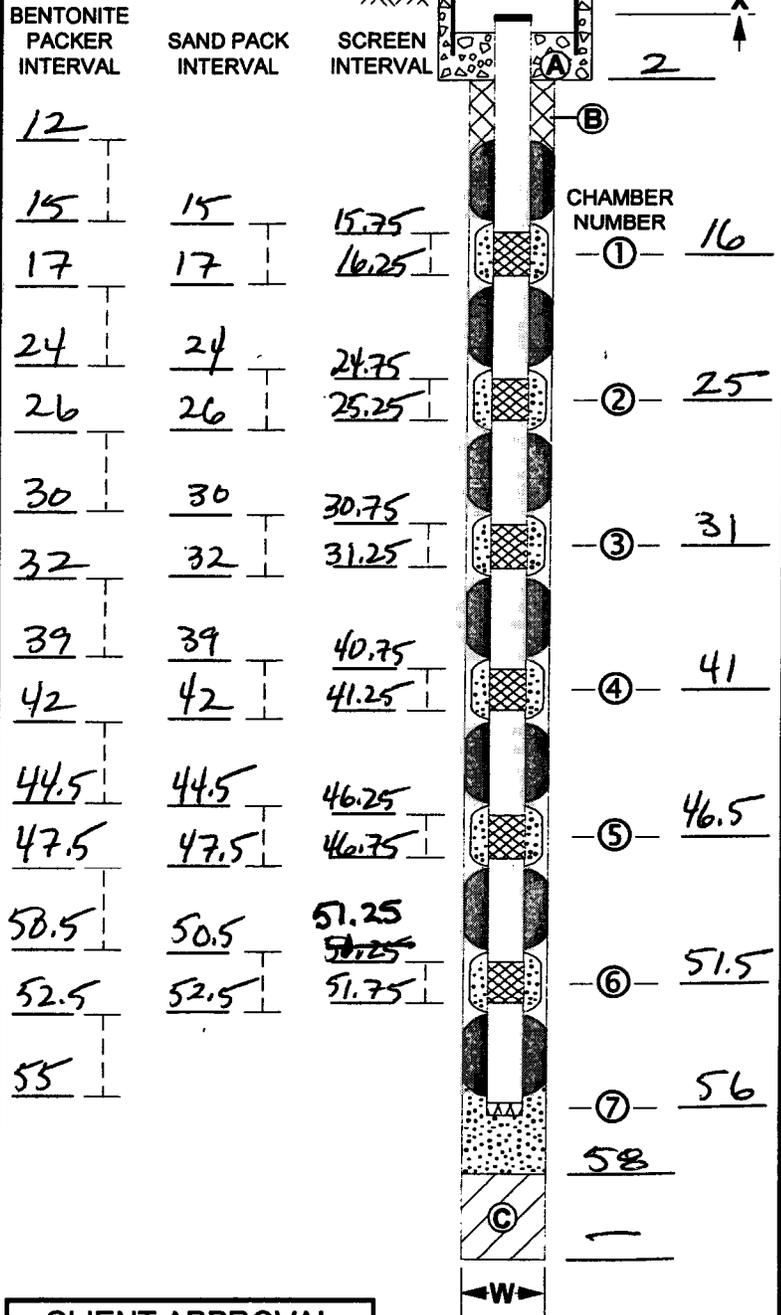
Indentation marks  
 septa number one

Chambers numbered  
 clockwise from  
 indentation

1. 15-17
2. 24-26
3. 30-32
4. 39-42
5. 44.5-47.5
6. 50.5-52.5
7. 55-58



WELL DESIGNATION



CLIENT APPROVAL

SECTION VIEW  
 (Not to Scale)



# MULTI-LEVEL WELL CONSTRUCTION DETAILS

BORING DESIGNATION: PZ012

INSTALLATION DATE: 12/8/00 BY: C. TATUM

DRILLING METHOD: AIR Rotary

CONTRACTOR: OGDEN

### MATERIALS DATA

- Monument Footing (A) CONCRETE
- Annular Seal (B) BENTONITE
- Bottom Seal (C) NATIVE

### DIMENSIONS

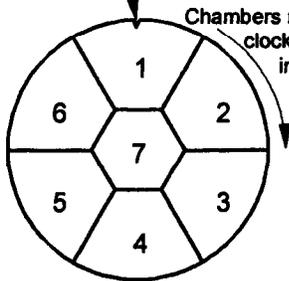
- (W) Borehole Diameter 6.5"
- (X) Stick-up 2.5'
- (Y) Tubing Diameter 1.7"
- (Z) Protective Covering Diameter TBD
- Well Centralizer Depths N/A

### NOTES:

Indentation marks septa number one

Chambers numbered clockwise from indentation

1. 4-6
2. 10-12
3. 16-18
4. 20.5-22.5
5. 22.5-25-28
6. 34-37
7. \_\_\_\_\_



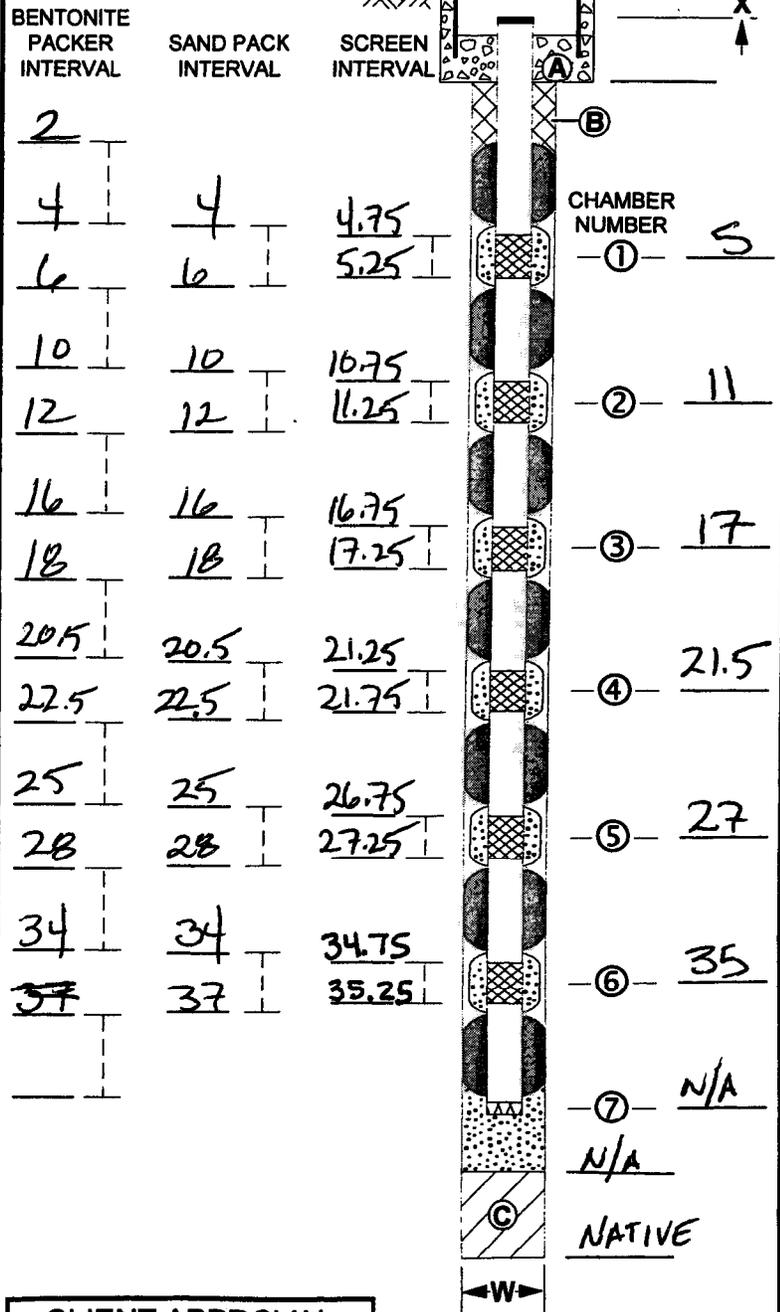
SITE: Area 1 Rd

PROJECT NO: \_\_\_\_\_

N. \_\_\_\_\_ E. \_\_\_\_\_

WELL PERMIT NO: \_\_\_\_\_

WELL DESIGNATION



CLIENT APPROVAL

SECTION VIEW  
(Not to Scale)

BORING DESIGNATION: PZ013

INSTALLATION DATE: 12/1/00 BY: C. TATUM

DRILLING METHOD: AIR ROTARY

CONTRACTOR: OGDEN

### MATERIALS DATA

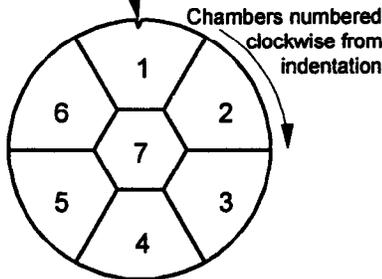
Monument Footing (A) CONCRETE  
 Annular Seal (B) BENTONITE  
 Bottom Seal (C) N/A

### DIMENSIONS

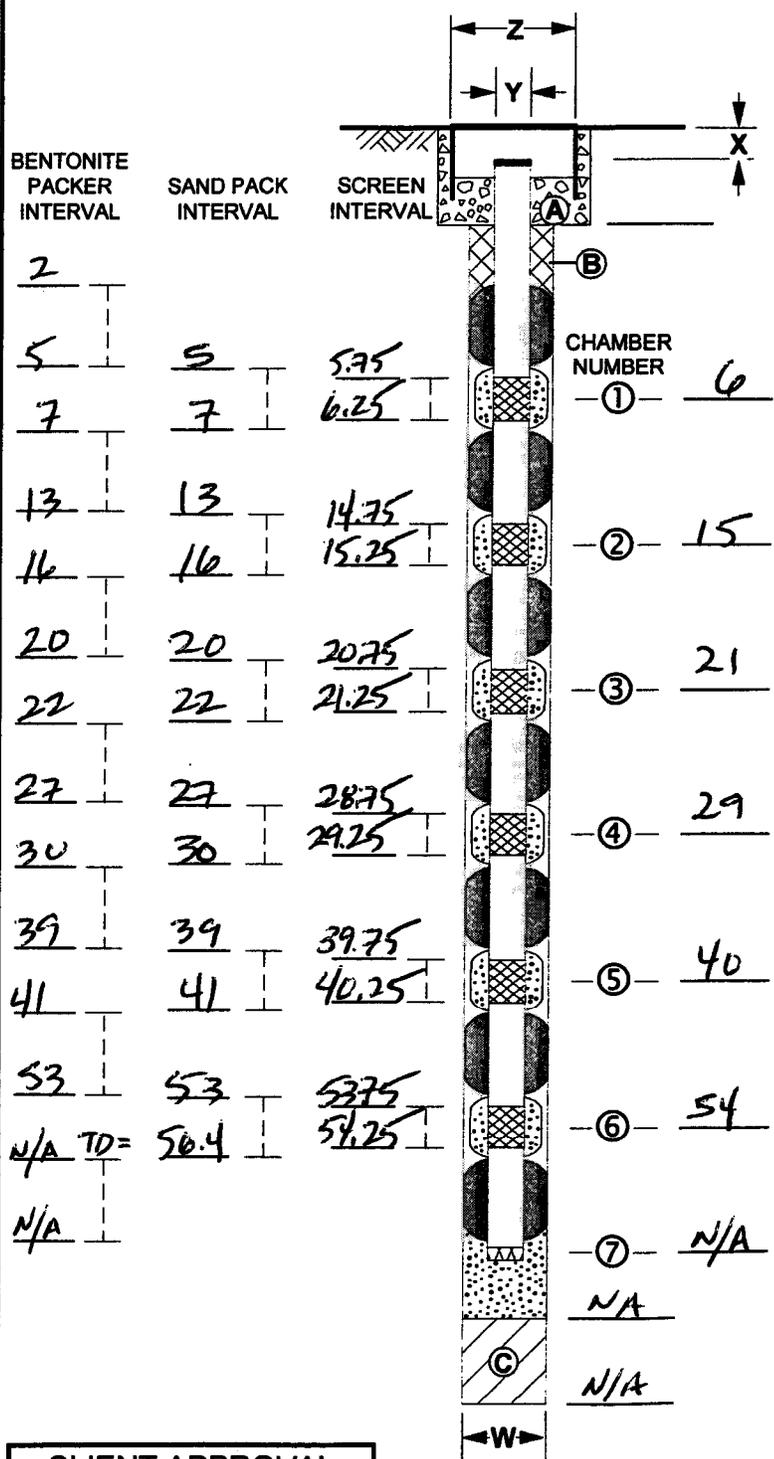
(W) Borehole Diameter 6.5"  
 (X) Stick-up +2.5'  
 (Y) Tubing Diameter 1.7"  
 (Z) Protective Covering Diameter TBD  
 Well Centralizer Depths N/A

NOTES: Indentation marks septa number one

1. 5-7
2. 13-16
3. 20-22
4. 27-30
5. 39-41
6. 53-56H
7. N/A



WELL DESIGNATION



CLIENT APPROVAL

SECTION VIEW (Not to Scale)

BORING DESIGNATION: PZ014

INSTALLATION DATE: 11/30/00 BY: C. TATUM  
 DRILLING METHOD: AIR ROTARY

CONTRACTOR: UGDEN

**MATERIALS DATA**

Monument Footing (A) CONCRETE  
 Annular Seal (B) BENTONITE  
 Bottom Seal (C) NATIVE

**DIMENSIONS**

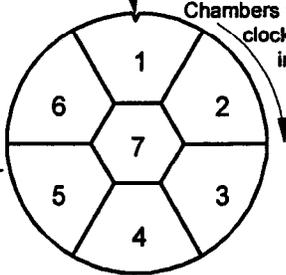
(W) Borehole Diameter 6.5"  
 (X) Stick-up +2.5'  
 (Y) Tubing Diameter 1.7"  
 (Z) Protective Covering Diameter TBD  
 Well Centralizer Depths N/A

**NOTES:**

Indentation marks septa number one

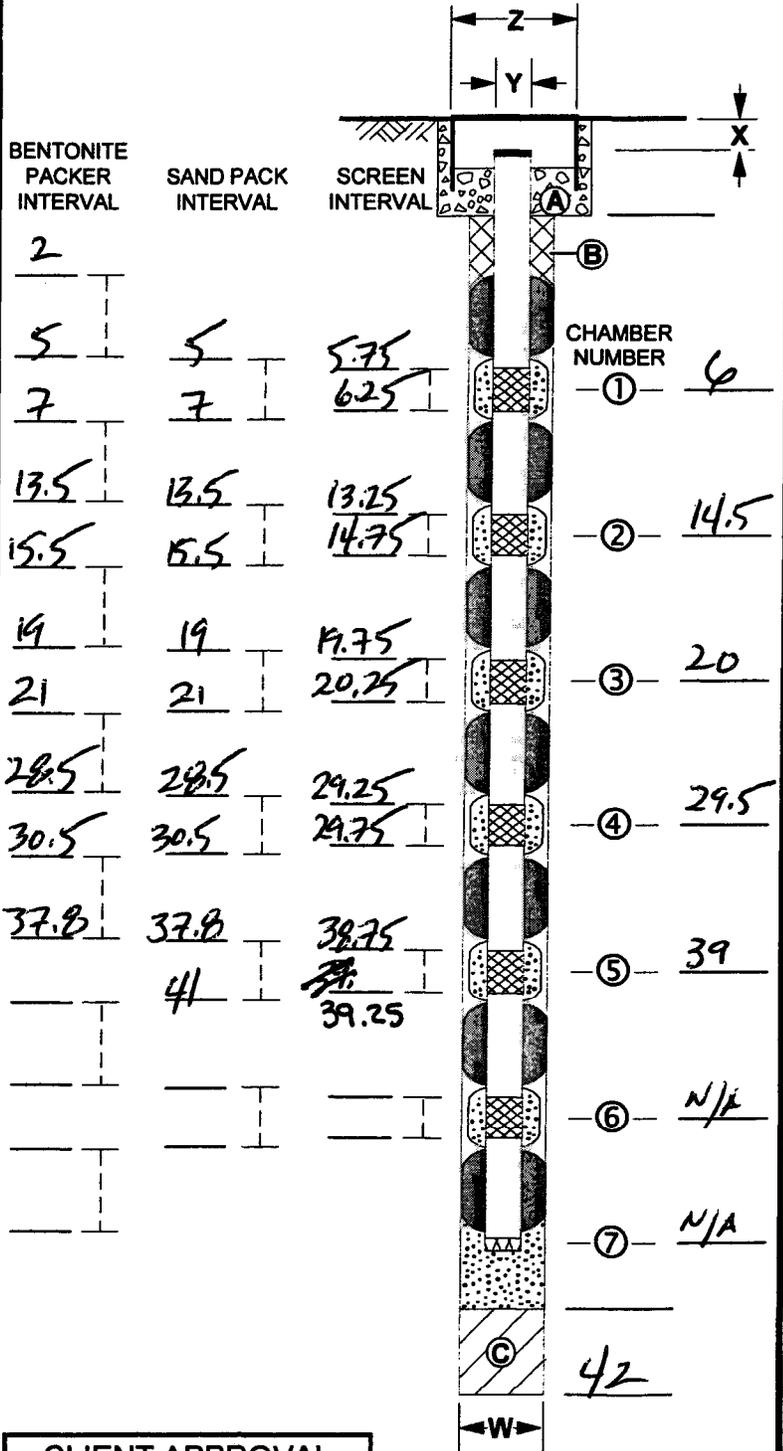
Chambers numbered clockwise from indentation

1. 5-7
2. 13.5-15.5
3. 19-21
4. 28.5-30.5
5. 37.8-41
6. N/A
7. N/A



SITE: \_\_\_\_\_  
 PROJECT NO: \_\_\_\_\_  
 N. \_\_\_\_\_ E. \_\_\_\_\_  
 WELL PERMIT NO: \_\_\_\_\_

WELL DESIGNATION



CLIENT APPROVAL

SECTION VIEW  
(Not to Scale)

BORING DESIGNATION: PZ015

INSTALLATION DATE: 12/14/00 BY: C. TATUM

DRILLING METHOD: AIR ROTARY

CONTRACTOR: OGDEN

### MATERIALS DATA

Monument Footing (A) CONCRETE

Annular Seal (B) N/A

Bottom Seal (C) N/A

### DIMENSIONS

(W) Borehole Diameter 6.5"

(X) Stick-up FB + 2.5'

(Y) Tubing Diameter 1.7"

(Z) Protective Covering Diameter TBD

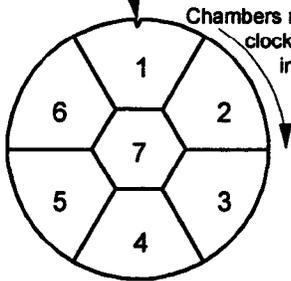
Well Centralizer Depths N/A

### NOTES:

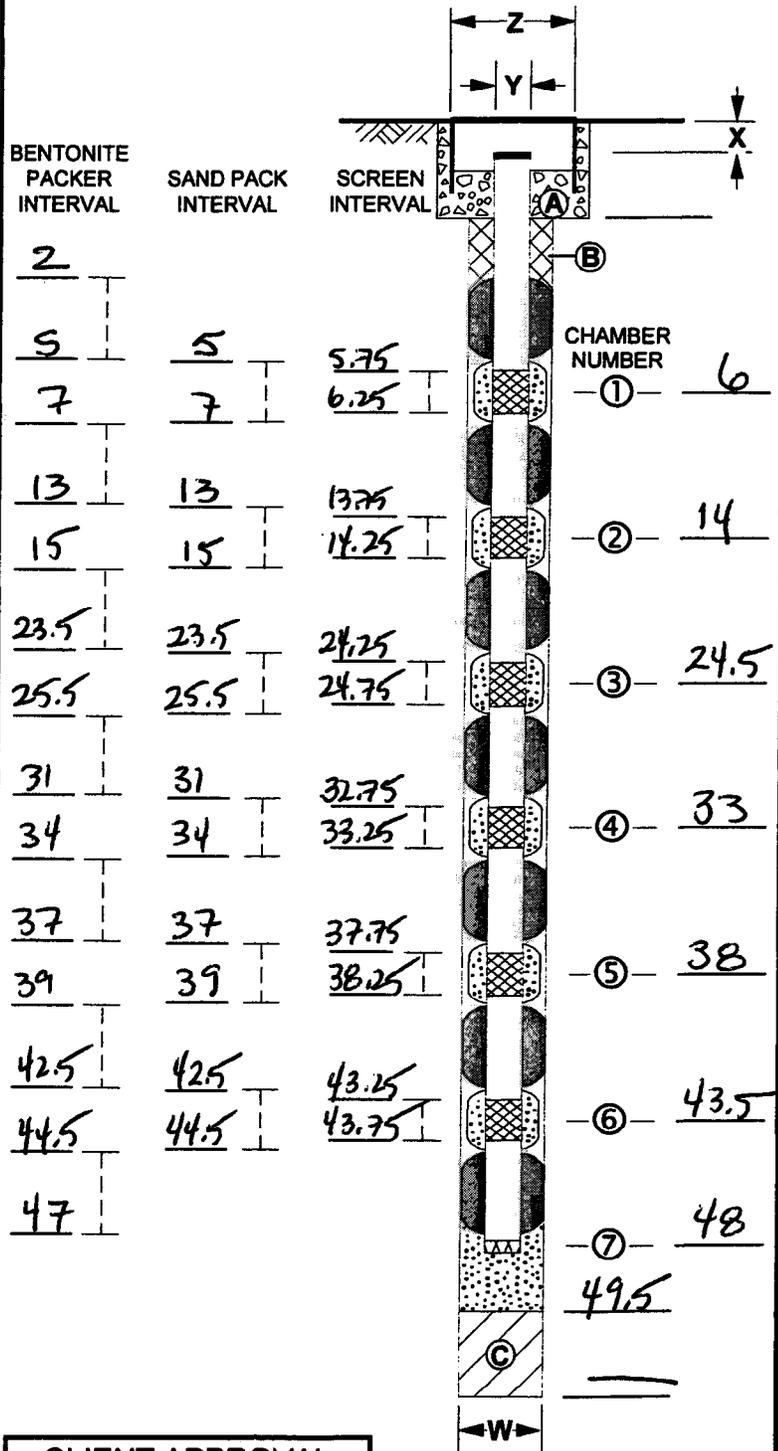
Indentation marks septa number one

Chambers numbered clockwise from indentation

1. 5-7
2. 13-15
3. 23.5-25.5
4. 31-34
5. 37-39
6. 42.5-44.5
7. 47-49.5



WELL DESIGNATION



SITE: Compound A

PROJECT NO: \_\_\_\_\_

N. \_\_\_\_\_ E. \_\_\_\_\_

WELL PERMIT NO: \_\_\_\_\_

CLIENT APPROVAL

SECTION VIEW  
(Not to Scale)

BORING DESIGNATION: PZ016

INSTALLATION DATE: 12/7/00 BY: C. TATUM  
 DRILLING METHOD: AIR ROTARY

CONTRACTOR: OGDEN

### MATERIALS DATA

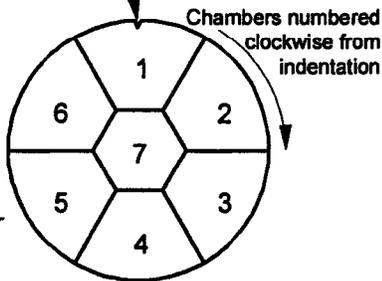
Monument Footing (A) CONCRETE  
 Annular Seal (B) Portland Cement  
 Bottom Seal (C) N/A

### DIMENSIONS

(W) Borehole Diameter 6.5"  
 (X) Stick-up 2.5'  
 (Y) Tubing Diameter 1.7"  
 (Z) Protective Covering Diameter TBD  
 Well Centralizer Depths N/A

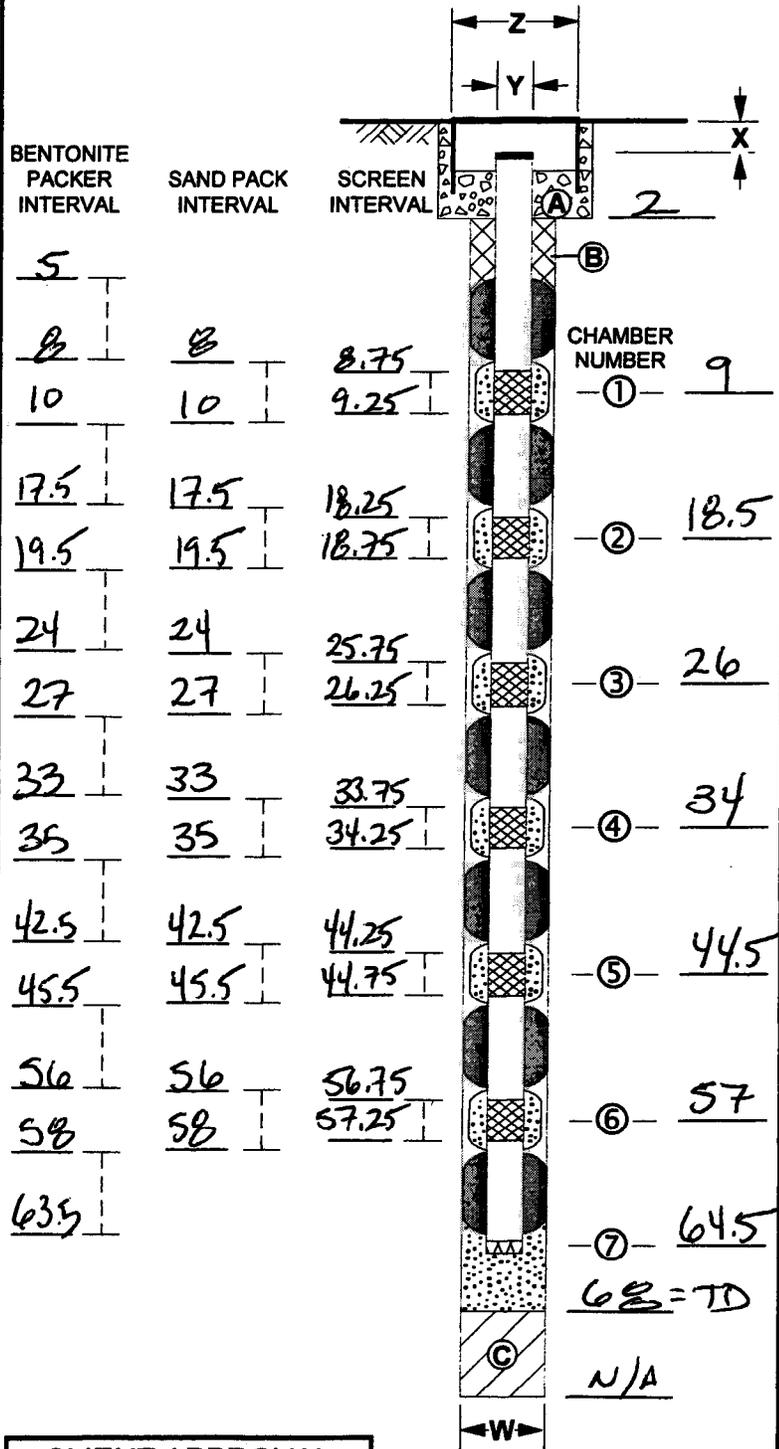
NOTES: Indentation marks septa number one

1. 8-10
2. 17.5-19.5
3. 24-27
4. 33-35
5. 42.5-45.5
6. 56-58
7. 63.5-68



SITE: CANYON  
 PROJECT NO: \_\_\_\_\_  
 N. \_\_\_\_\_ E. \_\_\_\_\_  
 WELL PERMIT NO: \_\_\_\_\_

WELL DESIGNATION



CLIENT APPROVAL

SECTION VIEW (Not to Scale)



WELL COMPLETION RECORD

JOB NO. 31310005 WELL NO. P2017A HYDROGEOLOGIST R. SINGER

CLIENT NASA DRILLER LAYNE

WELL LOCATION SSFL COCOA PT-100 DATE/TIME 12-12-06 9:20

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 12-12-00

Borehole Diameter (in.) 6"

Type and Size of Casing (in.) 2" PVC

Type and Size of Screen (in.) 2" PVC

Screen Perforation Diameter (in.) 0.020

Screen Length (ft.) 10

Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

1) Type of Filter Pack and Placement

Method

#3 SAND O.H.

2) Type of Bentonite and Placement Method

TABLETS 1/4" crushed medium chips

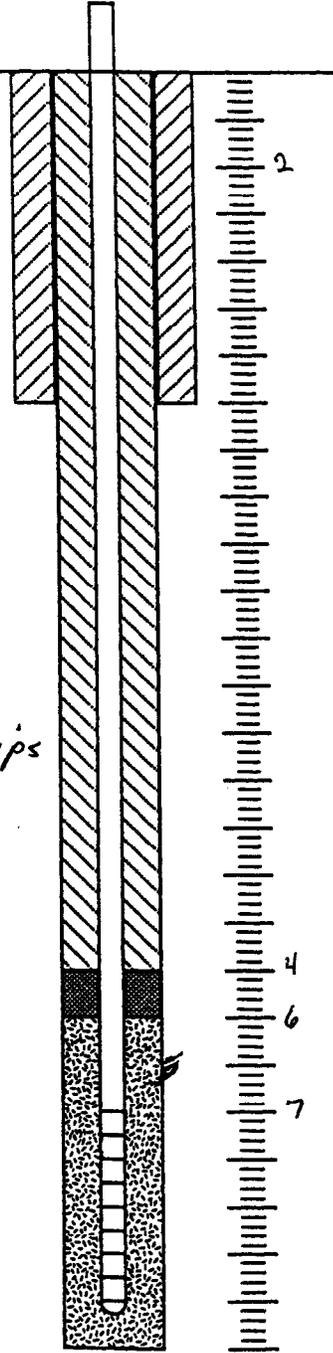
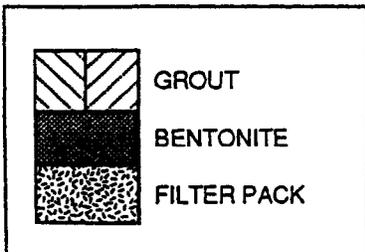
3) Type of Grout Mixture and Placement

Method

Port. Cem Type II / IV O.H.

Description of Potential Problems With Well:

Development Technique



Well Head Elevation \_\_\_\_\_

Ground Surface Elev. \_\_\_\_\_

Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type

CME - 95 Air Rotary

Surface Casing: Type PVC

Diameter 2"

Length \_\_\_\_\_

MATERIALS

Cement (sks.) 5 bags @ 94 lbs

Filter Pack Material (ft.<sup>3</sup>) 2.75 @ 10

Casing Material (ft.) \_\_\_\_\_

Bentonite (ft.<sup>3</sup>) 0.75 @ 16

Top of Bentonite Seal 4 ft.

Top of Filter Pack 6 ft.

Top of Screen 7 ft.

Bottom of Screen 17 ft.

Bottom of Hole 19 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313100005 WELL NO. P20<sup>17</sup>B HYDROGEOLOGIST R. SINGER

CLIENT ROZMAE NASA DRILLER LAYNE

WELL LOCATION SSFL - COCOA PT-100 DATE/TIME 12-11-80 1525

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 12-11-80

Borehole Diameter (in.) 6"

Type and Size of Casing (in.) 2" PVC

Type and Size of Screen (in.) 2" PVC

Screen Perforation Diameter (in.) 0.020

Screen Length (ft.) 10'

Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

1) Type of Filter Pack and Placement

Method

#3 SAND P.H.

2) Type of Bentonite and Placement Method

TABLETS 1/4" COOLED P.H.

3) Type of Grout Mixture and Placement

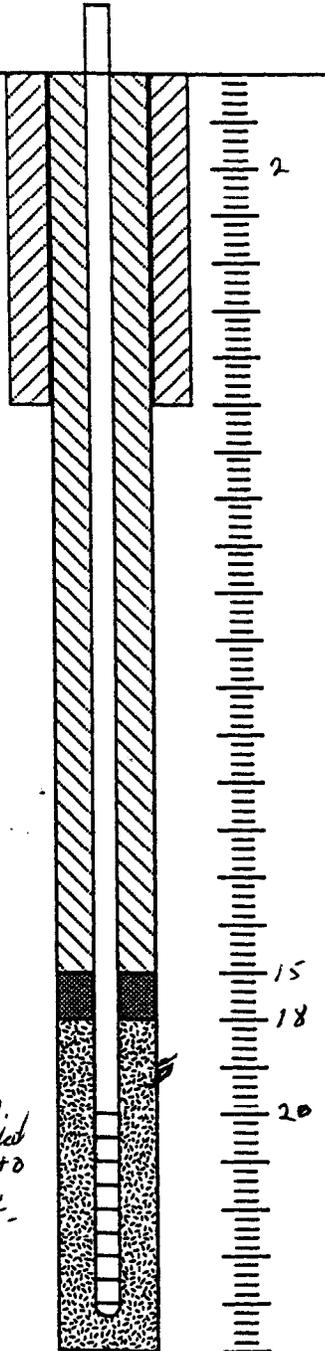
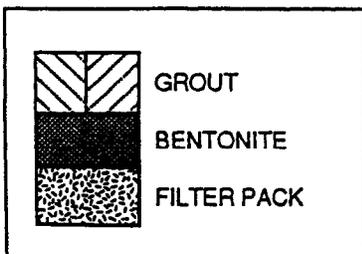
Method

Port. Cem. Type II/IV G.H.

Description of Potential Problems With Well:

Hole collapsed & bridging(?)  
during addition of filter pack.  
Hole filled to 6" with cement  
Large void 6 hrs - concrete added, hole  
didn't fill.  
Chips added  
#3 7 bags + 2  
fill void.  
Grout 4.5-  
2.

Development Technique



Well Head Elevation \_\_\_\_\_

Ground Surface Elev. \_\_\_\_\_

Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type

CME-95 Air Rotary

Surface Casing: Type PVC

Diameter 2"

Length \_\_\_\_\_

MATERIALS

Cement (sks.) 8.5 @ 94/16.0

Filter Pack Material (ft.<sup>3</sup>) 26 @ 100/lb

Casing Material (ft.) 30'

Bentonite (ft.<sup>3</sup>) 34 @ 50/lb ca

Top of Bentonite Seal 15 ft.

Top of Filter Pack 18 ft.

Top of Screen 20 ft.

Bottom of Screen 30 ft.

Bottom of Hole 31 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

# PRECISION

## MULTI-LEVEL WELL CONSTRUCTION DETAILS

BORING DESIGNATION: PZ048

INSTALLATION DATE: 12/1/00 BY: C. TATUM

DRILLING METHOD: Hollow Stem Auger

CONTRACTOR: OGDEN

### MATERIALS DATA

- Monument Footing (A) CONCRETE
- Annular Seal (B) BENTONITE
- Bottom Seal (C) WOOD PLUG

### DIMENSIONS

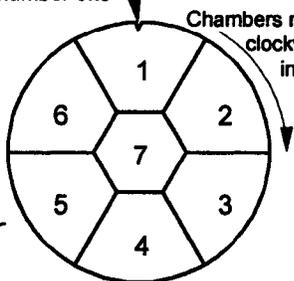
- (W) Borehole Diameter 8"
- (X) Stick-up +2.5'
- (Y) Tubing Diameter 1.7"
- (Z) Protective Covering Diameter TBD
- Well Centralizer Depths 23-24'

### NOTES:

Indentation marks septa number one

Chambers numbered clockwise from indentation

1. 5-7
2. 10.5-12.5
3. 15-17
4. 19-20.8
5. 22.5-25.5
6. N/A
7. N/A



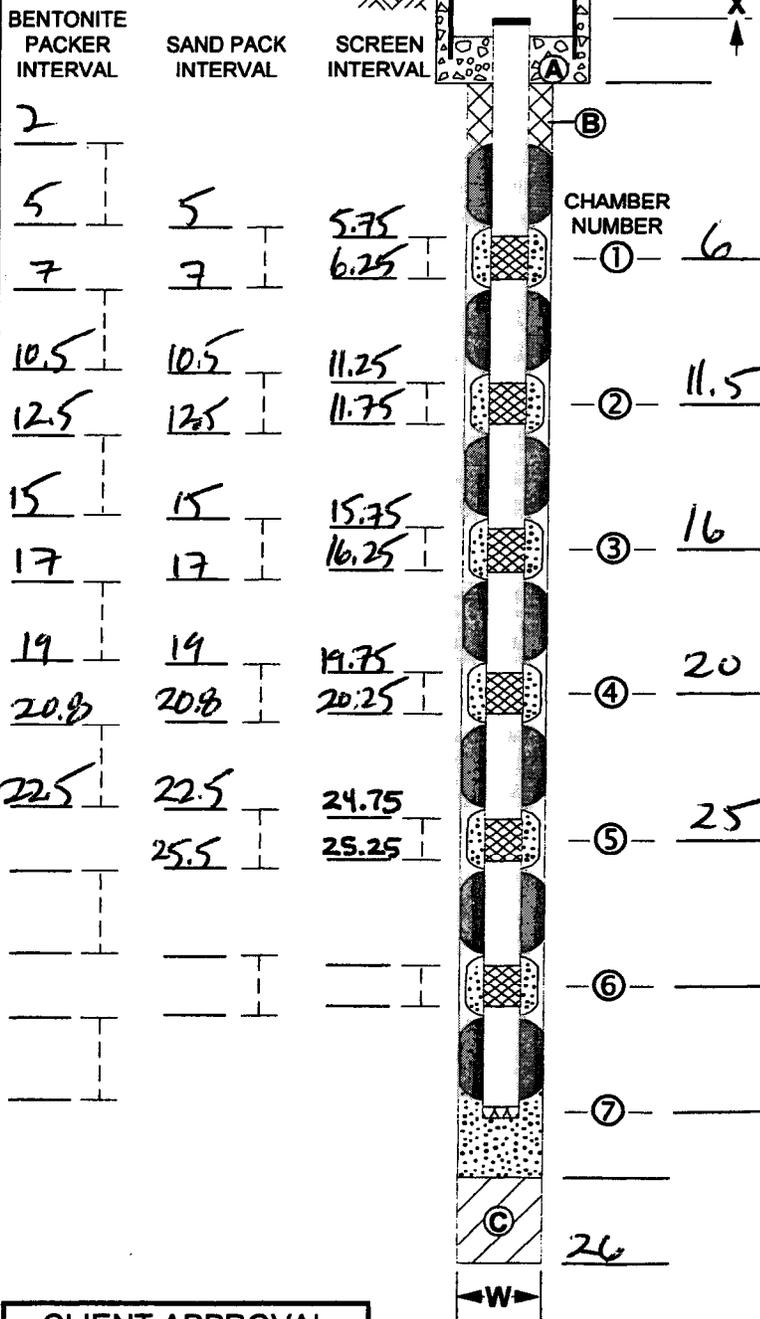
SITE: \_\_\_\_\_

PROJECT NO: \_\_\_\_\_

N. \_\_\_\_\_ E. \_\_\_\_\_

WELL PERMIT NO: \_\_\_\_\_

WELL DESIGNATION



CLIENT APPROVAL

SECTION VIEW  
(Not to Scale)



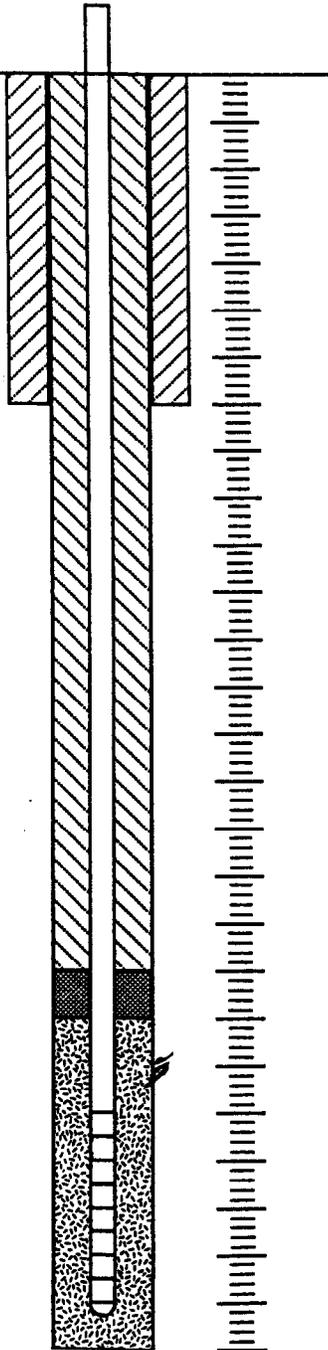
WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ019 HYDROGEOLOGIST Tom Burton

CLIENT Rocketdyne (NASA) DRILLER Layne

WELL LOCATION RD-9 Area PT041 DATE/TIME 11/27/00

GROUND SURFACE



Well Head Elevation TBD

Ground Surface Elev. TBD

Well Head Completion Method Above-ground monument

Drilling Method/Rig Type Hollow Stem Auger / CME 95

Surface Casing: Type \_\_\_\_\_  
Diameter \_\_\_\_\_  
Length 5'

DETAILS OF CONSTRUCTION

Date Completed 11/27/00

Borehole Diameter (in.) 8

Type and Size of Casing (in.) 2" Sch. 40 PVC

Type and Size of Screen (in.) 2" Sch. 40 PVC

Screen Perforation Diameter (in.) 0.020

Screen Length (ft.) 10

Centralizer Depths (ft.) None

Completion Technique:

1) Type of Filter Pack and Placement

Method

RMC #3 Sand via HSA

2) Type of Bentonite and Placement Method

Enviroplug medium chips via HSA + hydrated

3) Type of Grout Mixture and Placement

Method

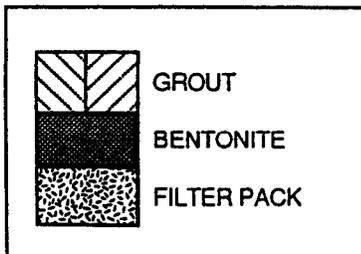
Colton Type II / X + H<sub>2</sub>O; 23 gals / 4 sacks

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique

\_\_\_\_\_



MATERIALS

Cement (sks.) 4

Filter Pack Material (~~R~~) 3.75 sacks

Casing Material (ft.) 30

Bentonite (~~R~~) 1.1 sacks

Top of Bentonite Seal 14' ft.

Top of Filter Pack 17 ft.

Top of Screen 19 ft.

Bottom of Screen 29 ft.

Bottom of Hole 30.3 ft. 31.5

CAVED TO 29.3

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



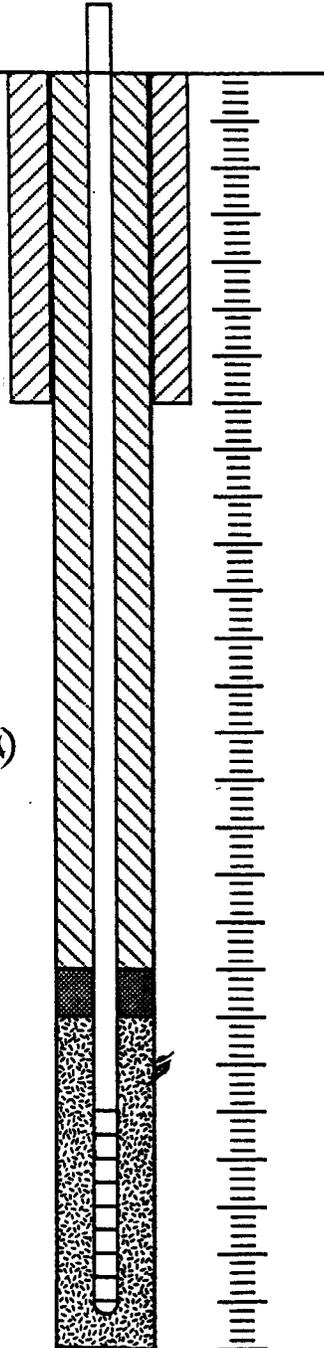
WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ020 HYDROGEOLOGIST T. Burton

CLIENT NASA DRILLER Layne

WELL LOCATION RD-9, PT 043 DATE/TIME 11/27/00 1600

GROUND SURFACE



Well Head Elevation TBD

Ground Surface Elev. TBD

Well Head Completion Method

Above-ground monument

Drilling Method/Rig Type

Hollow Stem Auger/CME 95

Surface Casing: Type

Diameter

Length 5'

DETAILS OF CONSTRUCTION

Date Completed Install 11/27/00

Borehole Diameter (in.) 8

Type and Size of Casing (in.) 2" Sch. 40 PVC

Type and Size of Screen (in.) 2" Sch. 40 PVC

Screen Perforation Diameter (in.) 0.070

Screen Length (ft.) 10

Centralizer Depths (ft.) None

Completion Technique:

1) Type of Filter Pack and Placement

Method

RMC # 3 Sand via HSA

2) Type of Bentonite and Placement Method

Enviroplug Medium Chips via HSA (hydrated)

3) Type of Grout Mixture and Placement

Method

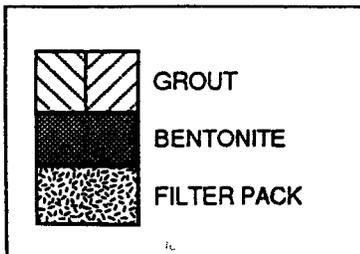
Colton Type II/III cement + 18 gallons H2O (poured)

Description of Potential Problems With Well:

Blank lines for description of potential problems.

Development Technique

Blank line for development technique.



MATERIALS

Cement (sks.) 3

Filter Pack Material (X) 3.75 sacks

Casing Material (ft.) 30

Bentonite (X) 1.1 sacks

Top of Bentonite Seal 14 ft.

Top of Filter Pack 17 ft.

Top of Screen 19 ft.

Bottom of Screen 29 ft.

Bottom of Hole 29.5' ft. 31.5'

CAVED IN 29.5'-31.5'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

## WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2021 HYDROGEOLOGIST T. Burston  
 CLIENT NASA DRILLER Layne  
 WELL LOCATION RD-9 Area, PT-036 DATE/TIME 11/30/00 1000

GROUND SURFACE

### DETAILS OF CONSTRUCTION

Date Completed 11/30/00  
 Borehole Diameter (in.) 8"  
 Type and Size of Casing (in.) 2" Sch. 40 PVC  
 Type and Size of Screen (in.) 2" Sch. 40 PVC  
 Screen Perforation Diameter (in.) 0.020  
 Screen Length (ft.) 10'  
 Centralizer Depths (ft.) None

### Completion Technique:

- 1) Type of Filter Pack and Placement

Method

RMC #3 sand via HSA

- 2) Type of Bentonite and Placement Method

Enviroplug medium chips via HSA

- 3) Type of Grout Mixture and Placement

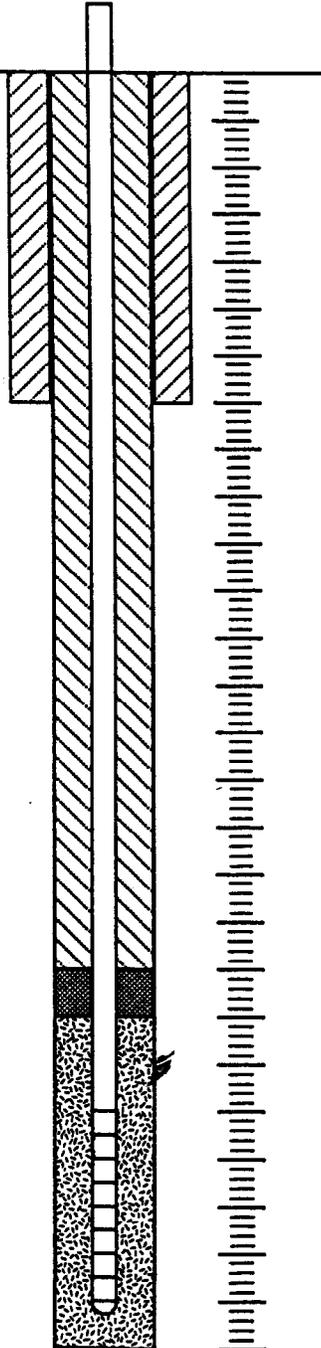
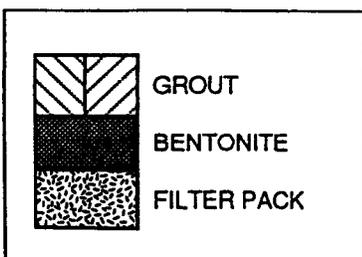
Method

Cotton Type II/II cement + H<sub>2</sub>O (poured)

Description of Potential Problems With Well:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Development Technique



Well Head Elevation TBD  
 Ground Surface Elev. TBD  
 Well Head Completion Method Above-Ground Monument  
 Drilling Method/Rig Type CME 750 Hollow Stem Auger  
 Surface Casing: Type Monument  
 Diameter 6"  
 Length 5'

### MATERIALS

Cement (sks.) 3  
 Filter Pack Material (PK) 3.75 bags  
 Casing Material (ft.) 30  
 Bentonite (PK) 1.5 bags

Top of Bentonite Seat 13 ft.

Top of Filter Pack 16 ft.

Top of Screen 18 ft.

Bottom of Screen 28 ft.  
 Bottom of Hole 29.5 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2022 HYDROGEOLOGIST T. Burton
CLIENT NASA DRILLER Layne
WELL LOCATION RD-9 Area, PT-038 DATE/TIME 11/30/00 1500

DETAILS OF CONSTRUCTION

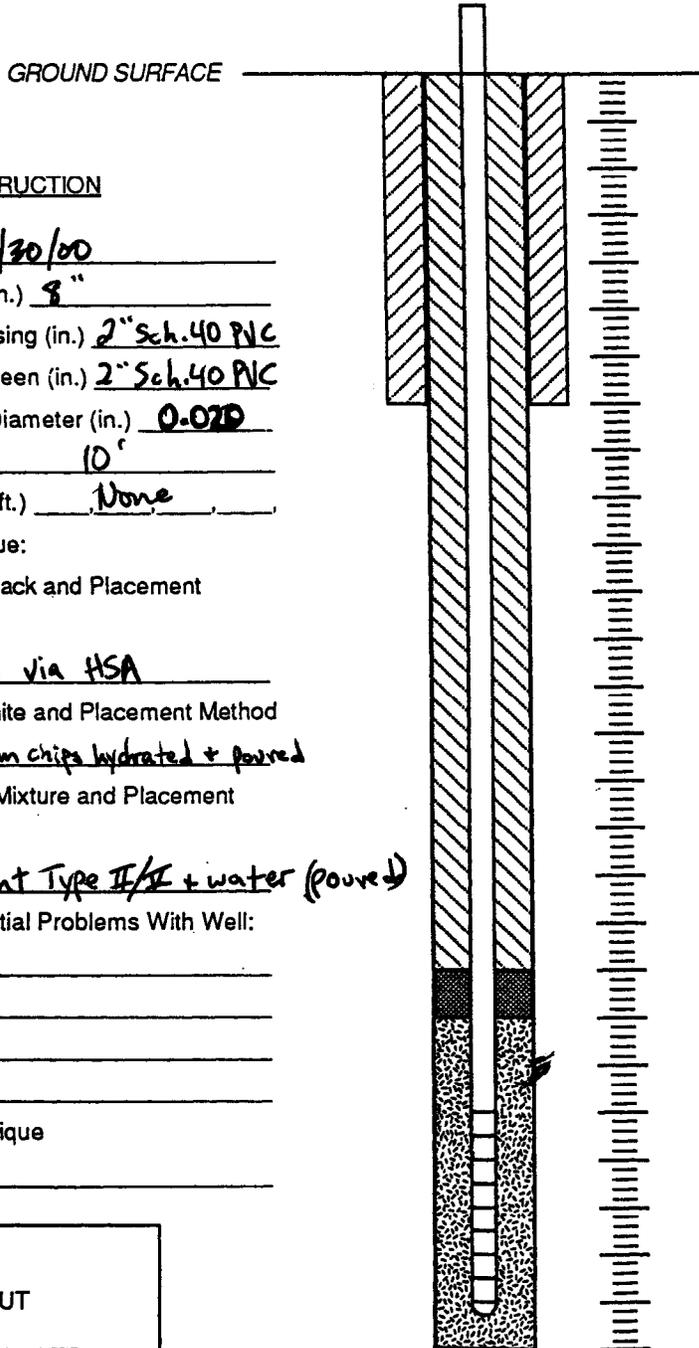
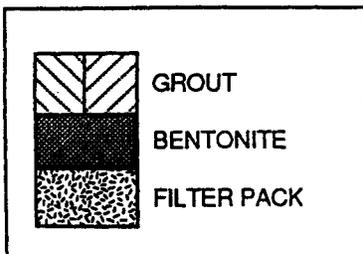
Date Completed 11/30/00
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) 2" Sch. 40 PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10'
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method: RMC #3 Sand via HSA
2) Type of Bentonite and Placement Method: Enviroplug Medium chips hydrated + poured
3) Type of Grout Mixture and Placement Method: Portland Cement Type II/II + water (poured)

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Ground Monument
Drilling Method/Rig Type CME 750 Hollow Stem Auger
Surface Casing: Type
Diameter
Length 5'

MATERIALS
Cement (sks.) 3
Filter Pack Material (X) 4 bags
Casing Material (ft.) 30
Bentonite (X) 1.2 bags

Top of Bentonite Seat 14 ft.
Top of Filter Pack 17 ft.
Top of Screen 19 ft.
Bottom of Screen 29 ft.
Bottom of Hole 29.5 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



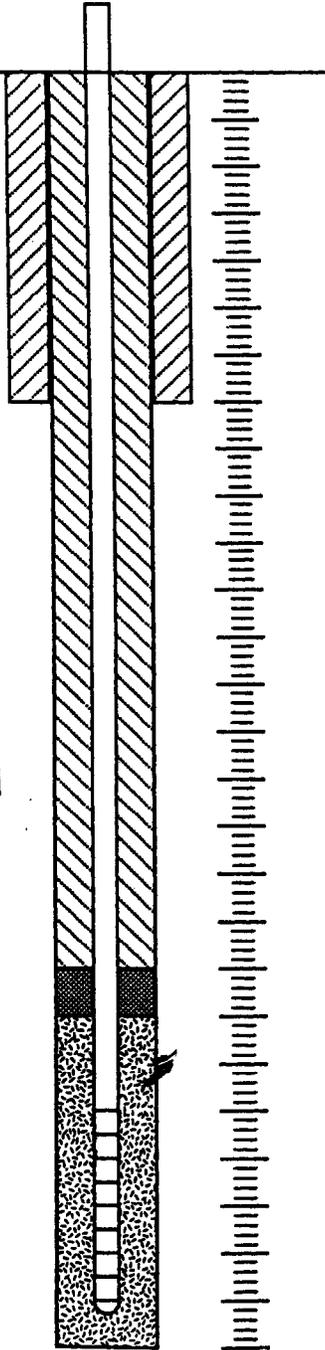
WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ023 HYDROGEOLOGIST T. Burton

CLIENT Rocketdyne DRILLER Layne

WELL LOCATION ECL Area, PT-062 DATE/TIME 12/4/00 1030

GROUND SURFACE



Well Head Elevation TBD

Ground Surface Elev. TBD

Well Head Completion Method Above-ground Monument

Drilling Method/Rig Type CME 750 Hollow Stem Auger

Surface Casing: Type \_\_\_\_\_  
Diameter \_\_\_\_\_  
Length 5'

DETAILS OF CONSTRUCTION

Date Completed 12/4/00

Borehole Diameter (in.) 8"

Type and Size of Casing (in.) 2" Sch. 40 PVC

Type and Size of Screen (in.) 2" Sch. 40 PVC

Screen Perforation Diameter (in.) 0.010

Screen Length (ft.) 10'

Centralizer Depths (ft.) None

Completion Technique:

1) Type of Filter Pack and Placement Method

RMC Lonestar #3 sand via HSA

2) Type of Bentonite and Placement Method

Enviroplug Medium chips poured via HSA +hydrated

3) Type of Grout Mixture and Placement Method

Method

None

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique

\_\_\_\_\_

MATERIALS

Cement (sks.) 0

Filter Pack Material (sks) 5 sacks

Casing Material (ft.) 20

Bentonite (bags) 1 bag

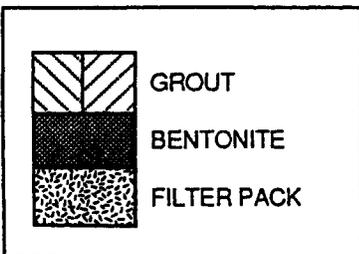
Top of Bentonite Seal 2.5 ft.

Top of Filter Pack 5 ft.

Top of Screen 6 ft.

Bottom of Screen 16 ft.

Bottom of Hole 24.5 ft.  
slough to 20'



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

JOB NO. 313150005 WELL NO. PZ 024 HYDROGEOLOGIST T. Burton  
 CLIENT Rocketdyne DRILLER Layne  
 WELL LOCATION ECL Area; PT-063 DATE/TIME 12/4/00 1200

GROUND SURFACE

**DETAILS OF CONSTRUCTION**

Date Completed 12/4/00  
 Borehole Diameter (in.) 8"  
 Type and Size of Casing (in.) 2" Sch. 40 PVC  
 Type and Size of Screen (in.) 2" Sch. 40 PVC  
 Screen Perforation Diameter (in.) 0.020  
 Screen Length (ft.) 10'  
 Centralizer Depths (ft.) None

**Completion Technique:**

- 1) Type of Filter Pack and Placement

Method

RMC Lonestar #3 Sand via HSA

- 2) Type of Bentonite and Placement Method

Enviroplug med. Chips, poured via HSA, hydrated

- 3) Type of Grout Mixture and Placement

Method

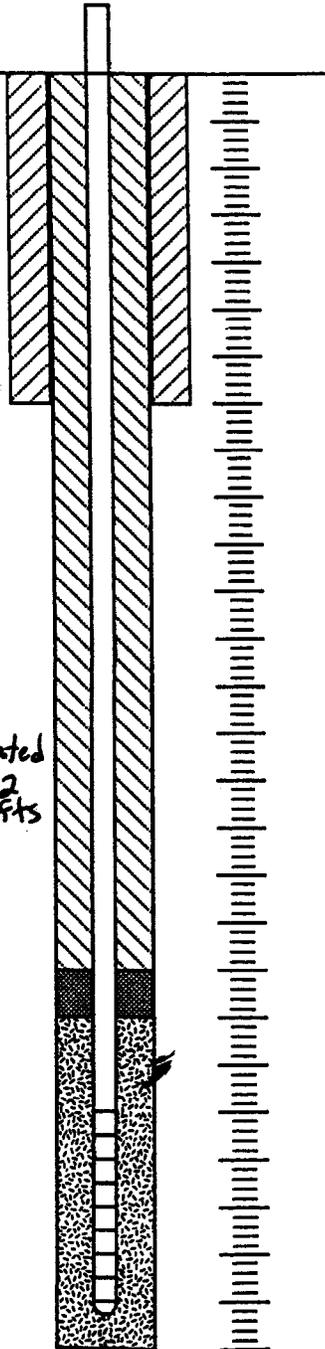
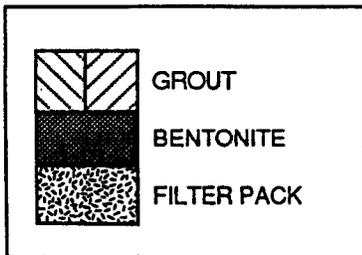
Colton Type II/II cement + water, poured

Description of Potential Problems With Well:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Development Technique

\_\_\_\_\_



Well Head Elevation TBD  
 Ground Surface Elev. TBD  
 Well Head Completion Method  
Above-Grade Monument  
 Drilling Method/Rig Type  
CME 750 Hollow Stem Auger  
 Surface Casing: Type \_\_\_\_\_  
 Diameter \_\_\_\_\_  
 Length 5'

**MATERIALS**

Cement (sks.) 2  
 Filter Pack Material (~~X~~) 4 bags  
 Casing Material (ft.) 30  
 Bentonite (~~X~~) 1.3 bags

Top of Bentonite Seal 9 ft.  
 Top of Filter Pack 12 X ft.  
 Top of Screen 14 X ft.

Bottom of Screen 24 X ft.  
 Bottom of Hole 26 25' ft.  
CAYED TO 24.5'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005  
P2025 WELL NO. P2025 HYDROGEOLOGIST T. Burton  
CLIENT Rocketdyne DRILLER Layne  
WELL LOCATION ECL Area, PT-066 DATE/TIME 12/5/00 0700

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed Install  
12/5/00  
Borehole Diameter (in.) 8"  
Type and Size of Casing (in.) 2" Sch. 40 PVC  
Type and Size of Screen (in.) 2" Sch. 40 PVC  
Screen Perforation Diameter (in.) 0.020  
Screen Length (ft.) 10  
Centralizer Depths (ft.) None

Completion Technique:

1) Type of Filter Pack and Placement

Method

Lonestar #3 sand via HSA

2) Type of Bentonite and Placement Method

Medium chips poured via HSA, hydrated 2', 1'

3) Type of Grout Mixture and Placement

Method

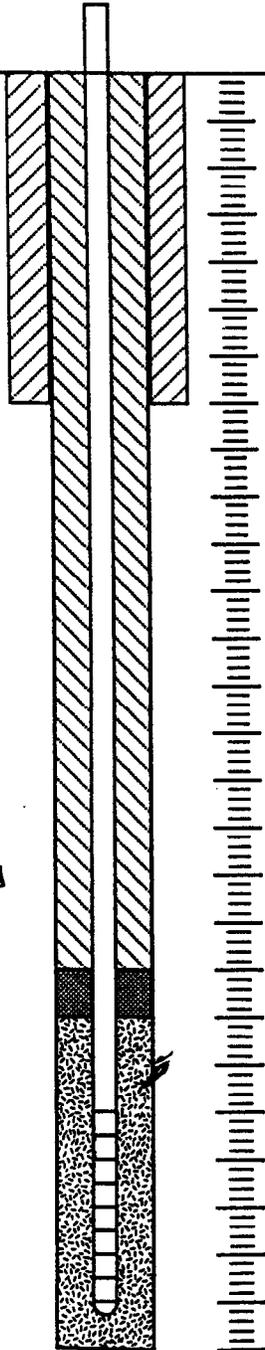
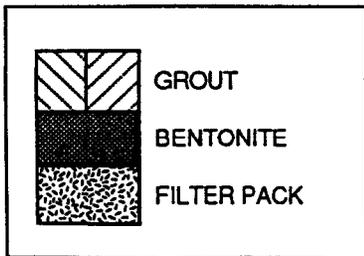
Colton Type II/A Portland cement / H<sub>2</sub>O - poured

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique

\_\_\_\_\_



Well Head Elevation TBD  
Ground Surface Elev. TBD  
Well Head Completion Method  
Above-Ground Monument  
Drilling Method/Rig Type  
CME 750 Hollow Stem Auger  
Surface Casing: Type \_\_\_\_\_  
Diameter \_\_\_\_\_  
Length 5'

MATERIALS

Cement (sks.) 1  
Filter Pack Material (~~PK~~) 4 bags  
Casing Material (ft.) 25  
Bentonite (~~PK~~) 1.2 bags

Top of Bentonite Seal 8 ft.

Top of Filter Pack 11 ft.

Top of Screen 13 ft.

Bottom of Screen 23 ft.

Bottom of Hole 25.5 ft.

**CAVED IN TO 25.5 ft**

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

## WELL COMPLETION RECORD

JOB NO. 313150008 WELL NO. PZ026 HYDROGEOLOGIST T. Burton  
 CLIENT Rocketdyne DRILLER Layne  
 WELL LOCATION ECL Pond, PT-061 DATE/TIME 12/5/00 1030

GROUND SURFACE

### DETAILS OF CONSTRUCTION

Date Completed Install 12/5/00  
 Borehole Diameter (in.) 8  
 Type and Size of Casing (in.) 2" Sch. 40 PVC  
 Type and Size of Screen (in.) 2" Sch. 40 PVC  
 Screen Perforation Diameter (in.) 0.020  
 Screen Length (ft.) 10  
 Centralizer Depths (ft.) None

### Completion Technique:

1) Type of Filter Pack and Placement

Method

Lowest #3 Sand via HSA

2) Type of Bentonite and Placement Method

Medium Chips via HSA + hydrated

3) Type of Grout Mixture and Placement

Method

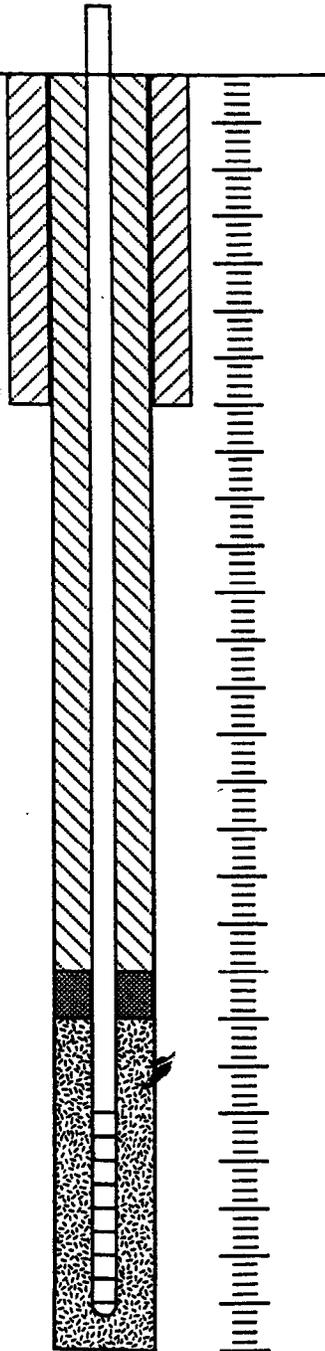
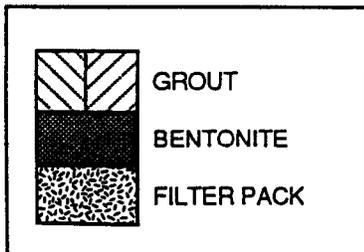
Portland Type II/A Cement

Description of Potential Problems With Well:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Development Technique

\_\_\_\_\_



Well Head Elevation TBD  
 Ground Surface Elev. TBD  
 Well Head Completion Method At-Grade Monument  
 Drilling Method/Rig Type CME 750 Hollow Stem Auger  
 Surface Casing: Type Monument  
 Diameter 6"  
 Length 5'

### MATERIALS

Cement (sks.) 2  
 Filter Pack Material (#3) 4 sacks  
 Casing Material (ft.) 25  
 Bentonite (#2) 1.5 bags

Top of Bentonite Seal 9 ft.

Top of Filter Pack 12 ft.

Top of Screen 14 ft.

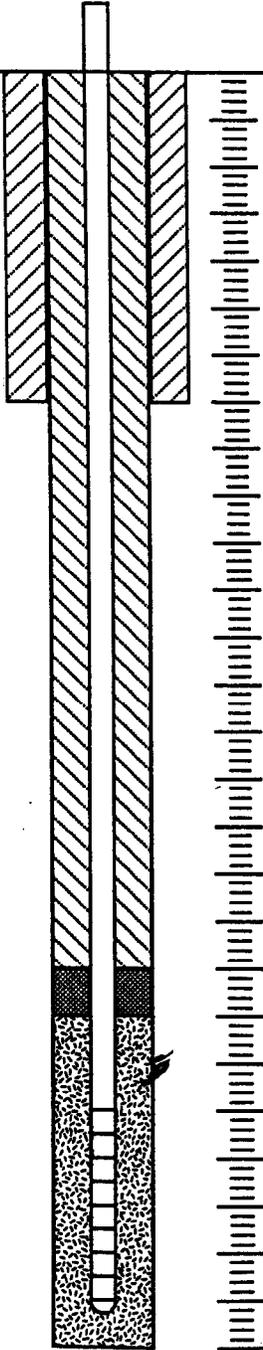
Bottom of Screen 24 ft.  
 Bottom of Hole 24.2 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

## WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2427 HYDROGEOLOGIST T. Burton  
 CLIENT Rocketdyne DRILLER Layne  
 WELL LOCATION ECL Area, PT-064 DATE/TIME 12/5/00 1445

GROUND SURFACE



Well Head Elevation TBD  
 Ground Surface Elev. TBD  
 Well Head Completion Method Above-Ground Monument  
 Drilling Method/Rig Type CME 750 / Hollow Stem Auger  
 Surface Casing: Type Monument  
 Diameter 6"  
 Length 5'

**DETAILS OF CONSTRUCTION**

Date Completed Install 12/5/00  
 Borehole Diameter (in.) 8"  
 Type and Size of Casing (in.) 2" Sch. 40 PVC  
 Type and Size of Screen (in.) 2" Sch. 40 PVC  
 Screen Perforation Diameter (in.) 0.020  
 Screen Length (ft.) 10'  
 Centralizer Depths (ft.) None  
 Completion Technique:

- 1) Type of Filter Pack and Placement Method  
Lonestar #3 sand poured via HSA
- 2) Type of Bentonite and Placement Method  
Med. Chips poured via HSA + hydrated
- 3) Type of Grout Mixture and Placement Method  
Portland Type II/III cement/H<sub>2</sub>O slurry (poured)

Description of Potential Problems With Well:

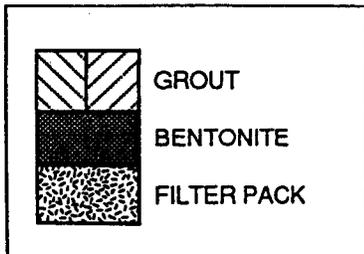
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Development Technique

\_\_\_\_\_



**MATERIALS**

Cement (sks.) 1  
 Filter Pack Material (ft<sup>3</sup>) 4 bags  
 Casing Material (ft.) 25  
 Bentonite (ft<sup>3</sup>) 1.5 bags

Top of Bentonite Seat 7 ft.  
 Top of Filter Pack 9.75 ft.  
 Top of Screen 12 ft.

Bottom of Screen 22 ft.  
 Bottom of Hole 22.75 23 ft.  
**CAVED TO 22.5'**

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

JOB NO. 313150005 WELL NO. PZ028 HYDROGEOLOGIST T. Burton  
 CLIENT Rocketdyne DRILLER Layne  
 WELL LOCATION ECL/CWLL Area, PT 067 DATE/TIME 12/6/00 1030

GROUND SURFACE

**DETAILS OF CONSTRUCTION**

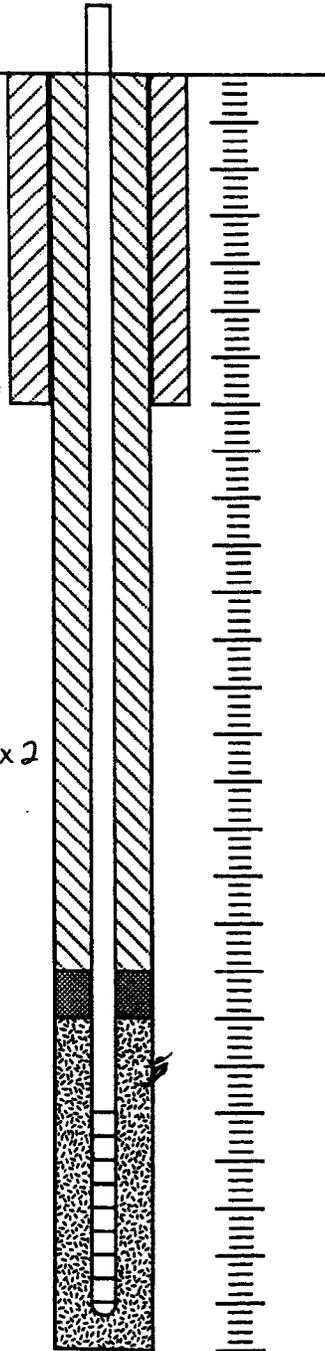
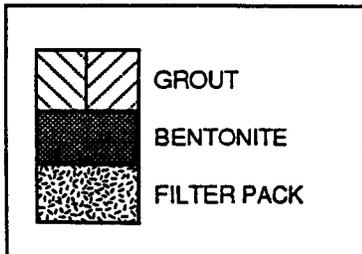
Date Completed Install 12/6/00  
 Borehole Diameter (in.) 8"  
 Type and Size of Casing (in.) 2" Sch. 40 PVC  
 Type and Size of Screen (in.) 2" Sch. 40 PVC  
 Screen Perforation Diameter (in.) 0.070  
 Screen Length (ft.) 10'  
 Centralizer Depths (ft.) None

**Completion Technique:**

- 1) Type of Filter Pack and Placement Method  
Lonestar #3 sand poured via HSA
- 2) Type of Bentonite and Placement Method  
Med. Chips poured via HSA + hydrated 1.5' x 2
- 3) Type of Grout Mixture and Placement Method

**Description of Potential Problems With Well:**

**Development Technique**



Well Head Elevation TBD  
 Ground Surface Elev. TBD  
 Well Head Completion Method Above-Grade Monument  
 Drilling Method/Rig Type CME 750 HSA  
 Surface Casing: Type Monument  
 Diameter 6"  
 Length 5'

**MATERIALS**

Cement (sks.) \_\_\_\_\_  
 Filter Pack Material (~~ft.~~) 4.5 bags  
 Casing Material (ft.) 40  
 Bentonite (~~ft.~~) 5 bags

Top of Bentonite Seal 17 ft.

Top of Filter Pack 20 ft.

Top of Screen 25 ft.

Bottom of Screen 35 ft.

Bottom of Hole 44 ft.

**BENTONITE 35.5'-44'**

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

JOB NO. 313150005 WELL NO. P2Φ29 HYDROGEOLOGIST T. Burton  
 CLIENT Rocketdyne DRILLER Layne  
 WELL LOCATION P2 Area PT 074 DATE/TIME 12/6/00 1530

**DETAILS OF CONSTRUCTION**

Date Completed Instal 12/6/00  
 Borehole Diameter (in.) 8"  
 Type and Size of Casing (in.) 2" Sch. 40 PVC  
 Type and Size of Screen (in.) 2" Sch. 40 PVC  
 Screen Perforation Diameter (in.) 0.020  
 Screen Length (ft.) 10'  
 Centralizer Depths (ft.) None

**Completion Technique:**

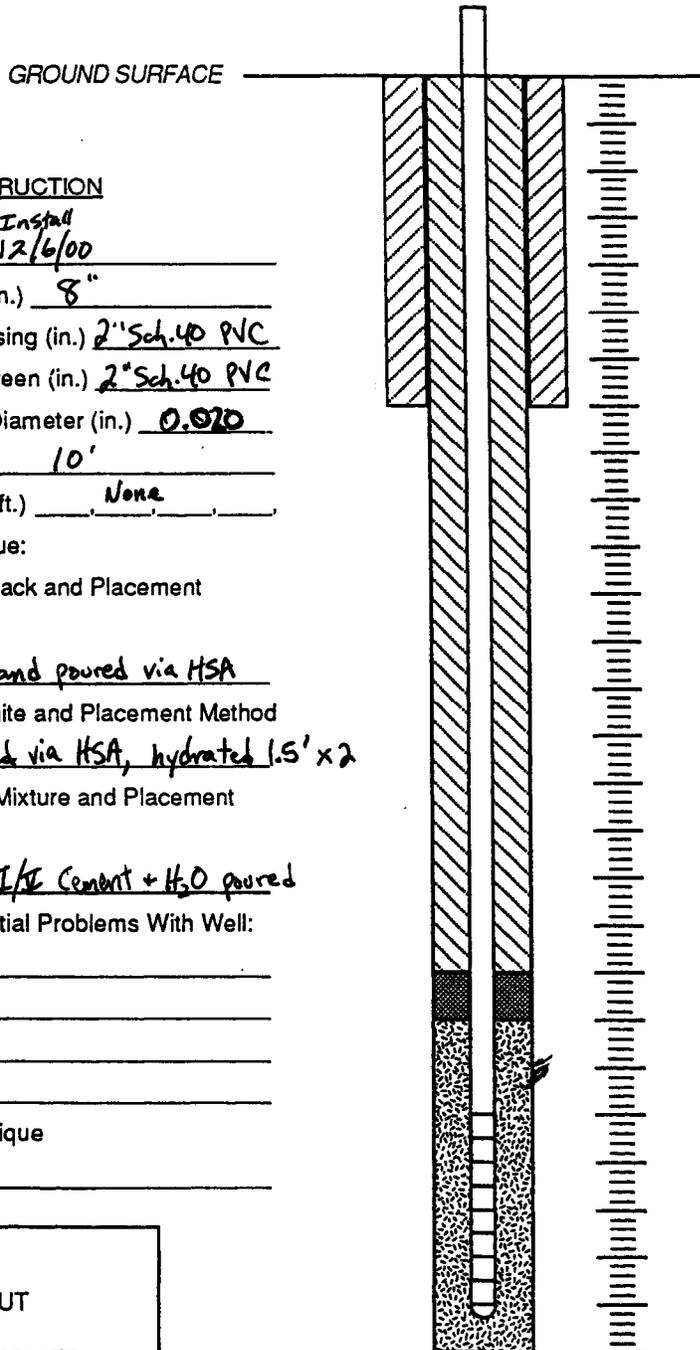
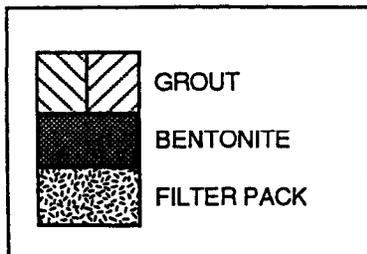
- 1) Type of Filter Pack and Placement Method  
Lonestar #3 Sand poured via HSA
- 2) Type of Bentonite and Placement Method  
Med. Chips poured via HSA, hydrated 1.5' x 2
- 3) Type of Grout Mixture and Placement Method  
Portland Type II/A Cement + H<sub>2</sub>O poured

**Description of Potential Problems With Well:**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Development Technique**

\_\_\_\_\_



Well Head Elevation TBD  
 Ground Surface Elev. TBD  
 Well Head Completion Method Above-Grade Monument  
 Drilling Method/Rig Type Hollow Stem Auger / CME T50  
 Surface Casing: Type Monument  
 Diameter 6"  
 Length 5'

**MATERIALS**

Cement (sks.) 3  
 Filter Pack Material (PK) 4.5 bags  
 Casing Material (ft.) 35  
 Bentonite (PK) 1.4 bags

Top of Bentonite Seal 14 ft.  
 Top of Filter Pack 17 ft.  
 Top of Screen 19 ft.  
 Bottom of Screen 29 ft.  
 Bottom of Hole 31 ft.

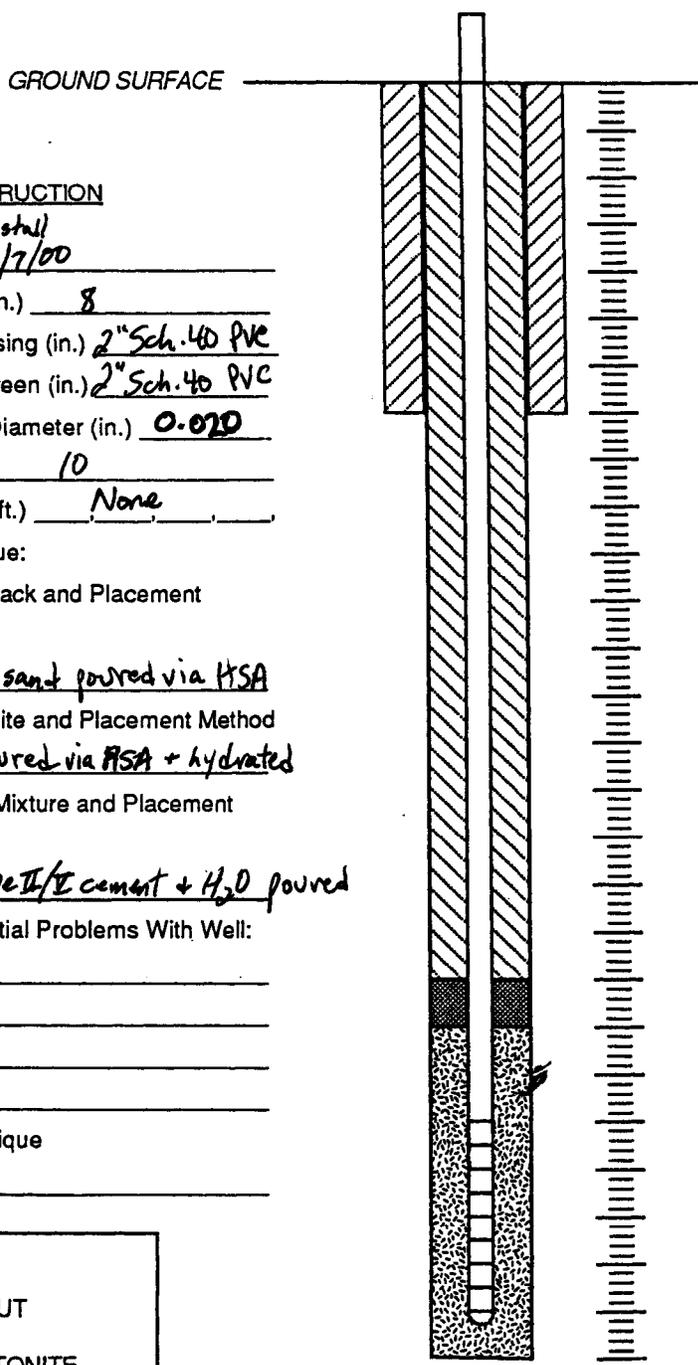


WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. 92030 HYDROGEOLOGIST T. Burton

CLIENT Rocketdyme DRILLER Layne

WELL LOCATION P2 Area South, PT-075 DATE/TIME 12/7/00



DETAILS OF CONSTRUCTION

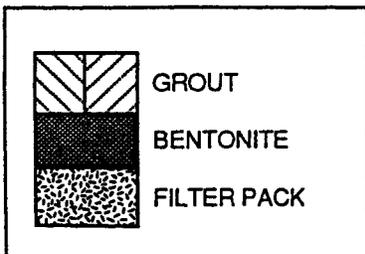
Date Completed Install 12/7/00  
Borehole Diameter (in.) 8  
Type and Size of Casing (in.) 2" Sch. 40 PVC  
Type and Size of Screen (in.) 2" Sch. 40 PVC  
Screen Perforation Diameter (in.) 0.020  
Screen Length (ft.) 10  
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method Lonestar #3 sand poured via HSA
- 2) Type of Bentonite and Placement Method Med. Chips poured via HSA + hydrated
- 3) Type of Grout Mixture and Placement Method Portland Type II/C cement + H2O poured

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD

Ground Surface Elev. TBD

Well Head Completion Method Above-Grade Monument

Drilling Method/Rig Type CME 750 Hollow Stem Auger

Surface Casing: Type Monument  
Diameter 6"  
Length 5'

MATERIALS

Cement (sks.) 2  
Filter Pack Material (~~ft.~~) 5 bags  
Casing Material (ft.) 30  
Bentonite (~~ft.~~) 1.75 bags

Top of Bentonite Seal 9 ft.

Top of Filter Pack 12 ft.

Top of Screen 17 ft.

Bottom of Screen 27 ft.  
Bottom of Hole 32.5 ft.

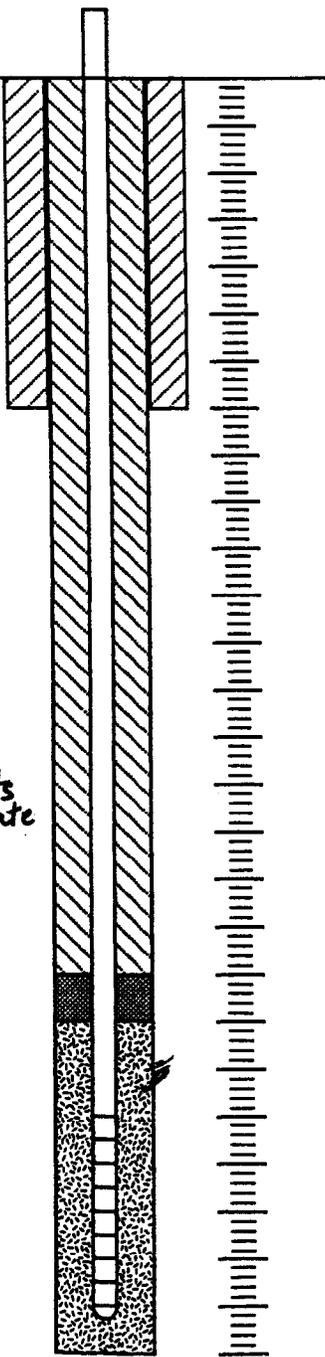
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ031 HYDROGEOLOGIST T. Burton
CLIENT Rocketlyne DRILLER Coyne
WELL LOCATION PR South, PT-076 DATE/TIME 12/7/00 1430

GROUND SURFACE



DETAILS OF CONSTRUCTION

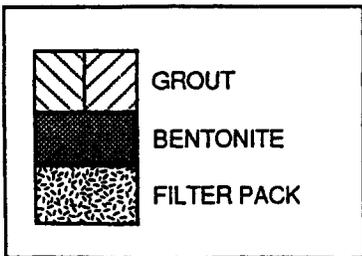
Date Completed 12/7/00
Borehole Diameter (in.) 8
Type and Size of Casing (in.) 2 Sch. 40 PVC
Type and Size of Screen (in.) 2 Sch. 40 PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method: Lonestar #3 Sand poured via HSA
2) Type of Bentonite and Placement Method: Med. Chips poured via HSA, hydrated;
3) Type of Grout Mixture and Placement Method: 1/8" tablets pour + hydrate

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade Monument
Drilling Method/Rig Type Hollow Stem Auger/CMB 750
Surface Casing: Type Monument
Diameter 6
Length 5

MATERIALS

Cement (sks.) 1
Filter Pack Material (K) 4.2 bags
Casing Material (ft.) 25
Bentonite (K) 2 + 1 + 1/4 bucket bags tablets

Top of Bentonite Seat 6 ft.
Top of Filter Pack 9 ft.
Top of Screen 13 ft.

Bottom of Screen 23 ft.
Bottom of Hole 30 ft.
BENTONITE 24'-30'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

## WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2032 HYDROGEOLOGIST T. Burton  
 CLIENT Rocketdyne DRILLER Layne  
 WELL LOCATION Compound A PT-078 DATE/TIME 12/1/00 1700

GROUND SURFACE

**DETAILS OF CONSTRUCTION**

Date Completed 12/1/00  
 Borehole Diameter (in.) 8"  
 Type and Size of Casing (in.) 2" Sch. 40 PVC  
 Type and Size of Screen (in.) 2" Sch. 40 PVC  
 Screen Perforation Diameter (in.) 0.020  
 Screen Length (ft.) 10'  
 Centralizer Depths (ft.) None  
 Completion Technique:

1) Type of Filter Pack and Placement Method

Lonestar #3 sand poured via HSA

2) Type of Bentonite and Placement Method

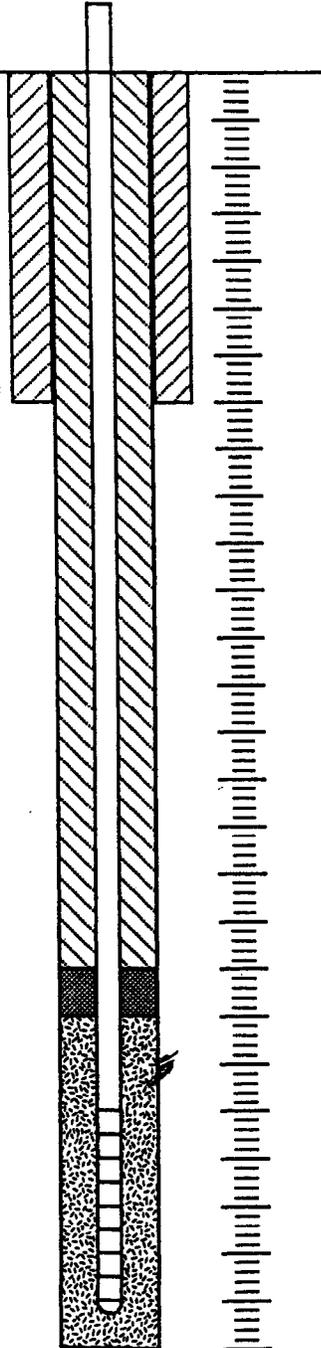
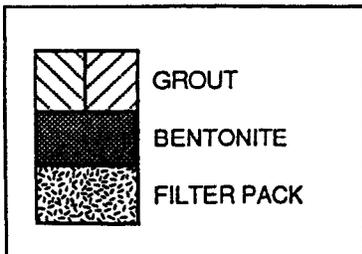
1/8" Pellets & medium chips via HSA, hydrated

3) Type of Grout Mixture and Placement Method 2', 1'

Portland Type III Cement + H<sub>2</sub>O poured

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD  
 Ground Surface Elev. TBD  
 Well Head Completion Method Above-Grade Monument  
 Drilling Method/Rig Type Hollow Stem Auger/CME 750  
 Surface Casing: Type Monument  
 Diameter 6"  
 Length 5

**MATERIALS**

Cement (sks.) 0  
 Filter Pack Material (2) 4.5 sacks  
 Casing Material (ft.) 25  
 Bentonite (2) 3/4 bucket pellets  
1/2 bag chips

Top of Bentonite Seat 2 ft.  
 Top of Filter Pack 5 ft.  
 Top of Screen 10 ft.  
 Bottom of Screen 20 ft.  
 Bottom of Hole 22 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 213150005 WELL NO. PZ033 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION Compound A, PT082 DATE/TIME 12/8/00 1030

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 12/9/00
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) 2" Sch. 40 PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

1) Type of Filter Pack and Placement Method

Lonestar #3 Sand via HSA

2) Type of Bentonite and Placement Method

Med. Chips poured via HSA then hydrated 1.5', 1.5'

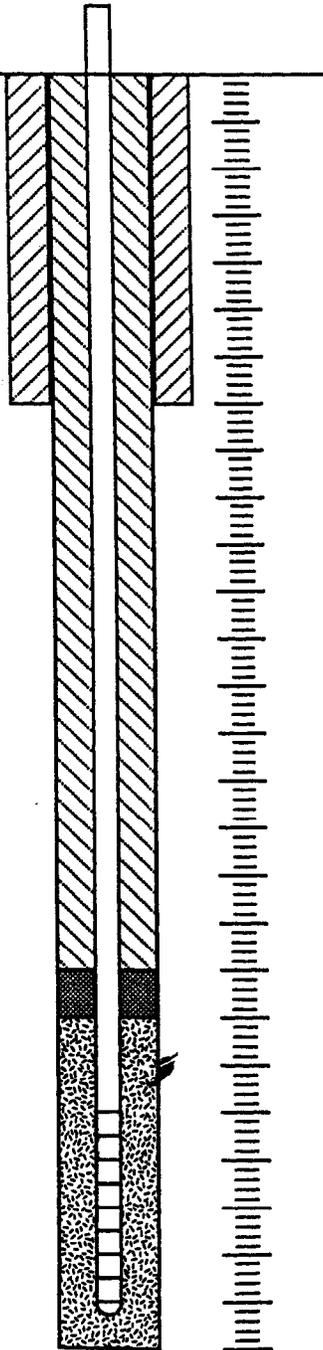
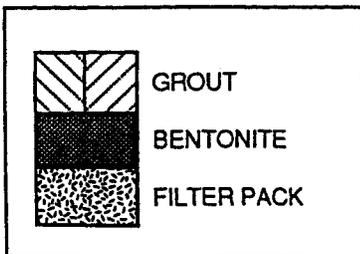
3) Type of Grout Mixture and Placement Method

Portland Type II/III cement + H2O

Description of Potential Problems With Well:

2' rod from tape measure broke off in filter pack from 13' - 11'

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade Monument
Drilling Method/Rig Type Hollow Stem Auger / CME 150
Surface Casing: Type Monument
Diameter 6"
Length 5

MATERIALS

Cement (sks.) 1
Filter Pack Material (#3) 4 bags
Casing Material (ft.) 200
Bentonite (#3) 2.75 bags, 1.25 bags
Lower Seal Upper

Top of Bentonite Seal 6 ft.
Top of Filter Pack 9 ft.
Top of Screen 11 ft.

Bottom Filter Pack 22 ft.
Bottom of Screen 21 ft.
Bottom of Hole 29 ft.
Top of Lower Seal 22 ft.

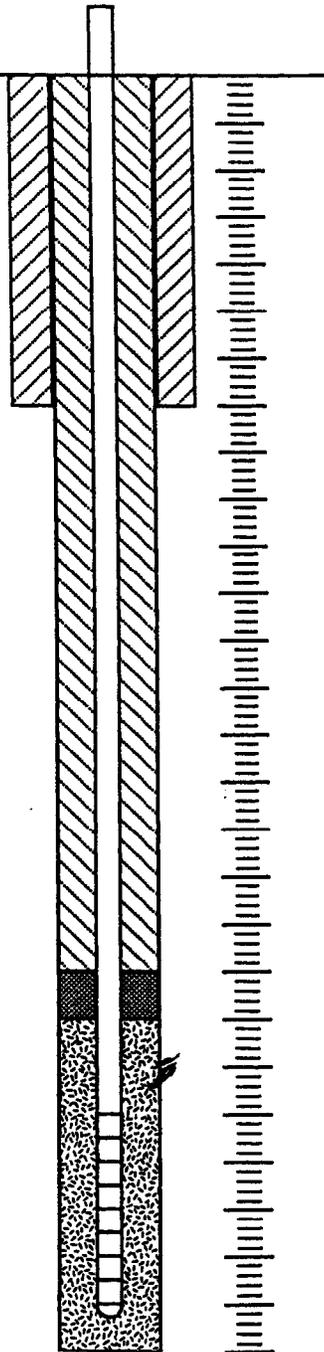
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ-034 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION Compound A drainage PT-090 DATE/TIME 12/8/00 1500

GROUND SURFACE



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade Monument
Drilling Method/Rig Type Hollow Stem Auger / OME 750
Surface Casing: Type Monument
Diameter 6"
Length 5'

DETAILS OF CONSTRUCTION

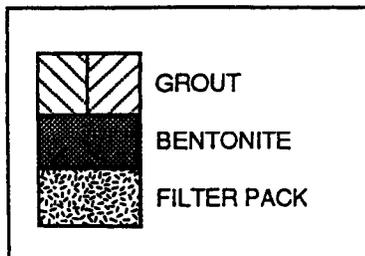
Date Completed Install 12/8/00
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) 2" Sch. 40 PVC
Screen Perforation Diameter (in.) 0.010 0.020
Screen Length (ft.) 7'
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method
Lonestar #3 Sand via ASA
2) Type of Bentonite and Placement Method
Med. Chips
3) Type of Grout Mixture and Placement Method
None

Description of Potential Problems With Well:
Possible muddy fm. water
from fines, otherwise none.

Development Technique
Surge filter pack prior to seal;



MATERIALS

Cement (sks.) 0
Filter Pack Material (sks) 3.5 sacks
Casing Material (ft.) 17 (20) cut
Bentonite (sks) 1.5 sacks

Top of Bentonite Seat 2 ft.

Top of Filter Pack 4 ft.

Top of Screen 5 ft.

Bottom of Screen 12 ft.

Bottom of Hole 12 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ035 HYDROGEOLOGIST Tom Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION Compound A, PT-122 DATE/TIME 12/11/00 10:30

DETAILS OF CONSTRUCTION

Date Completed 12/11/00
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) 2" Sch. 40 PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10'
Centralizer Depths (ft.) None

Completion Technique:

1) Type of Filter Pack and Placement Method

RMC #3 Sand poured via HSA

2) Type of Bentonite and Placement Method

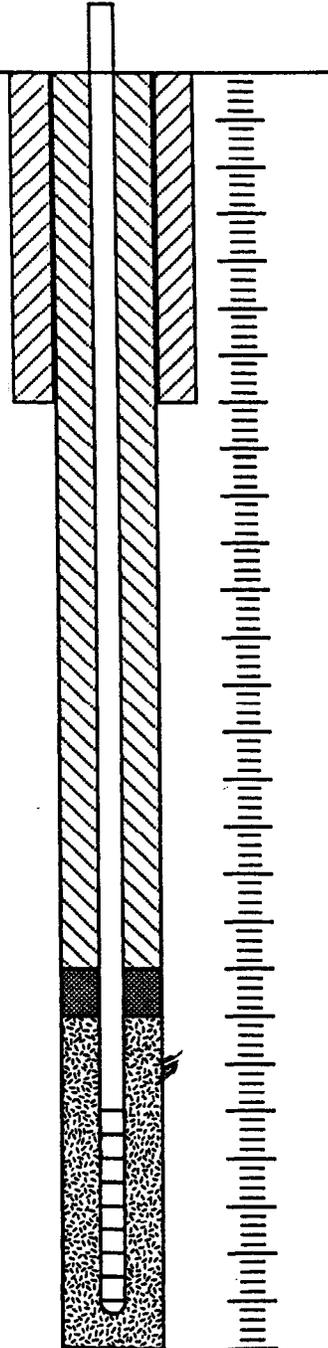
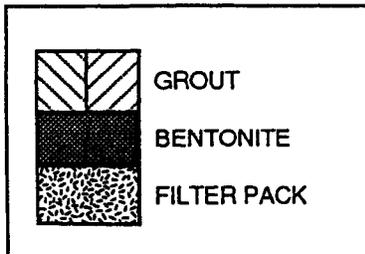
Med. chips poured via HSA, hydrated

3) Type of Grout Mixture and Placement Method

Portland Type I/E Cement + H2O, poured

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Ground
Drilling Method/Rig Type CME 750 Hollow Stem
Surface Casing: Type Monument
Diameter 6"
Length 5'

MATERIALS

Cement (sks.) 1
Filter Pack Material (X) 4.7 bags
Casing Material (ft.) 25
Bentonite (X) 1 bag

Top of Bentonite Seal 5 ft.
Top of Filter Pack 7 ft.
Top of Screen 10 ft.

Bottom of Screen 20 ft.
Bottom of Hole 22.3 ft. 24'
CAVED 22.3'-24'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ 036 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION STL IV, PT 089 DATE/TIME 12/11/00 1530

GROUND SURFACE

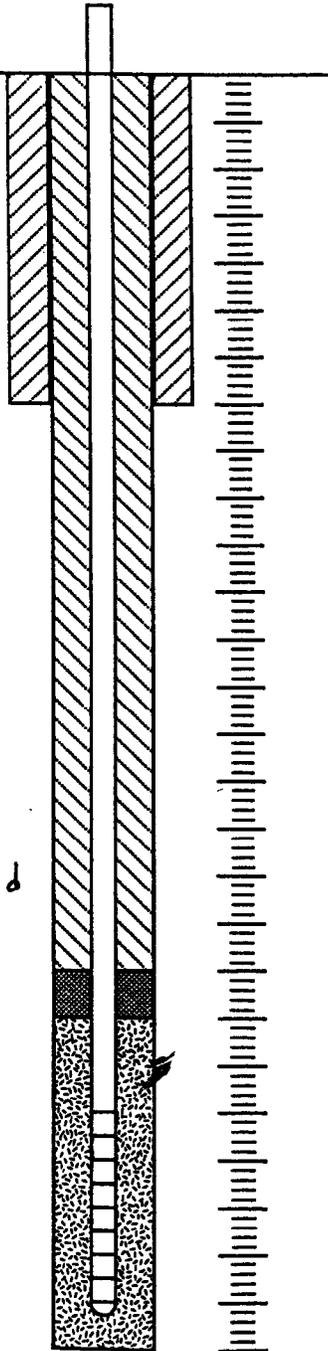
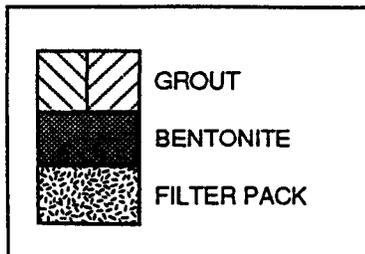
DETAILS OF CONSTRUCTION

Date Completed 12/11/00
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) 2" Sch. 40 PVC
Screen Perforation Diameter (in.) 0.040 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None
Completion Technique:

- 1) Type of Filter Pack and Placement Method: RMC #3 Sand poured via HSA
2) Type of Bentonite and Placement Method: Med-Chips poured via HSA, hydrated
3) Type of Grout Mixture and Placement Method: Portland Type II/III cement hydrated, poured

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type Hollow Stem Auger / CME TSD
Surface Casing: Type Monument
Diameter 6"
Length 5'

MATERIALS

Cement (sks.) 2
Filter Pack Material (sks) 6.25 sacks
Casing Material (ft.) 30
Bentonite (bags) 1.2 bags

Top of Bentonite Seal 7 ft.
Top of Filter Pack 10 ft.
Top of Screen 15 ft.
Bottom of Screen 25 ft.
Bottom of Hole 28.9 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

## WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ037 HYDROGEOLOGIST T. Burton  
 CLIENT Rocketdyne DRILLER Layne  
 WELL LOCATION STL-IV, PF090 DATE/TIME 12/12/00 1030

GROUND SURFACE

**DETAILS OF CONSTRUCTION**

Date Completed 12/12/00  
 Borehole Diameter (in.) 8"  
 Type and Size of Casing (in.) 2" Sch. 40 PVC  
 Type and Size of Screen (in.) 2" Sch. 40 PVC  
 Screen Perforation Diameter (in.) 0.070  
 Screen Length (ft.) 10  
 Centralizer Depths (ft.) None  
 Completion Technique:

- 1) Type of Filter Pack and Placement  
 Method  
RMC #3 Sand poured via HSA
- 2) Type of Bentonite and Placement Method  
Med. Chips poured + hydrated (1.5' Lifts)
- 3) Type of Grout Mixture and Placement  
 Method  
Portland Type I/II Cement + H<sub>2</sub>O poured

Description of Potential Problems With Well:

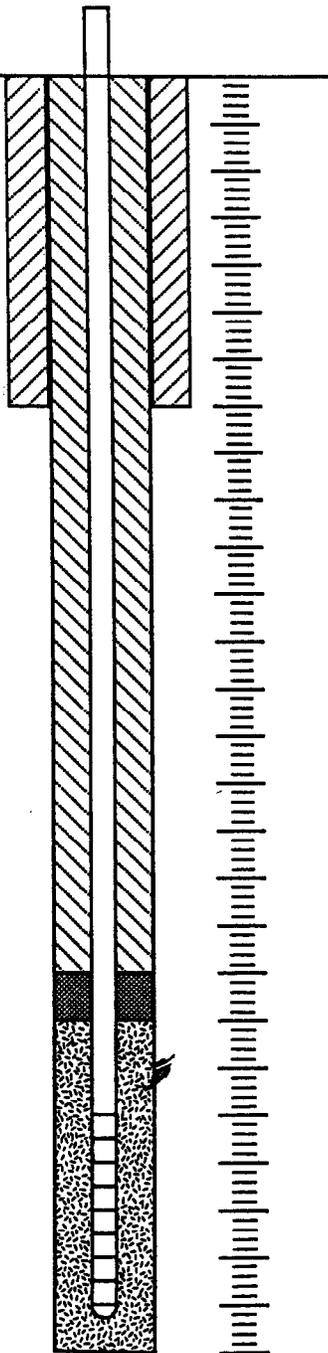
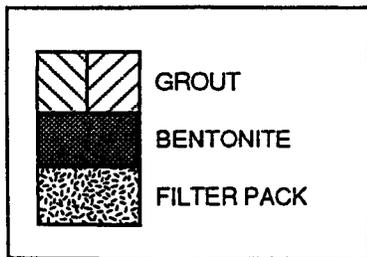
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Development Technique

\_\_\_\_\_



Well Head Elevation TBD  
 Ground Surface Elev. TBD  
 Well Head Completion Method  
Above Flush-Mount Traffic Box  
 Drilling Method/Rig Type  
Hollow-Stem Auger / CMETSO  
 Surface Casing: Type -  
 Diameter -  
 Length 4

**MATERIALS**

Cement (sks.) 3  
 Filter Pack Material (#) 4 bags  
 Casing Material (ft.) 30  
 Bentonite (#) 1-3 bags

Top of Bentonite Seat 12 ft.  
 Top of Filter Pack 15 ft.  
 Top of Screen 18 ft.  
 Bottom of Screen 28 ft.  
 Bottom of Hole 28.5 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

## WELL COMPLETION RECORD

JOB NO. 313160005 WELL NO. PZ038 HYDROGEOLOGIST T. Burton  
 CLIENT Rocketdyne DRILLER Layne  
 WELL LOCATION Compound A, PT-085 DATE/TIME 12/12/00 1500

GROUND SURFACE

**DETAILS OF CONSTRUCTION**

Date Completed Install 12/12/00  
 Borehole Diameter (in.) 8"  
 Type and Size of Casing (in.) 2" Sch. 40 PVC  
 Type and Size of Screen (in.) 2" Sch. 40 PVC  
 Screen Perforation Diameter (in.) 0.020  
 Screen Length (ft.) 10  
 Centralizer Depths (ft.) None

**Completion Technique:**

1) Type of Filter Pack and Placement

Method

RMC #3 Sand poured via HSA

2) Type of Bentonite and Placement Method

Med. Chips poured, hydrated in 6.5' lifts

3) Type of Grout Mixture and Placement

Method

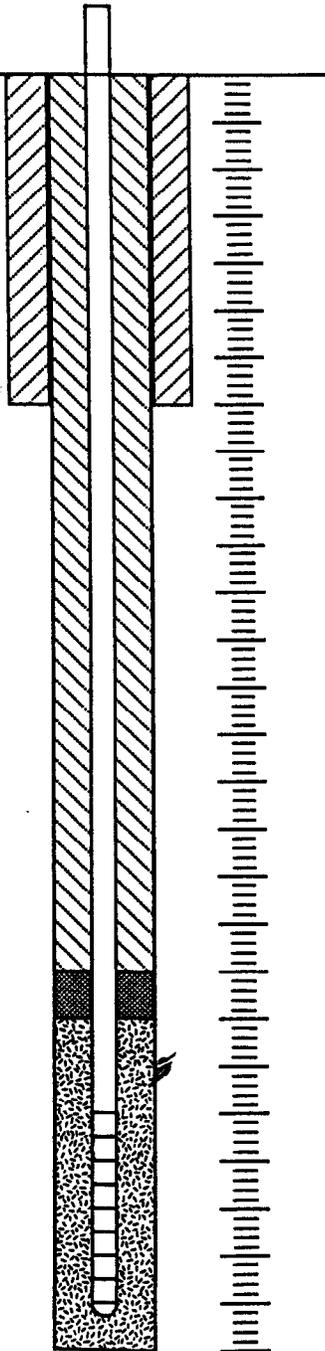
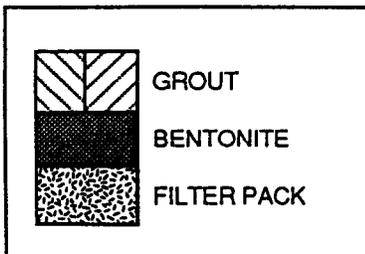
Posttand Type II/III Cement + H<sub>2</sub>O - poured

Description of Potential Problems With Well:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Development Technique

\_\_\_\_\_



Well Head Elevation TBD  
 Ground Surface Elev. TBD  
 Well Head Completion Method Above-Grade  
 Drilling Method/Rig Type Hollow Stem Aug./CME 750  
 Surface Casing: Type Monument  
 Diameter 6"  
 Length 5'

**MATERIALS**

Cement (sks.) 2  
 Filter Pack Material (#) 4 bags  
 Casing Material (ft.) 30  
 Bentonite (#) 3.5 bags

Top of Bentonite Seat 11 ft.

Top of Filter Pack 14 ft.

Top of Screen 17 ft.

Bottom of Screen 27 ft.

Bottom of Hole 32 ft.

**CAVED IN TO 31.5**

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ 039 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION STL IV North, PT-086 DATE/TIME 12/13/00 0915

GROUND SURFACE

DETAILS OF CONSTRUCTION

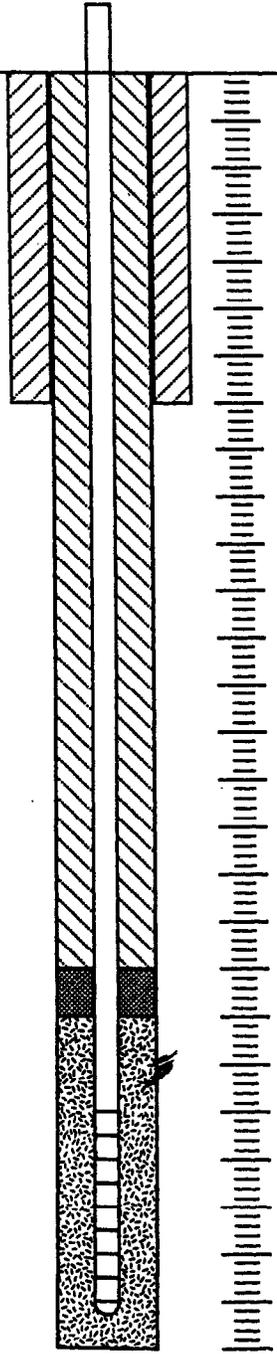
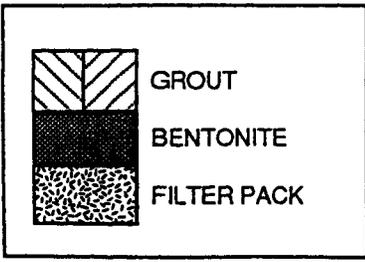
Date Completed Install 12/13/00
Borehole Diameter (in.) 8
Type and Size of Casing (in.) 2 Sch. 40 PVC
Type and Size of Screen (in.) 2 Sch. 40 PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method: RMC #3 Sand poured via HSA
2) Type of Bentonite and Placement Method: Med. chips via HSA, hydrated every 1.5'
3) Type of Grout Mixture and Placement Method: Portland Type II/III Cement + H2O slurry, poured

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type Hollow Stem Auger/CME 750
Surface Casing: Type Monument
Diameter 6
Length 5'

MATERIALS
Cement (sks.) 3
Filter Pack Material (sks) 4.2 sacks
Casing Material (ft.) 30
Bentonite (bags) 1.5 bags

Top of Bentonite Seat 11 ft.
Top of Filter Pack 14 ft.
Top of Screen 18 ft.
Bottom of Screen 28 ft.
Bottom of Hole 29 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ040 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION STLIV PT-091 DATE/TIME 12/14/00 0845

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 12/14/00
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) 2" Sch. 40 PVC
Screen Perforation Diameter (in.) 0-020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

1) Type of Filter Pack and Placement

Method

RMC #3 Sand via HSA

2) Type of Bentonite and Placement Method

Med. Chips via HSA, hydrated 1.5' lifts

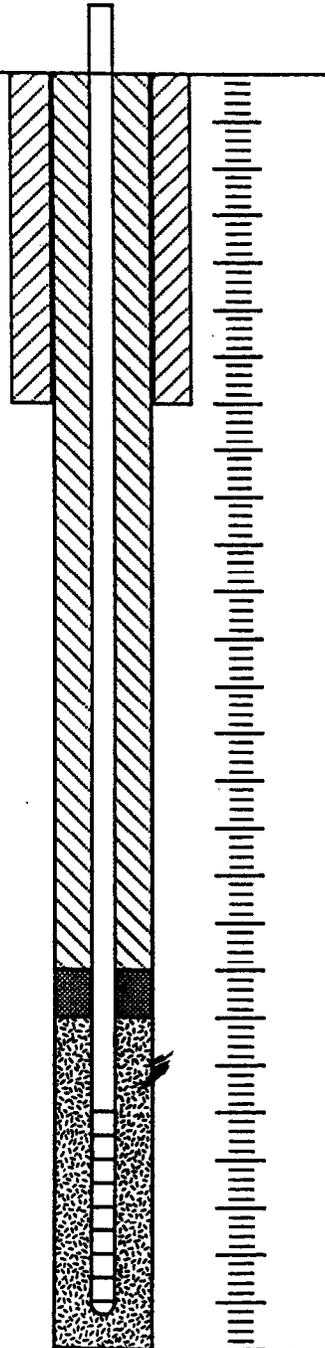
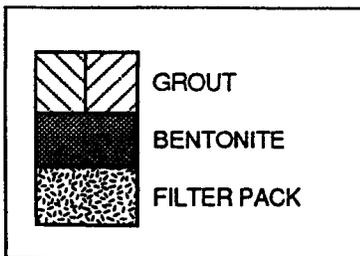
3) Type of Grout Mixture and Placement

Method

Portland Type II/III Cement & H2O, poured

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD

Ground Surface Elev. TBD

Well Head Completion Method Above-Grade

Drilling Method/Rig Type CME 750 Hollow Stem Auger

Surface Casing: Type Monument

Diameter 6"

Length 5'

MATERIALS

Cement (sks.) 2 bags

Filter Pack Material (sks) 5.5 bags

Casing Material (ft.) 30

Bentonite (sks) 2 bags

Top of Bentonite Seal 8 ft.

Top of Filter Pack 11 ft.

Top of Screen 16.5 ft.

Bottom of Screen 26.5 ft.

Bottom of Hole 31.5 ft.

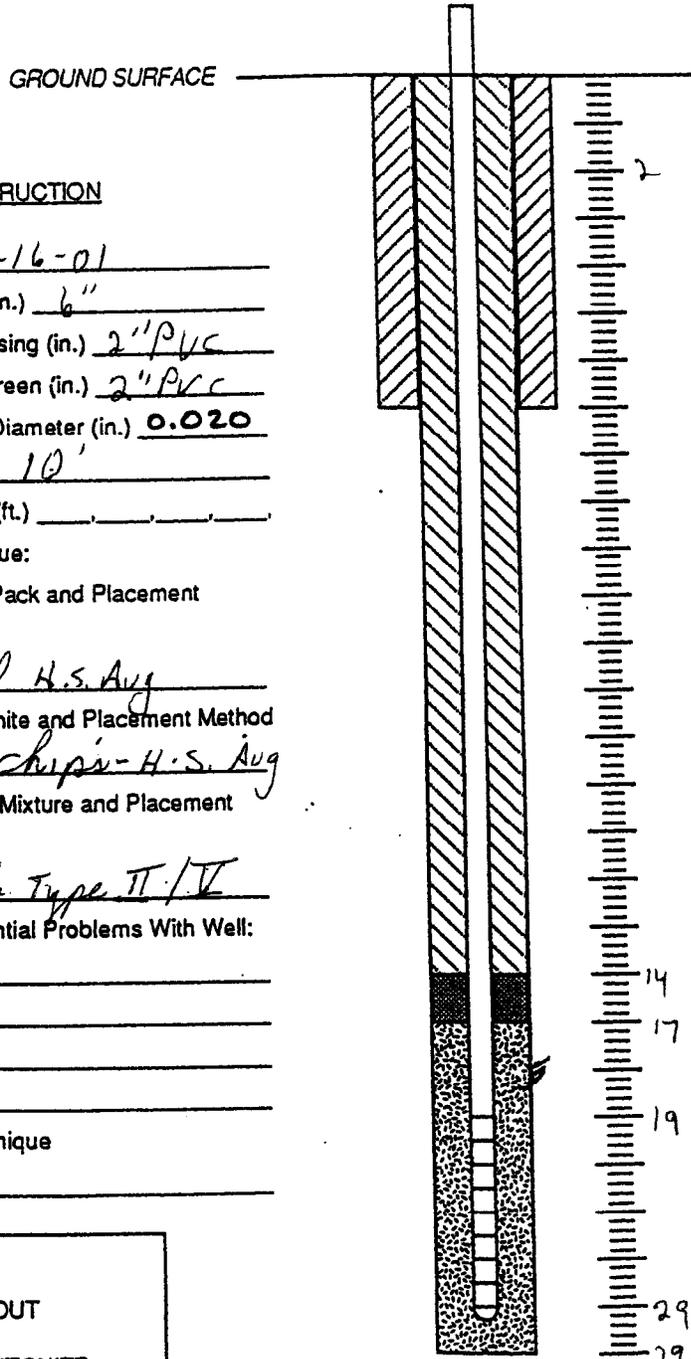
Top of Lower Seal 27 ft., BENTONITE 27'-31.5'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2041 HYDROGEOLOGIST R. SINGER
CLIENT Boeing DRILLER Layne
WELL LOCATION PT 105 DATE/TIME 1-16-01



Well Head Elevation
Ground Surface Elev.
Well Head Completion Method

Drilling Method/Rig Type
CME-95 Hollow Stem
Surface Casing: Type
Diameter
Length

DETAILS OF CONSTRUCTION

Date Completed 1-16-01
Borehole Diameter (in.) 6"
Type and Size of Casing (in.) 2" PVC
Type and Size of Screen (in.) 2" PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10'
Centralizer Depths (ft.)

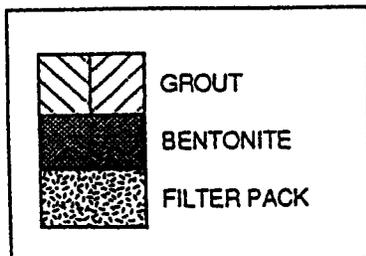
Completion Technique:

- 1) Type of Filter Pack and Placement Method #3 Sand H.S. Aug
2) Type of Bentonite and Placement Method medium chip - H.S. Aug
3) Type of Grout Mixture and Placement Method Port Cement Type II/IV

Description of Potential Problems With Well:

Description of potential problems with well section.

Development Technique



MATERIALS

Cement (sks.) 3 bgs @ 96
Filter Pack Material (ft.3) 3.3 bgs @
Casing Material (ft.) 30'
Bentonite (ft.3) 1.5 bgs @ 50

Top of Bentonite Seat 14 ft.
Top of Filter Pack 17 ft.
Top of Screen 19 ft.
Bottom of Screen 29 ft.
Bottom of Hole 29.6 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313100005 WELL NO. P2042 HYDROGEOLOGIST R. SINGER

CLIENT NASA DRILLER Layne

WELL LOCATION DELTA PT-095 DATE/TIME 12-13-00 1400

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 12-13-00

Borehole Diameter (in.) 6"

Type and Size of Casing (in.) 2" PVC

Type and Size of Screen (in.) 2" PVC

Screen Perforation Diameter (in.) 0.020

Screen Length (ft.) 10'

Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

1) Type of Filter Pack and Placement

Method

#3 SAND H.AUG

2) Type of Bentonite and Placement Method

medium chips - H.S. AUG

3) Type of Grout Mixture and Placement

Method

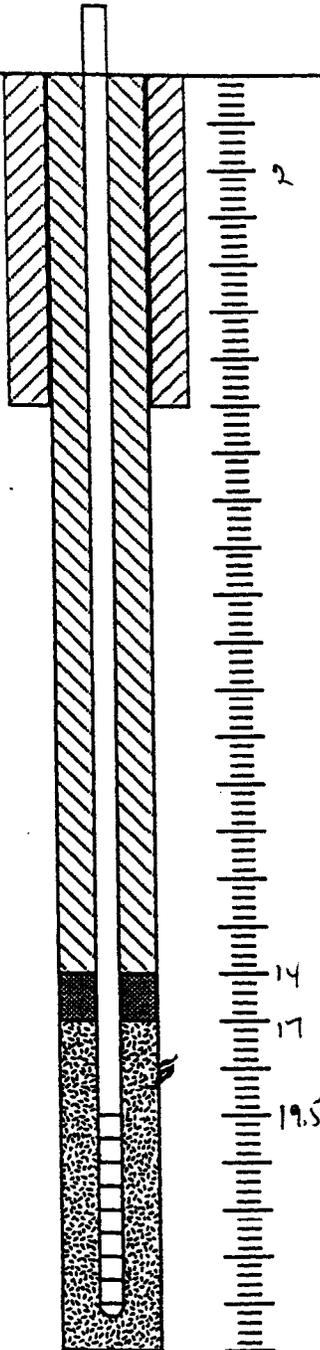
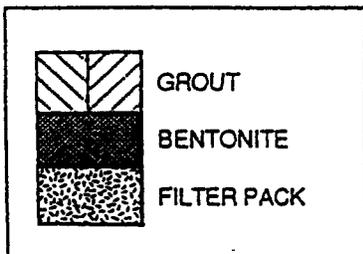
pod. Cem Type II/IV O.H

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique

\_\_\_\_\_



Well Head Elevation \_\_\_\_\_

Ground Surface Elev. \_\_\_\_\_

Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type

CME-75 H.S. AUGER

Surface Casing: Type PVC

Diameter 2"

Length \_\_\_\_\_

MATERIALS

Cement (sks.) 3 bgs @ 94165

Filter Pack Material (ft.<sup>3</sup>) 4 bgs @ 1001

Casing Material (ft.) \_\_\_\_\_

Bentonite (ft.<sup>3</sup>) \_\_\_\_\_

Top of Bentonite Seal 14 ft.

Top of Filter Pack 17 ft.

Top of Screen 19.5 ft.

Bottom of Screen 29.5 ft.

Bottom of Hole 40.5 ft.

Bentonite chips from 31 ft to 40.5 ft  
40.5

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313100005 WELL NO. P2043 HYDROGEOLOGIST R. SINGER
CLIENT NASA DRILLER LAUNIE
WELL LOCATION PT 097 COCOA DATE/TIME 12-14-00 11:00

GROUND SURFACE

DETAILS OF CONSTRUCTION

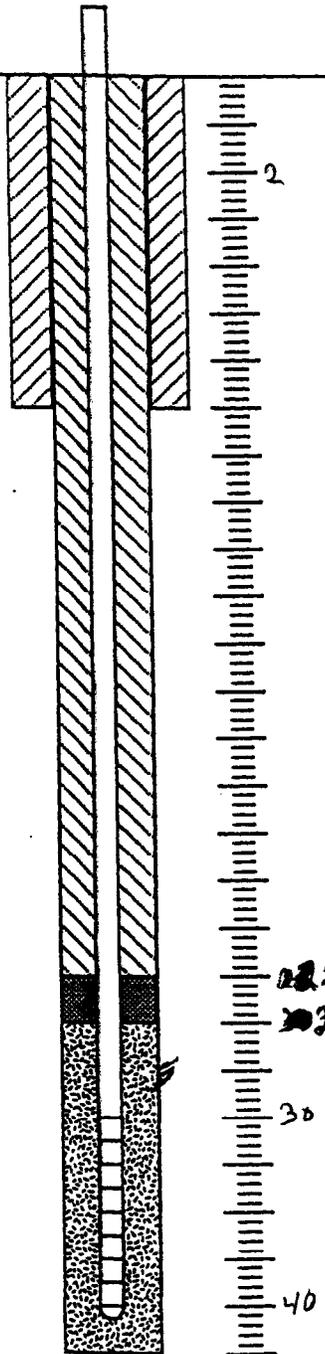
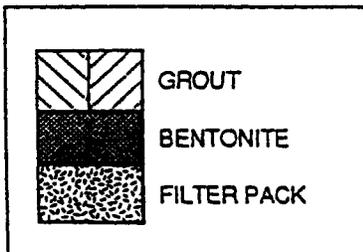
Date Completed 12-14-00
Borehole Diameter (in.) 6"
Type and Size of Casing (in.) 2" PVC
Type and Size of Screen (in.) 2" PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.)

Completion Technique:

- 1) Type of Filter Pack and Placement Method # 3 Sand H.D. Aug
2) Type of Bentonite and Placement Method medium chips H.D. Aug
3) Type of Grout Mixture and Placement Method Pond Cement, Type II/IV D.H

Description of Potential Problems With Well:

Development Technique



Well Head Elevation
Ground Surface Elev.
Well Head Completion Method

Drilling Method/Rig Type CME-90 Hollow Stem
Surface Casing: Type
Diameter
Length

MATERIALS

Cement (sks.) 4 @ 94
Filter Pack Material (ft.3) 5.25 @ 16
Casing Material (ft.)
Bentonite (ft.3) 0.75 @ 50

Top of Bentonite Seat 22 ft.
Top of Filter Pack 25 ft.
Top of Screen 30 ft.

Bottom of Screen 40 ft.
Bottom of Hole 45 ft.
Bentonite to 41

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 21710005 WELL NO. P2044 HYDROGEOLOGIST R. SINGER  
CLIENT NASA DRILLER LAYNE  
WELL LOCATION P2096-COCA DATE/TIME 12/14/00 1600

DETAILS OF CONSTRUCTION

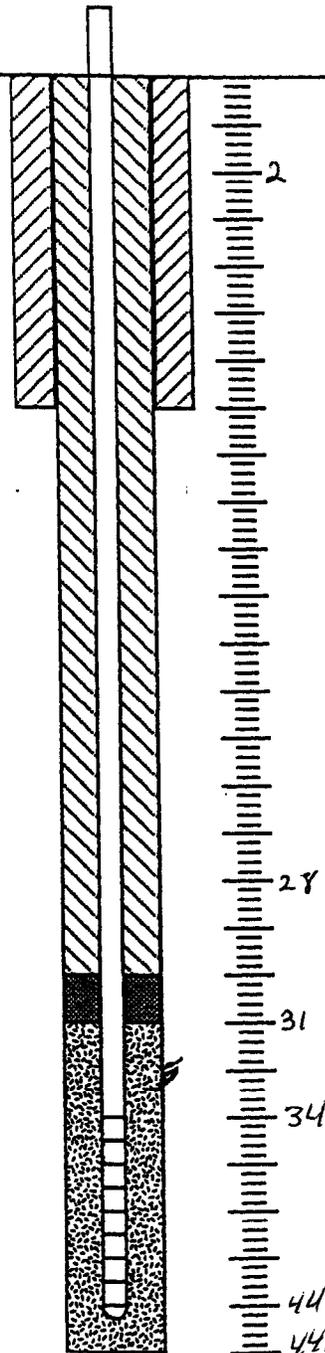
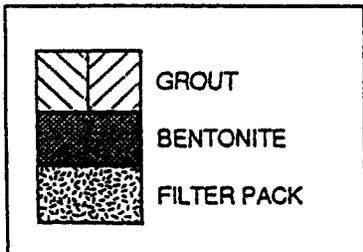
Date Completed 12-14-00  
Borehole Diameter (in.) 6"  
Type and Size of Casing (in.) 2" PVC  
Type and Size of Screen (in.) 2" PVC  
Screen Perforation Diameter (in.) 0.020  
Screen Length (ft.) 10  
Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

- 1) Type of Filter Pack and Placement Method  
#3 sand H.S. Aug
- 2) Type of Bentonite and Placement Method  
medium chips H.S. Aug
- 3) Type of Grout Mixture and Placement Method  
Port cement Type II/IV O.H

Description of Potential Problems With Well:

Development Technique



Well Head Elevation \_\_\_\_\_  
Ground Surface Elev. \_\_\_\_\_  
Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type CME-95 Hollow Stem Ac  
Surface Casing: Type \_\_\_\_\_  
Diameter \_\_\_\_\_  
Length \_\_\_\_\_

MATERIALS

Cement (sks.) 56 @ 94 lbs  
Filter Pack Material (ft.<sup>3</sup>) 40 ft<sup>3</sup>  
Casing Material (ft.) 45  
Bentonite (ft.<sup>3</sup>) 1,25 @ 50

Top of Bentonite Seal 28' ft.

Top of Filter Pack 31 ft.

Top of Screen 34 ft.

Bottom of Screen 44 ft.  
Bottom of Hole 44.5 ft.  
**CAVED IN TO 44.5'**

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313100065 WELL NO. P2045 HYDROGEOLOGIST R. SINGER
CLIENT NASA DRILLER LAYNE 1330
WELL LOCATION COCA PT 115 DATE/TIME 12/15/00 13:30

DETAILS OF CONSTRUCTION

Date Completed 11/15/00
Borehole Diameter (in.) 6"
Type and Size of Casing (in.) 2" PVC
Type and Size of Screen (in.) 2" PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.)

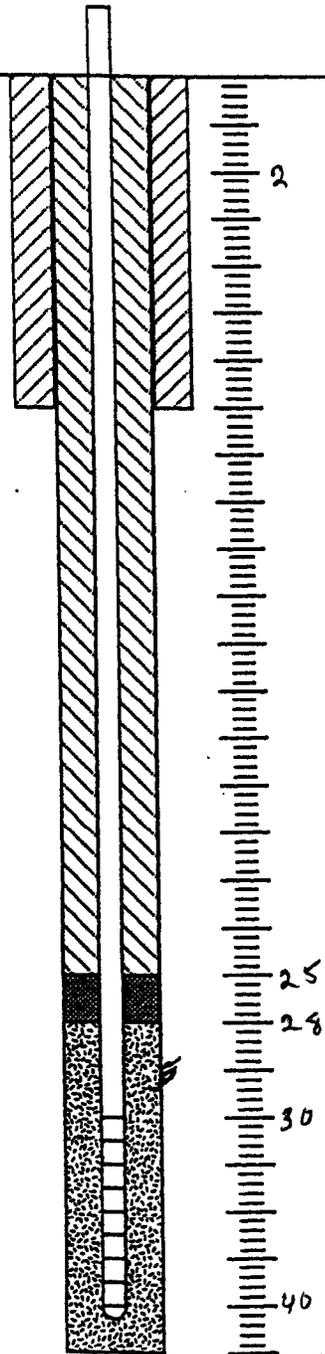
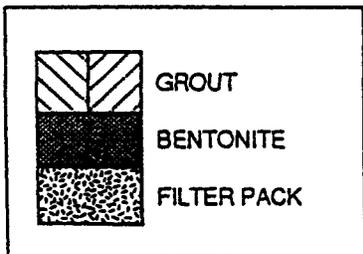
Completion Technique:

- 1) Type of Filter Pack and Placement Method: #3 SAND H.S. Auger
2) Type of Bentonite and Placement Method: medium chips H.S. Aug
3) Type of Grout Mixture and Placement Method: Port Cem Type II/IV O.H.

Description of Potential Problems With Well:

Stainless steel 2' Rod.
from tape came off at
approx. 35'

Development Technique



Well Head Elevation
Ground Surface Elev.
Well Head Completion Method
Drilling Method/Rig Type
Surface Casing: Type
Diameter
Length

MATERIALS

Cement (sks.) 1.5 @ 94 lbs
Filter Pack Material (ft.3) 3.5 @ 100
Casing Material (ft.) 15 @ 250
Bentonite (ft.3)

Top of Bentonite Seat 25 ft.
Top of Filter Pack 28 ft.
Top of Screen 30 ft.

Bottom of Screen 40 ft.
Bottom of Hole 43.5-45 ft.
CAVED IN 43.5'-45'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 713100005 WELL NO. P2046 HYDROGEOLOGIST R. SINGER
CLIENT NASA DRILLER LAYNE
WELL LOCATION COCA PT 098 DATE/TIME 12/18/00 10:30

DETAILS OF CONSTRUCTION

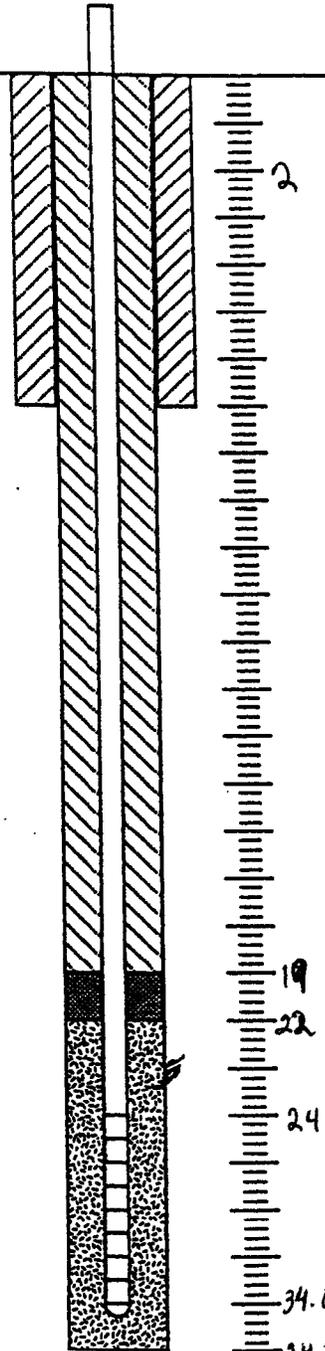
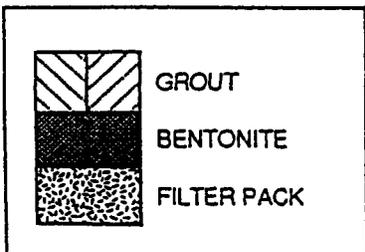
Date Completed 12/18/00
Borehole Diameter (in.) 6"
Type and Size of Casing (in.) 2" PVC
Type and Size of Screen (in.) 2" PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 1.0
Centralizer Depths (ft.)

Completion Technique:

- 1) Type of Filter Pack and Placement Method #3 sand H.S. Aug
2) Type of Bentonite and Placement Method medium chip H.S. Aug
3) Type of Grout Mixture and Placement Method Port Cem. Type III/II O.K.

Description of Potential Problems With Well:

Development Technique



Well Head Elevation

Ground Surface Elev.

Well Head Completion Method

Drilling Method/Rig Type CMG-95 - Hollow Stem Au

Surface Casing: Type

Diameter

Length

MATERIALS

Cement (sks.) 2 bgs @ 94/lb
Filter Pack Material (ft.3) 3.75 bgs @ 100/
Casing Material (ft.) 35'
Bentonite (ft.3) 1.6 bgs @ 50/lbs

Top of Bentonite Seat 19 ft.

Top of Filter Pack 22 ft.

Top of Screen 24 ft.

Bottom of Screen 34.0 ft.

Bottom of Hole 34.5 ft.

CAVED IN 34.5-35'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 213100005 WELL NO. P2047 HYDROGEOLOGIST R. SINGER  
CLIENT NASA DRILLER LAYNE  
WELL LOCATION COCA PTD99 DATE/TIME 12/18/00 1500

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 12/18/00  
Borehole Diameter (in.) 6"  
Type and Size of Casing (in.) 2" PVC  
Type and Size of Screen (in.) 2" PVC  
Screen Perforation Diameter (in.) 0.020  
Screen Length (ft.) 1.0  
Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

1) Type of Filter Pack and Placement

Method

#3 Sand H.S. Aug

2) Type of Bentonite and Placement Method

medium chips H.S. Aug

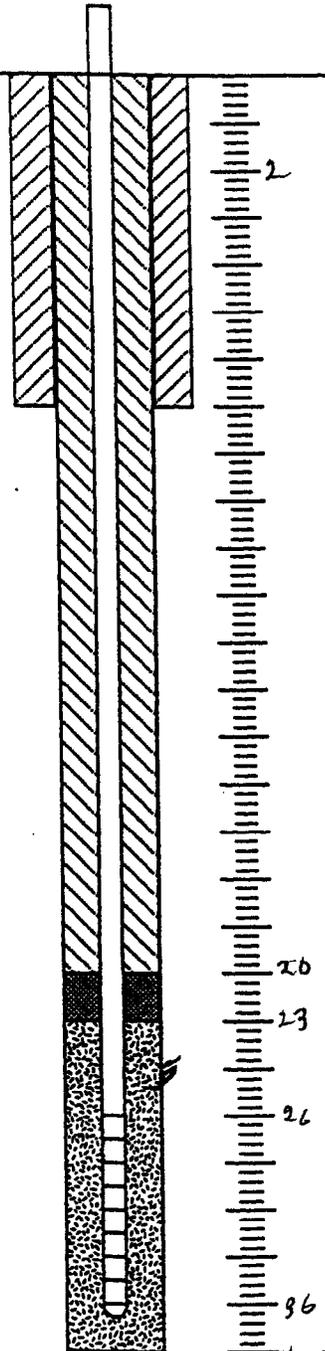
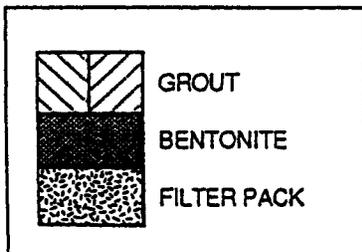
3) Type of Grout Mixture and Placement

Method

Port Cem Type II/V: 0.4

Description of Potential Problems With Well:

Development Technique



Well Head Elevation \_\_\_\_\_

Ground Surface Elev. \_\_\_\_\_

Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type

CME 95 Hollow Stem Aug

Surface Casing: Type \_\_\_\_\_

Diameter \_\_\_\_\_

Length \_\_\_\_\_

MATERIALS

Cement (sks.) 2.5 kg @ 94 lb

Filter Pack Material (ft.<sup>3</sup>) 4.25 @ 100

Casing Material (ft.) 1.5 @ 50.36

Bentonite (ft.<sup>3</sup>) 1.5 @ 50

Top of Bentonite Seal 20 ft.

Top of Filter Pack 23 ft.

Top of Screen 26 ft.

Bottom of Screen 36 ft.

Bottom of Hole 40.4 ft.

Backfill sand

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313100005 WELL NO. P2048 HYDROGEOLOGIST R. SINGER
CLIENT NASA DRILLER LAUNE
WELL LOCATION COCA PT 116 DATE/TIME 12/19/00 11:30

GROUND SURFACE

DETAILS OF CONSTRUCTION

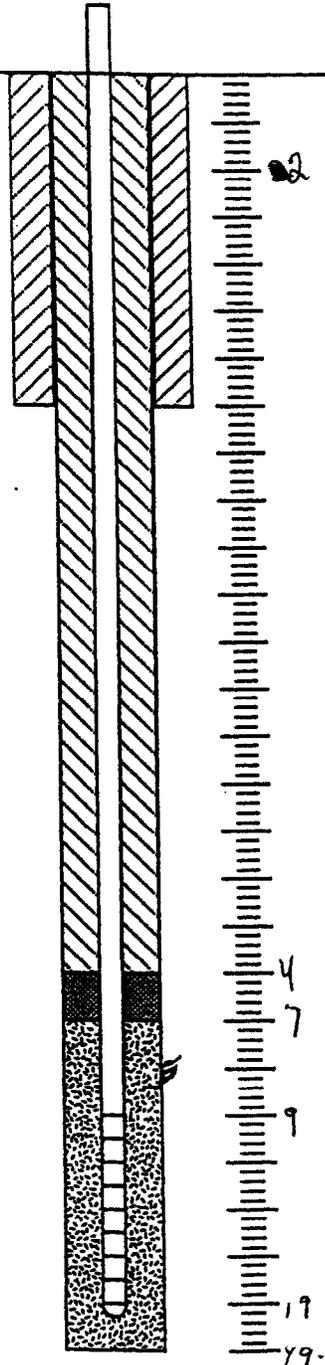
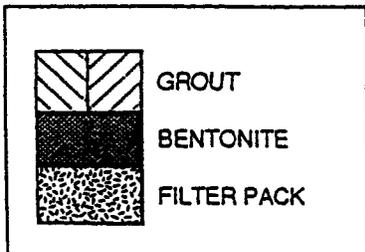
Date Completed 12/19/00
Borehole Diameter (in.) 6"
Type and Size of Casing (in.) 2" PVC
Type and Size of Screen (in.) 2" PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.)

Completion Technique:

- 1) Type of Filter Pack and Placement Method: #3 Sand H.S. AUG
2) Type of Bentonite and Placement Method: Medium chips H.S. AUG
3) Type of Grout Mixture and Placement Method: Port Cem. Type III/V

Description of Potential Problems With Well:

Development Technique



Well Head Elevation
Ground Surface Elev.
Well Head Completion Method

Drilling Method/Rig Type

Surface Casing: Type
Diameter
Length

MATERIALS

Cement (sks.) 0.5 bags @ 94/13
Filter Pack Material (ft.3) 3.9 @ 100/6
Casing Material (ft.) 26
Bentonite (ft.3) 1.25 bags @ 50/6

Top of Bentonite Seal 4 ft.

Top of Filter Pack 7 ft.

Top of Screen 9 ft.

Bottom of Screen 19 ft.
Bottom of Hole 49 ft.

slough to 42,
chips (12 bags)
to 20

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 213100005 WELL NO. PZ049 HYDROGEOLOGIST R. SINGER  
CLIENT NASA DRILLER Haynes  
WELL LOCATION ALPHA PT-044 DATE/TIME 12/19/00 1700

DETAILS OF CONSTRUCTION

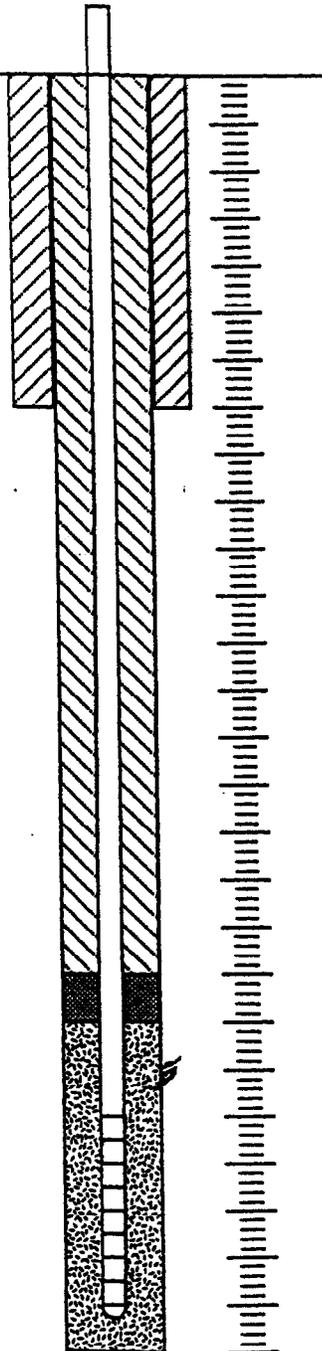
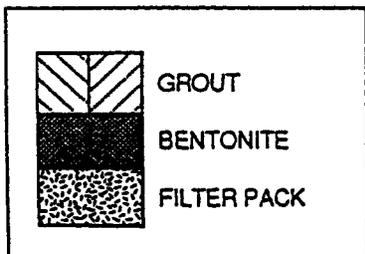
Date Completed 12-19-00  
Borehole Diameter (in.) 6"  
Type and Size of Casing (in.) 2" PVC  
Type and Size of Screen (in.) 2" PVC  
Screen Perforation Diameter (in.) 0.020  
Screen Length (ft.) 10  
Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

- 1) Type of Filter Pack and Placement  
Method  
# 3 SAND H.S. Aug
- 2) Type of Bentonite and Placement Method  
medium chips H.S. Aug
- 3) Type of Grout Mixture and Placement  
Method  
Port. Cement, Type III C.H.

Description of Potential Problems With Well:

Development Technique



Well Head Elevation \_\_\_\_\_  
Ground Surface Elev. \_\_\_\_\_  
Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type  
CMG-95 Hollow Stem Au.  
Surface Casing: Type \_\_\_\_\_  
Diameter \_\_\_\_\_  
Length \_\_\_\_\_

MATERIALS

Cement (sks.) NONE  
Filter Pack Material (ft.<sup>3</sup>) 4.5 @ 100  
Casing Material (ft.) \_\_\_\_\_  
Bentonite (ft.<sup>3</sup>) 1 by @ 50

Top of Bentonite Seal 2 ft.  
Top of Filter Pack 4 ft.  
Top of Screen 6 ft.

Bottom of Screen 16 ft.  
Bottom of Hole 34 ft.  
16 lbs bentonite to 17,

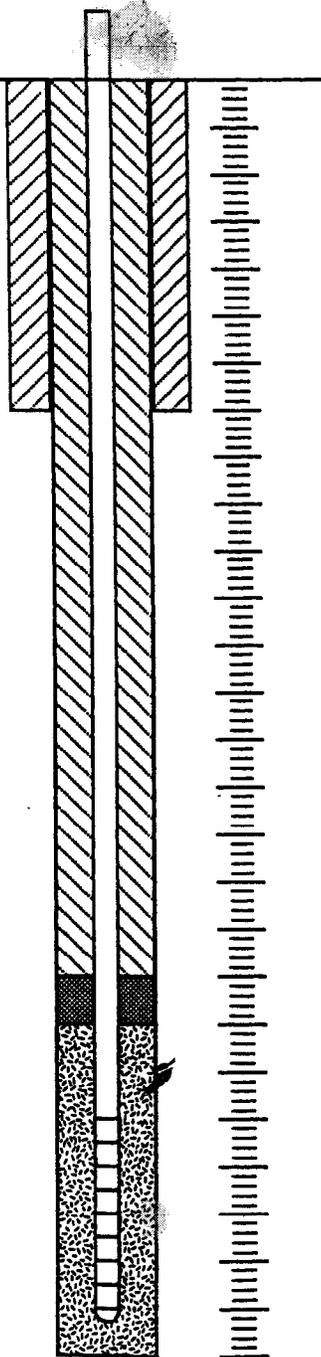
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ057<sup>50</sup> HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION EEL PT 072 DATE/TIME 12/14/00 1400

GROUND SURFACE



DETAILS OF CONSTRUCTION

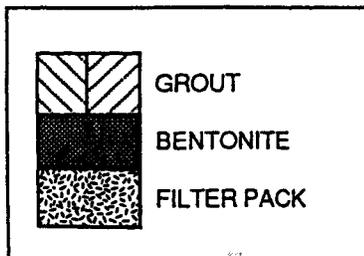
Date Completed Install 12/14/00
Borehole Diameter (in.) 8
Type and Size of Casing (in.) 2 Sch. 40 PVC
Type and Size of Screen (in.) 2 Sch. 40 PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method: BMC #3 Sand via HSA
2) Type of Bentonite and Placement Method: Med. Chips via HSA, hydrated every 1.5'
3) Type of Grout Mixture and Placement Method: None

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method

Drilling Method/Rig Type: CME 750 Hollow Stem Auger
Surface Casing: Type, Diameter, Length

MATERIALS

Cement (sks.) 0
Filter Pack Material (sks.)
Casing Material (ft.) 20
Bentonite (sks.)

Top of Bentonite Seat 2 ft.
Top of Filter Pack 4 ft.
Top of Screen 6 ft.

Bottom of Screen 16 ft.
Bottom of Hole 24 ft.
BENTONITE 17'-24'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ051 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION AIV, EEL drainage, PT-071 DATE/TIME 12/14/00 1600

DETAILS OF CONSTRUCTION

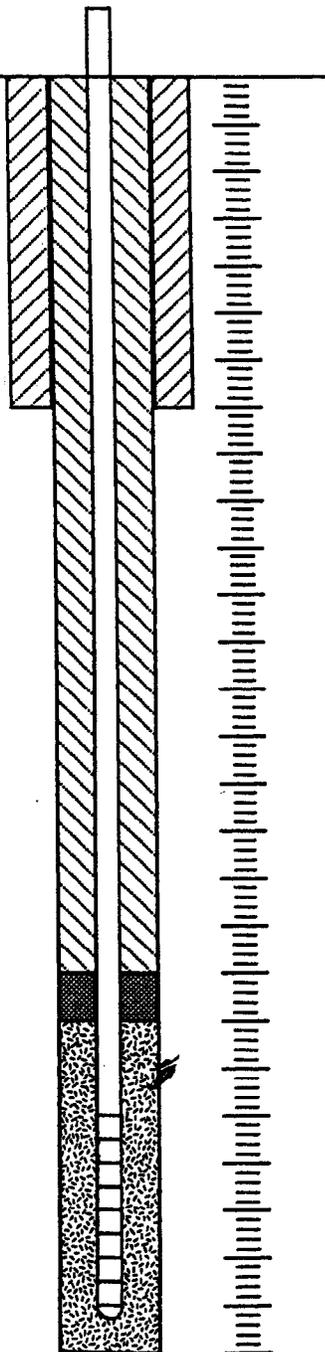
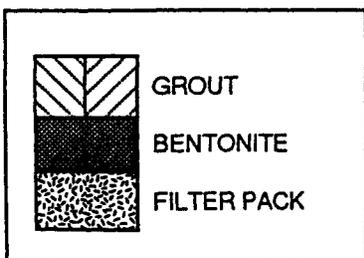
Date Completed Install 12/14/00
Borehole Diameter (in.) 3"
Type and Size of Casing (in.) 2" Sch. 40 NC
Type and Size of Screen (in.) 2" Sch. 40 NC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method RMC #3 Sand via HSA
2) Type of Bentonite and Placement Method Med. Chips via HSA, hydrated 1.5' lifts
3) Type of Grout Mixture and Placement Method Portland cement + H2O, poured

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type CME 750 Hollow Stem Auger
Surface Casing: Type Monument
Diameter 6"
Length 5'

MATERIALS

Cement (sks.) 0-2 ft
Filter Pack Material (ft.) 4-16 ft / 3-16
Casing Material (ft.)
Bentonite (ft.) 2-4 ft / 2-3 ft

Top of Bentonite Seal 2 ft

Top of Filter Pack 3 ft

Top of Screen 5 ft

Bottom of Screen 15 ft
Bottom of Hole 27 ft

BENTONITE 16'-27'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2052 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION Area II Burro Flats, PT-079 DATE/TIME 12/15/00 1100

DETAILS OF CONSTRUCTION

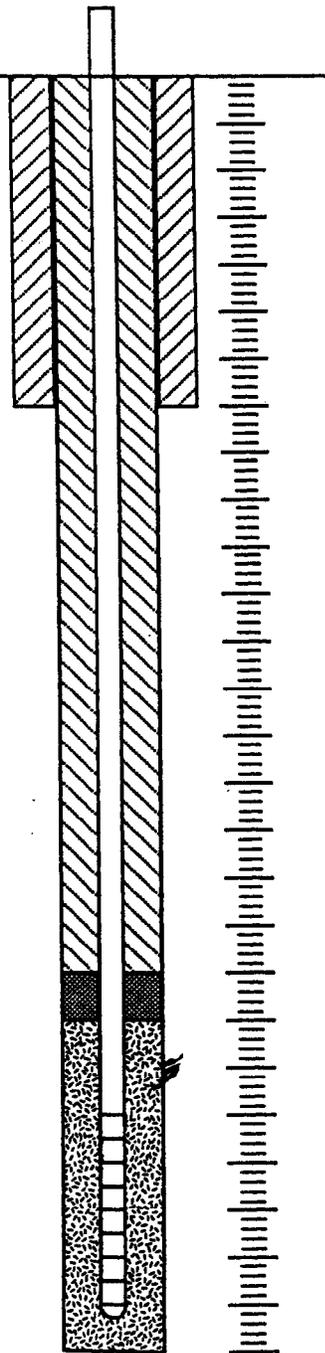
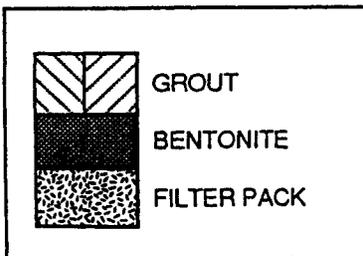
Date Completed Install 12/15/00
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) 2" Sch. 40 PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10'
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method: RMC #3 Sand via HSA
2) Type of Bentonite and Placement Method: Med. Chips via HSA, hydrated every 15'
3) Type of Grout Mixture and Placement Method: Portland Cement + H2O, poured

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type Hollow Stem Auger/CME 750
Surface Casing: Type Monomant
Diameter 6"
Length 5'

MATERIALS

Cement (sks.) 2
Filter Pack Material (R) 4 bags
Casing Material (ft.) 30
Bentonite (R) 1.5 bags

Top of Bentonite Seat 14 ft.
Top of Filter Pack 17 ft.
Top of Screen 18.9 ft.
Bottom of Screen 28.9 ft.
Bottom of Hole 30 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ053 HYDROGEOLOGIST T. Boston
CLIENT NASA DRILLER Layne
WELL LOCATION R2 Ponds PT-093 DATE/TIME 12/18/00 0900

GROUND SURFACE

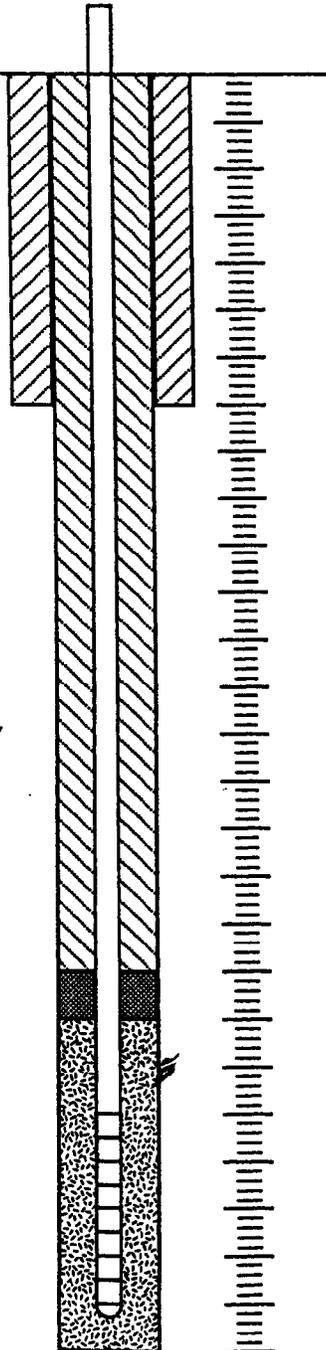
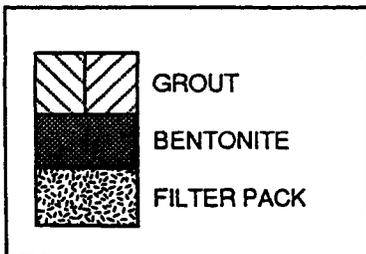
DETAILS OF CONSTRUCTION

Date Completed 12/18/00
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) 2" Sch. 40 PVC
Screen Perforation Diameter (in.) 0.010 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None
Completion Technique:

- 1) Type of Filter Pack and Placement Method RMC #3 sand via HSA
2) Type of Bentonite and Placement Method Med. Chips via HSA, hydrated every 1.5'
3) Type of Grout Mixture and Placement Method Portland Type II/III cement + H2O (poured)

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type CME 750 Hollow Stem Auger
Surface Casing: Type Monument
Diameter 6"
Length 5'

MATERIALS

Cement (sks.) 2
Filter Pack Material (#3) 5 bags
Casing Material (ft.) 30
Bentonite (#8) 1 bag

Top of Bentonite Seat 8 ft.

Top of Filter Pack 11 ft.

Top of Screen 16 ft.

Bottom of Screen 26 ft.
Bottom of Hole 29 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ054 HYDROGEOLOGIST T. Burton
CLIENT NASA DRILLER Layne
WELL LOCATION CDFE lower pond, PT-092 DATE/TIME 12/18/00

GROUND SURFACE

DETAILS OF CONSTRUCTION

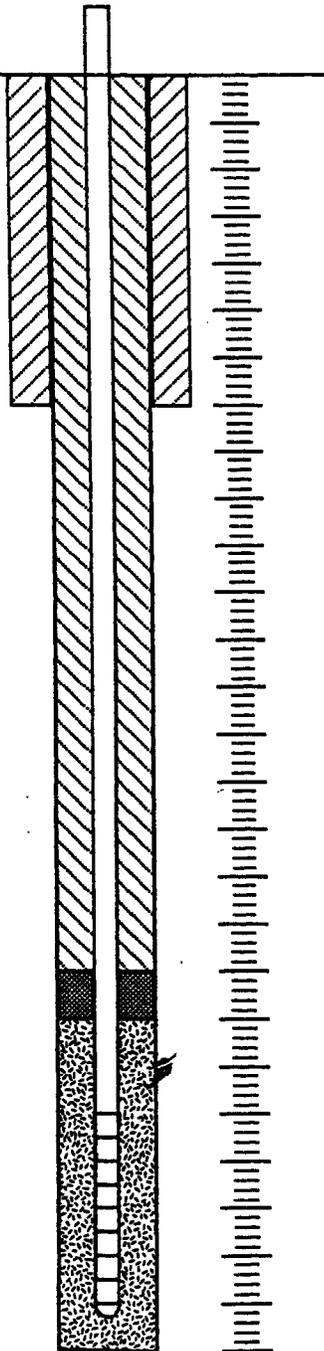
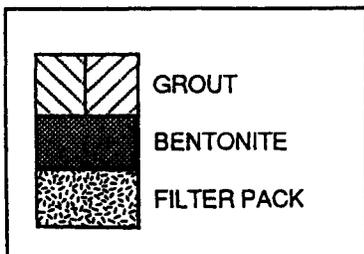
Date Completed Install 12/18/00
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) 2" Sch. 40 PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method RMC #3 Sand via HSA
2) Type of Bentonite and Placement Method Med. Chips via HSA, poured + hydrated
3) Type of Grout Mixture and Placement Method None

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type CME 750 Hollow Stem Auger
Surface Casing: Type Monument
Diameter 6"
Length 5'

MATERIALS

Cement (sks.) 0-2 ft
Filter Pack Material (#3) 4.5 bags
Casing Material (ft.) 20
Bentonite (#8) 5 bags

Top of Bentonite Seal 15.2 ft.
Top of Filter Pack 3.8 ft.
Top of Screen 5 ft.

Bottom of Screen 15 ft.
Bottom of Hole 28 ft.
BENTONITE 16'-28'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 3131500005 P205 WELL NO. P2055 HYDROGEOLOGIST R. SINGER

CLIENT BOEING DRILLER Layne

WELL LOCATION PT 057 DATE/TIME 01-02-01 16:15

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 01-02-01  
Borehole Diameter (in.) 6"  
Type and Size of Casing (in.) 2" PVC  
Type and Size of Screen (in.) 2" PVC  
Screen Perforation Diameter (in.) 0.020  
Screen Length (ft.) 10'  
Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

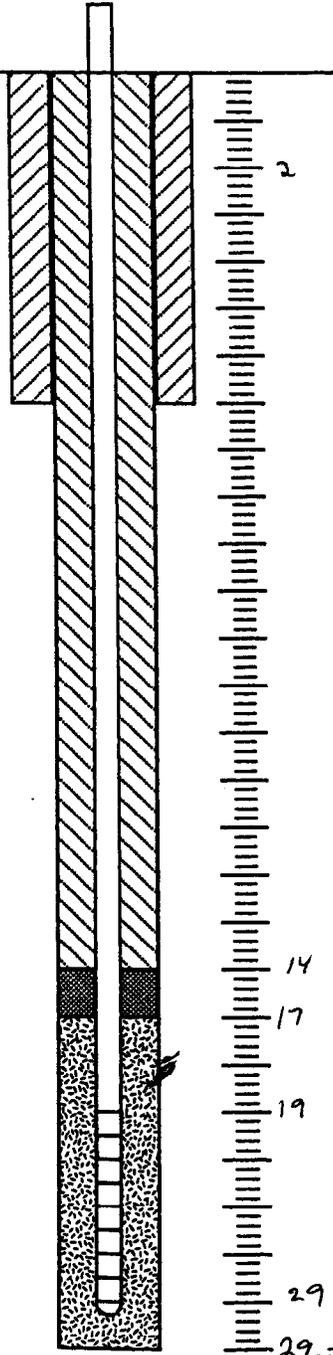
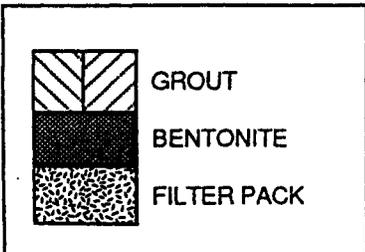
- 1) Type of Filter Pack and Placement Method  
#3 sand H.S. Aug.
- 2) Type of Bentonite and Placement Method  
medium chip H.S. Aug.
- 3) Type of Grout Mixture and Placement Method  
Best Cem Type #10 OP

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique

\_\_\_\_\_



Well Head Elevation \_\_\_\_\_  
 Ground Surface Elev. \_\_\_\_\_  
 Well Head Completion Method \_\_\_\_\_  
 Drilling Method/Rig Type \_\_\_\_\_  
 Surface Casing: Type \_\_\_\_\_  
 Diameter \_\_\_\_\_  
 Length \_\_\_\_\_

MATERIALS

Cement (sks.) 2 bags @ 90 lbs  
 Filter Pack Material (ft.<sup>3</sup>) 3 bags @ 100  
 Casing Material (ft.) 30'  
 Bentonite (ft.<sup>3</sup>) 1 bag @ 50 lbs

Top of Bentonite Seal 14 ft.  
 Top of Filter Pack 17 ft.  
 Top of Screen 19 ft.  
 Bottom of Screen 29 ft.  
 Bottom of Hole 29.5 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 31315 0005 WELL NO. PZ056 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION New Con/SPA PT-053 DATE/TIME 12/19/00 1045

GROUND SURFACE

DETAILS OF CONSTRUCTION

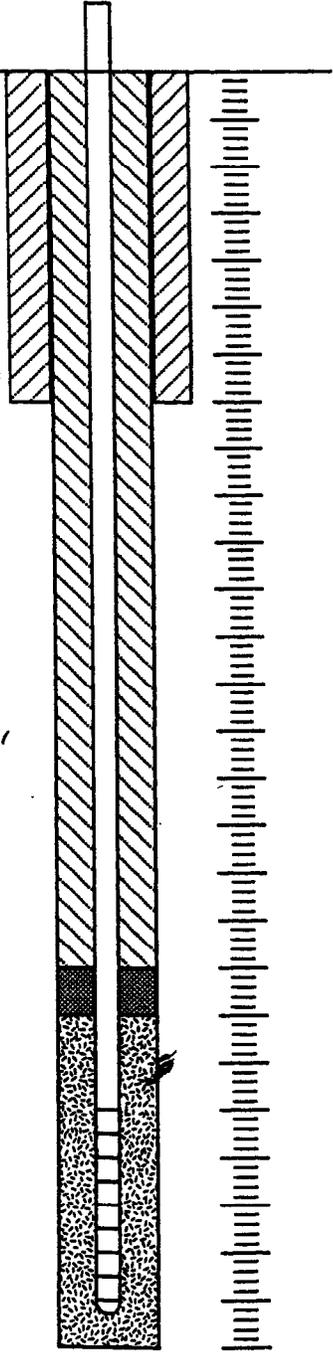
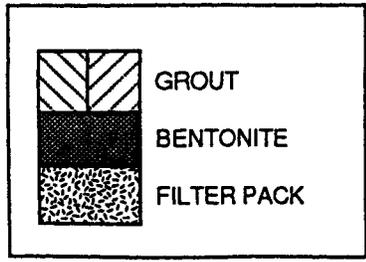
Date Completed 12/19/00
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) 2" Sch. 40 PVC
Screen Perforation Diameter (in.) 0.070
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method: BMC #3 Sand via HSA
2) Type of Bentonite and Placement Method: Med. Chips via HSA, hydrated each 1.5'
3) Type of Grout Mixture and Placement Method: Portland Type II/Cement (poured)

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type CME 750 Hollow Stem Auger
Surface Casing: Type Monument
Diameter 6"
Length 5'

MATERIALS
Cement (sks.) 2
Filter Pack Material (bags) 4 bags
Casing Material (ft.) 30
Bentonite (bags) 1 bag

Top of Bentonite Seal 10 ft.
Top of Filter Pack 13 ft.
Top of Screen 17 ft.
Bottom of Screen 27 ft.
Bottom of Hole 28 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2057 HYDROGEOLOGIST T. Burton
CLIENT NASA DRILLER Laine
WELL LOCATION SPA PT-051 DATE/TIME 12/19/00 1300

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed install 12/19/00
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2"
Type and Size of Screen (in.) 2"
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

1) Type of Filter Pack and Placement

Method

RMC #3 sand via HSA

2) Type of Bentonite and Placement Method

Med. Chips via HSA

3) Type of Grout Mixture and Placement

Method

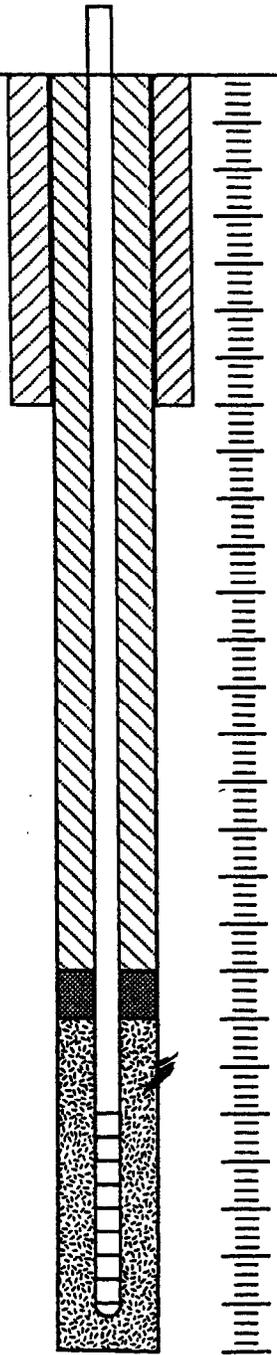
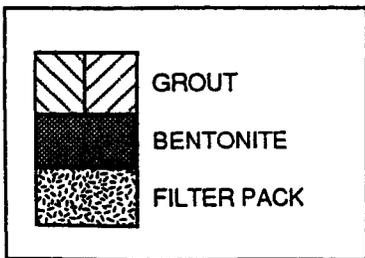
Portland Type II cement, poured

Description of Potential Problems With Well:

Blank lines for description of potential problems with well.

Development Technique

Blank line for development technique.



Well Head Elevation 100
Ground Surface Elev. 100
Well Head Completion Method Above-Grade
Drilling Method/Rig Type CME 750 Hollow Stem Auger
Surface Casing: Type Monument
Diameter 6"
Length 5'

MATERIALS

Cement (sks.) 1
Filter Pack Material (#3) 5 bags
Casing Material (ft.) 25
Bentonite (#8) 4 bags

Top of Bentonite Seal 5 ft.

Top of Filter Pack 8 ft.

Top of Screen 12 ft.

Bottom of Screen 22 ft.

Bottom of Hole 32.5 ft.

BENTONITE 24'-32.5'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ 058 HYDROGEOLOGIST T. Burton
CLIENT NASA DRILLER Layne
WELL LOCATION SPA Area PT-052 DATE/TIME 12/20/00 1000

DETAILS OF CONSTRUCTION

Date Completed Install 12/20/00
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2"
Type and Size of Screen (in.) 2"
Screen Perforation Diameter (in.) 0-020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

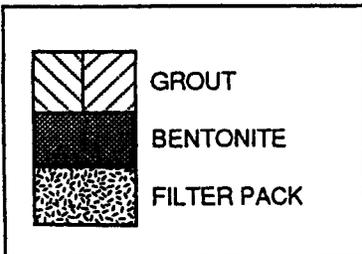
Completion Technique:

- 1) Type of Filter Pack and Placement Method RMC #3 Sand via HSA
2) Type of Bentonite and Placement Method PureGold Med. Chips poured, hydrated
3) Type of Grout Mixture and Placement Method None

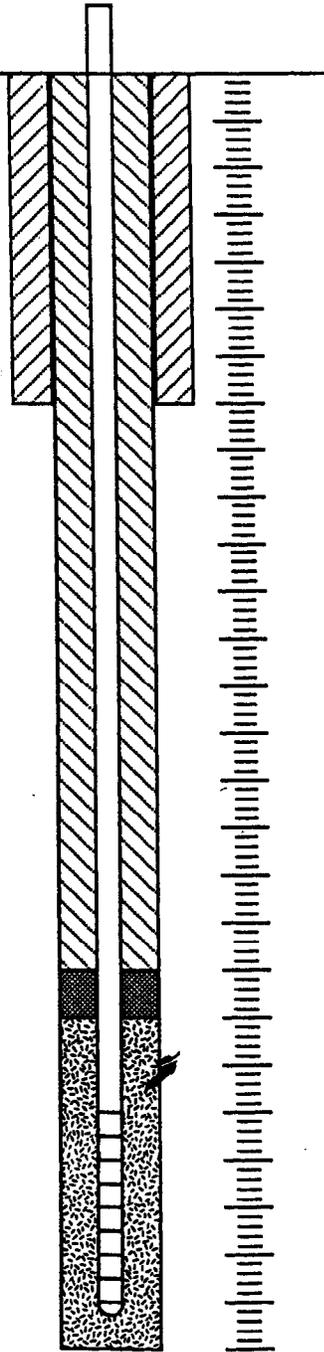
Description of Potential Problems With Well:

Blank lines for description of potential problems.

Development Technique



GROUND SURFACE



Well Head Elevation TBD

Ground Surface Elev. TBD

Well Head Completion Method

Above-Grade

Drilling Method/Rig Type

CME 750 Hollow Stem

Surface Casing: Type Monomast

Diameter 6"

Length 5'

MATERIALS

Cement (sks.) 0

Filter Pack Material (sks.) 3.5 bags

Casing Material (ft.) 20

Bentonite (sks.) 1 bag

Top of Bentonite Seal 2 ft.

Top of Filter Pack 4 ft.

Top of Screen 5 ft.

Bottom of Screen 15 ft.

Bottom of Hole 15.516 ft.

CAVED IN TO 15.5'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ-059 HYDROGEOLOGIST T. Burton
CLIENT NASA DRILLER Layne
WELL LOCATION Bravo Pond PT-049 DATE/TIME 12/20/00 1330

DETAILS OF CONSTRUCTION

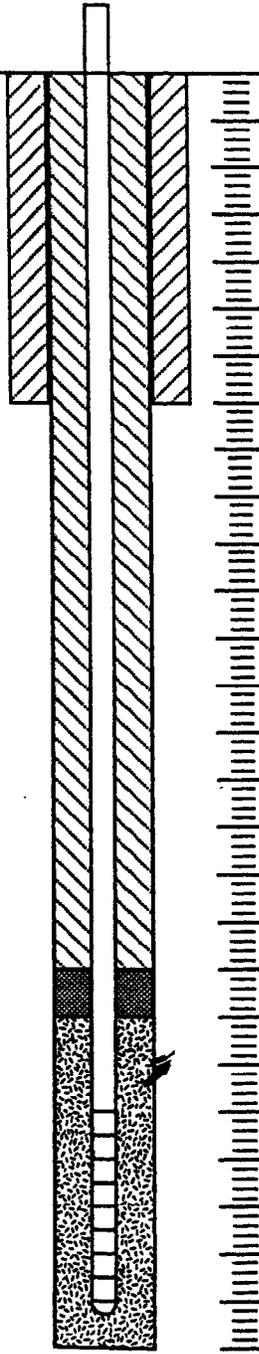
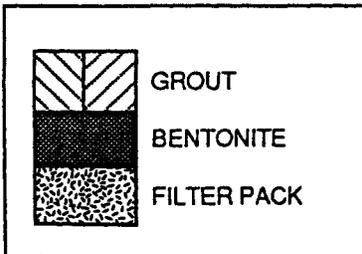
Date Completed 12/20/00
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.)
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method: RMC #3 Sand via HSA
2) Type of Bentonite and Placement Method: Med. Chips via HSA, hydrated
3) Type of Grout Mixture and Placement Method: Lowes Portland Cement, Poured

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type Hollow Stem Auger/CME 750
Surface Casing: Type Monument
Diameter 6"
Length 5'

MATERIALS

Cement (sks.) 1
Filter Pack Material (#) 4.5 bags
Casing Material (ft.) 25
Bentonite (#)

Top of Bentonite Seat 5 ft.
Top of Filter Pack 8 ft.
Top of Screen 12 ft.

Bottom of Screen 22 ft.
Bottom of Hole 24 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313100005 WELL NO. P2060 HYDROGEOLOGIST R. SINGER

CLIENT NASA DRILLER LAYNE

WELL LOCATION ALPHA PT-045 DATE/TIME 12/20/00 1045

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 12/20/00

Borehole Diameter (in.) 6"

Type and Size of Casing (in.) 2" PVC

Type and Size of Screen (in.) 2" PVC

Screen Perforation Diameter (in.) 0.020

Screen Length (ft.) 10

Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

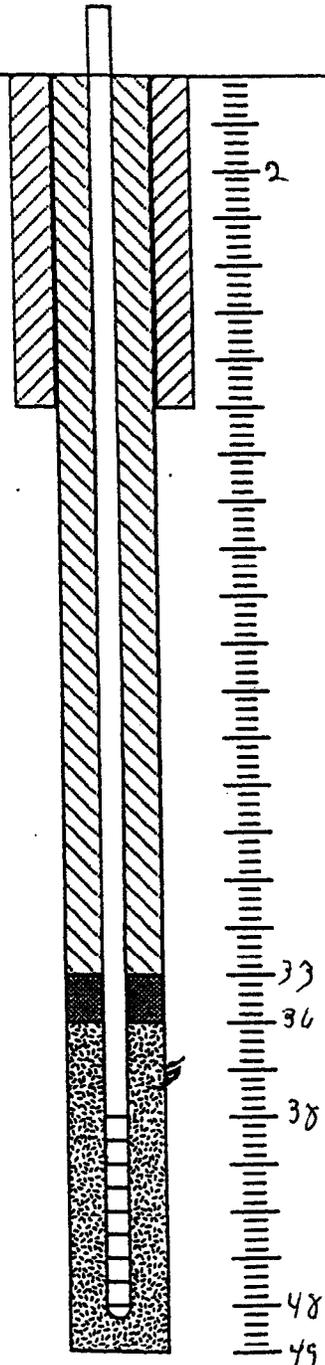
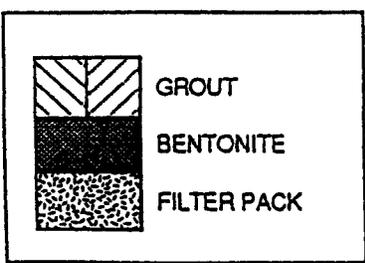
- 1) Type of Filter Pack and Placement Method  
#3 Sand H.S. Aug
- 2) Type of Bentonite and Placement Method  
medium chips H.S. Aug
- 3) Type of Grout Mixture and Placement Method  
Port Cement Type

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique

\_\_\_\_\_



Well Head Elevation TBD

Ground Surface Elev. TBP

Well Head Completion Method ABOVE GRADE

Drilling Method/Rig Type CME-95 Hollow Stem Aug.

Surface Casing: Type STEEL  
Diameter 6"  
Length 5'

MATERIALS

- Cement (sks.) \_\_\_\_\_
- Filter Pack Material (ft.<sup>3</sup>) 3.5 @ 100
- Casing Material (ft.) 50.
- Bentonite (ft.<sup>3</sup>) 1.25 @ 50 / 63

Top of Bentonite Seal 33 ft.

Top of Filter Pack 36 ft.

Top of Screen 38 ft.

Bottom of Screen 48 ft.

Bottom of Hole 49 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 3150005 WELL NO. P2061 HYDROGEOLOGIST R. SINGER
CLIENT NASA DRILLER Layne
WELL LOCATION PT 047 DATE/TIME 01-17-01 9:00AM

DETAILS OF CONSTRUCTION

Date Completed 01-17-01
Borehole Diameter (in.) 6"
Type and Size of Casing (in.) 2" PVC
Type and Size of Screen (in.) 2" PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.)

Completion Technique:

1) Type of Filter Pack and Placement Method
#3 sand H.S. Aug

2) Type of Bentonite and Placement Method
medium chips H.S. Aug

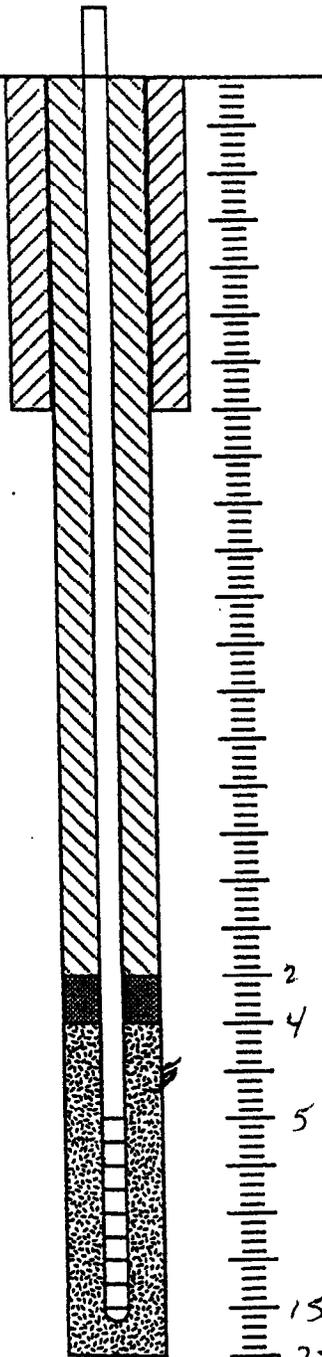
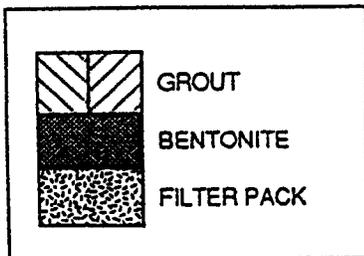
3) Type of Grout Mixture and Placement Method
None

Description of Potential Problems With Well:

Blank lines for description of potential problems.

Development Technique

Blank line for development technique.



Well Head Elevation
Ground Surface Elev.
Well Head Completion Method

Drilling Method/Rig Type
CME-45 Hollow Sdr
Surface Casing: Type
Diameter
Length

MATERIALS

Cement (sks.)
Filter Pack Material (ft.³) 36g @ 100
Casing Material (ft.) 20g
Bentonite (ft.³) 3/4 g @ 50/60

Top of Bentonite Seat 2 ft.
Top of Filter Pack 4 ft.
Top of Screen 5 ft.

Bottom of Screen 15 ft.
Bottom of Hole 25 ft.
chips @ 17
36g

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 3131500005 WELL NO. P2062 HYDROGEOLOGIST R. SINGER

CLIENT BOEING DRILLER LAYNE

WELL LOCATION PY032 LOX Plant DATE/TIME 01-03-01 - 10:45

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 01-03-01

Borehole Diameter (in.) 6"

Type and Size of Casing (in.) 2" PVC

Type and Size of Screen (in.) 2" PVC

Screen Perforation Diameter (in.) 0.020

Screen Length (ft.) 10

Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

1) Type of Filter Pack and Placement

Method

#3 sand H.S. Aug

2) Type of Bentonite and Placement Method

medium chips H.S. Aug

3) Type of Grout Mixture and Placement

Method

Bentonite Grout cen. Type II/III 04

Description of Potential Problems With Well:

Bit twisted off  
27.3'

Development Technique

Well Head Elevation \_\_\_\_\_

Ground Surface Elev. \_\_\_\_\_

Well Head Completion Method

CMC-95 H.S. Aug

Drilling Method/Rig Type

Surface Casing: Type \_\_\_\_\_

Diameter \_\_\_\_\_

Length \_\_\_\_\_

MATERIALS

Cement (sks.) 125 bags @ 96/100

Filter Pack Material (ft.<sup>3</sup>) 4 bags @ 100

Casing Material (ft.) 25'

Bentonite (ft.<sup>3</sup>) 1.1 @ 50 lbs

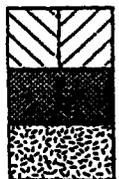
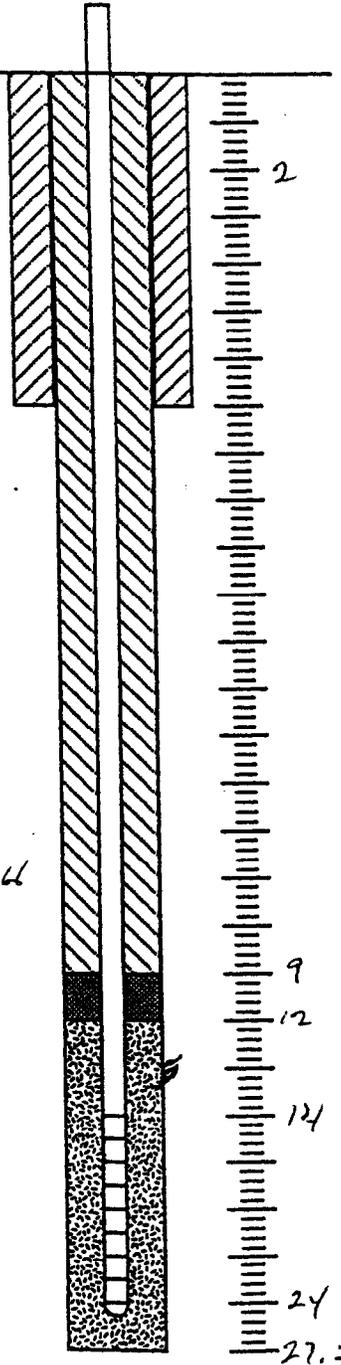
Top of Bentonite Seat 9 ft.

Top of Filter Pack 12 ft.

Top of Screen 14 ft.

Bottom of Screen 24 ft.

Bottom of Hole 27.3 ft.



GROUT

BENTONITE

FILTER PACK

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 21210005 WELL NO. P2063 HYDROGEOLOGIST R. SINGER  
CLIENT ROKING DRILLER Layne  
WELL LOCATION PT-003 DATE/TIME 01-08-01 8:10 AM

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 01-08-01  
Borehole Diameter (in.) 6"  
Type and Size of Casing (in.) 2" PVC  
Type and Size of Screen (in.) 2" PVC  
Screen Perforation Diameter (in.) 0.020  
Screen Length (ft.) 10'  
Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

1) Type of Filter Pack and Placement Method

#3 Sand H.S. AUG.

2) Type of Bentonite and Placement Method

medium chips H.S. AUG.

3) Type of Grout Mixture and Placement Method

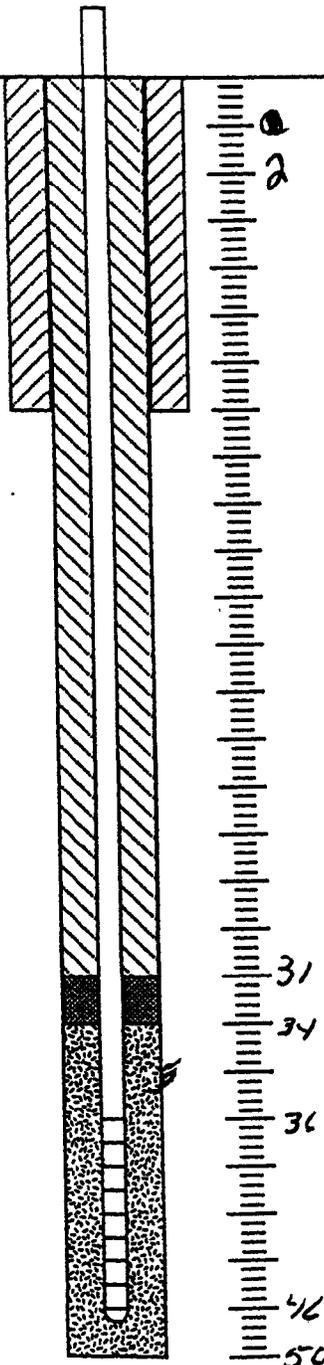
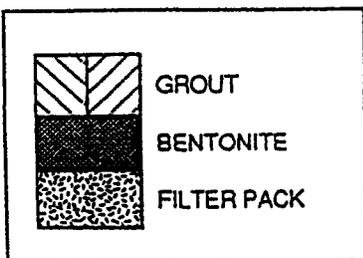
Portland Type III OH

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique

\_\_\_\_\_



Well Head Elevation \_\_\_\_\_

Ground Surface Elev. \_\_\_\_\_

Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type

CME-95 H.S. AUG.

Surface Casing: Type \_\_\_\_\_

Diameter \_\_\_\_\_

Length \_\_\_\_\_

MATERIALS

Cement (sks.) 5 bags @ 93 lbs

Filter Pack Material (ft.<sup>3</sup>) 42 bags @ 11

Casing Material (ft.) 45'

Bentonite (ft.<sup>3</sup>) 1 bag @ 90/lb

Top of Bentonite Seal 31 ft.

Top of Filter Pack 34 ft.

Top of Screen 36 ft.

Bottom of Screen 46 ft.

Bottom of Hole 50 ft.

sand bottom of hole.

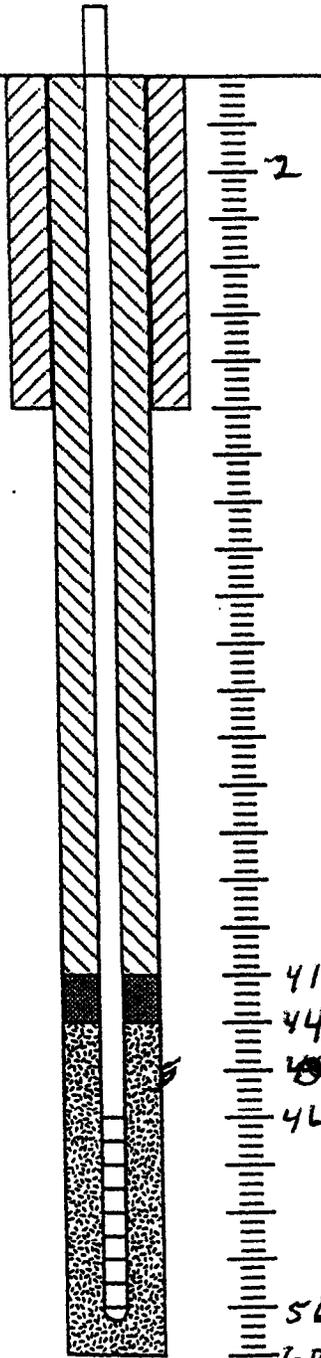
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 3131500005 WELL NO. P2064 HYDROGEOLOGIST R. SINGER  
CLIENT BOEING DRILLER Layne  
WELL LOCATION PT 002 Facility Entrance DATE/TIME 01-08-01 1630

GROUND SURFACE



Well Head Elevation \_\_\_\_\_  
Ground Surface Elev. \_\_\_\_\_  
Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type  
Cme-95 Hollow stem  
Surface Casing: Type \_\_\_\_\_  
Diameter \_\_\_\_\_  
Length \_\_\_\_\_

DETAILS OF CONSTRUCTION

Date Completed 01-08-01  
Borehole Diameter (in.) 6"  
Type and Size of Casing (in.) 2" PVC  
Type and Size of Screen (in.) 2" PVC  
Screen Perforation Diameter (in.) 0.020  
Screen Length (ft.) 10  
Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

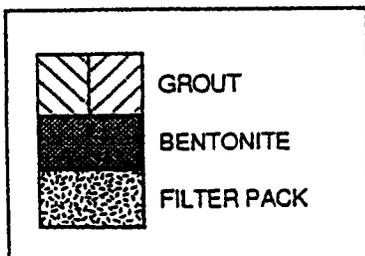
- 1) Type of Filter Pack and Placement  
Method  
#3 SAND H.S.AUG
- 2) Type of Bentonite and Placement Method  
medium chips - H.S.AUG
- 3) Type of Grout Mixture and Placement  
Method  
Part. Cant-Type II LIT D.M

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique

\_\_\_\_\_



MATERIALS

Cement (sks.) 16 @ 96  
Filter Pack Material (ft.<sup>3</sup>) 3.3 @ 10  
Casing Material (ft.) \_\_\_\_\_  
Bentonite (ft.<sup>3</sup>) 1 @ 450

Top of Bentonite Seat 41 ft.  
Top of Filter Pack 44 ft.  
Top of Screen 46 ft.  
Bottom of Screen 56 ft.  
Bottom of Hole 60 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 3131800005 WELL NO. P2065 HYDROGEOLOGIST R. SINGER  
CLIENT BOEING DRILLER L. Ayres  
WELL LOCATION PT-007 IEL DATE/TIME 01-09-12:00

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 01-09-01  
Borehole Diameter (in.) 6"  
Type and Size of Casing (in.) 2" PVC  
Type and Size of Screen (in.) 2" PVC  
Screen Perforation Diameter (in.) 0.020  
Screen Length (ft.) 1.0  
Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

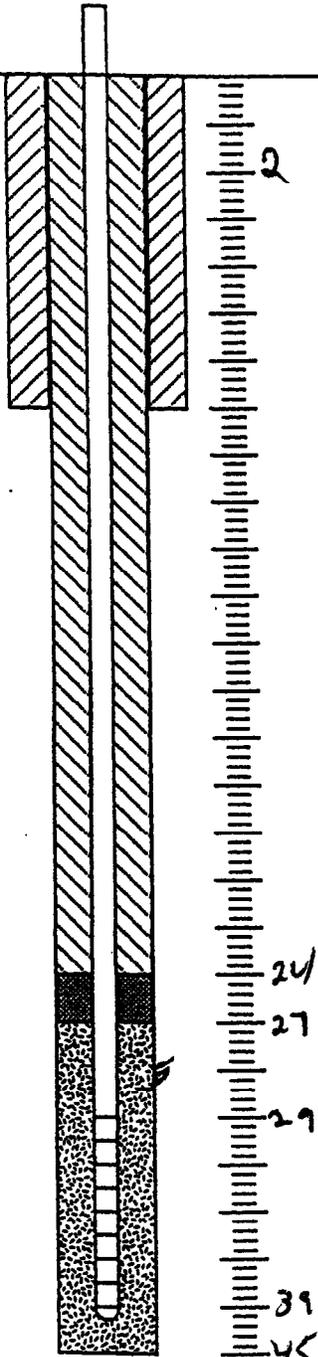
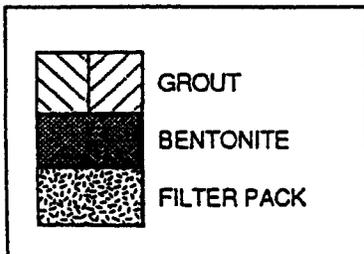
- 1) Type of Filter Pack and Placement Method  
#3 Sand H.S. Aug
- 2) Type of Bentonite and Placement Method  
medium chips H.S. Aug
- 3) Type of Grout Mixture and Placement Method  
port Cem Type II/IV

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique

\_\_\_\_\_



Well Head Elevation \_\_\_\_\_

Ground Surface Elev. \_\_\_\_\_

Well Head Completion Method

CRC-15 Hollow Stem A

Drilling Method/Rig Type

Surface Casing: Type \_\_\_\_\_

Diameter \_\_\_\_\_

Length \_\_\_\_\_

MATERIALS

Cement (sks.) 4 bags @ 96 lbs  
Filter Pack Material (ft.<sup>3</sup>) 4 bags @ 300 lbs  
Casing Material (ft.) 48  
Bentonite (ft.<sup>3</sup>) 14 @ 50 lbs

Top of Bentonite Seal 24 ft.

Top of Filter Pack 27 ft.

Top of Screen 29 ft.

Bottom of Screen 39 ft.

Bottom of Hole 45 ft.

**BENTONITE 40'-45'**

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 31315005 WELL NO. P2066 HYDROGEOLOGIST R. SINGER

CLIENT BOEING DRILLER LAYNE

WELL LOCATION PT-006 FEL DATE/TIME 01-12-01 12:20

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 01-12-01

Borehole Diameter (in.) 6"

Type and Size of Casing (in.) 2" PVC

Type and Size of Screen (in.) 2" PVC

Screen Perforation Diameter (in.) 0.020

Screen Length (ft.) 10

Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

1) Type of Filter Pack and Placement

Method

#3 Sand H.S. Auger

2) Type of Bentonite and Placement Method

medium chips - H.S. Auger

3) Type of Grout Mixture and Placement

Method

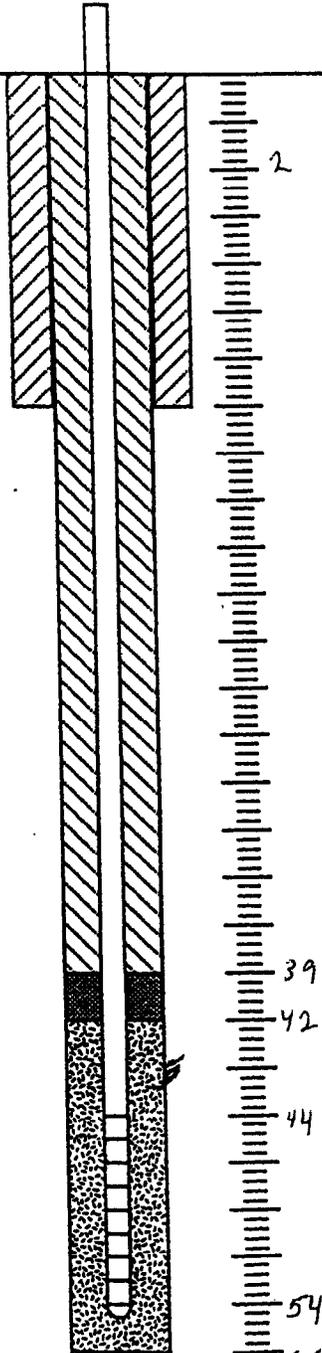
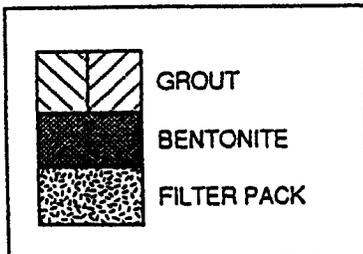
P/B Cement - Type III/IV O.H.

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique

\_\_\_\_\_



Well Head Elevation \_\_\_\_\_

Ground Surface Elev. \_\_\_\_\_

Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type

CME-95 Hollow Stem Auger

Surface Casing: Type \_\_\_\_\_

Diameter \_\_\_\_\_

Length \_\_\_\_\_

MATERIALS

Cement (sks.) 7 @ 95

Filter Pack Material (ft.<sup>3</sup>) 3,250 @ 100'

Casing Material (ft.) 55

Bentonite (ft.<sup>3</sup>) 1 @ 95

Top of Bentonite Seat 39 ft.

Top of Filter Pack 34 @ 42 ft.

Top of Screen 44 ft.

Bottom of Screen 54 ft.

Bottom of Hole 55 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

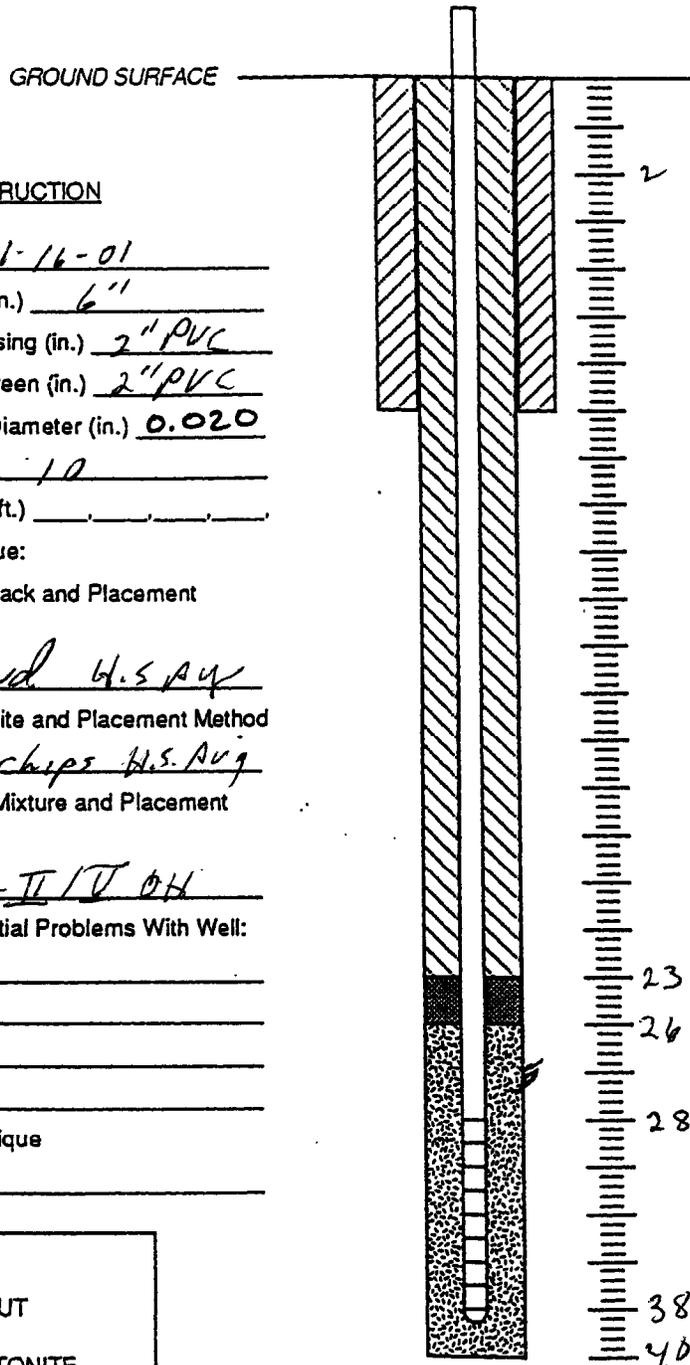


WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ0674 HYDROGEOLOGIST R. SINGER

CLIENT BOEING DRILLER LAYNE

WELL LOCATION PT 009 B359 Area DATE/TIME 01-16-01 7:30



Well Head Elevation \_\_\_\_\_  
Ground Surface Elev. \_\_\_\_\_  
Well Head Completion Method \_\_\_\_\_

DETAILS OF CONSTRUCTION

Date Completed 01-16-01

Borehole Diameter (in.) 6"

Type and Size of Casing (in.) 2" PVC

Type and Size of Screen (in.) 2" PVC

Screen Perforation Diameter (in.) 0.020

Screen Length (ft.) 10

Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

1) Type of Filter Pack and Placement

Method

#3 Sand H.S. Aug

2) Type of Bentonite and Placement Method

medium chips H.S. Aug

3) Type of Grout Mixture and Placement

Method

Port Cem - II / IV OH

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique

\_\_\_\_\_

Drilling Method/Rig Type

CME-95 Halliburton Aug

Surface Casing: Type \_\_\_\_\_

Diameter \_\_\_\_\_

Length \_\_\_\_\_

MATERIALS

Cement (sks.) 4 bgs @ 96.1 lbs

Filter Pack Material (ft.<sup>3</sup>) 4 bgs @ 10

Casing Material (ft.) \_\_\_\_\_

Bentonite (ft.<sup>3</sup>) 1 bgs @ 50 lbs

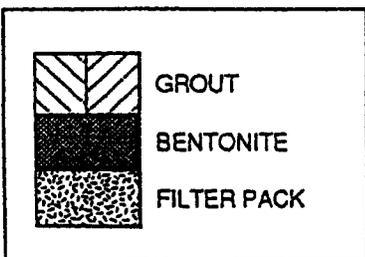
Top of Bentonite Seal 23 ft.

Top of Filter Pack 26 ft.

Top of Screen 28 ft.

Bottom of Screen 38 ft.

Bottom of Hole 40 ft.



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2067B HYDROGEOLOGIST R. SINGER  
CLIENT Boeing DRILLER LAYNE  
WELL LOCATION PT 009 B359 Area DATE/TIME 01/15/01 2:30

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 01-15-01  
Borehole Diameter (in.) 6"  
Type and Size of Casing (in.) 2" PVC  
Type and Size of Screen (in.) 2" PVC  
Screen Perforation Diameter (in.) 0.020  
Screen Length (ft.) 10  
Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

1) Type of Filter Pack and Placement

Method

#3 Sand O.H

2) Type of Bentonite and Placement Method

medium chips O.H

3) Type of Grout Mixture and Placement

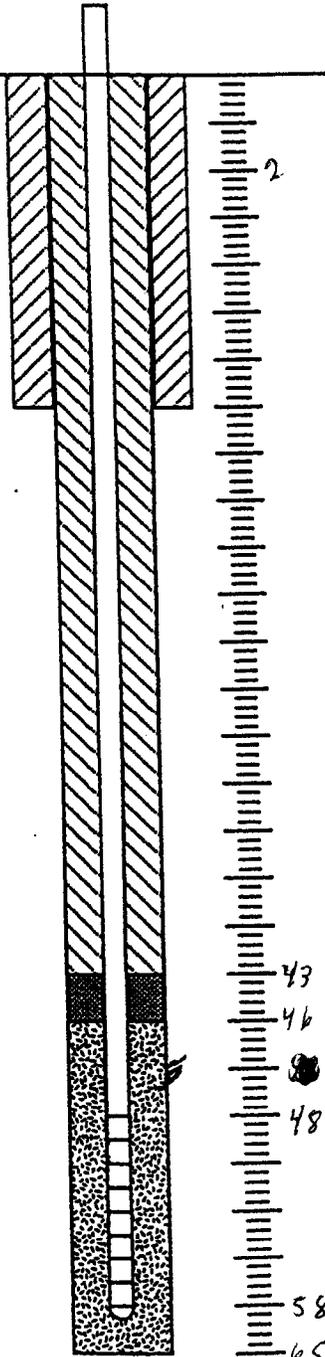
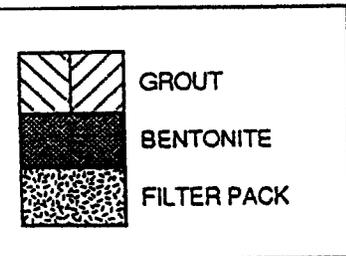
Method

Port. Cement Type II/IV O.H

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique



Well Head Elevation \_\_\_\_\_  
Ground Surface Elev. \_\_\_\_\_  
Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type

CME 95 - Hollow stem Aug

Surface Casing: Type \_\_\_\_\_

Diameter \_\_\_\_\_

Length \_\_\_\_\_

MATERIALS

Cement (sks.) 96.5 @ 98 lbs

Filter Pack Material (ft.<sup>3</sup>) 56 @ 100

Casing Material (ft.) \_\_\_\_\_

Bentonite (ft.<sup>3</sup>) 1.25 @ 80 lbs

Top of Bentonite Seal 43 ft.

Top of Filter Pack 46 ft.

Top of Screen 48 ft.

Bottom of Screen 58 ft.

Bottom of Hole 65 ft.

**BENTONITE 59'-65'**

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150008 WELL NO. P2068 HYDROGEOLOGIST R. SINGER

CLIENT Baciny DRILLER Layne

WELL LOCATION PT 010 DATE/TIME 01-18-01 10:30 AM

Well Head Elevation \_\_\_\_\_

Ground Surface Elev. \_\_\_\_\_

Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type

CME-95 Hollow Stem Aug

Surface Casing: Type \_\_\_\_\_

Diameter \_\_\_\_\_

Length \_\_\_\_\_

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 01-18-01

Borehole Diameter (in.) 6"

Type and Size of Casing (in.) 2" PVC

Type and Size of Screen (in.) 2" PVC

Screen Perforation Diameter (in.) 0.020

Screen Length (ft.) 10'

Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

1) Type of Filter Pack and Placement

Method

#3 Sand H.S. Aug

2) Type of Bentonite and Placement Method

medium chips H.S. Aug

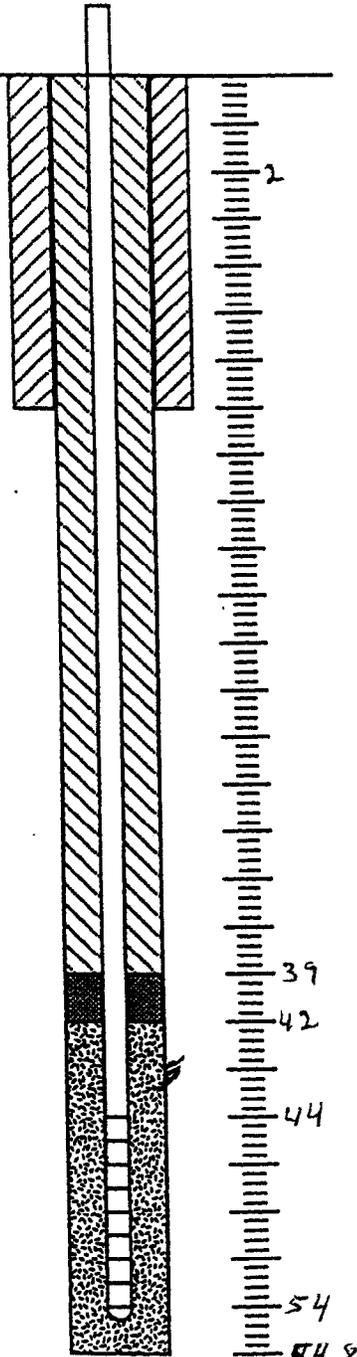
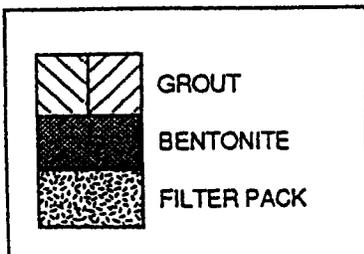
3) Type of Grout Mixture and Placement

Method

Port Cement Type III / V O.H

Description of Potential Problems With Well:

Development Technique



MATERIALS

Cement (sks.) 1 bag @ 96

Filter Pack Material (ft.<sup>3</sup>) 3,25 @ 100

Casing Material (ft.) \_\_\_\_\_

Bentonite (ft.<sup>3</sup>) 1.25 @ 50 lbs

Top of Bentonite Seal 39 ft.

Top of Filter Pack 42 ft.

Top of Screen 44 ft.

Bottom of Screen 54 ft.

Bottom of Hole 54.8 ft.

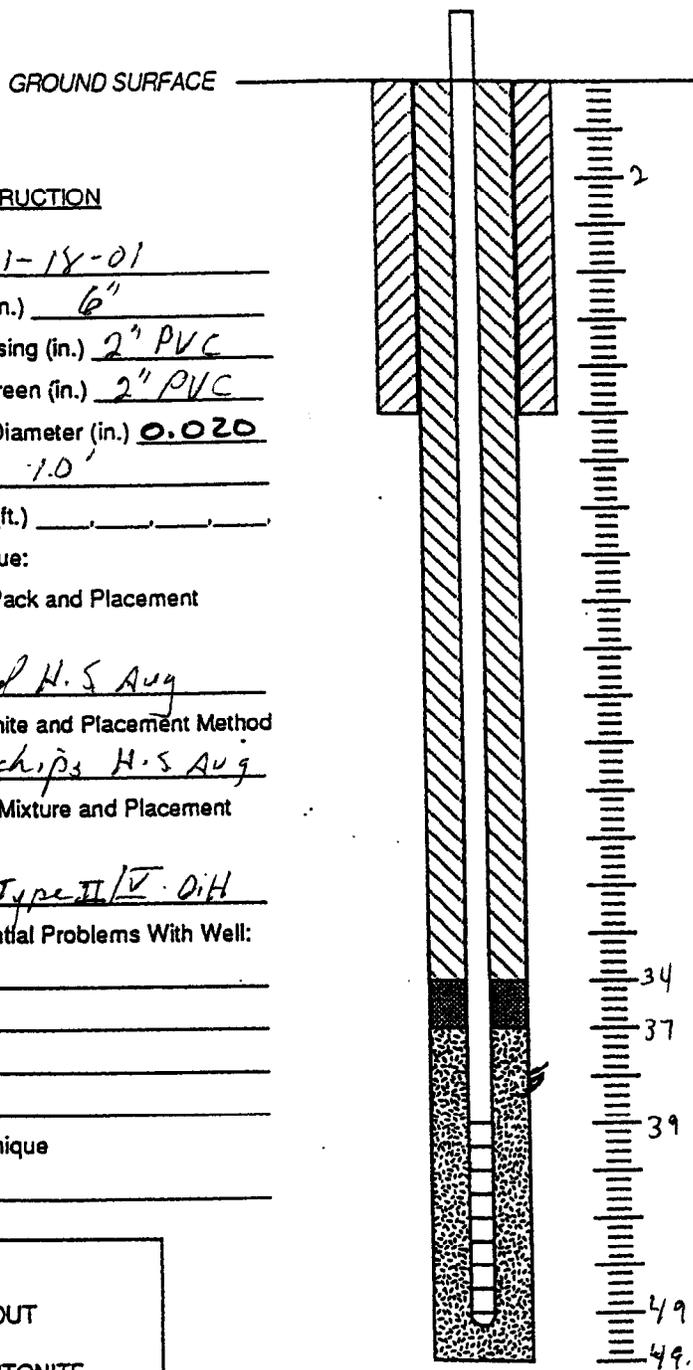
**CAVED TO 54.8'**

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2069 HYDROGEOLOGIST R. SINGER
CLIENT Boeing DRILLER Layne
WELL LOCATION PT-013 DATE/TIME 01-18-01 1700



Well Head Elevation
Ground Surface Elev.
Well Head Completion Method

Drilling Method/Rig Type CM2-95 Hollow stem
Surface Casing: Type
Diameter
Length

DETAILS OF CONSTRUCTION

Date Completed 01-18-01
Borehole Diameter (in.) 6"
Type and Size of Casing (in.) 2" PVC
Type and Size of Screen (in.) 2" PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 1.0'
Centralizer Depths (ft.)

Completion Technique:

1) Type of Filter Pack and Placement

Method

#3 Sand H.S Aug

2) Type of Bentonite and Placement Method

medium chips H.S Aug

3) Type of Grout Mixture and Placement

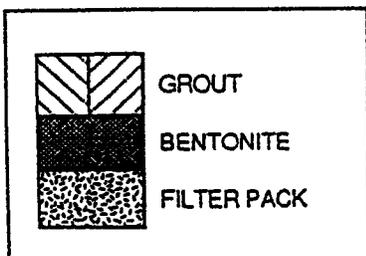
Method

Post Cent. Type II/IV DiH

Description of Potential Problems With Well:

Blank lines for description of potential problems.

Development Technique



MATERIALS

Cement (sks.) 7 bags
Filter Pack Material (ft.3) 310.8
Casing Material (ft.)
Bentonite (ft.3) 1.6g

Top of Bentonite Seat 34 ft.

Top of Filter Pack 37 ft.

Top of Screen 39 ft.

Bottom of Screen 49 ft.

Bottom of Hole 49.8 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ070 HYDROGEOLOGIST T. Burton
CLIENT NASA DRILLER Layne
WELL LOCATION Bravo Pond PT-048 DATE/TIME 12/21/00 0900

DETAILS OF CONSTRUCTION

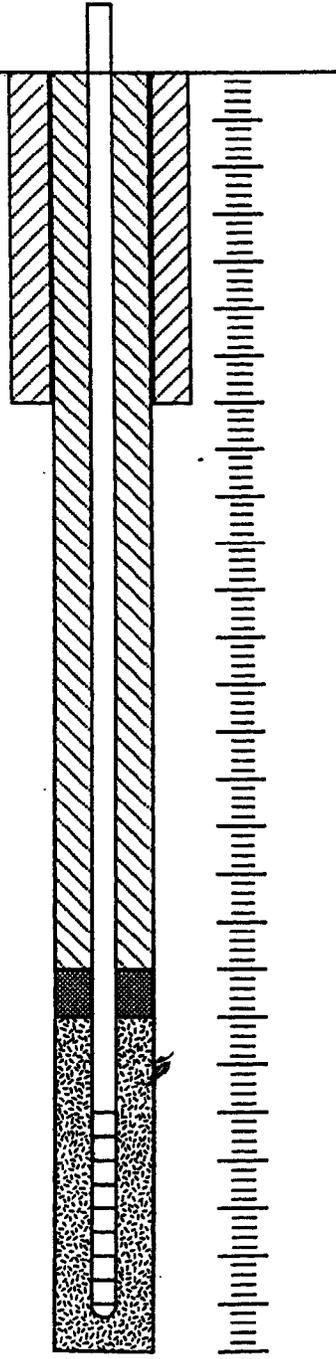
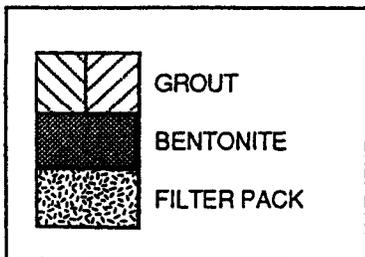
Date Completed 12/21/00 Install
Borehole Diameter (in.) 3"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) 2" Sch. 40 PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None
Completion Technique:

- 1) Type of Filter Pack and Placement Method RMC #3 Sand via HSA
2) Type of Bentonite and Placement Method Med. Chips via HSA, hydrated every 1.5'
3) Type of Grout Mixture and Placement Method Portland Cement, poured

Description of Potential Problems With Well:

Blank lines for description of potential problems.

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above Grade
Drilling Method/Rig Type Hollow Stem Auger CME 700
Surface Casing: Type Monument
Diameter 6"
Length 5'

MATERIALS

Cement (sks.) 2
Filter Pack Material (#3) 4 bags
Casing Material (ft.) 25
Bentonite (#3) 9 bags

Top of Bentonite Seat 8 ft.

Top of Filter Pack 11 ft.

Top of Screen 13 ft.

Bottom of Screen 23 ft.
Bottom of Hole 43 ft.
BENTONITE 24'-43'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



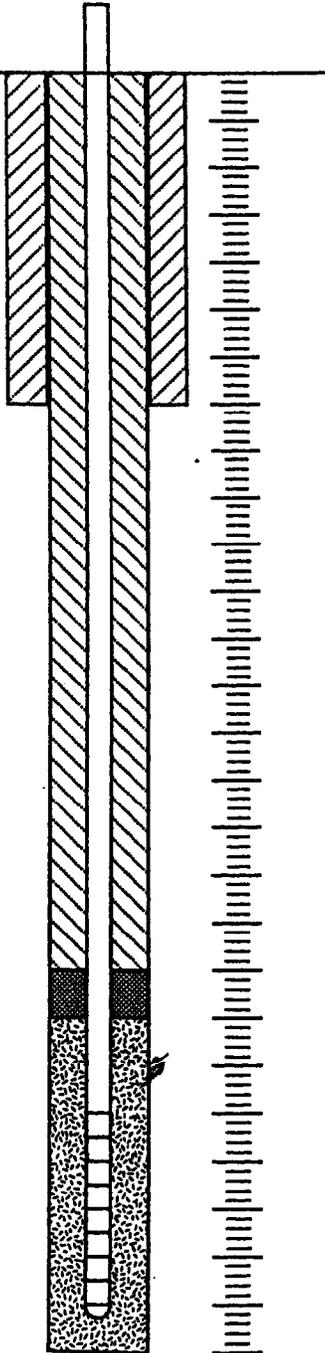
WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2071 HYDROGEOLOGIST TODD HALL

CLIENT ROA NASA DRILLER LAYNE

WELL LOCATION SPA - PT-050 DATE/TIME 12/21/2000 @ 1300

GROUND SURFACE



DETAILS OF CONSTRUCTION

Date Completed 12/21/2000

Borehole Diameter (in.) 8"

Type and Size of Casing (in.) 2" SCH. 40 PVC

Type and Size of Screen (in.) 2" SCH. 40 PVC

Screen Perforation Diameter (in.) 0.070

Screen Length (ft.) 10'

Centralizer Depths (ft.) None

Completion Technique:

1) Type of Filter Pack and Placement

Method

RMC LONESTAR #3 IN HSA

2) Type of Bentonite and Placement Method

ENVIROPLUG <sup>COATED 1/4 PELLETS</sup> MED CHIPS IN HSA  
(2) 1.5H LIFTS

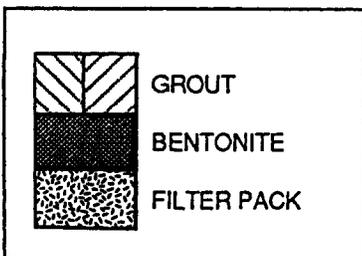
3) Type of Grout Mixture and Placement

Method

Description of Potential Problems With Well:

BOREHOLE APPEARED TO BE ENLARGED @ ~ 18H BGS (1 SACK SAND ONLY FILLED 6" OF HOLE).

Development Technique



Well Head Elevation TBD

Ground Surface Elev. TBD

Well Head Completion Method

ABOVE GRADE MONUMENT

Drilling Method/Rig Type

CME T50 HOLLOW STEM AUGER

Surface Casing: Type STEEL

Diameter 6"

Length 5'

MATERIALS

Cement (sks.) 2 Sks

Filter Pack Material (#) 5 Sks

Casing Material (ft.) 30 ft

Bentonite (#) 1 BUCKET OF COATED PELLETS

Top of Bentonite Seal 11.9 ft.

Top of Filter Pack 15.0 ft.

Top of Screen 18.0 ft.

Bottom of Screen 28.0 ft.

Bottom of Hole 31.5 ft.

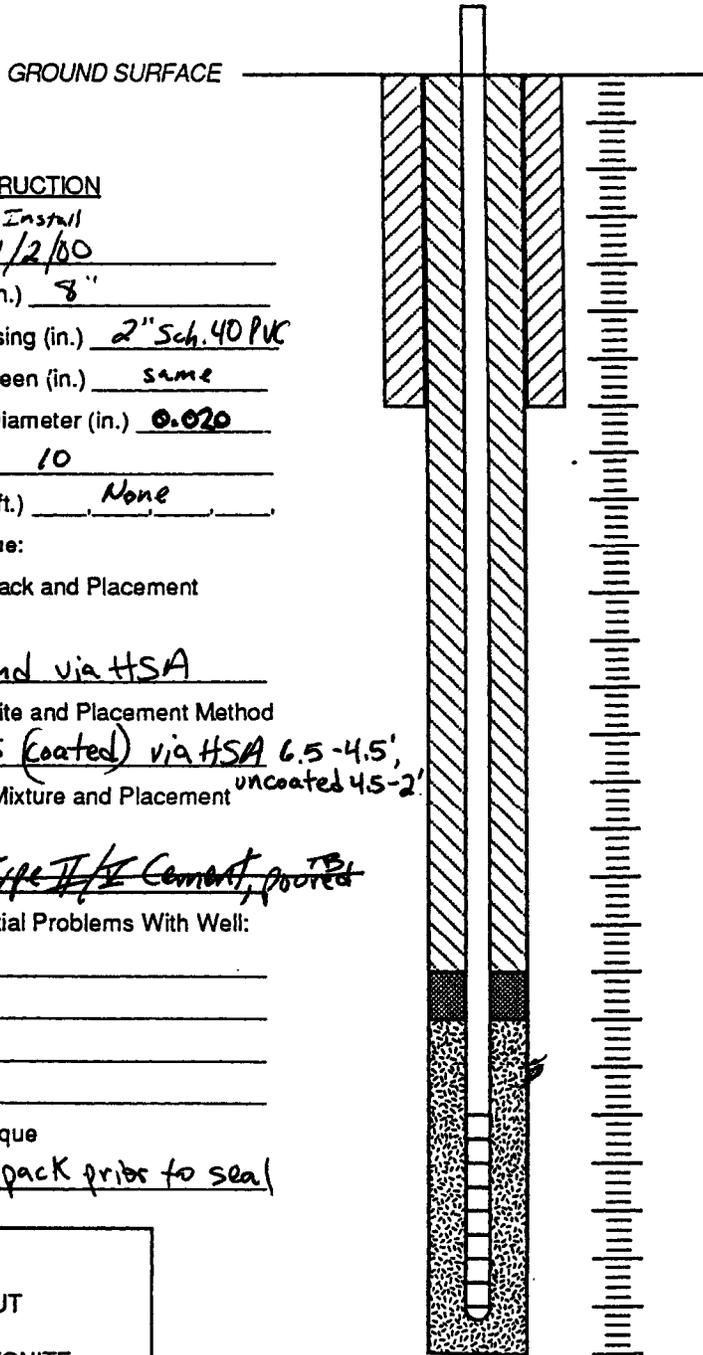
CAVED TO 31'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ 472 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION Silvernale DATE/TIME 1/2/00 1530



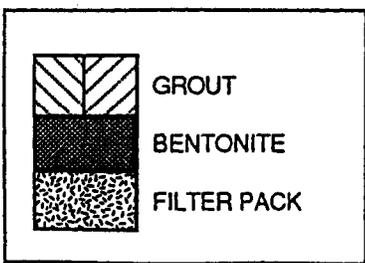
DETAILS OF CONSTRUCTION

Date Completed 1/2/00
Borehole Diameter (in.) 8
Type and Size of Casing (in.) 2 inch Sch. 40 PVC
Type and Size of Screen (in.) same
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None
Completion Technique:

- 1) Type of Filter Pack and Placement Method: RMC #3 Sand via HSA
2) Type of Bentonite and Placement Method: Med. pellets (coated) via HSA 6.5-4.5', uncoated 4.5-2'
3) Type of Grout Mixture and Placement Method: Portland Type II/II Cement, poored

Description of Potential Problems With Well:

Development Technique: Surged filter pack prior to seal



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type CME 750 Hollow Stem
Surface Casing: Type Monument
Diameter 6 inch
Length 5'

MATERIALS
Cement (sks.) 0
Filter Pack Material (#) 2 1/4 bags
Casing Material (ft.) 20
Bentonite (#) 1 rail, 2 bags

Top of Bentonite Seal 2 ft.
Top of Filter Pack 6.75 ft. Surged, sand added back to 6.5'
Top of Screen 8.5 ft.
Bottom of Screen 18.5 ft.
Bottom of Hole 20 ft. Caved in to 19'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2073 HYDROGEOLOGIST T. Burton
CLIENT NASA DRILLER Layne
WELL LOCATION RD-56 Area PT-035 DATE/TIME 1/3/01 1345

Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type CME 750 Hollow Stem
Surface Casing: Type Monument
Diameter 6"
Length 5'

DETAILS OF CONSTRUCTION

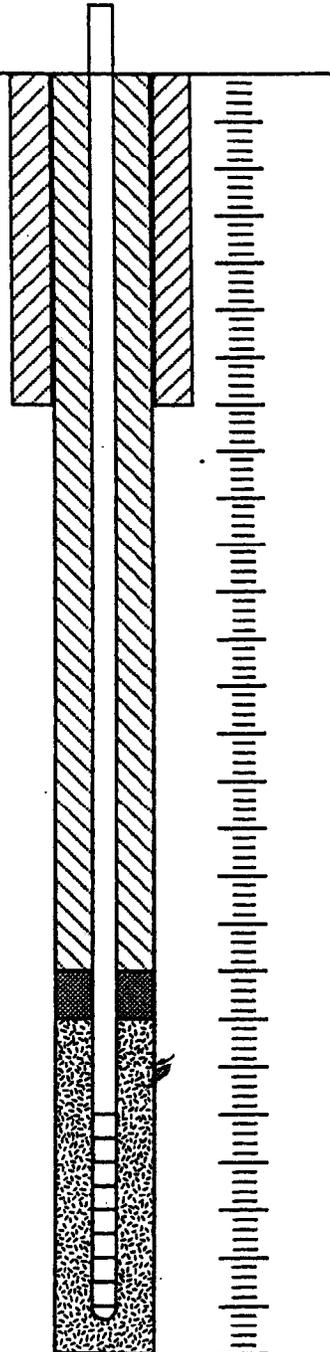
Date Completed Install 1/3/01
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) same
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method RMC #3 Sand via HSA
2) Type of Bentonite and Placement Method Med. Chips via HSA
3) Type of Grout Mixture and Placement Method Portland Type II/VE cement

Description of Potential Problems With Well:
10' of caved-in soils/rock on top of bentonite seal after hydration

Development Technique



MATERIALS

Cement (sks.) 6 bags
Filter Pack Material (#8) 6 bags
Casing Material (ft.) 55
Bentonite (#8) 2 bags

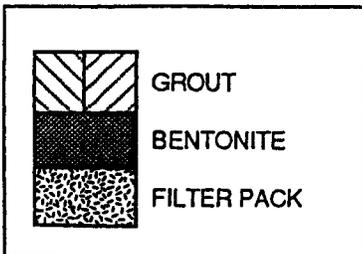
Top of Bentonite Seal 30.5 ft.

Top of Filter Pack 35 ft.

Top of Screen 41 ft.

Bottom of Screen 51 ft.

Bottom of Hole 55 ft.



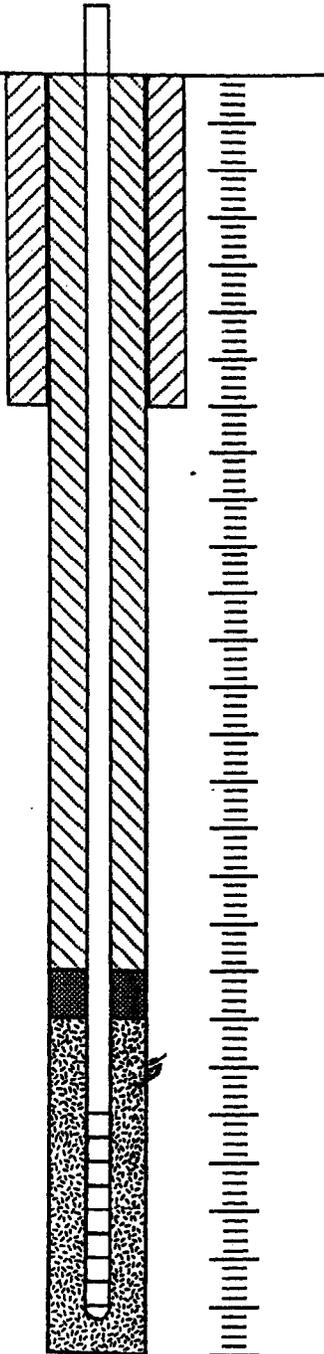
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 23150665 WELL NO. PZ074 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION PT-021 Happy Valley DATE/TIME 1/8/01 1000

GROUND SURFACE



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type CME 75D HSA
Surface Casing: Type monomet
Diameter 6'
Length 5'

DETAILS OF CONSTRUCTION

Date Completed 1/8/01
Borehole Diameter (in.) 6"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) Same
Screen Perforation Diameter (in.) 0.070
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

1) Type of Filter Pack and Placement

Method

PMC # 3 Sand via HSA

2) Type of Bentonite and Placement Method

Med. Chips via HSA

3) Type of Grout Mixture and Placement

Method

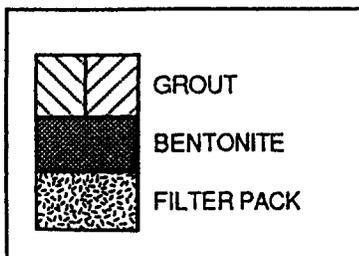
Portland Type II/II Cement, poured

Description of Potential Problems With Well:

Blank lines for description of potential problems.

Development Technique

Blank line for development technique.



MATERIALS

Cement (sks.) 1
Filter Pack Material (cu.) 4.2
Casing Material (ft.) 25
Bentonite (cu.) 3

Top of Bentonite Seat 5 ft.

Top of Filter Pack 8.5 ft.

Top of Screen 10 ft.

Bottom of Screen 20 ft.

Bottom of Hole 24.25 ft.

FD-25
CAVED TO 24

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313160005 WELL NO. P2075 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION IEL PT 004 DATE/TIME 1/9/01 0730

DETAILS OF CONSTRUCTION

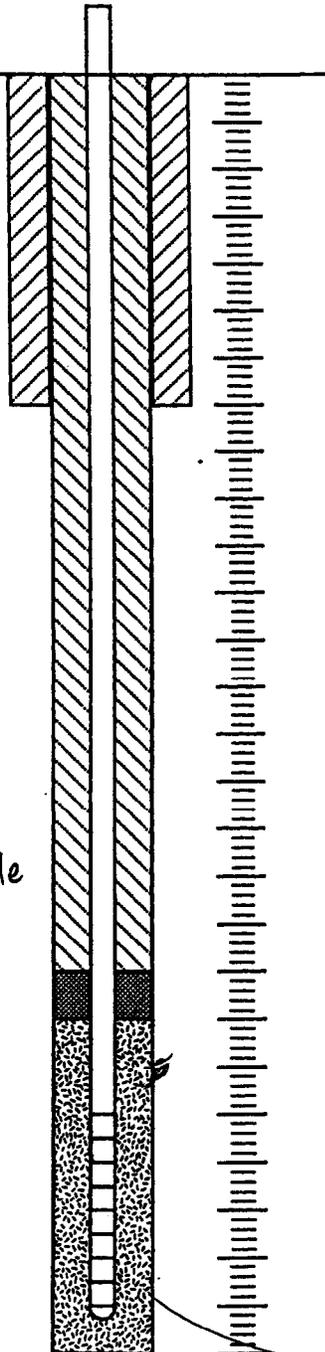
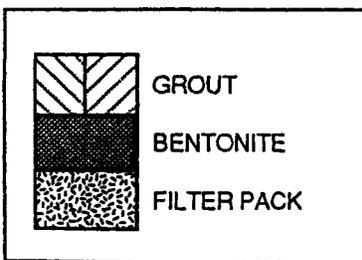
Date Completed 1/9/01
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) Same
Screen Perforation Diameter (in.) 0.010
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method: RMC #3 Sand via HSA
2) Type of Bentonite and Placement Method: Med. Chips via HSA
3) Type of Grout Mixture and Placement Method: Portland cement, poured via HSA + open hole

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type CME 750 Hollow Stem
Surface Casing: Type Monument
Diameter 6"
Length 5'

MATERIALS

Cement (sks.) 6
Filter Pack Material (#3) 5 bags
Casing Material (ft.) 45
Bentonite (#2) 1 bag

Top of Bentonite Seat 24.5 ft.

Top of Filter Pack 27 ft.

Top of Screen 33 ft.

Bottom of Screen 43 ft.

Bottom of Hole 45 ft.

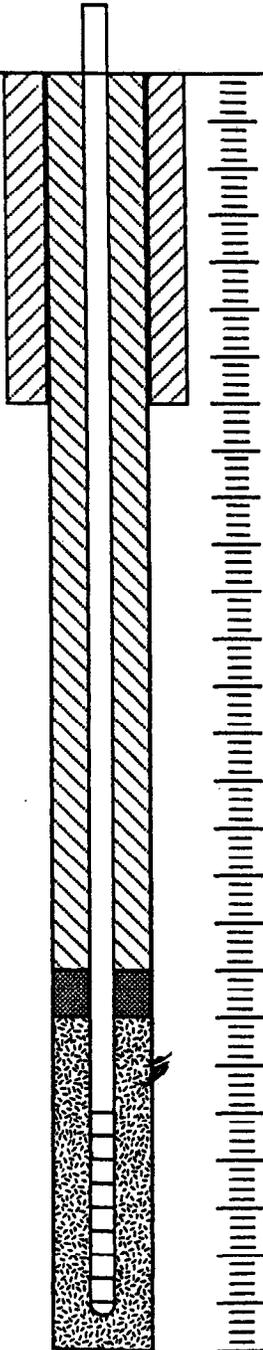
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ076 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION CTL III PT-031 DATE/TIME 1/10/01 0800

GROUND SURFACE



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type CME 750 Hollow Stem
Surface Casing: Type Monument
Diameter 6"
Length 5'

DETAILS OF CONSTRUCTION

Date Completed Install 1/10/01
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) Same
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method RMC #3 sand via HSA
2) Type of Bentonite and Placement Method med. chips via HSA
3) Type of Grout Mixture and Placement Method Portland Type II/III Cement, poured

Description of Potential Problems With Well:

Development Technique

MATERIALS

Cement (sks.) 6#
Filter Pack Material (ft.³) 5 bags
Casing Material (ft.) 50
Bentonite (ft.³) 2 bags + 3 bags

Top of Bentonite Seal 28 ft.

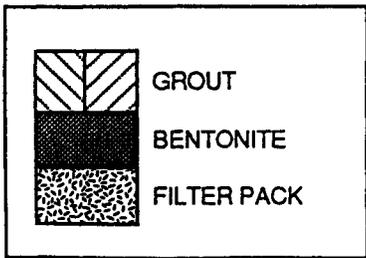
Top of Filter Pack 32 ft.

Top of Screen 36 ft.

Bottom of Screen 46 ft.

Bottom of Hole 60 ft.

60-47' bentonite



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

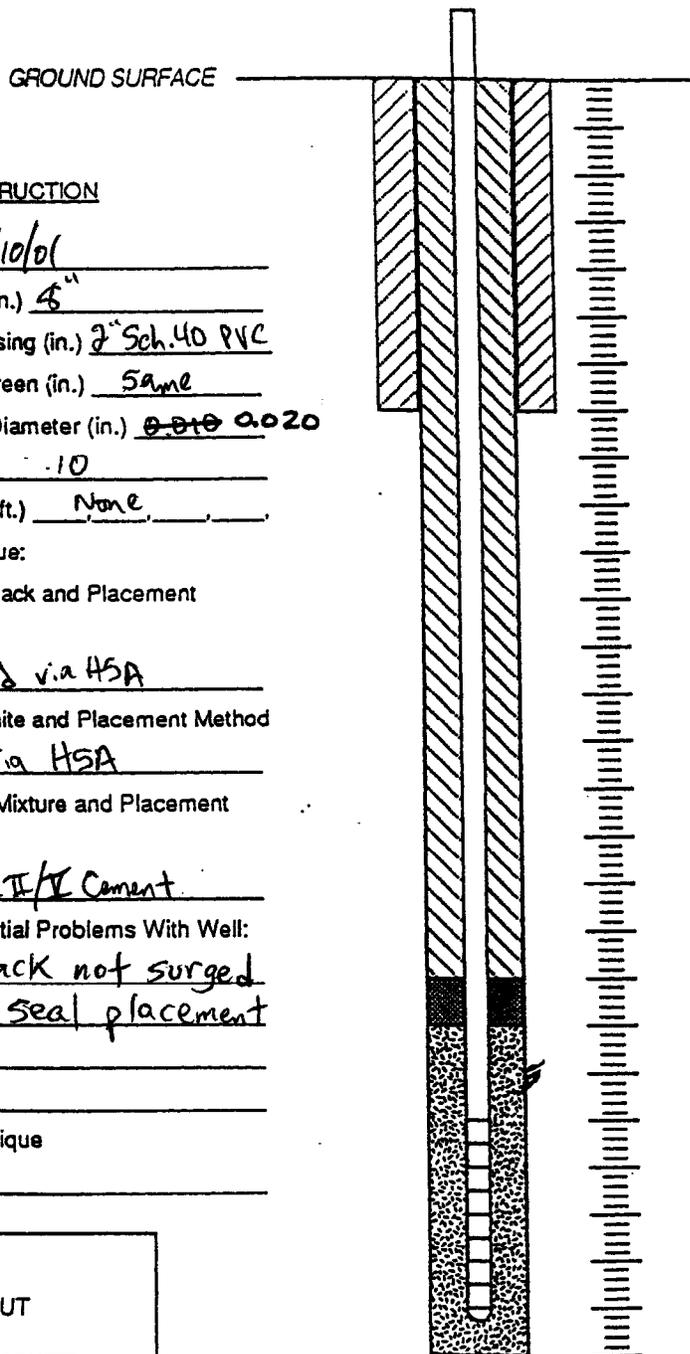


WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ 017 HYDROGEOLOGIST T. Burton

CLIENT Rocketdyne DRILLER Layne

WELL LOCATION CTL III PT-0308 DATE/TIME 1/10/01 1445



Well Head Elevation TBD

Ground Surface Elev. -80

Well Head Completion Method

Above-Grade

Drilling Method/Rig Type

CME 75D Hollow Stem

Surface Casing: Type Monument

Diameter 6"

Length 5'

DETAILS OF CONSTRUCTION

Date Completed 1/10/01

Borehole Diameter (in.) 4"

Type and Size of Casing (in.) 2" Sch. 40 PVC

Type and Size of Screen (in.) Same

Screen Perforation Diameter (in.) ~~0.010~~ 0.020

Screen Length (ft.) .10

Centralizer Depths (ft.) None

Completion Technique:

1) Type of Filter Pack and Placement

Method

PMC #3 Sand via HSA

2) Type of Bentonite and Placement Method

Med. Chips via HSA

3) Type of Grout Mixture and Placement

Method

Portland Type II/III Cement

Description of Potential Problems With Well:

Filter Pack not surged prior to seal placement

Development Technique

MATERIALS

Cement (sks.) 2

Filter Pack Material (ft.) 5 bags

Casing Material (ft.) 30

Bentonite (ft.) 6 bags

Top of Bentonite Seal 9 ft.

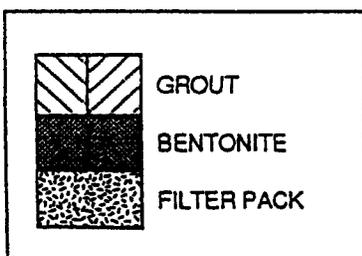
Top of Filter Pack 12 ft.

Top of Screen 15 ft.

Bottom of Screen 25 ft.

Bottom of Hole 37 ft.

**BENTONITE 26'-37'**



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ 078 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION CTL III PT-029 DATE/TIME 1/11/00 1400

DETAILS OF CONSTRUCTION

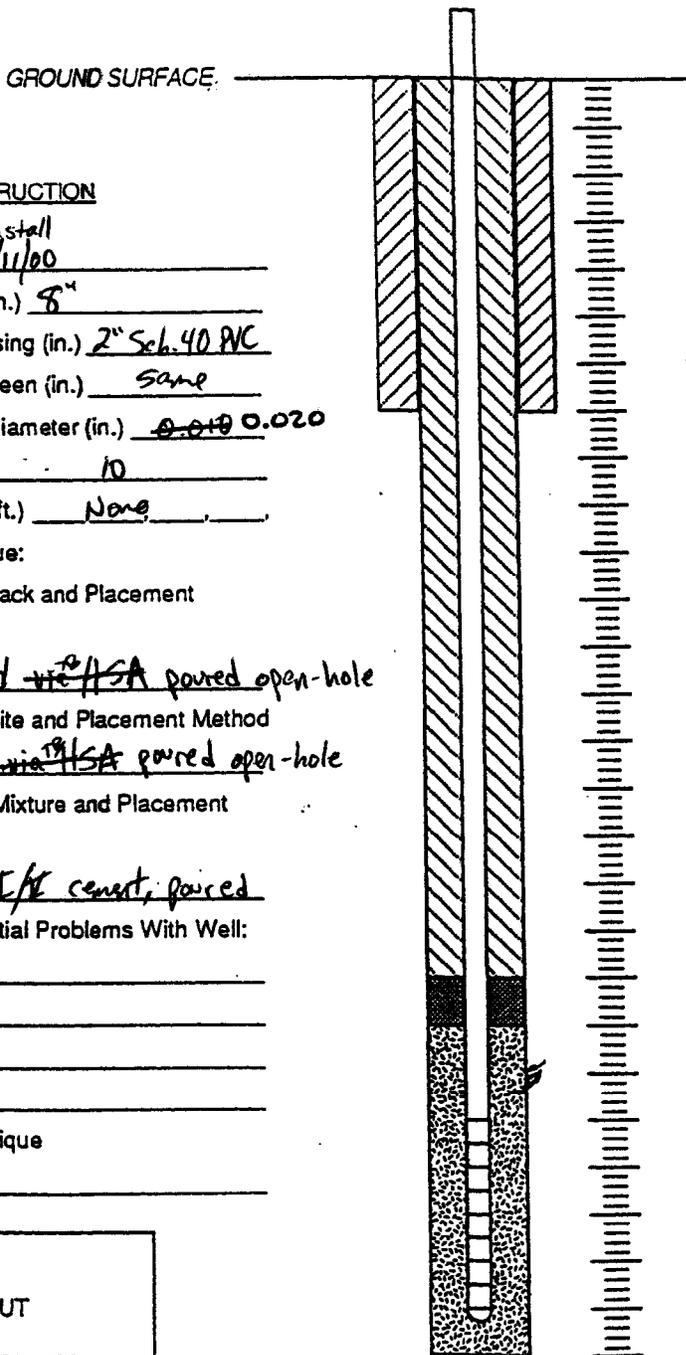
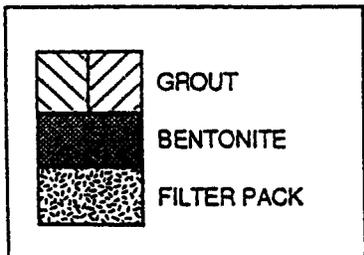
Date Completed Install 1/11/00
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) same
Screen Perforation Diameter (in.) 0.010 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method
RMC #3 Sand via HSA poured open-hole
2) Type of Bentonite and Placement Method
medium chips via HSA poured open-hole
3) Type of Grout Mixture and Placement Method
Portland Type II/A cement, poured

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Flush-mount Traffic Box
Drilling Method/Rig Type CME 750 Hollow Stem
Surface Casing: Type -
Diameter -
Length -

MATERIALS

Cement (sks.) 2
Filter Pack Material (bags) 5 bags
Casing Material (ft.) 25
Bentonite (bags) 6 bags

Top of Bentonite Seal 9.5 ft.
Top of Filter Pack 12 ft.
Top of Screen 15 ft.

Bottom of Screen 25 ft.
Bottom of Hole 48 ft.
BENTONITE 26'-48'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ079 HYDROGEOLOGIST T. Burton  
CLIENT Rocketdyne DRILLER Layne  
WELL LOCATION CTL III PT028 DATE/TIME 1/12/01 0900

Well Head Elevation TBD  
Ground Surface Elev. TBD  
Well Head Completion Method Above-Grade  
Drilling Method/Rig Type CME 750 HSA  
Surface Casing: Type Monument  
Diameter 6"  
Length 5'

DETAILS OF CONSTRUCTION

Date Completed Install 1/12/01  
Borehole Diameter (in.) 8"  
Type and Size of Casing (in.) 2" Sch. 40 PVC  
Type and Size of Screen (in.) SAME  
Screen Perforation Diameter (in.) ~~0.010~~ 0.020  
Screen Length (ft.) 10  
Centralizer Depths (ft.) None

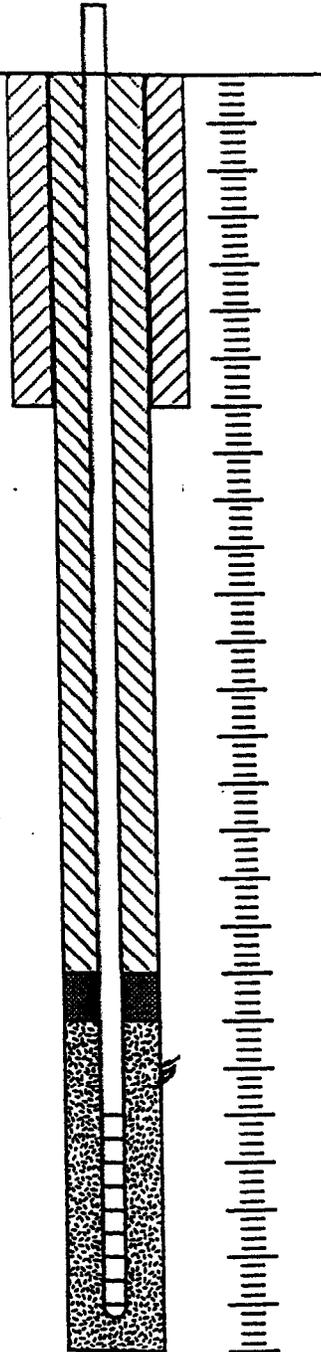
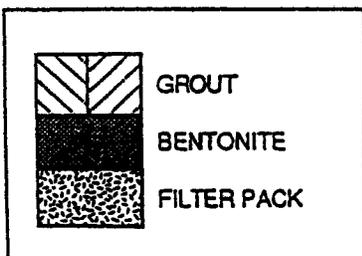
Completion Technique:

- 1) Type of Filter Pack and Placement Method RMC# 3 Sand open hole
- 2) Type of Bentonite and Placement Method Medium Chips open hole
- 3) Type of Grout Mixture and Placement Method Portland Cement poured open hole

Description of Potential Problems With Well:

Filter Pack not surged prior to seal placement

Development Technique



MATERIALS  
Cement (sks.) 2  
Filter Pack Material (sks.) 30 7 1/2  
Casing Material (ft.) 30  
Bentonite (sks.)

Top of Bentonite Seal 9.4 ft.

Top of Filter Pack 12 ft.

Top of Screen 15 ft.

Bottom of Screen 25 ft.

Bottom of Hole 35 ft.

BENTONITE 26'-35'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2080 HYDROGEOLOGIST T. Burton

CLIENT Rocketdyne DRILLER Layne

WELL LOCATION Area I Road / <sup>R1</sup> ~~Point~~ PT-022 DATE/TIME 1/16/01 1600

Well Head Elevation TBD

Ground Surface Elev. TBD

Well Head Completion Method Above-Grade

Drilling Method/Rig Type HSA/CME 150

Surface Casing: Type Monument

Diameter 6"

Length 5'

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed Install 1/16/01

Borehole Diameter (in.) 8"

Type and Size of Casing (in.) 2" Sch. 40 RC

Type and Size of Screen (in.) same

Screen Perforation Diameter (in.) 0.020

Screen Length (ft.) 10

Centralizer Depths (ft.) None

Completion Technique:

1) Type of Filter Pack and Placement

Method

RMC #3 sand via HSA

2) Type of Bentonite and Placement Method

1/4" Coated pellets via HSA

3) Type of Grout Mixture and Placement

Method

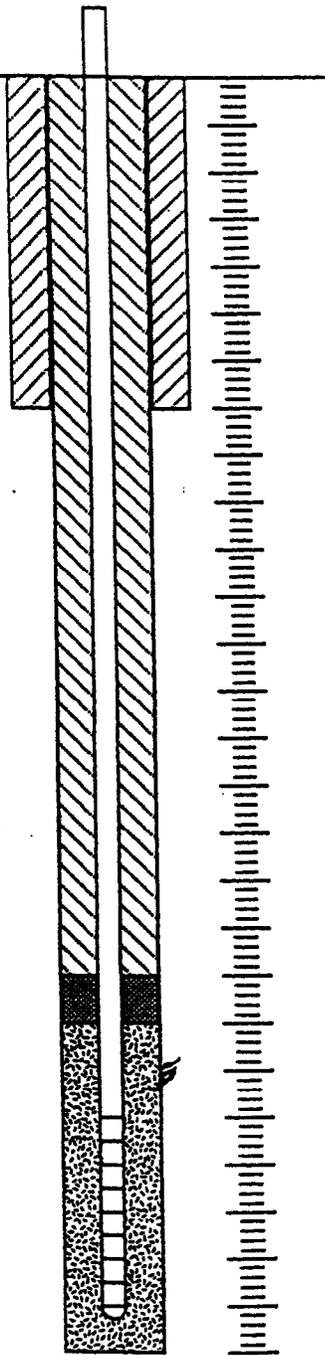
Portland Type II/III via HSA TP

Description of Potential Problems With Well:

Filter pack bridged but broken up.

Development Technique

Surged F.P. prior to seal



MATERIALS

Cement (sks.) 0

Filter Pack Material (b<sup>3</sup>) 9 bags

Casing Material (ft.) 30

Bentonite (b<sup>3</sup>) 5+1 buckets

Top of Bentonite Seal 2 ft.

Top of Filter Pack 5 ft.

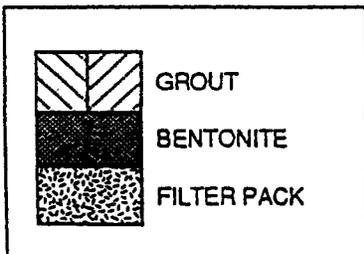
Top of Screen 19 ft.

Bottom of Screen 29 ft.

Bottom of Hole 50 ft.

Bottom Filter 31 ft.

BENTONITE 31'-50'



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2081 HYDROGEOLOGIST R. SINGER
CLIENT Boeing DRILLER Layne
WELL LOCATION JPT 119 DATE/TIME 01-19-01

DETAILS OF CONSTRUCTION

Date Completed 1-19-01
Borehole Diameter (in.) 6"
Type and Size of Casing (in.) 2" PVC
Type and Size of Screen (in.) 2" PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 1.0'
Centralizer Depths (ft.)

Completion Technique:

1) Type of Filter Pack and Placement Method

#3 Sand H.S. Aug

2) Type of Bentonite and Placement Method

medium chips H.S. Aug

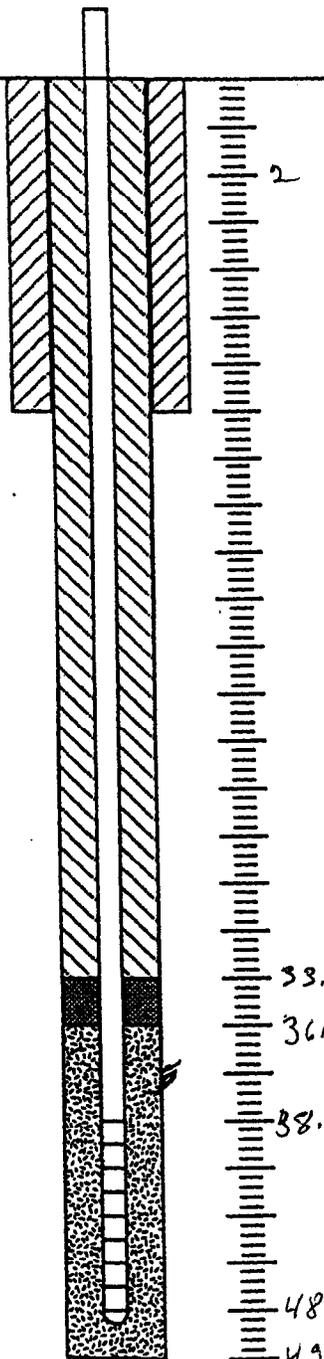
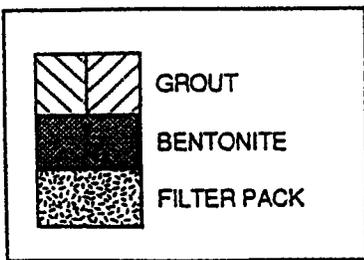
3) Type of Grout Mixture and Placement Method

Port Cement Type III

Description of Potential Problems With Well:

Blank lines for description of potential problems.

Development Technique



Well Head Elevation

Ground Surface Elev.

Well Head Completion Method

Drilling Method/Rig Type

CME-95 Hollow Stem

Surface Casing: Type

Diameter

Length

MATERIALS

Cement (sks.)

Filter Pack Material (ft.³) 36.5

Casing Material (ft.)

Bentonite (ft.³) 16.5

Top of Bentonite Seal 33.5 ft.

Top of Filter Pack 36.5 ft.

Top of Screen 38.5 ft.

Bottom of Screen 48.5 ft.

Bottom of Hole 49 ft.

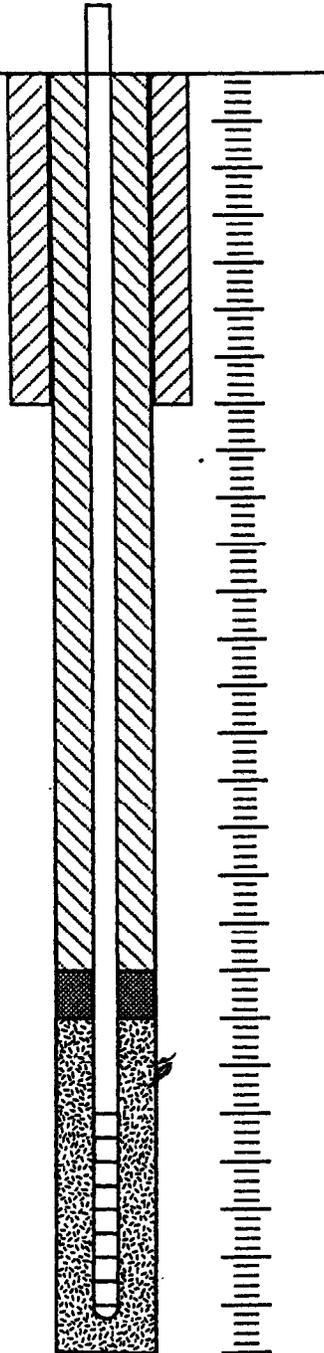
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ062 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION R1 Spillway PT-024 DATE/TIME 1/17/01 1400

GROUND SURFACE



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type CME 750 Hollow Stem
Surface Casing: Type Monument
Diameter 6"
Length 5'

DETAILS OF CONSTRUCTION

Date Completed Install 1/17/01
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" PVC Sch. 40
Type and Size of Screen (in.) same
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method RMC #3 Sand via HSA
2) Type of Bentonite and Placement Method 1/4" Coated Pellets via HSA
3) Type of Grout Mixture and Placement Method Portland Cement (poured)

Description of Potential Problems With Well:

Development Technique

MATERIALS

Cement (sks.) 1
Filter Pack Material (#) 5 bags
Casing Material (ft.) 25
Bentonite (#) 7 buckets

Top of Bentonite Seat 5 ft.

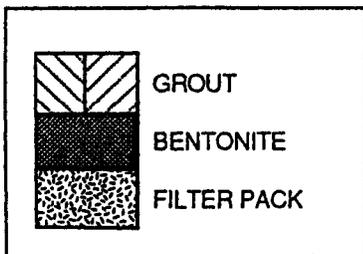
Top of Filter Pack 8 ft.

Top of Screen 10 ft.

Bottom of Screen 20 ft.

Bottom of Hole 45 ft.

BENTONITE 21'-45'



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2083 HYDROGEOLOGIST R. SINGER  
CLIENT BOEING DRILLER Lynn  
WELL LOCATION PT 018 DATE/TIME 01-22-01 11:00 AM

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 01-22-01  
Borehole Diameter (in.) 6"  
Type and Size of Casing (in.) 2" PVC  
Type and Size of Screen (in.) 2" PVC  
Screen Perforation Diameter (in.) 0.020  
Screen Length (ft.) 10'  
Centralizer Depths (ft.) \_\_\_\_\_

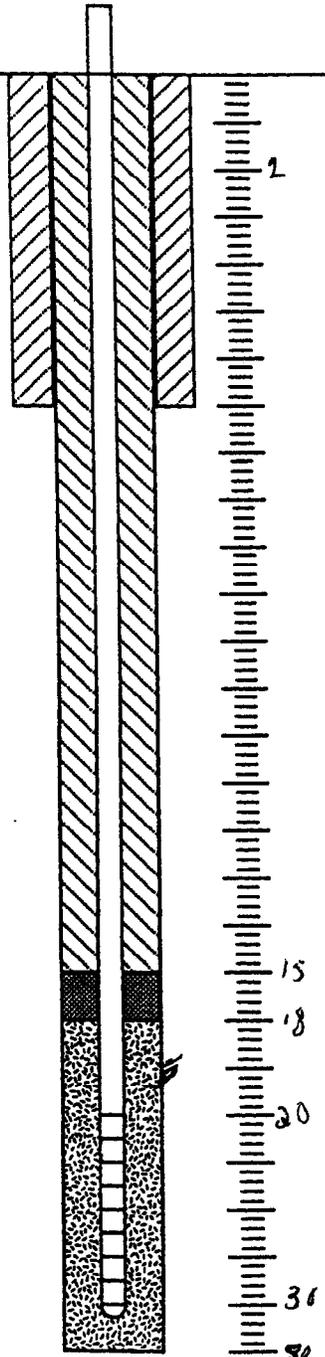
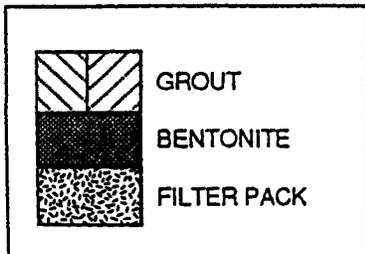
Completion Technique:

- 1) Type of Filter Pack and Placement Method  
#3 Sand 4.5. Aug.
- 2) Type of Bentonite and Placement Method  
medium chips H.S.A.G.
- 3) Type of Grout Mixture and Placement Method  
port cement type II 10.014

Description of Potential Problems With Well:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Development Technique



Well Head Elevation \_\_\_\_\_  
Ground Surface Elev. \_\_\_\_\_  
Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type  
cone-95 hollow stem  
Surface Casing: Type \_\_\_\_\_  
Diameter \_\_\_\_\_  
Length \_\_\_\_\_

MATERIALS  
Cement (sks.) \_\_\_\_\_  
Filter Pack Material (ft.<sup>3</sup>) 3.25 bags  
Casing Material (ft.) \_\_\_\_\_  
Bentonite (ft.<sup>3</sup>) 1 bag

Top of Bentonite Seal 15 ft.  
Top of Filter Pack 18 ft.  
Top of Screen 20 ft.

Bottom of Screen 30 ft.  
Bottom of Hole 50 ft.  
chips to 31' / 2 bags

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

JOB NO. 313150005 WELL NO. PZ084 HYDROGEOLOGIST T. Burton  
 CLIENT Rocketdyne DRILLER Layne  
 WELL LOCATION Bowl PT-123 DATE/TIME 1/18/01

**DETAILS OF CONSTRUCTION**

Date Completed 1/18/01  
 Borehole Diameter (in.) 8"  
 Type and Size of Casing (in.) 2" Sch. 40 PVC  
 Type and Size of Screen (in.) 2" Sch. 40 PVC  
 Screen Perforation Diameter (in.) ~~0.020~~ 0.020  
 Screen Length (ft.) 10  
 Centralizer Depths (ft.) None

**Completion Technique:**

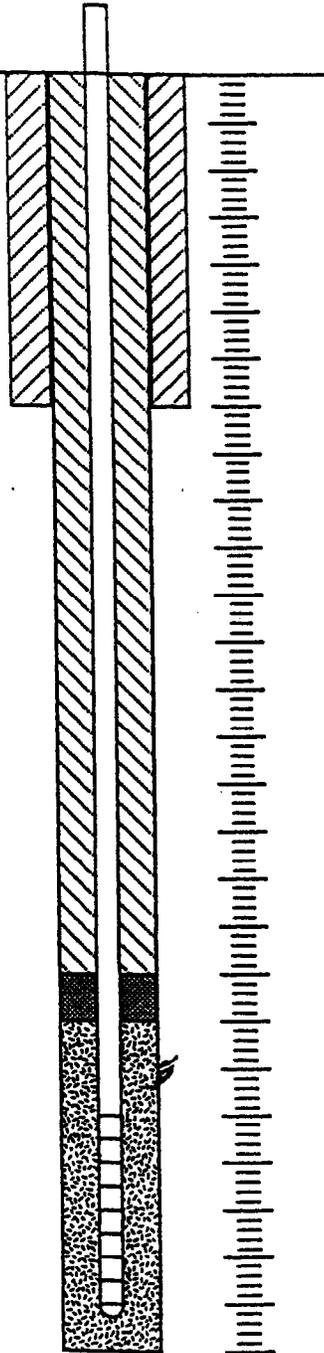
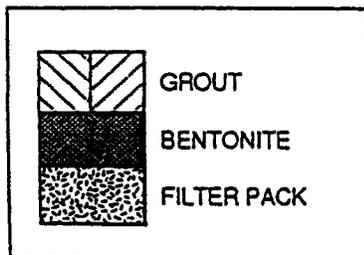
- 1) Type of Filter Pack and Placement Method  
RMC #3 Sand via HSA
- 2) Type of Bentonite and Placement Method  
Med. Chips via HSA
- 3) Type of Grout Mixture and Placement Method

**Description of Potential Problems With Well:**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Development Technique**

\_\_\_\_\_



Well Head Elevation TBD  
 Ground Surface Elev. TBD  
 Well Head Completion Method Above-Grade  
 Drilling Method/Rig Type HSA/CME 750  
 Surface Casing: Type Monument  
 Diameter 6"  
 Length 5'

**MATERIALS**

Cement (sks.) \_\_\_\_\_  
 Filter Pack Material ( $\text{cu. yd.}$ ) 5 bags  
 Casing Material (ft.) 35  
 Bentonite ( $\text{cu. yd.}$ ) 1 3/4 bags

Top of Bentonite Seal 13.5 ft.  
 Top of Filter Pack 17 ft.  
 Top of Screen 21 ft.  
 Bottom of Screen 31 ft.  
 Bottom of Hole 33 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 319150005 WELL NO. PZ 8SA HYDROGEOLOGIST R. SINGER
CLIENT BOCING DRILLER LAYNE
WELL LOCATION PT 117 DATE/TIME 01-23-01

GROUND SURFACE

DETAILS OF CONSTRUCTION

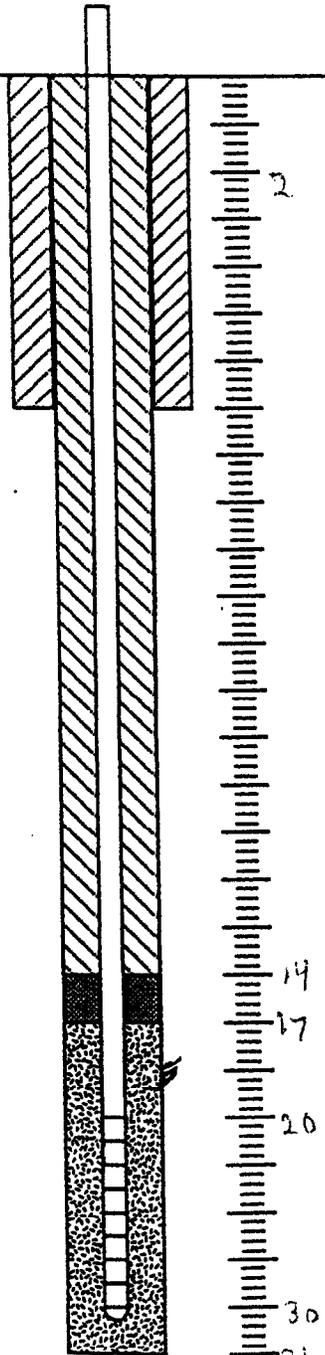
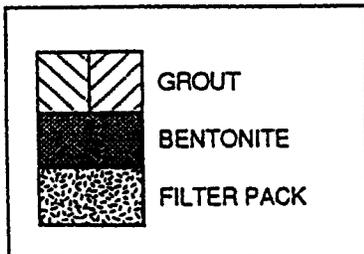
Date Completed 01-23-01
Borehole Diameter (in.) 6"
Type and Size of Casing (in.) 2" PVC
Type and Size of Screen (in.) 2" PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 1.0'
Centralizer Depths (ft.)

Completion Technique:

- 1) Type of Filter Pack and Placement Method #3 Sand H.S. Aug
2) Type of Bentonite and Placement Method med chips H.S. Aug
3) Type of Grout Mixture and Placement Method Port Cem. Type II/IV O.H

Description of Potential Problems With Well:

Development Technique



Well Head Elevation
Ground Surface Elev.
Well Head Completion Method

Drilling Method/Rig Type
Surface Casing: Type
Diameter
Length

MATERIALS

Cement (sks.)
Filter Pack Material (ft.3) 325 bags
Casing Material (ft.)
Bentonite (ft.3) 1 bag

Top of Bentonite Seat 14 ft.
Top of Filter Pack 17 ft.
Top of Screen 20 ft.

Bottom of Screen 30 ft.
Bottom of Hole 31 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2085B HYDROGEOLOGIST R. SINGER
CLIENT Boeing DRILLER Layne
WELL LOCATION PT-117 DATE/TIME 01-23-01 1140

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 01-23-01
Borehole Diameter (in.) 6"
Type and Size of Casing (in.) 2" PVC
Type and Size of Screen (in.) 2" PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.)

Completion Technique:

1) Type of Filter Pack and Placement Method

#3 Small H.S. Agg

2) Type of Bentonite and Placement Method

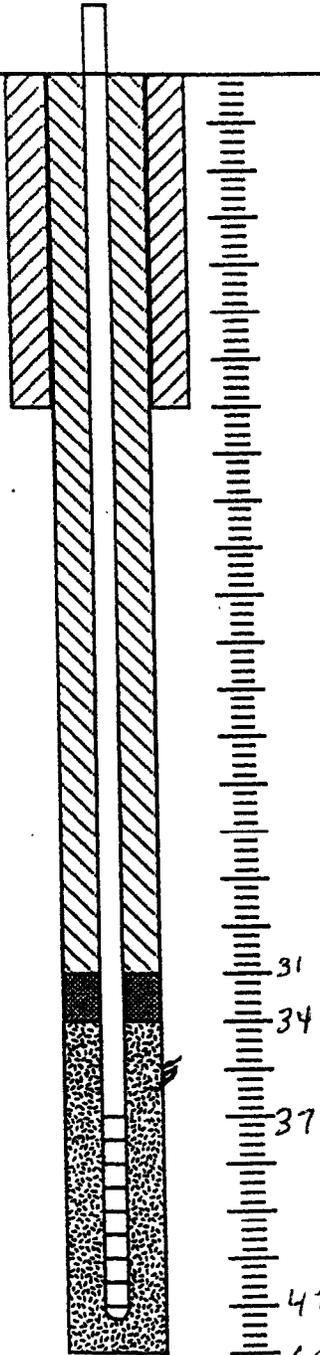
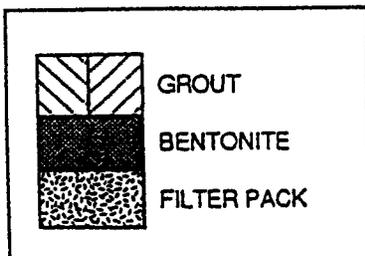
medium chips H.S. Agg

3) Type of Grout Mixture and Placement Method

Port. Cem. Type III/IV OH

Description of Potential Problems With Well:

Development Technique



Well Head Elevation
Ground Surface Elev.
Well Head Completion Method

Drilling Method/Rig Type

Surface Casing: Type
Diameter
Length

MATERIALS

Cement (sks.) 5 bgs.
Filter Pack Material (ft.) 3, 2.5 bgs
Casing Material (ft.)
Bentonite (ft.) 1 bgs

Top of Bentonite Seal 31 ft.
Top of Filter Pack 34 ft.
Top of Screen 37 ft.

Bottom of Screen 47 ft.
Bottom of Hole 60 ft.

48-3 bgs chips

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2086 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Loyne
WELL LOCATION CTLI Road, PT-017 DATE/TIME 1/18/01 1645

DETAILS OF CONSTRUCTION

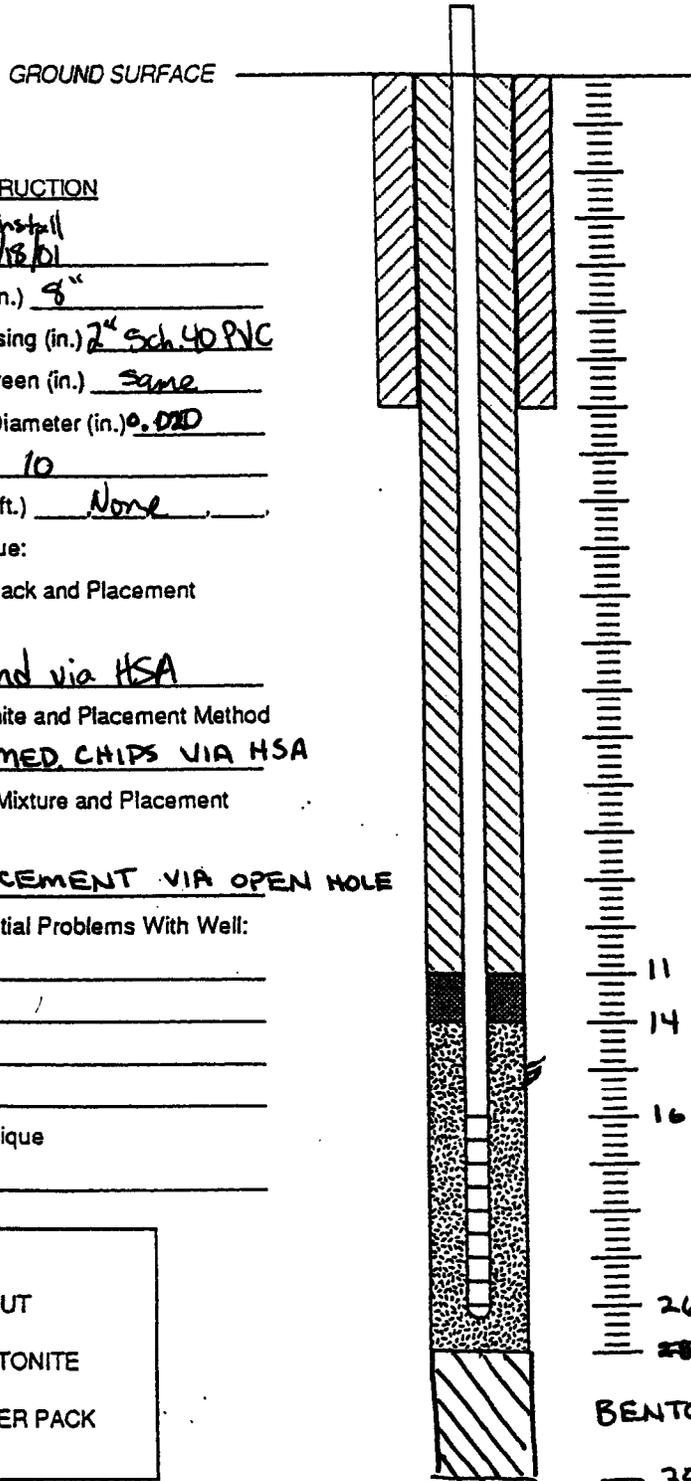
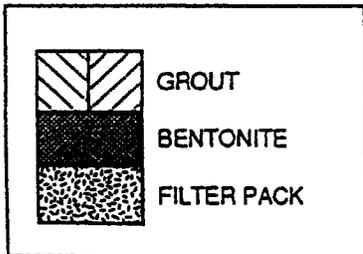
Date Completed Install 1/18/01
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch 40 PVC
Type and Size of Screen (in.) Same
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method: PVC #3 Sand via HSA
2) Type of Bentonite and Placement Method: PURE GOLD MED. CHIPS VIA HSA
3) Type of Grout Mixture and Placement Method: PORTLAND CEMENT VIA OPEN HOLE

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type HSA/OME 750
Surface Casing: Type Monument
Diameter 6"
Length 5'

MATERIALS

Cement (sks.) 2.0
Filter Pack Material (yds) 4.5 sks
Casing Material (ft.) 30
Bentonite (sks) 2.5 + 2.0 sks

11 Top of Bentonite Seat 11 ft.
14 Top of Filter Pack 14 ft.
16 Top of Screen 16 ft.
26 Bottom of Screen 26 ft.
27 Bottom of Hole 27 ft.

BENTONITE 27'-35'

35

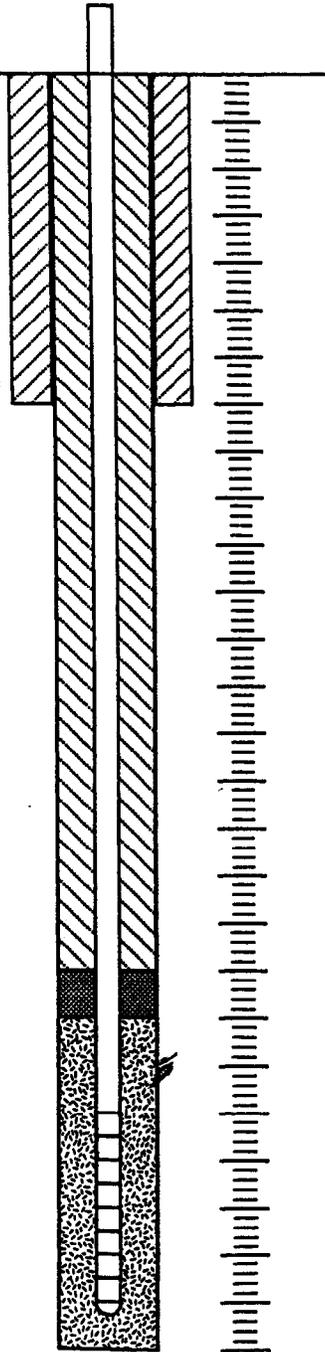
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PE087A HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION BOWL PT-023A DATE/TIME 1/24/01

GROUND SURFACE



DETAILS OF CONSTRUCTION

Date Completed 1/24/01
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) same
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10"
Centralizer Depths (ft.) None

Completion Technique:

1) Type of Filter Pack and Placement Method

RMC# Sand via HSA

2) Type of Bentonite and Placement Method

Medium Chips via HSA

3) Type of Grout Mixture and Placement Method

Portland cement, forced

Description of Potential Problems With Well:

Development Technique

Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type CME 750 Hollow Stem
Surface Casing: Type Monowall
Diameter 6"
Length 5'

MATERIALS

Cement (sks.) 1
Filter Pack Material (#2) 6.5 bags
Casing Material (ft.) 25
Bentonite (#2) 2 bgs.

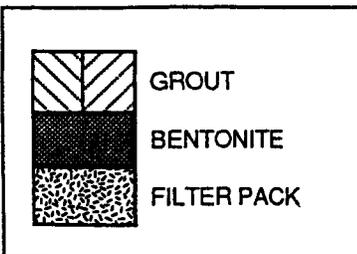
Top of Bentonite Seat 4.5 ft.

Top of Filter Pack 7 ft.

Top of Screen 11 ft.

Bottom of Screen 21 ft.

Bottom of Hole 22.5 ft.



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

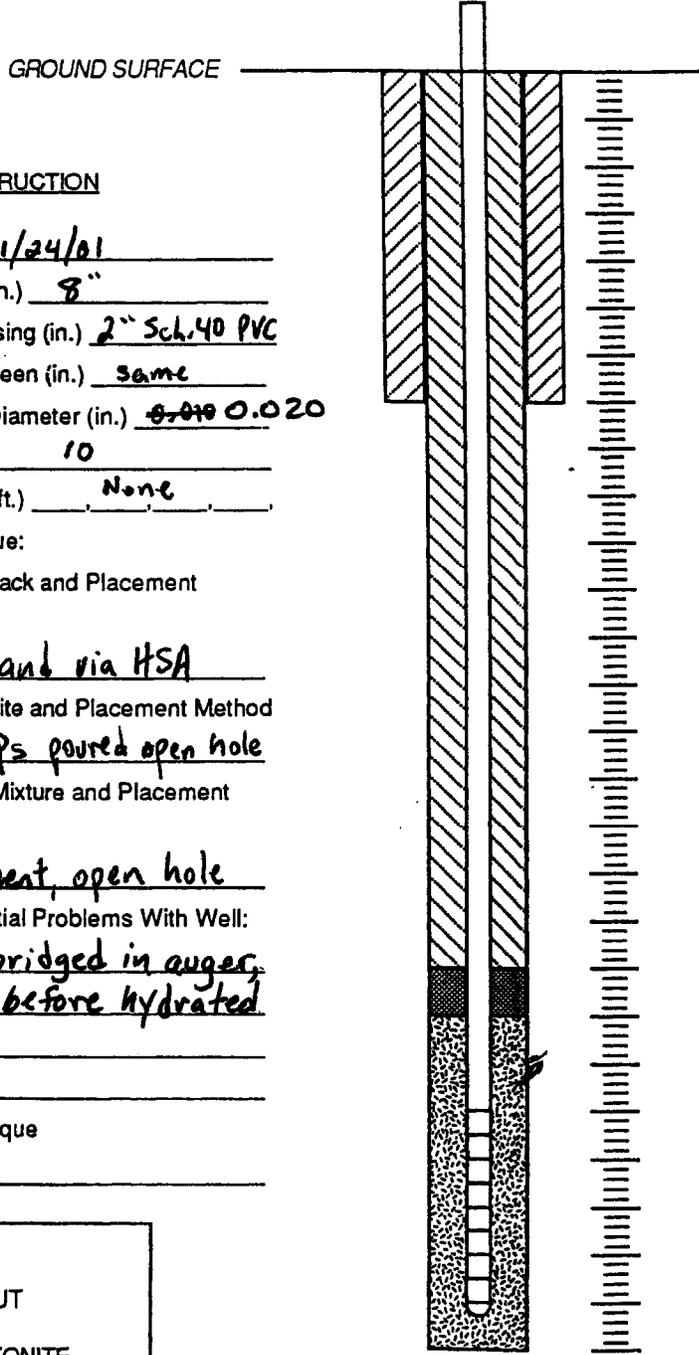


WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2087B HYDROGEOLOGIST T. Burton

CLIENT Rocketdyne DRILLER Layne

WELL LOCATION Bowl AREA, PT-023 DATE/TIME 1/24/00 1000



Well Head Elevation TBD  
Ground Surface Elev. TBD  
Well Head Completion Method Above-Grade  
Drilling Method/Rig Type Hollow Stem/CME 750  
Surface Casing: Type Monument  
Diameter 6"  
Length 5'

DETAILS OF CONSTRUCTION

Date Completed 1/24/01  
Borehole Diameter (in.) 8"  
Type and Size of Casing (in.) 2" Sch. 40 PVC  
Type and Size of Screen (in.) same  
Screen Perforation Diameter (in.) ~~0.010~~ 0.020  
Screen Length (ft.) 10  
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method RMC #3 Sand via HSA
- 2) Type of Bentonite and Placement Method Medium Chips poured open hole
- 3) Type of Grout Mixture and Placement Method Portland Cement, open hole

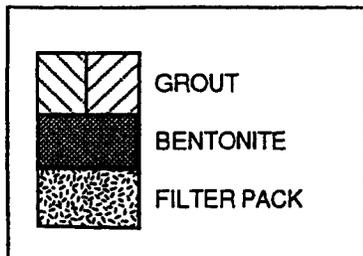
Description of Potential Problems With Well: Bentonite bridged in auger, broken up before hydrated

Development Technique

MATERIALS

Cement (sks.) 8  
Filter Pack Material (cu ft.) 4 bags  
Casing Material (ft.) 55  
Bentonite (cu ft.) 1 bag

Top of Bentonite Seal 34 ft.  
Top of Filter Pack 36 ft.  
Top of Screen 41.5 ft.  
Bottom of Screen 51.5 ft.  
Bottom of Hole 55 ft.



NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ088 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION LETF PT-015 DATE/TIME 1/19/01 1245

GROUND SURFACE

DETAILS OF CONSTRUCTION

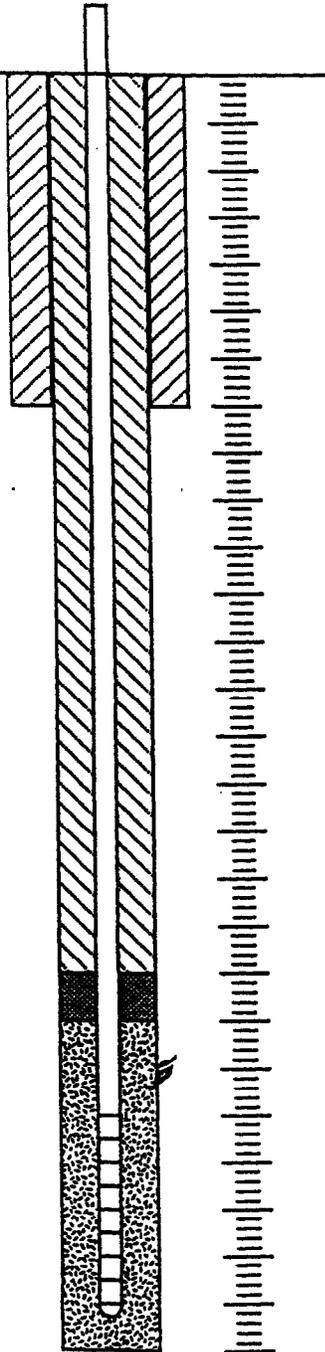
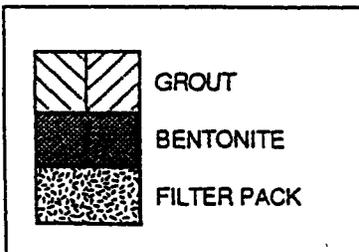
Date Completed
Borehole Diameter (in.)
Type and Size of Casing (in.) 2" Sch 40 PVC
Type and Size of Screen (in.) 2" Sch 40 PVC
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.)

Completion Technique:

- 1) Type of Filter Pack and Placement Method RMC#3 Sand via HSA
2) Type of Bentonite and Placement Method Medium Chips via HSA
3) Type of Grout Mixture and Placement Method

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type HSA / CME 750
Surface Casing: Type Monument
Diameter
Length

MATERIALS

Cement (sks.)
Filter Pack Material (bags) 6 bags
Casing Material (ft.) 45
Bentonite (bags) 1 3/4 bags

Top of Bentonite Seat 24 ft.

Top of Filter Pack 27 ft.

Top of Screen 32 ft.

Bottom of Screen 42 ft.

Bottom of Hole 45 ft.

BENTONITE 43'-45'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ 089 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION APTE/Area I Road PT-014 DATE/TIME 1/22/01 0930

GROUND SURFACE

DETAILS OF CONSTRUCTION

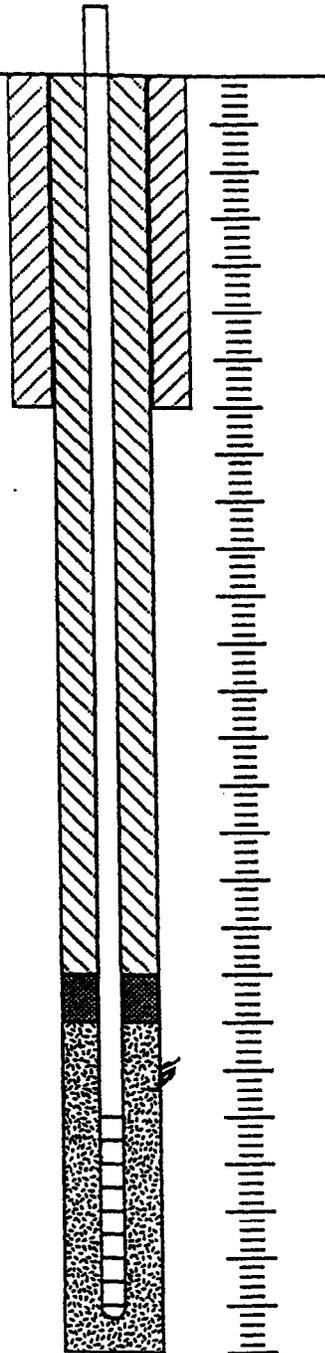
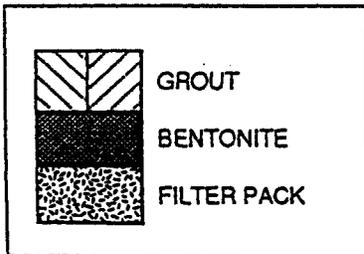
Date Completed Install 1/22/01
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) Same
Screen Perforation Diameter (in.) 0.010 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method RMC #3 Sand via HSA
2) Type of Bentonite and Placement Method Medium Chips via HSA
3) Type of Grout Mixture and Placement Method None

Description of Potential Problems With Well: None

Development Technique



Well Head Elevation 780
Ground Surface Elev. 780
Well Head Completion Method Above-Grade
Drilling Method/Rig Type HSA/CME750
Surface Casing: Type Monument
Diameter 6"
Length 5'

MATERIALS

Cement (sks.) 0
Filter Pack Material (yds) 4 bags
Casing Material (ft.) 20
Bentonite (yds) 1 1/2 bags

Top of Bentonite Seat 2 ft.
Top of Filter Pack 4.5 ft.
Top of Screen 6 ft.

Bottom of Screen 16 ft.
Bottom of Hole 20 ft.
Bottom Filter @ 18'
BENTONITE 18'-20'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. P2090 HYDROGEOLOGIST TODD HAU  
CLIENT ROCKETDYNE DRILLER ENRIQUE/LAYNE  
WELL LOCATION B412 PT-Ø27 DATE/TIME 1/15/01 0830

Well Head Elevation TBD  
Ground Surface Elev. TBD  
Well Head Completion Method TRAFFIC BOX  
Drilling Method/Rig Type HSA/CME 750  
Surface Casing: Type STEEL  
Diameter 6"  
Length 2'

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 1/15/01  
Borehole Diameter (in.) 8  
Type and Size of Casing (in.) 2" SCH. 40 PVC  
Type and Size of Screen (in.) 2" SCH. 40 PVC  
Screen Perforation Diameter (in.) 0.020  
Screen Length (ft.) 10  
Centralizer Depths (ft.) NONE

Completion Technique:

1) Type of Filter Pack and Placement

Method

LONESTAR #3 / OPEN HOLE

2) Type of Bentonite and Placement Method

PURE GOLD MED. CHIPS / OPEN HOLE

HYDRATED EVERY 1.5 ft

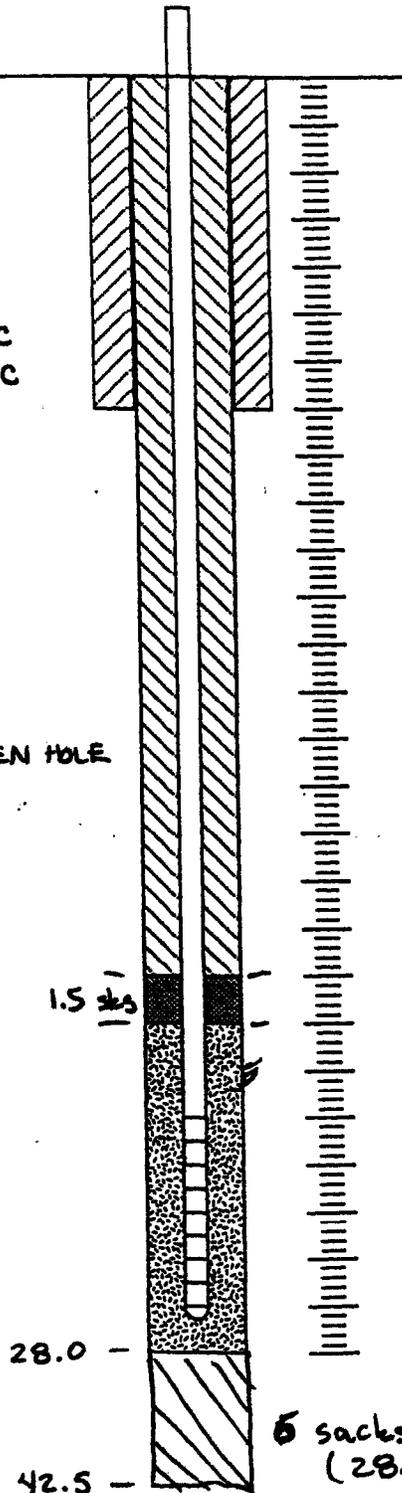
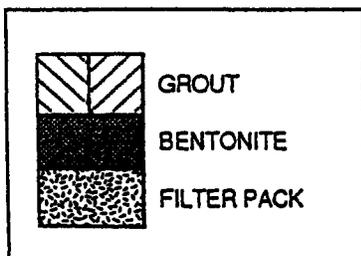
3) Type of Grout Mixture and Placement

Method

PORTLAND CEMENT

Description of Potential Problems With Well:

Development Technique



MATERIALS

Cement (sks.) 2  
Filter Pack Material (#3) 4.5 sks  
Casing Material (ft.) 30  
Bentonite (#3) 6 @ 1.5 sks

Top of Bentonite Seat 10 ft.

Top of Filter Pack 13 ft.

Top of Screen 16 ft.

Bottom of Screen 26 ft.  
Bottom of Hole 42.5 ft.

5 sacks BENTONITE (28.0'-42.5')

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

JOB NO. 313150005 WELL NO. P2091 HYDROGEOLOGIST TODD HALL  
 CLIENT ROCKETDYNE DRILLER LAYNE/ENRIQUE  
 WELL LOCATION CTL-III NORTH/PT025 DATE/TIME 1/15/01 @ 1500

GROUND SURFACE

DETAILS OF CONSTRUCTION

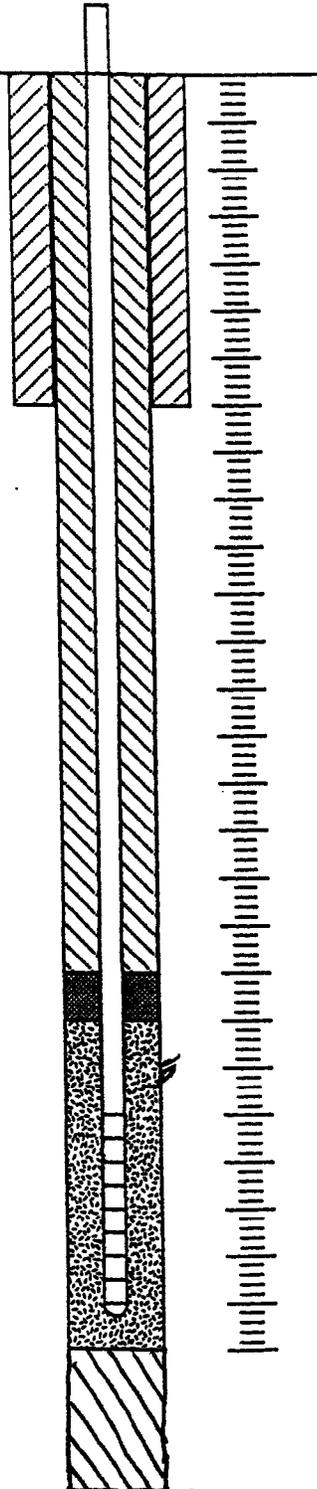
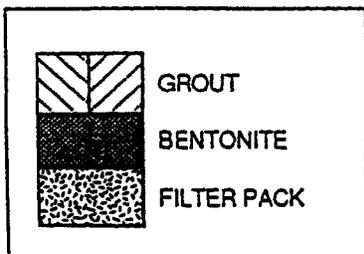
Date Completed \_\_\_\_\_  
 Borehole Diameter (in.) 8"  
 Type and Size of Casing (in.) 2" SCH. 40 PVC  
 Type and Size of Screen (in.) 2" SCH. 40 PVC  
 Screen Perforation Diameter (in.) 0.020  
 Screen Length (ft.) 10  
 Centralizer Depths (ft.) NONE  
 Completion Technique:

- 1) Type of Filter Pack and Placement Method  
RMC#3 Sand via HSA
- 2) Type of Bentonite and Placement Method  
1/4" coated pellets via HSA
- 3) Type of Grout Mixture and Placement Method

Description of Potential Problems With Well:

well not surged prior to placement of seal (to settle filter pack)

Development Technique



Well Head Elevation TBD  
 Ground Surface Elev. TBD  
 Well Head Completion Method ABOVE GROUND MONUMENT  
 Drilling Method/Rig Type HSA/CME 750  
 Surface Casing: Type Monument  
 Diameter 6"  
 Length 5'

MATERIALS

Cement (sks.) 9  
 Filter Pack Material (cu. ft.) 5 sacks  
 Casing Material (ft.) 40  
 Bentonite (cu. ft.) 1 bucket

Top of Bentonite Seal 20 ft.  
 Top of Filter Pack 23.5' 24 ft.  
 Top of Screen 26 ft.

Bottom of Screen 36 ft.  
 Bottom of Hole 55 ft.  
 Caved to 40' Sand 40'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ 092 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION B359 Area, PT-011 DATE/TIME 1/22/01 1500

GROUND SURFACE

DETAILS OF CONSTRUCTION

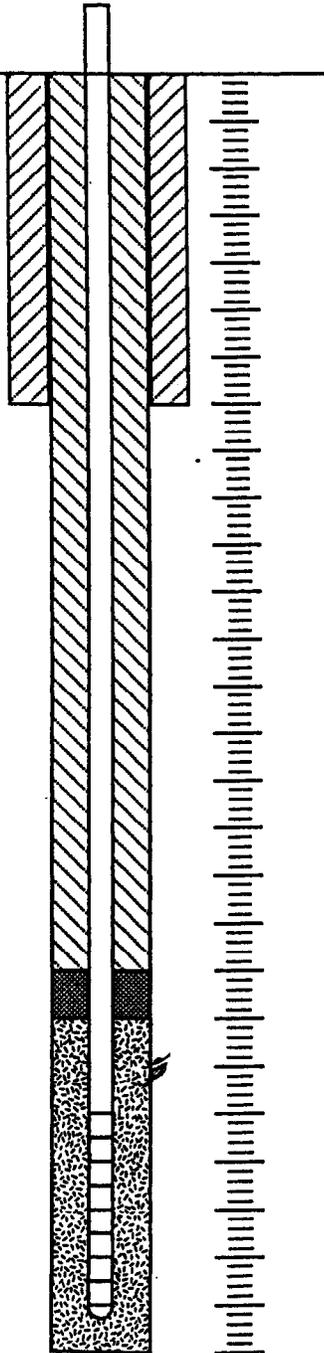
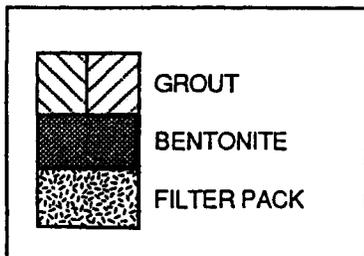
Date Completed Install 1/22/01
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) 2" Sch. 40 PVC
Screen Perforation Diameter (in.) 0.010 0.020
Screen Length (ft.) 10
Centralizer Depths (ft.) None

Completion Technique:

- 1) Type of Filter Pack and Placement Method RMC #3 Sand via HSA
2) Type of Bentonite and Placement Method Medium Chips via HSA
3) Type of Grout Mixture and Placement Method Portland Type II/IV Cement (poured)

Description of Potential Problems With Well:

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Flush-Mounted Traffic Box
Drilling Method/Rig Type HSA/CME 750
Surface Casing: Type - Diameter - Length -

MATERIALS

Cement (sks.) 3
Filter Pack Material (bags) 5 bags
Casing Material (ft.) 30
Bentonite (bags) 1 1/2 bags

Top of Bentonite Seat 14 ft.
Top of Filter Pack 17 ft.
Top of Screen 19 ft.

Bottom of Screen 29 ft.
Bottom of Hole 31.5 ft.

BENTONITE 31-34.5'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

JOB NO. 313150005 WELL NO. PZ093 HYDROGEOLOGIST T. Burton  
 CLIENT Rocketdyne DRILLER Layne  
 WELL LOCATION Area I Road PT-118 DATE/TIME 1/23/01 1330

GROUND SURFACE

**DETAILS OF CONSTRUCTION**

Date Completed <sup>± install</sup> 1/23/01  
 Borehole Diameter (in.) 8"  
 Type and Size of Casing (in.) 2" Sch. 40 PVC  
 Type and Size of Screen (in.) same  
 Screen Perforation Diameter (in.) ~~0.010~~ 0.020  
 Screen Length (ft.) 10  
 Centralizer Depths (ft.) None

**Completion Technique:**

1) Type of Filter Pack and Placement

Method

RMC #3 Sand via HSA

2) Type of Bentonite and Placement Method

Medium Chips via HSA

3) Type of Grout Mixture and Placement

Method

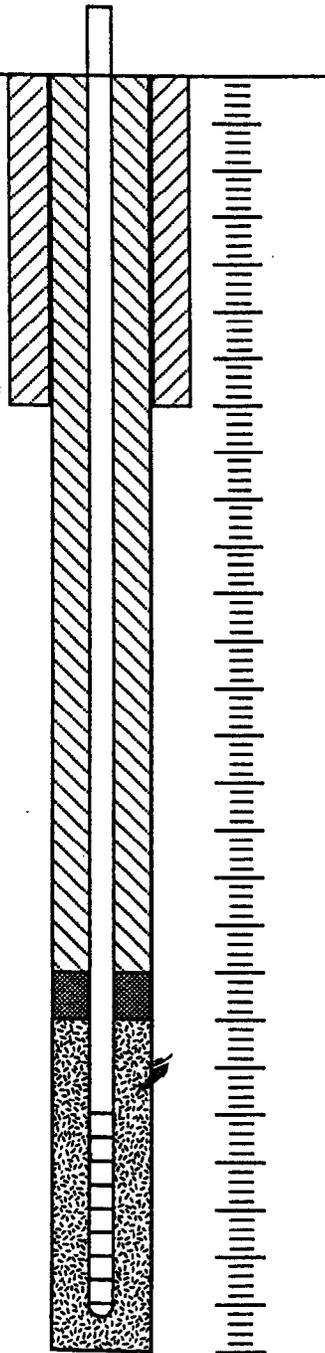
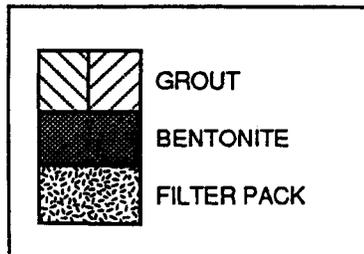
Portland cement, poured

Description of Potential Problems With Well:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Development Technique

\_\_\_\_\_



Well Head Elevation TBD  
 Ground Surface Elev. TBD  
 Well Head Completion Method Above-Grade  
 Drilling Method/Rig Type Hollow Stem / CME 750  
 Surface Casing: Type Monument  
 Diameter 6"  
 Length 5'

**MATERIALS**

Cement (sks.) 4  
 Filter Pack Material (#) 4 bags  
 Casing Material (ft.) 35  
 Bentonite (#) 1.5 bags

Top of Bentonite Seal 19 ft.  
 Top of Filter Pack 22 ft.  
 Top of Screen 24.5 ft.

Bottom of Screen 34.5 ft.  
 Bottom of Hole 35.40 ft.

SS  
 SLOUGH 35'-40'

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE



WELL COMPLETION RECORD

JOB NO. 313150005 WELL NO. PZ 094 HYDROGEOLOGIST T. Burton
CLIENT Rocketdyne DRILLER Layne
WELL LOCATION Sage Ranch PT-001 DATE/TIME 1/25/01 @ 1200

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed
Borehole Diameter (in.) 8"
Type and Size of Casing (in.) 2" Sch. 40 PVC
Type and Size of Screen (in.) 3/8"
Screen Perforation Diameter (in.) 0.020
Screen Length (ft.) 10'
Centralizer Depths (ft.) None

Completion Technique:

1) Type of Filter Pack and Placement

Method

RMC #3 Sand via HSA

2) Type of Bentonite and Placement Method

Med. Chips via HSA

3) Type of Grout Mixture and Placement

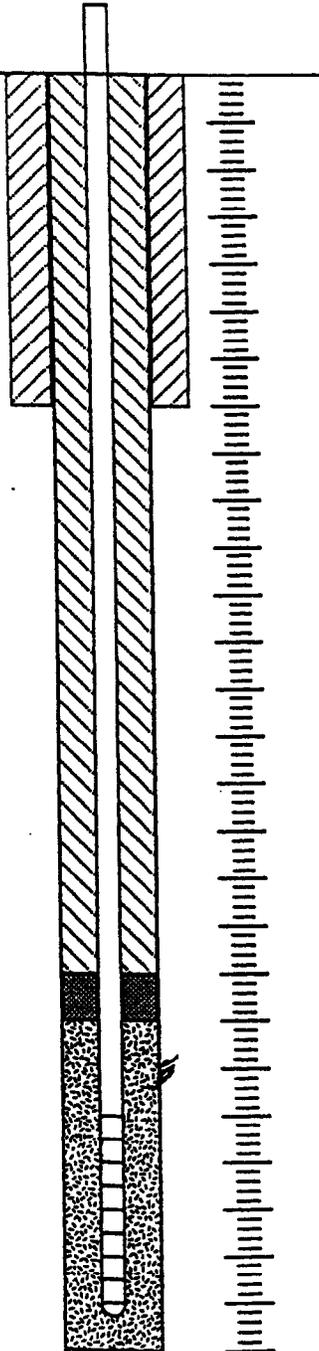
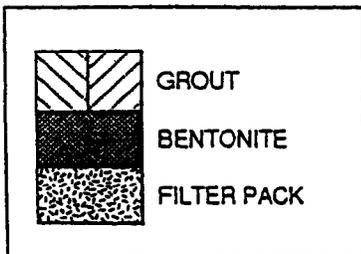
Method

Portland Cement, poured

Description of Potential Problems With Well:

Slough from 8' to 5.5' while augers removed

Development Technique



Well Head Elevation TBD
Ground Surface Elev. TBD
Well Head Completion Method Above-Grade
Drilling Method/Rig Type Hollow Stem / CME 750
Surface Casing: Type Monomert
Diameter 6"
Length 5'

MATERIALS

Cement (sks.) 1
Filter Pack Material (#3) 6 bags
Casing Material (ft.) 25
Bentonite (#2) 1 bag

Top of Bentonite Seal 8 ft.
Top of Filter Pack 10 ft.
Top of Screen 13 ft.

Bottom of Screen 23 ft.
Bottom of Hole 34 ft.

BENTONITE Chips 34-24

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

JOB NO. 313150005 WELL NO. PZ 095 HYDROGEOLOGIST T. Burton  
 CLIENT NASA DRILLER Layne  
 WELL LOCATION LOX RT- DATE/TIME 2/14/01

**DETAILS OF CONSTRUCTION**

Date Completed 2/14/01  
 Borehole Diameter (in.) 9"  
 Type and Size of Casing (in.) 2" Sch. 40 PVC  
 Type and Size of Screen (in.) same  
 Screen Perforation Diameter (in.) 0.070  
 Screen Length (ft.) 10'  
 Centralizer Depths (ft.) None

**Completion Technique:**

- 1) Type of Filter Pack and Placement Method  
RMC #3 Sand via HSA
- 2) Type of Bentonite and Placement Method  
Medium Chips via HSA
- 3) Type of Grout Mixture and Placement Method  
Portland Cement, poured

Description of Potential Problems With Well:

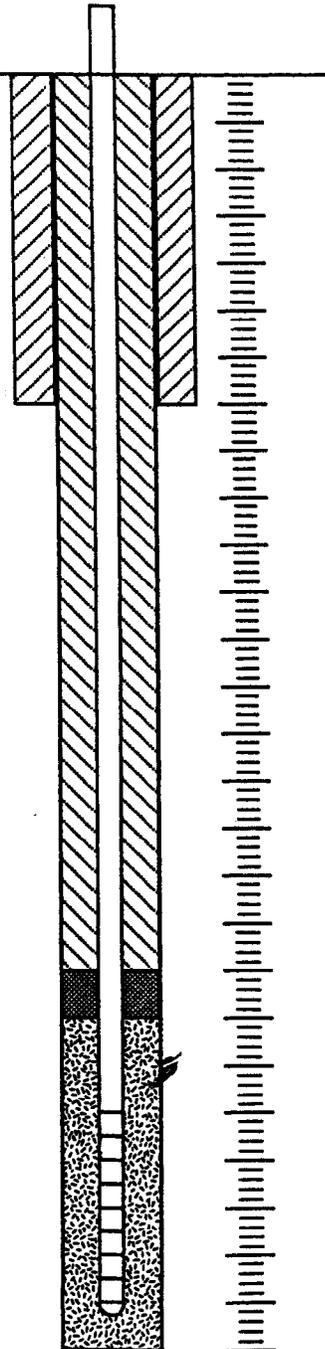
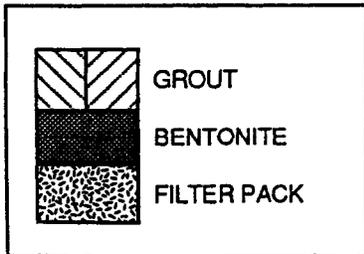
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Development Technique

\_\_\_\_\_



Well Head Elevation TBD  
 Ground Surface Elev. TBD  
 Well Head Completion Method Above-Grade  
 Drilling Method/Rig Type HSA/CME 750  
 Surface Casing: Type Monument  
 Diameter 6"  
 Length 5'

**MATERIALS**

Cement (sks.) 2  
 Filter Pack Material (#) 5 bags  
 Casing Material (ft.) 25  
 Bentonite (#) 5 + 1 bags

Top of Bentonite Seat 8 ft.  
 Top of Filter Pack 11 ft.  
 Top of Screen 14 ft.  
 Bottom of Screen 24 ft.  
 Bottom of Hole 37 ft.  
 Chips 37-26

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

JOB NO. 313150007 WELL NO. P126 HYDROGEOLOGIST E. Cathcart  
 CLIENT NASA DRILLER Layne Christensen  
 WELL LOCATION PLF Area / COCA Area DATE/TIME 4/12/01 11:00 AM

GROUND SURFACE

DETAILS OF CONSTRUCTION

Date Completed 4/12/01  
 Borehole Diameter (in.) 6  
 Type and Size of Casing (in.) 2x40 2" PVC  
 Type and Size of Screen (in.) 2x40 2" PVC  
 Screen Perforation Diameter (in.) 0.020  
 Screen Length (ft.) 10  
 Centralizer Depths (ft.) \_\_\_\_\_

Completion Technique:

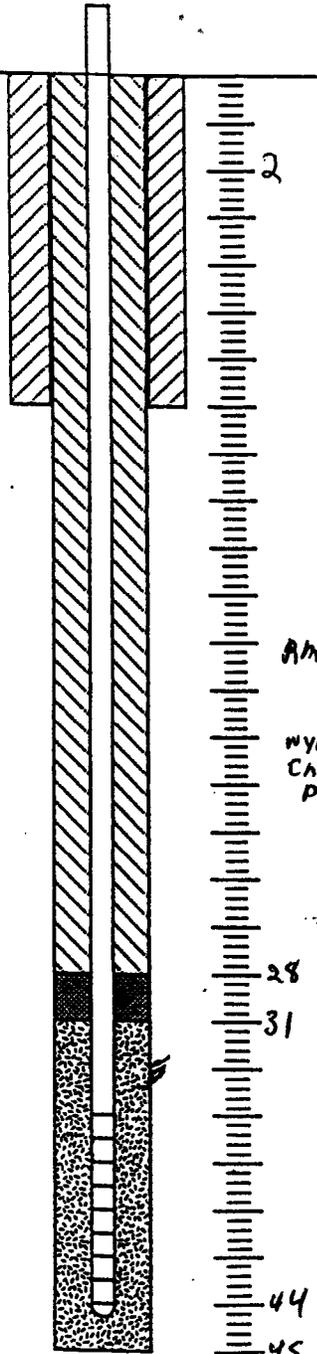
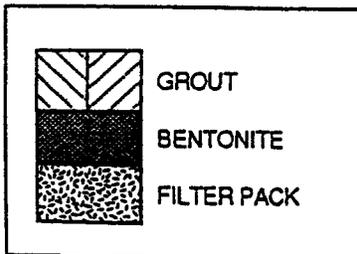
- 1) Type of Filter Pack and Placement  
 Method  
#3 Sand / HSA
- 2) Type of Bentonite and Placement Method  
Medion Caps / HSA
- 3) Type of Grout Mixture and Placement  
 Method  
Port Cement type II/II / HSA

Description of Potential Problems With Well:

Shallow H<sub>2</sub>O zone from 8-12ft  
Bgs - Installed 3ft Bentonite  
Seal to Isolate Screened interval

Development Technique

Surge block & bail



Well Head Elevation \_\_\_\_\_  
 Ground Surface Elev. \_\_\_\_\_  
 Well Head Completion Method \_\_\_\_\_

Drilling Method/Rig Type  
CME-75/HSA  
 Surface Casing: Type Steel  
 Diameter \_\_\_\_\_  
 Length \_\_\_\_\_

MATERIALS

Cement (sks.) 4 BMS  
 Filter Pack Material (ft.<sup>3</sup>) 5 BMS 100  
 Casing Material (ft.) 45'  
 Bentonite (ft.<sup>3</sup>) 50 lbs  
*nyoben capro plug*

Top of Bentonite Seal 28 ft.  
 Top of Filter Pack 31 ft.  
 Top of Screen 33.5 ft.

43.5 34.5 (SCREEN  
 Bottom of Screen 44 (INC. 50ft) ft.  
 Bottom of Hole 45 ft.

NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SURFACE

**Table E-1 (1 of 3)**

**Shallow Groundwater Sampling Summary**

IDENTIFICATION		Sample Date and Time
PZ	PT	
PZ-001C	PT-040C	5/1/01: 0904
PZ-001D	PT-040D	5/1/01: 0947
PZ-001E	PT-040E	5/1/01: 1040
PZ-001F	PT-040F	5/1/01: 1127
PZ-002B	PT-026B	4/25/01: 0810
PZ-002C	PT-026C	4/25/01: 0900
PZ-002D	PT-026D	4/25/01: 0941
PZ-002E	PT-026E	4/25/01: 1030
PZ-002F	PT-026F	4/25/01: 1120
PZ-002G	PT-026G	4/25/01: 1405
PZ-005	PT-102	5/25/01: 0835-0930
PZ-006A	PT-065A	4/23/01: 0851
PZ-006C	PT-065C	4/23/01: 1015
PZ-006D	PT-065D	4/23/01: 1120
PZ-006E	PT-065E	4/23/01: 1307
PZ-007D	PT-042D	4/30/01: 1525
PZ-007E	PT-042E	4/30/01: 1628
PZ-007F	PT-042F	4/30/01: 1707
PZ-007G	PT-042G	4/30/01: 1735
PZ-008B	PT-016B	5/2/01: 0940
PZ-008E	PT-016E	5/2/01: 1024
PZ-009C	PT-037C	4/26/01: 1415, 1419
PZ-009D	PT-037D	4/26/01: 1457, 1503
PZ-009E	PT-037E	4/26/01: 1557
PZ-009F	PT-037F	4/26/01: 1627
PZ-010D	PT-039D	4/25/01: 0900
PZ-010E	PT-039E	4/25/01: 0941
PZ-010F	PT-039F	4/25/01: 1037
PZ-010G	PT-039G	4/25/01: 1117
PZ-012B	PT-020B	5/1/01: 1322
PZ-012C	PT-020C	5/1/01: 1408
PZ-012D	PT-020D	5/1/01: 1705
PZ-012E	PT-020E	5/1/01: 1545
PZ-012F	PT-020F	5/1/01: 1625
PZ-013C	PT-077C	4/26/01: 0750
PZ-013D	PT-077D	4/26/01: 0822
PZ-013E	PT-077E	4/26/01: 0905
PZ-013F	PT-077F	4/26/01: 0950
PZ-014C	PT-081C	4/26/01: 1340
PZ-014D	PT-081D	4/26/01: 1410

**Table E-1 (2 of 3)**

**Shallow Groundwater Sampling Summary**

IDENTIFICATION		Sample Date and Time
PZ	PT	
PZ-014E	PT-081E	4/26/01: 1450
PZ-015B	PT-084B	4/26/01: 0743
PZ-015C	PT-084C	4/26/01: 0820
PZ-015D	PT-084D	4/26/01: 0900
PZ-015E	PT-084E	4/26/01: 0942
PZ-015F	PT-084F	4/26/01: 1024
PZ-015G	PT-084G	4/26/01: 1108
PZ-016E	PT-019E	4/23/01: 1318
PZ-016F	PT-019F	4/23/01: 1402
PZ-016G	PT-019G	4/23/01: 1450
PZ-017A	PT-100A	5/8/01: 1505
PZ-017B	PT-100B	5/8/01: 1503-1550
PZ-018B	PT-073B	4/25/01: 1450
PZ-018D	PT-073D	4/25/01: 1550
PZ-018E	PT-073E	4/25/01: 1640
PZ-019	PT-041	5/16/01: 1400-1451
PZ-020	PT-043	5/22/01: 0830-0915
PZ-021	PT-036	5/21/01: 1300-1440
PZ-022	PT-038	5/21/01: 0926-1049
PZ-023	PT-062	5/22/01: 1443
PZ-024	PT-063	5/8/01: 1007-1157
PZ-025	PT-066	5/10/01: 1014
PZ-026	PT-061	5/9/01: 1600
PZ-027	PT-064	5/8/01: 1015
PZ-028	PT-067	5/23/01: 1305
PZ-029	PT-074	5/23/01: 0810-0825
PZ-030	PT-075	5/23/01: 0908-0925
PZ-031	PT-076	5/15/01: 1237
PZ-033	PT-082	5/21/01: 1608
PZ-034	PT-080	5/24/01: 0903
PZ-036	PT-089	5/21/01: 1203
PZ-037	PT-090	5/22/01: 1043
PZ-038	PT-085	5/24/01: 1035
PZ-039	PT-086	5/30/01: 0947
PZ-041	PT-105	5/17/01: 0820-1050
PZ-043	PT-097	5/29/01: 0931
PZ-045	PT-115	5/30/01: 0842-0900
PZ-048	PT-116	5/9/01: 1426-1616
PZ-049	PT-044	5/24/01: 1142-1200
PZ-050	PT-072	5/14/01: 1210

**Table E-1 (3 of 3)**

**Shallow Groundwater Sampling Summary**

IDENTIFICATION		Sample Date and Time
PZ	PT	
PZ-051	PT-071	5/22/01: 1102-1120
PZ-052	PT-079	5/22/01: 1332-1350
PZ-053	PT-093	5/23/01: 1250-1400
PZ-054	PT-092	5/29/01: 1405-1500
PZ-056	PT-053	5/30/01: 1630
PZ-057	PT-051	5/16/01: 0929-1000
PZ-058	PT-052	5/16/01: 1045
PZ-060	PT-045	5/24/01: 0834-0936
PZ-061	PT-047	5/24/01: 1222
PZ-067A	PT-009A	5/17/01: 1330-1358
PZ-067B	PT-009B	5/17/01: 1512-1540
PZ-071	PT-050	5/10/01: 0933-1000
PZ-072	PT-060	5/9/01: 1110-1130
PZ-074	PT-021	5/29/01: 1410-1500
PZ-075	PT-004	5/30/01: 1157
PZ-076	PT-031	5/30/01: 1120
PZ-077	PT-030	5/29/01: 1155
PZ-078	PT-029	5/25/01: 1130-1145
PZ-079	PT-028	5/29/01: 1650
PZ-080	PT-022	5/29/01: 0935
PZ-082	PT-024	5/30/01: 0825
PZ-084	PT-123	5/17/01: 1423
PZ-085A	PT-117A	5/18/01: 0740-0900
PZ-085B	PT-117B	5/3/01: 0930-1025
PZ-087A	PT-023A	5/23/01: 0839
PZ-087B	PT-023B	5/2/01: 1610
PZ-088	PT-015	5/4/01: 1009-1042
PZ-089	PT-014	5/29/01: 1710
PZ-090	PT-027	5/30/01: 1135-1220
PZ-091	PT-025	5/25/01: 1157
PZ-096	PT-126	5/25/01: 0841

Note: Only sampled piezometers are listed in this summary; a complete piezometer listing is contained in Table 2.

PT - Point

PZ - Piezometer

GROUNDWATER SAMPLING LOG

PF051

WELL NO.: PZ-001C / PT-040C LOCATION: RD-09 near PROJECT NO:

DATE: 5-01-01 TIME: 0834 CLIMATIC CONDITIONS: 65°F SUNNY

STATIC WATER LEVEL: 19.83' (TOC) TOTAL DEPTH: 31.17' (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE:

WELL PURGE DATA:

Table with 7 columns: DATE/TIME, GALLONS REMOVED, pH, SP. COND. mS/cm, TEMP. OF, REDOX, TURBIDITY. Rows include data for times 0848, 0852, and 0854.

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT APPEARANCE OF SAMPLE: COLOR CLEAR, TURBIDITY LOW, SEDIMENT, OTHER

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC- 8260 w/HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): PZ001GW03S01 / PF051 DECONTAMINATION PROCEDURES:

NOTES: SAMPLE taken @ 0904

SAMPLED BY: E. SARNO

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT) 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

GROUNDWATER SAMPLING LOG

PF052

WELL NO.: PZ-001D PT-040D LOCATION: RD-09 area PROJECT NO:

DATE: 5-01-01 TIME: 0921 CLIMATIC CONDITIONS: 70°F SUNNY

STATIC WATER LEVEL: 21.65' (TOC) TOTAL DEPTH: 39.23' (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE:

WELL PURGE DATA table with columns: DATE/TIME, GALLONS REMOVED, pH, SP. COND. (MS/cm), TEMP. (OF), REDOX, TURBIDITY. Includes handwritten entries for 0935, 0938, and 0941.

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT
APPEARANCE OF SAMPLE: COLOR (cloudy), TURBIDITY (HIGH), SEDIMENT, OTHER

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 of HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): PZ001GWB4S01 / PF052
DECONTAMINATION PROCEDURES:

NOTES: Samples Taken @ 0947

SAMPLED BY: E. SARNO

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT)
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

GROUNDWATER SAMPLING LOG

PF053

WELL NO.: PZ-001 E / PT-040E LOCATION: RD-09 area PROJECT NO:

DATE: 5-01-01 TIME: 1007 CLIMATIC CONDITIONS:

STATIC WATER LEVEL: 24.63' (TOC) TOTAL DEPTH: 52.31'

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE:

WELL PURGE DATA:

Table with 7 columns: DATE/TIME, GALLONS REMOVED, pH, SP. COND. MS/cm, TEMP. OF, REDOX, TURBIDITY. Rows contain data for times 1019, 1023, 1026, 1028.

SAMPLE WITHDRAWAL METHOD:

APPEARANCE OF SAMPLE COLOR: BROWN TURBIDITY: HIGH SEDIMENT: SILT OTHER:

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/ Hel

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): PZ 001 GW05 S01 / PF053 DECONTAMINATION PROCEDURES:

NOTES: Samples Taken @ 1040

SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT) 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF054

WELL NO.: PZ-001F1  
PT-040F LOCATION: RD-09 area PROJECT NO: \_\_\_\_\_

DATE: 5-01-01 TIME: 1059 CLIMATIC CONDITIONS: 70°F SUNNY

STATIC WATER LEVEL: 21.80 (TOC) TOTAL DEPTH: 58.98 (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X \_\_\_\_\_

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. MS/cm	TEMP. °F	REDOX	TURBIDITY
<u>1109</u>	<u>8 oz</u>	<u>7.73</u>	<u>1.96</u>	<u>62.5</u>		<u>LOW</u>
<u>1113</u>	<u>14 oz</u>	<u>8.20</u>	<u>1.80</u>	<u>62.3</u>		<u>MODERATE</u>
<u>1117</u>	<u>20 oz</u>	<u>8.17</u>	<u>1.92</u>	<u>61.7</u>		<u>MODERATE</u>

**SAMPLE WITHDRAWAL METHOD:**

INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: CLOUDY  
 TURBIDITY: MODERATE  
 SEDIMENT: SILT  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/ Hel

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): PZ001GW06S01/PF054  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Samples Taken @ 1127

SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PFØ14  
PFØ15

PZ-002B

WELL NO.: PZ-002B/PZ-002B LOCATION: CTL-III PROJECT NO: \_\_\_\_\_

DATE: 4/25/01 TIME: 0800 CLIMATIC CONDITIONS: Sunny 80°

STATIC WATER LEVEL: 11.70 (TOC) TOTAL DEPTH: 14.72 (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: Inertial Lift PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:	DATE/TIME	GALLONS REMOVED	pH	SP. COND.	TEMP OF D.O.	REDOX	TURBIDITY
	<u>4/25/01</u>	<u>02</u>					
	<u>0802</u>	<u>2</u>	<u>7.19</u>	<u>3.14 (x1000)</u>	<u>68.6</u>		<u>Clear</u>
	<u>0804</u>	<u>4</u>	<u>7.30</u>	<u>2.87 (x1000)</u>	<u>67.2</u>		<u>Clear</u>
	<u>0806</u>	<u>6</u>	<u>7.32</u>	<u>2.91 (x1000)</u>	<u>67.3</u>		<u>Cloudy</u>
	<u>0808</u>	<u>8</u>	<u>7.33</u>	<u>2.91 (x1000)</u>	<u>67.3</u>		<u>Slightly Cloudy</u>
	<u>0810</u>	<u>Sample Collected</u>					<u>Clear</u>
	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____

SAMPLE WITHDRAWAL METHOD: Inertial Lift

APPEARANCE OF SAMPLE COLOR: Clear

TURBIDITY: Low

SEDIMENT: \_\_\_\_\_

OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 40mL VOA5 + 3 40ml VOA5

SAMPLE IDENTIFICATION NUMBER(S): PZØØ26WØ25Ø1 / PZØØ26WØ2ØØ1

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Clear Sample

SAMPLED BY: E. Cathcart

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF016  
PC001

WELL NO.: PZ-002C LOCATION: CTL-III PROJECT NO: \_\_\_\_\_

DATE: 4/25/01 TIME: 0840 CLIMATIC CONDITIONS: 80+ Sunny

STATIC WATER LEVEL: 11.71 TOTAL DEPTH: 26.75

WELL PURGING: LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET  
 VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: Intermittent Lift PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. <small>µS/cm</small>	TEMP OF D.O.	REDOX	TURBIDITY
<u>4/25/01</u> <u>0850</u>	<u>8</u>	<u>7.19</u>	<u>1.84 (x1000)</u>	<u>69.0</u>		<u>High - Sulphur odor</u>
<u>0852</u>	<u>16</u>	<u>6.98</u>	<u>1.65 (x1000)</u>	<u>67.9</u>		<u>"</u>
<u>0854</u>	<u>24</u>	<u>6.94</u>	<u>1.65 (x1000)</u>	<u>67.6</u>		<u>"</u>
<u>0856</u>	<u>32</u>	<u>6.94</u>	<u>1.62 (x1000)</u>	<u>67.4</u>		<u>"</u>
<u>0900</u>	<u>Sample Collected</u>					

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: Dark Gray - Settled out Clear  
 TURBIDITY: High  
 SEDIMENT: Gray - Black Silt  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 40ml Vials

SAMPLE IDENTIFICATION NUMBER(S): PZ002GW03501 / PZ0026W03001  
 DECONTAMINATION PROCEDURES: QA Split

NOTES: Gray color - Settled out to clear

SAMPLED BY: E. Cathcart

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PFØ17

PZ-002D

WELL NO.: PTØ26Ø/PZ-002D LOCATION: CT2-11 PROJECT NO: \_\_\_\_\_

DATE: 4/25/01 TIME: 0915 CLIMATIC CONDITIONS: 90+ Sunny

STATIC WATER LEVEL: 11.70 (toc) TOTAL DEPTH: 36.58

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: Inertial Lift PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	<sup>03</sup> GALLONS REMOVED	pH	SP. COND. µS/cm	TEMP. OF D.O.	REDOX	TURBIDITY
<u>4/25/01</u> 0925	<u>8</u>	<u>6.84</u>	<u>1.93(x1000)</u>	<u>67.9</u>	_____	<u>High Dark Gray - Sulphur</u>
0930	<u>16</u>	<u>6.82</u>	<u>2.41(x1000)</u>	<u>68.2</u>	_____	<u>LT. Brown - Sulphur</u>
0932	<u>24</u>	<u>6.77</u>	<u>2.23(x1000)</u>	<u>68.4</u>	_____	<u>LOW - LT. Brown</u>
0934	<u>32</u>	<u>6.74</u>	<u>2.02(x1000)</u>	<u>68.2</u>	_____	<u>mod - "</u>
0935	<u>40</u>	<u>6.75</u>	<u>1.88(x1000)</u>	<u>68.2</u>	_____	<u>LOW - Cloudy</u>
0937	<u>48</u>	<u>6.73</u>	<u>1.84(x1000)</u>	<u>68.1</u>	_____	<u>LOW - Cloudy</u>
0940	<u>56</u>	<u>6.74</u>	<u>1.80(x1000)</u>	<u>68.1</u>	_____	<u>LOW - Cloudy</u>
0941	<u>Sample Collected</u>	_____	_____	_____	_____	_____

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: Cloudy  
 TURBIDITY: LOW  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 40ml VOLS

SAMPLE IDENTIFICATION NUMBER(S): PZØØ26WØ4SØ1  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: turbidity cleared during purging

SAMPLED BY: \_\_\_\_\_

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PFØ18

WELL NO.: PZ-002E LOCATION: CTL-III PROJECT NO: \_\_\_\_\_

DATE: 4/25/01 TIME: 1000 CLIMATIC CONDITIONS: 90+ Sunny

STATIC WATER LEVEL: 11.69 TOTAL DEPTH: 51.51

WELL PURGING: LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: Inertial Lift PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. <small>µS/cm</small>	OF D.O.	REDOX	TURBIDITY
<u>4/25/01</u>						
<u>1016</u>	<u>8</u>	<u>7.02</u>	<u>1.53(X1000)</u>	<u>68.4</u>		<u>High-H<sub>2</sub>S odor</u>
<u>1015</u>	<u>16</u>	<u>6.92</u>	<u>1.65(X1000)</u>	<u>68.8</u>		<u>Drk brn-H<sub>2</sub>S odor</u>
<u>1017</u>	<u>24</u>	<u>6.87</u>	<u>1.66(X1000)</u>	<u>69.1</u>		<u>mod-Lt. brwn</u>
<u>1020</u>	<u>32</u>	<u>6.98</u>	<u>1.65(X1000)</u>	<u>69.1</u>		<u>" "</u>
<u>1023</u>	<u>40</u>	<u>7.10</u>	<u>1.73(X1000)</u>	<u>69.9</u>		<u>" "</u>
<u>1025</u>	<u>48</u>	<u>7.11</u>	<u>1.73(X1000)</u>	<u>69.6</u>		<u>Low-Cloudy</u>
<u>1027</u>	<u>56</u>	<u>7.12</u>	<u>1.74(X1000)</u>	<u>69.8</u>		<u>clear</u>
<u>1030</u>	<u>Sample Collected</u>					

SAMPLE WITHDRAWAL METHOD: Inertial Lift

APPEARANCE OF SAMPLE COLOR: Clear - Slightly Cloudy  
 TURBIDITY: LOW  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 / HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 VOLS

SAMPLE IDENTIFICATION NUMBER(S): PZØØ26WØ55Ø1

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: \_\_\_\_\_

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PFØ19

PZ-002F

WELL NO.: P+26F/PZ-002F LOCATION: CTL-III PROJECT NO: \_\_\_\_\_

DATE: 4/25/01 TIME: 1050 CLIMATIC CONDITIONS: 90+ Sunny

STATIC WATER LEVEL: 11.71 TOTAL DEPTH: 64.70

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: Fracture Lift PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. <small>µS/cm</small>	ORP	REDOX	TURBIDITY
<u>4/25/01</u>	<u>02</u>					
<u>1103</u>	<u>8</u>	<u>7.99</u>	<u>1.31(x1000)</u>	<u>70.3</u>		<u>Cloudy</u>
<u>1107</u>	<u>16</u>	<u>6.93</u>	<u>1.24(x1000)</u>	<u>70.1</u>		<u>reddish Brown - H<sub>2</sub>S odor</u>
<u>1110</u>	<u>24</u>	<u>7.00</u>	<u>1.24(x1000)</u>	<u>69.7</u>		<u>mod - "</u>
<u>1113</u>	<u>32</u>	<u>6.88</u>	<u>1.14(x1000)</u>	<u>69.6</u>		<u>low - cloudy</u>
<u>1115</u>	<u>40</u>	<u>6.88</u>	<u>1.15(x1000)</u>	<u>69.4</u>		<u>"</u>
<u>1117</u>	<u>48</u>	<u>6.90</u>	<u>1.19(x1000)</u>	<u>69.4</u>		<u>"</u>
<u>1120</u>	<u>Sample Collected</u>					

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: Cloudy  
 TURBIDITY: Low  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 40 ml VOPS

SAMPLE IDENTIFICATION NUMBER(S): PZØØ26WØ65Ø1  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: \_\_\_\_\_

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF020

PZ-002G

WELL NO.: P+266/PZ002G LOCATION: CTL III PROJECT NO: \_\_\_\_\_

DATE: 4/25/01 TIME: 1345 CLIMATIC CONDITIONS: 90+ Sunny

STATIC WATER LEVEL: 11.70 TOTAL DEPTH: 69.36 (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: Inertial Lift PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:		02					
DATE/TIME	GALLONS REMOVED		pH	SP. COND. $\mu\text{S}/\text{cm}$	OF D.O.	REDOX	TURBIDITY
<u>4/25/01</u>	<u>1352</u>	<u>8</u>	<u>6.77</u>	<u>1.33(x1000)</u>	<u>76.4</u>		<u>Clear</u>
	<u>1355</u>	<u>16</u>	<u>7.05</u>	<u>1.11(x1000)</u>	<u>74.1</u>		<u>Clear Cloudy</u>
	<u>1357</u>	<u>24</u>	<u>6.88</u>	<u>1.08(x1000)</u>	<u>75.1</u>	<u>Some black fibres</u>	<u>Cloudy-Lt brn</u>
	<u>1400</u>	<u>32</u>	<u>6.84</u>	<u>1.06(x1000)</u>	<u>71.9</u>	<u>"</u>	<u>Cloudy-Hg Sodor</u>
	<u>1402</u>	<u>40</u>	<u>6.85</u>	<u>1.04(x1000)</u>	<u>71.4</u>	<u>"</u>	<u>" - Lt brn</u>
	<u>1405</u>	<u>Sample Collected</u>					

SAMPLE WITHDRAWAL METHOD: \_\_\_\_\_  
APPEARANCE OF SAMPLE COLOR: \_\_\_\_\_  
TURBIDITY: Cloudy  
SEDIMENT: \_\_\_\_\_  
OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 40ml Vials

SAMPLE IDENTIFICATION NUMBER(S): PZ0026W07501  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Cloudy & Lt brown w/ some black fibres

SAMPLED BY: E. Capriart

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF121

WELL NO.: P2-005 PT102, P2005 LOCATION: SHEA PROJECT NO: \_\_\_\_\_

DATE: 5/25/01 TIME: 0713 CLIMATIC CONDITIONS: cloudy

STATIC WATER LEVEL: 11.34 (TOC) TOTAL DEPTH: 23.50

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

15-25 screen  
-46 stick  
14.54-24.54-screen(TOC)  
set pump @ 19.50

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_ PUMPING RATE: 60 ml/min

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
5/25/01 0705	1500 ml	6.80	0.798	3.07	18.8°	clear
0810	1680 ml	6.81	0.826	3.40	18.7°	clear
0815	1860 ml	6.82	0.847	3.26	18.7°	clear
0820	2040 ml	6.82	0.856	3.18	18.6°	clear
0825	2220 ml	6.82	0.869	3.04	18.5°	clear
0830	2400 ml	6.82	0.875	3.04	18.5°	clear
0835	start sampling					
0930	end sampling					

SAMPLE WITHDRAWAL METHOD: micro purge

APPEARANCE OF SAMPLE

COLOR clear

TURBIDITY clear

SEDIMENT —

OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: vials w/HCl for VOC, 1 liter amber w/H<sub>2</sub>SO<sub>4</sub> for TPH, 1 liter plastic w/HNO<sub>3</sub> for Gross Alpha + Beta

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3x1 vials for VOC's, 1x1 amber for TPH  
1x1 liter plastic for Gross Alpha + Beta

SAMPLE IDENTIFICATION NUMBER(S) P2005GW01501

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF001

WELL NO.: PT65A/PZ006A LOCATION: ECL PROJECT NO: \_\_\_\_\_

DATE: 4/23/01 TIME: 0810 CLIMATIC CONDITIONS: Sunny 70°

STATIC WATER LEVEL: \_\_\_\_\_ TOTAL DEPTH: 5.60(toc)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: Inertial Lift PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND.	TEMP OF D.O.	REDOX	TURBIDITY
<u>04/23/01 0840</u>	<u>2</u>	<u>7.01</u>	<u>4.51(x1000)</u>	<u>65.9</u>	_____	<u>Clear</u>
<u>0845</u>	<u>4</u>	<u>7.03</u>	<u>4.70(x1000)</u>	<u>66.0</u>	_____	<u>Clear</u>
<u>0850</u>	<u>6</u>	<u>7.01</u>	<u>4.61(x1000)</u>	<u>66.0</u>	_____	<u>Clear</u>
<u>0851</u>	<u>- 8</u>	<u>Sample Collected</u>	_____	_____	_____	_____
_____	<u>DTW: 5.60(toc)</u>	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

SAMPLE WITHDRAWAL METHOD: Inertial Lift

APPEARANCE OF SAMPLE COLOR: Clear  
 TURBIDITY: Clear  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 82606 / HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 VOAS

SAMPLE IDENTIFICATION NUMBER(S) PZ65A PZ006GW01S01  
 DECONTAMINATION PROCEDURES: PZ006GW01S01

NOTES: \_\_\_\_\_

SAMPLED BY: E. Cathart

SAMPLES DELIVERED TO: CEMIC TRANSPORTERS: \_\_\_\_\_

DATE: 4/23/01 TIME: 0850

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF002

WELL NO.: PT6SC/PZ0066 LOCATION: ELL PROJECT NO: \_\_\_\_\_

DATE: 4/23/01 TIME: 0945 CLIMATIC CONDITIONS: Sunny 70°

STATIC WATER LEVEL: 5.25 (tac) TOTAL DEPTH: 17.67 (tac)

WELL PURGING: LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

WELL PURGE DATA:		METHOD OF REMOVAL:	PUMPING RATE:				
DATE/TIME	GALLONS REMOVED	Inertial Lift	SP. COND. <small>µS/cm</small>	OF D.O.	REDOX	TURBIDITY	
<u>4/23/01</u>	<u>0945/955</u>	<u>0Z</u>	<u>8</u>	<u>7.66</u>	<u>2.22(x1000)</u>	<u>64.6</u>	<u>Clear</u>
	<u>1002</u>		<u>12</u>	<u>7.72</u>	<u>2.02(x1000)</u>	<u>67.6</u>	<u>Clear</u>
	<u>1006</u>		<u>16</u>	<u>7.42</u>	<u>2.12(x1000)</u>	<u>67.9</u>	<u>Clear</u>
	<u>1015</u>	<u>Sample Collected</u>					

SAMPLE WITHDRAWAL METHOD: Inertial Lift

APPEARANCE OF SAMPLE      COLOR \_\_\_\_\_

   TURBIDITY \_\_\_\_\_

   SEDIMENT \_\_\_\_\_

   OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: \_\_\_\_\_

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: \_\_\_\_\_

SAMPLE IDENTIFICATION NUMBER(S) PZ0066W03501

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: E. Cathcart

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF004

WELL NO.: P1065d/PZ-006D LOCATION: ELL PROJECT NO: \_\_\_\_\_

DATE: 4/23/01 TIME: 1050 CLIMATIC CONDITIONS: Sunny 70°

STATIC WATER LEVEL: 5.17 TOTAL DEPTH: 23.75

WELL PURGING: LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

WELL PURGE DATA:		METHOD OF REMOVAL:	PUMPING RATE:			
DATE/TIME	GALLONS REMOVED	pH	SP. COND.	OF D.O.	REDOX	TURBIDITY
4/23/01 1105	8	7.31	2.69(x1000)	75.2		CLEAR
1110	16	7.24	2.42(x1000)	73.1		CLEAR
1115	24	7.28	2.39(x1000)	72.6		CLEAR
1117	28	7.31	2.38(x1000)	73.4		CLEAR
1120	Sample Collected 3 VOLS					

SAMPLE WITHDRAWAL METHOD: \_\_\_\_\_

APPEARANCE OF SAMPLE      COLOR \_\_\_\_\_

   TURBIDITY \_\_\_\_\_

   SEDIMENT \_\_\_\_\_

   OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: \_\_\_\_\_

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: \_\_\_\_\_

SAMPLE IDENTIFICATION NUMBER(S)      PZ 0066W04501

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: \_\_\_\_\_

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF005

WELL NO.: PT065e/PZ-006E LOCATION: ECL PROJECT NO: \_\_\_\_\_

DATE: 4/23/01 TIME: 1240 CLIMATIC CONDITIONS: Sunny 80°

STATIC WATER LEVEL: 5.80 TOTAL DEPTH: 33.50

WELL PURGING: LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET  
 VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: Inertial Lift PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:		METHOD OF REMOVAL:		PUMPING RATE:			
DATE/TIME	GALLONS REMOVED	pH	SP. COND. <small>µS/cm</small>	9F B.O.	REDOX	TURBIDITY	
<u>4/23/01</u>	<u>8</u>	<u>6.89</u>	<u>4.84(x1000)</u>	<u>82.5</u>		<u>Clear</u>	
<u>1250</u>	<u>16</u>	<u>7.10</u>	<u>5.13(x1000)</u>	<u>77.0</u>		<u>cloudy</u>	
<u>1254</u>	<u>24</u>	<u>6.90</u>	<u>6.01(x1000)</u>	<u>75.8</u>		<u>cloudy</u>	
<u>1257</u>	<u>32</u>	<u>7.00</u>	<u>5.81(x1000)</u>	<u>74.7</u>		<u>cloudy</u>	
<u>1259</u>	<u>40</u>	<u>6.91</u>	<u>5.82(x1000)</u>	<u>74.8</u>		<u>cloudy</u>	
<u>1302</u>	<u>48</u>	<u>6.86</u>	<u>5.83(x1000)</u>	<u>74.8</u>		<u>cloudy</u>	
<u>1305</u>	<u>Sample Collected</u>						
<u>1307</u>							

SAMPLE WITHDRAWAL METHOD: Inertial Lift

APPEARANCE OF SAMPLE COLOR: cloudy

TURBIDITY: Low/cloudy

SEDIMENT: none

OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 / HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 VOA'S

SAMPLE IDENTIFICATION NUMBER(S) PZ 006GW05501

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: \_\_\_\_\_

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

GROUNDWATER SAMPLING LOG

PF047

WELL NO.: PZ-007D / PT-042D LOCATION: RD-09 area PROJECT NO: \_\_\_\_\_

DATE: 4-30-01 TIME: 1505 CLIMATIC CONDITIONS: 85°F SUNNY

STATIC WATER LEVEL: 22.77' (TWC) TOTAL DEPTH: 27.40' (TWC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mS/cm	TEMP. °F	REDOX	TURBIDITY
1513	16 oz.	6.17	0.97	67.1		Low
1517	24 oz.	6.20	0.98	66.8		Low
1520	32 oz.	6.00	0.96	66.2		Low

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: CLEAR  
TURBIDITY: Low  
SEDIMENT: \_\_\_\_\_  
OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: NOE-8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3X 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): PZ007GW04501 / PF047  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Samples Taken @ 1525

SAMPLED BY: EDMUND SAPAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

GROUNDWATER SAMPLING LOG

PF048

WELL NO.: PZ-007E / PT-042E LOCATION: RD-09 area PROJECT NO:

DATE: 4-30-01 TIME: 1553 CLIMATIC CONDITIONS: 80°F SUNNY

STATIC WATER LEVEL: 22.75 TOTAL DEPTH: 32.60 (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE:

WELL PURGE DATA:

Table with 7 columns: DATE/TIME, GALLONS REMOVED, pH, SP. COND. (mS/cm), TEMP. (°F), REDOX, TURBIDITY. Rows show data for times 1615, 1620, and 1623.

SAMPLE WITHDRAWAL METHOD:

INERTIAL LIFT

APPEARANCE OF SAMPLE

COLOR

cloudy

TURBIDITY

MODERATE

SEDIMENT

OTHER

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:

VOC-8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED:

3 X 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S)

PZ 0076W05S01 / PF-048

DECONTAMINATION PROCEDURES:

NOTES:

SAMPLES TAKEN @ 1628

SAMPLED BY:

E. STRAD

SAMPLES DELIVERED TO:

TRANSPORTERS:

DATE:

TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT) 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

GROUNDWATER SAMPLING LOG

PF 049

WELL NO.: P2-007F / PF-042F LOCATION: RD-09 area PROJECT NO:

DATE: 4-30-01 TIME: 1648 CLIMATIC CONDITIONS: 75°F SUNNY

STATIC WATER LEVEL: 22.48' TOTAL DEPTH: 38.90' (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE:

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	PH	SP. COND. mS/cm	TEMP. B.O. °F	REDOX	TURBIDITY
1651	8.02	PH 7.01	1.18	65.2		MODERATE
1700	12.02		1.26	66.0		MODERATE
1702	16.02		1.24	64.7		MOD

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: CLOUDY TURBIDITY: MODERATE SEDIMENT: OTHER:

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8200 w/ Hcl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 X 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): P2007 GW06S01 / PF 049

DECONTAMINATION PROCEDURES:

NOTES: Samples Taken @ 1707

SAMPLED BY: E. SRAD

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT) 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF050

WELL NO.: PZ-007 Gw / PT-042 G LOCATION: RD-09 area PROJECT NO: \_\_\_\_\_

DATE: 4-30-01 TIME: 1718 CLIMATIC CONDITIONS: 70 °F sunny

STATIC WATER LEVEL: 22.64' (TOC) TOTAL DEPTH: 47.62' (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:							
DATE/TIME	GALLONS REMOVED	pH	SP. COND. mS/cm	TEMP. B.O. °F	REDOX	TURBIDITY	
<u>1726</u>	<u>8 02.</u>	<u>probe</u>	<u>0.87</u>	<u>65.6</u>		<u>HIGH</u>	
<u>1728</u>	<u>12 02</u>	<u>not working</u>	<u>0.80</u>	<u>65.0</u>		<u>HIGH</u>	
<u>1730</u>	<u>16 02</u>		<u>0.82</u>	<u>66.1</u>		<u>HIGH</u>	

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: BROWN, SILTY

TURBIDITY: HIGH

SEDIMENT: SILT

OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/ Hel

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml vials

SAMPLE IDENTIFICATION NUMBER(S): PZ007GW07S01 / PF050

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Sample Taken @ 1735

SAMPLED BY: E. STRAD

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF 060

WELL NO.: PZ-008 B  
PT-016 B LOCATION: LEFT PROJECT NO: \_\_\_\_\_

DATE: 5-02-01 TIME: 0857 CLIMATIC CONDITIONS: 65°F SUNNY

STATIC WATER LEVEL: 19.70' (TOC) TOTAL DEPTH: 22.51' (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: (INERTIAL LIFT) PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. MS/cm	TEMP. OF	REDOX	TURBIDITY
<u>0907</u>	<u>4 GZ.</u>	<u>6.86</u>	<u>0.35</u>	<u>55.0</u>	_____	<u>LOW</u>
<u>0910</u>	<u>6 GZ.</u>	<u>6.96</u>	<u>0.36</u>	<u>55.7</u>	_____	<u>LOW</u>
<u>0912</u>	<u>8 GZ.</u>	<u>7.05</u>	<u>0.36</u>	<u>54.9</u>	_____	<u>LOW</u>
<u>WELL WENT DRY, WAITED FOR RECHARGE TO SAMPLE</u>						

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: CLEAR  
 TURBIDITY: LOW  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC - 8260 w/HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3X 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): PZ008 GW02 S01 / PF 060

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: 0913 - WELL WENT DRY, WAITED FOR RECHARGE TO GET SAMPLES, SAMPLES TAKEN @ 0940

SAMPLED BY: E. SAKAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

PF 061

# GROUNDWATER SAMPLING LOG

WELL NO.: PZ-008E  
PT-016E LOCATION: LETF PROJECT NO: \_\_\_\_\_

DATE: 5-02-01 TIME: 0952 CLIMATIC CONDITIONS: 65°F SUNNY

STATIC WATER LEVEL: 46.88' (TOC) TOTAL DEPTH: 49.65' (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

### WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. MS/cm	TEMP. OF	REDOX	TURBIDITY
<u>1024</u>	<u>TOTAL 6 OZ.</u>	<u>7.37</u>	<u>1.20</u>	<u>59.3</u>		<u>MODERATE</u>
	<u>WELL DRAID - UP</u>					

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: CLOUDY  
TURBIDITY: MODERATE  
SEDIMENT: \_\_\_\_\_  
OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 1 x 40-ml VIAL

SAMPLE IDENTIFICATION NUMBER(S) PZ008GW05S01 / PF 061  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: WELL WENT DRY, HISTORY SHOWS SLOW RECHARGE, ONLY 6 OZ. OF WATER PULLED FROM WELL, JUST ENOUGH FOR ONE ANALYSIS AND ONE 40-ML VOC VIAL.

SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG SO1 - PF035

DO1 - PF036

WELL NO.: P2-009C / PT-037C LOCATION: RDP9 area PROJECT NO: \_\_\_\_\_

DATE: 4-26-01 TIME: 1349 CLIMATIC CONDITIONS: 70°F SUNNY

STATIC WATER LEVEL: 15.53 TOTAL DEPTH: 20.60' (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X \_\_\_\_\_

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	PH	SP. COND. mS/cm	TEMP. D.O. °F	REDOX	TURBIDITY
<u>1357</u>	<u>8 02</u>	<u>7.35</u>	<u>1.36</u>	<u>60.9</u>	_____	<u>LOW</u>
<u>1359</u>	<u>16 02</u>	<u>7.27</u>	<u>1.40</u>	<u>59.5</u>	_____	<u>LOW</u>
<u>1403</u>	<u>24 02</u>	<u>7.28</u>	<u>1.37</u>	<u>59.0</u>	_____	<u>LOW</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: CLEAR  
 TURBIDITY: LOW  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/ Hcl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIAL

SAMPLE IDENTIFICATION NUMBER(S) P2009GW03S01 / PF035  
~~DECONTAMINATION PROCEDURES:~~ P2009GW03D01 / PF036

NOTES: P2009GW03S01 taken @ 1415 , P2009GW03D01 duplicate taken @ 1419

SAMPLED BY: E. STRAD

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

501 - PF037

DOI - PC-002

WELL NO.: PZ-009D  
PT-037D LOCATION: RD-09 area PROJECT NO: \_\_\_\_\_

DATE: 4-26-01 TIME: 1442 CLIMATIC CONDITIONS: 70°F SUNNY

STATIC WATER LEVEL: 15.56' (100) TOTAL DEPTH: 25.06' (100)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_ INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

### WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mS/cm	TEMP. D.O. °F	REDOX	TURBIDITY
<u>1447</u>	<u>4.02</u>	<u>7.23</u>	<u>1.15</u>	<u>60.9</u>	_____	<u>Low</u>
<u>1449</u>	<u>8.02</u>	<u>7.30</u>	<u>1.14</u>	<u>60.4</u>	_____	<u>Low</u>
<u>1451</u>	<u>12.02</u>	<u>7.25</u>	<u>1.15</u>	<u>60.3</u>	_____	<u>Low</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

### SAMPLE WITHDRAWAL METHOD:

APPEARANCE OF SAMPLE \_\_\_\_\_ COLOR \_\_\_\_\_ INERTIAL LIFT  
TURBIDITY \_\_\_\_\_ CLEAR  
SEDIMENT \_\_\_\_\_ LOW  
OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: NOE-8260 w/Heel

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S) PZ009GW04S01 / PF037

DECONTAMINATION PROCEDURES: ENG PZ009GW04D01 / PC002

NOTES: WELL WENT DRY, BUT HAD ENOUGH PULLED FOR SAMPLES  
PZ009GW04S01 taken @ 1457, PZ009GW04D01 for QA split taken @ 1503

SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

GROUNDWATER SAMPLING LOG

PF038

WELL NO.: PZ-009E / DT-037E LOCATION: RD-09 area PROJECT NO:

DATE: 4-26-01 TIME: 1540 CLIMATIC CONDITIONS: 70°F SUNNY

STATIC WATER LEVEL: 15.67' TOTAL DEPTH: 32.40' (FOU)

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE:

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mS/cm	TEMP. D.O. °F	REDOX	TURBIDITY
1547	4 oz.	7.23	1.43	61.0		MODERATE
1549	8 oz.	7.37	1.46	60.9		MODERATE
1552	12 oz.	7.37	1.44	60.5		MODERATE

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT
APPEARANCE OF SAMPLE COLOR: CLOUDY
TURBIDITY: MODERATE
SEDIMENT:
OTHER:

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): PZ009GW05S01 / PF038
DECONTAMINATION PROCEDURES:

NOTES: Samples Taken @ 1557

SAMPLED BY: E. SAPAO

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT)
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

GROUNDWATER SAMPLING LOG

PF039

WELL NO.: PZ-009F / PT-D37F LOCATION: RD-09 area PROJECT NO: \_\_\_\_\_

DATE: 4-26-01 TIME: 1610 CLIMATIC CONDITIONS: 70°F SUNNY

STATIC WATER LEVEL: 15.0' (TOC) TOTAL DEPTH: 36.67' (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET  
VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mS/cm	TEMP. D.O. °F	REDOX	TURBIDITY
1617	4 oz.	7.24	1.60	61.4		LOW
1619	8 oz.	7.38	1.57	61.3		MODERATE
1621	12 oz.	7.35	1.56	61.0		MODERATE

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT  
APPEARANCE OF SAMPLE COLOR: CLOUDY  
TURBIDITY: MODERATE  
SEDIMENT: \_\_\_\_\_  
OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/ HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 X 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): PZ009GW06S01 / PF039  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Samples taken @ 1627

SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF010

WELL NO.: PZ-010 D / PT-039D LOCATION: RD-09 area PROJECT NO: \_\_\_\_\_

DATE: 4-25-01 TIME: 0837 CLIMATIC CONDITIONS: 70°F SUNNY

STATIC WATER LEVEL: 19.37' (TOC) TOTAL DEPTH: 25.17' (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. <small>mS/cm</small>	TEMP <small>°F</small>	REDOX	TURBIDITY
<u>0852</u>	<u>2.02</u>	<u>6.67</u>	<u>1.04</u>	<u>63.8</u>	_____	<u>LOW</u>
<u>0855</u>	<u>4.02</u>	<u>7.14</u>	<u>1.06</u>	<u>63.5</u>	_____	<u>LOW</u>
<u>0857</u>	<u>6.02</u>	<u>7.43</u>	<u>1.06</u>	<u>63.0</u>	_____	<u>LOW</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: CLEAR  
TURBIDITY: LOW  
SEDIMENT: SETTLABLE SILT  
OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOA (8260) w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS (GLASS)

SAMPLE IDENTIFICATION NUMBER(S): PZ010GW04S01 / PF010  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: SAMPLES TAKEN @ 0900

SAMPLED BY: EDMUND SARNO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

GROUNDWATER SAMPLING LOG

PF 11

WELL NO.: P2-D10 E1 / PT-039 E LOCATION: RD-09 area PROJECT NO:

DATE: 4-25-01 TIME: 0925 CLIMATIC CONDITIONS: 75°F SUNNY

STATIC WATER LEVEL: 19.46' (TWC) TOTAL DEPTH: 29.07' (TWC)

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE:

WELL PURGE DATA:

Table with 7 columns: DATE/TIME, GALLONS REMOVED, pH, SP. COND., TEMP. OF, REDOX, TURBIDITY. Rows show data for times 0932, 0935, and 0937.

SAMPLE WITHDRAWAL METHOD:

APPEARANCE OF SAMPLE COLOR: CLEAR, TURBIDITY: LOW, SEDIMENT: SETTLEABLE-SILT, OTHER:

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOA-8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS (GLASS)

SAMPLE IDENTIFICATION NUMBER(S) DECONTAMINATION PROCEDURES: P2 010 GW 05501 / PF 11

NOTES: SAMPLES TAKEN @ 0941

SAMPLED BY: E. SRAO

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT) 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF012

WELL NO.: PZ-010 F / PT-039 F LOCATION: RD-09 area PROJECT NO: \_\_\_\_\_

DATE: 4-25-01 TIME: 1000 CLIMATIC CONDITIONS: 75°F SUNNY

STATIC WATER LEVEL: 20.02' (TOC) TOTAL DEPTH: TD = 37.51' (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X \_\_\_\_\_

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

### WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. <small>µS/cm</small>	TEMP. <small>Deg. OF</small>	REDOX	TURBIDITY
<u>1026</u>	<u>8 02</u>	<u>7.28</u>	<u>1.29</u>	<u>65.4</u>		<u>LOW</u>
<u>1029</u>	<u>16 02</u>	<u>7.15</u>	<u>1.27</u>	<u>64.7</u>		<u>LOW</u>
<u>1032</u>	<u>24 02</u>	<u>7.11</u>	<u>1.28</u>	<u>69.7</u>		<u>LOW</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: CLEAR

TURBIDITY: LOW

SEDIMENT: SETTLABLE SILT

OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOA-8260 N/HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS (GLASS)

SAMPLE IDENTIFICATION NUMBER(S) PZ010GN06S01 / PF012  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: SAMPLES TAKEN @ 1037

SAMPLED BY: EDMUND SKAD

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

GROUNDWATER SAMPLING LOG

PF013

WELL NO.: PZ-010 G / PT-039 G LOCATION: RD-09 area PROJECT NO: \_\_\_\_\_

DATE: 4-25-01 TIME: 1055 CLIMATIC CONDITIONS: 75°F SUNNY

STATIC WATER LEVEL: 20.11 TOTAL DEPTH: 41.34' (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	TEMP. °F	REDOX	TURBIDITY
1108	4.02	7.20	1.71	67.0		LOW } SLIGHT
1110	8.02	7.32	1.75	66.1		LOW } CLOUD
1113	12.02	7.34	1.74	65.6		LOW }

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: SLIGHTLY CLOUDY  
TURBIDITY: LOW  
SEDIMENT: SETTLEABLE SILT  
OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOA-8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS (GLASS)

SAMPLE IDENTIFICATION NUMBER(S): PZ010GW07S01 / PF013  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: SAMPLES TAKEN @ 1117

SAMPLED BY: E. SAKAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

PF055

# GROUNDWATER SAMPLING LOG

WELL NO.: PZ-012B  
PF 020B LOCATION: Area I Rd PROJECT NO: \_\_\_\_\_

DATE: 5-01-01 TIME: 1257 CLIMATIC CONDITIONS: 75 °F Sunny

STATIC WATER LEVEL: 9.35' (TOC) TOTAL DEPTH: 13.61' TOC

WELL PURGING: LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

### WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mS/cm	TEMP. D.D. OF	REDOX	TURBIDITY
<u>1313</u>	<u>2.02</u>	<u>6.98</u>	<u>1.07</u>	<u>69.2</u>		<u>LOW</u>
<u>1315</u>	<u>4.02</u>	<u>7.01</u>	<u>0.99</u>	<u>67.3</u>		<u>LOW</u>
<u>1317</u>	<u>6.02</u>	<u>7.01</u>	<u>0.99</u>	<u>66.7</u>		<u>LOW</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: CLEAR  
TURBIDITY: LOW  
SEDIMENT: \_\_\_\_\_  
OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): PZ012GWD2S01 / PF055  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Samples Taken @ 1322, PURGED SMALL VOLUMES SINCE WELL YIELDS LOW;

SAMPLED BY: E. Skrad

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

**APPENDIX E - GROUNDWATER SAMPLING LOGS**

GROUNDWATER SAMPLING LOG

PF056

WELL NO.: PZ-012C / PT-020C LOCATION: Alien I Rd PROJECT NO:

DATE: 5-01-01 TIME: 1335 CLIMATIC CONDITIONS: 75 OF SUNNY

STATIC WATER LEVEL: 10.19' (TOC) TOTAL DEPTH: 19.62' (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE:

WELL PURGE DATA:

Table with 7 columns: DATE/TIME, GALLONS REMOVED, pH, SP. COND. mS/cm, TEMP. OF, REDOX, TURBIDITY. Rows show data for times 1354, 1357, and 1400.

SAMPLE WITHDRAWAL METHOD:

APPEARANCE OF SAMPLE COLOR SLIGHTLY CLOUDY TURBIDITY LOW SEDIMENT OTHER

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC- 8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S) PZ012GW23S01 / PF056 DECONTAMINATION PROCEDURES:

NOTES: Samples Taken @ 1408

SAMPLED BY: E. SRPAO

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT) 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

GROUNDWATER SAMPLING LOG

PF057

WELL NO.: PZ-012 D / PT-020 D LOCATION: Area I Rd PROJECT NO:

DATE: 5-07-01 TIME: 1420 CLIMATIC CONDITIONS: 75 F SUNNY

STATIC WATER LEVEL: 10.69' (TOC) TOTAL DEPTH: 24.12' (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE:

WELL PURGE DATA:

Table with columns: DATE/TIME, GALLONS REMOVED, pH, SP. COND. MS/cm, TEMP. OF, REDOX, TURBIDITY. Includes handwritten data for three purge events.

SAMPLE WITHDRAWAL METHOD:

APPEARANCE OF SAMPLE COLOR: OLIVE GREY TURBIDITY: HIGH SEDIMENT: OTHER:

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC- 8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): PZ012 GW04S01 / ~~PF057~~ EMS PF057

DECONTAMINATION PROCEDURES:

NOTES: 15B - CANNOT GET A SAMPLE WITHOUT BUBBLE, MATERIAL HAS LOW SURFACE TENSION AND DOES NOT BEAD WHEN FILLING VIALS TO THE BRIM. 1650 - USED NEW LINE AND VALVE SET. PURGE 40Z. SAMPLES TAKEN @ 1705

SAMPLED BY: E. SKRNO

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT) 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

GROUNDWATER SAMPLING LOG

PF058

WELL NO.: PZ-012 E PT-020 E LOCATION: Area I Rd PROJECT NO:

DATE: 5-01-01 TIME: 1518 CLIMATIC CONDITIONS: 70°F SUNNY

STATIC WATER LEVEL: 10.35 (TOC) TOTAL DEPTH: 29.42 (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE:

WELL PURGE DATA:

Table with 7 columns: DATE/TIME, GALLONS REMOVED, pH, SP. COND. MS/cm, TEMP. OF, REDOX, TURBIDITY. Includes handwritten data for three samples.

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT APPEARANCE OF SAMPLE: COLOR OLIVE GREY, TURBIDITY HIGH, SEDIMENT, OTHER

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S) PZ012 GW05S01 / PF058 DECONTAMINATION PROCEDURES:

NOTES: Sample taken @ 1545

SAMPLED BY: E. SKRAD

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT) 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

GROUNDWATER SAMPLING LOG

PF059

WELL NO.: P2-012F / PT-020F LOCATION: Area I Rd PROJECT NO:

DATE: 5-01-01 TIME: 1558 CLIMATIC CONDITIONS: 70°F SUNNY

STATIC WATER LEVEL: 11.77' (TOC) TOTAL DEPTH: 37.57' (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE:

WELL PURGE DATA:

Table with 7 columns: DATE/TIME, GALLONS REMOVED, pH, SP. COND. mS/cm, TEMP. OF, REDOX, TURBIDITY. Rows contain data for times 1611, 1613, and 1616.

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: OLIVE GREY TURBIDITY: HIGH SEDIMENT: OTHER:

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): P2 012 EW 06 S01 / PF 059

DECONTAMINATION PROCEDURES:

NOTES: Sample Taken @ 1625

SAMPLED BY: E. SKRAD

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT) 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PFØ4Ø

WELL NO.: PZ-013C1 LOCATION: Camp A PROJECT NO: \_\_\_\_\_  
ØTØ77C

DATE: 4/26/01 TIME: Ø730 CLIMATIC CONDITIONS: 70° Sunny

STATIC WATER LEVEL: 16.30 (roc) TOTAL DEPTH: 20.82 (tot)

WELL PURGING: LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET  
 VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

WELL PURGE DATA:		METHOD OF REMOVAL:	PUMPING RATE:			
DATE/TIME	GALLONS REMOVED	<u>Inertial Lift</u>	SP. COND. <small>µs/cm</small>	OF B.O.	REDOX	TURBIDITY
<u>4/26/01</u>	<u>02</u>					
<u>0745</u>	<u>2</u>		<u>2.74 (x1000)</u>	<u>Ø.5</u>		<u>cloudy</u>
<u>0747</u>	<u>DTM=18.00</u>					
<u>0750</u>	<u>Sample Collected</u>					
	<u>only enough sample for 2 VOAS</u>					

SAMPLE WITHDRAWAL METHOD:  
 APPEARANCE OF SAMPLE      COLOR      Cloudy  
    TURBIDITY      Low  
    SEDIMENT  
    OTHER

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 2 40ml VOAS

SAMPLE IDENTIFICATION NUMBER(S)      PZ-Ø13GWØ3SØ1  
 DECONTAMINATION PROCEDURES:

NOTES: Not enough liquid for 3 VOAS - well dry after 2 VOAS + 2 Ø2 purge

SAMPLED BY: E. Cathcart

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF041

WELL NO.: PZ-013-D/PT77d LOCATION: Comp A PROJECT NO: \_\_\_\_\_

DATE: 4/26/01 TIME: 0810 CLIMATIC CONDITIONS: 70+ Sunny

STATIC WATER LEVEL: 16.65 TOTAL DEPTH: 26.81

WELL PURGING: LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: Inertial Lift PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP COND. <small>NS/cm</small>	OF D.O.	REDOX	TURBIDITY
<u>4/26/01</u> 0814	<u>02</u> 2	<u>7.66</u>	<u>1.55(x1000)</u>	<u>61.6</u>		<u>Clear</u>
0816	<u>4</u>	<u>7.35</u>	<u>1.48(x1000)</u>	<u>63.3</u>		<u>Clear</u>
0818	<u>6</u>	<u>7.30</u>	<u>1.52(x1000)</u>	<u>64.4</u>		<u>Clear</u>
0820	<u>8</u>	<u>7.35</u>	<u>1.48(x1000)</u>	<u>64.9</u>		<u>Clear</u>
0822	<u>Sample Collected</u>					

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: Clear  
 TURBIDITY: Low  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260/HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: \_\_\_\_\_

SAMPLE IDENTIFICATION NUMBER(S) PZ 0136W 04501  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: E. Cathcart

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF042

WELL NO.: PZ-013E/PT 77e LOCATION: Comp A PROJECT NO: \_\_\_\_\_

DATE: 4/26/01 TIME: 0845 CLIMATIC CONDITIONS: Sunny 75+

STATIC WATER LEVEL: 18.65 (toc) TOTAL DEPTH: 39.70

WELL PURGING: LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET  
 VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X  
 LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: Inertial Lift PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:		GALLONS REMOVED	pH	SP. COND. $\mu S/cm$	OF D.O.	REDOX	TURBIDITY
<u>4/26/01</u>	<u>0847</u>	<u>8</u>	<u>7.31</u>	<u>1.68(x1000)</u>	<u>62.9</u>		<u>cloudy</u>
	<u>0852</u>	<u>16</u>	<u>7.36</u>	<u>1.63(x1000)</u>	<u>65.3</u>		<u>clear</u>
	<u>0854</u>	<u>24</u>	<u>7.72</u>	<u>1.82(x1000)</u>	<u>65.2</u>		<u>clear</u>
	<u>0856</u>	<u>28</u>	<u>7.46</u>	<u>1.86(x1000)</u>	<u>66.1</u>		<u>clear</u>
	<u>0858</u>	<u>32</u>	<u>7.52</u>	<u>1.82(x1000)</u>	<u>66.2</u>		<u>clear</u>
	<u>0900</u>	<u>36</u>	<u>7.46</u>	<u>1.88(x1000)</u>	<u>66.4</u>		<u>clear</u>
	<u>0905</u>	<u>Sample collected</u>					

SAMPLE WITHDRAWAL METHOD:  
 APPEARANCE OF SAMPLE COLOR: clear  
 TURBIDITY: low  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 40ml Vials

SAMPLE IDENTIFICATION NUMBER(S): PZ 013GW 05501  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: clear - low turbidity

SAMPLED BY: E. COCHRAN

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF 43

WELL NO.: PZ-013F  
PT 77F LOCATION: Comp A PROJECT NO: \_\_\_\_\_

DATE: 4/26/01 TIME: 0925 CLIMATIC CONDITIONS: Sunny 75+

STATIC WATER LEVEL: 18.85 (loc) TOTAL DEPTH: 53.49 (loc)

WELL PURGING: LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: Inertial Lift PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:		METHOD OF REMOVAL:		PUMPING RATE:		
DATE/TIME	GALLONS REMOVED	pH	SP. COND. NS/cm	OF D.O.	REDOX	TURBIDITY
<u>4/26/01</u>	<u>0935</u>	<u>8</u>	<u>6.80</u>	<u>3.59(X1000)</u>	<u>72.8</u>	<u>High - drk Gray</u>
	<u>0938</u>	<u>16</u>	<u>6.79</u>	<u>3.62(X1000)</u>	<u>72.9</u>	<u>"</u>
	<u>0942</u>	<u>24</u>	<u>6.80</u>	<u>3.63(X1000)</u>	<u>72.8</u>	<u>"</u>
	<u>0950</u>	<u>Sample Collection</u>				

SAMPLE WITHDRAWAL METHOD: \_\_\_\_\_  
 APPEARANCE OF SAMPLE COLOR: Dark Gray  
 TURBIDITY: High  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 40mL Vials

SAMPLE IDENTIFICATION NUMBER(S): PZ-013GW06501  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Very "FOAMY" - extremely difficult getting zero head-space

SAMPLED BY: C. CATHART

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF044

WELL NO.: PZ-014C / PTO81C LOCATION: Camp A PROJECT NO: \_\_\_\_\_

DATE: 4/26/01 TIME: 1325 CLIMATIC CONDITIONS: Sunny 80+

STATIC WATER LEVEL: 15.00 TOTAL DEPTH: 19.84

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X \_\_\_\_\_

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: Inertial Lift PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:		<sup>02</sup> GALLONS REMOVED	pH	SP. COND.	<sup>OF</sup> D.O.	REDOX	TURBIDITY
<u>4/26/01</u>	<u>1330</u>	<u>2</u>	<u>7.01</u>	<u>1.02(x100)</u>	<u>74.0</u>		<u>Clear</u>
	<u>1333</u>	<u>4</u>	<u>7.37</u>	<u>8.98(x100)</u>	<u>72.8</u>		<u>Clear</u>
	<u>1335</u>	<u>6</u>	<u>7.41</u>	<u>8.75(x100)</u>	<u>72.1</u>		<u>Clear</u>
	<u>1337</u>	<u>8</u>	<u>7.45</u>	<u>8.69(x100)</u>	<u>71.1</u>		<u>Clear</u>
	<u>1338</u>	<u>9</u>	<u>7.45</u>	<u>8.68(x100)</u>	<u>71.4</u>		<u>Clear</u>
	<u>1340</u>	<u>Sample Collected</u>					

SAMPLE WITHDRAWAL METHOD: Inertial Lift

APPEARANCE OF SAMPLE COLOR: Clear

TURBIDITY: LOW

SEDIMENT: —

OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 / HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 40ml VOAS

SAMPLE IDENTIFICATION NUMBER(S): PZ014GW03501

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Clear

SAMPLED BY: E. Cathcart

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF045

WELL NO.: PZ-D14 D LOCATION: Comp A PROJECT NO: \_\_\_\_\_  
PT081d

DATE: 4/26/01 TIME: 1400 CLIMATIC CONDITIONS: 80+ Sunny

STATIC WATER LEVEL: 15.00 TOTAL DEPTH: 29.33

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_

Inertial Lift

PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	PH	SP. COND. <small>µS/cm</small>	OF D.O.	REDOX	TURBIDITY
<u>4/26/01</u> 1402	<u>02</u> 4	<u>7.95</u>	<u>2.52(x1000)</u>	<u>74.6</u>		<u>Clear</u>
1404	8	7.71	2.16(x1000)	72.3		Clear
1405	12	7.44	2.14(x1000)	71.3		Clear
1406	14	7.44	2.15(x1000)	70.5		Clear
1408	16	7.40	2.09(x1000)	70.2		Clear
1410	Sample Collected					

**SAMPLE WITHDRAWAL METHOD:**

Inertial Lift

APPEARANCE OF SAMPLE \_\_\_\_\_ COLOR Clear  
 TURBIDITY Low  
 SEDIMENT \_\_\_\_\_  
 OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260/HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 40ml VOLS

SAMPLE IDENTIFICATION NUMBER(S) PZ0146W04501  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Clear

SAMPLED BY: C. Cathcart

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF 046

WELL NO.: P2-014 E / P1081e LOCATION: Comp A PROJECT NO: \_\_\_\_\_

DATE: 4/26/01 TIME: 1430 CLIMATIC CONDITIONS: 80+ Sunny

STATIC WATER LEVEL: 15.15 TOTAL DEPTH: 38.83

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X \_\_\_\_\_

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: Inertial Lift PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. US/cm	OF D.O.	REDOX	TURBIDITY
<u>4/26/01</u>	<u>02</u>					
<u>1442</u>	<u>8</u>	<u>7.56</u>	<u>1.87(x1000)</u>	<u>74.5</u>		<u>clear</u>
<u>1444</u>	<u>16</u>	<u>7.38</u>	<u>1.81(x1000)</u>	<u>72.1</u>		<u>clear</u>
<u>1446</u>	<u>24</u>	<u>7.41</u>	<u>1.82(x1000)</u>	<u>71.4</u>		<u>clear</u>
<u>1448</u>	<u>32</u>	<u>7.42</u>	<u>1.81(x1000)</u>	<u>71.3</u>		<u>clear</u>
<u>1450</u>	<u>Sample Collected</u>					

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR clear  
 TURBIDITY low  
 SEDIMENT \_\_\_\_\_  
 OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260/HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 40ml vials

SAMPLE IDENTIFICATION NUMBER(S) P2014 GW 05501  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: clear - low turbidity

SAMPLED BY: E. Cathcart

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

GROUNDWATER SAMPLING LOG

PF 027

PZ-D15B/

WELL NO.: PT-084B LOCATION: STL-IV PROJECT NO:

DATE: 4-26-01 TIME: 0715 CLIMATIC CONDITIONS: 65°F SUNNY

STATIC WATER LEVEL: 9.73' (TOC) TOTAL DEPTH: 16.69' (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE:

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. ms/cm	TEMP D.O. °F	REDOX	TURBIDITY
0734	16 02	6.94	0.80	55.0		LOW/SLIGHTLY cloudy
0736	24 02	7.24	0.83	56.0		LOW
0739	32 02	7.26	0.83	56.8		LOW / CLEAR

SAMPLE WITHDRAWAL METHOD:

INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR CLEAR TURBIDITY LOW SEDIMENT OTHER

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC - 8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 X 40-ml VIALS (GLASS)

SAMPLE IDENTIFICATION NUMBER(S) DECONTAMINATION PROCEDURES: PZD15GW02S01 / PF027

NOTES: SAMPLES TAKEN @ 0743

SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT) 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

GROUNDWATER SAMPLING LOG

PF028

WELL NO.: PZ-015C / PT-084C LOCATION: STL-IV PROJECT NO:

DATE: 4-26-01 TIME: 0804 CLIMATIC CONDITIONS: 65°F SUNNY

STATIC WATER LEVEL: 9.13' TOTAL DEPTH: 27.23' (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE:

WELL PURGE DATA:

Table with columns: DATE/TIME, GALLONS REMOVED, pH, SP. COND. mS/cm, TEMP. D.O. °F, REDOX, TURBIDITY. Rows include data for 0812, 0814, and 0817.

SAMPLE WITHDRAWAL METHOD:

INERTIAL LIFT

APPEARANCE OF SAMPLE

COLOR, TURBIDITY, SEDIMENT, OTHER

CLEAR, LOW

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:

VOC-8260 w/ Hcl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED:

3 x 40-ml VIALS (GLASS)

SAMPLE IDENTIFICATION NUMBER(S)

PZ015GW03S01 / PF028

DECONTAMINATION PROCEDURES:

NOTES:

SAMPLES TAKEN @ 0820

SAMPLED BY:

E. SAKAO

SAMPLES DELIVERED TO:

TRANSPORTERS:

DATE:

TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT) 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF 029

WELL NO.: PZ-015 D  
PT-084 D LOCATION: 57K-IV PROJECT NO: \_\_\_\_\_

DATE: 4-26-01 TIME: 0840 CLIMATIC CONDITIONS: 65 °F SUNNY

STATIC WATER LEVEL: 9.79' (TOC) TOTAL DEPTH: 35.75' (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X \_\_\_\_\_

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

### WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mS/cm	TEMP. °F	REDOX	TURBIDITY
<u>0850</u>	<u>16 oz.</u>	<u>7.61</u>	<u>1.42</u>	<u>59.9</u>		<u>HIGH/CLOUDY</u>
<u>0853</u>	<u>24 oz</u>	<u>7.50</u>	<u>1.44</u>	<u>60.5</u>		<u>HIGH</u>
<u>0855</u>	<u>32 oz</u>	<u>7.54</u>	<u>1.44</u>	<u>60.6</u>		<u>MOD</u> <u>ems 4/26/01</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: CLOUDY  
TURBIDITY: HIGH MODERATE  
SEDIMENT: BROWN FLOC  
OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/ Hcl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml vials (GLASS)

SAMPLE IDENTIFICATION NUMBER(S): PZ 015 GW 04 S 01 / PF 029  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: SAMPLES TAKEN @ 0900

SAMPLED BY: E. SAPIA

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF030

WELL NO.: PZ-015E  
PT-084E LOCATION: STL-IV PROJECT NO: \_\_\_\_\_

DATE: 4-26-01 TIME: 0926 CLIMATIC CONDITIONS: 70°F SUNNY  
 STATIC WATER LEVEL: 10.42' TOTAL DEPTH: 40.75' (FOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET  
 VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_ PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mS/cm	TEMP D.O. OF	REDOX	TURBIDITY
0932	8 oz.	7.43	1.85	60.9		MODERATE / CLOUDY
0934	12 oz.	7.62	1.88	61.1		MODERATE
0937	16 oz.	7.64	1.86	61.2		MODERATE

SAMPLE WITHDRAWAL METHOD: \_\_\_\_\_ INERTIAL LIFT  
 APPEARANCE OF SAMPLE COLOR: CLOUDY  
 TURBIDITY: MODERATE  
 SEDIMENT: WHITE FLOC.  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3X 40-ml VIALS (GLASS)

SAMPLE IDENTIFICATION NUMBER(S): PZ015GW05S01 / PF030  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: SAMPLES TAKEN @ 0942

SAMPLED BY: E. SRAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

GROUNDWATER SAMPLING LOG

PF031

WELL NO.: PZ-015F / DT-084F LOCATION: SJL-IV PROJECT NO:

DATE: 4-26-01 TIME: 1001 CLIMATIC CONDITIONS: 70°F SUNNY

STATIC WATER LEVEL: 10.82' (TOC) TOTAL DEPTH: 46.23' (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE:

WELL PURGE DATA:

Table with 7 columns: DATE/TIME, GALLONS REMOVED, pH, SP. COND. mS/cm, TEMP. D.O. °F, REDOX, TURBIDITY. Includes handwritten entries for 1008, 1011, and 1014.

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: CLOUDY TURBIDITY: HIGH SEDIMENT: OTHER:

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIAL (GLASS)

SAMPLE IDENTIFICATION NUMBER(S): PZ015GW06S01 / PF031 DECONTAMINATION PROCEDURES:

NOTES: SAMPLES TAKEN @ 1024

SAMPLED BY: E. SRAO

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT) 2"-0.16" 4"-0.65" 6"-1.47" 8"-2.61" 10"-4.08" 12"-5.87

# GROUNDWATER SAMPLING LOG

PF 032

WELL NO.: PZ-D15 G / PF-084 G LOCATION: STL-III PROJECT NO: \_\_\_\_\_

DATE: 4-26-01 TIME: 1040 CLIMATIC CONDITIONS: 70°F SUNNY

STATIC WATER LEVEL: 10.83 <sup>4/26/01</sup> TOTAL DEPTH: 50.95' (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X \_\_\_\_\_

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

### WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. <small>ms/cm</small>	TEMP. <small>D.G.</small> <small>OF</small>	REDOX	TURBIDITY
<u>1050</u>	<u>8 02</u>	<u>7.32</u>	<u>1.28</u>	<u>64.0</u>		<u>LOW HIGH</u>
<u>1053</u>	<u>16 02</u>	<u>7.55</u>	<u>1.25</u>	<u>64.1</u>		<u>HIGH</u>
<u>1056</u>	<u>24 02</u>	<u>7.57</u>	<u>1.26</u>	<u>64.1</u>		<u>HIGH</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

### SAMPLE WITHDRAWAL METHOD:

APPEARANCE OF SAMPLE \_\_\_\_\_ COLOR CLOUDY  
TURBIDITY HIGH  
SEDIMENT \_\_\_\_\_  
OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 X 40-ml VIAL (GLASS)

SAMPLE IDENTIFICATION NUMBER(S) PZD15GW07501 / PF032  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: SAMPLE TAKEN @ 1108

SAMPLED BY: E. SAPIA

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF006

WELL NO.: PZ-016E  
PT-019E LOCATION: Canyon PROJECT NO: \_\_\_\_\_

DATE: 4-23-01 TIME: 12:55 CLIMATIC CONDITIONS: 80°F SUNNY

STATIC WATER LEVEL: 38.01' (foc) TOTAL DEPTH: 47.14' (foc)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X \_\_\_\_\_

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

### WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. <small>mS/cm</small>	TEMP <small>°F</small>	REDOX	TURBIDITY
<u>1303</u>	<u>16 oz.</u>	<u>6.77</u>	<u>2.02</u>	<u>66.0</u>	_____	<u>HIGH, cloudy</u>
<u>1309</u>	<u>24 oz.</u>	<u>6.77</u>	<u>1.98</u>	<u>63.9</u>	_____	<u>MODERATE, cloudy</u>
<u>1314</u>	<u>32 oz.</u>	<u>6.78</u>	<u>1.88</u>	<u>63.4</u>	_____	<u>MODERATE, cloudy</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: CLOUDY  
TURBIDITY: MODERATE  
SEDIMENT: \_\_\_\_\_  
OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 (VOA) w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3X 40-ml GLASS ~~PLASTIC~~ VIALS

SAMPLE IDENTIFICATION NUMBER(S) PZ016GW05S01 / PF006  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: ACTUAL SAMPLES TAKEN @ 1318

SAMPLED BY: EDMUND SAKAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

GROUNDWATER SAMPLING LOG

PF007

~~PZ-016F~~ PZ-016F

WELL NO.: PT-019F LOCATION: Canyon PROJECT NO: \_\_\_\_\_

DATE: 4-23-01 TIME: 1342 CLIMATIC CONDITIONS: 80°F SUNNY

STATIC WATER LEVEL: 37.28' (TOC) TOTAL DEPTH: 59.86' (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X \_\_\_\_\_

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mS/cm	TEMP. OF	REDOX	TURBIDITY
1348	8.02	6.40	1.71	65.0		MODERATE / SLIGHTLY DARK
1353	16.02	6.45	1.71	64.6		LOW - SLIGHTLY DARK
1357	24.02	6.42	1.71	64.9		LOW - SLIGHTLY DARK

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: SLIGHTLY CLOUDY  
TURBIDITY: LOW  
SEDIMENT: \_\_\_\_\_  
OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOA (8260) w/ Hcl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 X 40-ml GLASS VIALS

SAMPLE IDENTIFICATION NUMBER(S) PZ 016 GW 06 S01 / PF 007  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: SAMPLES TAKEN @ 1402

SAMPLED BY: EDMUND SAPAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF008

WELL NO.: PZ016 G / PT-019G LOCATION: Canyon PROJECT NO: \_\_\_\_\_

DATE: 4-23-01 TIME: 1427 CLIMATIC CONDITIONS: 80°F SUNNY

STATIC WATER LEVEL: 37.98' (TOC) TOTAL DEPTH: 66.81' (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X \_\_\_\_\_

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: INERTIAL LIFT PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND.	TEMP. D.O. °F	REDOX	TURBIDITY
<u>1435</u>	<u>8 02</u>	<u>6.24</u>	<u>0.83</u>	<u>65.0</u>	_____	<u>HIGH, BLACK SPECK</u>
<u>1439</u>	<u>16 02</u>	<u>6.63</u>	<u>1.04</u>	<u>63.5</u>	_____	<u>MODERATE, BLACK SPECK</u>
<u>1443</u>	<u>24 02</u>	<u>6.52</u>	<u>0.93</u>	<u>63.6</u>	_____	<u>LOW, SLIGHTLY CLOUDY</u>
<u>1447</u>	<u>32 02</u>	<u>6.60</u>	<u>0.91</u>	<u>63.3</u>	_____	<u>LOW, SLIGHTLY CLOUDY</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

SAMPLE WITHDRAWAL METHOD: INERTIAL LIFT

APPEARANCE OF SAMPLE COLOR: SLIGHTLY CLOUDY  
 TURBIDITY: LOW  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOA (8260) w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 X 40-ml VIALS (GLASS)

SAMPLE IDENTIFICATION NUMBER(S): PZ016 GW 07 SD1 / PF008  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: WATER WRS INITIALLY DARK w/ BLACK SPECKS, THEN CLARIFIED UP AFTER 20 02, SAMPLES TAKEN @ 14

SAMPLED BY: EDMUND SAKAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF 8/68

WELL NO.: PZ-017A / PT-100A LOCATION: COCA PROJECT NO: \_\_\_\_\_

DATE: 5-8-01 TIME: 1400 CLIMATIC CONDITIONS: 35°C SUNNY

STATIC WATER LEVEL: 2.03' (TOC) TOTAL DEPTH: \_\_\_\_\_

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

TIP OF PUMP @ 12.0' (TOC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

FINAL DTW = 2.20' LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

WELL PURGE DATA:		METHOD OF REMOVAL:	MICRO PURGE (BLADDER)	PUMPING RATE:	APPROX. 60 ml/min	TEMP. D.O. °F	D.O. REDOX	TURBIDITY
DATE/TIME	GALLONS REMOVED							
1437	1700 ml					32	0.5 mg/l	LOW
1447	2300 ml					32	0.6	LOW
1457	3100 ml					32	0.6	LO

AMPLE WITHDRAWAL METHOD: MICRO PURGE w/ BLADDER PUMP.

APPEARANCE OF SAMPLE COLOR: CLEAR

TURBIDITY: LO

SEDIMENT: \_\_\_\_\_

OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/ HCL ; TPH-8015 w/ H2SO4

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 X 40-ml VIALS ; 1 X 1000-ml AMBER

AMPLE IDENTIFICATION NUMBER(S): PZ017AGW01S01 / PF 8/68

DECONTAMINATION PROCEDURES: PZ017GW01S01

NOTES: Sample taken 1505 DTW AFTER SAMPLING = 2.20' (TOC)

SAMPLED BY: E. SARAJ

AMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF070

WELL NO.: PZ-017B <sup>PF070</sup> LOCATION: Goca PROJECT NO: \_\_\_\_\_  
PT100B PZ17B

DATE: 5/8/09 TIME: 1324 CLIMATIC CONDITIONS: clear, hot

STATIC WATER LEVEL: 13.19 (TOC) → 13.41 TOTAL DEPTH: 31.00

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

screen 20-30 bgs  
stick up -.5  
= 20.5-30.5 (TOC)  
VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

set pump @ 25 ft (50c) \_\_\_\_\_ LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: micropurge PUMPING RATE: 10-15 ml/min

**WELL PURGE DATA:**

DATE/TIME	ml. REMOVED	pH	SP. COND.	D.O.	TEMPERATURE	TURBIDITY
5/8/09 1432	500 ml	6.44	0.44	1.83	35.3	clear
1437	550 ml	6.44	0.45	2.01	35.3	clear
1442	600 ml	7.12	0.49	1.89	35.0	clear
1447	650 ml	7.20	0.51	2.01	35.1	clear
1452	700 ml	7.30	0.51	2.03	35.0	clear
1457	750 ml	7.39	0.53	1.69	34.7	clear
1503	start sampling					
1550	end sample					

SAMPLE WITHDRAWAL METHOD: micropurge

APPEARANCE OF SAMPLE COLOR: clear  
 TURBIDITY: clear  
 SEDIMENT: none  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOA's w/HCl → test VOC'S 8260B

1 liter Amber w/H<sub>2</sub>SO<sub>4</sub> → TOH (8015 Bm)

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 VOA's (40ml), 1 liter Amber

SAMPLE IDENTIFICATION NUMBER(S): PZ017B GW01S02

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF009

WELL NO.: PZ-018B/  
PT-0736 LOCATION: EEL PROJECT NO: \_\_\_\_\_

DATE: 4/24/01 TIME: 1330 CLIMATIC CONDITIONS: 80° Sunny

STATIC WATER LEVEL: 9.21 TOTAL DEPTH: 14.05

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET  
 VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X \_\_\_\_\_

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_

PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. <small>µS/cm</small>	TEMP OF D.G.	REDOX	TURBIDITY
4/24/01 1340	2	6.97	2.80 (x1000)	75.0		High - Moderate, Light Gray
1343	4	6.96	2.55 (x1000)	72.0		"
1345	6	6.99	2.37 (x1000)	70.2		"
1347	8	7.00	2.87 (x1000)	70.1		"
1353	10	7.01	2.89 (x1000)	71.2	- Dry -	"
					DTW: 14.05	
4/25/01 1440	14	7.04	2.87 (x1000)	72.0	DTW: 9.35	"
1450	Sample Collected					

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR lt Gray  
 TURBIDITY Moderate-High  
 SEDIMENT \_\_\_\_\_  
 OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 40mL Vials

SAMPLE IDENTIFICATION NUMBER(S) PZ0186W02501  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Purged dry - over 80% recharge when returned - Parameters w/in 10% - Collected Sample

SAMPLED BY: E. Cathcart

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF022

WELL NO.: PZ-018D/ PTO 73d LOCATION: EE6 PROJECT NO: \_\_\_\_\_

DATE: 4/25/01 TIME: 1520 CLIMATIC CONDITIONS: 90+ Sunny

STATIC WATER LEVEL: 9.81 TOTAL DEPTH: 22.37

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GAL./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GAL.

METHOD OF REMOVAL: Inertial Lift PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. <small>US/cm</small>	OR P.O.	REDOX	TURBIDITY
<u>4/25/01</u> <u>1535</u>	<u>8</u>	<u>7.24</u>	<u>1.94(x1000)</u>	<u>79.1</u>		<u>High-Gray</u>
<u>1540</u>	<u>16</u>	<u>7.27</u>	<u>1.84(x1000)</u>	<u>71.0</u>		<u>17</u>
<u>1543</u>	<u>24</u>	<u>7.18</u>	<u>1.97(x1000)</u>	<u>70.9</u>		<u>11</u>
<u>1545</u>	<u>32</u>	<u>7.17</u>	<u>1.90(x1000)</u>	<u>69.4</u>	<u>High</u>	<u>Moderate-Gray</u>
<u>1547</u>	<u>40</u>	<u>7.16</u>	<u>1.89(x1000)</u>	<u>70.0</u>		<u>High-Gray</u>
<u>1550</u>	<u>Collected Sample</u>					

SAMPLE WITHDRAWAL METHOD: Inertial Lift

APPEARANCE OF SAMPLE COLOR: Gray  
 TURBIDITY: High  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 40ml VOAS

SAMPLE IDENTIFICATION NUMBER(S) PZ0186W04501  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: High turbidity- water appears to foam up during purging.

SAMPLED BY: C. Cathcart

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF023

WELL NO.: PZ-018E LOCATION: EEL PROJECT NO: \_\_\_\_\_  
PT073e

DATE: 4/25/01 TIME: 1615 CLIMATIC CONDITIONS: 90+ Sunny

STATIC WATER LEVEL: 10.78 TOTAL DEPTH: 27.11

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: Inertial Lift PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	<sup>O2</sup> GALLONS REMOVED	pH	SP. COND. µS/cm	ORP mV	REDOX	TURBIDITY
<u>4/25/01</u> <u>1625</u>	<u>8</u>	<u>7.49</u>	<u>9.57(x100)</u>	<u>74.8</u>		<u>High-Gray</u>
<u>1629</u>	<u>12</u>	<u>7.60</u>	<u>8.17(x100)</u>	<u>71.7</u>		<u>"</u>
<u>1633</u>	<u>16</u>	<u>7.59</u>	<u>9.93(x100)</u>	<u>71.7</u>		<u>"</u>
<u>1635</u>	<u>20</u>	<u>7.59</u>	<u>9.90(x100)</u>	<u>70.9</u>		<u>"</u>
<u>1637</u>	<u>24</u>	<u>7.56</u>	<u>9.91(x100)</u>	<u>70.9</u>		<u>"</u>
<u>1640</u>	<u>Sample Collected</u>					

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: Gray  
 TURBIDITY: High  
 SEDIMENT: fine: SILT  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260 / HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 40ml vials

SAMPLE IDENTIFICATION NUMBER(S): PZ0186W05501  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Very high turbidity

SAMPLED BY: E. Cathcart

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF086

WELL NO.: P241, P2019 LOCATION: RD-9 PROJECT NO: \_\_\_\_\_

DATE: 5/16/01 TIME: 1200 CLIMATIC CONDITIONS: clear, warm

STATIC WATER LEVEL: 25.41 (TOC) → end 25.74 TOTAL DEPTH: 31.5 lbs

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

19-29 screen  
3.27 stick up  
22.27 - 32.27 (TOC)  
Set @ 29.00

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: micro-purge PUMPING RATE: 60ml/min

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND.	D.O.	REDOX Oxygen	TURBIDITY
5/16/01 1329	1200 ml	6.75	<del>0.294</del> 0.294	4.80	27.0	clear
1339	1500 ml	6.70	0.296	4.86	27.1	clear
1339	1800 ml	6.70	0.297	4.85	27.1	clear
1344	2100 ml	6.68	0.295	4.82	27.1	clear
1349	2400 ml	6.66	0.290	4.82	27.1	clear
1354	2700 ml	6.66	0.292	4.82	27.1	clear
1400	start sampling					
1451	end sampling					

SAMPLE WITHDRAWAL METHOD: micro-purge

APPEARANCE OF SAMPLE COLOR: clear

TURBIDITY: clear

SEDIMENT: \_\_\_\_\_

OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC'S - VOA w/HCl, SVOC - 1 liter

Amber w/none

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 vials for VOC, 1 liter Amber for SVOC

SAMPLE IDENTIFICATION NUMBER(S) P2019 GWA/S01

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF098

WELL NO.: P143, P2020 LOCATION: 20-9 PROJECT NO: \_\_\_\_\_

DATE: 5/22/01 TIME: 0740 CLIMATIC CONDITIONS: clear, warm

STATIC WATER LEVEL: 24.96 → 25.02 TOTAL DEPTH: 31.5

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: micropurge PUMPING RATE: 60ml/min

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REBOX	TURBIDITY
5/22/01 0812	700ml	6.42	0.357	6.60	18.7°	clear
0815	880ml	6.41	0.356	6.63	18.7°	clear
0818	1060ml	6.38	0.358	6.70	18.9°	clear
0821	1240ml	6.33	0.358	6.78	19.0°	clear
0824	1420ml	6.31	0.358	6.80	19.2°	clear
0827	1600ml	6.34	0.359	6.79	19.2°	clear
0830	start sampling					
0915	end sampling					

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: micropurge  
 TURBIDITY: clear  
 SEDIMENT: clear  
 OTHER: \_\_\_\_\_

**LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:**

vials w/HCl for VOC, 1 liter amber for SVOC, 1 liter amber w/H<sub>2</sub>SO<sub>4</sub> for TPH, 1 liter plastic w/HNO<sub>3</sub> for metals, 1 250ml plastic for TDS and 1 250ml w/H<sub>2</sub>SO<sub>4</sub> for Nitrate  
**NUMBER AND TYPES OF SAMPLE CONTAINERS USED:** 3x1 vials (VOC), 1 liter amber (SVOC), 1 liter amber (TPH), 1 liter plastic (metals), 250ml plastic for TDS, 1 250ml plastic (Nitrate)

**SAMPLE IDENTIFICATION NUMBER(S):** P2020 GW01S01

**DECONTAMINATION PROCEDURES:** \_\_\_\_\_

**NOTES:** \_\_\_\_\_

**SAMPLED BY:** Chris Costales

**SAMPLES DELIVERED TO:** \_\_\_\_\_ **TRANSPORTERS:** \_\_\_\_\_

**DATE:** \_\_\_\_\_ **TIME:** \_\_\_\_\_

**CAPACITY OF CASING (GALLONS/LINEAR FOOT)**  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF099

WELL NO.: PT36, PZ021 LOCATION: RD 9 PROJECT NO: \_\_\_\_\_

DATE: 5/21/01 TIME: 1210 CLIMATIC CONDITIONS: clear, hot

STATIC WATER LEVEL: 16.77 (100) → end 16.94 TOTAL DEPTH: 29.50

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: micro-purge PUMPING RATE: 20 ml/min

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mS/cm	D.O. mg/L	TEMP. REBOX	TURBIDITY
5/21/01 1240	400 ml	6.68	.522	3.13	31.5°	clear
1243	460	6.69	.527	3.22	31.30	clear
1246	520	6.70	.532	3.26	31.20	clear
1249	580	6.71	.550	3.15	31.2°	clear
1252	640	6.74	.575	2.75	31.2°	clear
1255	700	6.72	.578	2.73	31.2°	clear
1258	760	6.73	.578	2.70	31.0	clear
1300	short sampling					
1440						

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: micro-purge  
 TURBIDITY: clear  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

**LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:** 2 vials w/ HCl for VOC's and

1,4 dioxane, 1 liter Amber for SVOC

**NUMBER AND TYPES OF SAMPLE CONTAINERS USED:** 3x1 vials for VOC's, 3x1 vials for 1,4 dioxane

sample, 3x1 vials for 1,4 dioxane split 1x1 liter amber for SVOC

**SAMPLE IDENTIFICATION NUMBER(S):** PZ021GW01S01, split is PC0

**DECONTAMINATION PROCEDURES:** \_\_\_\_\_

**NOTES:** \_\_\_\_\_

SAMPLED BY: Chris Costello

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF100

WELL NO.: PT038, PZ022 LOCATION: R0-9 PROJECT NO: \_\_\_\_\_

DATE: 5/21/01 TIME: 0745 CLIMATIC CONDITIONS: overcast

STATIC WATER LEVEL: 23.06 (TOC) → end 23.41 TOTAL DEPTH: 29.50

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

Screen 19-29 (bgs)  
stickup 2.67  
21.67-31.67 (TOC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

set @ 27.00 LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: microperge PUMPING RATE: 40 ml/min

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
5/21/01 0909	600 ml	7.01	0.594	6.22	16.7°	clear
0912	720 ml	7.02	0.595	6.24	16.7°	clear
0915	840 ml	7.03	0.643	5.89	16.8°	clear
0918	960 ml	7.02	0.648	5.62	16.8°	clear
0921	1080 ml	7.04	0.650	5.68	16.8°	clear
0924	1200 ml	7.03	0.653	5.64	16.8°	clear
0926	start sampling					
1049	end sampling					

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: Microperge  
 TURBIDITY: clear  
 SEDIMENT: clear  
 OTHER: \_\_\_\_\_

**LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:**

amber VOC - Vial w/ HCl, SVOC - 1 L

**NUMBER AND TYPES OF SAMPLE CONTAINERS USED:**

for SVOC 3x1 vials (40 ml) for VOC, 1 liter amber

**SAMPLE IDENTIFICATION NUMBER(S)**

DECONTAMINATION PROCEDURES: PZ022 GW01501

**NOTES:**

SAMPLED BY: Chris Coates

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

GROUNDWATER SAMPLING LOG

PF097

WELL NO.: P2-023 / PT-062 LOCATION: ECL PROJECT NO:

DATE: 5-22-01 TIME: 1315 CLIMATIC CONDITIONS: 90°F SUNNY

STATIC WATER LEVEL: 11.24' (TOC) TOTAL DEPTH: 19.43

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET

SCREEN: 8.5-18.5' (TOC) VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X PUMP TIP @ 14.5' (TOC)

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

Table with columns: DATE/TIME, GALLONS REMOVED, pH, SP. COND. (ms/cm), D.O. (mg/L), TEMP. REDOX, TURBIDITY. Includes data for four sampling events.

SAMPLE WITHDRAWAL METHOD: MICRO PURGE BLADDER PUMP
APPEARANCE OF SAMPLE: COLOR CLEAR, TURBIDITY LOW, SEDIMENT, OTHER

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260B w/ HCL; 1,4-DIOXANE w/ HCL; SVOC-8270C

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 6 x 40-ml VIALS; 1 x 1-L AMBER

SAMPLE IDENTIFICATION NUMBER(S): P2023GW01S01 / PF097
DECONTAMINATION PROCEDURES:

NOTES: Sample taken @ 1443. DTW = 11.60 (TOC) AFTER SAMPLING @ 1435

SAMPLED BY: E-SARAO

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT)
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF069

WELL NO.: PT63 / PZ-024 LOCATION: ECL PROJECT NO: \_\_\_\_\_

DATE: 5/8/01 TIME: 0737 CLIMATIC CONDITIONS: clear, hot

STATIC WATER LEVEL: 13.27 (TOC) → 13.40 TOTAL DEPTH: 25 bgs

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

well screen 14-24 bgs  
16.5-26.5 (TOC)  
Set pump @ 20.5  
VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

### METHOD OF REMOVAL:

### PUMPING RATE:

### WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND.	D.O.	Temperature	TURBIDITY
5/8 0850	0.15	7.98	1.40	8.48	29.5°	clear
0953	0.30	7.98	1.39	8.49	29.6°	clear
0956	0.45	7.97	1.39	8.46	29.6°	clear
0959	0.60	7.97	1.39	8.46	29.6°	clear
1002	0.75	7.96	1.39	8.46	29.6°	clear
1005	0.90	7.97	1.39	8.46	29.6°	clear
1007	start sampling					
1157	end sampling					

### SAMPLE WITHDRAWAL METHOD:

APPEARANCE OF SAMPLE COLOR: micro purge  
 TURBIDITY: clear  
 SEDIMENT: clear  
 OTHER: none

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC'S preservative - HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 VOC'S for VOC'S, 3 VOC'S for 1,4-dioxin, 1 liter Amber for SVOC'S

SAMPLE IDENTIFICATION NUMBER(S): PZ0246W01501  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: rebill discharge set @ A → F

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

WELL NO.: PZ-025/PT-066 LOCATION: ECL PROJECT NO: \_\_\_\_\_

DATE: 5-9-01 TIME: 0800 CLIMATIC CONDITIONS: 75°F SUNNY

STATIC WATER LEVEL: 12.62' TOC TOTAL DEPTH: 26.0' (FOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

SCREEN 15.5 - 25.5' (FOC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X  
PUMP @ 20.0, BUT RECHARGE TOO SLOW  
0900 LOWERED PUMP TO NEAR BOTTOM ~ 26.0' (FOC)  
PUMPED OUT ALL WATER

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_ PUMPING RATE: \_\_\_\_\_

### WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. ms/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY NTU
0900	1000 ml	7.6	1.8	2.6	27 °C	LOW 40
0930	1700 ml	7.6	1.8	1.4	27 °C	LOW 10
0940	2800 ml	7.6	1.8	1.7	26	LOW 40
0950	4200 ml	7.6	1.8	1.9	24	LOW 40
1000	6800	7.6	1.8	1.8	23	LOW 30
1010	9500	7.5	1.8	1.9	23	LOW 30
1050	~ 19000 ml	7.6	1.8	1.7	23	LOW 40
1057	Purged DRY DTW = 25.63' (FOC)					
5/10/01 - 1009	500 ml	7.4	1.7	1.9	26 °C	LOW

5-10-01  
DTW = 19.49' (FOC)  
PUMP @ 23.0' (FOC)  
PTW REFR = 19.82  
@ 1025

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)  
APPEARANCE OF SAMPLE COLOR: CLEAR  
TURBIDITY: LOW  
SEDIMENT: \_\_\_\_\_  
OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC - 8260 w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): PZ025GW01S01 / PF076  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Samples taken on 5-10-01 @ 1014

SAMPLED BY: E. SKRAD

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16 4"-0.65 6"-1.47 8"-2.61 10"-4.08 12"-5.87

# GROUNDWATER SAMPLING LOG

PF 074  
PF 075  
PC 003

WELL NO.: PZ-026/ PT-D61 LOCATION: ECL PROJECT NO: \_\_\_\_\_  
 DATE: 5-9-01 TIME: 1435 CLIMATIC CONDITIONS: 90°F SUNNY  
 STATIC WATER LEVEL: 5.67 (TOC) TOTAL DEPTH: 27.42

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET  
 SCREEN 17.2' - 27.2' (TOC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT.  
 TIP of PUMP @ 21.5' (TOC) X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: MICRO PURGE (BLADDER PUMP) PUMPING RATE: APPROX. 80 ml/m

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. ms/cm	D.O. mg/l	TEMP. REDOX	TURBIDITY
1509	1000 ml	7.1	1.2	1.1	33°C	LOW (-)
1520	1900 ml	7.1	1.2	1.0	30	LOW (-)
1531	2800 ml	7.1	1.2	0.8	29	LOW (-)
1540	3600 ml	7.1	1.2	0.7	28	LOW (-)
1550	4500 ml	7.0	1.2	0.8	28	LOW (-)

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)  
 APPEARANCE OF SAMPLE COLOR \_\_\_\_\_  
 TURBIDITY \_\_\_\_\_  
 SEDIMENT \_\_\_\_\_  
 OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/HCL ;  
1,4-DIOXANE w/HCL ; SVOC-8270

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 12 x 40-ml VIALS ; 3 x 1-l. AMBER

SAMPLE IDENTIFICATION NUMBER(S) PZ 026 GW 01 D01 / PF 074  
 DECONTAMINATION PROCEDURES: PZ 026 GW 01 D01 / PF 075 - DUPLICATE (VOC & SVOC)  
PZ 026 GW 01 D01 / PC 003 - QA SPLIT (VOC & SVOC)

NOTES: Samples taken @ 1600 ; DTW = 5.75 @ 1645

SAMPLED BY: E. STRAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF067

VELL NO.: PZ-027/PT-064 LOCATION: ECL PROJECT NO: \_\_\_\_\_

DATE: 5-08-01 TIME: 0830 CLIMATIC CONDITIONS: 35°C SUNNY

STATIC WATER LEVEL: 12.29 TOTAL DEPTH: \_\_\_\_\_

VELL PURGING: LENGTH OF SATURATED ZONE: 10' LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

TIP OF PUMP = 18.7' (TCC)

METHOD OF REMOVAL: MICRO PURGE PUMPING RATE: Approx. 25 ml/min

**VELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. MS/cm	TEMP. °C	D.O. REDOX mg/l	TURBIDITY
0940	1000 ml	7.10	1.3	35	3.0	LD
0950	250 ml	7.00	1.3	35	2.6	LD
1000	250 ml	7.00	1.3	34	2.5	LD
1010	250 ml	7.00	1.3	34	2.4	LD

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE COLOR: CLEAR  
 TURBIDITY: LD  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 ; 1,4-DIOXANE  
SVOC-8270

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 6 X 40-ml VIALS w/ HCL  
1 X 1-l AMBER BOTTLE

SAMPLE IDENTIFICATION NUMBER(S): PZ027GW01301 / PF067  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Sample Taken @ 1015 DTW AFTER SAMPLING = 12.34' (TCC)

SAMPLED BY: E. STRAD

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF 115  
PF 116

WELL NO.: P2-028/  
PT-067 LOCATION: ECL PROJECT NO: \_\_\_\_\_

DATE: 5-23-01 TIME: 1135 CLIMATIC CONDITIONS: 90°F SUNNY

STATIC WATER LEVEL: 31.45' (FOC) TOTAL DEPTH: 35.4

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET  
 SCREEN: 28'-38' (FOC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X  
 Tip of pump @ 35' (FOC)

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: MICRO PURGE  
BLADDER PUMP PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/l	TEMP. REDOX	TURBIDITY
<u>1238</u>	<u>~ 800 ml</u>	<u>7.1</u>	<u>2.1</u>	<u>2.8</u>	<u>32°C</u>	<u>LOW</u>
<u>1248</u>	<u>~ 1000 ml</u>	<u>7.1</u>	<u>2.1</u>	<u>1.1</u>	<u>33°C</u>	<u>LOW</u>
<u>1258</u>	<u>~ 1200 ml</u>	<u>7.1</u>	<u>2.1</u>	<u>1.2</u>	<u>33°C</u>	<u>LOW</u>

SAMPLE WITHDRAWAL METHOD: MICRO PURGE BLADDER PUMP  
 APPEARANCE OF SAMPLE COLOR: CLEAR  
 TURBIDITY: LOW  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260B w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 9 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): P2028GW01S01  
 DECONTAMINATION PROCEDURES: P2028GW01D01 → DUPLICATE  
P2028GW01D01 → QA SPLIT

NOTES: Sample taken @ 1305. Sample + DUPLICATE + QA SPLIT. D.T.W. = 31.81 @ 13. AFTER SAMPLING

SAMPLED BY: E. SRAO EACH VIAL WAS FILLED IN < 1.0 minute

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF104

WELL NO.: PT074, P2029 LOCATION: Comp A PROJECT NO: \_\_\_\_\_

DATE: 5/23/01 TIME: 0730 CLIMATIC CONDITIONS: clear, warm

STATIC WATER LEVEL: 16.81 → end 19.95 TOTAL DEPTH: 31.00

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

Series 19-29  
stick 2.97  
21.97-31.97  
set @ 27.00  
VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: micropurge PUMPING RATE: 40 ml/min

### WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
5/23/01 0802	500 ml	7.55	.452	2.39	22.0°	clear
0805	620 ml	7.57	.451	2.43	21.9°	clear
0808	740 ml	7.53	.453	2.50	21.9°	clear
0810	start sampling					
0815	and sampling					

### SAMPLE WITHDRAWAL METHOD:

APPEARANCE OF SAMPLE COLOR: micropurge  
TURBIDITY: clear  
SEDIMENT: clear  
OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 3 vials w/ HCl for VOC

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 vials w/ HCl for VOC

SAMPLE IDENTIFICATION NUMBER(S) P2029GW01501  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF106

WELL NO.: PT075, P2030 LOCATION: Comp A PROJECT NO: \_\_\_\_\_

DATE: 5/23/01 TIME: 0845 CLIMATIC CONDITIONS: clear, hot

STATIC WATER LEVEL: 16.95 → 19.29 TOTAL DEPTH: 32.50

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

screen @ 17-27  
stuck 2.91  
19.91-29.91  
pump @ 26.00

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: micropurge PUMPING RATE: 40ml/min

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
5/23/01 0900	600ml	7.21	1661	4.21	25.5°	clear
0903	720ml	7.25	1662	4.20	25.4°	clear
0906	840ml	7.26	1669	4.22	25.4°	clear
0908	start sampling					
0925	end sampling					

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: micropurge  
 TURBIDITY: clear  
 SEDIMENT: clear  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 3 vials w/HCl for voc

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 vials w/HCl for voc

SAMPLE IDENTIFICATION NUMBER(S) P2030GW01S01  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

GROUNDWATER SAMPLING LOG

PF082

WELL NO.: PZ-031 / PT-076 LOCATION: COMP. A PROJECT NO:

DATE: 5-15-01 TIME: 1020 CLIMATIC CONDITIONS: 75°F SUNNY

STATIC WATER LEVEL: 15.46' (TOC) TOTAL DEPTH: 25.99 (TOC)

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET

SCREEN: 16.32 - 26.32 (TOC) VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

TIP of pump @ 20.40' (TOC) LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: MICRO PURGE (BLADDER PUMP) PUMPING RATE:

Table with columns: DTW (ft.), DATE/TIME, GALLONS REMOVED, pH, SP. COND. (mS/cm), D.O. (mg/l), TEMP. (REDOX) (°C), TURBIDITY. Includes data rows for DTW values 15.72, 15.77, 15.82, 15.87.

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE COLOR: CLEAR TURBIDITY: Low SEDIMENT: OTHER:

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml vials

SAMPLE IDENTIFICATION NUMBER(S): PZ031GW01S01 / PF082 DECONTAMINATION PROCEDURES:

NOTES: Sample taken @ 1237 . DTW = 15.90 @ 1241

SAMPLED BY: E. SKRKO

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT) 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF095

WELL NO.: PZ-033 / PT-082 LOCATION: \_\_\_\_\_ PROJECT NO: \_\_\_\_\_

DATE: 5-21-01 TIME: 1135 CLIMATIC CONDITIONS: 80 F SUNNY

STATIC WATER LEVEL: 17.13' (TOC) TOTAL DEPTH: 24.02

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

TOP of pump @ 21.0' (TOC) LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_ PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/l	TEMP. REDOX	TURBIDITY
<u>1540</u>	<u>1000 ml</u>	<u>7.2</u>	<u>1.7</u>	<u>2.8</u>	<u>27°C</u>	<u>LOW</u>
<u>1551</u>	<u>1200 ml</u>	<u>7.2</u>	<u>1.8</u>	<u>2.7</u>	<u>27°C</u>	<u>LOW</u>
<u>1601</u>	<u>1400 ml</u>	<u>7.2</u>	<u>1.8</u>	<u>2.5</u>	<u>27°C</u>	<u>LOW</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE COLOR: CLEAR

TURBIDITY: LOW

SEDIMENT: \_\_\_\_\_

OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 B w/ HCL;  
1,4-DIOXANE

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 6 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S) PZ033 GW 01 S01 / PF095

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Sampler taken @ 1608 DTW = 17.55' (TOC) @ 1615

SAMPLED BY: E. SAPAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

GROUNDWATER SAMPLING LOG

PF113

WELL NO.: PZ-034 / PT-080 LOCATION: COMP. A PROJECT NO:

DATE: 5-24-01 TIME: 0750 CLIMATIC CONDITIONS: 70°F SUNNY

STATIC WATER LEVEL: 10.77' (GOC) TOTAL DEPTH: 15.05

WELL PURGING: LENGTH OF SATURATED ZONE: LINEAR FEET

SCREEN: 8.2' - 15.2' (GOC) VOLUME OF WATER TO BE EVACUATED: GALS./LINEAR FT. X

TIP of Pump @ 13' (GOC)

LINEAR FT. OF SATURATION X CASING VOLUMES = GALS.

METHOD OF REMOVAL: MICRO PURGE (BLADDER PUMP) PUMPING RATE:

WELL PURGE DATA:

Table with 7 columns: DATE/TIME, GALLONS REMOVED, pH, SP. COND. (mS/cm), D.O. (mg/l), TEMP. (REDOX), TURBIDITY. Rows show data for times 0836, 0842, 0847, 0853, 0858.

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE COLOR: CLEAR TURBIDITY: LOW SEDIMENT: OTHER:

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260B w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 6 x 40-ml VIAL

SAMPLE IDENTIFICATION NUMBER(S): PZ034GWA/S01

DECONTAMINATION PROCEDURES: PZ034GWA(D01) -> QASPLIT \* VIALS FILLED UP IN < 1.0 min.

NOTES: Sample taken @ 0903, DTW AFTER SAMPLING = 10.79 @ 0912

SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: TRANSPORTERS:

DATE: TIME:

CAPACITY OF CASING (GALLONS/LINEAR FOOT) 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF094

WELL NO.: PZ-036/PT-089 LOCATION: STL IV PROJECT NO: \_\_\_\_\_

DATE: 5-24-01 TIME: 1050 CLIMATIC CONDITIONS: 80°F SUNNY

STATIC WATER LEVEL: 10.80' (TC) TOTAL DEPTH: 28.21

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

SCREEN: 18.5' - 28.5' (TC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X  
 TIP of Pump @ 23.0' (TC)

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: MICRO PURGE (BLADDER PUMP) PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TEMP. REDOX	TURBIDITY
1125	1200 ml	6.9	0.76	3.5	24°C	Low
1135	1900 ml	7.0	0.77	3.4	24°C	Low
1145	2900 ml	7.0	0.77	3.3	24°C	Low
1155	3900 ml	7.0	0.77	3.2	24°C	Low

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE COLOR: CLEAR

TURBIDITY: Low

SEDIMENT: \_\_\_\_\_

OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260B w/ HCL ;  
SVOC - 8270C

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS ; 1 x 1-L Amber

SAMPLE IDENTIFICATION NUMBER(S): PZ036GW01S01 / PF094

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Samples Taken @ 1203 , DTW = 10.87' (TC)

SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF096

WELL NO.: PZ-037/PT-090 LOCATION: STL-IV PROJECT NO: \_\_\_\_\_

DATE: 5-22-01 TIME: 0755 CLIMATIC CONDITIONS: 70°F SUNNY

STATIC WATER LEVEL: 15.85'(TOC) TOTAL DEPTH: 28.0'(TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

SCREEN: 17.5' - 27.5' (TOC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

Pump Tip @ 22.0'(TOC) LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: MICRO PURGE (BLADDER PUMP) PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DTW	DATE/TIME	GALLONS REMOVED	pH	SP. COND. mS/cm	D.O. mg/l	TEMP. REDOX	TURBIDITY
16.20	0850	750 ml					
	0908	8 GALLONS					
	1005						
	1026	1000 ml	7.2	0.76	5.6	23°C	MOD/LOW
	1031	1300 ml	7.2	0.77	5.5	23°C	MOD/LOW
	1036	1500 ml	7.3	0.77	5.8	23°C	MOD/LOW
	1041	1700 ml	7.3	0.77	5.8	23°C	MOD/LOW

RE-START MICRO PURGING →

RECHARGE TOO SLOW  
PUMPED DRY BY J. DOUGHERTY, DTW = 27.4'(TOC)  
TIP of Pump placed @ 26.8'(TOC), DTW = 26.06'(TOC)

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE COLOR \_\_\_\_\_  
TURBIDITY \_\_\_\_\_  
SEDIMENT \_\_\_\_\_  
OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260B w/HCL ; SVOC-8270C ; TPH-8015BM w/H2SO4

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 X 40-ml VIALS ; 2 X 1/2 L AMBER

SAMPLE IDENTIFICATION NUMBER(S) PZ 037GW01S01 / PF096  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Sampler taken @ 1043, AFTER SAMPLING DTW = 26.35'(TOC) @ 1126

SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF084  
PF085

WELL NO.: PZ-041/PT-105 LOCATION: PDU PROJECT NO: \_\_\_\_\_

DATE: 5/17/01 TIME: 0720 CLIMATIC CONDITIONS: \_\_\_\_\_

STATIC WATER LEVEL: ~~11.78~~ 13.12 TOTAL DEPTH: 29.60

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: 10' LINEAR FEET

SCREEN: 19'-29' (TOE) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X  
TIP OF PUMP @ 23' (TOE)

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_ PUMPING RATE: 40ml/min

WELL PURGE DATA:	ml.	GALLONS REMOVED	pH	SP. COND. ms/cm	D.O. mg/l	TEMP. REDOX	TURBIDITY
<u>5/16/01/1021</u>		<u>8-Purged Dry</u>					
<u>5/17/01 0807</u>		<u>400ml</u>	<u>7.29</u>	<u>.574</u>	<u>5.35</u>	<u>16.4°</u>	<u>clear</u>
<u>0817</u>		<u>600ml</u>	<u>7.25</u>	<u>.580</u>	<u>5.85</u>	<u>16.4°</u>	<u>clear</u>
<u>0817</u>		<u>800ml</u>	<u>7.28</u>	<u>.584</u>	<u>5.69</u>	<u>16.5°</u>	<u>clear</u>
<u>0820</u>		<u>start sampling</u>					
<u>1050</u>		<u>end sampling</u>					

SAMPLE WITHDRAWAL METHOD: micro-purge

APPEARANCE OF SAMPLE COLOR: clear  
TURBIDITY: clear  
SEDIMENT: \_\_\_\_\_  
OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: vials w/HCL - Voc's, 1 liter amber for Hex Chrome, plastic 1 liter bottles w/HNO3 for metals, 1 liter plastic w/HNO3 for Alpha beta

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3x1 vials for Voc, 3x1 plastic liter bottles for metals, 1 liter amber for Hex chrome, 1 liter plastic w/HNO3 for Alpha beta

SAMPLE IDENTIFICATION NUMBER(S): PZ041/GW01S01 for samples, PZ041/GW01D01 for metal dupes, R005 for split

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

~~PF128~~ PF128

WELL NO.: P1097, P2043 LOCATION: Coca PROJECT NO: \_\_\_\_\_

DATE: 5/29/01 TIME: 0830 CLIMATIC CONDITIONS: clear, warm

STATIC WATER LEVEL: 34.55 → 35.25 TOTAL DEPTH: 43.81

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

30-40  
3.15  
33.15-43.15  
set @ 38.50 VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_ PUMPING RATE: 30ml/min

## WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TEMP. (REBOX)	TURBIDITY
<u>5/29/01 0915</u>	<u>500ml</u>	<u>6.61</u>	<u>0.97</u>	<u>1.86</u>	<u>20.7°</u>	<u>clear</u>
<u>0916</u>	<u>590</u>	<u>6.61</u>	<u>0.97</u>	<u>1.85</u>	<u>20.7°</u>	<u>clear</u>
<u>0921</u>	<u>680</u>	<u>6.57</u>	<u>0.97</u>	<u>1.80</u>	<u>21.0°</u>	<u>clear</u>
<u>0924</u>	<u>770</u>	<u>6.55</u>	<u>0.96</u>	<u>1.79</u>	<u>21.0°</u>	<u>clear</u>
<u>0927</u>	<u>860</u>	<u>6.63</u>	<u>0.97</u>	<u>1.83</u>	<u>21.1°</u>	<u>clear</u>
<u>0930</u>	<u>950</u>	<u>6.65</u>	<u>0.96</u>	<u>1.82</u>	<u>21.1°</u>	<u>clear</u>
<u>0931</u>	<u>short sampling</u>	_____	_____	_____	_____	_____

## SAMPLE WITHDRAWAL METHOD:

APPEARANCE OF SAMPLE COLOR: micro purge  
TURBIDITY: clear  
SEDIMENT: clear  
OTHER: \_\_\_\_\_

## LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:

amber liter w/1% HCl for VOC, and 1,4-dioxane

## NUMBER AND TYPES OF SAMPLE CONTAINERS USED:

1x1 liter amber for TTH  
3x1 vials for VOC, 2x1 vials for dioxane

## SAMPLE IDENTIFICATION NUMBER(S)

DECONTAMINATION PROCEDURES: P2043GW01501

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF146

WELL NO.: PT115, P2045 LOCATION: Coca PROJECT NO: \_\_\_\_\_

DATE: 5/30/01 TIME: 0739 CLIMATIC CONDITIONS: clear, hot

STATIC WATER LEVEL: 36.39 → 37.86 TOTAL DEPTH: 43.00 43.10 (VOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

30-40  
2.7  
32.70-42.70  
set @ 40.00  
purg'd dry 5/29/01

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: microperge PUMPING RATE: 30 ml/min

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
<u>0824</u>	<u>200ml</u>	<u>6.20</u>	<u>.486</u>	<u>7.86</u>	<u>25.8°</u>	<u>clear</u>
<u>0829</u>	<u>350ml</u>	<u>6.21</u>	<u>.486</u>	<u>7.84</u>	<u>25.8°</u>	<u>clear</u>
<u>0834</u>	<u>500ml</u>	<u>6.21</u>	<u>.486</u>	<u>7.80</u>	<u>25.8°</u>	<u>clear</u>
<u>0839</u>	<u>650ml</u>	<u>6.22</u>	<u>.487</u>	<u>7.77</u>	<u>25.8°</u>	<u>clear</u>
<u>0847</u>	<u>start sample</u>					
<u>0900</u>	<u>end sampling</u>					

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR \_\_\_\_\_  
 TURBIDITY \_\_\_\_\_  
 SEDIMENT \_\_\_\_\_  
 OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: vids w/HCl for VOC, amber

w/H2SO4 for TPH

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3x1 vials (VOC), 1x1 liter Amber (TPH)

SAMPLE IDENTIFICATION NUMBER(S) P2045 6w01s01

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16 • 4"-0.65 • 6"-1.47 • 8"-2.61 • 10"-4.08 • 12"-5.87

# GROUNDWATER SAMPLING LOG

PF077  
PF078

WELL NO.: PT116, P248 LOCATION: Coca PROJECT NO: \_\_\_\_\_

DATE: 5/9/01 TIME: 1310 CLIMATIC CONDITIONS: clear, hot

STATIC WATER LEVEL: 5.55 (TOC) → 5.82 TOTAL DEPTH: 49.0

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

Screen 9-19  
w/ stick 18.5-18.5  
set @ 14.0

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: micropurge PUMPING RATE: 47.5 ml/min

WELL PURGE DATA:

DATE/TIME	ml REMOVED	pH	SP. COND.	D.O.	Temperature Degrees C	TURBIDITY
5/9/01 1409	850 ml	6.60	0.99	0.88	32.7	clear
1412	1092.5 ml	7.00	0.99	0.87	32.5	clear
1415	1235 ml	7.02	0.99	0.93	32.2	clear
1418	1377 ml	7.07	0.99	0.88	31.7°	clear
1421	1520 ml	7.08	1.00	0.91	31.7°	clear
1424	1662.5 ml	7.08	1.00	0.89	31.5°	clear
1426	start sampling					
1616	end sampling					

SAMPLE WITHDRAWAL METHOD: micropurge

APPEARANCE OF SAMPLE COLOR: clear

TURBIDITY: clear

SEDIMENT: \_\_\_\_\_

OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: vials w/ HCl, VOC'S + 1,4 dioxane

1 liter amber w/ H<sub>2</sub>SO<sub>4</sub> → TPH

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 12 x 1 vials (40ml), 3 VOC, 3 1,4-dioxane

for sample, 3 for 1,4 Duplicate, 3 for split (1,4 Dioxane) and 3 x 1 amber, 1 sample, 1 dupe, 1 split

SAMPLE IDENTIFICATION NUMBER(S): P2048GW01S01, P2048GW01D01

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF118

WELL NO.: PT44 P2049 LOCATION: Alpha PROJECT NO: \_\_\_\_\_

DATE: 5/24/01 TIME: 1007 CLIMATIC CONDITIONS: 30000 clear, hot

STATIC WATER LEVEL: 7.35 → end 7.63 TOTAL DEPTH: 34.00

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

screen 6-16  
stick 3.95  
9.45-19.45  
set pump @ 14.00

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: micropurge PUMPING RATE: 40ml/min

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. ms/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
5/24/01 1125	560ml	6.82	0.416	1.39	26.3°	clear
1128	620ml	6.81	0.418	1.41	26.2°	clear
1131	740ml	6.82	0.417	1.38	25.9°	clear
1134	860ml	6.83	0.419	1.37	26.0°	clear
1137	980ml	6.84	0.418	1.37	26.0°	clear
1140	1100ml	6.84	0.417	1.38	26.0°	clear
1142	start sample					
120	end sample					

**SAMPLE WITHDRAWAL METHOD:** micropurge

APPEARANCE OF SAMPLE COLOR: clear  
 TURBIDITY: clear  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

**LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:** 3 vials w/ HCl for VOC, 1 amber liter w/ H<sub>2</sub>SO<sub>4</sub> for TPH

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3x1 vials - VOC, 1x1 liter amber - TPH

SAMPLE IDENTIFICATION NUMBER(S): P2049GW01501  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF081

WELL NO.: PZ-050 / PT-072 LOCATION: EEL PROJECT NO: \_\_\_\_\_  
 DATE: 5-14-01 TIME: 0905 CLIMATIC CONDITIONS: 25°C SUNNY  
 STATIC WATER LEVEL: 6.41 (TOC) TOTAL DEPTH: 15.54

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

SCREEN: 5.5' - 15.5' (TOC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

TIP of pump: @ 9.5' (TOC)

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

DIW = 6.105 (TOC) @ 12.21

METHOD OF REMOVAL: MICRO PURGE (BLADDER PUMP) PUMPING RATE: APPROX. 20 ml/min

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/l	TEMP. REDOX	TURBIDITY
1105	1000 ml	7.6	1.2	2.4	24°C	LOW (G)
1115	1200 ml	7.6	1.1	2.8	25	LOW (G)
1125	1400 ml	7.6	1.2	2.8	25	LOW (G)
1137	1600	7.5	1.2	2.5	26	LOW (G)
1148	1800	7.5	1.2	2.5	26	LOW (G)
1158	2000	7.5	1.2	2.5	27	LOW (G)

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP) using NITROGEN  
 APPEARANCE OF SAMPLE COLOR: CLEAR  
 TURBIDITY: LOW  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VDC - 8260 ml HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S) PZ050 GWD1 S01 / PF081  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Sample taken @ 1210

SAMPLED BY: E. SARAD

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF101

WELL NO.: PT71, PZ051 LOCATION: EEL PROJECT NO: \_\_\_\_\_

DATE: 5/22/01 TIME: 1030 CLIMATIC CONDITIONS: clear, hot

STATIC WATER LEVEL: 6.51 → end 10.22 TOTAL DEPTH: 27.00

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X \_\_\_\_\_

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: micro-purge PUMPING RATE: 40 ml/min

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mS/cm	D.O. mg/l	TEMP. REDOX	TURBIDITY
5/22/01 1054	500ml	7.05	672	4.64	26.7°	clear
1057	620ml	7.03	671	4.70	26.7°	clear
1100	740ml	7.03	678	4.74	26.5°	clear
1102	start sampling					
1120	end sampling					

**SAMPLE WITHDRAWAL METHOD:** \_\_\_\_\_

**APPEARANCE OF SAMPLE** COLOR: micro-purge \_\_\_\_\_  
 TURBIDITY: clear \_\_\_\_\_  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

**LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:** w/ HCl for VOC's, 1 liter plastic

w/ HNO<sub>3</sub> for Gross Alpha + Beta

**NUMBER AND TYPES OF SAMPLE CONTAINERS USED:** 3x1 vials for VOC, 1 plastic liter for Gross Alpha + Beta

**SAMPLE IDENTIFICATION NUMBER(S):** PZ0516W01S01

**DECONTAMINATION PROCEDURES:** \_\_\_\_\_

**NOTES:** \_\_\_\_\_

**SAMPLED BY:** Chris Costales

**SAMPLES DELIVERED TO:** \_\_\_\_\_ **TRANSPORTERS:** \_\_\_\_\_

**DATE:** \_\_\_\_\_ **TIME:** \_\_\_\_\_

**CAPACITY OF CASING (GALLONS/LINEAR FOOT)**  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF102

WELL NO.: PT 79, PZ 052 LOCATION: EFL PROJECT NO: \_\_\_\_\_

DATE: 5/22/01 TIME: 1258 CLIMATIC CONDITIONS: clear, hot

STATIC WATER LEVEL: 14.58  $\rightarrow$  19.52 TOTAL DEPTH: 30.00

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

18.9-28.9 screen VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

2.77 - stickup

= 21.67 - 31.67

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

set @ 26.00

METHOD OF REMOVAL: micro purge

PUMPING RATE: 40 ml/min

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. ms/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
5/22/01 1324	500 ml	6.95	.534	5.29	29.1°	clear
1327	620 ml	6.97	.537	5.30	28.6°	clear
1330	740 ml	6.96	.543	5.46	28.5°	clear
1332	start sampling					
1350	end sampling					

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: micro purge clear  
 TURBIDITY: clear  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

**LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:**

3 vials w/ HCl for VOC, 1 liter plastic w/ HNO<sub>3</sub> for Gross Alpha + Beta

**NUMBER AND TYPES OF SAMPLE CONTAINERS USED:**

3x1 vials for VOC, 1x1 liter plastic for gross

Alpha + Beta

**SAMPLE IDENTIFICATION NUMBER(S)**

PZ0526W01SP1

**DECONTAMINATION PROCEDURES:**

**NOTES:**

**SAMPLED BY:**

Chris Costello

**SAMPLES DELIVERED TO:**

**TRANSPORTERS:**

**DATE:**

**TIME:**

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF 117

WELL NO.: P293, P2053 LOCATION: Mon R2 Pond PROJECT NO: \_\_\_\_\_

DATE: 5/23/01 TIME: 1200 CLIMATIC CONDITIONS: clear, hot

STATIC WATER LEVEL: 17.97 → end 18.26 TOTAL DEPTH: 29.00

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

16-26 VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

4.15 LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

20.15-30.15 METHOD OF REMOVAL: micro-purge PUMPING RATE: 20 ml/min

set @ 25.00

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TEMP. (DEG C)	TURBIDITY
<u>1234</u>	<u>500 ml</u>	<u>6.68</u>	<u>0.579</u>	<u>2.18</u>	<u>37.9°</u>	<u>clear</u>
<u>1237</u>	<u>560</u>	<u>6.66</u>	<u>0.581</u>	<u>2.19</u>	<u>38.0°</u>	<u>clear</u>
<u>1240</u>	<u>620</u>	<u>6.68</u>	<u>0.581</u>	<u>2.19</u>	<u>38.2°</u>	<u>clear</u>
<u>1243</u>	<u>680</u>	<u>6.68</u>	<u>0.584</u>	<u>2.18</u>	<u>38.0°</u>	<u>clear</u>
<u>1246</u>	<u>740</u>	<u>6.67</u>	<u>0.586</u>	<u>2.19</u>	<u>38.1°</u>	<u>clear</u>
<u>1249</u>	<u>800</u>	<u>6.68</u>	<u>0.587</u>	<u>2.19</u>	<u>38.0°</u>	<u>clear</u>
<u>1250</u>	<u>start sampling</u>	_____	_____	_____	_____	_____
<u>1400</u>	<u>end sampling</u>	_____	_____	_____	_____	_____

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: micro-purge clear  
 TURBIDITY: clear  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

**LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:**

for Dioxin, 1 liter plastic w/ H<sub>2</sub>O<sub>2</sub> for metals vials w/ HCl for VOC, 1 liter amber

**NUMBER AND TYPES OF SAMPLE CONTAINERS USED:**

1 plastic liter for metals 3x1 vials for VOC, 1 amber for Dioxin

**SAMPLE IDENTIFICATION NUMBER(S)**

P20536W01S01

**DECONTAMINATION PROCEDURES:**

\_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF127

WELL NO.: P292 P2054 LOCATION: R2-Pond PROJECT NO: \_\_\_\_\_

DATE: 5/29/01 TIME: 1257 CLIMATIC CONDITIONS: clear, hot

STATIC WATER LEVEL: 6.99 → 7.26 TOTAL DEPTH: 15.8

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

screen 5-15  
stick @ 5.20  
10.20-20.20  
pump @ 15.00

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: micropurge PUMPING RATE: 40 ml/min

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
5/29/01 1348	500 ml	7.19	1.47	1.57	29.6°	clear
1351	620 ml	7.18	1.47	1.55	29.5°	clear
1354	740 ml	7.20	1.47	1.53	29.4°	clear
1358	860 ml	7.20	1.48	1.50	29.6°	clear
1400	980 ml	7.21	1.48	1.46	29.6°	clear
1403	1100 ml	7.21	1.47	1.45	29.6°	clear
1405	start sampling					
1500	end sampling					

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: micropurge  
 TURBIDITY: clear  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

**LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:**

vials w/HCl for VOC,  
1 liter Amber for Dioxins, 1 amber w/H<sub>2</sub>SO<sub>4</sub> for TPH

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3x1 vials (VOC), 1x1 amber (TPH) 1x1 amber (Dioxin)

SAMPLE IDENTIFICATION NUMBER(S): P20546W01501

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF143

WELL NO.: P2-056/ P1053 LOCATION: SSFL PROJECT NO: \_\_\_\_\_

DATE: 5/29/01 TIME: 1300 CLIMATIC CONDITIONS: \_\_\_\_\_

STATIC WATER LEVEL: 25.88 TOTAL DEPTH: 27.4 (BGS)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

*SO, SS total depth*  
 VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

*Pump Set AT 27'*  
 LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

*NO Recharge visible - over 20 mm per 100' foot*  
 METHOD OF REMOVAL: \_\_\_\_\_ PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
1315	Purge to 29.60 - 35 gpm					
1324	29.43					
1326	29.40					
5/30/01 16:23	28.65					
16:30	Began sample collection					
	D.F.W. = 29.7 - After sample collection					Clear

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: Clear  
 TURBIDITY: Low  
 SEDIMENT: none  
 OTHER: \_\_\_\_\_

**LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:**

**NUMBER AND TYPES OF SAMPLE CONTAINERS USED:**

SAMPLE IDENTIFICATION NUMBER(S) P20566W01501

**DECONTAMINATION PROCEDURES:**

NOTES: 5/30/01 - >30 min for 0.01' Recharge - used Bailor to sample well. Insufficient volume for parameters

SAMPLED BY: Insufficient volume for bladder purge - ERIC CATHART

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF087  
PF088

WELL NO.: PT051, P2057 LOCATION: SPA PROJECT NO: \_\_\_\_\_

DATE: 5/16/01 TIME: 0750 CLIMATIC CONDITIONS: clear, warm

STATIC WATER LEVEL: 16.13 (TOC) → 16.31 TOTAL DEPTH: 32.5 bgs

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

screen @ 12-22 (bgs) stuck up 3.77 VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

⇒ 15.79-25.99 (TOC) LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

Set @ 21.00 end @ 16.30 (TOC) METHOD OF REMOVAL: micropurge PUMPING RATE: 50ml/min

DATE/TIME	GALLONS REMOVED	pH	SP. COND.	D.O.	REDOX Degrees C	TURBIDITY
5/16/01 0856	1000 ml	7.37	0.20	3.88	22.5°	clear
0901	1250 ml	7.40	0.448	3.91	22.5°	clear
0906	1500 ml	7.41	0.447	4.06	22.6°	clear
0911	1750 ml	7.42	0.446	4.13	22.7°	clear
0916	2000 ml	7.46	0.446	4.12	22.8°	clear
0921	2250 ml	7.48	0.445	4.10	22.9°	clear
0929	start sampling					
✓ 1000	end sample					

SAMPLE WITHDRAWAL METHOD: \_\_\_\_\_  
 APPEARANCE OF SAMPLE COLOR: micropurge  
 TURBIDITY: clear  
 SEDIMENT: clear  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: vials w/ HCl sampling VOC's

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 6 x 1 vials (40ml)

SAMPLE IDENTIFICATION NUMBER(S) P2051GW01S01, P2051GW01D01  
 DECONTAMINATION PROCEDURES: P2057GW01S01, P2057GW01D01

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF083

WELL NO.: PZ-058  
PT-052 LOCATION: SPA PROJECT NO: \_\_\_\_\_

DATE: 5-16-01 TIME: 0900 CLIMATIC CONDITIONS: 75°F SUNNY

STATIC WATER LEVEL: 8.03 TOTAL DEPTH: 18.17

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

SCREEN: 9'-19' (TOE) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

TIP OF PUMP @ 14' (TOE) LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_ PUMPING RATE: MPROX .20 ml/min

### WELL PURGE DATA:

DTW (ft)	DATE/TIME	GALLONS REMOVED	pH	SP. COND. ms/cm	D.O. mg/l	TEMP. REDOX	TURBIDITY
8.36'	0945	1000 ml	7.1	0.68	1.4	22°C	LOW
8.35'	0955	1200 ml	7.1	0.68	1.4	22°C	LOW
8.35'	1005	1400 ml	7.1	0.68	1.5	22°	LOW
8.36'	1015	1600 ml	7.1	0.68	1.5	23	LOW
8.37'	1025	1800 ml	7.1	0.69	1.3	23	LOW
8.37'	1035	2000 ml	7.1	0.69	1.4	23	LOW

### SAMPLE WITHDRAWAL METHOD:

APPEARANCE OF SAMPLE COLOR \_\_\_\_\_  
TURBIDITY \_\_\_\_\_  
SEDIMENT \_\_\_\_\_  
OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8240B w/HCL  
1,4 DIOXANE w/HCL; GROSS ALPHA & BETA w/HNO<sub>3</sub>

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 6 x 40-ml VIALS; 1 x 1L PLASTIC

SAMPLE IDENTIFICATION NUMBER(S) PZ058 GW01S01 / PF083

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Samples taken @ 1045

SAMPLED BY: E. GARAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF119

WELL NO.: PT45, P2060 LOCATION: Alpha PROJECT NO: \_\_\_\_\_

DATE: 5/24/01 TIME: 0725 CLIMATIC CONDITIONS: clear, warm

STATIC WATER LEVEL: 35.60 → end 36.00 TOTAL DEPTH: 49.00

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

38-48 screen  
3.77 stdl  
41.77-51.77  
set c 46.00

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: micropulse PUMPING RATE: 30ml/min

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
5/24/01 0818	500 ml	6.99	.269	5.19	22.6°	clear
0821	590 ml	7.01	.320	5.16	22.7°	clear
0824	680 ml	7.02	.331	5.10	22.8°	clear
0827	770 ml	7.02	.340	5.09	22.8°	clear
0830	860 ml	7.04	.350	5.06	23.0°	clear
0833	950 ml	7.06	.354	5.06	23.0°	clear
0834	start sampling					
0936	end sampling					

SAMPLE WITHDRAWAL METHOD: \_\_\_\_\_

APPEARANCE OF SAMPLE COLOR: micropulse

TURBIDITY \_\_\_\_\_

SEDIMENT \_\_\_\_\_

OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: vials w/ HCl for VOC,

vials w/ HCl for 1,4 dioxane, 1 liter amber w/ H<sub>2</sub>SO<sub>4</sub> for pH

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3x1 vials for VOC, 3x1 vials for 1,4 dioxane

1x1 amber for pH

SAMPLE IDENTIFICATION NUMBER(S) P2060GW01S01

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87



# GROUNDWATER SAMPLING LOG

PF092

PZ-067A

WELL NO.: PZ009A, PZ67a LOCATION: Building 359 PROJECT NO: \_\_\_\_\_

DATE: 5/17/01 TIME: 1240 CLIMATIC CONDITIONS: clear, warm

STATIC WATER LEVEL: 31.51 → end 34.04 TOTAL DEPTH: 40.00

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

Purged 5/16/01 dry (60m) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

sampled directly. bottom @ 40.00 bgs. stuck up is 3.36. set up @ 39.50 (TOC) LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_ PUMPING RATE: 40 ml/min

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND.	D.O.	REDOX Degrees C	TURBIDITY
5/17/01 1318	120ml	6.81	0.351	4.40	27.6°	clear
1323	320	6.87	0.354	4.42	27.8°	clear
1328	520	6.90	0.359	4.41	27.5°	clear
1320	start sampling					
1358	end sampling					

**SAMPLE WITHDRAWAL METHOD:** \_\_\_\_\_

**APPEARANCE OF SAMPLE** COLOR \_\_\_\_\_

TURBIDITY \_\_\_\_\_

SEDIMENT \_\_\_\_\_

OTHER \_\_\_\_\_

**LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:** vials w/ HCl for VOC, 125ml

plastic bottle for perchlorate

**NUMBER AND TYPES OF SAMPLE CONTAINERS USED:** 3x1 vials for VOC'S, 1x1 bottle (125ml) for perchlorate

**SAMPLE IDENTIFICATION NUMBER(S)** PZ067AGW01501

**DECONTAMINATION PROCEDURES:** PZ067GWO1501

**NOTES:** \_\_\_\_\_

**SAMPLED BY:** Chris Costakis

**SAMPLES DELIVERED TO:** \_\_\_\_\_ **TRANSPORTERS:** \_\_\_\_\_

**DATE:** \_\_\_\_\_ **TIME:** \_\_\_\_\_

**CAPACITY OF CASING (GALLONS/LINEAR FOOT)**  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF093

WELL NO.: ~~P2009B~~ P2009B, P2067B LOCATION: building 359 PROJECT NO: \_\_\_\_\_

DATE: 5/17/01 TIME: 1425 CLIMATIC CONDITIONS: clear, warm

STATIC WATER LEVEL: 53.23 (TDC) → 56.91 TOTAL DEPTH: 65.00 hrs

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

- stick up @ 2.70. VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

- purged dry on 5/16/01  
so take direct samples

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

- set @ 65.50ft METHOD OF REMOVAL: micropurge PUMPING RATE: 80ml/min

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND.	D.O.	REDOX Degrees C.	TURBIDITY
5/17/01 1459	850ml	6.54	340	4.83	26.3°	clear
1509	1250ml	6.51	344	4.87	25.7°	clear
1509	1850ml	6.49	346	4.90	25.6°	clear
1512	start sampling					
1540	end sampling					

SAMPLE WITHDRAWAL METHOD: micropurge

APPEARANCE OF SAMPLE COLOR: clear

TURBIDITY: clear

SEDIMENT: \_\_\_\_\_

OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 3 vials w/HCl for VOC

1 125ml plastic bottle for perchlorate

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3x1 40ml vials, 1x1 125ml plastic bottle

SAMPLE IDENTIFICATION NUMBER(S) P2067B GW02 S01

DECONTAMINATION PROCEDURES: P2067GW02S01

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF079

PF079

WELL NO.: PT50 P2071 LOCATION: SEA PROJECT NO: \_\_\_\_\_

DATE: 5/16/01 TIME: 0750 CLIMATIC CONDITIONS: clear, hot

STATIC WATER LEVEL: 9.87 (TOC) → end 10.12 TOTAL DEPTH: 31.5

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

Screen @ 18-28 VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

3.37 21.37-31.37 (toc) LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

set @ 26ft METHOD OF REMOVAL: micropurge PUMPING RATE: 37.5 ml/min

**WELL PURGE DATA:**

DATE/TIME	ml REMOVED	pH	SP. COND.	D.O.	Degrees FRENCH	TURBIDITY
5/10 0912	937.5 ml	6.30	0.638	1.12	25.2	clear
0915	1050 ml	7.02	0.639	1.22	25.3	clear
0918	1162.5 ml	7.11	0.640	1.22	25.4	clear
0921	1275 ml	7.30	0.640	1.40	25.6	clear
0924	1387.5 ml	7.31	0.642	1.23	25.6	clear
0927	1500 ml	7.31	0.646	1.17	25.7	clear
↓ 0930	1612.5 ml	7.32	0.645	1.12	25.7	clear
0933	start sampling					
1000	end sampling					

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: micropurge  
 TURBIDITY: clear  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: vials w/HCl → VOC (8260B)

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3x1 40ml vials

SAMPLE IDENTIFICATION NUMBER(S): P2071 GW 01 S 01

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87



# GROUNDWATER SAMPLING LOG

PF142

WELL NO.: PZ-074/ PT021 LOCATION: Happy Valley PROJECT NO: \_\_\_\_\_

DATE: 5/29/01 TIME: 1600 CLIMATIC CONDITIONS: \_\_\_\_\_

STATIC WATER LEVEL: 15.03 TOTAL DEPTH: 2348 # (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

23.48 total  
pump set @  
19 ft  
VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_

PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

	DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
	1600	Pumped down 0.4 ft	0.01	Residue in 15 min			
18.2 ft to H <sub>2</sub> O	S/30/01 1350	Set pump @ 21 ft					
	1410	Began Sample Collection					
	1500	Finish Sample Collection					
	1501	2.8L	7.25	71.1	4.61	28.4	2
Drawdown to 19.20							
After Sample Collection							

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE \_\_\_\_\_ COLOR \_\_\_\_\_  
 \_\_\_\_\_ TURBIDITY \_\_\_\_\_  
 \_\_\_\_\_ SEDIMENT \_\_\_\_\_  
 \_\_\_\_\_ OTHER \_\_\_\_\_

**LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:**

**NUMBER AND TYPES OF SAMPLE CONTAINERS USED:**

SAMPLE IDENTIFICATION NUMBER(S) PZ0746W01501

RECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Drawdown of 0.4 ft per cycle @ 5ml per cycle - will collect samples 1st then  
MEASURE PARAMETERS

SAMPLED BY: Eric Zeb...

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

WELL NO.: P2075/PT004 LOCATION: IEL PROJECT NO: PF140

DATE: 5/29/01 TIME: 0830 CLIMATIC CONDITIONS: Sunny 75°

STATIC WATER LEVEL: 42.65 TOTAL DEPTH: 46.25

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

46.25 Total depth VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

0.58 gal A/D in well LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

Pump set at 44 ft. METHOD OF REMOVAL: \_\_\_\_\_ PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
<u>5/29/01 0900</u>	<u>0.75L</u>	<u>7.00</u>	<u>63.1</u>	<u>3.49</u>	<u>26.12</u>	<u>20</u>
<u>0925</u>	<u>1L</u>	<u>6.84</u>	<u>66.1</u>	<u>3.39</u>	<u>26.10</u>	<u>10</u>
<u>0950</u>	<u>1.25L</u>	<u>6.81</u>	<u>66.0</u>	<u>7.60</u>	<u>26.10</u>	<u>10</u>
<u>1015</u>	<u>1.3L</u>	<u>6.82</u>	<u>66.0</u>	<u>7.20</u>	<u>26.10</u>	<u>10</u>
<u>Draw Down to 42.85</u>	<u>1.30L?</u>					
	<u>Purged Dry - 9A.10n</u>					
<u>1120</u>						
<u>1134</u>	<u>Equilibrium @ ≈ 40ml/min</u>					
<u>1142</u>		<u>6.80</u>	<u>66.6</u>	<u>8.16</u>	<u>25.4</u>	<u>LOW</u>

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR \_\_\_\_\_  
 TURBIDITY \_\_\_\_\_  
 SEDIMENT \_\_\_\_\_  
 OTHER \_\_\_\_\_

**LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:**

**NUMBER AND TYPES OF SAMPLE CONTAINERS USED:**

SAMPLE IDENTIFICATION NUMBER(S) P2075GW01S01 - 11:57am - Sample Collected

**DECONTAMINATION PROCEDURES:**

NOTES: Filled up Flow thru-cell - Drawdown 2 tenths - Checked Recharge - over 25 min for 0.01ft

SAMPLED BY: Bailed Dry - After 1 hour - Recharged @ approx 40ml/min  
mix pump discharge - 60ml/min - because at pump depth EWI [Signature]

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

$$\frac{0.16 \text{ gal}}{1 \text{ ft}} \times \frac{1}{0.2} = 0.032 \text{ gal} \quad \frac{2.71}{\text{gal}} \quad \frac{6.032}{\text{ft}}$$

# GROUNDWATER SAMPLING LOG

PF126

WELL NO.: PZ-076 / PT-03 LOCATION: CTL-III PROJECT NO: \_\_\_\_\_

DATE: 5-29-01 TIME: 1330 CLIMATIC CONDITIONS: \_\_\_\_\_

STATIC WATER LEVEL: 27.04 (TOC) TOTAL DEPTH: 49.80 (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

SCREEN: 38.8' - 48.8' (TOC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_ PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. ms/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
<u>5-30-01 0830</u>	<u>11 gallons</u>					
<u>→ PUMPED DRY BY J. DOUGHERTY</u>						
<u>JTW=31.03 → 5-30-01 1040</u>						
<u>7ump @ 43'(TOC) 1107</u>	<u>1000 ml.</u>	<u>7.0</u>	<u>1.5</u>	<u>2.6</u>	<u>27°C</u>	<u>LOW</u>
<u>1112</u>	<u>1300 ml</u>	<u>7.0</u>	<u>1.5</u>	<u>2.7</u>	<u>26°C</u>	<u>LOW</u>
<u>1117</u>	<u>1700 ml</u>	<u>7.0</u>	<u>1.5</u>	<u>2.7</u>	<u>26°C</u>	<u>LOW</u>

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE COLOR: CLEAR / SLIGHTLY CLOUDY

TURBIDITY: LOW

SEDIMENT: \_\_\_\_\_

OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260B w/ HCL ; SVOC-8270C ; DIOXIDS-8290

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS ; 2 x 1-L AMBER

SAMPLE IDENTIFICATION NUMBER(S): PZ076 GW21S01

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Samples Taken @ 1120. VOC file in 1 mbr. DTW for sampling = 30.46 (TOC) @ 1150

SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF134

WELL NO.: PZ-077 PT-030 LOCATION: NEAR PERIMETER POND PROJECT NO: \_\_\_\_\_

DATE: 5/29/01 2:55 TIME: 1055 CLIMATIC CONDITIONS: 75°F SUNNY

STATIC WATER LEVEL: 14.51' (TOC) TOTAL DEPTH: 28.40

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

SCREEN: 18'-28' (TOC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

pump Top @ 22' (TOC) LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: MICRO PURGE (BLADDER PUMP) PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/l	TEMP. REDOX	TURBIDITY
1134	1000 ml	7.2	2.3	1.1	24°C	LOW
1139	1200 ml	7.2	2.4	1.4 <sup>ens</sup>	24°C	LOW
1144	1400 ml	7.2	2.4	1.3	24°C	LOW
1149	1600 ml	7.2	2.4	1.4	24°C	LOW

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE COLOR: CLEAR  
 TURBIDITY: LOW  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 B w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): PZ 077 GW 01S01  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Samples taken @ 1155. VIALS FILL up in < 1min. DTW AFTER SAMPLING = 14.84' (TOC) @ 1202  
 SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF124

WELL NO.: PT29, P2078 LOCATION: CTL III PROJECT NO: \_\_\_\_\_

DATE: 5/25/01 TIME: 1020 CLIMATIC CONDITIONS: clear, hot

STATIC WATER LEVEL: 15.61 (Top) TOTAL DEPTH: 24.73

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

15-25  
-4  
14.60-24.60  
set pump @ ~~20.6~~ 19.50  
VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: micropurge PUMPING RATE: 30ml/min

### WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REBOX	TURBIDITY
5/25/01 1118	500 ml	6.24	.729	2.40	24.4°	clear
1125	590 ml	6.22	.729	2.33	24.4°	clear
1128	680 ml	6.26	.729	1.90	24.5°	clear
1130	start sampling					
1145	end sampling					

### SAMPLE WITHDRAWAL METHOD:

APPEARANCE OF SAMPLE COLOR: micropurge  
TURBIDITY: clear  
SEDIMENT: clear  
OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: vials w/HCl for VOC

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3x1 vials for VOC's

SAMPLE IDENTIFICATION NUMBER(S) P20786 w/01501  
DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Castles

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF137

WELL NO.: PZ079/PT-028 LOCATION: CTL III PROJECT NO: \_\_\_\_\_

DATE: 5-29-01 TIME: 15:50 CLIMATIC CONDITIONS: 80°F SUNNY

STATIC WATER LEVEL: 17.16' (TOL) TOTAL DEPTH: 27.77

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

SCREEN: 18'-22' (TOL) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

PUMP TIP @ 92' (TOL) LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: MICRO PURGE (BLADDER PUMP) PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TEMP. REBOX	TURBIDITY
1628	1200 ml	6.7	0.9	1.6	25°C	LOW
1633	1600 ml	6.7	0.9	1.4	25°C	LOW
1639	2000 ml	6.7	0.9	1.3	24°C	LOW
1645	2400 ml	6.7	0.9	1.4	24°C	LOW

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE COLOR: CLEAR  
 TURBIDITY: LOW  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260B w/HCL ; 1,4-DIOXANE ; TPH-805BM

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 256 x 40-ml VIALS ; 1 x 1-L AMBER

SAMPLE IDENTIFICATION NUMBER(S): PZ079GW01S01

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Sample taken @ 1650. VIALS FILL UP IN <1min. DTW = AFTER SAMPLING = 17.18' (TOL) @ 1730

SAMPLED BY: E. STRAD

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF135  
PF136

WELL NO.: PZ-080/PT-022 LOCATION: Aren I Rd PROJECT NO: \_\_\_\_\_

DATE: 5/29/01 TIME: 0745 CLIMATIC CONDITIONS: 65°F SUNNY

STATIC WATER LEVEL: 22.88' (TOC) TOTAL DEPTH: 31.70' (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

SCREEN: 21.8' - 31.8' (TOC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

7ump scr. @ 27.0' (TOC) LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: MICRO PURGE (BLADDER PUMP) PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TEMP. REDOX	TURBIDITY
0913	1000 ml	7.6	0.44	2.1	16°C	LOW
0919	1200 ml	7.6	0.44	2.2	16°C	LOW
0923	1400 ml	7.6	0.45	2.3	17	LOW
0931	1600 ml	7.6	0.45	2.2	17	LOW

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE: COLOR CLEAR

TURBIDITY LOW

SEDIMENT \_\_\_\_\_

OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 B w/ HCL

PERCHLORATE - 360M

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS ; 3 x 125-ml PLASTIC

SAMPLE IDENTIFICATION NUMBER(S) PZ080GW01S01 → VOC and PERCHLORATE

DECONTAMINATION PROCEDURES: PZ080GW01D01 → PERCHLORATE DUPLICATE & QA SPLIT

NOTES: Samples taken @ 0935. VOC vials filled in < 1min. ; DTW after sampling = 23.21' (TOC) @ 100'

SAMPLED BY: E. SARA

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16 • 4"-0.65 • 6"-1.47 • 8"-2.61 • 10"-4.08 • 12"-5.87

# GROUNDWATER SAMPLING LOG

PF139

WELL NO.: PZ-082 / PZ24 LOCATION: R-1 Pond PROJECT NO: \_\_\_\_\_  
 DATE: 5/30/01 TIME: 0800 CLIMATIC CONDITIONS: Sunny 80°  
 STATIC WATER LEVEL: 10.75 TOTAL DEPTH: 23.6

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET  
23.6 total depth VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X  
Well Set @ 16.5ft \_\_\_\_\_ X  
 LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.  
 METHOD OF REMOVAL: \_\_\_\_\_ PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
08:10	0.5L	7.12	45.3	9.13	21.22	10.5
08:12	1.5L	7.01	50.2	7.92	21.14	10.0
08:14	2.5L	7.01	54.1	6.90	22.09	10.0
08:16	3.5L	7.00	54.5	6.62	22.09	10.1
08:18	4.0L	7.00	54.5	6.64	22.10	9.2
08:20	4.5L	7.00	54.4	6.61	22.12	8.4
08:25	Sample Collected					
No Drawdown						

SAMPLE WITHDRAWAL METHOD: \_\_\_\_\_  
 APPEARANCE OF SAMPLE COLOR \_\_\_\_\_  
 TURBIDITY \_\_\_\_\_  
 SEDIMENT \_\_\_\_\_  
 OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: \_\_\_\_\_

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: \_\_\_\_\_

SAMPLE IDENTIFICATION NUMBER(S) PZ0826W0501  
 DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Excellent Flow 6.5 L/min

SAMPLED BY: Sam Little

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF089  
PC006

WELL NO.: PZ-084 / PT-123 LOCATION: Bowl PROJECT NO: \_\_\_\_\_

DATE: 5-17-01 TIME: 1245 CLIMATIC CONDITIONS: 85°F sunny

STATIC WATER LEVEL: 30.14' (oc) TOTAL DEPTH: \_\_\_\_\_

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

*pump top @ 33' (oc)* VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: MICRO PURGE (BLADDER PUMP) PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

WELL WAS BAILED  
DRY IN A.M.

DATE/TIME	GALLONS REMOVED	pH	SP. COND. ms/cm	D.O. mg/l	TEMP. REDOX	TURBIDITY
1336	1200 ml	6.7	0.42	3.9	31°C	LOW
1346	1550 ml	6.7	0.40	3.8	31	LOW
1358	1900 ml	6.7	0.39	4.4	31	LOW
1409	2050	6.7	0.39	4.4	32	LOW
1416	2150	6.7	0.39	4.4	32	LOW

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE COLOR: clear  
 TURBIDITY: LOW  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 w/HCl ;  
TPH-80 ISBM w/H2SO4

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3x 40-ml VIALS ; 2x 1-L AMBER

SAMPLE IDENTIFICATION NUMBER(S): PZ084 GW @ 123 / PF089 → 3 VOC + 1 TPH  
 DECONTAMINATION PROCEDURES: PZ084 GW @ 123 / PC006 → 1 TPH

NOTES: Sample taken @ <sup>end</sup> 1423

SAMPLED BY: F. SAPIRO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF090

WELL NO.: PZ-085A/ PT-117A LOCATION: Bowl PROJECT NO: \_\_\_\_\_

DATE: 5-17-01 TIME: 1005 CLIMATIC CONDITIONS: \_\_\_\_\_

STATIC WATER LEVEL: 26.91' (TOC) TOTAL DEPTH: 30.40

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

SCREEN: 20'-30' (TOC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

Insufficient recharge to sample-purged  
Dry LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_ PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
<u>5/16/01/1249</u>	<u>4 - Dry</u>	_____	_____	_____	_____	_____
<u>5/18/01/0740</u>	<u>Collected sample</u>	_____	_____	_____	_____	_____
	<u>Start: 0740</u>	_____	_____	_____	_____	_____
	<u>End: 0900</u>	_____	_____	_____	_____	_____
<u>0910</u>	<u>36 liters</u>	<u>7.3</u>	<u>2.1</u>	<u>9.0</u>	<u>17.0°C</u>	<u>Clear</u>
<u>0915</u>	<u>-Dry-</u>	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

DTW 26.3  
Total Pump 30.1  
Set pump @ 28 ft.

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE	COLOR	<u>Clear</u>
	TURBIDITY	<u>LOW</u>
	SEDIMENT	<u>none</u>
	OTHER	_____

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: HCl, H<sub>2</sub>SO<sub>4</sub>, HNO<sub>3</sub>

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 vials Amber 1 pint

SAMPLE IDENTIFICATION NUMBER(S) PZ085AGW01501 PF090  
DECONTAMINATION PROCEDURES: PZ085GW01501

NOTES: Very little H<sub>2</sub>O Recharge - collected sample then measured parameters

SAMPLED BY: Eric Clithart

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PZ-085B

PF064

WELL NO.: PT-117B, PZ85B LOCATION: Bowl PROJECT NO: \_\_\_\_\_

DATE: 5/3/01 TIME: 0844 CLIMATIC CONDITIONS: clear, windy

STATIC WATER LEVEL: 30.23 TOTAL DEPTH: 60.0 ft

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: micropurge PUMPING RATE: 0.083 ml/min

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND.	D.O.	TEMPERATURE Degrees C	TURBIDITY
5/3/01 0909	.25	6.79	1.41	4.12	18.1	clear
0912	.50	6.85	1.41	5.45	18.0	clear
0915	.75	6.83	1.41	4.12	17.9	clear
0918	1.00	6.87	1.41	4.31	17.9	clear
0921	1.25	6.90	1.42	4.33	17.8	clear
0924	1.50	6.94	1.43	3.71	17.8	clear
0930	start sample					
1025	end sample					

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: micropurge  
 TURBIDITY: clear  
 SEDIMENT: clear  
 OTHER: clear / none

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: 8260B, 8015, metals - HCl, H<sub>2</sub>O<sub>2</sub>, H<sub>2</sub>S

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3x40ml vials, 1x1 amber liter, 1x1 liter

plastic

SAMPLE IDENTIFICATION NUMBER(S): PZ085B GW 02501 / PF064

DECONTAMINATION PROCEDURES: PZ085B GW 02501

NOTES: \_\_\_\_\_

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF107

WELL NO.: PZ-D87A/  
P+23A LOCATION: Bowl PROJECT NO: \_\_\_\_\_

DATE: 5/22/01 TIME: 1302 CLIMATIC CONDITIONS: Sunny

STATIC WATER LEVEL: 2100 TOTAL DEPTH: 25.20

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

*Total depth 25.2*  
*Pump set @ 23.00*  
VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_

PUMPING RATE: \_\_\_\_\_

### WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. ms/cm	D.O. mg/l	TEMP. REDOX	TURBIDITY
<u>5/21</u>	<u>Purged Dry</u>					
<u>5/22/01 1356</u>	<u>500L</u>	<u>6.17</u>	<u>48.2</u>	<u>4.40</u>	<u>36.7</u>	<u>2180</u>
<u>1309</u>	<u>600L</u>	<u>6.02</u>	<u>48.0</u>	<u>4.40</u>	<u>36.7</u>	<u>10</u>
<u>1312</u>	<u>600L</u>	<u>6.02</u>	<u>48.1</u>	<u>4.39</u>	<u>36.7</u>	<u>2</u>
<u>1315</u>	<u>Began Sample Collection</u>					
<u>1415</u>	<u>Metals Sample Collected</u>					

### SAMPLE WITHDRAWAL METHOD:

APPEARANCE OF SAMPLE \_\_\_\_\_

COLOR \_\_\_\_\_

TURBIDITY \_\_\_\_\_

SEDIMENT \_\_\_\_\_

OTHER \_\_\_\_\_

### LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:

### NUMBER AND TYPES OF SAMPLE CONTAINERS USED:

### SAMPLE IDENTIFICATION NUMBER(S)

### DECONTAMINATION PROCEDURES:

NOTES: not sufficient volume (5ml) discharge per cycle - left site to call pump manufacturer

SAMPLED BY: \_\_\_\_\_

SAMPLES DELIVERED TO: \_\_\_\_\_

TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_

TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

Page 1 of 2

# GROUNDWATER SAMPLING LOG

PF107  
PAGE 2 of 2

WELL NO.: PZ-067A/PT-D23A LOCATION: BOWL PROJECT NO: \_\_\_\_\_

DATE: 5-23-01 TIME: 0750 CLIMATIC CONDITIONS: 80° F SUNNY

STATIC WATER LEVEL: 21.05' (TWC) TOTAL DEPTH: 25.20

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

SCREEN: 14.4' - 24.4' (TWC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

screen tip @ 23.8' (TWC) LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: MICRO PURGE BLADDER PUMP PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. mS/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
AFTER SAMPLING → <u>1032</u>	<u>~3300 ml</u>	<u>6.3</u>	<u>0.52</u>	<u>7.7</u>	<u>30°C</u>	<u>LOW</u>

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE COLOR: CLEAR

TURBIDITY: LOW

SEDIMENT: \_\_\_\_\_

OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260B w/HCl ; TPH-8015 BM w/ H2SO4 ; SVOC-8270C ; METALS w/HNO3

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS ; 2 x 1-l AMBER ; 1 x 1-l PLASTIC

SAMPLE IDENTIFICATION NUMBER(S): PZ067AGW01S01 PF107

DECONTAMINATION PROCEDURES: PZ067GW01S01

NOTES: Samples Taken @ 0839 . VOC VIALS TOOK 100 SECS. TO FILL.

SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF063

WELL NO.: P2087B/ PF023B LOCATION: Boul PROJECT NO: \_\_\_\_\_

DATE: 5/2/01 TIME: 2:36 pm CLIMATIC CONDITIONS: Sunny -75°

STATIC WATER LEVEL: 40.45 TOTAL DEPTH: 55.51.9

WELL PURGING: 48ft LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

**METHOD OF REMOVAL:**

**PUMPING RATE:**

**WELL PURGE DATA:**

DATE/TIME	<u>02</u> <del>GALLONS</del> REMOVED	pH	SP. COND. MS/cm	D.O.	temp °C <del>TEMP</del>	TURBIDITY
<u>5/2/01</u> <del>1455</del> 1515	<u>32</u>	<u>5.71</u>	<u>0.79</u>	<u>3.61</u>	<u>24.7</u>	<u>clear</u>
<u>1517</u>	<u>40</u>	<u>5.75</u>	<u>0.79</u>	<u>3.08</u>	<u>24.7</u>	<u>clear</u>
<u>1524</u>	<u>68</u>	<u>5.82</u>	<u>0.79</u>	<u>3.47</u>	<u>24.9</u>	<u>clear</u>
<u>1534</u>	<u>108</u>	<u>6.04</u>	<u>0.80</u>	<u>1.77</u>	<u>21.3</u>	<u>clear</u>
<u>1545</u>	<u>150</u>	<u>6.11</u>	<u>0.80</u>	<u>1.04</u>	<u>19.5</u>	<u>clear</u>
<u>1555</u>	<u>3.6 gal</u>	<u>6.14</u>	<u>0.76</u>	<u>0.81</u>	<u>19.5</u>	<u>clear</u>
<u>1600</u>	<u>3.5 gal</u>	<u>6.24</u>	<u>0.75</u>	<u>1.05</u>	<u>19.5</u>	<u>clear</u>
<u>1605</u>	<u>4.0 gal</u>	<u>6.24</u>	<u>0.75</u>	<u>1.04</u>	<u>20.0</u>	<u>clear</u>
<u>1607</u>	<u>4.25</u>	<u>6.25</u>	<u>0.75</u>	<u>1.06</u>	<u>20.1</u>	<u>clear</u>

**SAMPLE WITHDRAWAL METHOD:**

Micro Purge

**APPEARANCE OF SAMPLE**

**COLOR**

clear

**TURBIDITY**

low

**SEDIMENT**

**OTHER**

**LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:**

VOC - 8260 w/ HCL ; SVOC - 8270

TPH - 8015 w/ HNO<sub>3</sub> METALS

**NUMBER AND TYPES OF SAMPLE CONTAINERS USED:**

160 Sample Collected.

3 x 40-ml vial, 2 x 1-l amber, 1 x 1.5-l plastic bag, 1 x 1-l plastic w/ HNO<sub>3</sub>

**SAMPLE IDENTIFICATION NUMBER(S)**

P2087BEN02501 / PF063

**DECONTAMINATION PROCEDURES:**

P2087GW02501

**NOTES:**

60 PSI @ 3.5 ACF 3.0 Accu wall

**SAMPLED BY:**

C. Cathcart

**SAMPLES DELIVERED TO:**

**TRANSPORTERS:**

**DATE:**

**TIME:**

**CAPACITY OF CASING (GALLONS/LINEAR FOOT)**  
2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87



# GROUNDWATER SAMPLING LOG

PF141

WELL NO.: Pt 14 / PZ089 LOCATION: APTF PROJECT NO: \_\_\_\_\_

DATE: 5/29/01 TIME: 1630 CLIMATIC CONDITIONS: Sunny 80°

STATIC WATER LEVEL: 17.32 TOTAL DEPTH: 19.12

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

*Ed Attempted to sample this well. Insufficient head of water for bladder pump.*  
 VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X \_\_\_\_\_

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: \_\_\_\_\_ PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

	DATE/TIME	GALLONS REMOVED	pH	SP. COND. mg/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
19.12	0952	2 - Purged Dry					
	1647	Begin Purge					
	1649	0.25	8.40	29.1	10.34	2234	Low
Purged Dry	→ 1650	0.5	7.57	26.2	5.92	2270	Low
	1655	0.75	7.57	26.1	5.91	2270	Low
	1700	1.5	7.58	26.2	5.90	2270	Low

SAMPLE WITHDRAWAL METHOD: Bailer

APPEARANCE OF SAMPLE: COLOR \_\_\_\_\_  
 TURBIDITY \_\_\_\_\_  
 SEDIMENT \_\_\_\_\_  
 OTHER \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: \_\_\_\_\_

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: \_\_\_\_\_

SAMPLE IDENTIFICATION NUMBER(S) PZ089AW01501 Sample collected @ 1710 DTW=17.50

DECONTAMINATION PROCEDURES: used sub. electric pump for purging - not used H<sub>2</sub>O for bladder pump.

NOTES: Sample v/d. disp. Bailer

SAMPLED BY: Eni [Signature]

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

PF125

WELL NO.: P27, P2090 LOCATION: CLIA Building 412 PROJECT NO: \_\_\_\_\_

DATE: 5/30/01 TIME: 0940 CLIMATIC CONDITIONS: \_\_\_\_\_

STATIC WATER LEVEL: 22.46 → 25.38 TOTAL DEPTH: \_\_\_\_\_

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

16-26  
-.4  
15.60-25.60  
set @ 24.00 VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: no purge/bailed PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	PH	SP. COND. mg/cm	D.O. mg/L	TEMP. REDOX	TURBIDITY
<u>5/30/01 1120</u>	<u>50ml</u>	<u>6.72</u>	<u>.697</u>	<u>10.50</u>	<u>22.3°</u>	<u>clear/yellow</u>
<u>1125</u>	<u>100ml</u>	<u>6.59</u>	<u>.659</u>	<u>10.99</u>	<u>21.1°</u>	<u>clear/yellow</u>
<u>1130</u>	<u>150ml</u>	<u>6.50</u>	<u>.650</u>	<u>10.90</u>	<u>21.0°</u>	<u>yellow/brown</u>
<u>1135</u>	<u>start sampling</u>	_____	_____	_____	_____	_____
<u>1220</u>	<u>end sampling</u>	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

**SAMPLE WITHDRAWAL METHOD:**

APPEARANCE OF SAMPLE COLOR: bailed  
 TURBIDITY: brown  
 SEDIMENT: brown  
 OTHER: yes

**LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES:**

vials for VOC + 1,4-dioxane w/HCl

1 liter w/H<sub>2</sub>SO<sub>4</sub> for TMT, 1 liter for PCB

**NUMBER AND TYPES OF SAMPLE CONTAINERS USED:**

3x1 vials (VOC), 3x1 vials (Dioxane)

1x1 liter amber (TPH), 1x1 liter amber (PCB)

**SAMPLE IDENTIFICATION NUMBER(S)**

P2090GW01501

**DECONTAMINATION PROCEDURES:**

**NOTES:**

SAMPLED BY: Chris Costales

SAMPLES DELIVERED TO: \_\_\_\_\_

TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_

TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF 122

WELL NO.: PZ-D91/DT-025 LOCATION: CTL-III PROJECT NO: \_\_\_\_\_

DATE: 5-25-01 TIME: 1105 CLIMATIC CONDITIONS: 85°F SUNNY

STATIC WATER LEVEL: 18.11' (TOC) TOTAL DEPTH: \_\_\_\_\_

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

SCREEN: 25.6' - 38.6' (TOC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

Pump Trip @ 32.5' (TOC) LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: MICRO PURGE BLADDER PUMP PUMPING RATE: \_\_\_\_\_

WELL PURGE DATA:

DATE/TIME	GALLONS REMOVED	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TEMP. REDOX	TURBIDITY
<u>1138</u>	<u>1000 ml</u>	<u>7.0</u>	<u>0.80</u>	<u>1.2</u>	<u>28°C</u>	<u>LOW</u>
<u>1143</u>	<u>1200 ml</u>	<u>7.0</u>	<u>0.80</u>	<u>1.2</u>	<u>28</u>	<u>LOW</u>
<u>1148</u>	<u>1400 ml</u>	<u>7.0</u>	<u>0.80</u>	<u>1.2</u>	<u>29</u>	<u>LOW</u>
<u>1153</u>	<u>1600 ml</u>	<u>7.0</u>	<u>0.80</u>	<u>1.2</u>	<u>29</u>	<u>LOW</u>

SAMPLE WITHDRAWAL METHOD: MICRO PURGE BLADDER PUMP

APPEARANCE OF SAMPLE COLOR: CLEAR

TURBIDITY: LOW

SEDIMENT: \_\_\_\_\_

OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 B w/ HCl

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): PZ D91GW 01S01

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Sample taken @ 1157 . DTW AFTER SAMPLING = 18.44 (TOC) @ 1203

SAMPLED BY: E. SARAO SAMPLES FILLS IN < 1.0 min.

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF120

WELL NO.: PZ-096/PT-126 LOCATION: PLF PROJECT NO: \_\_\_\_\_

DATE: 5-25-01 TIME: 0730 CLIMATIC CONDITIONS: 65°F OVER CAST

STATIC WATER LEVEL: 39.73' (TOC) TOTAL DEPTH: 48.17' (TOC)

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET  
 VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X \_\_\_\_\_

Tap of pump @ 43.0'(TOC)

LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: MICRO PURGE  
BLADDER PUMP PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

	DATE/TIME	GALLONS REMOVED	pH	SP. COND. ms/cm	D.O. mg/l	TEMP. REDOX	TURBIDITY
	<u>5/24/01 1413</u>	<u>10 gallons</u>	<u>PURGED</u>	<u>DRY BY J. DOUGHERTY</u>			
<u>MICRO PURGING</u> →	<u>5/25/01 0828</u>	<u>800 ml</u>	<u>7.0</u>	<u>2.2</u>	<u>1.8</u>	<u>18°C</u>	<u>LOW</u>
	<u>0833</u>	<u>1000 ml</u>	<u>7.0</u>	<u>2.3</u>	<u>1.8</u>	<u>18°C</u>	<u>LOW</u>
	<u>0838</u>	<u>1200 ml</u>	<u>7.1</u>	<u>2.3</u>	<u>1.7</u>	<u>18°C</u>	<u>LOW</u>

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE      COLOR      CLEAR

   TURBIDITY      LOW

   SEDIMENT      \_\_\_\_\_

   OTHER      \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260 B w/ HCL ;  
TPH-8015 BM w/ H2SO4

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS ; 1 x 1-L amber

SAMPLE IDENTIFICATION NUMBER(S)      ~~PZ044GW01S01~~ PZ096GW01S01

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Sample taken @ 0841. VOC VIALS FILLS UP IN ONE MINUTE. DTW = 40.04'(TOC) @ 0915  
RETER SAMPLING

SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87

# GROUNDWATER SAMPLING LOG

PF114

WELL NO.: P2-038/ PT-085 LOCATION: Comp. A PROJECT NO: \_\_\_\_\_

DATE: 5-24-01 TIME: 0950 CLIMATIC CONDITIONS: 75°F SUNNY

STATIC WATER LEVEL: 22.48 (TWC) @ 0950 TOTAL DEPTH: 30.22

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

SCREEN: 20.3' - 30.3' (TWC) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

pump tip @ 26 LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: MICRO PURGE (BLADDER PUMP) PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

	DATE/TIME	GALLONS REMOVED	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TEMP. REBOX	TURBIDITY
	<u>0715</u>	<u>9.0 GALLONS</u>	<u>PURGED</u>	<u>DRY BY CATHEART &amp; DOUGHERTY</u>			
<u>MICRO PURGE</u>	<u>1025</u>	<u>800 ml</u>	<u>7.3</u>	<u>1.3</u>	<u>5.2</u>	<u>22°C</u>	<u>LOW</u>
	<u>1029</u>	<u>1000 ml</u>	<u>7.3</u>	<u>1.3</u>	<u>4.7</u>	<u>22°C</u>	<u>LOW</u>
	<u>1033</u>	<u>1200 ml</u>	<u>7.3</u>	<u>1.3</u>	<u>5.3</u>	<u>23°C</u>	<u>LOW</u>

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE COLOR: CLEAR  
 TURBIDITY: LOW  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260B w/Heel

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): P2038GW01S01

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Sample taken @ 1035, DTW after sampling = 21.42 (TWC)  
VIALS filled up in < 1 min.

SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16-4"-0.65-6"-1.47-8"-2.61-10"-4.08-12"-5.87

# GROUNDWATER SAMPLING LOG

WELL NO.: P2-039/DT-086 LOCATION: STL IV PROJECT NO: PF129

DATE: 5-30-01 TIME: 0900 CLIMATIC CONDITIONS: 75°F sunny

STATIC WATER LEVEL: 11.08 (foc) TOTAL DEPTH: 31.55

WELL PURGING: \_\_\_\_\_ LENGTH OF SATURATED ZONE: \_\_\_\_\_ LINEAR FEET

~~SCREEN~~ 21.4'-21.4' (foc) VOLUME OF WATER TO BE EVACUATED: \_\_\_\_\_ GALS./LINEAR FT. X

Pump @ 25.4' (foc) LINEAR FT. OF SATURATION X CASING VOLUMES = \_\_\_\_\_ GALS.

METHOD OF REMOVAL: MICRO PURGE (BLADDER PUMP) PUMPING RATE: \_\_\_\_\_

**WELL PURGE DATA:**

DATE/TIME	GALLONS REMOVED	pH	SP. COND. ms/cm	D.O. mg/l	TEMP. REDOX	TURBIDITY
0929	1100 ml	6.9	1.2	1.6	21°C	Low
0934	1700 ml	6.9	1.2	1.3	20°C	Low
0939	2300 ml	6.9	1.2	1.4	20°C	Low
0944	2900 ml	6.9	1.2	1.4	20°C	Low

SAMPLE WITHDRAWAL METHOD: MICRO PURGE (BLADDER PUMP)

APPEARANCE OF SAMPLE COLOR: CLEAR  
 TURBIDITY: LOW  
 SEDIMENT: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES: VOC-8260B w/ HCL

NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 3 x 40-ml VIALS

SAMPLE IDENTIFICATION NUMBER(S): P2039 GW 01 S01

DECONTAMINATION PROCEDURES: \_\_\_\_\_

NOTES: Samples taken @ 0947. DTW after sampling = 11.51' (foc) @ 0951

SAMPLED BY: E. SARAO

SAMPLES DELIVERED TO: \_\_\_\_\_ TRANSPORTERS: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CAPACITY OF CASING (GALLONS/LINEAR FOOT)  
 2"-0.16•4"-0.65•6"-1.47•8"-2.61•10"-4.08•12"-5.87



MONTGOMERY WATSON

Boring #: PT-111 MW#: PZ097 Sheet 1 of 3

Project: DOE SHALLOW GROUNDWATER

Job #: Site: FSD/SSFL

Logged By: T. Burton Reviewed By:

Drilling Contractor: Layne

Drill Rig Type/Method: CME 850 All-Terrain/HSA

Drillers Name: Enrique Perez

Borehole Diam./Drill Bit Type: 8 in / Carbide Total Depth: 44.5' Ref. Elev. GROUND SURFACE

Site Sketch Map

Sampler Type: 1.5" split spoon

Depth to 1st Water (∇): NONE Time/Date:

Drill Start Time/Date: 1400 10/15/01 Drill Finish Time/Date: 0855 10/16/01

Depth to Water After Drilling (∇): Time/Date:

Well Completion Time/Date:

Depth to other Water Bearing Zones:

Soil Boring Backfill Time/Date: NOT APPLICABLE

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
						CONCRETE	1		Alloivium: Silty sand (SM), dry, loose, vf-fine, dk. yellowish brown 10YR 4/6	-	-	tr	65	35
						CEMENT GROUT	2							
							3		35' Alluv./Weathered bdrk. contact "Medium hard" drilling					
							4							
		5" 100/5					5		Weathered fine sandstone, oxidized brownish yellow (10YR), moist, some med. grains, slightly cemented	-	-	10	90	tr
							6							
							7		Softer drilling @ 6.5' - 9.5'					
							8							
							9							
		6" 93/6"					10		Weathered very fine sandstone, oxidized yellowish brown, moisture increasing	-	-	5	95	tr
							11		drilling rate same as 6.5'-9.5'					
							12							

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
							12								
							13								
							14								
	↓ 4"		100/4"				15		WEATHERED SANDSTONE: SAME AS ABOVE. THIN DARK GREY SILTSTONE INTERBEDS. SLIGHTLY MORE CEMENTED THAN ABOVE	-	-	5	95	TR	
							16		HARDER DRILLING @ 15'						
							17								
							18								
	↓ 2"		100/3"				19								
							20		WEATHERED FINE SANDSTONE WITH OCCASSIONAL MED GRAINS, OXIDIZED; MOIST; BROWNISH YELLOW	-	-	10	90	TR	
							21								
							22		SOFTER (SLIGHTLY) DRILLING @ 18.5'						
							23								
	↓ 4"		100/5"				24								
							25		Fine-very fine sandstone, red-brn, heavily oxidized & mod. cemented in upper 1.5", possible frx. zone; becomes unweathered & gray, slightly cemented & increased moisture	-	-	10	90	-	
							26								
							27								
							28								
	↓ 5"		100/5"				29								
							30		FINE-V. FINE SANDSTONE AS ABOVE WITH THIN SILTSTONE INTERBEDS, OXIDIZED, YELLOW	-	-	-	90	10	
							31		ISH-BROWN, MOIST, SLIGHTLY TO MODERATE CEMENTATION						
							32		SOFTER DRILLING @ 31'-33.5'						

2" DIAM SCHEDULE 40 PVC BLANK CASING FLUSH & THREADED TO THE SURFACE  
 1/4" TABLETS ENVIRONMENTAL MEDIUM CHIPS TO 1/2 FT BG'S

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
							32								
							33		HARDER DRILLING 33.5'-34.5'						
							34		FINE SANDSTONE, MOIST,						
	↓	1"	100/2"				35		OXIDIZED, BROWNISH-YELLOW, SLIGHTLY TO MODERATELY CEMENTED	-	-	5	95	TR	
							36								
							37		DRILLING RATE SAME AS 33.5-34.5' THROUGHOUT ENTIRE 3' SECTION (34.5-37.5')						
							38		COLOR CHANGE TO OLIVE IN CUTTINGS @ 38'. HARDER DRILLING 37.5-40'.						
							39								
	↓	2"	100/2"				40		FINE SANDSTONE WITH SOME MEDIUM GRAINS (COARSER THAN ABOVE), MOIST, BROWNISH-YELLOW, & MODERATELY CEMENTED	-	-	15	85	-	
							41								
							42								
							43		DRILLING BECOMING INCREASINGLY HARDER. VERY HARD FROM 43-44.5'.						
	↓	1"	100/1"				44								
							45		SAME AS ABOVE WITH INCREASED CEMENTATION. WELL CEMENTED	-	-	15	85	-	
							46								
							47		TOTAL DEPTH = 44.5' bgs						
							48		4 BAGS OF SAND RMC # 3						
							49		1 BUCKET OF 1/4" TABLETS WYOBEN ENVIRO-PLUG						
							50		BAGS OF WYOBEN ENVIROPLUG MEDIUM BENTONITE CHIPS, HYDRATED IN 1.5' LIFTS.						
							51								
							52								



MONTGOMERY WATSON

Boring #: PT-110 MW#: PZ 098 Sheet 1 of 3

Project: DOE Shallow GW Investigation

Job #: Site: FPDF/SSF

Logged By: T. Burton Reviewed By:

Drilling Contractor: Layne

Drill Rig Type/Method: CME 850 All-Terrain / HSA

Drillers Name: Enrique Perez

Borehole Diam./Drill Bit Type: 4" Carbide w/ Bullets

Total Depth 37.5' Ref. Elev. GROUND SURF.

Site Sketch Map

Sampler Type: 1.5" Split spoon

Depth to 1st Water (∇): NONE Time/Date: 10/16/01

Drill Start Time/Date: 10/16/01 1300 Drill Finish Time/Date: 10/16/01 1445

Depth to Water After Drilling (∇): Time/Date:

Well Completion Time/Date: 1640 ON 10/16/01

Depth to other Water Bearing Zones: N/A

Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
					2" DIA W SCHEDULE 40 PVC BLANK CASING TO SURFACE	CONCRETE	1		Surface: dry grasses adjacent to rock outcrops					
							2	SM	Silty sand, dry	-	tr	5	65	30
							3							
							4		@ 3.5' Alluvium / weathered bdrk. contact - hard drilling					
	↓	3	100% 4"				5		Moderately sorted sandstone, moist, moderately well cemented, yellowish brown to oxidized brown	-	5	30	65	-
							6							
							7							
							8							
	↓		100% 5"				9							
							10		As above, w/granitic fragments, heavy oxidation, strong brown	10	5	20	65	-
							11		Harder drilling @ 10.5'					
							12		Very Hard drilling 11.5-12.5'					

Boring #: PT-110

MW#: PZ 098

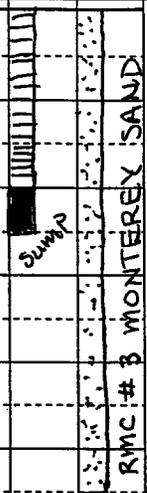
Project: DOE Shallow GW Investigation

Sheet 2 of 3

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
							12								
							3								
							4								
	↓ 2		100/4"				15		Fine sandstone, with 1/2" thick siltstone interbed (dark gray, well cemented), moist, moderately cemented, oxidized.			30	70		
							6								
							7		Drill rate same as above (hard)						
							8								
							9		Drilling						
	↓ 3		100/3"				20		Mod. to well cemented sandstone, thin (1/8") interbed of siltstone; oxidized, micaceous			45	55		
							1								
							2		Drilling "a little softer" in 5' run						
							3								
							4								
	↓ 4		100/4"				25		Sandstone, mod. cemented, increasing moisture, bands of heavy, reddish oxidation			tr 20	80		
							6								
							7		Harder Drilling; cuttings are dk. gray - fragments of gray, unweathered sandstone						
							8								
							9		Very Hard 27.5-29.5'						
	↓ 2		100/4"				30		Dark reddish brown, mod. well cemented, well sorted sandstone, very highly oxidized			tr 5	95		
							1								
							2		Softer Drilling 30-33'						

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
							32								
							33		Harder again @ 33'						
							34								
							35		FINE SANDSTONE, GREY, UNOXIDIZED, MOIST, MICACEOUS, WITH SOME MEDIUM GRAINS, WELL CEMENTED	-	-	5	95	-	
							36								
							37								
							TD		VERY HARD @ 37.5 ft REFUSAL @ 37.5 ft TD = 37.5 ft						
							38								
							39								
							40		45 BAGS OF RMC #3 NATURAL MONTEREY BEACH SAND						
							41		1 BAG WYOBEN ENVIROPLUG MEDIUM BENTONITE CHIPS. HYDRATED IN 1.5 FOOT LIFTS.						
							42		4 BAGS OF COLTON PORTLAND CEMENT TYPE II/V MIXED WITH 22 GALS OF WATER TO CREATE CEMENT GROUT SEAL						
							43								
							44								
							45								
							46								
							47								
							48								
							49								
							50								
							51								
							52								

↓ 3" 100/3





MONTGOMERY WATSON

Boring #: PT-112 MW#: PZ 099 Sheet 1 of 23

Project: DOE Shallow GW Investigation

Job #: Site: SSFL Area IV

Logged By: T. Burton Reviewed By:

Drilling Contractor: Layne

Drill Rig Type/Method: CME 850 All-Terrain/HSA

Drillers Name: Enrique Perez

Borehole Diam./Drill Bit Type: 8" Carbide bit w/ bullets Total Depth 33'(28') Ref. Elev.

Site Sketch Map

Sampler Type: 1.5" Split Spoon

Depth to 1st Water (V): Time/Date: 10/17/01 Drill Start Time/Date: 0920 Drill Finish Time/Date: 1050

Depth to Water After Drilling (V): Time/Date: Well Completion Time/Date: 10/17/01 1150

Depth to other Water Bearing Zones: Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
									Surface: dry grass + soils					
							1							
							2	SM	Alluvium: silty sand, vf-med. grained, dry, loose					
							3		@ 3' Alluvium/Bedrock contact					
							4							
							5		"Medium Hard" Drilling 3-9.5'					
							6							
							7							
							8							
							9							
							10		Poorly sorted sandstone, brown, moist, moderately cemented, light oxidation banding, loose in sample	5	20	75		
							11		Same drill rate to 14.5'					
							12							

↓ 4 100%

PID/OVA Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
									Coarse	Med.	Fine	Silt/Clay		
						2								
						3		Same drill rate ("Medium Hard")						
10.5	↓ 4	100/4"		2" BLANK PVC CASING	Burtonite Chips	4								
				(SCHEDULE 40)		15		Sandstone, brown, moderately cemented, moist, mod. well sorted - mostly fine grains			15	85		
						6								
						7		Cuttings appear olive-colored (grayish-olive)						
						8		Hard zone 17.5 - 18'						
						9								
24	↓ 3	100/3"		2" DIAM. PVC CASING w/ 0.820" SLOTTED PERFORATIONS	RMC LONE STAR #3 SAND	20		Fine sandstone, well cemented, moist, brownish gray, slight oxidation of (mafic) micas			10	90		
						1								
						2		Hard Drilling 20 - 25'						
						3								
						4								
20.5	↓ 2	100/2"				25		As above; gray, unweathered fine sandstone, well cemented, moist - appears saturated			5	95		
						6								
						7		@ 27.5' Very Hard drilling						
						8								
						9								
2.5	↓ 2	100/2"				30		As above, very fine ss				100		
						1		Same Drill rate						
						2		Total Depth = 33' bgs						

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
						SAND	2		4.5 BGS RMC #3 NATURAL MONTEREY BEACH SAND					
							33		1 BG WYOBEN ENVIROPLUG MEDIUM BENTONITE CHIPS.					
							4		2 BGS COLTON PORTLAND CEMENT II/V MIXED WITH 11 GALS WATER TO FORM CEMENT GROUT					
							5							
							6							
							7							
							8							
							9							
							0							
							1							
							2							
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							0							
							1							
							2							



MONTGOMERY WATSON

Boring #: PT-113 MW#: P2-100 Sheet 1 of 2

Project: DOE SHALLOW GROUNDWATER

Job #: Site: FSD/SSFL

Logged By: T. HALL Reviewed By:

Drilling Contractor: LAYNE [ENRIQUE]

Drill Rig Type/Method: CME 850 / HSA

Drillers Name: ENRIQUE

Borehole Diam./Drill Bit Type: 8" / CARBIDE BIT  
 Total Depth: 16.5  
 Ref. Elev.: GROUND SURF.

Site Sketch Map

Sampler Type: 1.5' SPLIT SPOON

Depth to 1st Water (∇): NONE Time/Date: 10/17/01

Drill Start Time/Date: 1255 10/17/01 Drill Finish Time/Date: 1405 10/17/01

Depth to Water After Drilling (∇): Time/Date:

Well Completion Time/Date: 1440 ON 10/17/01

Depth to other Water Bearing Zones:

Soil Boring Backfill Time/Date: N/A

PID/OVA (PPM)	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
0.0	X							SM	0-0.5 (SM) SILTY SAND WITH OCCASIONAL GRAVEL, DRY, LOOSE, YELLOWISH-BROWN, FILL, STRONG BROWN	5	-	10	80	5
							1	FILL						
							2		GRAVEL (GP) FROM 0.5'-2'	75	15	5	5	-
							3							
							4							
							4		FIRST 4" SAME AS ABOVE	5	TR	10	80	5
0.0		6"	10				5	SB	LAST 14" SILTY SANDSTONE, FINE, MOIST, LOOSE, OXIDIZED, BROWNISH-YELLOW, VERY LITTLE TO NO CEMENTATION, SLIGHTLY CEMENTED LAST 4"	-	-	5	85	10
0.0		6"	15				5'	BEDROCK						
0.1		6"	72				6		DRILLING HARDER @ 7'					
							7							
							8							
							9		DRILLING HARDER @ 10'					
0.0		6"	100/6"				10		SILTY SAND, FINE, OXIDIZED, MOIST, MODERATELY CEMENTED, YELLOWISH-BROWN, INCREASED MICA CONTENT					
							11							
							12							

PID/OVA	Sample Interval	Recovered (ft.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
							12		DRILLING HARDER @ 12.5					
							13		WITH COLOR CHANGE IN CUTTINGS TO OLIVE-GREY.					
							14		DRILLING VERY HARD @ 13					
26.5	↓	4"	100/4"		2" DIAM SCREEN	RMC #3 SAND	15		SANDSTONE, FINE WITH OCCASSIONAL MEDIUM GRAINS, MOIST, WELL CEMENTED, GRAY	-	-	5	95	TR
							15.8"							
							16		CEMENTED, GRAY					
							17	TD	SLIGHTLY EASIER DRILLING @ 16 FEET, BUT STILL VERY HARD					
							18							
							19		TD = 16.5 FT (REFUSAL)					
							20		SCREEN 5.8' - 15.8' BGS					
							1		3.7 BGS RMC #3 NATURAL MONTEREY BEACH SAND					
							2		1 BG WYOBEN ENVIROPLUS MEDIUM BENTONITE CHIPS. HYDRATED IN 1.5 FT LIFTS					
							3							
							4		@ 1350 TALK W/ MCGINNIS 109, 101, 88, 87, 70 DONE					
							5							
							6							
							7							
							8							
							9							
							0							
							1							
							2							



MONTGOMERY WATSON

Boring #: PT-114 MW#: PZ-101 Sheet 1 of 2

Project: DOE SHALLOW GROUNDWATER

Job #: Site: FSD/SSFL

Logged By: T. HALL Reviewed By: T. Burton

Drilling Contractor: LAYNE

Drill Rig Type/Method: CME 850/HSA

Drillers Name: ENRIQUE PEREZ

Borehole Diam./Drill Bit Type: 8" / CARBIDE Total Depth Ref. Elev.

Sampler Type: 1.5' SPLIT SPOON

Site Sketch Map

Depth to 1st Water (∇): Time/Date: 1515 Drill Start Time/Date: 10/17/01 Drill Finish Time/Date: 10/18/01

Depth to Water After Drilling (∇): Time/Date: Well Completion Time/Date:

Depth to other Water Bearing Zones: Soil Boring Backfill Time/Date:

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
0.0	X					CONCRETE	1	SM	SILTY SAND, FINE - MED, WITH OCCASSIONAL GRAVEL, MOIST, LOOSE, ROOTLETS, LIKELY FILL, YELLOWISH-BROWN.	5	10	30	45	1
0.0		6"	9			BENTONITE	5	SM	SILTY SAND, FINE-MED GRAINS, MOIST, STRONG BROWN, MORE FINES THAN ABOVE (SILT/CLAY) LIKELY NATIVE ALLUVIUM.	-	5	10	55	30
0.0		6"	9			BENTONITE	6	SM						
0.0		6"	8			BENTONITE	7	SM						
						BENTONITE	8		DRILLING HARDER @ 8 FT FOLLOWED BY COLOR CHANGE (POSSIBLE ALLUV/B.R. CONTACT)					
						BENTONITE	9							
0.0		3"	100/3"			RING #3 SAND	10		SILTY SAND, V. FINE-MED GRAINS, MOIST, BROWNISH-YELLOW, MODERATELY CEMENTED	-	-	10	80	1
						RING #3 SAND	11							
						RING #3 SAND	12		DRILLING SLIGHTLY HARDER @ 10.5'					

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (feet)	USCS Soil Type	Soil Description	Estimated % Of Sand									
										Gravel	Coarse Med.	Fine	Silt/Clay						
							1												
							2												
							3												
							4												
0.3	↓	3	100/3"		0.020" SLOTS		14		HAMMER CHANGE BROKE AFTER 3 BLOWS.										
							15		Fine sandstone, moist, mod. well cemented, mod well sorted, brownish gray, oxidized yellowish to strong brown in places (fracture?), micaceous	5	20	75							
							16												
							17												
							18		Medium Hard Drilling										
							19												
20	↓	2	100/2"		2" DIAM SCH 40 PNC WITH 0.020" SLOTS		20		Well cemented Fine sandstone, moist, micaceous, oxidized yellowish brown, well sorted	tr	100								
							21												
							22		Very Hard Drilling @ 21'										
							23												
							24												
22	↓	2	100/2"				25		As above, w/some granitic fragments as coarse sand/ fine gravel, vf-fine sands, moist, olive gray, less oxidation	5	5	10	80						
							26												
NA	↓	1	100/1"				27												
							28		Refusal @ 27' w/auger										
							29		Sample: well cemented, gray, unweathered fine sandstone										
							30		10-20' Screen; 27-7' #3 sand										
							31		5-7' Bert. chips (medium)										
							32		2-5' cement grout										

Resume 10/18/01



MONTGOMERY WATSON

Boring #: PT-109 MW#: PZ 102 Sheet 1 of 34

Project: DOE Shallow GW Investigation

Job #: Site: \_\_\_\_\_

Logged By: T. Burton Reviewed By: \_\_\_\_\_

Drilling Contractor: Layne

Drill Rig Type/Method: CME 850 All-Terrain/HSA

Drillers Name: Enrique Perez

Borehole Diam./Drill Bit Type: 8" Carbide Shovel & Bullets

Total Depth 59' Ref. Elev. \_\_\_\_\_

Site Sketch Map

Sampler Type: \_\_\_\_\_

Depth to 1st Water (∇): Time/Date: \_\_\_\_\_

Drill Start Time/Date: 10/18/01 1340 Drill Finish Time/Date: 10/19/01 0920

Depth to Water After Drilling (∇): Time/Date: \_\_\_\_\_

Well Completion Time/Date: \_\_\_\_\_

Depth to other Water Bearing Zones: \_\_\_\_\_

Soil Boring Backfill Time/Date: \_\_\_\_\_

PID/OVA (ppm)	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of					
										Gravel	Sand			Silt/clay	
											Coarse	Medium	Fine		
						CONCRETE	1		Silt + silty sand alluvium						
						GROUT	2		@ 2.5' Alluvium / weathered Bdrk. contact						
							3								
							4								
							5								
							6		soft drilling						
							7								
							8								
							9								
∅	I	3	15				10		Poorly cemented, moist vf - Fine sand grayish brown; grades to 1-2" bed of poorly cemented, olive yellow siltstone, moist; then to highly oxidized, strong brown sands, moist + poorly cemented				100		
∅	I	6	16				11						tr	90	10
∅	↓	6	30				12		@ 10.5' slightly harder (still soft)						

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
							2		"Medium hard" 5						
							3		Soft drilling-weathered bedrock						
							4								
	5 ↓	5	100% 5"				15		Poorly cemented v.f sand + silt interbeds, moist, with variable oxidation to olive, yellow, + olive gray; med. plasticity silt; some strong brown oxidized layers				75	25	
							6								
							7								
							8		Same drill rate 5						
							9								
	4.5 ↓	4	100% 5"				20		Poorly cemented fine sandstone, moist, w/ thin, moderately cemented siltstone bed; olive to yellowish brown				10	75	15
							1								
							2		Softer at 23.5' 2						
							3								
							4								
	φ ↓	6	100% 6"				25		Interbeds of partially to mod. cemented v.f sandstone + siltstone; saturated, soft clayey silt in possible frx., oxidized yellow brn. in places, gray to olive				40	60	
							6								
							7								
							8								
							9		Soft to 28.5', becomes medium hard 5						
	φ ↓	2	100% 2"				30		Oxidized fine sandstone, mod. well cemented, well sorted, v.f-fine grains, olive to yellowish brown.				100		
							1								
							2								

GROUT

2?

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse Med.	Fine	Silt/Clay	
							2		Soft to medium hard drilling					
							3							
							4							
NA	↓	1"	100/1"				35		well cemented fine sand-stone, moist (saturated?), micaceous, oxidized dk. yellowish brown		10	10	80	
							6							
							7		Medium Hard drilling					
							8							
							9							
∅	↓	3"	100/3"				40		As above, mod. well cemented, oxidized dk. yellowish brn., moist		10	10	80	
							1							
							2		Becomes harder @ 42'					
							3							
							4							
NA	↓	2"	100/2"				45		As above, moist, dk. yellow-brown, well cemented				10	90
							6							
							7		Harder still @ 46'					
							8							
							9		Very Hard @ 48.5'					
∅	↓	6"	27				50		Saturated silt & sand, highly oxidized, possible fault gouge				20	80
∅	↓	6"	100/6"										20	80
							1							
							2							

2" 0.02" SCREEN 2" SCH 40 BLANK PVC TO SURFACE  
 BENTONITE CEMENT GROUT TO 2 FT BGS  
 RMC #3 SAND

10/19/01

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand									
										Gravel	Coarse	Med.	Fine	Silt/Clay					
							2												
							3		Hard Drilling 49-54' & Hole is tight. H <sub>2</sub> O added to cool bit.										
							4												
∅	↓	4	100 1/4"				55		As above, wet clayey silt (dk. gray) and oxidized fine sands, dry-moist; possible fault gouge along Frx. zone; some shalestone fragments mod. well cemented										fr 40 60
							6												
							7												
							8												
							9		Very Hard Drilling @ 58' 9.10										
NA	←	∅	100 1/4"				60		Sample contained slough + a small piece of oxidized fine sandstone - well cemented (2 attempts)										
							1												
							2		Total Depth 59.2'										
							3												
							4		Materials:										
							5		RMC Lonestar #3 Sand										
							6		Enviroplug Medium Bentonite Chips										
							7		Portland cement Type II/III										
							8		Sch. 40 PVC 2" diam, 0.020" slot										
							9												
							0												
							1												
							2												

cap. 2" DIAM screen (0.020" SLOTS)  
 RMC #3 SAND



MONTGOMERY WATSON

Boring #: PT-101 MW#: PZ-103 Sheet 1 of 3

Project: DOE Shallow GW Investigation

Job #: Site: Bldg. 20

Logged By: T. Burton Reviewed By:

Drilling Contractor: Layne

Drill Rig Type/Method: CME 850 All-Terrain / HSA

Drillers Name: Enrique Perez

Borehole Diam./Drill Bit Type: 8" Carbide

Total Depth 39.0'

Ref. Elev. GROUND SURFACE

Site Sketch Map

Sampler Type: 1.5' SPLIT SPOON

Depth to 1st Water (∇): 21.3' bgs Time/Date: 0920 10/22/01

Drill Start Time/Date: 1030 Drill Finish Time/Date: 10/22/01

Depth to Water After Drilling (∇): Time/Date:

Well Completion Time/Date: 1420 ON 10/22/01

Depth to other Water Bearing Zones:

Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 In.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
						CONCRETE	0-1.0		SSC: Asphalt					
							1-2.0							
							2-3.0		Alluvium: sandy silt, dark brown, moist, soft				35	65
							3-4.0		Soft drilling					
							4-5.0		@ 5' Color change to dk. yellowish brown, weathered sandstone					
							5-6.0							
							6-7.0		Soft drilling					
							7-8.0							
			7				8-9.0	ML	Sandy silt (ML), weathered & partially oxidized dk. gray siltstone & shale;				20	80
			30				9-10.0	SM	moist; grades to oxidized silty sand, SM, moist, dk. yellowish brn, dense.			5	15	
			22				10-11.0							
							11-12.0							

Boring #: PT-101

MW#: PZ-103

Project: DOE Shallow GW Investigation

Sheet 2 of 3

PPM	PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
											Gravel	Coarse	Med.	Fine	Silt/Clay
								2		@ 12' becomes soft-med. hard drilling 3-4					
								3							
		φ ↓ 6		60/5"				4		Very fine sandstone, moist, slightly cemented (poorly), thin interbeds, yellowish brown oxidation, silty in places			95	5	
								15							
								6							
								7		@ 14' drilling is med. hard s					
								8							
		φ ↓ 5		100/5"				9		Sandstone, oxidized yellowish brown, moist, moderately cemented (base in sample), mod. sorted			tr	30	70
								20							
								1							
								2		@ 22' becomes Hard - cuttings are dk. gray					
								3							
								23.5							
		φ ↓ 1.5		100/3"				4		Poorly sorted sandstone, mod. well cemented, loose in sample, dk. yellowish brown			40	15	45
								25							
								26.0							
								6							
								7							
								8							
		0.0 ↓ 4"		100/4"				9		SANDSTONE & SILTSTONE INTERBEDS: S.S. IS V. FINE, SILTY				60	40
								30		OLIVE GREY MOIST, MOD-WELL CEMENTED. SILTSTONE IS SANDY (V. FINE), OLIVE GREY MOIST, WELL CEMENTED, OXIDIZED				20	80
								1							
								2							

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
							3		HARDER DRILLING @ 30'					
							3							
							4		SILTY SANDSTONE, MOIST, MOD CEMENTATION, BROWNISH-YELLOW, FINE TO MEDIUM GRAINS, MICACEOUS, OXIDIZED	-	-	35	60	5
339	↓	3"	100/3"				3							
							5							
							6							
							7		SOFTER @ 36'					
							8							
							8		HARDER @ 38'					
							9							
18.4	↓	4"	100/4"				9		UPPER 2": FINE SANDSTONE, MOIST, MOD CEMENTATION, BROWNISH-YELLOW WITH THIN (1/8"-1/4") SILTSTONE INTERBEDS, S.S. OXIDIZED.	-	-	-	90	10
							10							
							1							
							2		LOWER 2": SANDY SILTSTONE, MOIST, OLIVE-GREY, DENSE, WELL CEMENTED, MOSTLY SILT (U.S. CLAY)	-	-	-	20	80
							3							
							4							
							5		TD = 40' bgs TD = 39' bgs					
							6		4 BGS OF SAND. RMC # 3 NATURAL MONTEREY BEACH SAND. SAND SETTLED 1 1/2" AFTER SURGING. ADDED 3" OF SAND.					
							7							
							8		3/4 BUCKET WYOBEN ENVIROPLUG COATED 1/4" TABLETS. HYDRATED IN PLACE BY GROUNDWATER					
							9		6 BAGS OF CEMENT MIXED WITH 33 GALONS OF WATER.					
							0							
							1							
							2							



MONTGOMERY WATSON

Boring #: PT-087MW#: PZ-104 Sheet 1 of 3

Project: DOE SHALLOW GROUNDWATER

Job #: Site: SHEA/SSFL

Logged By: T. HALL Reviewed By:

Drilling Contractor: LAYNE

Drill Rig Type/Method: CME 850 / HSA

Drillers Name: ENRIQUE PEREZ

Borehole Diam./Drill Bit Type: 8" / CARBIDE Total Depth: 38.5' Ref. Elev. GROUND SURFACE

Sampler Type: 1.5' SPLIT SPOON

H2O LEVEL 20.3' bgs @ 1055 ON 10/23/01

Site Sketch Map

Depth to 1st Water (▽): ~ 36' Time/Date: 0935 10/23/01 Drill Start Time/Date: 1455 10/22/01 Drill Finish Time/Date: 0940 10/23/01

Depth to Water After Drilling (▽): 27.3' Time/Date: 0950 10/23/01 Well Completion Time/Date: 1150 ON 10/23/01

Depth to other Water Bearing Zones: N/A Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/Clay
											Coarse	Medium	Fine	
0.0	↓					CONCRETE	1		SFC: SILTY SAND WITH GRAVEL, DRY, LOOSE, FILL.	10	10	20	40	20
							2		HAND AUGER REFUSAL @ 1'					
							3							
							4							
0.6	↓	6"	6			GROUT MIXTURE	5	SC	FILL: CLAYEY SAND, MOIST, DENSE, YELLOWISH-BROWN,	-	-	10	60	30
0.0	↓	6"	6				6							
0.0	↓	6"	7				7							
							8							
							9		SOFTER DRILLING @ 7'					
							10	Sm	ALLUVIUM: SILTY SAND; MOIST, YELLOWISH-BROWN, M-F GRAINS, LESS CLAY THAN ABOVE,	-	-	10	60	30
							11	SP	POORLY SORTED SAND; MED-FINE GRAINS, WITH ORGANIC TRACES,	-	-	40	50	10
0.0	↓	7 6"				PORTLAND CEMENT	12							

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
							2		MOIST, LOOSE, HIGHLY WEATHERED SANDSTONE?					
							3		HARDER DRILLING @ 13'					
							4		FOLLOWED BY A COLOR CHANGE IN THE CUTTINGS.					
0.0	↓	3"	100/4"		2" DIAM SCH 40 BLANK PVC	BENTONITE	5		SILTY SANDSTONE: FINE TO MEDIUM GRAINS, MOIST, LOOSE, SLIGHTLY CEMENTED, BROWNISH-YELLOW, OXIDIZED	-	-	30	60	10
							6							
							7							
							8		HARDER @ 17'					
							9							
0.0	↓	15"	100/2"		2" DIAM SCH 40 PVC SLOTS	BENTONITE	20		SAME AS ABOVE, BUT SLIGHTLY MORE CEMENTED (SLIGHTLY-MOD. LY CEMENTED).	-	-	30	60	10
							21							
							22							
							23		HARDER @ 21'-22', SOFTER @ 22'-23', HARDER 23'-25'					
							24		CUTTINGS @ 25.2 PPM (PID) IN BUCKET					
0.0	↓	0.5"	100/2"		2" DIAM SCH 40 PVC SCREEN WITH 0.020" SLOTS	BENTONITE	25		SILTY SANDSTONE: FINE TO MED GRAINS, MICACEOUS, MOST, MOD CEMENTATION, BROWNISH YELLOW, OXIDIZED	-	-	20	70	10
							26							
							27							
							28		HARDER @ 28', CUTTINGS CHANGED TO OLIVE GREY.					
							29							
25.6	↓	3"	100/3"		2" DIAM SCH 40 PVC SCREEN WITH 0.020" SLOTS	BENTONITE	30		TAN SILTY SANDSTONE: FINE TO COARSE GRAINS, MICACEOUS, MOST, MOD TO WELL CEMENTED, OXIDIZED	-	-	20	40	40 TR
							31							
							32							

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 In.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
						BENTONITE CHIPS	2		DRILLING SLIGHTLY SOFTER @ 32'-35'					
						BENTONITE CHIPS	3							
						BENTONITE CHIPS	4							
		0"	100%			BENTONITE CHIPS	35		NO SAMPLE RECOVERED. BASED ON CUTTINGS:	-	10	40	40	10
						SLUG	6		SILTY SANDSTONE, MOIST, MOD CEMENTATION, FINE TO COARSE GRAINS, BROWN ISH YELLOW, OXIDIZED?					
						SLUG	7		HARDER DRILLING @ 35'					
						SLUG	8		VERY HARD @ 37.5'					
		3"	100%			SLUG	9		REFUSAL @ 38.5. H2O ON HAMMER.	-	-	-	90	10
							40		SANDSTONE: FINE SANDSTONE FINE TO V. FINE GRAINS, WELL CEMENTED, MOIST, GREY					
							1							
							2		TD = 38.5					
							3							
							4		BAILED MUDDY H2O FROM THE AUGERS PRIOR TO PIEZOMETER INSTALLATION.					
							5		5.5 BGS RMC #3 NATURAL MONTEREY BEACH SAND, SURGED TO SETTLE FILTER PACK AROUND SCREEN					
							6		3.2 BGS WYOBEN ENVIROPLUG MEDIUM CHIPS, HYDRATED IN PLACE BY GROUND WATER OR IN 1.5 FT LIFTS ABOVE GROUNDWATER					
							7							
							8		2 BGS COLTON PORTLAND CEMENT TYPE II/V MIXED WITH 11 GALS OF H2O.					
							9							
							50							
							1							
							2							



MONTGOMERY WATSON

Boring #: PT-088 MW#: P2-105 Sheet 1 of 2

Project: DOE SHALLOW GROUNDWATER

Job #: Site: AREA IV / SSF

Logged By: T. HALL Reviewed By:

Drilling Contractor: LAYNE

Drill Rig Type/Method: CME 850 / HSA

Drillers Name: ENRIQUE PEREZ

Borehole Diam./Drill Bit Type: 8" / CARBIDE Total Depth 28.0' Ref. Elev. GROUND SURFACE

Site Sketch Map

Sampler Type: 1.5' SPLIT SPOON

Depth to 1st Water (V): NONE Time/Date: Drill Start Time/Date: 1250 10/23/01 Drill Finish Time/Date: 1420 10/23/01

Depth to Water After Drilling (V): Time/Date: Well Completion Time/Date: 1515 ON 10/23/01

Depth to other Water Bearing Zones: N/A Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
0.0	↓		160 / 5'	TAN		CONCRETE		SM	SRFC: SILTY SAND, DRY, YELLOWISH BROWN WITH OCCASSIONAL GRAVEL, SAND FINE TO COARSE. COLOR CHANGE TO BROWNISH YELLOW @ 3'. NO CHANGE IN DRILLING HARDNESS.	TR	20 10	40 30	40 40	2
0.0	↓	5"	100 / 5'			CEMENT MIXTURE	5		SILTY SANDSTONE: MOIST, V. FINE-MED GRAINED, OXIDIZED, SLIGHTLY CEMENTED, MICACEOUS, YELLOWISH BROWN. HARDER @ 7'. VERY HARD @ 8.5'. AUGER STUCK @ 9 FEET. REFUSAL? ADDED H2O & FREED AUGERS.	-	-	20	60	20
0.0	↓	5"	100 / 5'			CEMENT MIXTURE	10		SANDSTONE: COARSE TO FINE, MOIST, SLIGHTLY-MOD CEMENTATION, YELLOWISH-BROWN, MICACEOUS,	-	10	30	60	

PID/OVA	Sample Interval	Recovered (ft.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse Med.	Fine	Silt/Clay	
							2							
					2" DIA SCH 40 BLANK PVC	BENTONITE	3							
					2" DIA SCH 40 BLANK PVC	BENTONITE	4							
0.0	↓	2'	100/3		2" DIA SCH 40 BLANK PVC	BENTONITE	5		SAME AS ABOVE					
					2" DIA SCH 40 BLANK PVC	BENTONITE	6							
					2" DIA SCH 40 BLANK PVC	BENTONITE	7		HARDER @ 17, FOLLOWED BY OLIVE GREY CUTTINGS					
					2" DIA SCH 40 BLANK PVC	BENTONITE	8							
					2" DIA SCH 40 BLANK PVC	BENTONITE	9							
0.0	↓	2"	100/2		2" DIA SCH 40 BLANK PVC	BENTONITE	20		SANDSTONE: COARSE TO FINE GRAINED, MICACEOUS, MOD TO WELL CEMENTED, MOIST, INTERMIXED ZONES OF GREY AND BROWNISH-YELLOW.	-	10	30	60	-
					2" DIA SCH 40 BLANK PVC	BENTONITE	21							
					2" DIA SCH 40 BLANK PVC	BENTONITE	22		HARDER @ 22, FOLLOWED BY WITH CUTTINGS GREY					
					2" DIA SCH 40 BLANK PVC	BENTONITE	23							
					2" DIA SCH 40 BLANK PVC	BENTONITE	24		SOFTER @ 25 WITH BROWNISH-YELLOW CUTTINGS					
0.0	↓	3"	100/3		2" DIA SCH 40 BLANK PVC	BENTONITE	25		SANDSTONE: FINE - COARSE GRAINED, MICACEOUS, MOD CEMENTED, BROWNISH-YELLOW, MOIST.	-	5	60	35	-
					2" DIA SCH 40 BLANK PVC	BENTONITE	26							
					2" DIA SCH 40 BLANK PVC	BENTONITE	27		HARDER @ 27 WITH GREY CUTTINGS.					
0.0	↓	3"	100/3		2" DIA SCH 40 BLANK PVC	BENTONITE	28	TD	SANDSTONE: FINE - V. FINE GRAINS, MICACEOUS, WELL CEMENTED, GREY, MOIST.	-	-	-	100	-
					2" DIA SCH 40 BLANK PVC	BENTONITE	29							
					2" DIA SCH 40 BLANK PVC	BENTONITE	30		REFUSAL @ 28 FT BGS					
4	BGS	RMC # 3	NATURAL	MONTEREY	BEACH SAND									
1	BG	WYOBEN	ENVIROPLUG	MEDIUM	CHIPS. HYDRATED IN 1.5' LIFTS									
2	BGS	COLTON	PORTLAND	CEMENT	TYPE II/V MIXED WITH 11 GALS H <sub>2</sub> O.									



MONTGOMERY WATSON

Boring #: PT-070MW#: P2-106 Sheet 1 of 3

Project: DOE SHALLOW GROUNDWATER

Job #: Site: EEL/SSFL

Logged By: T. HALL Reviewed By:

Drilling Contractor: LAYNE

Drill Rig Type/Method: CME 850/HSA

Drillers Name: ENRIQUE PEREZ

Borehole Diam./Drill Bit Type: 8"/CARBIDE Total Depth 35.0 Ref. Elev. GROUND SURFACE

Site Sketch Map

Sampler Type: 1.5' SPLIT SPOON

Depth to 1st Water (∇): ≈ 17' ? Time/Date: 0900 10/24/01 Drill Start Time/Date: 1540 10/23/01 Drill Finish Time/Date: 1000 10/24/01

Depth to Water After Drilling (∇): 26.3 Time/Date: 1005 10/24/01 Well Completion Time/Date: 1135 ON 10/24/01

Depth to other Water Bearing Zones: N/A Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 In.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
0.0	↓					CONCRETE		SP	FILL: POORLY GRADED SAND WITH GRAVEL, MOIST, STRONG BROWN, LOOSE, NO PLASTICITY MED DENSE	35	5	30	20	10
	↓						1	SM	SILT SAND: ALLUVIUM, MOIST, LOOSE STRONG BROWN, M.-F. GRAINS	-	-	10	60	30
0.0	↓						2							
0.0	↓						3	SM	SAME AS ABOVE					
	↓						4	SC	CLAYEY SAND: C-F GRAINS, MED DENSE, MOD PLASTICITY, STRONG BROWN, ALLUVIUM	-	5	10	55	30
0.0	↓	6"	6				5	SC	SAME AS ABOVE	-	5	10	55	30
	↓	6"	10				6	SC	SAME AS ABOVE, EXCEPT COLOR IS YELLOWISH BROWN. CARBONATE CEMENT CRYSTALS NOTICED WITHIN THE MATRIX.					
	↓	6"	13				7							
							8		BEDROCK/ALLUVIUM CONTACT SOMEWHERE BETWEEN 6.5' & 10' BGS					
							9							
0.0	↓	6"	100/6"				10		SILTY SANDSTONE: F-V. FINE GRAINS, MICACEOUS, SLIGHTLY CEMENTED, YELLOWISH BROWN, MOIST, OXIDIZED	-	-	TR	80	
							11							
							12							

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
							2		HARDER @ 12'						
							2.5								
							3								
							4		HARDER (MORE) @ 14'						
							5								
0.0	↓	1"	100/3"		2" DIA SCH 40 BLANK PVC	BENTONITE CHIPS	5.5		SAME AS ABOVE WITH INCREASED CEMENTATION TO SLIGHTLY-MODERATE CEMENTATION	-	-	TR	80	20	
							6								
							7		H <sub>2</sub> O @ ≈ 17' BASED ON WET CUTTINGS & WATER ON HAMMER						
							8		HARDER @ 18.5'						
							9								
15.2	↓	1"	100/2"		2" DIA SCH 40 PVC WITH 0.020" SLOTS		20		SANDSTONE: MED TO FINE GRAINS, MICACEOUS, SLIGHTLY TO MODY CEMENTED, OXIDIZED, BROWNISH YELL, MOIST	-	-	10	70	20	
							1								
							2								
							3		HARDER DRILLING @ 22.5'						
							4		CUTTINGS CLAYEY SANDSTONE VERY HARD @ 24'	-	-	10	15	40	
							5								
0.0	↓	2"	100/2"		2" DIA SCH 40 PVC	BENTONITE CHIPS	25		SANDSTONE: FINE-COARSE GRAINS, MICACEOUS, MODERATELY CEMENTED, OXIDIZED, YELLOWISH-BROWN, MOIST.	-	-	10	20	70	TR
							6								
							7								
							8		CUTTINGS ARE WET. ALTERNATING SANDSTONE & CLAYEY SANDSTONE CUTTINGS (ALTERNATING HARD & SOFT ZONES)						
							9								
0.0	↓	2"	100/2"		2" DIA SCH 40 PVC	BENTONITE CHIPS	30		SAME AS ABOVE WITH MOTTLED ZONES OF (THIN-1/8") GREY THAT ARE WELL CEMENTED						
							1								
							2								

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
							2		VERY LITTLE CUTTINGS RETURNED TO SURFACE					
							3							
							4							
							3.5	TD	SANDSTONE: FINE TO MED GRAINS, MICACEOUS UN-OXIDIZED, GREY, MODERATE TO WELL CEMENTED, MOIST	-	-	40	60	TR
							6							
							7							
							8		TD = 35' BGS					
							9		1 BUCKET WYOBEN ENVIROPLUG 1/4" TABLETS (NOT COATED)					
							4.0		1 BAG WYOBEN ENVIROPLUG MEDIUM PELLETS CHIPS					
							1		4 BAGS RMC #3 NATURAL MONTEREY BEACH SAND. SURGED TO SETTLE.					
							2		1 BAG WYOBEN ENVIROPLUG MEDIUM CHIPS. HYDRATED IN PLACE, AND WATER ADDED ABOVE H2O TABLE.					
							3							
							4		3 BAGS COLTON PORTLAND CEMENT TYPE II/IV MIXED WITH 16.5 GALLONS OF WATER.					
							4.5							
							6							
							7							
							8							
							9							
							5.0							
							1							
							2							

O/D ✓ 2" 100/6"

TABLETS



MONTGOMERY WATSON

Boring #: PT-069 MW#: P2-107 Sheet 1 of 1  
 Project: DOE SHALLOW GROUNDWATER  
 Job #: Site: 17<sup>th</sup> ST POND/SSFL  
 Logged By: T. HALL Reviewed By:  
 Drilling Contractor: LAYNE  
 Drill Rig Type/Method: CME 850/HSA  
 Drillers Name: ENRIQUE PEREZ  
 Borehole Diam./Drill Bit Type: Total Depth 11.0  
 8" / CARBIDE Ref. Elev. GROUND SURF  
 Sampler Type: 1.5' SPLIT SPOON

Site Sketch Map

Depth to 1st Water (Σ): NONE Time/Date: 10/24/01 Drill Start Time/Date: 1300 10/24/01 Drill Finish Time/Date: 1350 10/24/01  
 Depth to Water After Drilling (∇): Time/Date: Well Completion Time/Date: 1420 10/24/01  
 Depth to other Water Bearing Zones: NONE Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
0.0	↓					BENTONITE CONCRETE	0.0	SM	FILL: SILTY SAND, FINE-MED GRAINS, MICACEOUS, LOOSE, MOIST	-	-	20	60	20
							1		LOW PLASTICITY, MED DENSE, STRONG BROWN					
							2							
							3							
							4							
0.0	↓	6"	5			2" SCH 40 PVC BLANK	5	Sm	ALLUVIUM: SAME AS ABOVE					
		6"	7				6							
0.0	↓	6"	10			2" SCH 40 PVC SCREEN (0.020")	6	SM	HARDER DRILLING @ 7'					
							7							
0.0	↓	6"	6				8	SC	ALLUVIUM: CLAYEY SAND, FINE TO MED GRAINS, MICACEOUS, MOIST	-	-	20	50	30
		6"	6				9	SC	MOD PLASTICITY, MED. DENSE, STRONG BROWN					
0.0	↓	6"	7				9	SC						
0.0	↓	6"	7				10	B.R.	SANDSTONE: FINE TO V. FINE GRAINS, OXIDIZED, MICACEOUS, SLIGHTLY CEMENTED, MOIST	-	-	-	80	20
0.0	↓	6"	15				11		BROWNISH-YELLOW					
							12							

2 BGS RMC #3 MONTEREY SAND: 1 B6 ENVIROPLUG MED CHIPS



MONTGOMERY WATSON

Boring #: PT-104 MW#: PZ-108 Sheet 1 of 3

Project: DOE SHALLOW GROUNDWATER

Job #: Site: PDU/SSFL

Logged By: T. HALL Reviewed By:

Drilling Contractor: LAYNE

Drill Rig Type/Method: CME 850/HSA

Drillers Name: ENRIQUE PEREZ

Borehole Diam./Drill Bit Type: 8" / CARBIDE Total Depth 30.0 Ref. Elev. GROUND

Site Sketch Map

Sampler Type: 1.5' SPLIT SPOON

Depth to 1st Water (Σ): Time/Date: Drill Start Time/Date: 1445 10/24/01 Drill Finish Time/Date: 1625 10/24/01

Depth to Water After Drilling (▽): Time/Date: Well Completion Time/Date: 1720 10/24/01

Depth to other Water Bearing Zones: Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
0.0	↓					CONCRETE	0.0 - 1.0	SM	ASTHACT (4")	-	-	10	70	20
							1.0 - 2.0	B.R.	FILL: SILTY SAND, LOOSE, LOW DENSITY, LOW PLASTICITY, MOIST, STRONG BROWN HARDER DRILLING @ 2'					
							2.0 - 5.0							
0.0	↓	7"	100% 1/4"			CEMENT GROUT MIXTURE	5.0 - 6.0		SANDSTONE: MED-FINE GRAINED, MICACEOUS, SLIGHTLY CEMENTED	-	-	30	60	10
							6.0 - 8.5		MOIST, BROWNISH-YELLOW, OXIDIZED HARDER DRILLING 6'-8.5'					
							8.5 - 11.0		SOFTER DRILLING 8.5-11'					
0.0	↓	3"	100% 1/6"			CEMENT GROUT MIXTURE	11.0 - 11.5		SAME AS ABOVE					
							11.5 - 15.0		SLIGHTLY HARDER 11'-11.5' SOFTER DRILLING 11.5-15'					

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
					2" BLANK PVC	BENT	1-2							
							3							
							4							
0.0	↓	3"	100/55"		2" BLANK PVC		5		SANDSTONE: FINE-MED GRAINS, MICACEOUS, MODERATELY CEMENTED, OXIDIZED, MOIST, BROWNISH-YELLOW WITH THIN (1/16" - 1/4") LAYERS OF WELL CEMENTED ZONES	-	-	20	80	-
							6							
							7							
							8							
							9							
							10		HARDER 15'-16' & 19'-22.5'					
0.0	↓	2"	100/2"		40 PVC SCREEN (0.020" SLOTS)	BENT	20		SANDSTONE: FINE-MED GRAINS, MICACEOUS, MODERATELY WELL CEMENTED, MOIST OXIDIZED, BROWNISH-YELLOW	-	-	10	80	10
							21							
							22							
							23							
							24							
							25							
0.0	↓	2"	100/2"		2" - DIAM BEACH SAND	BENT	25		SANDSTONE: FINE-MED GRAINS, MICACEOUS, WELL CEMENTED, UNOXIDIZED, GREY, MOIST	-	-	10	80	10
							26							
							27							
							28							
							29							
							30							
0.0	↓	2"	100/2"		3" SAND	BENT	30	TD	SANDSTONE: FINE-V. FINE, GRAINS, MICACEOUS, WELL CEMENTED, UNOXIDIZED, GREY, MOIST, FINER & MORE CEMENTED THAN ABOVE	-	-	80	20	
							31							
							32							

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
							2		0.5 BAGS WYOBEN ENVIROPLUG MED CHIPS HYDRATED BY ADDING H <sub>2</sub> O					
							3		4.5 BAGS RMC #3 MONTEREY BEACH SAND					
							4		1.5 BAGS WYOBEN ENVIROPLUG MED CHIPS. HYDRATED IN 1.5 FT LIFTS BY ADDING H <sub>2</sub> O.					
							5		2 BAGS COLTON PORTLAND CEMENT TYPE II/VI MIXED WITH 11 GALS OF H <sub>2</sub> O					
							6							
							7							
							8							
							9							
							0							
							1							
							2							
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							0							
							1							
							2							



MONTGOMERY WATSON

Boring #: PT-103 MW#: PZ-109 Sheet 1 of 3

Project: DOE SHALLOW GROUNDWATER

Job #: Site: BLD 38 / SSFL

Logged By: T. HALL Reviewed By:

Drilling Contractor: LAYNE

Drill Rig Type/Method: CME 850 / HSA

Drillers Name: ENRIQUE PEREZ

Borehole Diam./Drill Bit Type: 8" / CARBIDE Total Depth: 36.5' Ref. Elev. GROUND SURFACE

Sampler Type: 1.5' SPLIT SPOON

Depth to 1st Water (∇): NONE Time/Date: 10/25/01 Drill Start Time/Date: 0930 10/25/01 Drill Finish Time/Date: 1155 10/25/01

Depth to Water After Drilling (∇): Time/Date: Well Completion Time/Date: 1430 ON 10/25/01

Depth to other Water Bearing Zones: N/A Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
						CONCRETE	0.0	sm	4" ASPHALT. HAND AUGER 0'-5'	10	TR	30	40	20
	X					CONCRETE	1	sm	FILL: SILTY SAND w/ GRAVEL LOOSE, MOIST, LOW PLASTICITY, MED DENSE, BROWNISH-YELLOW					
	X					CONCRETE	2							
	X					CONCRETE	3	sm	SAME AS ABOVE, BUT GREENISH GREY					
	X					CONCRETE	4	sm	ALLUVIUM: SILTY SAND, MED- FINE GRAINS, MOIST, MOD PLASTICITY, MED DENSE, LOOSE, STRONG BROWN		TR	20	50	30
		6"	4			CONCRETE	5	sm	SAME AS ABOVE					
		6"	6			CONCRETE	6							
		6"	6			CONCRETE	7							
						CONCRETE	8							
						CONCRETE	9							
						CONCRETE	10							
		3"	7			CEMENT GROUT MIXTURE	10		SAME AS ABOVE WITH SLIGHTLY- LESS CLAY AND LOW PLASTICITY		TR	20	60	20
		3"	9			CEMENT GROUT MIXTURE	11							
		3"	10			CEMENT GROUT MIXTURE	11							
						CEMENT GROUT MIXTURE	12							

BREATHING

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
							2		HARDER DRILLING FROM 13-13.5 & 14-15. CUTTINGS					
							3	B.R.	BROWNISH-YELLOW					
							4							
0.0	3.8 26.6	6" 3"	55 100/3"				15		SANDSTONE: MED-FINE GRAINED, MICACEOUS, SLIGHTLY CEMENTED, OXIDIZED, BROWNISH-YELLOW, MOIST.			SO TR 40	10	
							6							
							7							
							8		HARDER @ 18.0'-21'					
							9							
0.0	16.9		77				20		CUTTINGS HAVE PID @ 29.2 @ THE HOLE BUT 0.0 IN BREATHING ZONE					
							1		SANDSTONE: FINER & MORE CEMENTED THAN ABOVE. MED-FINE GRAINS, MICACEOUS, MOD-WELL CEMENTED, OXIDIZED, BROWNISH-YELLOW, MOIST					
							2							
							3							
4.5							4		HARDER 24-25 FOLLOWED BY LIGHTER COLORED CUTTINGS					
0.0	0.0		100/4"				25		SAME AS ABOVE, BUT LESS CEMENTED (MODERATE)					
							6							
							7							
							8		SOFTER 25-28, HARDER 28-34					
							9							
							30		WELL CEMENTED (OXID) PIECES IN CUTTINGS					
0	18.2	2"	100/3				1		SAME AS ABOVE WITH INCREASED MOISTURE & CEMENTATION (MOD - WELL CEMENTED)					
							2							

Boring #: PT-103 MW#: P2-109 Project: DOE SHALLOW GROUNDWATER Sheet 3 of 3

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
							2								
							3		INCREASED HARDNESS						
							4		34-35 (VERY HARD)						
							5		CUTTINGS OLIVE-GREY						
0.0	0.0	2"	100 1/2		SAMP	RMC # 3 SAND	3 5		SANDSTONE: MED-FINE	-	-	30	60	10	
							6		GRAINS, MICACEOUS, WELL CEMENTED, UNOXIDIZED,						
							7	TD	MOIST						
							8		INCREASED HARDNESS @ 36'						
							9		TD @ 36.5'						
							40		4 BAGS RMC #3 NATURAL MONTEREY BEACH SAND						
							1		1.2 BAGS WYOBEN ENVIROPLUG MEDIUM CHIPS, HYDRATED IN 1-1.5 FT LITS BY ADDING H2O.						
							2		4 BAGS COLTON PORTLAND CEMENT TYPE II/III MIXED WITH 23 GALS OF H2O.						
							3								
							4								
							45								
							6								
							7								
							8								
							9								
							50								
							1								
							2								



MONTGOMERY WATSON

Boring #: PT-059MW#: P2-110 Sheet 1 of 2

Project: DOE SHALLOW GROUNDWATER

Job #: Site: LOT A / SFL

Logged By: T. HALL Reviewed By:

Drilling Contractor: LAYNE

Drill Rig Type/Method: CME 850 / HSA

Drillers Name: ENRIQUE PEREZ

Borehole Diam./Drill Bit Type: 8" / CARBIDE Total Depth 17.5 Ref. Elev. GROUND SURFACE

Site Sketch Map

Sampler Type: 1.5' SPLIT SPOON

Depth to 1st Water (∇): NONE Time/Date: 10/25/01 Drill Start Time/Date: 1515 10/25/01 Drill Finish Time/Date: 1620 10/25/01

Depth to Water After Drilling (∇): Time/Date: Well Completion Time/Date: 1705 ON 10/25/01

Depth to other Water Bearing Zones: NONE Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
							sm	SFC: FILL: SILTY SAND WITH AS-PHALT & CONCRETE PIECES, YELLOWISH BROWN, DRY, LOOSE	-	-	20	60	20	
							1	HAND AUGER REFUSAL ON FILL @ 0.5 FT.						
							2							
							3							
							4	sm	BEDROCK: WEATHERED IN PLACE TO SILTY SAND, NO CEMENTATION, FINE-MED GRAINS, MICACEOUS, MOIST, BROWNISH YELLOW, OXIDIZED)	-	-	10	80	10
0.0	6"	13					5	sm	SAME AS ABOVE, WITH SLIGHT-MODERATE CEMENTATION.					
0.0	5"	100/5					6	B.P.						
							7							
							8							
							9		HARDER DRILLING 9'-13'					
							10							
0.0	4"	100/6					10		SANDSTONE: FINE-VERY FINE GRAINED, MICACEOUS, OXIDIZED, WELL CEMENTED, MOIST, BROWNISH YELLOW WITH STAINED FRACTURE	-	-	80	20	
							11		FACES & A 1/2" CLAY FILLED FRACTURE					
							12							

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
							2		SOFTER 13-14' (SHALE/SILTSTONE ??)					
							3		HARDER 14-17'					
							4							
0.0	↓	4"	100/4"		2" SCH 40 PVC SCREEN (0.02)	RMC #3 SAND	15		SAME AS ABOVE WITH THIN (1/8"-1/4") SILTSTONE INTERBEDS, G					
							6		SILTSTONE IS MOD-WELL CEMENTED, GREY					
0.0	↓	0.2"	150/85"		SUMP 2" SCH 40 PVC SCREEN (0.02)	RMC #3 SAND	7	TD	INCREASED HARDNESS @ 17 TO VERY HARD					
							8		17-17.5: VERY WELL CEMENTED SANDSTONE (SAME AS ABOVE)					
							9		REFUSAL @ 17.5'					
							20		TD = 17.5					
							1		3 BGS RMC #3 MONTEREY BEACH SAND					
							2		1 BG WYOBEN ENVIROPLUG MEDIUM BENTONITE CHIPS					
							3							
							4							
							2.5							
							6							
							7							
							8							
							9							
							30							
							1							
							2							



MONTGOMERY WATSON

Boring #: PT-068MW#: PZ-111 Sheet 1 of 2  
 Project: DOE SHALLOW GROUNDWATER  
 Job #: Site: ECL/SSFL  
 Logged By: T. HALL Reviewed By:  
 Drilling Contractor: LANE  
 Drill Rig Type/Method: CME 850/HSA  
 Drillers Name: ENRIQUE PEREZ  
 Borehole Diam./Drill Bit Type: Total Depth 20.0  
 8" / CARBIDE Ref. Elev. GROUND SURFACE  
 Sampler Type: 1.5' SPLIT SPOON

Site Sketch Map

Depth to 1st Water (▽): NONE Time/Date: 0945 / 10/24/01 Drill Start Time/Date: 0850 / 10/26/01 Drill Finish Time/Date: 0940 / 10/26/01  
 Depth to Water After Drilling (▽): Time/Date: Well Completion Time/Date: 1030 ON 10/26/01  
 Depth to other Water Bearing Zones: NONE Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
0.0			HAND AUGER					sm	ALLUVIUM: SILTY SAND, MED-FINE GRAINS, MICACEOUS, MOIST, LOOSE, LOW PLASTICITY, LOW DENSITY, STRONG BROWN	-	-	20	60	20
0.0							1							
0.0							2	sm	SLIGHTLY HARDER DRILLING @ 2.5'					
							3	sm	SAME AS ABOVE, WITH COLOR CHANGE TO BROWNISH YELLOW					
							4		YELLOWISH-BROWN					
0.0		4"	7				5	sm	SAME AS ABOVE WITH SLIGHT INCREASE IN CLAY CONTENT	-	-	20	50	30
0.0		6"	4				6		PLASTICITY, COLOR SAME					
		6"	5				7							
							8							
							9							
							10							
0.0		6"	8 3/4"				11		SANDSTONE: FINE-MED GRAINS, MICACEOUS, SLIGHTLY CEMENTED, OXIDIZED, BROWNISH-YELLOW, MOIST	-	-	30	60	10
							12							

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
							2								
							3		HARDER DRILLING 14-16 HARDER DRILLING 16						
							4								
	0.0 ↓	3"	100/3"		2" SCH 40 PVC SCREEN (0.020")		5		SANDSTONE: COARSE-FINE, MICACEOUS, MODERATE CEMENTATION, OXIDIZED, BROWNISH-YELLOW, MOIST (MOISTER THAN ABOVE)	-	10	30	50	10	
							6								
							7								
							8								
							9		HARDER (VERY HARD) 17-20 WITH GREY CUTTINGS						
	0.0 ↓	3"	100/3"				20	TD	SANDSTONE: FINE-MED GRAINS, MICACEOUS, WELL CEMENTED, UNOXIDIZED GREY, MOIST	-	-	20	70	10	
							1								
							2								
							3		TD = 20'						
							4		4 BGS RMC #3 NATURAL MONTEREY BEACH SAND						
							25		1.5 BGS WYOBEN ENVIROPLUG MEDIUM BENTONITE CHIPS, HYDRATED IN 1-1.5' LIFTS BY ADDING H2O.						
							6								
							7								
							8								
							9								
							30								
							1								
							2								



MONTGOMERY WATSON

Boring #: PT-058MW#: PZ-112 Sheet 1 of 3

Project: DOE SHALLOW GROUNDWATER

Job #: Site: SE DRUM / SSFL

Logged By: T. HALL Reviewed By:

Drilling Contractor: LAYNE

Drill Rig Type/Method: CME 850 / HSA

Drillers Name: ENRIQUE PEREZ

Borehole Diam./Drill Bit Type: 8" DIAM / CARBIDE Total Depth 35.0' Ref. Elev. GROUND SURFACE

Sampler Type: 1.5' SPLIT SPOON

Site Sketch Map

Depth to 1st Water (▽): ≈ 25' bgs Time/Date: 0835 10/29/01

Drill Start Time/Date: 1110 10/26/01 Drill Finish Time/Date: 1420 10/26/01

Depth to Water After Drilling (▽): Time/Date:

Well Completion Time/Date: 1025 10/29/01

Depth to other Water Bearing Zones: N/A

Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
0.0	6"	6"	HAUGER			CONCRETE	1	SM	HAND AUGER REFUSAL @ 2 FT					
0.0	6"	6"	HAUGER			CONCRETE	2	SM	ALLUVIUM: SILTY SAND WITH OCCASSIONAL GRAVEL (1/4"), LOOSE, MOIST, LOW PLASTICITY, MED DENSE, YELLOWISH-BROWN (SLIGHTLY) HARDER DRILLING @ 4' WITH COLOR CHANGE TO BROWNISH-YELLOW	5	5	30	40	20
0.0	6"	14				PORTLAND CEMENT GROUT MIX	5	SM	SAME AS ABOVE (ALLUVIUM)					
0.0	3"	9				PORTLAND CEMENT GROUT MIX	6	SM	HIGH ALLUVIUM: FINE SILTY SAND, LOW PLASTICITY, LOW DENSITY, FAIRLY WELL SORTED LESS CLAY THAN ABOVE, MOIST, LOOSE, MICACEOUS, LIGHT BROWNISH-YELLOW SOFTED DRILLING @ 6'-8' HARDER @ 9' WITH COLOR CHANGE (DARKER)	-	TR	10	80	10
0.0	6"	22				PORTLAND CEMENT GROUT MIX	10		10'-10.4': INTERBEDDED SILTSTONE & FINE-V. FINE SILTY SANDSTONE, GREENISH-GREY, MODERATELY CEMENTED, OXIDIZED, MOIST, BROKEN W/ OXID. FACES				60	40
0.0	5"	100/5				PORTLAND CEMENT GROUT MIX	11		10.4-10.9: SANDSTONE, FINE-MED GRAIN; OXIDIZED, BROWNISH-YELLOW, MICACEOUS, MOIST, SLIGHTLY-MOD CEMENTED				30	70
						PORTLAND CEMENT GROUT MIX	12						10	20

SANDS T.S.

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand									
										Gravel	Coarse	Med.	Fine	Silt/Clay					
							12												
							3		HARDER DRILLING 9'-14'										
							4		HARDER @ 14										
							5		SANDSTONE & CLAY: ALTERNATING LAYERS OF SANDSTONE (FINE-MED GRAIN), MOD CEMENTATION, OXIDIZED, MOIST, BROWNISH-YELLOW & CLAY (CL-GREENISH GREY)										
0.0	↓	3"	100%	3"			6												
							7												
							8												
							9		THIN ALTERNATING ZONES OF HARDER & SOFTER DRILLING										
							10		VERY HARD @ 19.5-21										
0.0	↓	2"	100%	3"			20		SANDSTONE: MED-FINE GRAINS, MICACEOUS, WELL CEMENTED, OXIDIZED, LIGHT BROWNISH-YELLOW, COARSER THAN ABOVE, MOIST										
							1												
							2												
							3												
							4		SOFTER 21-23										
							5		VERY HARD 23-25										
							6		SOFTER 25-32										
0.0	↓	4"	100%	6"			25		SAME AS ABOVE, MODERATE CEMENTATION										
							6												
							7												
							8		SMALL HARD PIECES IN CUTTINGS ARE SILTSTONE AND VERY FINE, WELL CEMENTED SILTY SANDSTONE.										
							9		THESE MAY COMPRISE THE ALTERNATING HARD ZONES.										
							30												
0.0	↓	4"	100%	6"			1		SANDSTONE: FINE-MED GRAIN MICACEOUS, MOD CEMENTATION, BROWNISH-YELLOW, MOIST										
							2												

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 In.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
					SCREEN	RMC #3 SAND	2		SOFTER 32-35 (MORE) (BIT MAY BE BURNT-UP)					
							3							
							4							
							3 5		ALTERNATING LAYERS OF SILTY SANDSTONE AND SANDY SHALE/SILTSTONE. BOTH ARE OXIDIZED, MOST SLIGHTLY CEMENTED					
0.0	6"	20	31				5		2"-6" THICK			20	70	10
	6"	25					6					30	70	
0.0	6"	56					6							
							7							
							8							
							9							
							4 0		4 BGS RMC #3 SAND (NATURAL MONTE- REY BEACH SAND). 1/2 BUCKET WYOBEN ENVIROPLUG COATED 1/4" TABLETS. HYDRATED IN PLACE 1/2 BG WYOBEN ENVIROPLUG MEDIUM BENTONITE CHIPS. HYDRATED IN PLACE & BY ADDING WATER. 4 SACKS COLTON PORTLAND CEMENT TYPE II/V MIXED WITH 22 GALS OF WATER					
							1							
							2							
							3							
							4							
							4 5							
							6							
							7							
							8							
							9							
							5 0							
							1							
							2							

RAY  
7/5



MONTGOMERY WATSON

Boring #: PT-056 MW#: P2-113 Sheet 1 of 2

Project: DOE SHALLOW GROUNDWATER

Job #: Site: NEW CON/SSFL

Logged By: T. HALL Reviewed By:

Drilling Contractor: LAYNE

Drill Rig Type/Method: CME 850/HSA

Drillers Name: ENRIQUE PEREZ

Borehole Diam./Drill Bit Type: 8" / CARBIDE Total Depth: 15.0 Ref. Elev. GROUND SURF

Sampler Type: 1.5' SPLIT SPOON 1302 1320

Site Sketch Map

Depth to 1st Water (∇): NONE Time/Date:

Drill Start Time/Date: 1235 10/29/01 Drill Finish Time/Date: 1443 10/29/01

Depth to Water After Drilling (▼): Time/Date:

Well Completion Time/Date: 1530 10/29/01 1320

Depth to other Water Bearing Zones: N/A

Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
0.0	↓				2" SCH 40 BLANK PVC CASING	BENTONITE CONCRETE	0-1	SM	SILTY SAND: MED TO FINE GRAINS, LOOSE, LOW DENSITY, LOW PLASTICITY, DRY, YELLOWISH-BROWN	-	-	20	60	20
					2" SCH 40 PVC (0.020" SLOTS)	BENTONITE CONCRETE	1-2	B.R.	HARD DRILLING @ 2'					
0.0	↓	2"	100%	3"	2" SCH 40 PVC (0.020" SLOTS)	BENTONITE CONCRETE	2-4		SANDSTONE: FINE TO MED GRAINS, MICACEOUS, MODERATE CEMENTATION, OXIDIZED, MOIST, BROWNISH-YELLOW	-	-	30	60	10
					2" SCH 40 PVC (0.020" SLOTS)	BENTONITE CONCRETE	4-7		HARDER DRILLING 9.5-10.5 SOFTER DRILLING 10.5-13					
0.0	↓	2"	100%	3"	2" SCH 40 PVC (0.020" SLOTS)	BENTONITE CONCRETE	7-10		SAME AS ABOVE EXCEPT INCREASED CEMENTATION (MOD-WELL) AND YELLOWISH-BROWN COLOR AND INCREASED MOISTURE CONTENT					
					2" SCH 40 PVC (0.020" SLOTS)	BENTONITE CONCRETE	10-12							

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				Silt/Clay
										Coarse	Med.	Fine		
							2							
							3							
							4							
0.0	↓	0.5"	100/5"		SCREEN	RMC #3 SAND	15		SANDSTONE: FINE - MED	-	-	40	50	10
							6		GRAINS, MICACEOUS, WELL CEMENTED, SLIGHTLY					
							7		OXIDIZED, MOIST, YELLOWISH-GREY					
							8		15' TD = <del>50</del> FT (REFUSAL)					
							9		3 BGS RMC #3 NATURAL MONTEREY BEACH SAND					
							0		1 BG WYOBEN ENVIROPLUG MEDIUM BENTONITE CHIPS HYDRATED IN 1.5' LIFTS.					
							1							
							2							
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							0							
							1							
							2							



MONTGOMERY WATSON

Boring #: PT-054 MW#: PZ-114 Sheet 1 of 3

Project: DOE SHALLOW GROUNDWATER

Job #: Site: OLD CON/SSFL

Logged By: T. HALL Reviewed By:

Drilling Contractor: LAYNE

Drill Rig Type/Method: CME 850/HSA

Drillers Name: ENRIQUE PEREZ

Borehole Diam./Drill Bit Type: 8" / CARBIDE Total Depth: 48.2' Ref. Elev. GROUND SURF.

Sampler Type: 1.5' SPLIT SPOON

Site Sketch Map

Depth to 1st Water (Σ): NONE Time/Date: 11/1/01 Drill Start Time/Date: 0855 10/30/01 Drill Finish Time/Date: 0940 11/1/01

Depth to Water After Drilling (∇): Time/Date: Well Completion Time/Date: 1114 ON 11/1/01

Depth to other Water Bearing Zones: NONE Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
0.0	↓					CONCRETE	0-1	SM	SILTY SAND: FINE - MED GRAIN, LOOSE, LOW PLASTICITY, LOW DENSITY, MOIST, REDDISH-BROWN, ALLUVIUM, ROOT-LETS	-	-	20	60	20
0.0	↓					CONCRETE	1-3	SM	SAME AS ABOVE					
0.0	↓	4"	22			CEMENT GROUT MIXTURE	3-5	SM	HAND AUGER REFUSAL @ 3' HARDER (SLIGHTLY) @ 4. COLOR CHANGE TO YELLOWISH-BROWN					
0.0	↓	6"	22			CEMENT GROUT MIXTURE	5-6	SM	ALLUVIUM: SILTY SAND, FINE TO MEDIUM WITH OCCASIONAL COARSE GRAIN, LOW PLASTICITY, DENSE, DRY, YELLOWISH-BROWN.	-	5	15	60	20
0.0	↓	6"	20			CEMENT GROUT MIXTURE	6-7							
						CEMENT GROUT MIXTURE	7-8							
						CEMENT GROUT MIXTURE	8-9		HARDER @ 9' WITH COLOR CHANGE TO BROWNISH-YELLOW					
						CEMENT GROUT MIXTURE	9-10	B.R.						
0.0	↓	4"	100%			CEMENT GROUT MIXTURE	10-11		SANDSTONE: FINE - V. FINE, SLIGHT TO MOD CEMENTATION, OXIDIZED, MOIST, BROWNISH-YELLOW	-	-	-	60	40
						CEMENT GROUT MIXTURE	11-12							

RESUME #1515 10/31/01

PID/OVA	Sample Interval	Recovered (ft.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand									
										Gravel	Coarse	Med.	Fine	Silt/Clay					
							2												
							3												
							4												
							5		SILTSTONE/SHALE: MOD -										100
							6		WELL CEMENTED, OXIDIZED										
							7		FRACTURE FACES, OLIVE										
							8		GREY, MOIST										
							9		SLIGHTLY HARDER @ 17.5										
							20		WITH LIGHT GREY CUTTINGS										
							20		SANDY SILTSTONE/SHALE:										20 80
							1		<del>MOD</del> WELL CEMENTED,										
							2		LIGHT GREY, MOIST,										
							3		SAND GRAINS ARE FINE										
							4		SLIGHTLY HARDER @ 22.5 - <del>29</del> 29										
							5		WITH COLOR CHANGE TO										
							6		YELLOWISH-BROWN										
							25		SANDSTONE: FINE TO MED										30 60 10
							6		GRAINS, MICACEOUS,										
							7		UNOXIDIZED, MOD TO										
							8		WELL CEMENTED,										
							9		MOIST										
							8		SOFTER 29-31										
							9		HARDER 31-39										
							30		FIRST 6": SANDSTONE: FINE										30 50 20
							1		TO MED, MOD CEMENTATION,										
							1		OXIDIZED, BROWNISH-YELLOW										
							1		MOIST. LAST 6": SILTSTONE/										
							2		SHALE AS ABOVE @ 15'										100

SWITCH

0.0

0.0

NO H<sub>2</sub>O IN HOLE ON 11/1/01  
 PT- DRX @ 27' BGS  
 WS-7 H<sub>2</sub>O @ ≈ 60' BGS

6.0

0.0

CEMENT GROUT MIXTURE

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 In.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
					2" SCH 40 PVC BLANK	BENTONITE	2								
					2" SCH 40 PVC BLANK	BENTONITE	3								
					2" SCH 40 PVC BLANK	BENTONITE	4								
0.0	↓	6"	100%		2" SCH 40 PVC BLANK	BENTONITE	5		FIRST 4": SAME AS ABOVE LAST 2": SANDSTONE:				60	40	
					2" SCH 40 PVC BLANK	BENTONITE	6		FINE-V. FINE GRAINS, MOD CEMENTATION, OXIDI-						
					2" SCH 40 PVC BLANK	BENTONITE	7		ZED, MICACEOUS, MOIST, BROWNISH-YELLOW						
					2" SCH 40 PVC BLANK	BENTONITE	8		HARDER 39-48'						
0.0	↓	3"	100%		2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	9								
					2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	10		SANDSTONE: FINE TO MED GRAINS, MICACEOUS,				20	60	20
					2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	1		MOD TO WELL CEMENT- ED, BROWNISH-YELLOW						
					2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	2		MOIST						
					2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	3								
					2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	4								
0.0	↓	3"	100%		2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	5		SAME AS ABOVE						
					2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	6								
					2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	7								
N/A	↓	0"	100%		2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	8		VERY HARD @ 48' REFUSAL @ 48.2'						HOLE DRY DURING INSTALLATION
					2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	9								
					2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	10		5 BGS RMC #3 NAT'L MONTEREY SAND 1 BG WYOBEN ENVIROPLUG MEDIUM CHIPS, HYDRATED IN 1.5' LIFTS. 8 BGS COLTON PORTLAND CEMENT MIXED WITH 45 GALLONS H <sub>2</sub> O.						
					2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	1								
					2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	2								



MONTGOMERY WATSON

Boring #: PT-055 MW#: P2-115 Sheet 1 of 3

Project: DOE SHALLOW GROUNDWATER

Job #: Site: NEW CON/SSFL

Logged By: T. HALL Reviewed By:

Drilling Contractor: LAYNE

Drill Rig Type/Method: CME 850/HSA

Drillers Name: ENRIQUE PEREZ

Borehole Diam./Drill Bit Type: 8" / CARBIDE Total Depth: 40.0 Ref. Elev. GROUND SURF.

Sampler Type: 1.5' SPLIT SPOON

Site Sketch Map

Depth to 1st Water (∇): NONE Time/Date:

Drill Start Time/Date: 1335 10/30/01 Drill Finish Time/Date: 1550 10/30/01

Depth to Water After Drilling (∇): Time/Date:

Well Completion Time/Date: 1651645 10/30/01

Depth to other Water Bearing Zones: NA

Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
0.0	↓					CONCRETE	0	SM	ALLUVIUM: SILTY SAND, MOIST, LOW PLASTICITY, LOW DENSITY, LOOSE, SAND FINE-MED, STRONG BROWN	-	-	30	50	20
							1							
							2		POSSIBLE BEDROCK					
0.0	↓						3	SM	SAME AS ABOVE WITH COLOR CHANGE TO YELLOWISH-BROWN HAND DRUG REFUSAL @ 3' HARDER DRILLING 3'-22'					
							4							
0.0	↓	4"	100%				5		SAME AS ABOVE, SLIGHTLY CEMENTED, OXIDIZED	-	-	30	50	20
							6							
							7							
							8							
							9							
0.0	↓	6"	100%				10		SAME AS ABOVE, COLOR CHANGE TO BROWNISH-YELLOW OXIDIZED					
							11							
							12							

1485 RAY

QAVOC

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
							2								
							3								
							4								
							5								
15.6	↓	4"	100/4"				5		SAME AS ABOVE, MOD. SLIGHT CEMENTATION, OXIDIZED						
							6								
							7								
							8								
							9								
6.6	↓	1"	100/3"				20		SAME AS ABOVE, SLIGHT CEMENTATION, OXIDIZED,						
							1								
							2		SLIGHTLY HARDER DRILLING 22'-38.5'						
							3								
							4								
							5								
14.1	↓	5"	100/3"				25		SANDSTONE: FINE-COARSE - 10 40 40 10						
							6		GRAINS, MICACEOUS, SLIGHTLY CEMENTED, OXIDIZED, YELLOWISH-BROWN, MOIST						
							7								
							8		* INCREASED HARDNESS 38.5 -						
							9								
16.4	↓	3"	100/3"				30		SAME AS ABOVE, SLIGHT - MOD CEMENTATION, OX.D						
							1								
							2								

2" SCH 40 SCREEN  
 RMC # 3 MONTEREY SAND  
 2" SCH 40 BLANK PVC CASING TO SURFACE  
 BENTONITE  
 CEMENT GROUT MIXTURE

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
							2		HARDER DRILLING 32.5-33.5					
							3		INCREASED HARDNESS 33.5-35.5					
							4		VERY HARD 37.5- HARDER 35.5-37.5					
							35							
14.1	↓	3"					6		SANDSTONE: FINE-MED - - 2060 20					
							7		GRAINS, MICACEOUS, MOD-WELL CEMENTED, OXIDIZED, MOIST, BROWNISH-YELLOW					
							8							
							9							
							40		SANDSTONE: SAME AS ABOVE, WELL CEMENTED, GREY					
							1							
							2							
							3		TD = 40 FT BGS					
							4							
							45		4 BGS RMC #3 NATURAL MONTEREY BEACH SAND					
							6		1 BG WYOBEN ENVIROPLUG MEDIUM CHIPS, HYDRATED IN 1-LS' LIFTS BY ADDING H <sub>2</sub> O.					
							7		5 BGS COLTON PORTLAND CEMENT TYPE II/V. MIXED WITH 27.5 GALS H <sub>2</sub> O.					
							8							
							9							
							50							
							1							
							2							

SUMMA 2" SCH 40 PVC SCREEN (1020)  
 RMC #3 SAND

14.1 ↓ 3"

14.0 ↓ 2" 100/20



MONTGOMERY WATSON

Boring #: PT-106 MW#: P2-116 Sheet 1 of 3

Project: DOE SHALLOW GROUNDWATER

Job #: Site: RMHF/SSFL

Logged By: T. HALL Reviewed By:

Drilling Contractor: LAYNE

Drill Rig Type/Method: CME 850/HSA

Drillers Name: ENRIQUE PEREZ

Borehole Diam./Drill Bit Type: Total Depth

8" / CARBIDE Ref. Elev.

Sampler Type: 1.5' SPLIT SPOON

Site Sketch Map

Depth to 1st Water (∇): Time/Date:

Drill Start Time/Date: 10:30 10/31/01 Drill Finish Time/Date: 1350

Depth to Water After Drilling (∇): Time/Date:

Well Completion Time/Date: 1500

Depth to other Water Bearing Zones:

Soil Boring Backfill Time/Date:

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of					
										Gravel	Sand			Silt/clay	
											Coarse	Medium	Fine		
0.0	↓					CONCRETE		SM	FILL: SILTY SAND, WITH OCCASIONAL GRAVEL, LOW PLASTICITY, MED DENSE, MOIST, STRONG BROWN, FINE-COARSE SAND GRAINS	5	10	20	45	20	
							1								
							2								
							3		COLOR CHANGE @ 4 TO YELLOWISH-BROWN (NO CHANGE IN DRILLING HARNESS)						
							4	BR							
0.0	↓	6"	100				5		SANDSTONE: FINE-MED GRAINS, MICACEOUS, SLIGHTLY CEMENTED, MOIST, BROWNISH-YELLOW, OXIDIZED	-	-	30	50	20	
							6								
							7								
							8								
							9								
0.0	↓	4"	49				10		SAME AS ABOVE WITH MODERATE CEMENTATION IN SHOE, ALSO THIN (1/8") ZONES OF GREY THROUGHOUT						
0.0	↓	6"	65				11								
							12								

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
							2		HARDER DRILLING @ 13-16 WITH COLOR CHANGE TO YELLOWISH-BROWN					
							3							
							4							
	0.0 ↓	5"	100/3"				5		SANDSTONE: FINE - VERY FINE GRAINS, MICACEOUS, MODERATELY CEMENTED, OXIDIZED, YELLOWISH-BROWN, MOIST (MORE THAN ABOVE)	-	-	80	20	
							6							
							7							
							8							
							9							
							10		INCREASED HARDNESS 16-21.5					
							11							
	0.0 ↓	4"	100/4"				12		SAME AS ABOVE WITH INCREASED CEMENTATION (MODERATE TO WELL)					
							13							
							14							
							15							
							16							
							17							
							18							
							19							
							20		INCREASED HARDNESS 21.5-27.5					
							21							
							22							
							23							
							24							
	0.0 ↓	3"	100/3"				25		SAME AS ABOVE					
							26							
							27							
							28							
							29							
							30							
	0.0 ↓	1"	100/3"				31		SANDSTONE: FINE TO MED GRAINS, MICACEOUS, WELL CEMENTED, OXIDIZED, MOIST YELLOWISH-BROWN	-	-	20	60	20
							32							

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
							2		VERY HARD 32'-33', 335-J4					
							3		REFUSAL @ 34'					
							4	TD	SAME AS ABOVE. WELL CEMENTED.					
							35							
							6		3.5 BAGS RMC #3 NATURAL MONTEREY BEACH SAND					
							7		1 BAG WYOBEN ENVIROPLUG MED CHIPS. HYDRATED IN 1.5' LIFTS BY ADDING H <sub>2</sub> O.					
							8							
							9		4 BGS COLTON PORTLAND CEMENT TYPE II/II MIXED WITH 22 GALS OF H <sub>2</sub> O.					
							40							
							1							
							2							
							3							
							4							
							45							
							6							
							7							
							8							
							9							
							50							
							1							
							2							

0.0  
↓  
1" 100%  
1"

sump  
#3 SAND



PT-128

Boring #: ~~PT-127~~ MW#: P2-117 Project: ~~DEE~~ SHALLOW GROUNDWATER Sheet 2 of 2

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
					2" BLANK PVC		2								
							3								
							4		SLIGHTLY HARDER 13.5-16						
0.0	↓ 3"	3"	100/3"				15		SAME AS ABOVE						
							6		SLIGHTLY HARDER 16-17						
							7		SLIGHTLY SOFTER 17-						
							8		APPEARS TO						
							9								
0.0	↓ 3"	3"	100/3"		2" SCH 40 PVC SCREEN (0.020" SLOTS)	BEACH SAND	20		SANDSTONE: FINE TO MED	-	-	20	60	20	
							1		GRAINED, MICACEOUS,						
							2		SLIGHTLY CEMENTED,						
							3		MOIST, OXIDIZED, BROWN-						
							4		ISH-YELLOW						
							5		VERY HARD 24'-25.5'						
0.0	↓ 0.25'	0.25'	100/1"		2" RMC #3		25		SANDSTONE: FINE TO	-	-	20	60	20	
							6	TD	MEDIUM, MICACEOUS,						
0.0	↓ 0.25'	0.25'	100/1"				6		OXIDIZED, WELL CEMEN-						
							7		TED, MOIST. POSSIBLE						
							7		CONCRETION? 25.5' SAMPLE						
							7		SAME AS 24.5' SAMPLE						
							8		REFUSAL @ <del>24.5'</del> 25.5'						
							9		3.5 BGS RMC #3 NATURAL MONTEREY						
							9		BEACH SAND.						
							30		1 BG WYOBEN ENVIROPLUG MEDIUM						
							30		CHIPS. HYDRATED IN 1.5' LIFTS.						
							1		2 BG COLTON PORTLAND CEMENT						
							1		TYPE II/II MIXED WITH 11 GALS						
							2		OF #20.						



MONTGOMERY WATSON

Boring #: ~~PT-126~~ MW#: P2-118 Sheet 1 of 2  
 Project: ~~DOE~~ <sup>BOEING</sup> SHALLOW GROUNDWATER  
 Job #: Site: B-1 / SSFL  
 Logged By: T. HALL Reviewed By:  
 Drilling Contractor: LAYNE  
 Drill Rig Type/Method: CME 850 / HSA  
 Drillers Name: ENRIQUE PEREZ  
 Borehole Diam./Drill Bit Type: 8" CARBIDE Total Depth 30.0  
 Ref. Elev. GROUND SURF.  
 Sampler Type: 1.5' SPLIT SPOON

Site Sketch Map

Depth to 1st Water (∇): NONE Time/Date: Drill Start Time/Date: 0700 11/2/01 Drill Finish Time/Date: 0820 11/2/01  
 Depth to Water After Drilling (▼): Time/Date: Well Completion Time/Date: 0935 11/2/01  
 Depth to other Water Bearing Zones: N/A Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
0.0	↓					CONCRETE	0-1	SM	FILL: SILTY SAND, LOOSE, MEDIUM PLASTICITY, LOW DENSITY, MOIST, MICACEOUS, <del>STRONG BROWN</del> , OCCASIONAL GRAVEL REDDISH-BROWN	1	1	20	40	40
0.0	↓	6"	6			CEMENT GROUT MIXTURE	5-6	SM	FILL AS ABOVE			10	60	30
0.0	↓	6"	6				6-7	SM	ALLUVIUM: FINE - MED GRAINS, MICACEOUS, LOOSE, MOIST, LOW DENSITY, LOW PLASTICITY, YELLOWISH-BROWN					
0.0	↓	6"	8				10-11	SM	SAME AS ABOVE WITH MOTTLED ZONES OXIDIZED (# IRON MOST LIKELY)					

PT-127

Boring #: ~~PZ-118~~ MW#: PZ-118 Project: ~~BOE~~ SHALLOW GROUNDWATER Sheet 2 of 2

PID/OVA	Sample Interval	Recovered (ft.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand									
										Gravel	Coarse	Med.	Fine	Silt/Clay					
							2												
							3												
							4												
0.0	↓	6"	7		2" SCH 40 BLANK PVC CASING	BENTONITE	5	SM	SAME AS ABOVE WITH OCCASSIONAL PEA SIZED GRAVEL										
		6"	8						6										
0.0	↓	6"	9						7										
							8												
							9												
0.0	↓	6"	4		2" SCH 40 PVC SCREEN (0.020" SLOTS)	RMQ #3 NATURAL MONTEREY BEACH SAND	20	SM	SAME AS ABOVE										
		6"	7						1	SM	LAST 4": ALLUVIUM OR HIGHLY WEATHERED SANDSTONE: FINE-COARSE GRAINS, LOOSE, MOIST, MED PLASTICITY NO CEMENTATION, BLUEISH GREY, OBVIOUS DISCOLORATION WITH SLIGHT FUEL ODOR. PID 57.2 @ GROUND SURFACE	-	5	20	45	30			
0.0	↓	6"	11						2										
							3												
							4	SM											
							5	B.R.	HARDER @ 24" COLOR CHANGE BROWNISH-YELLOW										
0.0	↓	3"	100/5"				25		SANDSTONE: FINE TO MEDIUM GRAINS, MICACEOUS, OXIDIZED, MOIST, SLIGHT CEMENTATION, BROWNISH-YELLOW	-	-	20	60	20					
							6												
							7												
							8												
							9		HARDER DRILLING 29'										
							30	TD	SAME AS ABOVE WITH MODERATE CEMENTATION										
		0.25"	100/4"				1		3 BGS RMQ #3 MONTEREY SAND										
							1		1 BG ENVIROPLUG MED CHIPS.										
							2		2 BGS PORTLAND CEMENT @ 11 GALS H <sub>2</sub> O										



MONTGOMERY WATSON

Boring #: PT-001BMW#: P2-119 Sheet 1 of 3

Project: BOEING SHALLOW GROUNDWATER

Job #: Site: SAGE RNCH/SSFL

Logged By: T. HALL Reviewed By:

Drilling Contractor: LAYNE

Drill Rig Type/Method: CME 850/HSA

Drillers Name: ENRIQUE PEREZ

Borehole Diam./Drill Bit Type: 8" CARBIDE Total Depth: 44.0 Ref. Elev. GROUND SURF.

Sampler Type: 1.5' SPLIT SPOON

Site Sketch Map

Depth to 1st Water (∇): NONE Time/Date: 11/5/01 Drill Start Time/Date: 11:20 11/2/01 Drill Finish Time/Date: 11:10 11/5/01

Depth to Water After Drilling (▼): Time/Date: Well Completion Time/Date: 1310 11/5/01

Depth to other Water Bearing Zones: NONE Soil Boring Backfill Time/Date: NONE

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
0.0	↓					CONCRETE	0.0 - 1.0	SM	ALLUVIUM: SILTY SAND, LOOSE, LOW DENSITY, LOW PLASTICITY MOIST, MICACEOUS, YELLOWISH BROWN, ROOTLET TRACES	-	-	20	60	20
							1.0 - 2.0							
							2.0 - 3.0		COLOR CHANGE TO BROWNISH-					
							3.0 - 4.0	BR	YELLOW @ 3' (POSSIBLE BEDROCK/ALLUVIUM CONTACT)					
							4.0 - 5.0							
0.0	↓	6"	41				5.0 - 6.0		SANDSTONE: FINE TO MEDIUM GRAINS, MICACEOUS, SLIGHTLY	-	-	30	50	20
		6"	30				6.0 - 7.0		CEMENTED (MORE CEMENTED IN SHOE), OXIDIZED, BROWN-					
0.0	↓	4"	100/5"				7.0 - 8.0		ISH YELLOW, MOIST					
							8.0 - 9.0							
							9.0 - 10.0		HARDER DRILLING @ 5-57.5 -14'					
							10.0 - 11.0							
0.0	↓	6"	100/6"				11.0 - 12.0		SAME AS ABOVE					
							12.0 - 13.0							

FID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 In.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand						
										Gravel	Coarse	Med.	Fine	Silt/Clay		
							2									
							3		HARDER DRILLING 14-18'							
							4									
							5									
0.0	↓	4"	100/4"				6		SANDSTONE: FINE TO MED GRAINED, MICACEOUS, SLIGHT TO MODERATE CEMENTATION, MOIST, OXIDIZED, BROWNISH-YELLOW	-	-	20	50	30		
							7									
							8									
							9		HARDER @ 18'-23'							
							20									
0.0	↓	0.5"	100/1"				1		SAME AS ABOVE WITH INCREASED CEMENTATION TO MODERATE							
							2									
							3		HARDER 23'-27'							
							4									
							2.5									
0.0	↓	0.25"	100/1"				6		SAME AS ABOVE WITH VERY THIN (< 1/4") SHALE/SILTSTONE INTERBEDS, BROWNISH-GREY. MIXTURE IS YELLOWISH-BROWN.							
							7									
							8		SOFTER 27-28'							
							9		HARDER 29-34							
							30									
0.0	↓	1"	100/2"				1		SANDSTONE: FINE-MED GRAINS, OXIDIZED, MOD TO WELL CEMENTED, MOIST, MICACEOUS, BROWNISH-YELLOW	-	-	20	50	30		
							2									

2" SCH 40 PUC BLANK CASING TO SURFACE  
 PORTLAND CEMENT GROUT MIXTURE  
 BENTONITE  
 SAND

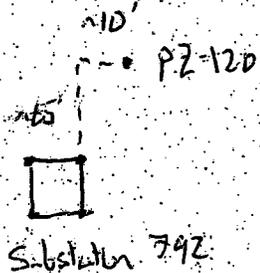
RESUME @ 0930 ON 11/5/01

PID/OVA	Sample Interval	Recovered (ft.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
					BLANK		2								
							3		HARDER DRILLING 34'-36'						
							4		SOFTER 36'-38'						
							4		HARDER 38'-40.5'						
0.0	↓	1"	100/3"		SCH 40 PVC SCREEN (0.020" SLOTS)		35		SANDSTONE: COARSE TO FINE GRAINS, MODERATELY CEMENTED, MICACEOUS, MOIST, OXIDIZED, BROWNISH-YELLOW		20	40	30	10	
						RMC #3 NATURAL MONTEREY BEACH SAND	4		CUTTINGS SAME AS ABOVE						
N/A	↓	0"	100/3"				4		SOFTER 40.5-43'						
							4		HARDER 43'-44'						
							4	TD	SANDSTONE: FINE TO MED GRAINS, MICACEOUS, MODERATELY CEMENTED, OXIDIZED, BROWNISH-YELLOW, MOIST		20	50	30		
							4		TD = 44'						
							5		4 BGS RMC #3 NATURAL MONTEREY BEACH SAND						
							5		1 BG WYOBEN ENVIROPLUG MEDIUM BENTONITE CHIPS, HYDRATED IN 1.5' LIFTS BY ADDING WATER.						
							5		6 BGS COLTON PORTLAND CEMENT TYPE II/SX MIXED WITH 34 GALLONS OF H2O.						



MONTGOMERY WATSON

NT



Site Sketch Map

Boring #: PT-129 MW# PZ-120 Sheet 1 of 3

Project: DOE Shallow GW

Job #: Site: SGTI/HMSA

Logged By: B. Stewart Reviewed By:

Drilling Contractor: Layne

Drill Rig Type/Method: CME 850/H.S.A.

Drillers Name: Jose Alvarado

Borehole Diam./Drill Bit Type: Total Depth 26.0 ft

8-in/Carbide

Ref. Elev.

Sampler Type: 1.5 ft Split Spoon

Depth to 1st Water (∇): None Time/Date:

Drill Start Time/Date: 3/18/03 0955 Drill Finish Time/Date: 3/18/03 1145

Depth to Water After Drilling (∇): Time/Date:

Well Completion Time/Date: 3/18/03 1400

Depth to other Water Bearing Zones: N/A

Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts /6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
						Concrete	1		Surface: Fill; silty sand, loose, low plasticity, low density, dry, dk brown	-	-	10	70	20
						2-20" 4" Blk PVC Casing Cement Grout Mix Concrete	2							
							3							
							4							
			5 7 8				5		As above except mod cement, nonplastic	-	-	10	70	20
							6							
							7							
							8		slightly harder drilling @ 8'					
							9							
			20 25 29			Bentonite	10		Silty sand w/ trace sandstone gravel; low cement, brown, nonplastic, dry					
							11							
							12							

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand									
										Gravel	Coarse	Med.	Fine	Silt/Clay					
					2 in Blank PVC		2												
					2 in Blank PVC		3												
					2 in Blank PVC		4												
					2 in Blank PVC		5		Sandstone: med-fine gr, micaceous, mod. cement, moist brownish-yellow, oxidized	-	-	30	60	10					
					2 in Blank PVC		6												
					2 in Blank PVC		7												
					2 in Blank PVC		8		Hard drilling @ 16' + below										
					2 in Blank PVC		9												
					2 in Blank PVC		10												
					2 in Blank PVC		15		Sandstone; as above	-	-	10	80	10					
					2 in Blank PVC		16												
					2 in Blank PVC		17												
					2 in Blank PVC		18												
					2 in Blank PVC		19												
					2 in Blank PVC		20												
					2 in Blank PVC		21												
					2 in Blank PVC		22												
					2 in Blank PVC		23												
					2 in Blank PVC		24												
					2 in Blank PVC		25		Sandstone; fine gr, micaceous, oxidized, mod. cement, yellow-brown, moist	-	-	-	90	10					
					2 in Blank PVC		26		TD @ 26 ft; refusal										
					2 in Blank PVC		27		TD @ 26 ft										
					2 in Blank PVC		28		- competent sandstone - very hard										
					2 in Blank PVC		29												
					2 in Blank PVC		30		4 Bags RMC #3 Pacific Materials Sand										
					2 in Blank PVC		31		5 Bags Wyo-Ber Medium Envirophyl Tablets										
					2 in Blank PVC		32												

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 In.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
							2		1 Bag Portland Cement 1/2 Bag Agrugel Gold Seal					
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							0							
							1							
							2							
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							0							
							1							
							2							



MONTGOMERY WATSON

Boring #: PF-130 MW#: PZ-121 Sheet 1 of 3  
 Project: DOE Near-Surface GW  
 Job #: Site: SLTI/HMSA  
 Logged By: Ben Stewart Reviewed By:  
 Drilling Contractor: Layne  
 Drill Rig Type/Method: CME 850/HSA  
 Drillers Name: Jose Alvarado  
 Borehole Diam./Drill Bit Type: 8-in / Carbide Total Depth 33.0  
 Ref. Elev. 61mnd Surface  
 Sampler Type: 1.5 ft Split Spoon  
 Depth to 1st Water (∇): None Time/Date:  
 Drill Start Time/Date: 3/18/03 1445 Drill Finish Time/Date: 3/19/03 0925  
 Depth to Water After Drilling (▼): Time/Date:  
 Well Completion Time/Date: 3/19/03 0900  
 Depth to other Water Bearing Zones: N/A Soil Boring Backfill Time/Date: N/A

Site Sketch Map

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
							1		Surface: asphalt (4-in) Fill: silty sand, loose, nonplastic, dry, <del>at</del> brown	-	-	10	70	20
							5		Sandstone; highly weathered, oxidized, dry mod. cement, nonplastic, yellow brown. Hard drilling @ 6'	-	-	30	60	10
							10		Sandstone; weathered, oxidized, higher cementation, dry, yellow brown, nonplastic	-	-	10	80	10

Boring #: P1-130

MW#: P2-121

Project: DOE NSGW

Sheet 2 of 3

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 In.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
							2								
							3								
							4								
							5		Sandstone: brownish yellow, dry, micaceous, mod. cement., nonplastic, oxidized	-	-	-	90	10	
		1" 50/2"					6								
							7								
							8								
							9								
							20		As above	-	-	-	90	10	
		2" 50/2"					1								
							2								
							3								
							4								
							5		As above	-	-	-	90	10	
		1" 50/1"					6								
							7								
							8								
							9								
0.1							0		As above	-	-	-	90	10	
		1" 50/1"					1								
							2								

APC #3 Pacific Matech Sand

Bentonite

Boring #: PT-130 MW#: P2-12)

Project: DOE NSGW

Sheet 3 of 3

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
						TSent	2								
-		φ	50/1				33	TD	Refusal @ 33'						
							4		TD=33'						
							4		Terminated boring						
							5		- sandstone						
							6		2 Bags Wyo-Ben						
							6		Envirophly Medium						
							7		5 Bags RMC Pacific						
							7		Material #3 Sand						
							8		7 Gal Wyo-Ben Envirophly						
							8		1/4-in. Tablets						
							9		1 Bag Portland Cement						
							9		1/2 Bag Agragal Gold Seal						
							0								
							1								
							2								
							3								
							4								
							5								
							6								
							7								
							8								
							9								
							0								
							1								
							2								



MONTGOMERY WATSON

Boring #: PF131 MW#: PZ-122 Sheet 1 of 2

Project: DOE Near-Surface GW

Job #: Site: SLII/HMSA

Logged By: Ben Stewart Reviewed By:

Drilling Contractor: Luyne

Drill Rig Type/Method: CME 850/HSA

Drillers Name: Jose Alvarado

Borehole Diam./Drill Bit Type: 8-in / Carbide Total Depth: 27.5 ft Ref. Elev. Ground Surface

Sampler Type: 1.5 ft Split Spoon

Depth to 1st Water (∇): None Time/Date:

Drill Start Time/Date: 3/19/03 0940 Drill Finish Time/Date:

Depth to Water After Drilling (∇): Time/Date:

Well Completion Time/Date:

Depth to other Water Bearing Zones: N/A

Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
									Surface: Fill					
							1		Silty Sand (SM); dk brown, loose, dry, non plastic, weak cementation	-	-	20	70	10
							2							
							3							
							4							
0.1	T	6	8				5		Clayey Sand ( ); dry, oxidized, low plasticity, mod cementation, red brown, micaceous	-	-	10	80	20
		6	23				6							
		6	41				7							
							8							
							9							
0.1	T	3	59/3				10		Silty Sand (SM); dry, oxidized, non plastic, weak cementation, brown, micaceous, loose	-	-	10	80	10
							11							
							12							

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
							12		Harder drilling @ 12'					
							13							
							14							
0.0	↓	6	50/5				15		Sandstone; brown, moist, micaceous, mod cement, nonplastic, oxidized	-	-	-	90	10
							16							
							17							
							18							
0.1	↓	3	50/3				20		As above	-	-	-	90	10
							21							
							22							
							23							
							24							
0.1	↓	6	50/6				25		Interbedded layers of shale/sandstone; dry, mod cement, nonplastic, micaceous, oxidized	-	-	-	90	10
							26							
							27							
-		∅	50/∅				27.5							
							8	TD	Ref. @ 27.5' TD=27.5'					
							9							
							0		4 1/2 Bags RML #3 Pacific Materials Sand					
							1		3 Gal Wyo-Ber Emulsifying 4-in Tablets					
							1		1 Bag Portland Cement					
							2		1/3 Bag Aquagel Cold Seal					



MONTGOMERY WATSON

Boring #: ~~PZ-132~~ MW#: PZ-123 Sheet 1 of 2

Project: Rocketdyne Near-Surface GW

Job #: Site: Happy Valley

Logged By: Ben Stewart Reviewed By:

Drilling Contractor: Layne

Drill Rig Type/Method: CME 850 / HSA

Drillers Name: Jose Alvarado

Borehole Diam./Drill Bit Type: 8-in. / Carbide Total Depth: 28.5' Ref. Elev.:

Site Sketch Map

Sampler Type: 1.5 ft Split Spoon

Depth to 1st Water (∇): None Time/Date:

Drill Start Time/Date: 3/20/03 0830 Drill Finish Time/Date: 3/20/03 1000

Depth to Water After Drilling (∇): Time/Date:

Well Completion Time/Date: 1100 3/20/03

Depth to other Water Bearing Zones: N/A

Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (In.)	Blow Counts / 6 In.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
									Surface: Grass + Top Soil					
							1							
							2							
							3							
							4		Weathered Sandstone @ 3 ft; <del>1.5 ft</del> , yellow brown,	-	-	-	90	10
							5							
0.0	↓	6	50				5.7		Sandstone: dry, oxidized, moderate cement, nonplastic, fine gr., micaceous, brown yellow	-	-	-	90	10
		2	50/2				6							
							7							
							8							
							9							
0.1	↓	3	50/3				10		As above except fine-med gr.	-	-	10	80	10
							11							
							12							

Boring #: PF-132

MW#: PZ-123

Project: RD NS6W

Sheet 2 of 2

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand									
										Gravel	Coarse	Med.	Fine	Silt/Clay					
							12												
							13												
							14												
							15												
							16												
							17												
							18												
							19												
0.1	6	3	50/3				20		Sandstone: fine grained, dry, med-well cemented, oxid, micaceous, brown yellow, non plastic										
							21												
							22												
							23												
							4	TD	Ref. @ 23.5'										
							5		Terminated boring @ 23.5'										
							6		4-1/2 Bags RMC Pacific Materials #3 Sand										
							7		5 Gal Enviroplug (Wyo-Ben) 1/4-in Tablets										
							8		1/2 Bag Wyo-Ben Enviroplug Medium Chips										
							9		1 Bag Portland Cement										
							0		1/4 Bag Anagel Gold Seal										
							1												
							2												



MONTGOMERY WATSON

Boring #: PT-133 MW#: PZ-124 Sheet 1 of 2

Project: DDE Near-Surface GW

Job #: Site: BOSB Landfill

Logged By: Ben Stewart Reviewed By:

Drilling Contractor: Layne

Drill Rig Type/Method: CME 850 / HSA

Drillers Name: Jose Alvarado

Borehole Diam./Drill Bit Type:

Total Depth 31 ft

8-in. / Carbide

Ref. Elev.

Site Sketch Map

Sampler Type: 1.5 foot Split Spoon

Depth to 1st Water (∇): None Time/Date:

Drill Start Time/Date: 3/20/03 1440 Drill Finish Time/Date: 3/21/03 1215

Depth to Water After Drilling (∇): Time/Date:

Well Completion Time/Date: 3/21/03 1400

Depth to other Water Bearing Zones: N/A

Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
									Surface: Fill					
							1							
							2							
							3		Concrete debris encountered					
							4							
0.1		∅ 12					5		No return in sample					
		∅ 8					6							
		∅ 5					7							
							8							
							9		Sandstone: dry, mod. cement., fine-med. gr., yellow brown, non plastic, micaceous, oxidized	-	-	10	80	10
0.1		∅ 50/1					10		No return in sample					
							11							
							12							

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
							2								
							3								
							4		Harder drilling @ 13' -cuttings become grey						
0.0	↓	2	50/2				15		Sandstone: moist, moderate cement, micaceous, oxidized, nonplastic, gray brown, fine-med gr.	-	-	10	80	10	
							6								
							7								
							8								
							9								
0.1	↓	3	50/3				20		Sandstone: moist, moderate cement, micaceous, oxidized, nonplastic, olive brown, fine-med gr.	-	-	10	80	10	
							1								
							2								
							3								
							4								
0.0	↓	4	50/4				25		Sandstone: moist, moderately cemented, no oxidation, grey, mostly fine grained	-	-	5	90	5	
							6								
							7								
							8								
							9								
0.0	↓	2	50/2				30		Sandstone, as above, moist, mod: well cemented, no oxid.	-	-	5	90	5	
							1		Drilling Refused, at 31'						
							2		TD = 31'						

3/21/03  
1145



MONTGOMERY WATSON

Boring #: PT-134 MW#: PZ-125 Sheet 1 of 3

Project: NASA Near-Surface GW

Job #: Site: RD-9 Area

Logged By: Ben Stewart Reviewed By:

Drilling Contractor: Layne

Drill Rig Type/Method: CME 850/HSA

Drillers Name: Jose Alvarado

Borehole Diam./Drill Bit Type: 8-in. / Carbide Total Depth: 41 ft Ref. Elev.:

Site Sketch Map

Sampler Type: 1.5-foot Split Spoon

Depth to 1st Water (Σ): None Time/Date:

Drill Start Time/Date: 3/24/03 1345 Drill Finish Time/Date: 3/24/03 1535

Depth to Water After Drilling (∇): Time/Date:

Well Completion Time/Date: 3

Depth to other Water Bearing Zones: N/A

Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
									Surface: Fill					
							1							
							2							
							3							
							4							
							5							
DJ	↓	6	2				5		Silty Sand (SM): fine gr. dy, oxidized micaceous, weak cementation, nonplastic, brown.	-	-	-	80	20
		6	7				6							
		6	10				6							
							7							
							8							
							9							
							10							
DJ	↓	6	6				10		Silty Sand (SM): fine-med. gr. dy, med. cementation, oxidized micaceous, nonplastic, yellow brown.	-	-	10	80	10
		6	10				11							
		6	10				11							
							12							

Boring #: P9-134

MW#: P2-125

Project: NASA NS6W

Sheet 2 of 3

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med.	Fine	Silt/Clay
							2							
							3							
							4		[Still soft drilling]					
D.1	T	6	8				15		Silty Sand (SM): fine grained, weak cement, oxidized, micaceous, nonplastic, yellow brown	-	-	-	80	20
		6	8				6							
	↓	6	8				6							
							7							
							8							
							9							
D.1	T	6	7				20		Sandstone: highly weathered, fine grained, oxidized, mod. cement, nonplastic, brown yellow, dry	-	-	-	90	10
		6	6				1							
	↓	6	9				1							
							2							
							3							
							4							
D.0	T	6	11				25		Sandstone: moist, highly weathered, fine gr., mod. cement, nonplastic, brown yellow	-	-	-	90	10
		6	12				6							
	↓	6	12				6							
							7							
							8							
							9							
D.0	T	6	8				30		As above	-	-	-	90	10
		6	9				1							
	↓	6	10				1							
							2							

Boring #: PT-134

MW#: PZ-125

Project: NASA New-Surface (TW)

Sheet 3 of 3

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand						
										Gravel	Coarse	Med.	Fine	Silt/Clay		
					2" PVC SCREEN	RMC #3 Sand	2									
					2" PVC SCREEN	RMC #3 Sand	3									
					2" PVC SCREEN	RMC #3 Sand	4									
					2" PVC SCREEN	RMC #3 Sand	35	BR	Hard drilling @ 34'							
0.0	↓	2	5 1/2						Sandstone: olive grey, mod. cement, fine gr. nonplastic, moist, oxidized, micaceous	-	-	-	90	10		
						Bentonite	6									
						Bentonite	7									
						Bentonite	8									
						Bentonite	9									
0.0	↓	6	39			Backfill	40		Interbedded layers of shale + sandstone: blue	-	-	-	80	20		
		2	5 1/2				1	TD	grey, wet, mod. cement, fine gr., oxidized, nonplastic, micaceous							
							2									
							3									
							4		TD @ 41'							
							5		Refusal @ 41'							
							6		Terminated boring							
							7		1 Bag Wyo. Ben. Enriching Medium							
							8		4 Gal Wyo. Ben. Enriching 1/4-in Tablets							
							9		5 Gal Sinclair Bentonite Pellets							
							10		4 1/2 Bags RMC #3 Pacific Materials Sand							
							11									
							12									





MONTGOMERY WATSON

Boring #: *PF-135 MW#: P2-126* Sheet *1* of *4*

Project: *NASA NSGW*

Job #: *-* Site: *Coca*

Logged By: *Ben Stewart* Reviewed By:

Drilling Contractor: *Layne*

Drill Rig Type/Method: *CME 95*

Drillers Name: *Ruben*

Borehole Diam./Drill Bit Type:

*8-in / Carbide*

Total Depth

*50.0 ft*

Ref. Elev.

Site Sketch Map

Sampler Type: *1.5-ft Split Spoon*

Depth to 1st Water (Σ): *N/A* Time/Date: *-*

Drill Start Time/Date: *4/30/03 1330* Drill Finish Time/Date: *4/30/03 1600*

Depth to Water After Drilling (∇): *-* Time/Date: *-*

Well Completion Time/Date: *5/1/03 1000*

Depth to other Water Bearing Zones: *N/A*

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

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of				
										Gravel	Sand			Silt/clay
											Coarse	Medium	Fine	
									<i>Surface: concrete spillway (7ft)</i>					
							1							
							2							
							3		<i>Cuttings stained olive grey</i>					
							4							
							5	<i>MS</i>	<i>Silty Sand (SM), fine-grained, wet dk olive grey (stained), oxidized, anaphalic, weak cementation</i>	-	-	-	85	15
							6							
							7							
							8		<i>Harder drilling @ 7' (cuttings are ground up sandstone) - no staining</i>					
							9							
							10		<i>CF Sandstone, fine med gr, moist, lt brown, oxidized, micaceous, anaphalic, weak cementation</i>	-	-	5	85	10
							11							
							12							



Boring #: PT-135 MW#: PZ-126

Project: NASA NSGW

Sheet 2 of 4

FID/IVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med	Fine	Silt/Clay	
							2								
							3								
							4								
0.2	↓	4	130/4				15		As above: Sandstone, highly oxidized, weak cementation, moist.	-	-	5	85	10	
							6								
							7								
							8								
							9								
0.1	↓	4	120/4				20		As above; weathered sandstone, moist.	-	-	5	85	10	
							1								
							2								
							3								
							4								
							25		CF Sandstone: fine gr., moist, grey, oxidized, micaceous, weak cementation, argillitic.	-	-	5	85	10	
							6								
							7								
							8								
							9								
							30		Sandstone: fine gr., moist, brownish grey, oxidized, micaceous, weak cementation, argillitic.	-	-	-	90	10	
							1								
							2								



Boring #: PT-135 MW#: A2-126

Project: NASA NSGW

Sheet 3 of 4

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand									
										Gravel	Coarse	Med.	Fine	Silt-Clay					
							2												
							3												
							4												
0.0	↓	4	120/4				35		Sandstone; gray, oxidized, moist micaceous, fine-gr., argillitic, weak cementation,	-	-	-	90	10					
							6												
							7												
							8												
							9												
0.1	↓	3	120/3				40		Sandstone: brown-gray, oxidized, micaceous, fine-gr., argillitic, weak cementation, moist	-	-	-	90	10					
							1												
							2												
							3												
							4												
0.1	↓	6	35				45		As above: gray, fine-med grained, oxidized, micaceous, weak cementation, moist, argillitic	-	-	-	85	10					
		2	100/2				6												
							7												
							8												
							9												
0.1	↓	3	120/3				50		TD @ 50 ft Terminating boring; no refusal Sandstone: gray, as above.										
							1												
							2												



Boring #: *PT-135* MW#: *P2-126* Project: *NASA BSGW*

Sheet: *4* of *4*

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand				
										Gravel	Coarse	Med	Fine	Silt/Clay
							2		8 Bags Puregold Medium Bentonite Chips					
							3		20 Gal. Baried. Bentonite 1/4-in Pellets					
							4		4-1/2 Bags <del>RMC</del> RMC Prefrac Materials #3 Sand					
							5		10 Gal. Pol-Plug 1/4-in Bentonite Pellets					
							6							
							7							
							8							
							9							
							0							
							1							
							2							
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							0							
							1							
							2							







Boring #: PF-136 MW#: PZ-127 Project: RD NS6W

Sheet 2 of 4

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
							2								
							3								
							4								
0.0	2'-in	50/2					15		As above, moist, fine gr.	-	-	-	90	10	
							6								
							7								
							8								
							9								
-	Ø	50/2					20		No recovery is seen						
							1								
							2								
							3								
							4								
0.0	2'-in	50/2					25		LF Sandstone, fine gr., moist, micaceous, oxidized. It brown, nonplastic, strong cementation	-	-	-	90	10	
							6								
							7								
							8								
							9								
0.1	1'-in	50/1					30		As above	-	-	-	90	10	
							1								
							2								

2'-in 50/2 P.V. Black Casing  
 Cement Grout Machine



PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Sand					
										Gravel	Coarse	Med.	Fine	Silt/Clay	
							2								
							3								
							4								
0.2	*	1	50/1				35		LP Sandstone, moist, fine gr., oxidized, micaceous, argillastic, mod. cementation, H blow	-	-	-	90	10	
							6								
							7								
							8								
							9								
0.1	*	1	50/1				40		As above	-	-	-	90	10	
							1								
							2								
							3								
							4								
0.1	±	1	50/1				45		As above	-	-	-	90	10	
							6								
							7								
							8								
							9								
0.	*	1	50/2				50		As above, stronger cementation but still moderate, moist	-	-	-	90	10	
							1								
							2								





