

**FINAL DATA REPORT Rev. 2
GEOTECHNICAL EXPLORATION AND TESTING**

**TURKEY POINT COL PROJECT
FLORIDA CITY, FLORIDA**

October 6, 2008

**VOLUME 4
Appendix G – Groundwater Data**

Prepared By:

**MACTEC Engineering and Consulting, Inc.
Raleigh, North Carolina**

MACTEC Project No. 6468-07-1950

Prepared For:

**Bechtel Power Corporation
Subcontract No. 25409-102-HC4-CY00-00001**

Contents

**Well Construction Permits
Observation Well Records
Well Development Records
Well Sampling Records
Laboratory Test Reports
Slug Test Data Forms**

Well Construction Permits

To: Tom Mc-Daniel

Folio #: 30-7034000-0010



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY. The water well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

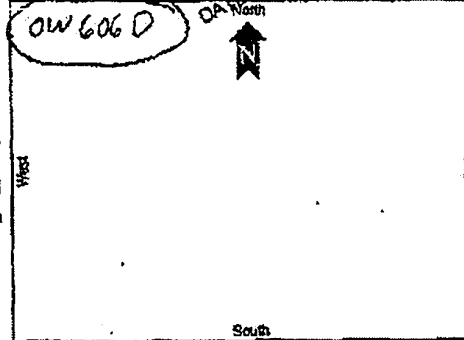
Permit No. 13-99-2631
Florida Unique I.D.
Permit Editions Required (See attached)
62-324 Well
CUP Application No.

1. Florida Power & Light Co 9700 SW 344th Street Florida City 33034 305-246-6400
2. Turkey Point Nuclear Generating Station 9760 SW 344th Street Florida City FL 33035
3. MACTEC Engineering & Consulting Inc - Philip Pitts FL # 11035 404 873 4761
396 Plaster Ave
Atlanta GA 30324
Miami Dade N/A N/A N/A N/A

Print in this area in order that spaces be available for stamping.

7. Number of proposed wells 1 Check the use of well: Domestic Monitor (type) Observation Well
8. Application for: X New Construction
9. Estimated Well Depth 130' +/- Casing Depth 120'
10. If applicable: Proposed From 120 to 131 Seal Material 1/20 Silica Sand
11. Telescope Casing or Liner X (check one) Diameter 2" slurry
12. Method of Construction: X Rotary
13. Indicate total No. of wells on site 20. List number of unused wells on site 0
14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No

APPROVED
MAMI-DADE COUNTY HEALTH DEPARTMENT
5/23/08



15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code...
11035
Date 5/20/08

Approval Granted By: EDUARDO EDWARDS Issue Date: 5/23/08 Hydrologist Approval:
Owner Number: Fee Received: \$ 50 Receipt No.: I080520430
THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.

Form 0129 Rev. 4/95

13-WD-34019

I080520430



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

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CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 259-7743
Florida Unique I.D.
Permit stipulations Required (See attached)
62-524 well
CUP Application No.

Field as the line in order that address is visible through envelope window.

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
Owner, Legal Name of Entity if Corporation Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
Well Location - Address, Road Name or Number, City

3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761
Well Drilling Contractor License No. Telephone No.
396 Plasters Avenue
Address City State Zip Atlanta Georgia 30324
4. SW 1/4 of NW 1/4 of Section 34
5. Township 57S Range 40E

6. Miami-Dade N/A N/A N/A N/A
County Subdivision Name Lot Block Unit

7. Number of proposed wells 1 Check the use of well: (See back of permit for additional choices) Domestic Monitor (type) Observation well
Irrigation (type) Public Water Supply (type) List Other

Distance from septic system N/A ft. Description of facility Estimated start of construction date 2/19/08

8. Application for: X New Construction Repair/Modify Abandonment

9. Estimated: Well Depth 101* ft Casing Depth 90 ft
Casing Material: Blk-Steel / Gal / PVC rvc Casing Diameter 2"

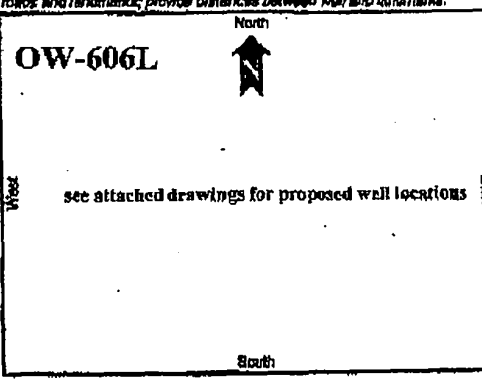
10. If applicable: Proposed From 88 to 100 Seal Material 10/20 silica sand
Grouting Interval From 85 to 85 Seal Material Bentonite

11. Telescope Casing or Liner X (check one) Diameter 2"
Blk-Steel / Galvanized / PVC/PVC Other (specify):

12. Method of Construction: X Rotary Cable Tool Combination
X Auger Other (specify):

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. In this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes
District well I.D. No. N/A
Latitude N/A Longitude N/A
Data obtained from GPS or map or survey (map datum NAD 27 NAD 83)



15. I hereby certify that I will comply with applicable rules of Title 40, Florida Administrative Code... I certify that I am the owner of the property, and the information provided is accurate...
Signature of Contractor License No. 11035
Owner's or Agent's Signature Date 2/19/08

Approval Granted By: ASTER EDWARDS Issue Date: 2-19-08 Hydrologist Approval

Owner Number: Fee Received: \$ 50 Receipt No. 1080215406 Check No. 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.

Fax #: 919-832-8136



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY.

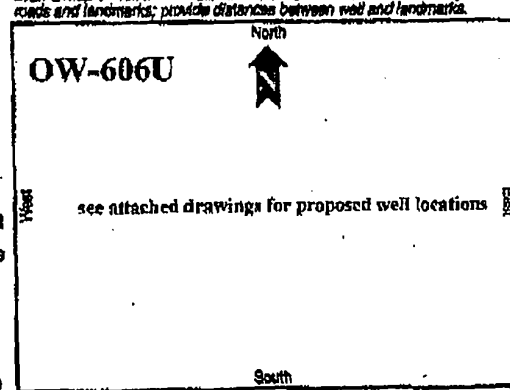
The water well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 13-69-2241
Florida Unique I.D. 30-7024-01-0010
Permit Stipulations Required (See attached)
62-624 well
CUP/WUP Application No.

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached 8760 SW 344 St Homestead FL 33035
3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761
4. SW 1/4 of NW 1/4 of Section 34
5. Township 57S Range 40E
6. Miami-Dade N/A N/A N/A N/A
7. Number of proposed wells 1 Check the use of well: Domestic Monitor (type) Observation well
8. Application for: X New Construction Repair/Modify Abandonment
9. Estimated: Well Depth 26 ft Casing Depth 15 ft
10. If applicable: Proposed From 13 to 25 Seal Material 10/20 silica sand
11. Telescope Casing or Liner X (check one) Diameter 2"
12. Method of Construction: X Rotary Cable Tool Combination X Auger Other (specify)
13. Indicate total No. of wells on site 0 List number of unused wells on site 0
14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes
15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code...

APPROVED
Date Stamp: 2-19-08
Permit No. 13-69-2241
Date: 2-19-08
Miami-Dade County
Health Department



Approval Granted By: ASTRID EDWARDS Issue Date: 2-19-08 Hydrologist Approval
Owner Number: Fee Received: \$ 50 Receipt No. I080215406 Check No.: 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.

Form 0128 Rev. 4/95

13-WD-33815

I080215406

DCN# TUR060



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY. The water well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 13-69-2742
Florida Unique I.D.
Permit Stipulations Required (See attached)
62-624 well
CUP/WUP Application No.

Print all data three times in order that address is visible through envelope window

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
Owner, Legal Name of Entity if Corporation Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
Well Location - Address, Road Name or Number, City

3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts P.E. # 11035 404-873-4761
Well Drilling Contractor License No. Telephone No.

396 Plasters Avenue Address
Atlanta Georgia 30324 City State Zip
4. NW 1/4 of NW 1/4 of Section 34 (Indicate Well on Chart)
5. Township 57S Range 40E

6. Miami-Dade N/A N/A N/A N/A
County Subdivision Name Lot Block Unit SW SE

7. Number of proposed wells 1 Check the use of well: (See back of permit for additional choices) Domestic Monitor (type) Observation well
Irrigation (type) Public Water Supply (type) List Other

8. Application for: X New Construction Repair/Modify Abandonment
Estimated: Wall Depth 101 ft Casing Depth 90 ft
Casing Material: Blk-Steel / Gal / PVC Casing Diameter 2"

9. Estimated: Wall Depth 101 ft Casing Depth 90 ft
Casing Material: Blk-Steel / Gal / PVC Casing Diameter 2"

10. If applicable: Proposed Grouting Interval From 88 to 100 Seal Material 10/20 silica sand
From 85 to 85 Seal Material Bentonite
From 0 to 83 Seal Material Portland/bentonite slurry

11. Telescope Casing or Liner X (check one) Diameter 2"
Blk-Steel / Galvanized / PVC PVC Other (specify):

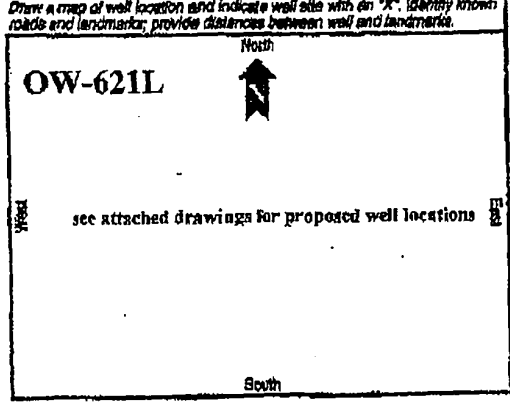
12. Method of Construction: X Rotary Cable Tool Combination
X Auger Other (specify):

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes
District well I.D. No. N/A
Latitude N/A Longitude N/A
Data obtained from GPS or map or survey (map datum NAD 27 NAD 83)

15. I hereby certify that I will comply with the applicable rules of Title 60, Florida Administrative Code... I certify that I am the owner of the property... Signature of Contractor License No. 1035 Signature of Wells Signatory Date 2/19/08

APPROVED
Permit No. 13-69-2742
Miami-Dade County Health Department



Approval Granted By: ASTRID BOWARDS Issue Date: 2-19-08 Hydrologist Approval:
Owner Number: Fee Received: \$ 50 Receipt No.: T080215446 Check No.: 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
- Northwest
- St. Johns River
- South Florida
- Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY.
 The water well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 1269-2744
 Florida Unique ID. _____
 Permit Stipulations Required (See attached)
 02-524 well
 CUP/WUP Application No. _____

Fold at this line to enter that address in visible through envelope window

1. **Florida Power and Light Company, Attn: Mr. Ed Paula** 9700 SW 344 Street Florida City 33034 305-246-6407
 Owner, Legal Name of Entity if Corporation Address City Zip Telephone Number

2. **Turkey Point Nuclear Generating Station - coordinates of proposed wells attached**
 Well Location - Address, Road Name or Number, City

3. **MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035** 404-873-4761
 Well Drilling Contractor License No. Telephone No.

396 Plasters Avenue Address
 Atlanta Georgia 30324 City State Zip
 4. NW 1/4 of NW 1/4 of Section 34 (indicate Well on Chart)
 5. Township 57S Range 40E

6. **Miami-Dade** N/A N/A N/A N/A
 County Subdivision Name Lot Block Unit

7. Number of proposed wells 1 Check the use of well: (See back of permit for additional choices) Domestic Monitor (type) Observation well
 Irrigation (type) Public Water Supply (type) List Other: _____
 Distance from septic system N/A ft. Description of facility Ind. well/water discharge area Estimated start of construction date 2/19/08

8. Application for: New Construction Repair/Modify Abandonment (Reason for Abandonment)
 9. Estimated: Well Depth 26* ft Casing Depth 15 ft Screen Interval from 15 to 25
 Casing Material: Blk-Steel / Gal / PVC rvc Casing Diameter 2" Seal Material see below
 10. If applicable: Proposed From 13 to 25 Seal Material 10/20 silica sand
 Grouting Interval From 10 to 13 Seal Material Bentonite
 From 0 to 10 Seal Material Portland/cement/slime slurry

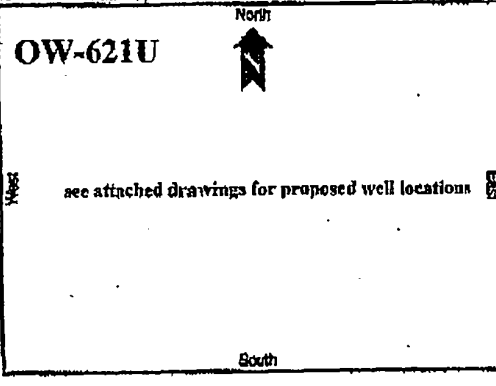
APPROVED
 Permit no. 1269-2744
 Date 2-19-08
 Miami-Dade County Health Department

11. Telescope Casing _____ or Liner (check one) Diameter 2"
 Blk-Steel / Galvanized / PVC/PVC Other (specify): _____

12. Method of Construction: Rotary Cable Tool Combination
 Auger Other (specify): _____

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? No Yes
 (If yes, complete the following) CUP/WUP No. N/A
 District well I.D. No. N/A
 Latitude N/A Longitude N/A
 Data obtained from GPS _____ or map _____ or survey _____ (map datum NAD 83 NAD 83)



15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code, and that a water use permit or discharge permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that all information provided on this application is accurate and that I will obtain necessary approvals from other federal, state, or local governments. I agree to provide a well completion report to the District within 30 days after drilling operations are completed.

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 62A, Florida Statutes, to maintain or properly abandon this well, or I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of his or her responsibilities as stated above. I am providing to the District a representative access to the well site.

Signature of Contractor _____ License No. 11035 Owner's or Agent's Signature _____ Date 2/19/08

Approval Granted By: STEP EDWARDS Issue Date: 2-19-08 Hydrologist Approval _____
 Owner Number: _____ Fee Received: \$ 50 Receipt No. T620215406 Check No.: 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

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CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 1259-2046
Florida Unique I.D.
Permit Stipulations Required (See attached)
62-624 well
CUP/WUP Application No.

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
Owner, Legal Name of Entity if Corporation Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
Well Location - Address, Road Name or Number, City

3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761
Well Drilling Contractor License No. Telephone No.

396 Plasters Avenue Address
Atlanta Georgia 30324 City State Zip
4. SE 1/4 of SE 1/4 of Section 34 (Indicate Well on Chart)
5. Township 57S Range 40E

6. Miami-Dade N/A N/A N/A N/A
County Subdivision Name Lot Block Unit

7. Number of proposed wells 1 Check the use of well: (See back of permit for additional choices) Domestic Monitor (type) Observation well
Irrigation (type) Public Water Supply (type) List Other
Distance from septic system N/A ft. Description of facility Estimated start of construction date 2/19/08

8. Application for: X New Construction Repair/Modify Abandonment
Estimated: Well Depth 101* ft Casing Depth 90 ft
Casing Material: Blk-Steel / Gal / PVC PVC Casing Diameter 2"
Screen Interval from 90 to 100
Seal Material see below

10. If applicable: Proposed From 88 to 100 Seal Material 10/20 silica sand
Grouting Interval From 85 to 85 Seal Material Bentonite
From 0 to 83 Seal Material Portland/bentonite slurry

11. Telescope Casing or Liner X (check one) Diameter 2"
Blk-Steel / Galvanized / PVC/PVC Other (specify):

12. Method of Construction: X Rotary Cable Tool Combination
X Auger Other (specify):

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes

(If yes, complete the following) CUP/WUP No. N/A
District well I.D. No. N/A
Latitude N/A Longitude N/A
Data obtained from GPS or map or survey (map datum NAD 87 NAD 83)

15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code, and that a water use permit or artificial recharge permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that all information provided on this application is accurate and that I will obtain necessary approval from other federal, state, or local governments, if applicable, to provide a well completion report to the District within 30 days after drilling or test completion, whichever occurs first.

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 672, Florida Statutes, to maintain or properly abandon this well; or, I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of his responsibilities as stated above. Owner (or agent) signature: [Signature] Date: 2/19/08

DO NOT WRITE BELOW THIS LINE - FOR OFFICIAL USE ONLY

Approval Granted By: [Signature] Issue Date: 2-19-08 Hydrologist Approval: [Signature]

Owner Number: Fee Received: \$ 96 Receipt No.: TD2021546 Check No.: 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.

Form 0123 Rev. 4/95

DCN# TUR060



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY. The well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 1459-2245
Florida Unique I.D.
Permit Stipulations Required (See attached)
82-524 well
CUP/WUP Application No.

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761

Field of this form is under that address is visible through average vehicle

7. Number of proposed wells 1 Check the use of well: (See back of permit for additional choices) Domestic Monitor (type) Observation well
Irrigation (type) Public Water Supply (type) List Other
Distance from septic system N/A Description of facility Estimated start of construction date 2/19/08

8. Application for: X New Construction Repair/Modify Abandonment
9. Estimated: Well Depth 26 ft Casing Depth 15 ft
Casing Material: Blk-Steel / Gal / PVC rvc Casing Diameter 2"

10. If applicable: Proposed From 13' to 25' Seal Material 10/20 silica sand
Grouting Interval From 2" to 13' Seal Material Bentonite
From 0' to 10' Seal Material Portland/bentonite slurry

11. Telescope Casing or Liner (check one) Diameter 2"
Blk-Steel / Galvanized / PVGPVC Other (specify):

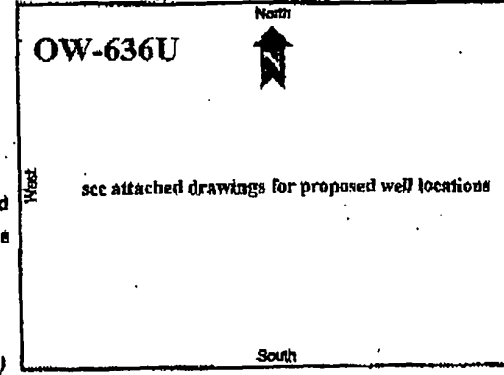
12. Method of Construction: X Rotary Cable Tool Combination
X Auger Other (specify):

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes
District well I.D. No. N/A
Latitude N/A Longitude N/A
Data obtained from GPS or map or survey (map datum NAD 27 NAD 83)

15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code, and that a water use permit or approval to discharge... I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes, to maintain or properly abandon this well...

APPROVED
Permit No. 1459-2245
Date: 2-19-08
Depts: Miami-Dade County Health Department



Approval Granted By: ASTRO EDWARDS Issue Date: 2-19-08 Hydrologist Approval
Owner Number: Fee Received: \$50 Receipt No. 108021546 Check No.: 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.

To: TOM MU DANIEL

FAX: 305-826-1799

Folio #: 30-7034004-0010



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
- Northwest
- St. Johns River
- South Florida
- Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY. The well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 10-59-2692
 Florida Unique I.D. _____
 Permit Stipulations Required (See attached) _____
 B2-524 well
 SWP Application No. _____
 APPROVED FOR CONSTRUCTION BY WMD

Read all rules in order that address to be visible through envelope window.

1. Florida Power & Light Co. 9700 SW 344 St Florida City 33034 305 246 6467
Owner, Legal Name of Entity & Corporation Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station 9760 SW 344th Street Florida City FL 33035
Well Location - Address, Road Name or Number, City

3. MACTEC Engineering & Consulting Inc. Phila PHS FL # 11035 404 673 4761
Well Drilling Contractor License No. Telephone No.

396 Pleasant Ave NE 1/4 of SE 1/4 of Section 33
Address (Indicate Well on Chart)

Atlanta GA 30324 7 S 40 E
City State Zip Township Range

6. Miami Dade N/A N/A N/A N/A
County Subdivision Name Lot Block Unit SW SE

7. Number of proposed wells 1 Check the use of well: (See back of permit for additional choices) Domestic Monitor (type) Observation Well
 Irrigation (type) Public Water Supply (type) List Other _____
(See Back) (See Back)

Distance from septic system N/A ft. Description of facility _____ Estimated start of construction date _____

8. Application for: New Construction Repair/Modify Abandonment
(Reason for Abandonment) _____ Date _____

9. Estimated: Well Depth 130' + 1' Sump Casing Depth 120' Screen Interval from _____
 Casing Material: Blk-Steel / Gal / PVC Casing Diameter 2" Seal Material _____

10. If applicable: Proposed From 120 to 131 Seal Material 10/20 Silica Sand
 Grouting Interval From 117 to 120 Seal Material Bentonite
 From 0 to 117 Seal Material Portland/Bentonite Slurry

11. Telescope Casing _____ or Liner _____ (check one) Diameter _____
 Blk-Steel / Galvanized PVC Other (specify): _____

12. Method of Construction: Rotary Cable Tool Combination
 Auger Other (specify): _____

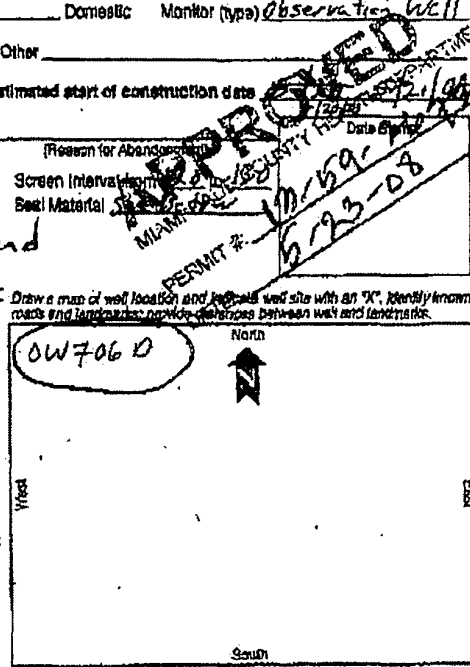
13. Indicate total No. of wells on site 20. List number of unused wells on site 0

14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? No Yes
(If yes, complete the following) CUP/WUP No. N/A
 District well I.D. No. N/A
 Latitude N/A Longitude N/A
 Data obtained from GPS _____ or map _____ or survey _____ (map datum NAD 27 _____ NAD 83 _____)

15. I hereby certify that I will comply with the applicable rules of Title 61, Florida Administrative Code, and that a water use permit or artificial recharge permit, if needed, has been or will be obtained prior to commencement of well construction. I hereby certify that all information provided on this application is true and that I am doing necessary approval from other federal, state, or local government. If a permit is required to construct a well, I agree to provide a well completion report to the District within 30 days after drilling or the permit expiration, whichever is later.

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 370, Florida Statutes, to maintain or properly abandon this well, or, I certify that I am the agent for the owner; that the information provided is accurate, and that I have informed the owner of the responsibilities as stated above. Owner or agent for the owner of the WMD or a representative access to the well site.

[Signature] 11035 [Signature] 5/20/08
Signature of Contractor License No. Signature of Owner or Agent Date



Approval Granted By: RYAN DOWD (Issue Date: 5-20-08) Hydrologist Approval: _____
 Owner Number: _____ Fee Received: \$ 60 Receipt No.: 1680520430 Check No.: _____

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.

Form 0123 Rev. 4/95
13-WA-34019 I080520430



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY. The water well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

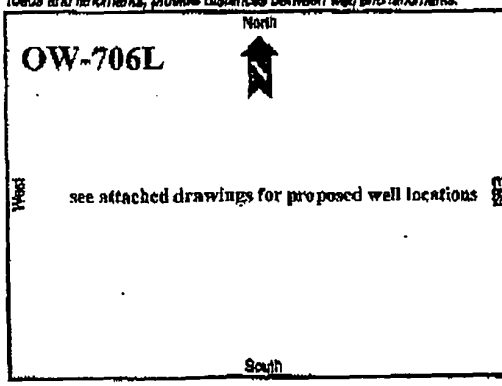
CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 13-59-2248
Florida Unique I.D.
Permit Stipulations Required (See attached)
62-824 well
CUPWUP Application No.

Find all state time in order that address is visible through envelope window

Main permit application form with sections 1-15. Includes owner information (Florida Power and Light Company), well location (Turkey Point Nuclear Generating Station), contractor info (MACTEC Engineering), well depth (101 ft), and construction details.

APPROVED stamp with date 2-19-08 and signature of Phillip K. Pitts.



Approval section including signature of Phillip K. Pitts, issue date 2/19/08, fee received \$50, and permit validity information.



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY.

The water well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 1259-2247
Florida Unique I.D.
Permit Stipulations Required (See attached)
62-524 well
CUP/WUP Application No.

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
Owner, Legal Name of Entity if Corporation Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
Well Location - Address, Road Name or Number, City

3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761
Well Drilling Contractor License No. Telephone No.

396 Plasters Avenue
Address
Atlanta Georgia 30324
City State Zip
4. NE 1/4 of SE 1/4 of Section 33
5. Township 57S Range 40E

6. Miami-Dade N/A N/A N/A N/A
County Subdivision Name Lot Block Unit SW SE

7. Number of proposed wells 1 Chuck the use of well: Domestic Monitor (type) Observation well
Irrigation (type) Public Water Supply (type) List Other
Distance from septic system N/A ft. Description of facility Estimated start of construction date 2/19/08

8. Application for: X New Construction Repair/Modify Abandonment
Estimated: Well Depth 26* ft Casing Depth 15 ft
Casing Material: Blk-Steel / Gal / PVC rvc Casing Diameter 2"

10. If applicable: Proposed From 13 to 26 Seal Material 10/20 silica sand
Grouting Interval From 10 to 13 Seal Material Bentonite
From 8 to 10 Seal Material Portland/bentonite slurry

11. Telescope Casing or Liner X (check one) Diameter 2"
Blk-Steel / Galvanized / PVC/PVC Other (specify):

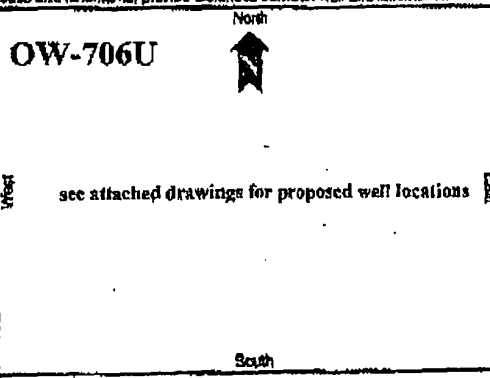
12. Method of Construction: X Rotary Cable Tool Combination
X Auger Other (specify):

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well or water with drawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes
District well I.D. No. N/A
Latitude N/A Longitude N/A
Data obtained from GPS or map or survey (map datum NAD 87 NAD 83)

15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code... I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes...

APPROVED
Permit no. 1259-2247
Date: 2-19-08
Miami-Dade County Health Department



DO NOT WRITE BELOW THIS LINE - FOR OFFICIAL USE ONLY

Approval Granted By: ASTRID EDWARDS Issue Date: 2-19-08 Hydrologist Approval
Owner Number: Fee Received: \$ 50 Receipt No.: 108021506 Check No.: 528534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY.

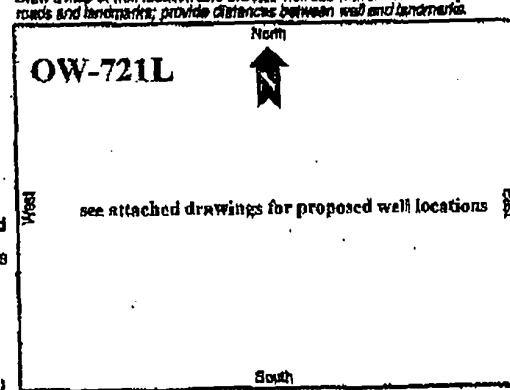
The water well contractor is responsible for completing the form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR A PROPRATE DISTRICT, ADDRESS ON BACK OF PERMIT FORM.

Permit No. 1059-2260
Florida Unique I.D.
Permit Stipulations Required (See attached)
62-524 well
CUP/WUP Application No.

Main permit application form with sections 1-15, including owner information, well location, contractor details, and technical specifications.

APPROVED
Permit no. 1059-2260
Date: 2-19-08
Miami-Dade County Health Department



Approval section with signatures of contractor and owner, and hydrologist approval.

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. Form 0123 Rev. 4/95



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
- Northwest
- St. Johns River
- South Florida
- Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY.
 The water well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 13-59-2249
 Florida Unique I.D. _____
 Permit Stipulations Required (See attached)
 02-524 well
 CUPW Application No. _____

Fold at this line in order that address is visible through envelope window

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
 Owner, Legal Name of Entity if Corporation Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
 Well Location - Address, Road Name or Number, City

3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761
 Well Drilling Contractor License No. Telephone No.

396 Plasters Avenue Address
 Atlanta Georgia 30324 City State Zip
 4. SE 1/4 of NE 1/4 of Section 33 (Indicate Well on Chart)
 5. Township 57S Range 40E

6. Miami-Dade N/A N/A N/A N/A
 County Subdivision Name Lot Block Unit SW SE

7. Number of proposed wells 1 Check the use of well: (See back of permit for additional choices) Domestic Monitor (type) Observation well
 Irrigation (type) Public Water Supply (type) List Other _____
 Distance from septic system N/A ft. Description of facility Ind. wastewater discharge area Estimated start of construction date 2/19/08

8. Application for: New Construction Repair/Modify Abandonment
 (Reason for Abandonment)

9. Estimated: Well Depth 26± ft Casing Depth 15 ft Screen Interval from 15 to 25
 Casing Material: Blk-Steel / Gal / PVC rvc Casing Diameter 2" Seal Material see below

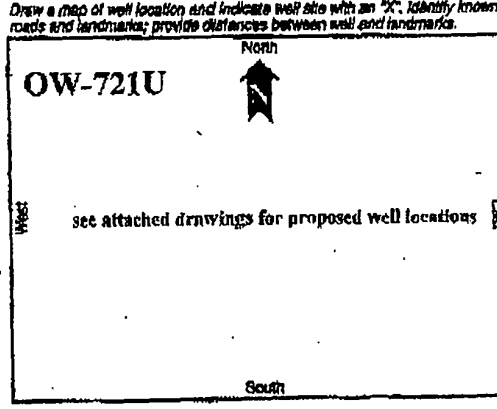
10. If applicable: Proposed From 13 to 25 Seal Material 10/20 silica sand
 Grouting Interval From 10 to 13 Seal Material Bentonite
 From 0 to 10 Seal Material Portland/bentonite slurry

11. Telescope Casing _____ or L liner (check one) Diameter 2"
 Blk-Steel / Galvanized / PVC PVC Other (specify): _____

12. Method of Construction: Rotary Cable Tool Combination
 Auger Other (specify): _____

12. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CJRWUP) or CUP/WUP Application? No Yes
 (If yes, complete the following) CUP/WUP No. N/A
 District well I.D. No. N/A
 Latitude N/A Longitude N/A
 Data obtained from GPS _____ or map _____ or survey _____ (map datum NAD 27 NAD 83)



APPROVED
 Permit no. 13-59-2249
 Date: 2-19-08
 Miami-Dade County Health Department

15. I hereby certify that I will comply with the applicable rules of Title 60, Florida Administrative Code, and that a water use permit or additional required permit, if no deed, has been or will be obtained prior to commencement of well construction. I further certify that all information provided on this application is accurate and that I will obtain necessary approval from other federal, state, or local governmental agencies. I agree to provide a well completion report to the District within 30 days after drilling of the well is completed, whichever occurs first.
 I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes, to maintain or properly abandon this well, or, I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of his responsibilities as stated above. Owner consents to personnel of the WMD or a representative access to the well site.

Signature of Contractor [Signature] License No. 11035 Owner's or Agent's Signature [Signature] Date 2/19/08

Approval Granted By: ASTRID EDWARDS Issue Date: 2-19-08 Hydrologist Approval _____

Owner Number: _____ Fee Received: \$ 50 Receipt No.: T08025406 Check No.: 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY. The water well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 13-59-2252
Florida Unique I.D.
Permit Stipulations Required (See attached)
62-524 well
GUP Application No.

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
Owner, Legal Name of Entity if Corporation Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
Well Location - Address, Road Name or Number, City

3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761
Well Drilling Contractor License No. Telephone No.

396 Plasters Avenue Address 4. SW 1/4 of SE 1/4 of Section 33
Atlanta Georgia 30324 (Indicate Well on Chart)

City State Zip 5. Township 57S Range 40E

6. Miami-Dade N/A N/A N/A N/A
County Subdivision Name Lot Block Unit SW SE

7. Number of proposed wells: 1 Check the use of well: (See back of permit for additional choices) Domestic Monitor (type) Observation well

Distance from septic system N/A ft. Description of facility Estimated start of construction date 2/19/08

8. Application for: X New Construction Repair/Modify Abandonment

9. Estimated: Well Depth 101 ft Casing Depth 90 ft
Casing Material: Blk-Steel / Gal / PVC PVC Casing Diameter 2"

10. If applicable: Proposed From 38 to 100 Seal Material 10/20 silica sand
Grouting Interval From 23 to 85 Seal Material Bentonite

11. Telescope Casing or Liner X (check one) Diameter 2"
Blk-Steel / Galvanized / PVC PVC Other (specify):

12. Method of Construction: X Rotary Cable Tool Combination
X Auger Other (specify):

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes

District well I.D. No. N/A

Latitude N/A Longitude N/A

Data obtained from GPS or map or survey (map datum NAD 27 NAD 83)

15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code, and that a water use permit or a flow exchange permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that all information provided on this application is accurate and true and that I will obtain necessary approval from other federal, state, or local governmental agencies, if applicable, to provide a well completion report to the District within 30 days after drilling the well to final completion, whichever occurs first.

I certify that I am the Owner of the property; that the information provided is accurate, and that I am aware of my responsibilities under Chapter 379, Florida Statutes, to maintain or properly abandon the well; or, I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of his responsibilities as stated above. Owner consents to the removal of the permit or a representative society to the well site.

Signatures of Contractor License No. 11035 Owners or Agent's Signature Date 2/15/08

APPROVED
Permit No. 13-59-2252
Date 2-19-08
Miami-Dade County
Date of Expiration
Draw a map of well location and indicate well site with... Identify known roads and landmarks; provide distances between... and landmarks.

Approval Granted By: AGUED EDWARDS Issue Date: 2/19/08 Hydrologist Approval

Owner Number: Fee Received: \$ 60 Receipt No. 103022546 Check No. 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY. The water well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

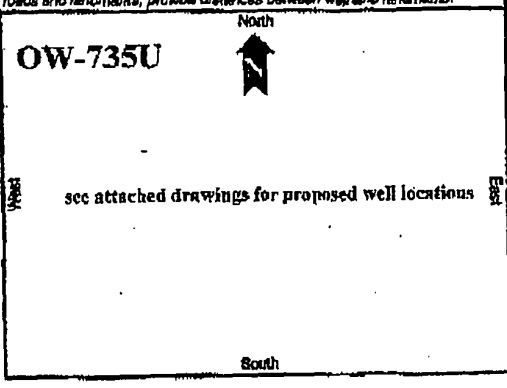
CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 13-59-7251
Florida Unique I.D.
Permit Stipulations Required (See attached)
02-624 well
CUP Application No.

Fill in this area in order that address is visible through envelope window

Main application form with sections 1-15. Includes owner information (Florida Power and Light Company), well location (Turkey Point Nuclear Generating Station), contractor (MACTEC Engineering), well depth (26 ft), and construction details.

APPROVED
Permit no. 13-59-7251
Date: 2-19-08
Miami-Dade County
Department



15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code... Signature of Contractor: [Signature] License No. 11035

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 375, Florida Statutes... Owner's or Agent's Signature: [Signature] Date: 2/19/08

Approval Granted By: [Signature] Issue Date: 2-19-08 Hydrologist Approval: [Signature]
Owner Number: Fee Received: \$ 50 Receipt No.: 1090215406 Check No.: 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY.

The water well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 19-59-2254
Florida Unique I.D.
Permit Situations Required (See attached)
62-624 well
CUP Application No.

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
Owner, Legal Name of Entry & Corporation Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
Well Location - Address, Road Name or Number, City

3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761
Well Drilling Contractor License No. Telephone No.

396 Plasters Avenue Address
Atlanta Georgia 30324 City State Zip
4. NE 1/4 of NE 1/4 of Section 34 (Indicate Well on Chart)
5. Township 57S Range 40E

6. Miami-Dade N/A N/A N/A N/A
County Subdivision Name Lot Block Unit SW SE

7. Number of proposed wells 1 Check the use of well: (See back of permit for additional choices) Domestic Monitor (type) Observation well
Irrigation (type) Public Water Supply (type) List Other

Distance from septic system N/A ft. Description of facility 2nd. wastewater discharge area Estimated start of construction date 2/19/08

8. Application for: X New Construction Repair/Modify Abandonment

9. Estimated: Well Depth 101 ft Casing Depth 90 ft
Casing Material: BK-Steel / Gal / PVC PVC Casing Diameter 2"

10. If applicable: Proposed From 88 to 100 Seal Material 10/20 attica sand
Grouting Interval From 83 to 85 Seal Material Bestonite
From 0 to 33 Seal Material Portland/bentonite slurry

11. Telescope Casing or Liner (check one) Diameter 2"
BK-Steel / Galvanized / PVC/PVC Other (specify):

12. Method of Construction: X Rotary Cable Tool Combination
X Auger Other (specify):

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes

(If yes, complete the following) CUP/WUP No. N/A
District well I.D. No. N/A
Latitude N/A Longitude N/A
Data obtained from GPS or map or survey (map datum) NAD 27 NAD 83

15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code, and that a water use permit or artificial recharge permit, if needed, has been or will be obtained prior to commencement of well construction.

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 370, Florida Statutes, to maintain or properly abandon this well. I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of his responsibilities as stated above.

Signature of Contractor License No. 11035 Signature of Owner's Representative Date 2/19/08

Approval Granted By: ASTEIO EDWARDS Issue Date: 2/19/08 Hydrologist Approval

Owner Number: Fee Received: \$ 90 Receipt No.: 108021406 Check No.: 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.

Form 0123 Rev. 4/95 DCN# TUR060



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY.

The water well contractor is responsible for completing this form and forwarding the permit to the appropriate designated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 19-09-7743
Florida Unique ID.
Permit Stipulations Required (See attached)
62-524 well
Application No.

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
Owner, Legal Name of Entity if Corporation Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
Well Location - Address, Road Name or Number, City

3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761
Well Drilling Contractor License No. Telephone No.

396 Plasters Avenue
Address
Atlanta Georgia 30324
City State Zip
4. NE 1/4 of NE 1/4 of Section 34
(indicate Well on Chart)
5. Township 57S Range 40E

8. Miami-Dade N/A N/A N/A N/A
County Subdivision Name Lot Block Unit SW SE

7. Number of proposed wells 1 Check the use of well: (See back of permit for additional choices) Domestic Monitor (type) Observation well
Irrigation (type) Public Water Supply (type) List Other
Distance from septic system N/A ft. Description of facility Est. start of construction date 2/19/08

8. Application for: X New Construction Repair/Modify Abandonment
(Reason for Abandonment)

9. Estimated: Well Depth 26 ft Casing Depth 15 ft
Casing Material: Blk-Steel / Gal / PVC pvc Casing Diameter 2"
Screen (interval from 15 to 25)
Seal Material see below

10. If applicable: Proposed From 13 to 25 Seal Material 10/20 silica sand
Grouting Interval From 10 to 13 Seal Material Bentonite
From 0 to 10 Seal Material Portland/bentonite slurry

11. Telescope Casing or Liner (check one) Diameter 2"
Blk-Steel / Galvanized / PVC/PVC Other (specify):

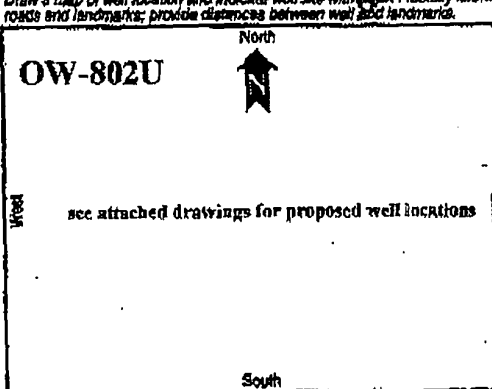
12. Method of Construction: X Rotary Cable Tool Combination
X Auger Other (specify):

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well for water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes
District well I.D. No. N/A
Latitude N/A Longitude N/A
Date obtained from GPS or map (or survey) (map datum NAD 27 NAD 83)

15. I hereby certify that I will comply with the applicable rules of the 4th Florida Administrative Code... I certify that I am the owner of the property that the information provided is accurate...

APPROVED
Date Stamp
Permit no. 19-08
Date: 2-19-08



Approval Granted By: ARTHUR EDWARDS Issue Date: 2-19-08 Hydrologist Approval
Owner Number: Fee Received: \$ 50 Receipt No. 108021548 Check No.: 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMO. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY. The water well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 1369-2256
Florida Unique I.D.
Permit Stipulations Required (See attached)
62-524 well
CUP/WUP Application No.

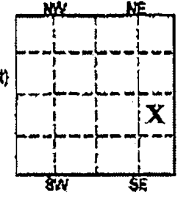
Print as this box in circle that address is visible through computer screen

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
Owner, Legal Name of Entity (if Corporation) Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
Well Location - Address, Road Name or Number, City

3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761
Well Drilling Contractor License No. Telephone No.
396 Plasters Avenue
Address City State Zip
Atlanta Georgia 30324
City State Zip

4. NE 1/4 of SE 1/4 of Section 34
5. Township 57S Range 40E
6. Miami-Dade N/A N/A N/A N/A
County Subdivision Name Lot Block Unit



7. Number of proposed wells 1 Check the use of well: (See back of permit for additional choices) Domestic Monitor (type) Observation well
Irrigation (type) Public Water Supply (type) List Other

Distance from septic system N/A ft. Description of facility Est. start of construction date 2/19/08

8. Application for: X New Construction Repair/Modify Abandonment
(Reason for Abandonment)

9. Estimated: Well Depth 101* ft Casing Depth 90 ft
Casing Material: Blk-Steel / Gal / PVC PVC Casing Diameter 2"
Screen Interval from 90 to 100
Seal Material see below

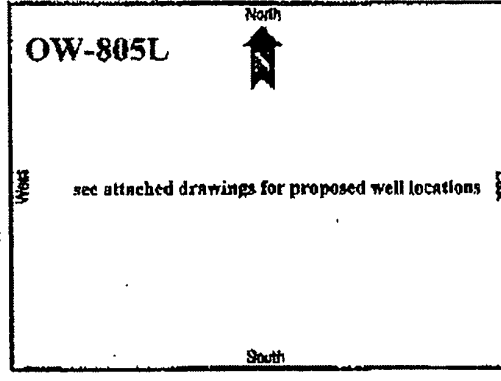
10. If applicable: Proposed Grouting Interval Seal Material 10/20 silica sand
From 88 to 100 Seal Material Bentonite
From 85 to 85 Seal Material Portland/bentonite slurry
From 0 to 83 Seal Material

11. Telescopes Casing or Liner (check one) Diameter 2"
Blk-Steel / Galvanized / PVC/PVC Other (specify):

12. Method of Construction: X Rotary Cable Tool Combination
X Auger Other (specify):

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well or water will drawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes
District well I.D. No. N/A
Latitude N/A Longitude N/A
Data obtained from GPS or map or survey (map datum NAD 87 NAD 83)



15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code... I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 375, Florida Statutes...

APPROVED
Permit No. 1369-2256
Date: 2-19-08
Miami-Dade County Health Department

Approval Granted By: ASTRID EDWARDS Issue Date: 2/19/08 Hydrologist Approval

Owner Number: Fee Received: \$ 50 Receipt No.: T080215406 Check No.: 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY.

The water well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM

Permit No. 13-59-2755
Florida Unique ID.
Permit Stipulations Required (See attached)
62-524 well
Application No.

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
Owner, Legal Name of Entity if Corporation Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
Well Location - Address, Road Name or Number, City

3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761
Well Drilling Contractor License No. Telephone No.

4. NE 1/4 of SE 1/4 of Section 34
Address 396 Plasters Avenue Atlanta Georgia 30324
City State Zip (Indicate Well on Chart)

5. Township 57S Range 40E
County Miami-Dade N/A Subdivision Name N/A Lot N/A Block N/A Unit N/A

7. Number of proposed wells 1 Check the use of well: (See back of permit for additional choices) Domestic Monitor (type) Observation well
Irrigation (type) Public Water Supply (type) List Other

8. Application for: X New Construction Repair/Modify Abandonment
Estimated start of construction date 2/19/08

9. Estimated: Well Depth 26* ft Casing Depth 15 ft Screen Interval from 15 to 25
Casing Material: Blk-Steel / Gal / PVC PVC Casing Diameter 2" Seal Material see below

10. If applicable: Proposed From 13 to 25 Seal Material 10/20 silica sand
Grouting Interval From 10 to 13 Seal Material Bentonite
From 0 to 10 Seal Material Portland/Bentonite slurry

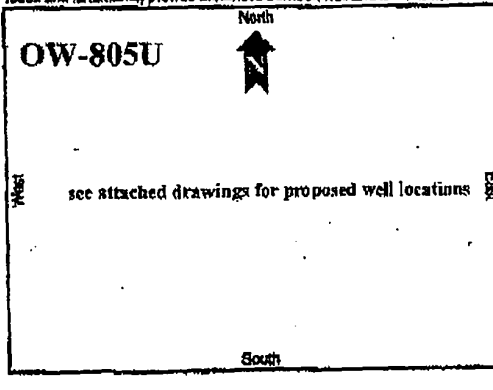
11. Telescope Casing or Liner X (check one) Diameter 2"
Blk-Steel / Galvanized / PVC/PVC Other (specify):

12. Method of Construction: X Rotary Cable Tool Combination
X Auger Other (specify):

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes
District well I.D. No. N/A
Latitude N/A Longitude N/A
Data obtained from GPS or map (X survey (map datum NAD 83 NAD 83))

15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code, and that a water use permit or annual recharge permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that all information provided on this application is accurate and that I will obtain necessary approval from other federal, state, or local governments, if applicable, to complete a well construction report to the District within 30 days after drilling of the well is completed, with two copies first.
Signature of Contractor License No. 11035 Date 2/15/08



APPROVED
Permit No. 13-59-2755
Date 2-19-08
Miami-Dade County Health Department

Approval Granted By: Arturo Edwards Issue Date: 2/19/08 Hydrologist Approval
Owner Number: Fee Received: \$ 50 Receipt No.: 108215406 Check No.: 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY. The well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 17169-2258
Florida Unique I.D.
Permit Stipulations Required (See attached)
B2-524 well
CUP/WUP Application No.

Fill out this line in order that address is visible through envelope window

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
Owner, Legal Name of Entity if Corporation Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
Well Location - Address, Road Name or Number, City

3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761
Well Drilling Contractor License No. Telephone No.

396 Plasters Avenue Address
Atlanta Georgia 30324 City State Zip
4. NW 1/4 of SE 1/4 of Section 33 (Indicate Well on Chart)
5. Township 57S Range 40E

6. Miami-Dade N/A N/A N/A N/A
County Subdivision Name Lot Block Unit

7. Number of proposed wells: 1 Check the use of well: Domestic Monitor (type) Observation well
Irrigation (type) Public Water Supply (type) List Other

Distance from septic system: N/A ft. Description of facility: Est. start of construction date: 2/19/08

8. Application for: X New Construction Repair/Modify Abandonment

9. Estimated: Well Depth: 101* ft Casing Depth: 90 ft
Casing Material: Blk-Steel / Gal / PVC PVC Casing Diameter: 2"

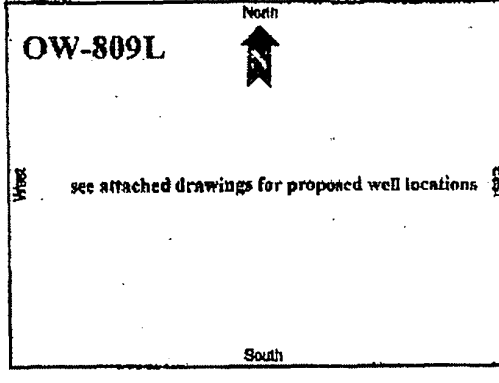
10. If applicable: Proposed From 88 to 100 Seal Material: 10/20 silica sand
Grouting Interval From 83 to 85 Seal Material: Bentonite
From 0 to 83 Seal Material: Portland/bentonite slurry

11. Telescope Casing or Liner (check one) Diameter 2"
Blk-Steel / Galvanized / PVC PVC Other (specify):

12. Method of Construction: X Rotary Cable Tool Combination
X Auger Other (specify):

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes
CUP/WUP No. N/A
District well I.D. No. N/A
Latitude N/A Longitude N/A
Data obtained from GPS or map or survey (map datum NAD 27 NAD 83)



15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code, and that a water use permit or artificial recharge permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that all information provided on this application is accurate and that I will obtain necessary approval from other federal, state, or local government agencies and I agree to provide a well completion report to the District within 30 days after drilling and/or pump installation, if it occurs.
Signature of Contractor License No. 11035
Owner's or Agent's Signature Date 2/15/08

Approval Granted By: ASTRID EDWARDS Issue Date: 2-19-08 Hydrologist Approval
Owner Number: Fee Received: \$ 50 Receipt No.: 108021544 Check No.: 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

THIS FORM MUST BE FILLED OUT COMPLETELY. The well contractor is responsible for completing this form and forwarding the permit to the appropriate delegated county where applicable.

CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 12-69-2257
Florida Unique I.D.
Permit Stipulations Required (See attached)
62-524 well
CUPW Application No.

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
Owner, Legal Name of Entity if Corporation Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
Well Location - Address, Road Name or Number, City

3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761
Well Drilling Contractor License No. Telephone No.

Address 396 Plasters Avenue
City Atlanta State Georgia Zip 30324
4. NW 1/4 of SE 1/4 of Section 33
5. Township 57S Range 40E

6. Miami-Dade N/A N/A N/A N/A
County Subdivision Name Lot Block Unit

7. Number of proposed wells: 1 Check the use of well: Domestic Monitor (type) Observation well
Irrigation (type) Public Water Supply (type) List Other

Distance from septic system N/A ft. Description of facility Ind. water use discharge area Estimated start of construction date 2/19/08

8. Application for: X New Construction Repair/Modify Abandonment
(Reason for Abandonment)

9. Estimated: Well Depth 26* ft Casing Depth 15 ft
Casing Material: Blk-Steel / Gal / PVC rvc Casing Diameter 2"
Screen Interval from 15 to 25
Seal Material see below

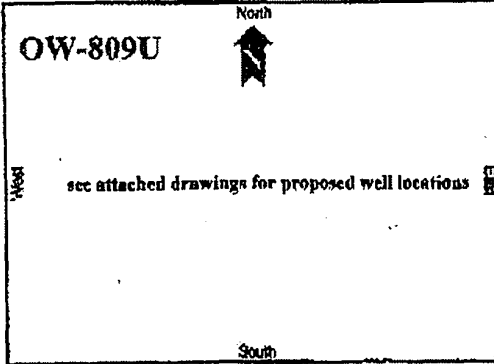
10. If applicable: Proposed From 13 to 25 Seal Material 10/20 silica sand
Grouting Interval From 10 to 13 Seal Material Bentonite
From 0 to 10 Seal Material Portland/bentonite slurry

11. Telescope Casing or Liner X (check one) Diameter 2"
Blk-Steel / Galvanized / PVC/PVC Other (specify):

12. Method of Construction: X Rotary Cable Tool Combination
X Auger Other (specify):

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes
District well I.D. No. N/A
Latitude N/A Longitude N/A
Data obtained from GPS or map or survey (map datum NAD 27 NAD 83)



15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code and that a water use permit or other discharge permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that all information provided on this application is accurate and that I will obtain necessary approval from other federal, state, or local governments, if applicable, to provide a well completion report to the District within 30 days after completion of the permit operation, if a change occurs to it.
I certify that I am the owner of the property; that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes, to maintain or properly abandon this well; or, to notify me (or the agent) for the owner that the information provided is accurate, and that I have informed the owner of his responsibilities as stated above. Other consents, purchases of the Well, or a representative access to the well site.

Signature of Contractor License No. 11035 Signature of Agent/Registrant Date 2/19/08

Approval Granted By: AGUSTO EDWARDS Issue Date: 2-19-08 Hydrologist Approval

Owner Number: Fee Received: \$ 50 Receipt No. T080215406 Check No.: 52 4534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.

Fax #: 919-831-8106



STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

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CHECK BOX FOR APPROPRIATE DISTRICT, ADDRESS ON BACK OF PERMIT FORM

Permit No. 13-59-2260
Florida Unique I.D.
Permit Stipulations Required (See attached)
G2-524 well
CUP/WUP Application No.

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
Owner, Legal Name of Entity if Corporation Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
Well Location - Address, Road Name or Number, City

3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761
Well Drilling Contractor License No. Telephone No.

396 Plasters Avenue Address
Atlanta Georgia 30324 City State Zip
4. NW 1/4 of NE 1/4 of Section 33 (Indicate Well on Chart)
5. Township 57S Range 40E

8. Miami-Dade N/A N/A N/A N/A
County Subdivision Name Lot Block Unit

7. Number of proposed wells 1 Check the use of well: (See back of permit for additional choices) Domestic Monitor (type) Observation well
Irrigation (type) Public Water Supply (type) List Other

Distance from septic system N/A ft. Description of facility Estimated start of construction date 2/19/08

8. Application for: X New Construction Repair/Modify Abandonment

9. Estimated: Well Depth 101 ft Casing Depth 90 ft
Casing Material: Blk-Steel / Gal / PVC PVC Casing Diameter 2"
Screen Interval from 90 to 100 Seal Material sec below

10. If applicable: Proposed From 55 to 100 Seal Material 10/20 silica sand
Grouting Interval From 85 to 85 Seal Material Bentonite
From 0 to 83 Seal Material Portland/Cementite Slurry

11. Telescope Casing or Liner X (tick one) Diameter 2"
Blk-Steel / Galvanized / PVC/PVC Other (specify):

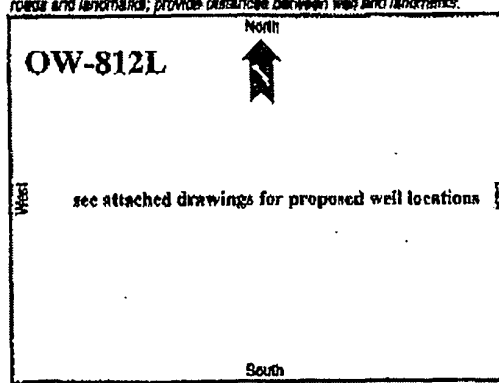
12. Method of Construction: X Rotary Cable Tool Combination
X Auger Other (specify):

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes
District well I.D. No. N/A
Latitude N/A Longitude N/A
Data obtained from GPS or map X survey (map datum NAD 27 NAD 83)

15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code... I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes...

APPROVED
Permit no. 13-59-2260
Date: 2-19-08
Miami-Dade County
Permit Department



Approval Granted By: ASTRAD EDW ABRS Issue Date: 2-19-08 Hydrologist Approval

Owner Number: Fee Received: \$ 50 Receipt No. 1080215406 Check No.: 524534

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STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL.

- Southwest
Northwest
St. Johns River
South Florida
Suwannee River

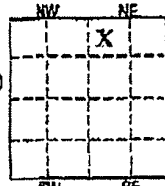
THIS FORM MUST BE FILLED OUT COMPLETELY.

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CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 13-59-2259
Florida Unique ID.
Permit Situations Required (See attached)
62-524 well
CWPA Application No.

1. Florida Power and Light Company, Attn: Mr. Ed Paula 9700 SW 344 Street Florida City 33034 305-246-6407
2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached
3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035 404-873-4761
4. NW 1/4 of NE 1/4 of Section 33
5. Township 57S Range 40E



7. Number of proposed wells 1 Check the use of well: Domestic Monitor (type) Observation well
Irrigation (type) Public Water Supply (type) List Other

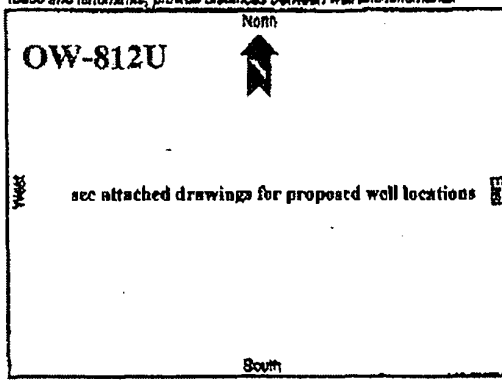
8. Application for: X New Construction Repair/Modify Abandonment
9. Estimated: Well Depth 26* ft Casing Depth 15 ft
Casing Material: Blk-Steel / Gal / PVC rvc Casing Diameter 2"

10. If applicable: Proposed From 13 to 25 Seal Material 10/20 silica sand
Grouting Interval From 10 to 13 Seal Material Bentonite
From 0 to 10 Seal Material Portland/bentonite slurry

11. Telescope Casing or Liner X (check one) Diameter 2"
Blk-Steel / Galvanized / PVC/PVC Other (specify:)
12. Method of Construction: X Rotary Cable Tool Combination
X Auger Other (specify:)

13. Indicate total No. of wells on site 0 List number of unused wells on site 0

14. Is this well or any other well or water withdrawal on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? X No Yes
District well I.D. No. N/A
Latitude N/A Longitude N/A
Data obtained from GPS or map or survey (map datum NAD 27 NAD 83)



15. I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code, and that a water use permit or artificial recharge permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that all information provided on this application is accurate and that I will obtain necessary approval from other federal, state, or local governments, if applicable, I agree to provide a well completion report to the District within 30 days after drilling of this permit expiration, whichever occurs first.
Signature of Contractor License No. 11035
Date of Permit Expiration 2/19/08

APPROVED
Date of Permit 2/19/08
Permit No. 13-59-2259
Miami-Dade County
Florida Department of Natural Resources

Approval Granted By: AARL EDWARDS Issue Date: 2-19-08 Hydrologist Approval
Owner Number: Fee Received: \$ 50 Receipt No.: 1080215406 Check No.: 524534

THIS PERMIT NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD. IT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL DRILLING OPERATIONS. This permit is valid for 90 days from date of issue.

Observation Well Records

Observation Well Data Sheet

Prepared by: WSP Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2671
 County: Miami-Dade County, Florida Observation Well I.D.: OW-606D
 Date of Observation Well Installation: 5/28/08 Date of Well Development: 6/4/08
 Observation Well Northing: 396962.8 US ft Easting: 876712.9 US ft
 Observation Well Location: Main Island Observation Well Driller

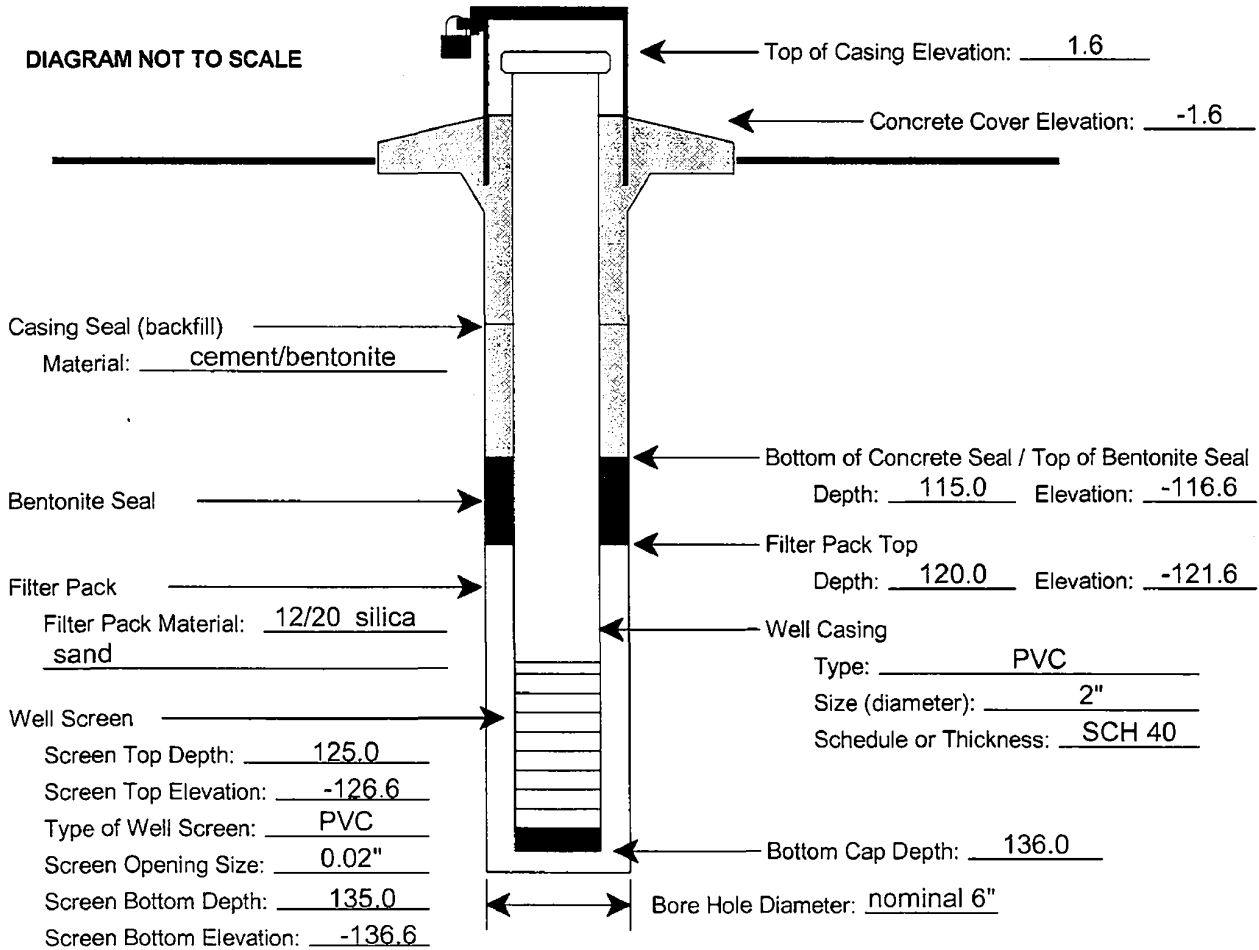
Name: MACTEC
 License No.: 11035

NOTES:

- Centralizer installation depths not recorded
- PVC well screen machine-slotted by the manufacturer.
- Observation well developed using a submersible pump.
- Static water measurement collected 6/4/08.
- Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Harry Lyatuu
 Static Water Level Elevation (with respect to NAVD88) after Well Development: 1.3
 Name of Geologic Formation(s) in which Well is completed: See boring log B-606

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WJG Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2243
 County: Miami-Dade County, Florida Observation Well I.D.: OW-6061
 Date of Observation Well Installation: 5/14/08 Date of Well Development: 5/17/08
 Observation Well Northing: 396979.9 US ft Easting: 876732.6 US ft
 Observation Well Location: Main Island Observation Well Driller

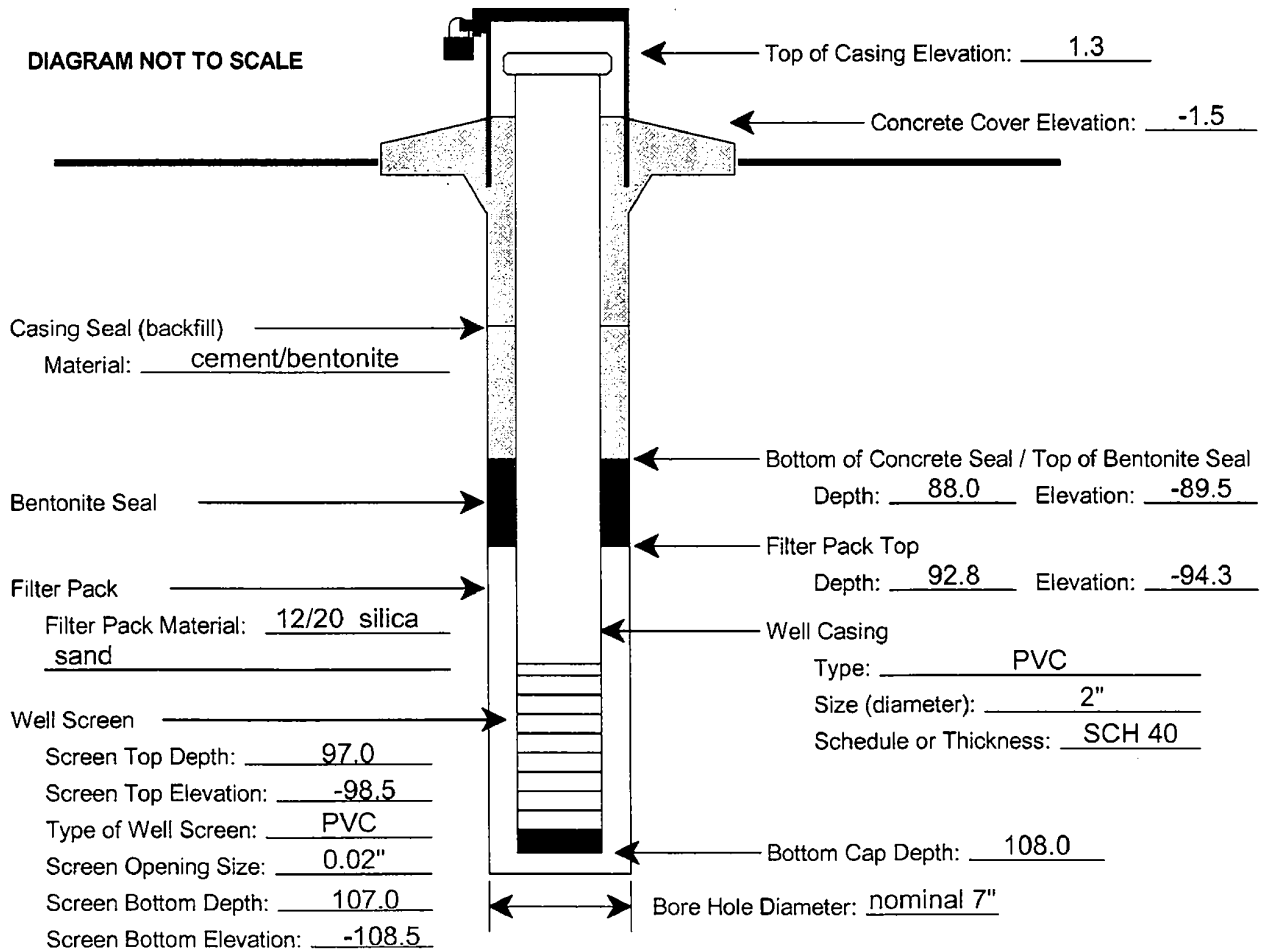
Name: Miller Drilling/MACTEC
 License No.: 11035

NOTES:

Two, stainless-steel centralizers installed at approximately 47 ft. and 96 ft.
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 5/18/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.
 Drill bit lost in hole at 110.0 ft. Bentonite seal installed from 109.0-110.0', with approval of Bechtel.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Kim Charles-Smith
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -1.9
 Name of Geologic Formation(s) in which Well is completed: See boring log B-606

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WSE Date: 7-10-08
 Checked by: CBS Date: 7/10/08

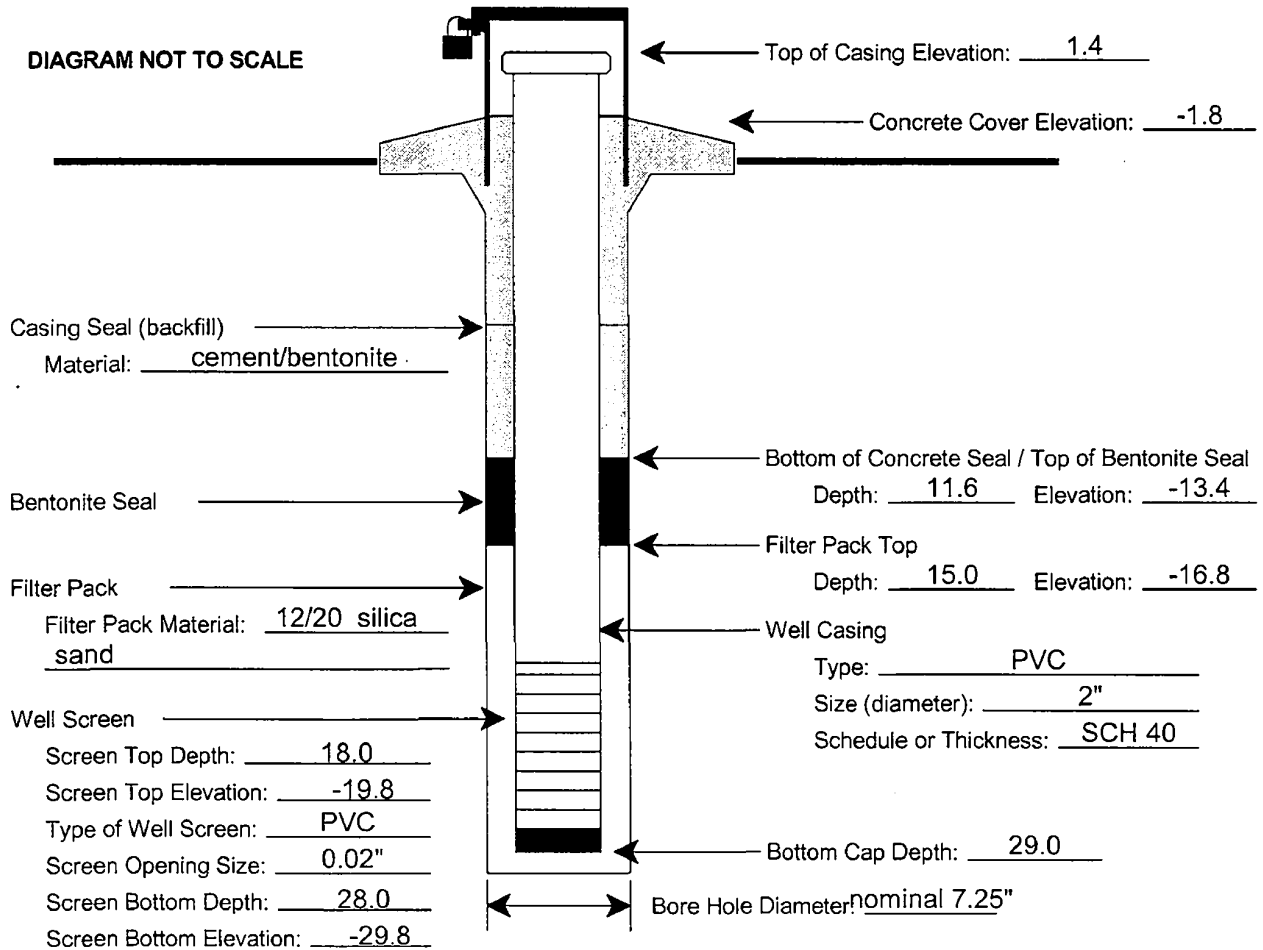
Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2241
 County: Miami-Dade County, Florida Observation Well I.D.: OW-606U
 Date of Observation Well Installation: 4/22/08 Date of Well Development: 5/1/08
 Observation Well Northing: 396938.0 US ft Easting: 876734.8 US ft
 Observation Well Location: Main Island Observation Well Driller
 Name: Miller Drilling/MACTEC
 License No.: 11035

NOTES:

One stainless-steel centralizer installed at approximately 11.5 ft.
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 5/20/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Kim Charles-Smith
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -2.1
 Name of Geologic Formation(s) in which Well is completed: See boring log B-606

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WJ Date: 7-008
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2242
 County: Miami-Dade County, Florida Observation Well I.D.: OW-621L
 Date of Observation Well Installation: 4/18/08 Date of Well Development: 5/3/08
 Observation Well Northing: 397364.5 US ft Easting: 876970.0 US ft
 Observation Well Location: Main Island Observation Well Driller

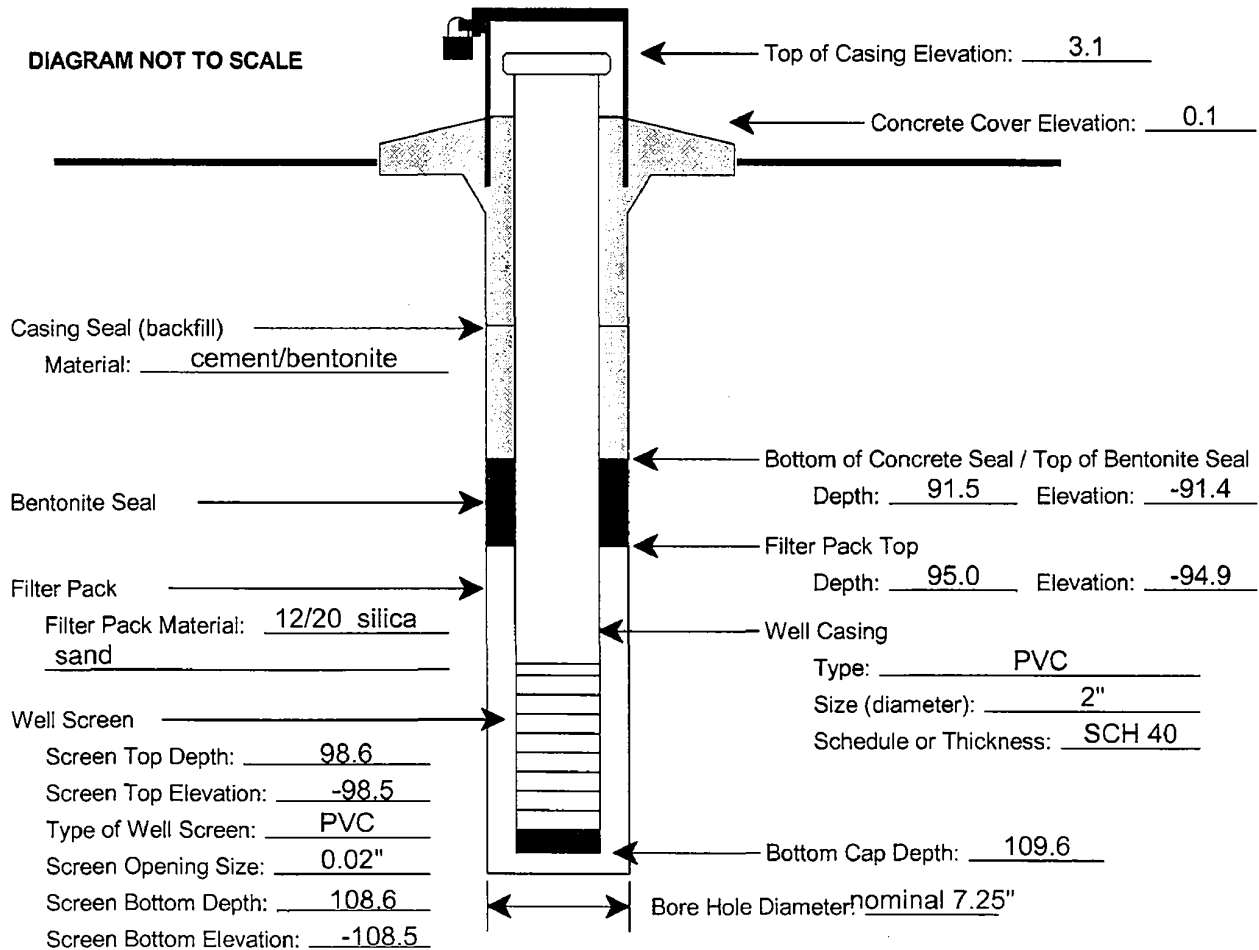
Name: Miller Drilling/MACTEC
 License No.: 11035

NOTES:

Two, stainless-steel centralizers installed at approximately 48 ft. and 98 ft.
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 5/17/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Chris Burroughs
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -1.0
 Name of Geologic Formation(s) in which Well is completed: See boring log B-621

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: usb Date: 7-10-08
 Checked by: CBS Date: 7/10/08

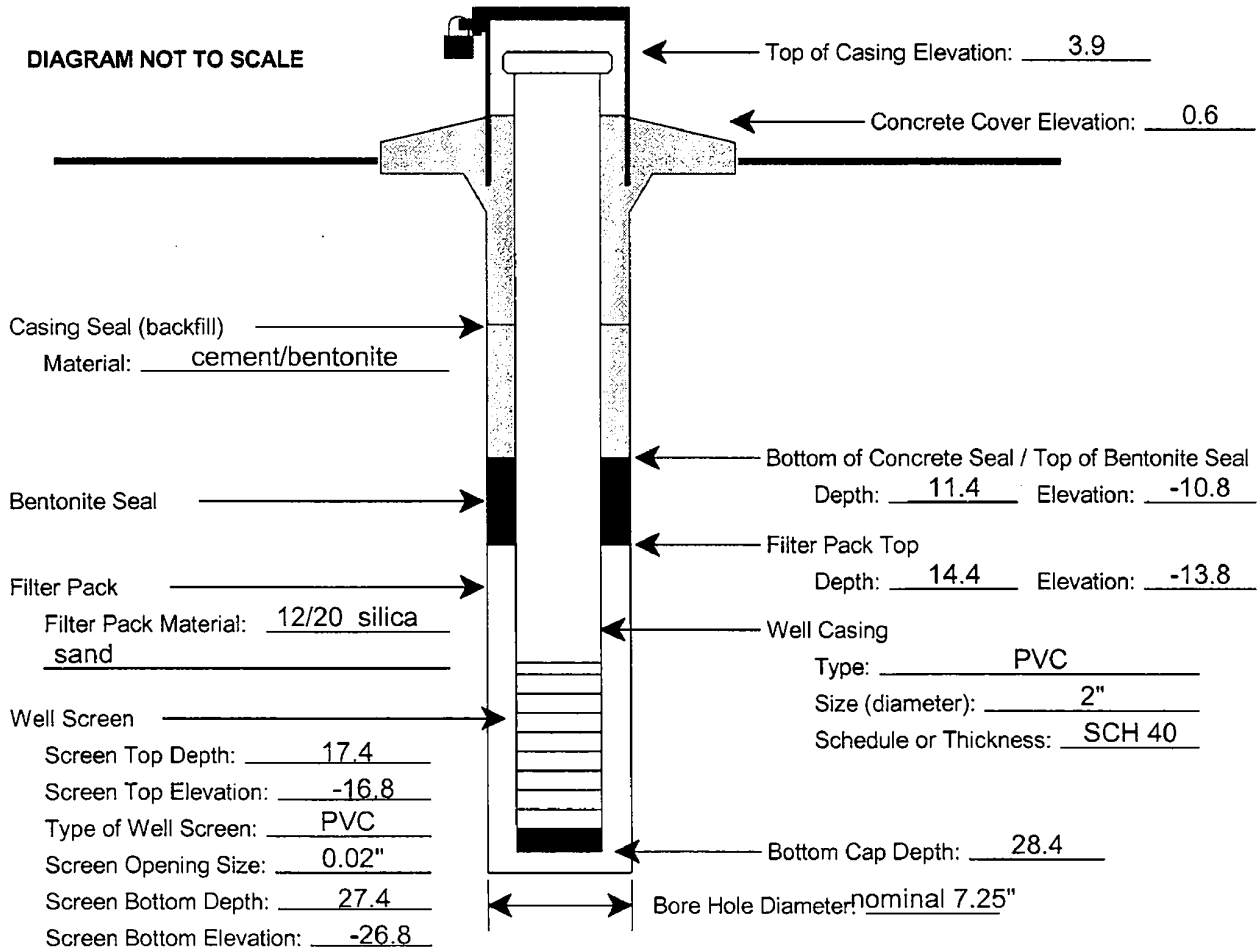
Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2244
 County: Miami-Dade County, Florida Observation Well I.D.: OW-621U
 Date of Observation Well Installation: 4/19/08 Date of Well Development: 5/3/08
 Observation Well Northing: 397375.8 US ft Easting: 876930.0 US ft
 Observation Well Location: Main Island Observation Well Driller
 Name: Miller Drilling/MACTEC
 License No.: 11035

NOTES:

One stainless-steel centralizer installed at approximately 11 ft.
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 5/20/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Chris Burroughs
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -1.8
 Name of Geologic Formation(s) in which Well is completed: See boring log B-621

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WJ Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2246
 County: Miami-Dade County, Florida Observation Well I.D.: OW-636L
 Date of Observation Well Installation: 4/8/08 Date of Well Development: 5/5/08
 Observation Well Northing: 395290.8 US ft Easting: 877257.2 US ft
 Observation Well Location: South Island Observation Well Driller

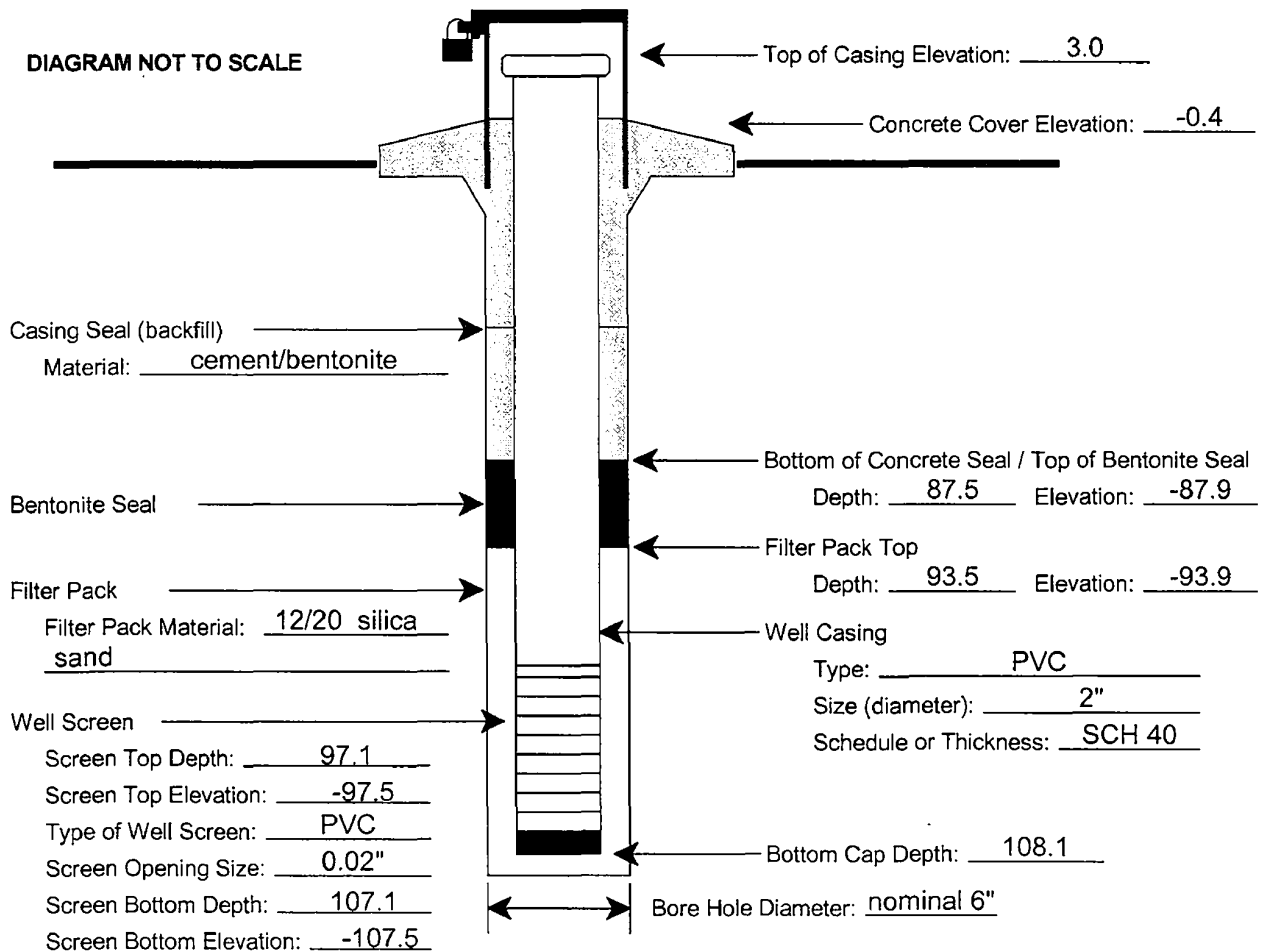
Name: MACTEC
 License No.: 11035

NOTES:

Two, stainless-steel centralizers installed at approximately 49.5 ft. and 96.6 ft.
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 5/21/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.
 Encountered an apparent obstruction at 69.3 ft.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Chris Burroughs
 Static Water Level Elevation (with respect to NAVD88) after Well Development: 0.3
 Name of Geologic Formation(s) in which Well is completed: See boring log B-806

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WJ Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2245
 County: Miami-Dade County, Florida Observation Well I.D.: OW-636U
 Date of Observation Well Installation: 4/3/08 Date of Well Development: 5/5/08
 Observation Well Northing: 395285.8 US ft Easting: 877215.7 US ft
 Observation Well Location: South Island Observation Well Driller

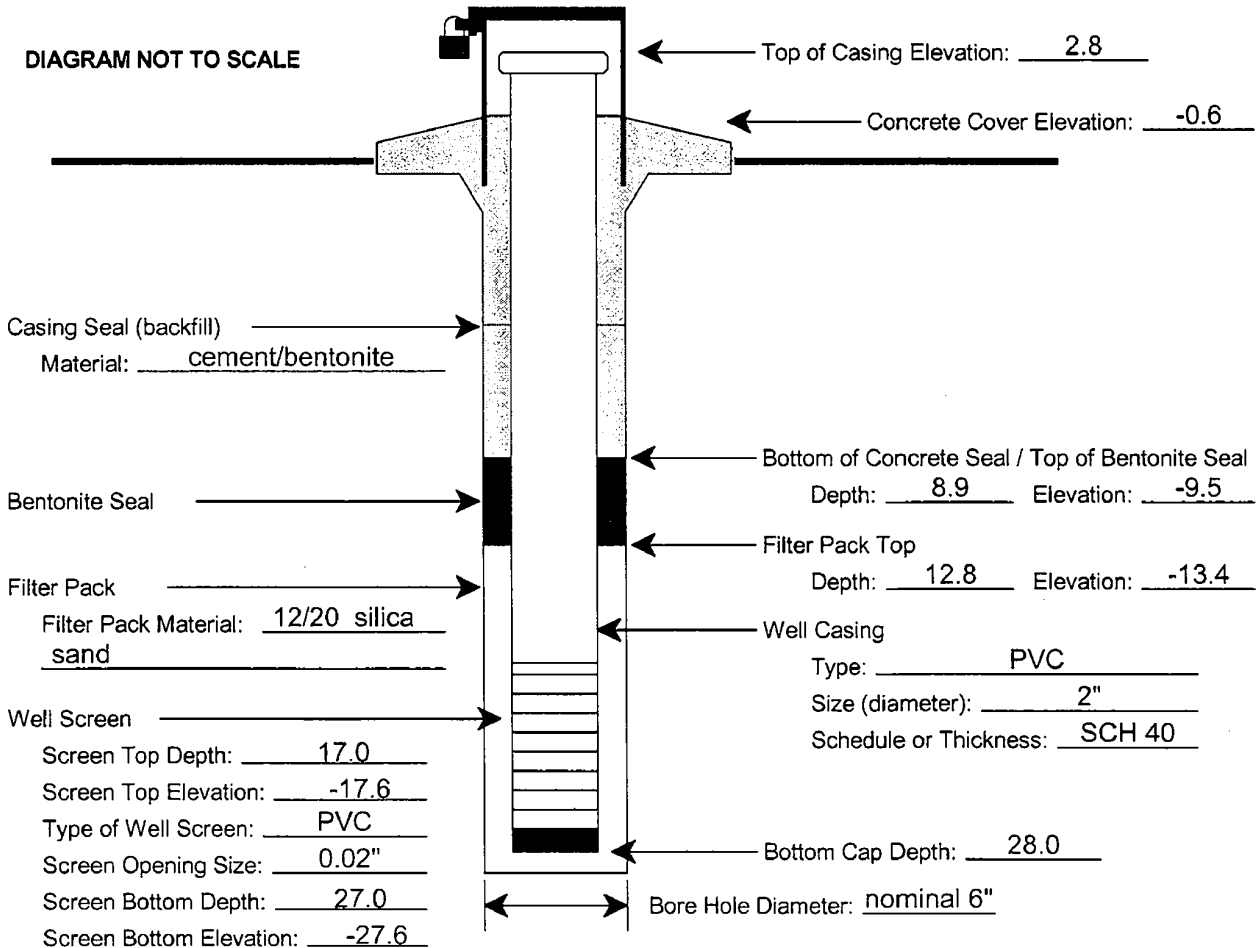
Name: MACTEC
 License No.: 11035

NOTES:

One stainless-steel centralizer installed at approximately 16.5 ft.
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 5/21/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Chris Burroughs
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -1.6
 Name of Geologic Formation(s) in which Well is completed: See boring log B-806

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WSR Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2672
 County: Miami-Dade County, Florida Observation Well I.D.: OW-706D
 Date of Observation Well Installation: 5/29/08 Date of Well Development: 6/4/08
 Observation Well Northing: 396960.1 US ft Easting: 875864.4 US ft
 Observation Well Location: Main Island Observation Well Driller

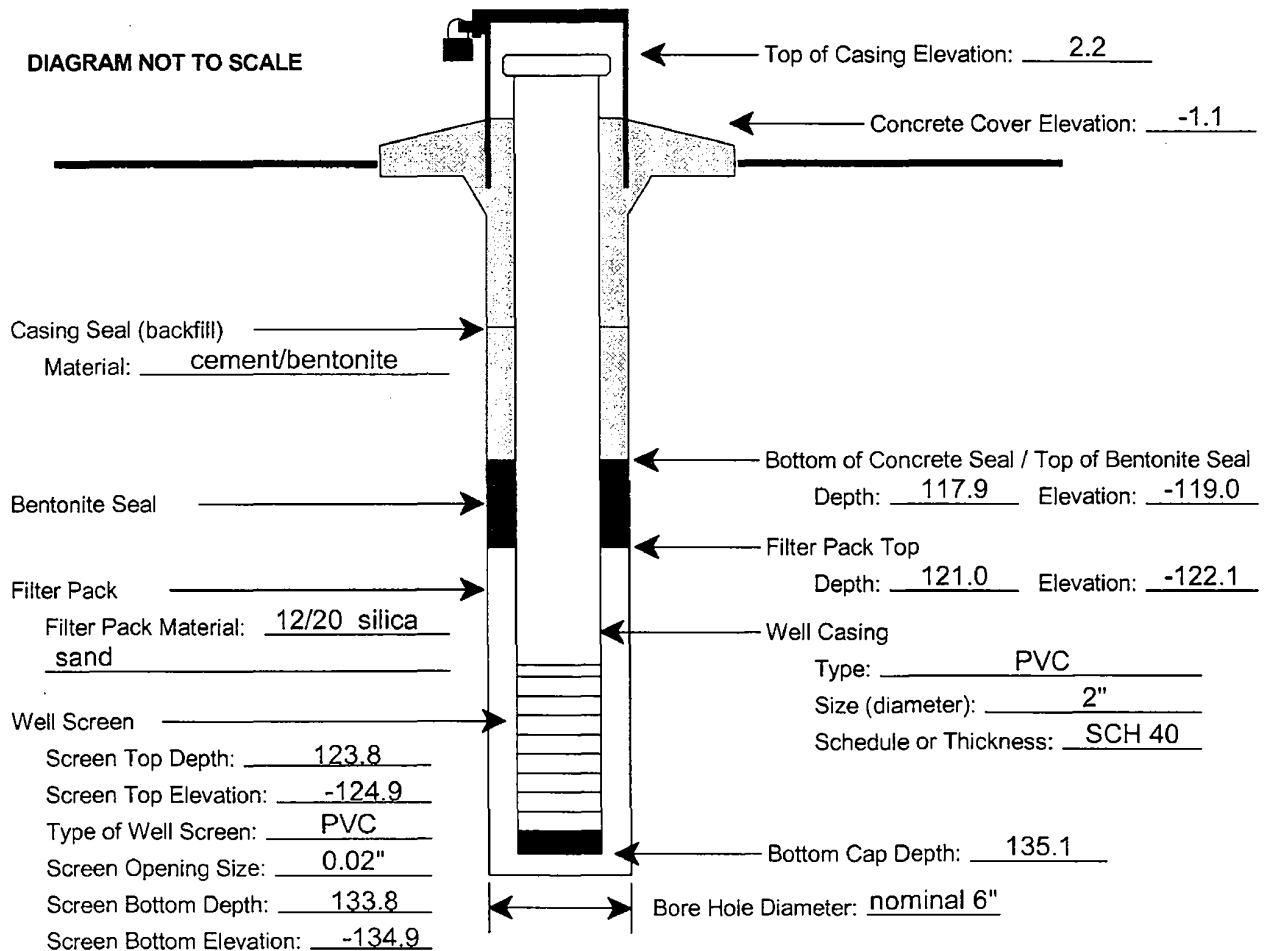
Name: MACTEC
 License No.: 11035

NOTES:

- Centralizer installation depths not recorded
- PVC well screen machine-slotted by the manufacturer.
- Observation well developed using a submersible pump.
- Static water measurement collected 6/4/08.
- Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Chris Burroughs
 Static Water Level Elevation (with respect to NAVD88) after Well Development: 1.4
 Name of Geologic Formation(s) in which Well is completed: See boring log B-706

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WSB Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2248
 County: Miami-Dade County, Florida Observation Well I.D.: OW-706L
 Date of Observation Well Installation: 3/25/08 Date of Well Development: 4/30/08
 Observation Well Northing: 396978.2 US ft Easting: 875904.6 US ft
 Observation Well Location: Main Island Observation Well Driller

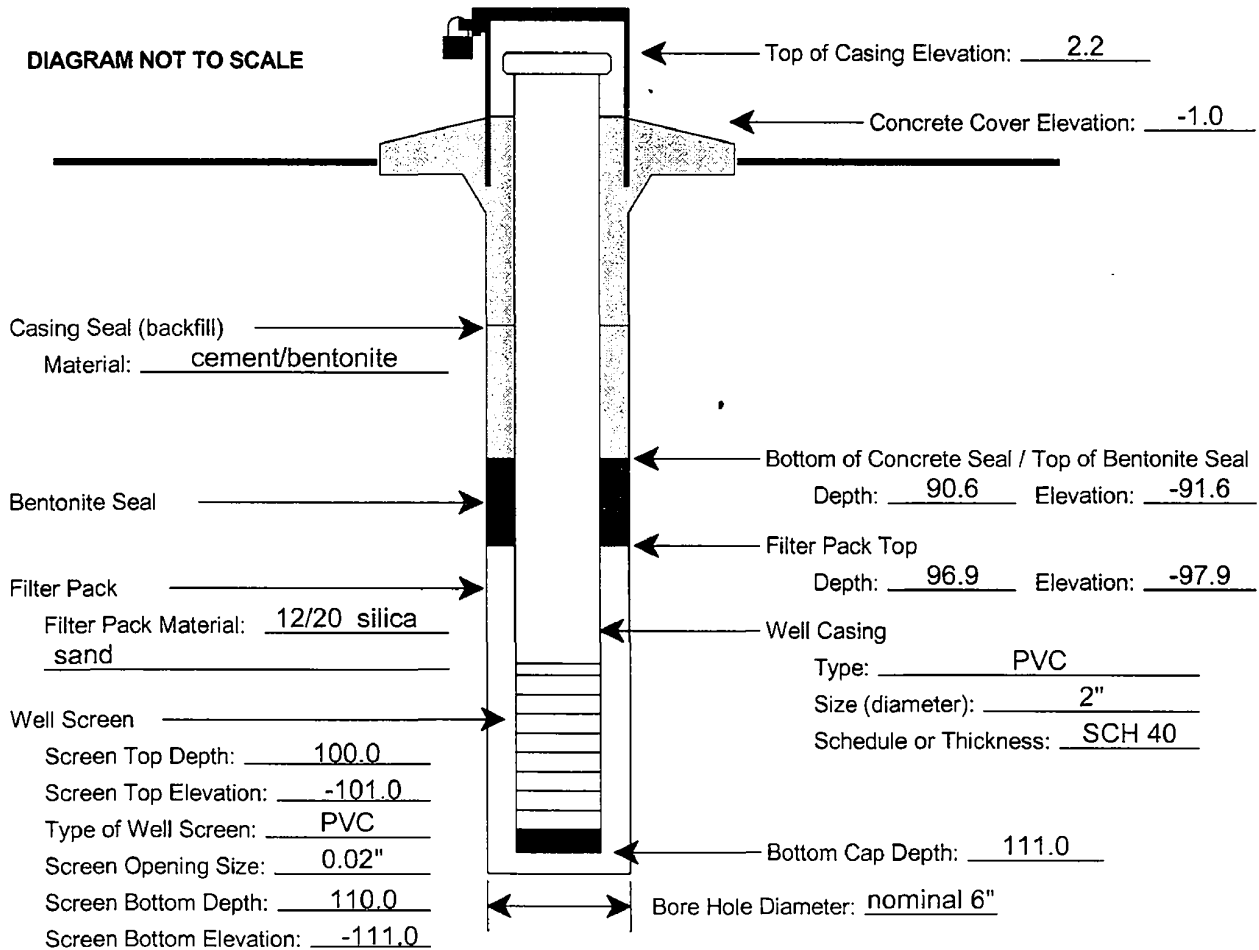
Name: MACTEC
 License No.: 11035

NOTES:

- Centralizer installation depths not recorded
- PVC well screen machine-slotted by the manufacturer.
- Observation well developed using a submersible pump.
- Static water measurement collected 5/16/08.
- Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Chris Burroughs
 Static Water Level Elevation (with respect to NAVD88) after Well Development: 0.7
 Name of Geologic Formation(s) in which Well is completed: See boring log B-706

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WSU Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2247
 County: Miami-Dade County, Florida Observation Well I.D.: OW-706U
 Date of Observation Well Installation: 3/27/08 Date of Well Development: 4/30/08
 Observation Well Northing: 396940.1 US ft Easting: 875895.7 US ft
 Observation Well Location: Main Island Observation Well Driller

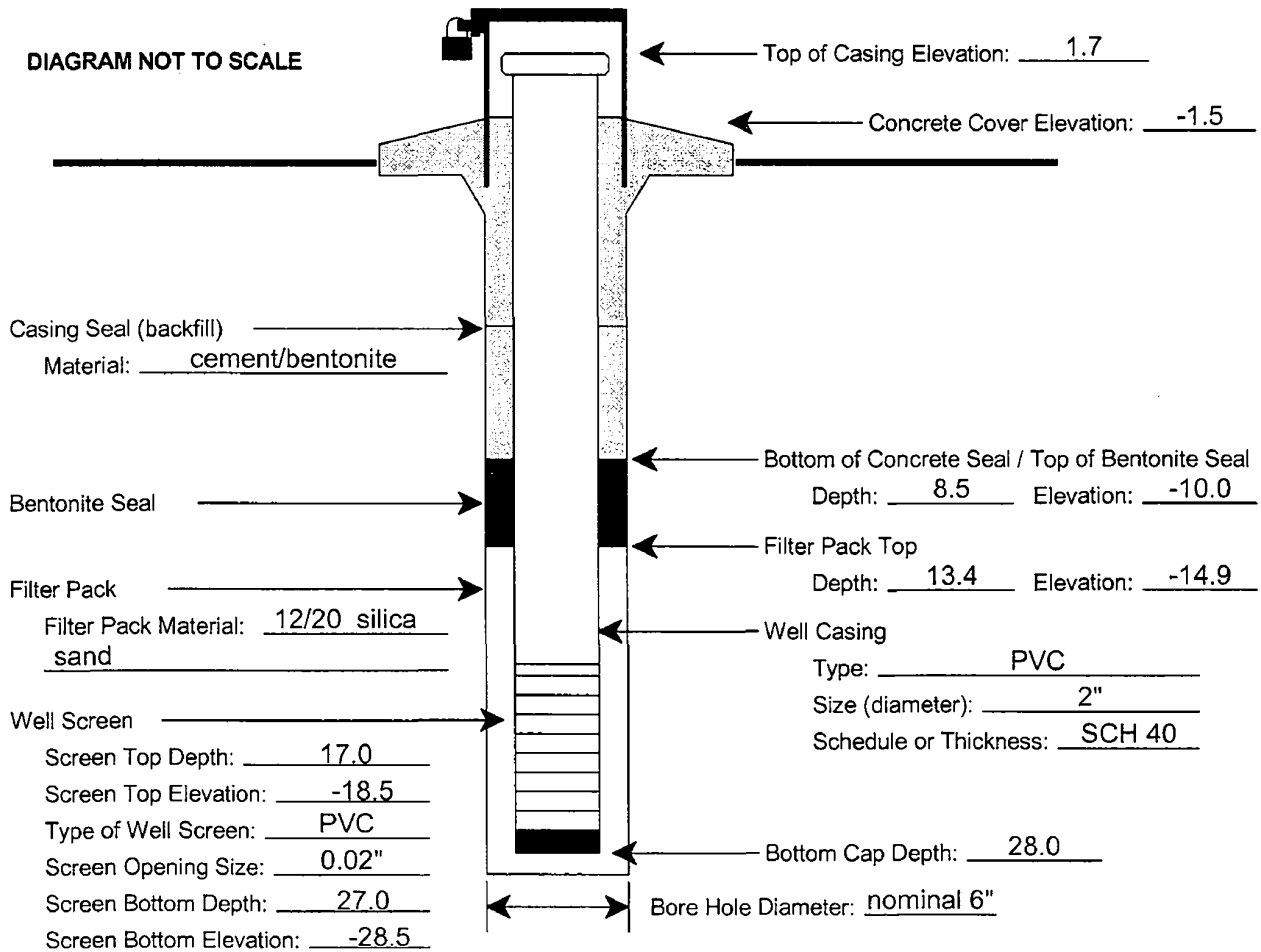
Name: MACTEC
 License No.: 11035

NOTES:

One stainless-steel centralizer installed at approximately 16.28 ft.
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 5/16/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Chris Burroughs
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -2.0
 Name of Geologic Formation(s) in which Well is completed: See boring log B-706

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: LSB Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2250
 County: Miami-Dade County, Florida Observation Well I.D.: OW-7211
 Date of Observation Well Installation: 5/3/08 Date of Well Development: 5/4/08
 Observation Well Northing: 397321.5 US ft Easting: 876120.3 US ft
 Observation Well Location: Main Island Observation Well Driller

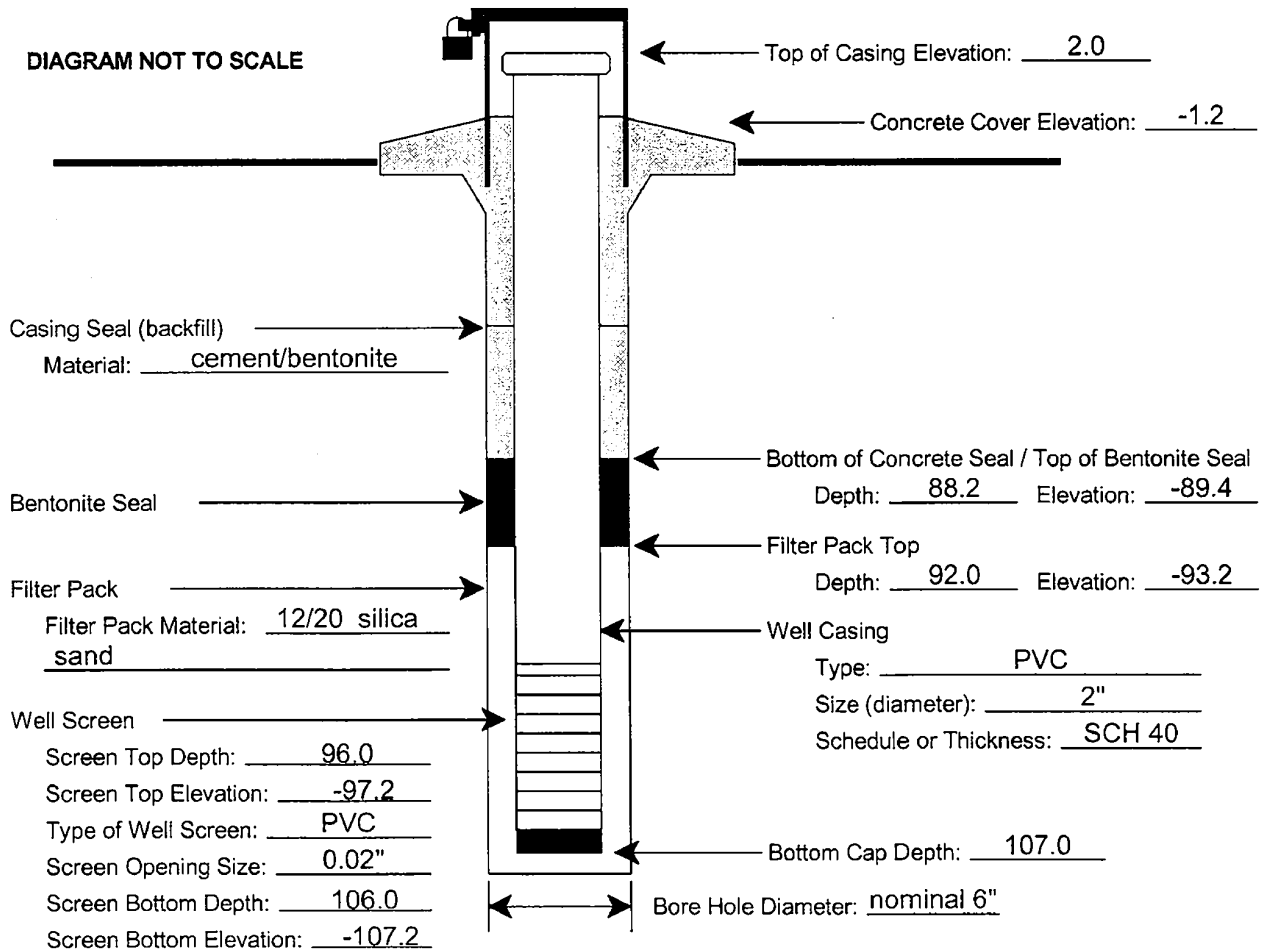
Name: MACTEC
 License No.: 11035

NOTES:

Two, stainless-steel centralizers installed at approximately 45 ft. and 95 ft.
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 5/20/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Kim Charles-Smith
 Static Water Level Elevation (with respect to NAVD88) after Well Development: 0.0
 Name of Geologic Formation(s) in which Well is completed: See boring log B-721

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WSB Date: 7-0-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2249
 County: Miami-Dade County, Florida Observation Well I.D.: OW-721U
 Date of Observation Well Installation: 5/1/08 Date of Well Development: 5/4/08
 Observation Well Northing: 397361.2 US ft Easting: 876121.4 US ft
 Observation Well Location: Main Island Observation Well Driller

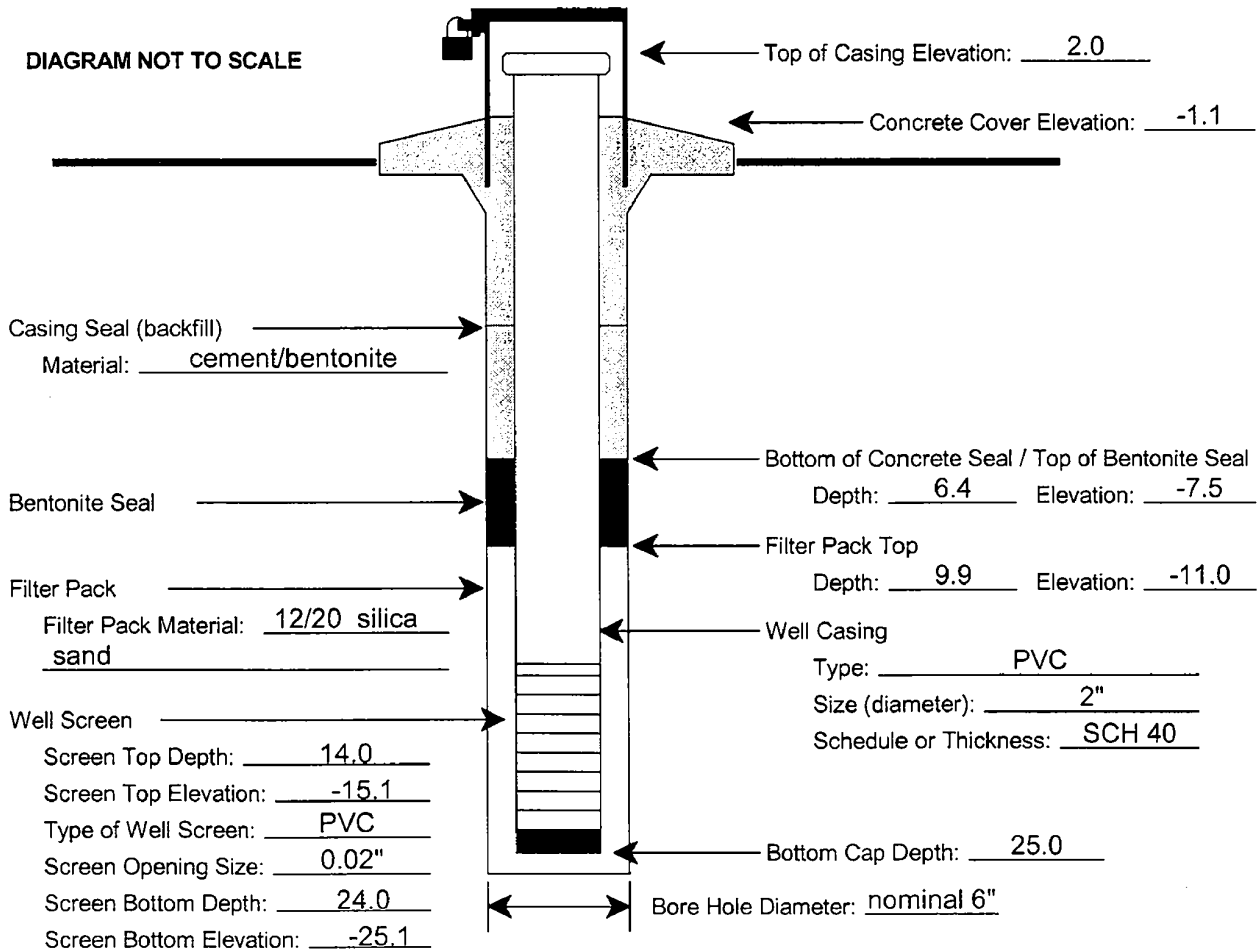
Name: MACTEC
 License No.: 11035

NOTES:

- One stainless-steel centralizer installed at approximately 13.5 ft.
- PVC well screen machine-slotted by the manufacturer.
- Observation well developed using a submersible pump.
- Static water measurement collected 5/15/08.
- Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Kim Charles-Smith
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -2.4
 Name of Geologic Formation(s) in which Well is completed: See boring log B-721

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WSL Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2252
 County: Miami-Dade County, Florida Observation Well I.D.: OW-735I
 Date of Observation Well Installation: 4/19/08 Date of Well Development: 4/30/08
 Observation Well Northing: 395824.3 US ft Easting: 875669.6 US ft
 Observation Well Location: South Island Observation Well Driller

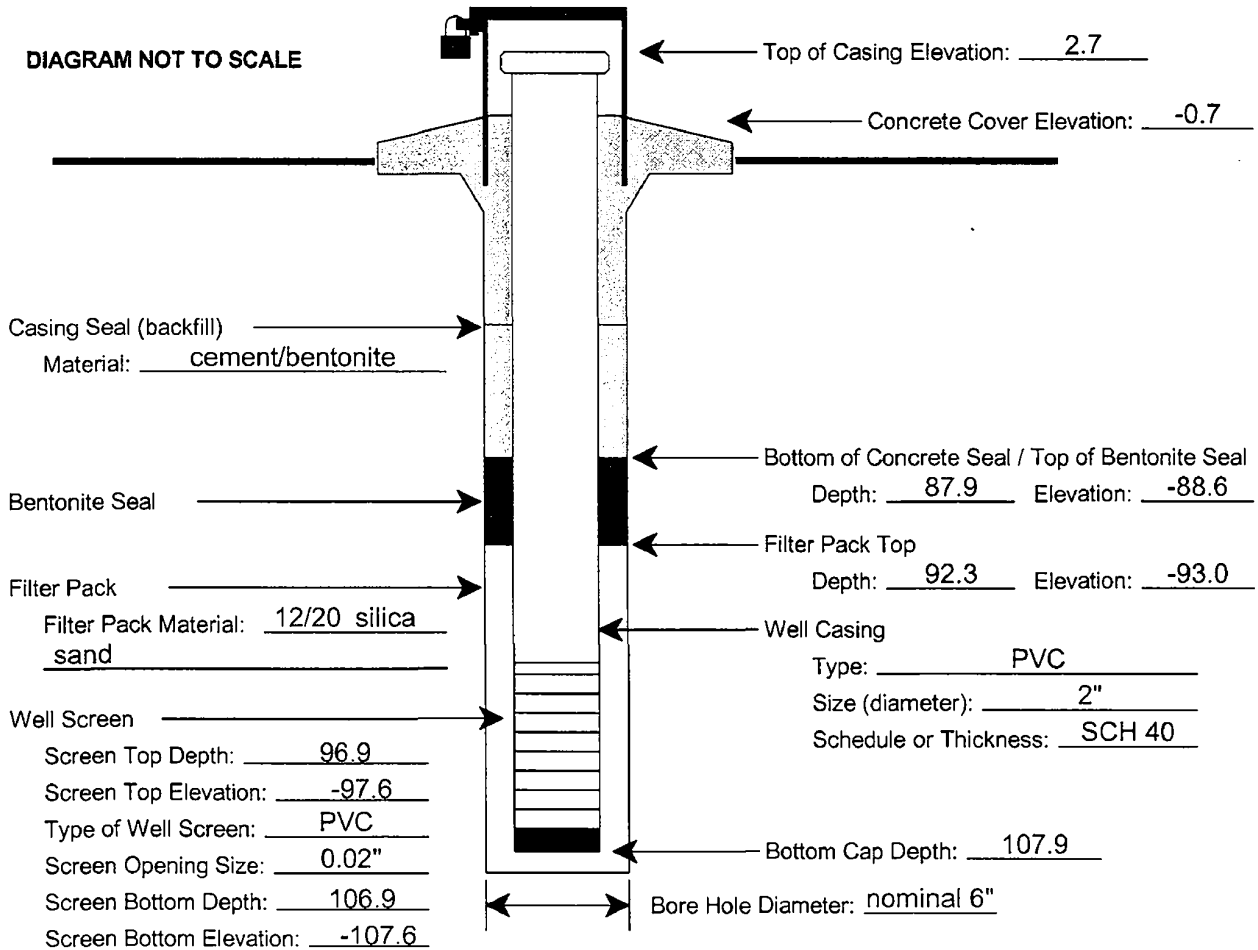
Name: MACTEC
 License No.: 11035

NOTES:

Two, stainless-steel centralizers installed at approximately 45 ft. and 96 ft.
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 5/13/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Kim Charles-Smith
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -0.3
 Name of Geologic Formation(s) in which Well is completed: See boring log B-735

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WSR Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2251
 County: Miami-Dade County, Florida Observation Well I.D.: OW-735U
 Date of Observation Well Installation: 4/20/08 Date of Well Development: 4/29/08
 Observation Well Northing: 395823.3 US ft Easting: 875709.2 US ft
 Observation Well Location: South Island Observation Well Driller

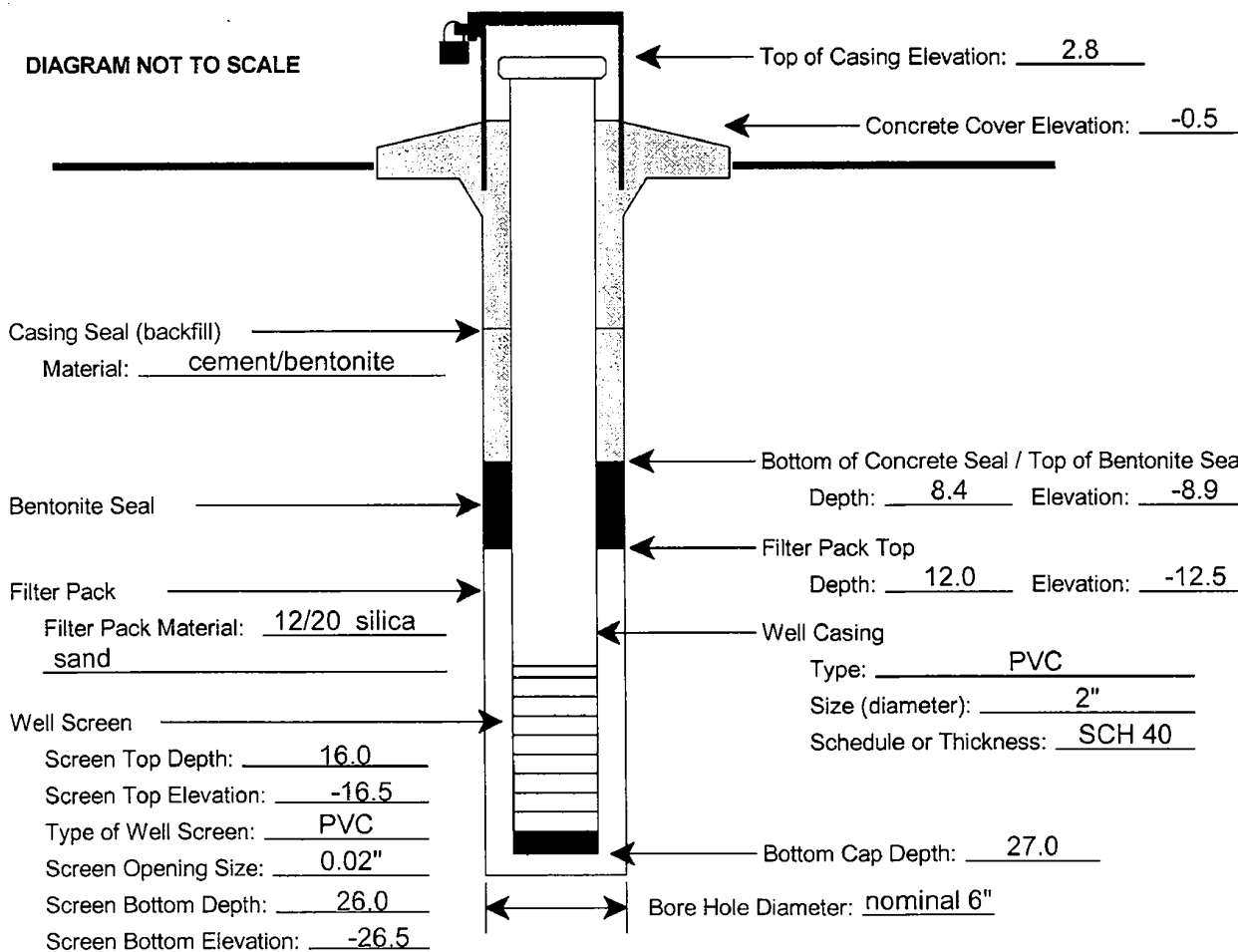
Name: MACTEC
 License No.: 11035

NOTES:

- One stainless-steel centralizer installed at approximately 15.5 ft.
- PVC well screen machine-slotted by the manufacturer.
- Observation well developed using a submersible pump.
- Static water measurement collected 5/16/08.
- Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Kim Charles-Smith
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -1.9
 Name of Geologic Formation(s) in which Well is completed: See boring log B-735

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: W4 Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2254
 County: Miami-Dade County, Florida Observation Well I.D.: OW-802L
 Date of Observation Well Installation: 5/3/08 Date of Well Development: 5/5/08
 Observation Well Northing: 398817.1 US ft Easting: 876265.7 US ft
 Observation Well Location: North Island Observation Well Driller

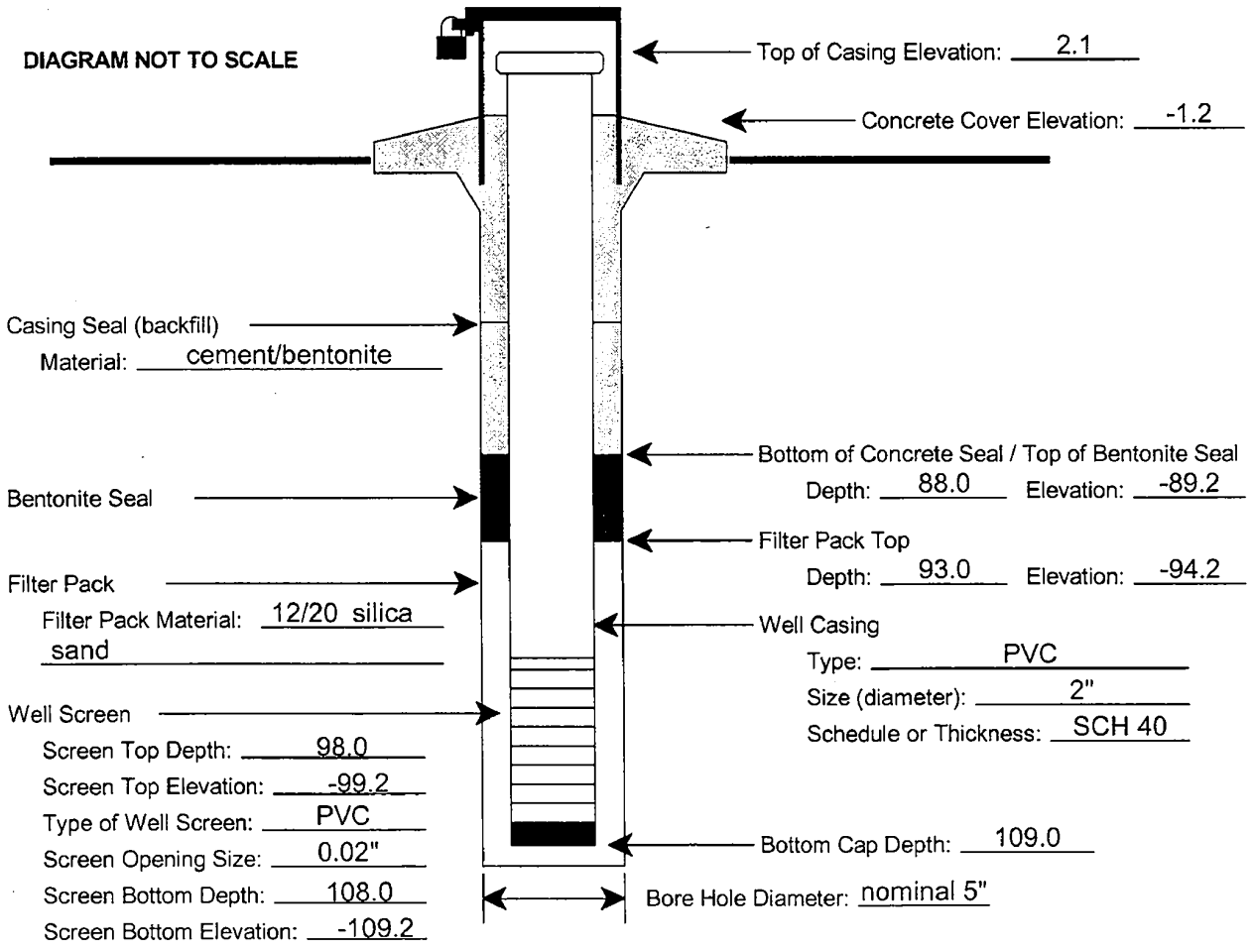
Name: MACTEC
 License No.: 11035

NOTES:

- Centralizer installation depths not recorded
- PVC well screen machine-slotted by the manufacturer.
- Observation well developed using a submersible pump.
- Static water measurement collected 5/20/08.
- Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Harry Lyatuu
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -1.0
 Name of Geologic Formation(s) in which Well is completed: See boring log B-802

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WSU Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2253
 County: Miami-Dade County, Florida Observation Well I.D.: OW-802U
 Date of Observation Well Installation: 5/4/08 Date of Well Development: 5/7/08
 Observation Well Northing: 398820.2 US ft Easting: 876243.7 US ft
 Observation Well Location: North Island Observation Well Driller

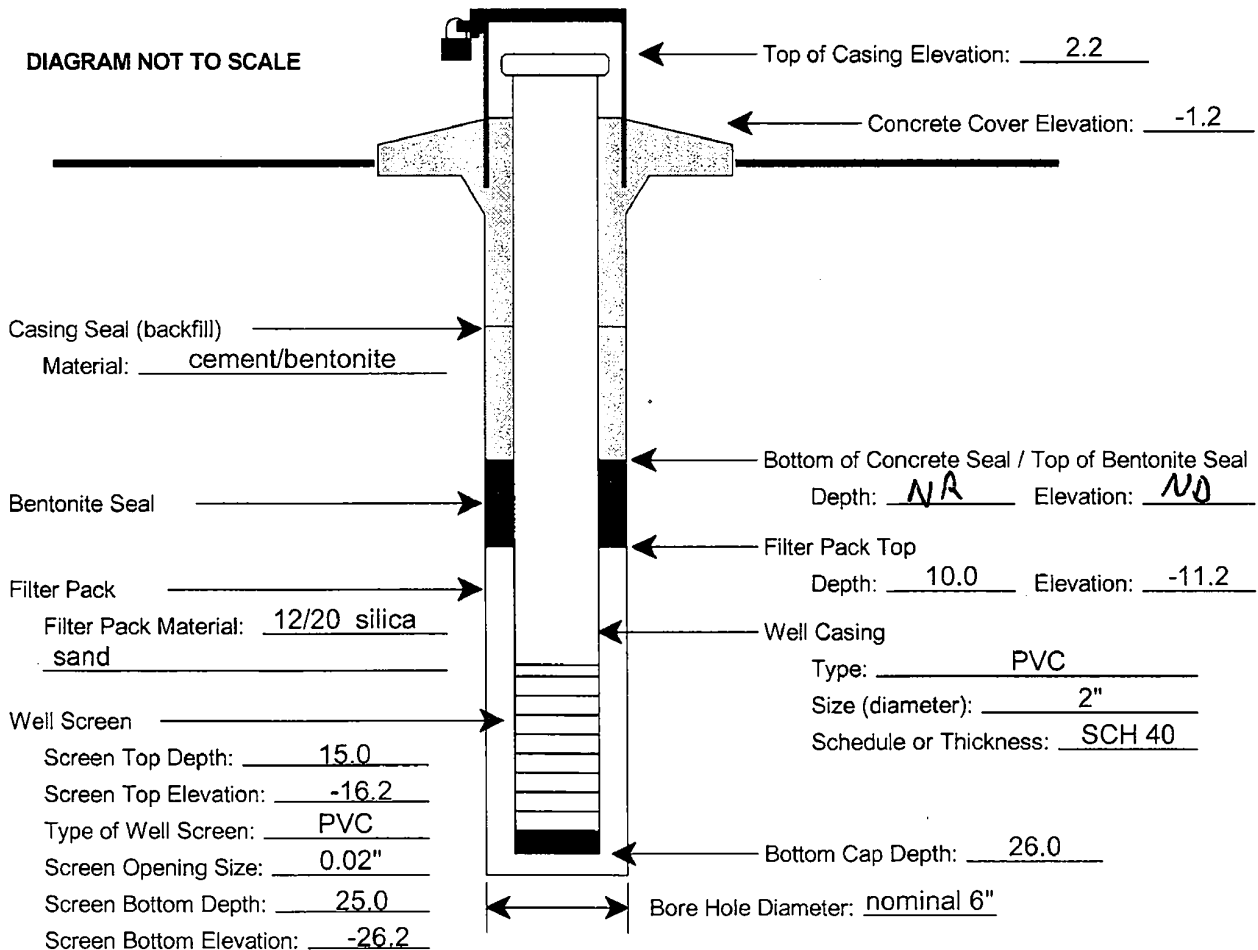
Name: MACTEC
 License No.: 11035

NOTES:

Centralizer installation depths not recorded
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 5/20/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.
 Depth to bottom of concrete seal not recorded (NR) and elevation not determined (ND).

Geologist, Hydrologist, or Engineer Supervising Well Installation: Harry Lyatuu
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -2.4
 Name of Geologic Formation(s) in which Well is completed: See boring log B-802

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: W36 Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2256
 County: Miami-Dade County, Florida Observation Well I.D.: OW-805I
 Date of Observation Well Installation: 5/22/08 Date of Well Development: 6/5/08
 Observation Well Northing: 396883.0 US ft Easting: 877239.5 US ft
 Observation Well Location: Main Island Observation Well Driller

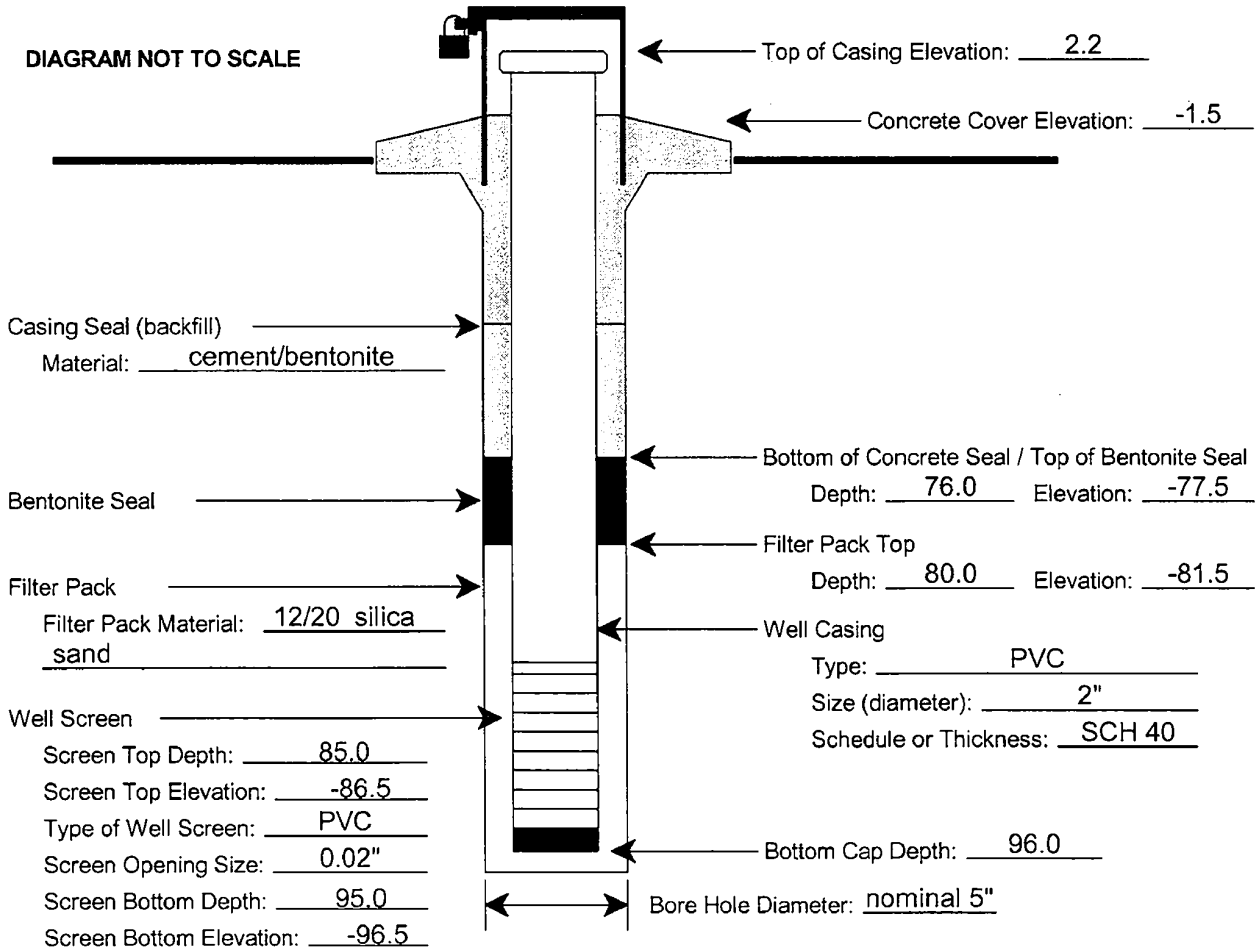
Name: MACTEC
 License No.: 11035

NOTES:

Centralizer installation depths not recorded
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 6/6/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Harry Lyatuu
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -1.0
 Name of Geologic Formation(s) in which Well is completed: See boring log B-805

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WSB Date: 7-6-08
 Checked by: CRS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2255
 County: Miami-Dade County, Florida Observation Well I.D.: OW-805U
 Date of Observation Well Installation: 5/27/08 Date of Well Development: 6/5/08
 Observation Well Northing: 396842.8 US ft Easting: 877240.9 US ft
 Observation Well Location: Main Island Observation Well Driller

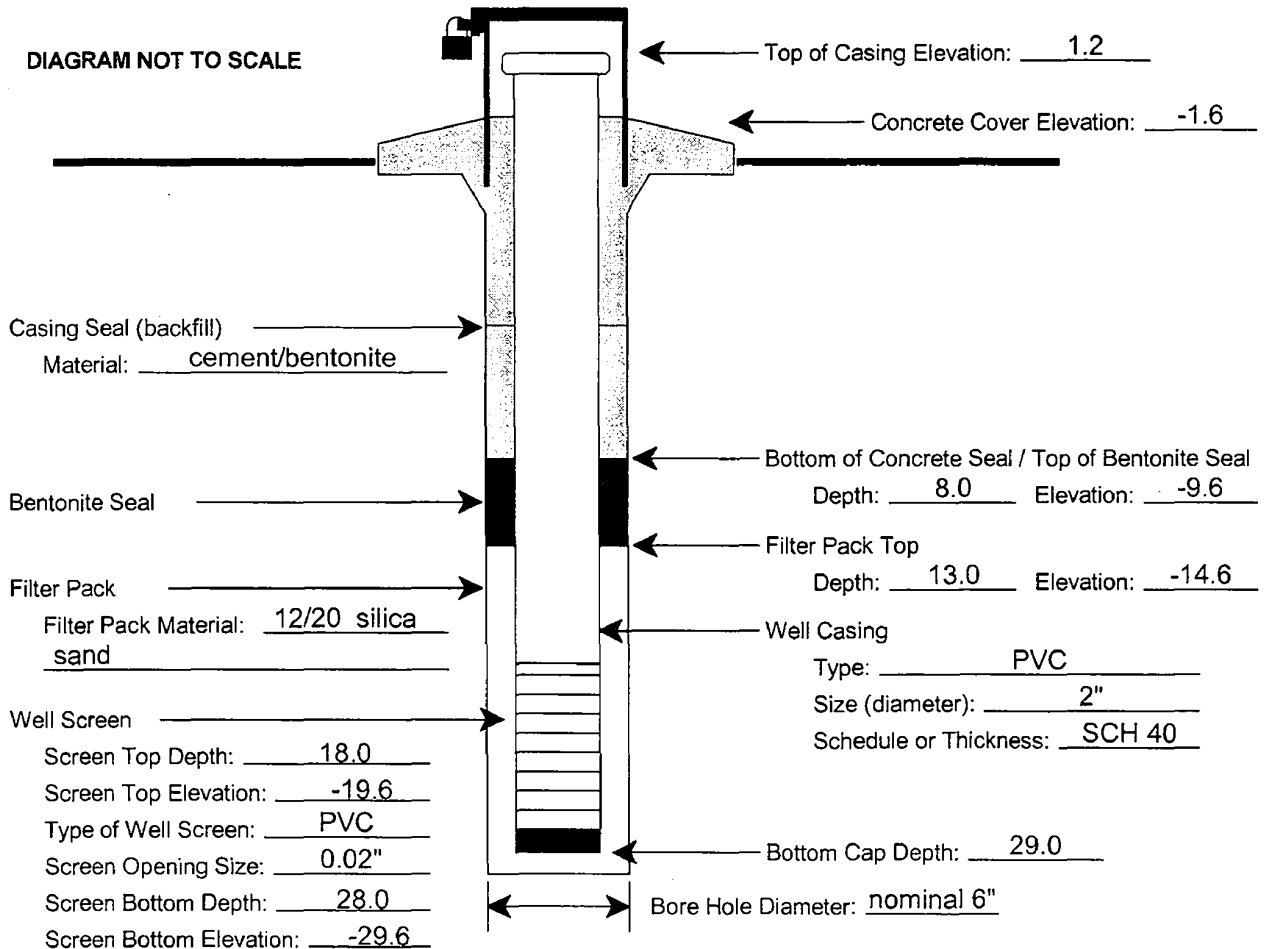
Name: MACTEC
 License No.: 11035

NOTES:

Centralizer installation depths not recorded
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 6/6/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Harry Lyatuu
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -1.8
 Name of Geologic Formation(s) in which Well is completed: See boring log B-805

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WSB Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2258
 County: Miami-Dade County, Florida Observation Well I.D.: OW-8091
 Date of Observation Well Installation: 5/7/08 Date of Well Development: 5/13/08
 Observation Well Northing: 397007.9 US ft Easting: 875152.3 US ft
 Observation Well Location: Main Island Observation Well Driller

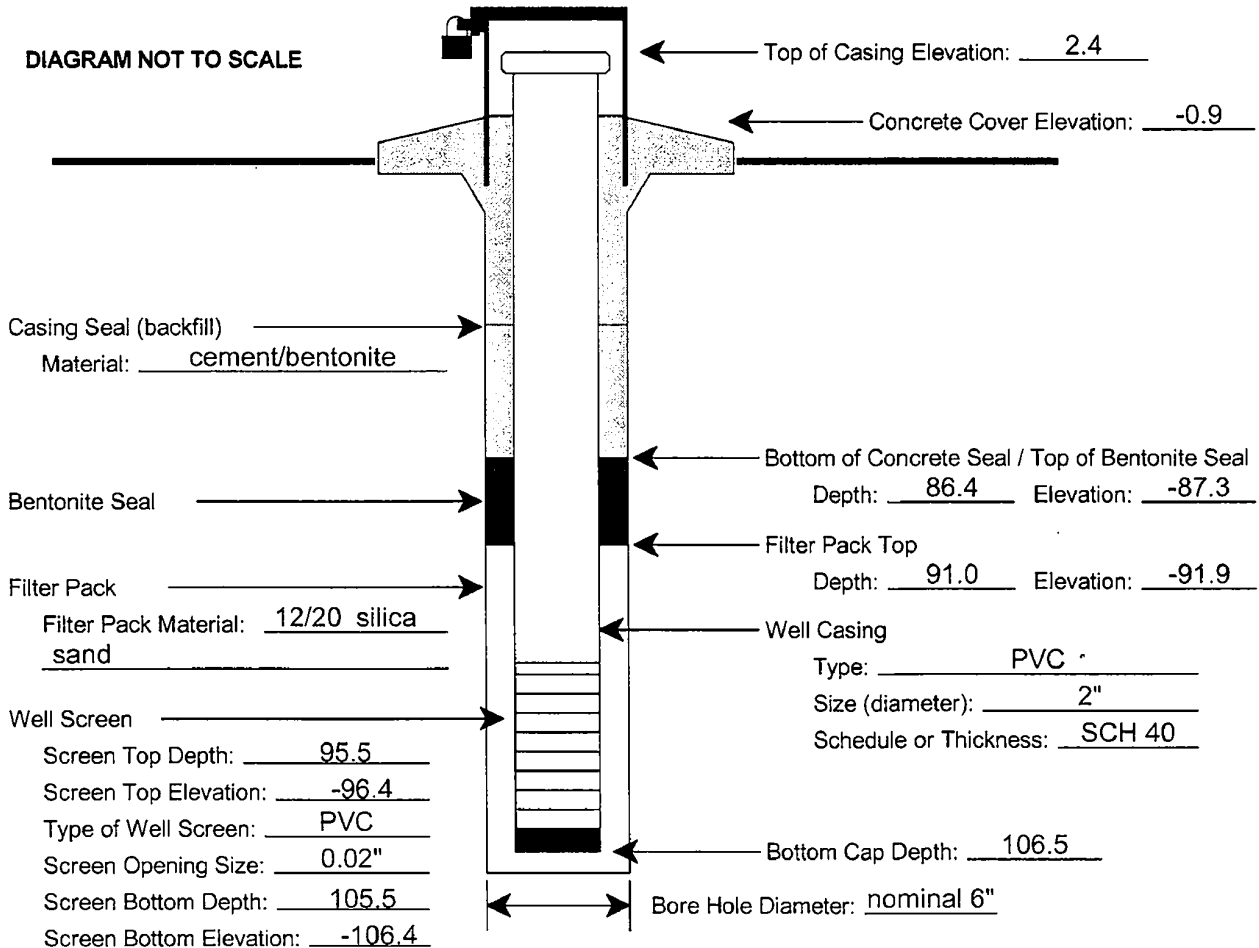
Name: MACTEC
 License No.: 11035

NOTES:

Two, stainless-steel centralizers installed at approximately 45.5 ft. and 95 ft.
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 5/15/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Gautham Pillappa/Kim Charles-Smith
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -0.9
 Name of Geologic Formation(s) in which Well is completed: See boring log B-809

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WB Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2257
 County: Miami-Dade County, Florida Observation Well I.D.: OW-809U
 Date of Observation Well Installation: 4/1/08 Date of Well Development: 5/1/08
 Observation Well Northing: 397045.8 US ft Easting: 875152.4 US ft
 Observation Well Location: Main Island Observation Well Driller

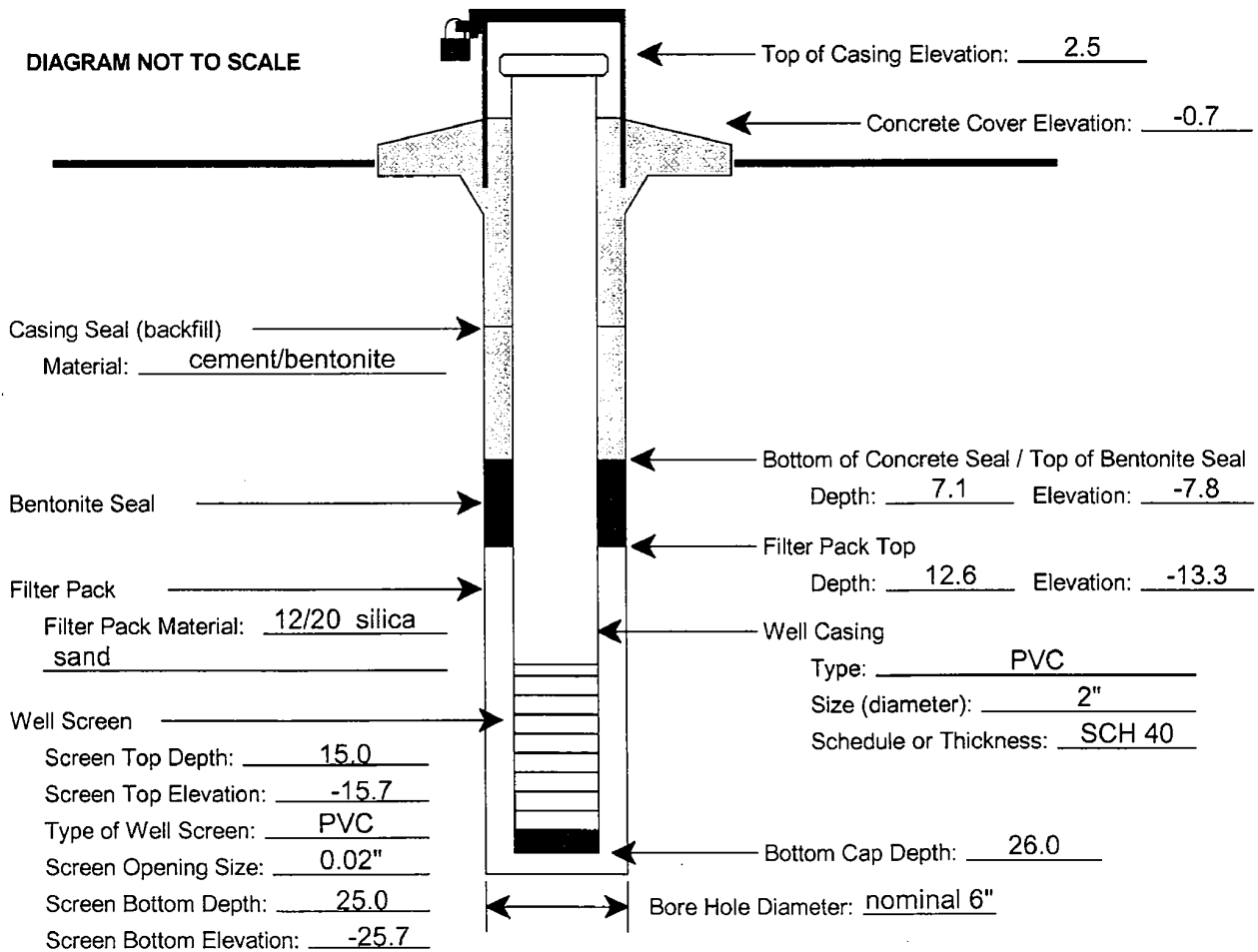
Name: MACTEC
 License No.: 11035

NOTES:

One stainless-steel centralizer installed at approximately 14.8 ft.
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 5/15/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Chris Burroughs
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -2.2
 Name of Geologic Formation(s) in which Well is completed: See boring log B-809

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WS Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2260
 County: Miami-Dade County, Florida Observation Well I.D.: OW-812L
 Date of Observation Well Installation: 5/7/08 Date of Well Development: 5/13/08
 Observation Well Northing: 398892.8 US ft Easting: 875045.5 US ft
 Observation Well Location: North Island Observation Well Driller

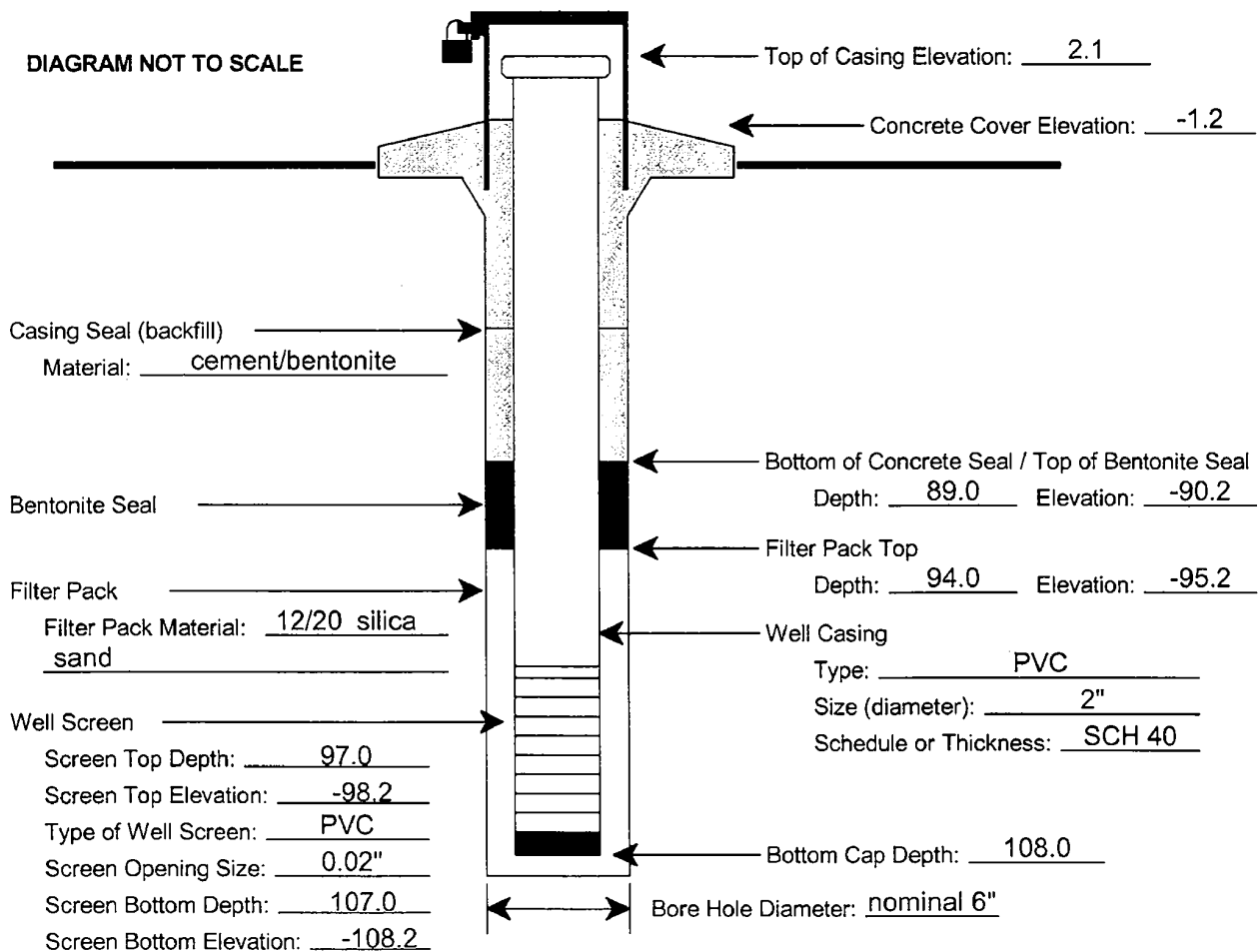
Name: MACTEC
 License No.: 11035

NOTES:

Centralizer installation depths not recorded
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 5/20/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Harry Lyatuu
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -0.9
 Name of Geologic Formation(s) in which Well is completed: See boring log B-812

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Observation Well Data Sheet

Prepared by: WSB Date: 7-10-08
 Checked by: CBS Date: 7/10/08

Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2259
 County: Miami-Dade County, Florida Observation Well I.D.: OW-812U
 Date of Observation Well Installation: 5/6/08 Date of Well Development: 5/7/08
 Observation Well Northing: 398933.9 US ft Easting: 875043.5 US ft
 Observation Well Location: North Island Observation Well Driller

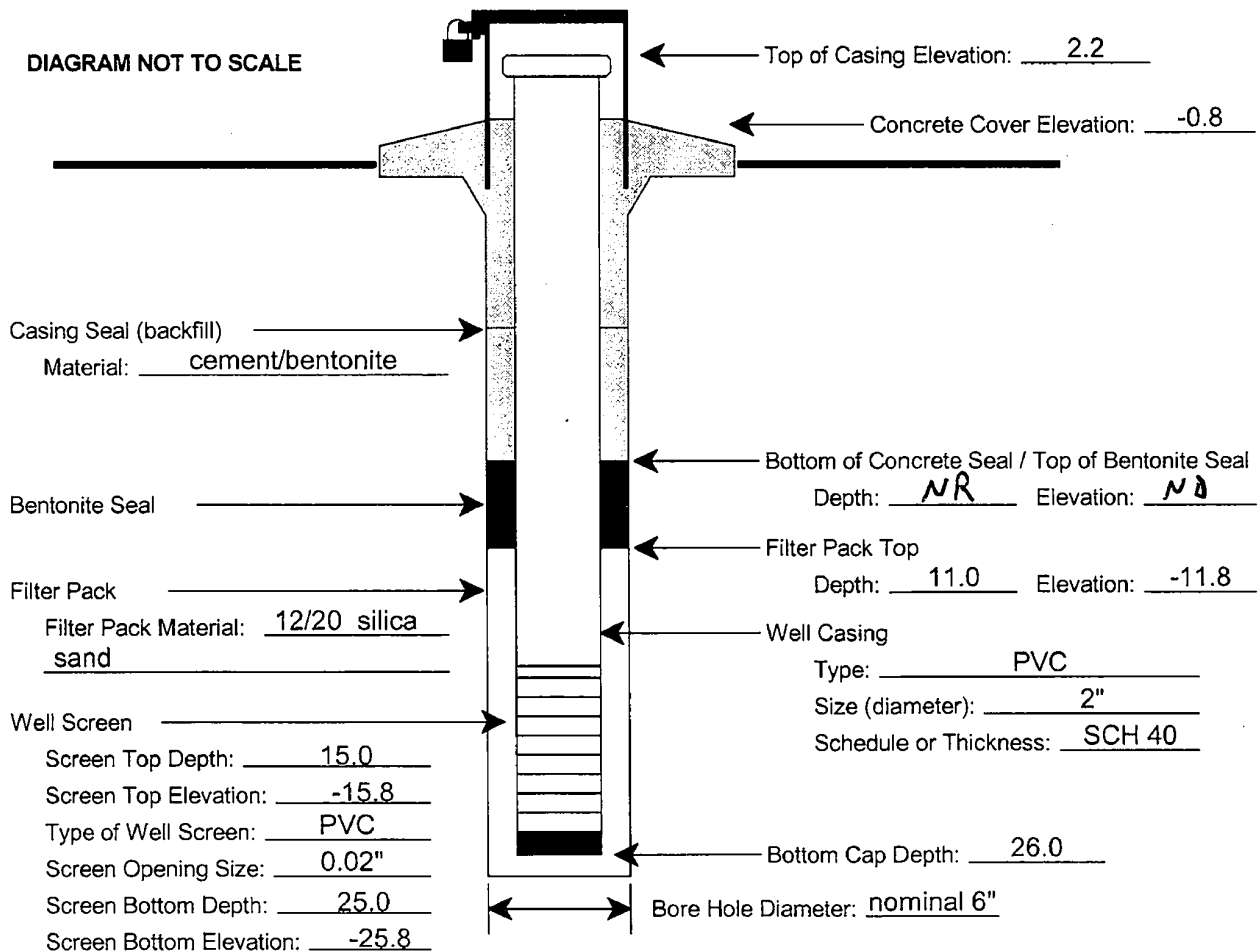
Name: MACTEC
 License No.: 11035

NOTES:

Centralizer installation depths not recorded
 PVC well screen machine-slotted by the manufacturer.
 Observation well developed using a submersible pump.
 Static water measurement collected 5/20/08.
 Upon completion of well installation, MACTEC installed two seep holes in the protective steel cover.
 Depth to bottom of concrete seal not recorded (NR) and elevation not determined (ND).

Geologist, Hydrologist, or Engineer Supervising Well Installation: Harry Lyatuu
 Static Water Level Elevation (with respect to NAVD88) after Well Development: -2.4
 Name of Geologic Formation(s) in which Well is completed: See boring log B-812

Type of Locking Device: Masterlock - 0536 Type of Casing Protection: Steel
 Concrete Surface Pad (with steel reinforcement) Dimensions: 2'x2'x0.5'



Well Development Records

Well Development Record

Well No.:

OW-606L

Project No. 6068-07-1950 Logged By: Kim Chels-Smith

Client Name: Bechtel Project Name: TP COL Checked By:

Well Installation Date: 5-14-08 Start Date: 4-23-08 Finish Date: 5-14-08

Well Development Date: 5-17-08 Start Time: 1002 Finish Time: 1132

Initial Water Level (ft.): 0.48' From TOC

Water Level during Initial Pumping/Purging (ft.): 0.88' From TOC

Water Level at Termination of Pumping/Purging (ft.): 0.68' From TOC

Weather: Sunny ~ 80°F

Height of Water Column: _____ (ft.)

x _____ 0.16 gal./ft. (2 in.)

x _____ 0.65 gal./ft. (4 in.)

x _____ 1.5 gal./ft. (6 in.)

_____ gal./ft. (_____ in.) = _____ Well Volume (gal./ft.)

KJ 5-17-08
see notes

0.88'
0.89'
0.88'
0.88'

Number of Well Volumes:	Time:	Temperature: °C	pH: SU	Conductivity: mS/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
1) 26 gal.	1011	27.95	6.43	9.29	3.1 gpm	197
2) 52 gal.	1020	29.03	7.01	9.04	↓	153
3) 78 gal.	1029	31.00	7.02	8.64	↓	107
4) 104 gal.	1038	31.55	7.08	8.96	3.1 gpm	104
5) 130 gal.	1047	28.59	7.09	9.04	↓	101
6) 156 gal.	1056	28.82	7.08	8.98	↓	20
7) 182 gal.	1105	28.60	7.07	9.03	3.1 gpm	8
8) 208 gal.	1114	28.61	7.08	9.03	↓	7 KJ-17-08
9) 234 gal.	1123	28.65	7.07	9.01	↓	55
10) 260 gal.	1132	28.59	7.09	9.03	↓	3

Notes: Surged well pump + screen for entire 1st well volume at which pumping. Water is gray w/very fine sand. Set pump in middle of screen. - see well volume calculation spreadsheet for volume calcs.

Well Developers Signature: Kim Chels-Smith

FIGURE 9

Well Development Record

Well No.: **OW-606U**

Project No. **6468-07** Logged By: **Kim**
 Client Name: **Bechtel** Project Name: **TPCOL** Checked By:
 Well Installation Date: **4-22-08** Start Date: **4-22-08** Finish Date: **4-22-08**
 Well Development Date: **5-1-08** Start Time: **1107** Finish Time: **1137**
 Initial Water Level (ft.): **Artesia Flamingo**
 Water Level during Initial Pumping/Purging (ft.): **0.24' From TOC**
 Water Level at Termination of Pumping/Purging (ft.): **0.35' From TOC**
 Weather: **Sunny ~ 75°F**

Height of Water Column: _____ (ft.)
 _____ gal./ft. (2 in.)
 x _____ gal./ft. (4 in.)
 _____ gal./ft. (8 in.)
 _____ gal./ft. (_____ in.) = _____ Well Volume (gal./ft.)

See notes
KJ 5-1-08

Water level below toe

	Number of Well Volumes:	Time:	Temperature:	pH:	Conductivity:	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
0.24'	(1) 13 gal.	1110	27.74	7.14	62.8	5 gpm	6.93
	(2) 26 gal.	1113	27.83	7.13	62.9	5 gpm	2.69
	(3) 39 gal.	1116	27.84	7.13	63.0	5 gpm	1.67
0.24'	(4) 52 gal.	1119	27.83	7.12	63.3	5 gpm	1.43
	(5) 65 gal.	1122	27.85	7.14	63.4	5 gpm	1.24
	(6) 78 gal.	1125	27.38	7.15	63.7	5 gpm	1.01
0.20'	(7) 91 gal.	1128	27.41	7.13	63.4	5 gpm	0.96
	(8) 104 gal.	1131	28.01	7.14	63.1	5 gpm	0.80
	(9) 117 gal.	1134	28.03	7.14	63.4	5 gpm	0.75
0.20'	(10) 130 gal.	1137	28.03	7.16	63.2	5 gpm	0.53

Notes: — Surged well with Grindfos to remove sediment from bottom of well.
 — See well volume calculation sheet for volume calcs.

Well Developers Signature: *Kim [Signature]*

FIGURE 9

Well Development Record

Well No.:

OW-621L

Project No. 6468-07-1950

Logged By: Kim Chalo-Smith

Client Name: Bedford

Project Name: TPCOL

Checked By:

Well Installation Date: 4-18-08

Start Date: 4-17-08

Finish Date: 4-18-08

Well Development Date: 5-3-08

Start Time: 1335

Finish Time: 1505

Initial Water Level (ft.): 0' Artesian Flowing #5-3-08 #5-3-08

Water Level during Initial Pumping/Purging (ft.): 0' Artesian Flowing 0.80'

Water Level at Termination of Pumping/Purging (ft.): 0.80' 5-3-08

Weather: Sunny ~ 80°F

Height of Water Column: _____ 0.16 gal./ft. (2 in.)
 _____ (ft.) x _____ 0.65 gal./ft. (4 in.)
 _____ 1.5 gal./ft. (6 in.)
 _____ gal./ft. (_____ in.) = _____ Well Volume (gal./ft.)

5-3-08 KJ see notes

Water level below T&C

	Number of Well Volumes:	Time:	Temperature: °C	pH: Su	Conductivity: mS/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
0.80'	(1) 26 gal.	1344	28.62	6.98	55.3	3.0 gpm	56.9
	(2) 52 gal.	1353	28.27	7.00	56.3	3.0 gpm	17.6
0.80'	(3) 78 gal.	1402	28.21	7.07	57.0	3.0 gpm	11.8
	(4) 104 gal.	1411	28.46	7.11	57.4	3.0 gpm	6.08
0.80'	(5) 130 gal.	1420	28.20	7.12	57.6	3.0 gpm	5.23
	(6) 156 gal.	1429	28.43	7.12	57.8	3.0 gpm	3.97
	(7) 182 gal.	1438	28.33	7.13	57.9	3.0 gpm	3.90
0.81'	(8) 208 gal.	1447	28.36	7.13	58.0	3.0 gpm	3.52
	(9) 234 gal.	1456	28.27	7.12	58.1	3.0 gpm	3.54
0.80'	(10) 260 gal.	1505	28.17	7.13	58.1	3.0 gpm	3.04

Notes: Set Grundfos approx. 2' above screen and surged well w/pump to clean out sump. cannot pump.
 - see well volume calculation spreadsheet for volume calcs.

Well Developers Signature: Kim Chalo-Smith

FIGURE 9

Well Development Record

Well No.: **OW-6214**

Project No. **6468-07-1950** Logged By: **Kim Chab-Smith**

Client Name: **Bechtel** Project Name: **TPCOL 4-18-08** Checked By:

Well Installation Date: **4-19-08** Start Date: **5-3-08** Finish Date: **4-19-08**

Well Development Date: **5-3-08** Start Time: **1554 hrs** Finish Time: **1624**

Initial Water Level (ft.): **1.166'** **5308**

Water Level during Initial Pumping/Purging (ft.): **1.86'**

Water Level at Termination of Pumping/Purging (ft.): **1.88'**

Weather: **Sunny ~ 80°F**

Height of Water Column: _____ 0.16 gal./ft. (2 in.)
 _____ (ft.) x _____ 0.65 gal./ft. (4 in.)
 _____ 1.5 gal./ft. (6 in.)
 _____ gal./ft. (_____ in.) = _____ Well Volume (gal./ft.)

See note

Number of Well Volumes:	Time:	Temperature: °C	pH:	Conductivity: µS/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
1.86' (1) 13 gal.	1557	29.07	7.17	54.9	5 gpm	24.5
(2) 26 gal.	1600	28.67	7.17	55.0	5 gpm	12.5
1.86' (3) 39 gal.	1603	28.54	7.17	54.8	5 gpm	8.12
(4) 52 gal.	1606	28.44	7.16	54.9	5 gpm	6.67
1.88' (5) 65 gal.	1609	28.40	7.16	55.0	5 gpm	5.58
(6) 78 gal.	1612	28.64	7.16	55.0	5 gpm	3.97
1.88' (7) 91 gal.	1615	28.55	7.16	55.1	5 gpm	3.59
(8) 104 gal.	1618	28.46	7.15	55.1	5 gpm	3.46
(9) 117 gal.	1621	28.48	7.15	55.2	5 gpm	2.07
1.88' (10) 130 gal.	1624	28.65	7.15	55.2	5 gpm	2.19
	5-3-08					

Notes: set Grundfos Approx. 2' Above bottom of well surged well while pumping.
 - See well volume calculation sheet for volume calcs.

Well Developers Signature: *Kim Chab-Smith*

FIGURE 9

Well Development Record Well No.: 0W-636L

Project No. 6468-07-1950 Logged By: Kim Charles - Smith
 Client Name: Bechtel KY Project Name: TPCOL 4^{KEL} 5-5-08 Checked By:
 Well Installation Date: 4-4-08 ⁵⁻⁵⁻⁰⁸ 4-6-08 Start Date: 4-6-08 Finish Date: 4-6-08
 Well Development Date: 5-5-08 Start Time: 0958 Finish Time: 1138

Initial Water Level (ft.): 2.16'
 Water Level during Initial Pumping/Purging (ft.): 3.92'
 Water Level at Termination of Pumping/Purging (ft.): 2.07'
 Weather: Sunny ~ 84°F

Height of Water Column: ~~_____ (ft.)~~ ~~0.16 gal./ft. (2 in.)~~ ~~0.65 gal./ft. (4 in.)~~ ~~1.5 gal./ft. (6 in.)~~ _____ gal./ft. (_____ in.) = _____ Well Volume (gal./ft.)
KC 5-5-08
See notes

Water level
From TAC
38.92
4.12'
4.10'
4.09'
4.07'
4.06'

Number of Well Volumes:	Time:	Temperature: °C	pH: SU	Conductivity: mS/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
(1) 24 gal.	1008	29.46	7.05	36.4	2.5 gpm	2.73
(2) 48 gal.	1018	29.28	7.01	36.2	2.5 gpm	1.23
(3) 72 gal.	1028	29.34	7.05	36.4	3.0 gpm	1.13
(4) 96 gal.	1038	29.40	7.01	36.7	3.0 gpm	1.31
(5) 120 gal.	1048	29.43	7.02	37.1	3.0 gpm	1.34
(6) 144 gal.	1058	29.49	7.02	37.1	3.0 gpm	1.32
(7) 168 gal.	1108	29.56	7.02	37.4	3.0 gpm	1.21
(8) 192 gal.	1118	29.64	7.03	37.4	3.0 gpm	1.15
(9) 216 gal.	1128	29.96	7.03	37.5	3.0 gpm	0.88
(10) 240 gal.	1138	29.62	7.04	37.7	3.0 gpm	0.84
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Notes: Set Grundfos pump approx 2' above sump and surged well with pump running for first volume.
 - See well volume calculation spreadsheet for volume calcs.

Well Developers Signature: Kim Charles - Smith

FIGURE 9

Well Development Record

Well No.:

OW-636U

Project No. CA68-07-1950

Logged By: Kim Charles Smith

Client Name: Bechtel

Project Name: TPCOL

Checked By:

Well Installation Date: 4-3-08

Start Date: 4-3-08

Finish Date: 4-3-08

Well Development Date: 5-5-08

Start Time: 0906

Finish Time: 0924

Initial Water Level (ft.): 3.90'

Water Level during Initial Pumping/Purging (ft.): 3.90'

Water Level at Termination of Pumping/Purging (ft.): 2.95'

Weather: Sunny ~ 84°F

Height of Water Column: _____
 _____ (ft.)
 0.16 gal./ft. (2 in.)
 0.65 gal./ft. (4 in.)
 1.5 gal./ft. (6 in.)
 _____ gal./ft. (_____ in.)

KJ 5-5-08
See notes

Well Volume (gal./ft.)

Water level below TOC

3.90'

3.90'

3.08'

3.08'

Number of Well Volumes:	Time:	Temperature: °C	pH:	Conductivity: µS/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
(1) 10 gal.	0906	26.70	7.03	46.9	5 gpm	3.13
(2) 20 gal.	0908	27.04	6.91	41.3	↓	1.51
(3) 30 gal.	0910	27.15	6.95	42.2	↓	0.85
(4) 40 gal.	0912	27.22	6.99	42.6	↓	1.50
(5) 50 gal.	0914	27.27	7.01	42.8	5 gpm	0.72
(6) 60 gal.	0916	27.31	7.00	42.8	↓	0.40
(7) 70 gal.	0918	27.24	7.01	42.8	↓	0.67
(8) 80 gal.	0920	27.31	7.00	43.1	↓	0.61
(9) 90 gal.	0922	27.33	7.02	43.1	↓	0.70
(10) 100 gal.	0924	27.31	7.02	43.2	5 gpm	0.83
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Notes:

KJ 5-5-08
 Set Granfos 2' above surge and surged well with pump running for first volume - see well volume calculator spreadsheet for volume calcs.

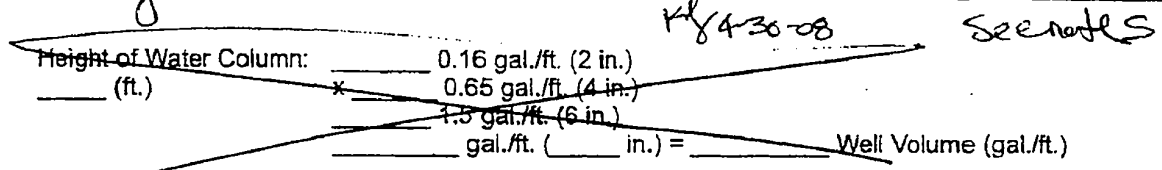
Well Developers Signature: Kim Charles Smith

FIGURE 9

Well Development Record

Well No.:

Project No: ALB-07-1950 Logged By: Kim Chris Smith AW-706L
 Client Name: Bechtel Project Name: TR COL Checked By:
 Well Installation Date: 3-22-08 to 3-25-08 Start Date: 3-22-08 Finish Date: 3-25-08
 Well Development Date: 4-30-08 Start Time: 1230 Finish Time: 1420
 Initial Water Level (ft.): 0.21' from TOC (Artesian)
 Water Level during Initial Pumping/Purging (ft.): 1.07' H₂O 4-30-08
 Water Level at Termination of Pumping/Purging (ft.): 0.30' below TOC
 Weather: Sunny ~ 75°F 0.52'



TOC
water level

1.07'
1.19'
1.19'
1.21'

Number of Well Volumes:	Time:	Temperature: °C	pH:	Conductivity: MF/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
(1) 25 gal.	1245	29.84	7.06	49.0	2.5 gpm	2.19
(2) 50 gal.	1255	27.67	7.00	49.3	2.5 gpm	0.75
(3) 75 gal.	1310	27.50	7.06	50.9	2.5 gpm	0.58
(4) 100 gal.	1320	27.62	7.99	52.1	2.5 gpm	0.68
(5) 125 gal.	1330	27.66	7.00	52.4	2.5 gpm	0.80
(6) 150 gal.	1340	27.63	7.00	53.1	2.5 gpm	0.56
(7) 175 gal.	1350	27.64	7.01	53.5	2.5 gpm	0.73
(8) 200 gal.	1400	27.81	7.00	53.4	2.5 gpm	0.44
(9) 225 gal.	1410	27.71	6.99	54.4	2.5 gpm	0.38
(10) 250 gal.	1420	27.78	7.00	54.5	2.5 gpm	0.40
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Notes: Set Granafos ~ 2' above bottom of well surged well while running pump until water ran clear, Approx. 5-10 gallons.

Well Developers Signature: Kim Chris Smith

FIGURE 9

See well volume calculation spread sheet for volume calcs.

Well Development Record

Well No.:

OW-706U

Project No. 6468-07-1950 Logged By: Kim Charles Smith

Client Name: Bechtel Project Name: TPCOL Checked By:

Well Installation Date: 3-26-08 to 3-27-08 Start Date: 3-26-08 Finish Date: 3-27-08

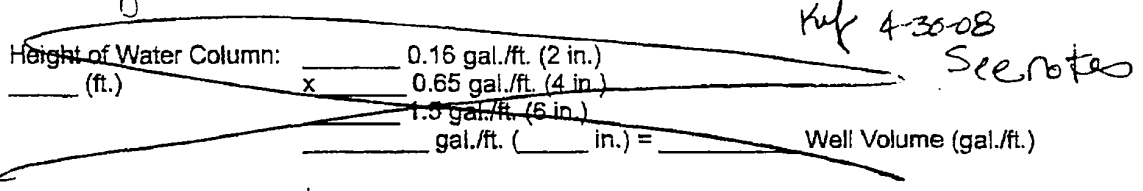
Well Development Date: 4-30-08 Start Time: 1509 Finish Time: 1539

Initial Water Level (ft.): 1.60' from TOC

Water Level during Initial Pumping/Purging (ft.): 1.68' below toe

Water Level at Termination of Pumping/Purging (ft.): 1.62' below toe

Weather: Sunny ~ 75°F



Water level from TOC

	Number of Well Volumes:	Time:	Temperature: °C	pH: Su	Conductivity: µS/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
<u>1.68'</u>	<u>(1) 11 gal.</u>	<u>1512</u>	<u>28.83</u>	<u>6.86</u>	<u>82.5</u>	<u>4.0 gpm</u>	<u>5.99</u>
<u>1.72'</u>	<u>(2) 22 gal.</u>	<u>1515</u>	<u>28.51</u>	<u>6.85</u>	<u>83.1</u>	<u>5.0 gpm</u>	<u>5.99</u>
	<u>(3) 33 gal.</u>	<u>1518</u>	<u>27.66</u>	<u>6.89</u>	<u>83.1</u>	<u>5.0 gpm</u>	<u>7.33</u>
	<u>(4) 44 gal.</u>	<u>1521</u>	<u>28.50</u>	<u>6.86</u>	<u>82.4</u>	<u>5.0 gpm</u>	<u>4.20</u>
<u>1.76'</u>	<u>(5) 55 gal.</u>	<u>1524</u>	<u>28.25</u>	<u>6.84</u>	<u>82.7</u>	<u>5.0 gpm</u>	<u>3.38</u>
	<u>(6) 66 gal.</u>	<u>1527</u>	<u>28.26</u>	<u>6.86</u>	<u>82.6</u>	<u>5.0 gpm</u>	<u>3.50</u>
<u>1.76'</u>	<u>(7) 77 gal.</u>	<u>1530</u>	<u>28.20</u>	<u>6.86</u>	<u>82.3</u>	<u>5.0 gpm</u>	<u>2.18</u>
	<u>(8) 88 gal.</u>	<u>1533</u>	<u>27.85</u>	<u>6.84</u>	<u>82.7</u>	<u>5.0 gpm</u>	<u>2.77</u>
<u>1.76'</u>	<u>(9) 99 gal.</u>	<u>1536</u>	<u>27.64</u>	<u>6.86</u>	<u>82.6</u>	<u>5.0 gpm</u>	<u>1.80</u>
<u>1.76'</u>	<u>(10) 110 gal.</u>	<u>1539</u>	<u>27.66</u>	<u>6.86</u>	<u>82.8</u>	<u>5.0 gpm</u>	<u>1.82</u>

Notes: Set Grundfos pump ~ 2' from bottom of well. Surged well w/pump until water ran clear approx. 5 gallons. See well volume calculation spreadsheet for volume calcs.

Well Developers Signature: Kim Charles Smith

FIGURE 9

Well Development Record

Well No.:

OW-721L

Project No. 6468-07-1950

Logged By: Kim Chels Smith

Client Name: Bechtel

Project Name: TPCOL

Checked By:

Well Installation Date: 5-3-08

Start Date: 5-2-08

Finish Date: 5-3-08

Well Development Date: 5-4-08

Start Time: 1101

Finish Time: 1337

Initial Water Level (ft.): 1.93'

Water Level during Initial Pumping/Purging (ft.): 4.40'

Water Level at Termination of Pumping/Purging (ft.): 2.56'

Weather: Sunny ~ 80°F

Height of Water Column: _____ (ft.)

0.16 gal./ft. (2 in.)

0.65 gal./ft. (4 in.)

1.5 gal./ft. (6 in.)

gal./ft. (_____ in.) = _____

Well Volume (gal./ft.)

~~See notes~~
5-4-08

water level from TOC

4.40'
193 feet
5-4-08
3.59'
3.95'
3.87'
3.87'

Number of Well Volumes:	Time:	Temperature: °C	pH:	Conductivity: mS/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
1) 23 gal.	1127	29.38	7.12	51.1	2.25 gpm	71000
2) 46 gal.	1137	29.32	7.07	42.8	2.25 gpm	146
3) 69 gal.	1147	29.30	7.06	42.0	2.25 gpm	106
4) 92 gal.	1157	29.38	7.07	42.0	2.25 gpm	86.8
5) 115 gal.	1207	29.45	7.06	42.1	2.25 gpm	78.8
6) 138 gal.	1217	29.35	7.06	41.2	2.25 gpm	72.4
7) 161 gal.	1227	29.56	7.07	42.3	2.25 gpm	72.6
8) 184 gal.	1237	29.33	7.05	42.9	2.25 gpm	21.8
9) 207 gal.	1247	29.30	7.05	42.8	2.25 gpm	16.5
10) 230 gal.	1257	29.31	7.06	42.5	2.25 gpm	28.9
11) 253 gal.	1317	29.69	7.05	42.5	2.25 gpm	16.2
12) 276 gal.	1337	29.44	7.05	42.5	2.25 gpm	8.41
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Notes: Set Grandfos approx 2' above suspended stage well with pump.
- see well volume calculator sheet for volume calcs.

Well Developers Signature: Kim Chels Smith

FIGURE 9

Well Development Record

Well No.:

OW-7214

Project No. 668-07-1950

Logged By: Kim Chab-Smith

Client Name: Bechtel

Project Name: TPCOL

Checked By:

Well Installation Date: 5-2-08

Start Date: 5-2-08

Finish Date: 5-2-08

Well Development Date: 5-4-08

Start Time: 0948

Finish Time: 1008

Initial Water Level (ft.): 0.84'

Water Level during Initial Pumping/Purging (ft.): 1.86'

Water Level at Termination of Pumping/Purging (ft.): 0.97'

Weather: Sunny ~ 80°F

Height of Water Column (ft.)

0.16 gal./ft. (2 in.)

x 5-4-08

0.65 gal./ft. (4 in.)

1.5 gal./ft. (6 in.)

gal./ft. (in.)

See notes

Well Volume (gal./ft.)

water level
From TOC

1.86'

1.73'

1.50'

1.49'

Number of Well Volumes:	5-4-08 Time:	Temperature: °C	pH:	Conductivity: $\mu\text{S}/\text{cm}$	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
(1) 10 gal.	0950	27.76	6.69	41.0	5 gpm	54.8
(2) 20 gal.	0952	28.07	7.00	42.4	↓	25.4
(3) 30 gal.	0954	28.64	7.03	42.3	↓	14.2
(4) 40 gal.	0956	28.77	7.06	43.0	5 gpm	14.6
(5) 50 gal.	0958	28.79	7.05	43.1	↓	16.9
(6) 60 gal.	1000	28.74	7.08	43.5	5 gpm	9.73
(7) 70 gal.	1002	28.84	7.07	43.3	↓	7.92
(8) 80 gal.	1004	28.93	7.08	43.2	↓	7.14
(9) 90 gal.	1006	28.95	7.07	43.0	5 gpm	6.31
(10) 100 gal.	1008	28.96	7.07	43.1	5 gpm	5.03

Notes: Set Grundfos Approx 2' above bottom of well + Surged to clean out sump.
- See well volume calculation spreadsheet for volume calcs.

Well Developers Signature: Kim Chab-Smith

FIGURE 9

Well Development Record

Well No.:

OW-735L

Project No. 6468-07-1950 Logged By: Kim Chris Smith

Client Name: Bechtel Project Name: TPCOL Checked By:

Well Installation Date: 4-15-08 to 4-19-08 Start Date: 4-15-08 Finish Date: 4-19-08

Well Development Date: 4-29-08/4-30-08 Start Time: 1440 Finish Time: 0932

Initial Water Level (ft.): 0.34' from TOC 4-29-08 4-30-08

Water Level during Initial Pumping/Purging (ft.): 0.49'

Water Level at Termination of Pumping/Purging (ft.): TOC (Artesian)

Weather: Sunny / partly cloudy 72°F

Height of Water Column: _____ (ft.)
 x _____ 0.16 gal./ft. (2 in.)
 _____ 0.65 gal./ft. (4 in.)
 _____ 1.5 gal./ft. (6 in.)
 _____ gal./ft. (_____ in.) = _____ Well Volume (gal./ft.)

4-30-08 See notes

Water level from TOC

0.83'
0.84'
0.65'

Number of Well Volumes:	Time:	Temperature: °C	pH:	Conductivity: mS/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
1) 25 gal.	1430	29.51	6.63	62.8	2.5 gpm	25.3
2) 50 gal.	1440	29.44	6.64	62.5	2.5 gpm	14.4
3) 75 gal.	1450	29.31	6.65	62.6	2.5 gpm	9.95
4) 100 gal.	1500	29.19	6.65	62.5	2.5 gpm	9.59
5) 125 gal.	1510	28.93	6.66	62.3	2.5 gpm	7.94
6) 150 gal.	1520	28.71	6.66	62.1	2.5 gpm	7.26
7) 175 gal.	1530	28.72	6.65	62.2	2.5 gpm	7.45
8) 200 gal.	1540	28.71	6.66	62.5	2.5 gpm	6.24
9) 225 gal.	0923	27.38	6.65	79.0	2.5 gpm	8.21
10) 250 gal.	0932	28.41	6.67	82.9	2.5 gpm	4.42

Notes:
 Set Grundfos pump ~ 2' from bottom of well tagged T.D. Surged well w/pump and lowered pump to clean out Sediment.
 Completed well Development volumes 9 + 10 on 4-30-08 due to Thunder rain on 4-29-08.

Well Developers Signature: Kim Chris Smith

FIGURE 9

See well volume calculation sheet for volume calcs.

Well Development Record

Well No.:

OW-7354

Project No. CA68-07-1950 Logged By: Kim Cholo-Smith

Client Name: Bechtel Project Name: TP COL Checked By:

Well Installation Date: 4-20-08 Start Date: 4-20-08 Finish Date: 4-20-08

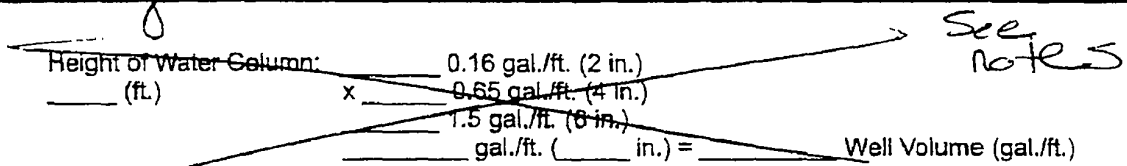
Well Development Date: 4-29-08 Start Time: 1130 Finish Time: 1353

Initial Water Level (ft.): 2.0' from TOC

Water Level during Initial Pumping/Purging (ft.): Unchanged - 2.04'

Water Level at Termination of Pumping/Purging (ft.): 2.03'

Weather: SUNNY ~ 75°F



Water level

2.03'

2.04'

2.02'

2.03'

Number of Well Volumes:	Time:	Temperature:	pH:	See note Conductivity: ms/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
1 (10 gal.)	1130	28.12	6.77	60.5	2.0 gpm	17.7
2 (20 gal.)	1141	29.83	6.89	60.4	2.0 gpm	12.0
3 (30 gal.)	1156	30.31	6.88	61.7	2.5 gpm	7.96
4 (40 gal.)	1200	29.25	6.48	62.0	2.5 gpm	5.82
5 (50 gal.)	1335	29.70	6.73	62.5	3.0 gpm	2.71
6 (60 gal.)	1339	29.95	6.77	62.2	4.0 gpm	4.34
7 (70 gal.)	1344	29.77	6.78	62.1	4.5 gpm	7.65
8 (80 gal.)	1347	29.72	6.79	62.5	4.5 gpm	8.80
9 (90 gal.)	1350	29.81	6.80			8.41
10 (100 gal.)	1353	29.93	6.81			8.20

- Notes:
- Grundfos pump set approximately 2.0' off bottom of tagged T.D
 - Surged well for first 3 vol. by turning off pump and allowing well to settle then turning pump again.
 - Lowered pump to bottom of well @ approximately 50 gal.

Well Developers Signature: Kim Cholo-Smith

FIGURE 9

Well Development Record

Well No.:

OW-802L

Project No. 4468-07-1950

Logged By: Kim Chads Smith

Client Name: Bechtel

Project Name: TPCD

Checked By:

Well Installation Date: 5-4-08

Start Date: 5-3-08

Finish Date: 5-4-08

Well Development Date: 5-5-08

Start Time: 1451

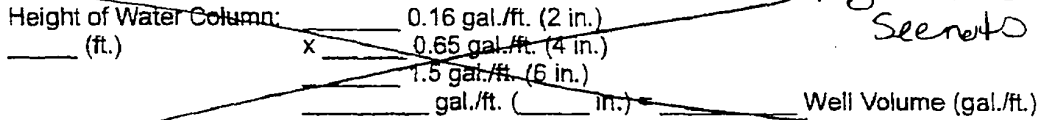
Finish Time: 1631

Initial Water Level (ft.): Artesian Flowing

Water Level during Initial Pumping/Purging (ft.): 0.77'

Water Level at Termination of Pumping/Purging (ft.): 0.28'

Weather: Sunny ~ 84°F



water level from TOC

0.77'
0.81'
0.86'
0.87'
0.89'

Number of Well Volumes:	Time:	Temperature: °C	pH:	Conductivity: mS/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
1) 24 gal.	1501	29.39	6.86	49.9	3.0 gpm	0.49
2) 48 gal.	1509	29.40	6.88	50.5		0.42
3) 72 gal.	1517	28.95	6.92	50.7		0.35
4) 96 gal.	1525	29.12	6.93	51.0		0.32
5) 120 gal.	1533	29.22	6.96	51.7	↓	0.44
6) 144 gal.	1541	28.97	6.95	51.8	3.0 gpm	0.29
7) 168 gal.	1549	28.76	6.95	52.4		0.77
8) 192 gal.	1557	28.65	6.95	52.6		0.59
9) 216 gal.	1605	28.59	6.94	52.9	↓	0.65
10) 240 gal.	1613	28.61	6.94	52.8	3.0 gpm	0.36
	1621					
	<i>Key 5-5-08</i>					

Notes: Surged Samp w/ gradients while pumping, for first well volumes removed.
- See well volume calculation spreadsheet for volume calcd.

Well Developers Signature: Kim Chads Smith

FIGURE 9

Well Development Record

Well No.: 00-8024

Project No. 6468-07-1950 Logged By: Kim Charles Smith
 Client Name: Bechtel Project Name: TPCOL Checked By: _____
 Well Installation Date: 5-4-08 Start Date: 5-4-08 Finish Date: 5-4-08
 Well Development Date: 5-7-08 Start Time: 5:30 AM Finish Time: 1:13 PM
 Initial Water Level (ft.): 2.10' K 5-7-08 15135-08
 Water Level during Initial Pumping/Purging (ft.): 2.10' 2.64' 155 AM 5-7-08
 Water Level at Termination of Pumping/Purging (ft.): 2.99'
 Weather: Sunny ~ 85°F

Height of Water Column: _____ (ft.) x _____ gal./ft. (2 in.)
 _____ gal./ft. (4 in.)
 _____ gal./ft. (6 in.)
 _____ gal./ft. (_____ in.) = _____ Well Volume (gal./ft.)

see notes
K 5-7-08

Water level from TAC

Number of Well Volumes:	Time:	Temperature: °C	pH: SU	Conductivity: mS/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
2.64'	1) 10 gal. 151355	28.97	6.36	66.5	5 gpm	4.92
	2) 20 gal. 151357	28.68	6.70	68.6	↓	2.49
	3) 30 gal. 151359	28.66	6.75	69.8	5 gpm	1.87
2.65'	4) 40 gal. 151401	28.64	6.76	70.4	↓	1.84
	5) 50 gal. 151403	28.58	6.77	70.2	↓	1.76
	6) 60 gal. 151405	28.70	6.75	70.6	5 gpm	1.25
2.67'	7) 70 gal. 151407	28.68	6.81	70.7	↓	1.19
	8) 80 gal. 151409	28.70	6.82	71.1	↓	1.16
2.68'	9) 90 gal. 151411	28.69	6.82	71.1	5 gpm	1.06
2.68'	10) 100 gal. 151413	28.71	6.82	71.3	5 gpm	0.82
	<u>K 5-7-08</u>					

Notes: Surged sump with Grundfos for 1st volume until water ran clear.
 - See well volume calculation spreadsheet for volume calcs.

Well Developers Signature: Kim Charles Smith

FIGURE 9

Well Development Record

Well No.:

aw-809L

Project No. LA68-07-1950 Logged By: Kim Chels-Smith

Client Name: Dechdel Project Name: TRCOL Checked By:

Well Installation Date: 5-07-08 Start Date: 5-5-08 Finish Date: 5-7-08

Well Development Date: 5-13-08 Start Time: 1337 Finish Time: 1507

Initial Water Level (ft.): 3.36'

Water Level during Initial Pumping/Purging (ft.): 3.92'

Water Level at Termination of Pumping/Purging (ft.): 3.44'

Weather: Sunny ~ 85°F

Height of Water Column: _____ (ft.) x _____ gal./ft. (2 in.) = _____ gal./ft. (in.) = _____ Well Volume (gal./ft.)

_____ gal./ft. (4 in.)

_____ gal./ft. (6 in.)

KCS 5-13-08 See notes

3.92'
3 *KCS 5-13-08*
4.94'
3 *KCS 5-13-08*
4.95'
3.92'

Number of Well Volumes:	Time:	Temperature: °C	pH: su	Conductivity: µS/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
1) 23 gal.	1346	31.38	6.71	40.5	2.8 gpm	13.3
2) 46 gal.	1355	29.76	6.66	40.8	↓	7.47
3) 69 gal.	1404	29.78	6.67	41.1	↓	5.31
4) 92 gal.	1413	29.60	6.68	41.5	2.8 gpm	3.83
5) 115 gal.	1422	29.75	6.70	41.8	↓	2.96
6) 138 gal.	1431	29.76	6.71	42.1	↓	2.45
7) 161 gal.	1440	29.72	6.70	42.7	↓	2.43
8) 184 gal.	1449	29.74	6.72	43.0	↓	2.49
9) 207 gal.	1458	29.81	6.73	43.3	2.8 gpm	2.06
10) 230 gal.	1507	29.77	6.72	43.3		2.05

Notes: *KCS 5-13-08 KCS 5-13-08*
Surged sand pump sump w/Grundfos to remove sediment. Set pump in middle of screen and removed 10 well volumes.
- See well volume calculator spreadsheet for volume calcs.

Well Developers Signature: Kim Chels-Smith

FIGURE 9

Well Development Record

Well No.:

0W-809U

Project No. 6468-07-1950

Logged By: *Kim Clark-Smith*

Client Name: *Bechtel*

Project Name: *TPOA*

Checked By:

Well Installation Date: *4-1-08*

Start Date: *4-1-08*

Finish Date: *4-1-08*

Well Development Date: *5-1-08*

Start Time: *0844*

Finish Time: *0910*

Initial Water Level (ft.): *2.79'*

Water Level during Initial Pumping/Purging (ft.): *3.92'*

Water Level at Termination of Pumping/Purging (ft.): *2.82'*

Weather: *Sunny ~ 73°F*

Height of Water Column: _____
 (ft.) x _____
 _____ gal./ft. (2 in.)
 _____ gal./ft. (4 in.)
 _____ gal./ft. (6 in.)
 _____ gal./ft. (_____ in.) =

See notes

Fig 5-1-08

Well Volume (gal./ft.)

*water level
from TOC*

3.92'
2.99'
2.98'
2.98'
2.98'

Number of Well Volumes:	Time:	Temperature: °C	pH: SU	Conductivity: ms/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
<i>(1) 10 gal.</i>	<i>0847</i>	<i>26.80</i>	<i>6.38</i>	<i>65.8</i>	<i>4.0 spm</i>	<i>2.37</i>
<i>(2) 20 gal.</i>	<i>0850</i>	<i>27.97</i>	<i>6.91</i>	<i>69.1</i>	<i>4.0 spm</i>	<i>1.86</i>
<i>(3) 30 gal.</i>	<i>0853</i>	<i>29.29</i>	<i>6.96</i>	<i>69.3</i>	<i>4.0 spm</i>	<i>1.53</i>
<i>(4) 40 gal.</i>	<i>0856</i>	<i>29.34</i>	<i>6.99</i>	<i>68.9</i>	<i>4.0 spm</i>	<i>1.46</i>
<i>(5) 50 gal.</i>	<i>0859</i>	<i>29.32</i>	<i>6.97</i>	<i>68.8</i>	<i>4.0 spm</i>	<i>1.48</i>
<i>(6) 60 gal.</i>	<i>0902</i>	<i>29.53</i>	<i>6.99</i>	<i>68.9</i>	<i>5.0 spm</i>	<i>1.23</i>
<i>(7) 70 gal.</i>	<i>0904</i>	<i>29.43</i>	<i>7.00</i>	<i>68.9</i>	<i>5.0 spm</i>	<i>0.63</i>
<i>(8) 80 gal.</i>	<i>0906</i>	<i>29.04</i>	<i>7.02</i>	<i>68.8</i>	<i>5.0 spm</i>	<i>0.92</i>
<i>(9) 90 gal.</i>	<i>0908</i>	<i>29.15</i>	<i>7.01</i>	<i>68.7</i>	<i>5.0 spm</i>	<i>1.29</i>
<i>(10) 100 gal.</i>	<i>0910</i>	<i>29.18</i>	<i>7.00</i>	<i>68.6</i>	<i>5.0 spm</i>	<i>1.58</i>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Notes: - Surged well with Grindfos to remove sediment from bottom of well.
 - See well volume calculation sheet for volume calcs.

Well Developers Signature: *Kim Clark-Smith*

FIGURE 9

Well Development Record

Well No.:

OW - 812L

Project No. <u>6468-07-150</u>	Logged By: <u>Kim Charles Smith</u>		
Client Name: <u>Buchtel</u>	Project Name: <u>TPCOL</u>	Checked By:	
Well Installation Date: <u>5-6-08</u> ^{KCS}	<u>5-13-08</u>	Start Date: <u>5-6-08</u>	Finish Date: <u>5-7-08</u>
Well Development Date: <u>5-13-08</u>		Start Time: <u>1010</u>	Finish Time: <u>1136</u>
Initial Water Level (ft.): <u>1.46'</u>			
Water Level during Initial Pumping/Purging (ft.): <u>1.90'</u>			
Water Level at Termination of Pumping/Purging (ft.): <u>1.55'</u>			
Weather: <u>Sunny ~ 80°F</u>			

Height of Water Column: _____ (ft.) x _____ gal./ft. (_____ in.) = _____ Well Volume (gal./ft.)

_____ 0.16 gal./ft. (2 in.) ^{KCS} see notes
 _____ 0.65 gal./ft. (4 in.) 5-13-08
 _____ 1.5 gal./ft. (6 in.)

1.90'
1.85'
1.85'
1.86'
1.85'

Number of Well Volumes:	Time:	Temperature: °C	pH:	Conductivity: ^{at 5-13-08} 500 <u>ms/cm</u>	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
1) 23 gal.	1024	31.74	6.57	<u>43.6</u>	<u>3.0 gpm</u>	0.75
2) 46 gal.	1032	31.23	6.84	42.0	↓	1.23
3) 69 gal.	1040	31.01	6.84	42.5	↓	0.80
4) 92 gal.	1048	30.78	6.84	42.2	↓	0.58
5) 115 gal.	1056	30.93	6.85	42.2	3.0 gpm	0.42
6) 138 gal.	1104	30.83	6.86	42.6	↓	0.63
7) 161 gal.	1112	30.91	6.86	42.6	↓	0.58
8) 184 gal.	1120	30.83	6.86	42.7	↓	0.64
9) 207 gal.	1128	30.77	6.86	42.8	3.0 gpm	0.66
10) 230 gal.	1136	30.80	6.85	42.7	↓	0.51

Notes: Surged well sump with Grundfos to remove sediment set 8 Grundfos pump in screen and removed 10 well volumes.
 - see well volume calculation spreadsheet for volume calcs.

Well Developers Signature: Kim Charles Smith

FIGURE 9

Well Development Record

Well No.:

0W-812U

Project No. 6468-07-1950 Logged By: Kim Chels-Smith

Client Name: Bechtel Project Name: TPCOL Checked By:

Well Installation Date: 5-7-08 Start Date: 5-7-08 Finish Date: 5-7-08

Well Development Date: 5-7-08 Start Time: 1333 Finish Time: 1453

Initial Water Level (ft.): 2.31' 13:45
5-7-08

Water Level during Initial Pumping/Purging (ft.): 2.68'

Water Level at Termination of Pumping/Purging (ft.): 2.45'

Weather: Sunny ~ 85°F

Height of Water Column: _____ 0.16 gal./ft. (2 in.)
 _____ (ft.) * 0.65 gal./ft. (4 in.)
 _____ 1.5 gal./ft. (6 in.)
 _____ gal./ft. (_____ in.)

Well Volume (gal./ft.)

see notes
KJ 5-7-08

Water level from TOC

	Number of Well Volumes:	Time:	Temperature: °C	pH:	Conductivity: mS/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
<u>2.68'</u>	1) 10 gal.	<u>1335</u>	<u>32.77</u>	<u>6.80</u>	<u>76.3</u>	<u>5 gpm</u>	<u>5.08</u>
	2) 20 gal.	<u>1337</u>	<u>32.44</u>	<u>6.79</u>	<u>76.7</u>		<u>3.30</u>
	3) 30 gal.	<u>1339</u>	<u>32.90</u>	<u>6.80</u>	<u>79.6</u>		<u>1.89</u>
<u>2.76'</u>	4) 40 gal.	<u>1341</u>	<u>33.05</u>	<u>6.80</u>	<u>77.7</u>	<u>5 gpm</u>	<u>1.26</u>
	5) 50 gal.	<u>1343</u>	<u>33.28</u>	<u>6.81</u>	<u>77.6</u>	<u>5 gpm</u>	<u>0.80</u>
<u>2.78'</u>	6) 60 gal.	<u>1345</u>	<u>33.20</u>	<u>6.81</u>	<u>77.5</u>		<u>0.83</u>
	7) 70 gal.	<u>1347</u>	<u>33.01</u>	<u>6.82</u>	<u>77.8</u>		<u>0.78</u>
<u>2.79'</u>	8) 80 gal.	<u>1349</u>	<u>33.17</u>	<u>6.81</u>	<u>77.7</u>		<u>0.88</u>
	9) 90 gal.	<u>13451</u>	<u>33.16</u>	<u>6.81</u>	<u>77.7</u>	<u>5 gpm</u>	<u>0.67</u>
<u>2.80'</u>	10) 100 gal.	<u>13453</u>	<u>33.10</u>	<u>6.81</u>	<u>77.4</u>	<u>5 gpm</u>	<u>0.51</u>

Notes:
 until Surged Song with grandfos for 1st volume unclear water ran clear.
KJ 5-7-08
 - See well volume calculator spreadsheet for volume calcs.
KJ 5-7-08

Well Developers Signature: Kim Chels-Smith

FIGURE 9

Well Sampling Records



MACTEC Engineering and Consulting, Inc.
 3301 Atlantic Avenue
 Raleigh, North Carolina 27604

OBSERVATION WELL SAMPLING WORKSHEET

OBSERVATION WELL ID: OW-606U		MACTEC JOB NUMBER: 6468-07-1950	
PROJECT: Turkey Point COL Project	SITE: Florida City, Florida	DATE: 5/28/2008	
MEASURED WELL DEPTH: 31.91 FT.	SCREENED INTERVAL: 18-28 FT.	WELL DIAMETER: 2 IN.	
HEIGHT OF MEASURING POINT ABOVE LAND SURFACE: 3.0		CASING MATERIAL: PVC	
SAMPLING DEVICE: See below	TUBING TYPE: Dedicated, Disposable Tubing		
MEASURING POINT: Top of Casing	DEPTH TO GROUNDWATER: 2.71		
SAMPLING PERSONNEL: L. Bisson	WATER-COLUMN HEIGHT: 29.20		
STEEL GUARD PIPE AROUND CASING:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
LOCKING CAP:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
PROTECTIVE POST/ABUTMENT:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
NONPOTABLE LABEL:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
ID PLATE:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
WELL INTEGRITY SATISFACTORY:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
WELL YIELD:	<input checked="" type="checkbox"/> HIGH	<input type="checkbox"/> MODERATE	<input type="checkbox"/> LOW
COMMENTS: Monsoon submersible pump, Horiba U-22 S/N MO15-09.			
Purge volume determined by multiplying water-column height by 0.16 gal/ft for a 2-inch well			

PURGE VOLUME (gallons)	PURGE RATE (gpm)	TEMP (°C)	PH (S.U.)	D.O. (mg/L)	SP. COND. (mS/cm)	TURBIDITY (NTU)	O.R.P. (± mV)	NOTES
12.2	0.4	28.66	6.86	1.65	66.7	2.00	-355	
26.2	0.4	28.70	6.88	1.55	66.9	0.39	-368	
32.6	0.4	28.70	6.84	1.61	66.8	0.46	-339	
39.0	0.4	28.71	6.84	1.66	66.9	0.30	-342	
45.4	0.4	28.71	6.84	1.64	66.9	0.34	-347	
Sample	0.3	28.71	6.84	1.66	66.9	0.34	-344	
Sample collected at 16:10 for the following tests								
TDS - Method 160.1 / Alkalinity - Method 310.1								
Anions and Nitrate/Nitrite - Method 300.0								
Cations - Method 6020								
Ammonia - Method 350.1								
Kd - distribution coefficient								

Observation wells purged in accordance with ASTM D-6452-99

Prepared by: WLB Date: 7-7-08
 Checked by: CBS Date: 7/7/08



MACTEC Engineering and Consulting, Inc.
3301 Atlantic Avenue
Raleigh, North Carolina 27604

OBSERVATION WELL SAMPLING WORKSHEET

OBSERVATION WELL ID: OW-606L		MACTEC JOB NUMBER: 6468-07-1950	
PROJECT: Turkey Point COL Project	SITE: Florida Cirty, Florida	DATE: 5/28/2008	
MEASURED WELL DEPTH: 111.31 FT.	SCREENED INTERVAL: 97-107 FT.	WELL DIAMETER: 2 IN.	
HEIGHT OF MEASURING POINT ABOVE LAND SURFACE: 2.8		CASING MATERIAL: PVC	
SAMPLING DEVICE: See below	TUBING TYPE: Dedicated, Disposable Tubing		
MEASURING POINT: Top of Casing	DEPTH TO GROUNDWATER: 2.30		
SAMPLING PERSONNEL: K. Charles-Smith	WATER-COLUMN HEIGHT: 109.01		
STEEL GUARD PIPE AROUND CASING:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
LOCKING CAP:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
PROTECTIVE POST/ABUTMENT:	<input type="checkbox"/>	YES	<input checked="" type="checkbox"/> NO
NONPOTABLE LABEL:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
ID PLATE:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
WELL INTEGRITY SATISFACTORY:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
WELL YIELD:	<input checked="" type="checkbox"/>	HIGH	<input type="checkbox"/> MODERATE <input type="checkbox"/> LOW
COMMENTS: Monsoon submersible pump, Horiba U-22 S/N MO15-09.			
Purge volume determined by multiplying water-column height by 0.16 gal/ft for a 2-inch well			

PURGE VOLUME (gallons)	PURGE RATE (gpm)	TEMP (°C)	PH (S.U.)	D.O. (mg/L)	SP. COND. (mS/cm)	TURBIDITY (NTU)	O.R.P. (± mV)	NOTES
26	0.4	28.78	7.41	10.02	52.6	1.22	-306	
52	0.4	28.32	7.09	9.57	52.8	0.61	-365	
65	0.4	28.38	7.08	9.89	52.9	0.91	-367	
78	0.4	28.14	7.09	9.98	52.7	0.74	-370	
91	0.4	28.09	7.08	9.84	52.7	0.83	-370	
Sample	0.3	28.29	7.08	9.92	52.8	0.77	-370	
Sample collected at 15:40 for the following tests								
Analytical Method								
TDS - Method 160.1 / Alkalinity - Method 310.1								
Anions and Nitrate/Nitrite - Method 300.0								
Cations - Method 6020								
Ammonia - Method 350.1								
Kd - distribution coefficient								

Observation wells purged in accordance with ASTM D-6452-99

Prepared by: WU Date: 7-7-08
Checked by: CBS Date: 7/7/08



MACTEC Engineering and Consulting, Inc.
3301 Atlantic Avenue
Raleigh, North Carolina 27604

OBSERVATION WELL SAMPLING WORKSHEET

OBSERVATION WELL ID: OW-621U		MACTEC JOB NUMBER: 6468-07-1950	
PROJECT: Turkey Point COL Project	SITE: Florida City, Florida	DATE: 5/29/2008	
MEASURED WELL DEPTH: 32.36 FT.	SCREENED INTERVAL: 17.4-27.4 FT.	WELL DIAMETER: 2 IN.	
HEIGHT OF MEASURING POINT ABOVE LAND SURFACE: 3.30		CASING MATERIAL: PVC	
SAMPLING DEVICE: See below	TUBING TYPE: Dedicated, Disposable Tubing		
MEASURING POINT: Top of Casing	DEPTH TO GROUNDWATER: 5.23		
SAMPLING PERSONNEL: K. Charles-Smith	WATER-COLUMN HEIGHT: 27.13		
STEEL GUARD PIPE AROUND CASING:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
LOCKING CAP:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
PROTECTIVE POST/ABUTMENT:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
NONPOTABLE LABEL:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
ID PLATE:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
WELL INTEGRITY SATISFACTORY:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
WELL YIELD:	<input checked="" type="checkbox"/> HIGH	<input type="checkbox"/> MODERATE	<input type="checkbox"/> LOW
COMMENTS: Monsoon submersible pump, Horiba U-22 S/N MO15-09.			
Purge volume determined by multiplying water-column height by 0.16 gal/ft for a 2-inch well			

PURGE VOLUME (gallons)	PURGE RATE (gpm)	TEMP (°C)	PH (S.U.)	D.O. (mg/L)	SP. COND. (mS/cm)	TURBIDITY (NTU)	O.R.P. (± mV)	NOTES
12	0.4	27.81	7.16	0.07	92.6	21.8	-306	
24	0.4	27.82	7.10	0.05	90.6	3.72	-342	
30	0.4	27.81	7.08	0.05	90.9	2.93	-349	
36	0.4	27.81	7.08	0.05	91.0	2.89	-351	
42	0.4	27.83	7.07	0.05	91.1	2.90	-350	
Sample	0.3	27.82	7.08	0.05	91.0	2.91	-351	
Sample collected at 16:10 for the following tests								
Analytical Method								
TDS - Method 160.1 / Alkalinity - Method 310.1								
Anions and Nitrate/Nitrite - Method 300.0								
Cations - Method 6020								
Ammonia - Method 350.1								
Kd - distribution coefficient								

Observation wells purged in accordance with ASTM D-6452-99

Prepared by: CWSL Date: 7-7-08
Checked by: CBS Date: 7/7/08



MACTEC Engineering and Consulting, Inc.
3301 Atlantic Avenue
Raleigh, North Carolina 27604

OBSERVATION WELL SAMPLING WORKSHEET

OBSERVATION WELL ID:	OW-621L	MACTEC JOB NUMBER:	6468-07-1950
PROJECT:	Turkey Point COL Project	SITE:	Florida City, Florida
MEASURED WELL DEPTH:	111.55 FT.	SCREENED INTERVAL:	98.6-108.6 FT.
HEIGHT OF MEASURING POINT ABOVE LAND SURFACE:	3.0	WELL DIAMETER:	2 IN.
SAMPLING DEVICE:	See below	CASING MATERIAL:	PVC
MEASURING POINT:	Top of Casing	TUBING TYPE:	Dedicated, Disposable Tubing
SAMPLING PERSONNEL:	K. Charles-Smith	DEPTH TO GROUNDWATER:	3.50
STEEL GUARD PIPE AROUND CASING:	<input checked="" type="checkbox"/>	WATER-COLUMN HEIGHT:	108.05
LOCKING CAP:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
PROTECTIVE POST/ABUTMENT:	<input type="checkbox"/>	YES	<input checked="" type="checkbox"/> NO
NONPOTABLE LABEL:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
ID PLATE:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
WELL INTEGRITY SATISFACTORY:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
WELL YIELD:	<input checked="" type="checkbox"/>	HIGH	<input type="checkbox"/> MODERATE <input type="checkbox"/> LOW
COMMENTS	Monsoon submersible pump, Horiba U-22 S/N MO15-09.		
	Purge volume determined by multiplying water-column height by 0.16 gal/ft for a 2-inch well		

PURGE VOLUME (gallons)	PURGE RATE (gpm)	TEMP (°C)	PH (S.U.)	D.O. (mg/L)	SP. COND. (mS/cm)	TURBIDITY (NTU)	O.R.P. (± mV)	NOTES
26	0.4	27.74	7.07	1.68	>99.9	0.31	-353	
52	0.4	27.72	7.06	1.67	>99.9	0.34	-352	
65	0.4	27.81	7.05	1.66	>99.9	0.20	-347	
78	0.4	27.81	7.06	1.66	>99.9	0.21	-347	
91	0.4	27.81	7.06	1.66	>99.9	0.21	-349	
Sample	0.3	27.80	7.06	1.66	>99.9	0.21	-349	
Sample collected at 14:20 for the following tests								
Analytical Method								
TDS - Method 160.1 / Alkalinity - Method 310.1								
Anions and Nitrate/Nitrite - Method 300.0								
Cations - Method 6020								
Ammonia - Method 350.1								
Kd - distribution coefficient								

Observation wells purged in accordance with ASTM D-6452-99

Prepared by: WSE Date: 7-7-08
Checked by: CBS Date: 7/7/08



MACTEC Engineering and Consulting, Inc.
3301 Atlantic Avenue
Raleigh, North Carolina 27604

OBSERVATION WELL SAMPLING WORKSHEET

OBSERVATION WELL ID:	OW-706U		MACTEC JOB NUMBER:	6468-07-1950	
PROJECT:	Turkey Point COL Project	SITE:	Florida City, Florida	DATE:	5/29/2008
MEASURED WELL DEPTH:	31.72 FT.	SCREENED INTERVAL:	17-27 FT.	WELL DIAMETER:	2 IN.
HEIGHT OF MEASURING POINT ABOVE LAND SURFACE:	3.2	CASING MATERIAL:	PVC		
SAMPLING DEVICE:	See below	TUBING TYPE:	Dedicated, Disposable Tubing		
MEASURING POINT:	Top of Casing	DEPTH TO GROUNDWATER:	3.02		
SAMPLING PERSONNEL:	L. Bisson and K. Charles-Smith		WATER-COLUMN HEIGHT:	28.70	
STEEL GUARD PIPE AROUND CASING:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
LOCKING CAP:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
PROTECTIVE POST/ABUTMENT:	<input type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	
NONPOTABLE LABEL:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
ID PLATE:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
WELL INTEGRITY SATISFACTORY:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
WELL YIELD:	<input checked="" type="checkbox"/>	HIGH	<input type="checkbox"/>	MODERATE	<input type="checkbox"/> LOW
COMMENTS	Monsoon submersible pump, Horiba U-22 S/N MO15-09.				
	Purge volume determined by multiplying water-column height by 0.16 gal/ft for a 2-inch well				

PURGE VOLUME (gallons)	PURGE RATE (gpm)	TEMP (°C)	PH (S.U.)	D.O. (mg/L)	SP. COND. (mS/cm)	TURBIDITY (NTU)	O.R.P. (± mV)	NOTES
10	0.4	29.16	6.67	1.17	74.9	18.1	-373	
20	0.4	29.55	6.62	1.34	76.5	1.84	-378	
26	0.4	29.95	6.66	1.20	76.7	1.25	-385	
32	0.4	30.19	6.67	1.10	76.7	1.09	-388	
38	0.4	30.70	6.66	1.15	76.7	1.08	-391	
Sample	0.3	30.85	6.65	1.13	76.6	0.83	-392	
Sample collected at 11:00 for the following tests								
Analytical Method								
TDS - Method 160.1 / Alkalinity - Method 310.1								
Anions and Nitrate/Nitrite - Method 300.0								
Cations - Method 6020								
Ammonia - Method 350.1								
Kd - distribution coefficient								

Observation wells purged in accordance with ASTM D-6452-99

Prepared by: LS Date: 7-7-08
Checked by: CBS Date: 7/7/08



MACTEC Engineering and Consulting, Inc.
 3301 Atlantic Avenue
 Raleigh, North Carolina 27604

OBSERVATION WELL SAMPLING WORKSHEET

OBSERVATION WELL ID: OW-706L		MACTEC JOB NUMBER: 6468-07-1950	
PROJECT: Turkey Point COL Project	SITE: Florida City, Florida	DATE: 5/29/2008	
MEASURED WELL DEPTH: 114.56 FT.	SCREENED INTERVAL: 17-27 FT.	WELL DIAMETER: 2 IN.	
HEIGHT OF MEASURING POINT ABOVE LAND SURFACE: 3.2		CASING MATERIAL: PVC	
SAMPLING DEVICE: See below	TUBING TYPE: Dedicated, Disposable Tubing		
MEASURING POINT: Top of Casing	DEPTH TO GROUNDWATER: 0.62		
SAMPLING PERSONNEL: K. Charles-Smith	WATER-COLUMN HEIGHT: 113.94		
STEEL GUARD PIPE AROUND CASING:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
LOCKING CAP:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
PROTECTIVE POST/ABUTMENT:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
NONPOTABLE LABEL:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
ID PLATE:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
WELL INTEGRITY SATISFACTORY:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
WELL YIELD:	<input checked="" type="checkbox"/> HIGH	<input type="checkbox"/> MODERATE	<input type="checkbox"/> LOW
COMMENTS Monsoon submersible pump, Horiba U-22 S/N MO15-09.			
Purge volume determined by multiplying water-column height by 0.16 gal/ft for a 2-inch well			

PURGE VOLUME (gallons)	PURGE RATE (gpm)	TEMP (°C)	PH (S.U.)	D.O. (mg/L)	SP. COND. (mS/cm)	TURBIDITY (NTU)	O.R.P. (± mV)	NOTES
24	0.4	29.50	6.87	1.92	44.4	9.05	-287	
48	0.4	29.42	6.85	1.79	46.7	0.86	-334	
60	0.4	29.54	6.88	1.61	45.7	0.57	-343	
72	0.4	29.57	6.85	1.57	46.2	0.35	-346	
84	0.4	29.60	6.86	1.51	46.2	0.24	-351	
Sample	0.3	29.61	6.83	1.49	46.4	0.20	-351	
Sample collected at 12:35 for the following tests								
Analytical Method								
TDS - Method 160.1 / Alkalinity - Method 310.1								
Anions and Nitrate/Nitrite - Method 300.0								
Cations - Method 6020								
Ammonia - Method 350.1								
Kd - distribution coefficient								

Observation wells purged in accordance with ASTM D-6452-99

Prepared by: lsb Date: 7-7-08
 Checked by: CBS Date: 7/7/08



MACTEC Engineering and Consulting, Inc.
 3301 Atlantic Avenue
 Raleigh, North Carolina 27604

OBSERVATION WELL SAMPLING WORKSHEET

OBSERVATION WELL ID: OW-721U		MACTEC JOB NUMBER: 6468-07-1950	
PROJECT: Turkey Point COL Project	SITE: Florida City, Florida	DATE: 5/28/2008	
MEASURED WELL DEPTH: 28.00 FT.	SCREENED INTERVAL: 14-24 FT.	WELL DIAMETER: 2 IN.	
HEIGHT OF MEASURING POINT ABOVE LAND SURFACE: 3.1		CASING MATERIAL: PVC	
SAMPLING DEVICE: Sec below	TUBING TYPE: Dedicated, Disposable Tubing		
MEASURING POINT: Top of Casing	DEPTH TO GROUNDWATER: 3.23		
SAMPLING PERSONNEL: K. Charles-Smith	WATER-COLUMN HEIGHT: 24.77		
STEEL GUARD PIPE AROUND CASING:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
LOCKING CAP:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
PROTECTIVE POST/ABUTMENT:	<input type="checkbox"/>	YES	<input checked="" type="checkbox"/> NO
NONPOTABLE LABEL:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
ID PLATE:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
WELL INTEGRITY SATISFACTORY:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
WELL YIELD:	<input checked="" type="checkbox"/>	HIGH	<input type="checkbox"/> MODERATE <input type="checkbox"/> LOW
COMMENTS: Monsoon submersible pump, Horiba U-22 S/N MO15-09.			
Purge volume determined by multiplying water-column height by 0.16 gal/ft for a 2-inch well			

PURGE VOLUME (gallons)	PURGE RATE (gpm)	TEMP (°C)	PH (S.U.)	D.O. (mg/L)	SP. COND. (mS/cm)	TURBIDITY (NTU)	O.R.P. (± mV)	NOTES
9	0.4	28.91	7.12	10.8	54.8	0.28	-361	
18	0.4	29.22	7.11	10.6	55.5	0.48	-364	
22.5	0.4	29.26	7.08	10.6	52.7	0.37	-364	
27	0.4	29.27	7.08	10.6	53.0	0.46	-362	
31.5	0.4	29.30	7.07	10.8	52.8	0.30	-362	
Sample	0.3	28.92	7.10	10.6	53.1	0.36	-364	
Sample collected at 11:00 for the following tests								
Analytical Method								
TDS - Method 160.1 / Alkalinity - Method 310.1								
Anions and Nitrate/Nitrite - Method 300.0								
Cations - Method 6020								
Ammonia - Method 350.1								
Kd - distribution coefficient								

Observation wells purged in accordance with ASTM D-6452-99

Prepared by: WJS Date: 7-7-08
 Checked by: CBS Date: 7/7/08



MACTEC Engineering and Consulting, Inc.
3301 Atlantic Avenue
Raleigh, North Carolina 27604

OBSERVATION WELL SAMPLING WORKSHEET

OBSERVATION WELL ID: OW-721L		MACTEC JOB NUMBER: 6468-07-1950	
PROJECT: Turkey Point COL Project	SITE: Florida City, Florida	DATE: 5/28/2008	
MEASURED WELL DEPTH: 107.62 FT.	SCREENED INTERVAL: 96-106 FT.	WELL DIAMETER: 2 IN.	
HEIGHT OF MEASURING POINT ABOVE LAND SURFACE: 3.2		CASING MATERIAL: PVC	
SAMPLING DEVICE: See below	TUBING TYPE: Dedicated, Disposable Tubing		
MEASURING POINT: Top of Casing	DEPTH TO GROUNDWATER: 1.07		
SAMPLING PERSONNEL: L. Bisson	WATER-COLUMN HEIGHT: 106.55		
STEEL GUARD PIPE AROUND CASING:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
LOCKING CAP:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
PROTECTIVE POST/ABUTMENT:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
NONPOTABLE LABEL:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
ID PLATE:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
WELL INTEGRITY SATISFACTORY:	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
WELL YIELD:	<input checked="" type="checkbox"/> HIGH	<input type="checkbox"/> MODERATE	<input type="checkbox"/> LOW
COMMENTS: Monsoon submersible pump, Horiba U-22 S/N MO15-09.			
Purge volume determined by multiplying water-column height by 0.16 gal/ft for a 2-inch well			

PURGE VOLUME (gallons)	PURGE RATE (gpm)	TEMP (°C)	PH (S.U.)	D.O. (mg/L)	SP. COND. (mS/cm)	TURBIDITY (NTU)	O.R.P. (± mV)	NOTES
25.2	0.4	28.86	6.80	1.71	73.6	175	-337	
48.0	0.4	28.68	6.78	1.18	74.3	5.41	-358	
60.0	0.4	28.62	6.75	1.24	74.4	7.20	-361	
72.0	0.4	28.64	6.75	1.08	74.4	7.60	-364	
84.0	0.4	28.60	6.77	1.17	74.3	7.55	-369	
Sample	0.3	28.56	6.76	1.18	74.3	7.55	-370	
Sample collected at 13:25 for the following tests								
Analytical Method								
TDS - Method 160.1 / Alkalinity - Method 310.1								
Anions and Nitrate/Nitrite - Method 300.0								
Cations - Method 6020								
Ammonia - Method 350.1								
Kd - distribution coefficient								

Observation wells purged in accordance with ASTM D-6452-99

Prepared by: WSB Date: 7-7-08
Checked by: CBS Date: 7/7/08



MACTEC Engineering and Consulting, Inc.
3301 Atlantic Avenue
Raleigh, North Carolina 27604

OBSERVATION WELL SAMPLING WORKSHEET

OBSERVATION WELL ID: **OW-735U** MACTEC JOB NUMBER: **6468-07-1950**
 PROJECT: **Turkey Point COL Project** SITE: **Florida City, Florida** DATE: **5/27/2008**
 MEASURED WELL DEPTH: **30.19 FT.** SCREENED INTERVAL: **16-26 FT.** WELL DIAMETER: **2 IN.**
 HEIGHT OF MEASURING POINT ABOVE LAND SURFACE: **3.3** CASING MATERIAL: **PVC**
 SAMPLING DEVICE: **See below** TUBING TYPE: **Dedicated, Disposable Tubing**
 MEASURING POINT: **Top of Casing** DEPTH TO GROUNDWATER: **4.40**
 SAMPLING PERSONNEL: **K. Charles-Smith** WATER-COLUMN HEIGHT: **25.79**

STEEL GUARD PIPE AROUND CASING:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO
LOCKING CAP:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO
PROTECTIVE POST/ABUTMENT:	<input type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO
NONPOTABLE LABEL:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO
ID PLATE:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO
WELL INTEGRITY SATISFACTORY:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO
WELL YIELD:	<input checked="" type="checkbox"/>	HIGH	<input type="checkbox"/>	MODERATE <input type="checkbox"/> LOW

COMMENTS **Monsoon submersible pump, Horiba U-22 S/N MO15-09.**
Purge volume determined by multiplying water-column height by 0.16 gal/ft for a 2-inch well

PURGE VOLUME (gallons)	PURGE RATE (gpm)	TEMP (°C)	PH (S.U.)	D.O. (mg/L)	SP. COND. (mS/cm)	TURBIDITY (NTU)	O.R.P. (± mV)	NOTES
9.5	0.4	29.42	7.02	0.04	84.6	0.99	-334	
19	0.4	29.46	7.01	0.02	84.7	0.99	-351	
23.75	0.4	29.46	7.00	0.01	84.8	0.92	-357	
28.5	0.4	29.45	6.99	0.02	84.8	0.86	-357	
33.25	0.4	29.48	6.99	0.02	84.8	0.90	-357	
Sample	0.3	29.47	7.00	0.02	86.6	0.92	-360	
Sample collected at 11:35 for the following tests								
Analytical Method								
TDS - Method 160.1 / Alkalinity - Method 310.1								
Anions and Nitrate/Nitrite - Method 300.0								
Cations - Method 6020								
Ammonia - Method 350.1								
Kd - distribution coefficient								

Observation wells purged in accordance with ASTM D-6452-99

Prepared by: WJ Date: 7-7-08
 Checked by: CBS Date: 7/7/08



MACTEC Engineering and Consulting, Inc.
 3301 Atlantic Avenue
 Raleigh, North Carolina 27604

OBSERVATION WELL SAMPLING WORKSHEET

OBSERVATION WELL ID:	OW-802U		MACTEC JOB NUMBER:	6468-07-1950	
PROJECT:	Turkey Point COL Project	SITE:	Florida City, Florida	DATE:	6/5/2008
MEASURED WELL DEPTH:	29.11 FT.	SCREENED INTERVAL:	15-25 FT.	WELL DIAMETER:	2 IN.
HEIGHT OF MEASURING POINT ABOVE LAND SURFACE:		3.4	CASING MATERIAL: PVC		
SAMPLING DEVICE:	See below		TUBING TYPE:	Dedicated, Disposable Tubing	
MEASURING POINT:	Top of Casing		DEPTH TO GROUNDWATER:	4.05	
SAMPLING PERSONNEL:	K. Charles-Smith		WATER-COLUMN HEIGHT:	25.06	
STEEL GUARD PIPE AROUND CASING:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
LOCKING CAP:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
PROTECTIVE POST/ABUTMENT:	<input type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	
NONPOTABLE LABEL:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
ID PLATE:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
WELL INTEGRITY SATISFACTORY:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
WELL YIELD:	<input checked="" type="checkbox"/>	HIGH	<input type="checkbox"/>	MODERATE	<input type="checkbox"/> LOW
COMMENTS	Monsoon submersible pump, Horiba U-22 S/N MO15-09.				
	Purge volume determined by multiplying water-column height by 0.16 gal/ft for a 2-inch well				

PURGE VOLUME (gallons)	PURGE RATE (gpm)	TEMP (°C)	PH (S.U.)	D.O. (mg/L)	SP. COND. (mS/cm)	TURBIDITY (NTU)	O.R.P. (± mV)	NOTES
10	0.4	28.23	6.86	2.05	82.7	0.91	-352	
20	0.4	28.20	6.86	1.76	82.7	0.50	-355	
25	0.4	28.22	6.89	1.90	82.7	0.57	-360	
30	0.4	28.50	6.88	1.91	82.6	0.52	-363	
35	0.4	28.36	6.84	1.90	82.6	0.48	-361	
Sample	0.3	28.27	6.80	1.90	82.8	0.48	-322	
Sample collected at 12:35 for the following tests								
Analytical Method								
TDS - Method 160.1 / Alkalinity - Method 310.1								
Anions and Nitrate/Nitrite - Method 300.0								
Cations - Method 6020								
Ammonia - Method 350.1								
Kd - distribution coefficient								

Observation wells purged in accordance with ASTM D-6452-99

Prepared by: LSL

Date: 7-7-08

Checked by: CBS

Date: 7/7/08



MACTEC Engineering and Consulting, Inc.
 3301 Atlantic Avenue
 Raleigh, North Carolina 27604

OBSERVATION WELL SAMPLING WORKSHEET

OBSERVATION WELL ID:	OW-805U	MACTEC JOB NUMBER:	6468-07-1950
PROJECT:	Turkey Point COL Project	SITE:	Florida City, Florida
MEASURED WELL DEPTH:	33.85 FT.	SCREENED INTERVAL:	18-28 FT.
HEIGHT OF MEASURING POINT ABOVE LAND SURFACE:	2.8	CASING MATERIAL:	PVC
SAMPLING DEVICE:	See below	TUBING TYPE:	Dedicated, Disposable Tubing
MEASURING POINT:	Top of Casing	DEPTH TO GROUNDWATER:	3.05
SAMPLING PERSONNEL:	K. Charles-Smith	WATER-COLUMN HEIGHT:	30.80

STEEL GUARD PIPE AROUND CASING:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
LOCKING CAP:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
PROTECTIVE POST/ABUTMENT:	<input type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	
NONPOTABLE LABEL:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
ID PLATE:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
WELL INTEGRITY SATISFACTORY:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	
WELL YIELD:	<input checked="" type="checkbox"/>	HIGH	<input type="checkbox"/>	MODERATE	<input type="checkbox"/> LOW

COMMENTS **Monsoon submersible pump, Horiba U-22 S/N MO15-09.**
Purge volume determined by multiplying water-column height by 0.16 gal/ft for a 2-inch well

PURGE VOLUME (gallons)	PURGE RATE (gpm)	TEMP (°C)	PH (S.U.)	D.O. (mg/L)	SP. COND. (mS/cm)	TURBIDITY (NTU)	O.R.P. (± mV)	NOTES
10.5	0.4	28.04	7.29	1.19	64.0	0.86	-296	
21.0	0.4	28.31	7.14	1.18	61.1	0.43	-342	
26.5	0.4	28.19	7.13	1.18	61.0	0.36	-345	
32.0	0.4	28.31	7.10	1.19	60.8	0.32	-345	
37.5	0.4	28.35	7.11	1.19	61.1	0.33	-344	
Sample	0.3	28.26	7.10	1.19	60.9	0.32	-346	
Sample collected at 15:00 for the following tests								
		Analytical Method						
		TDS - Method 160.1 / Alkalinity - Method 310.1						
		Anions and Nitrate/Nitrite - Method 300.0						
		Cations - Method 6020						
		Ammonia - Method 350.1						
		Kd - distribution coefficient						

Observation wells purged in accordance with ASTM D-6452-99

Prepared by: WY Date: 7-7-08
 Checked by: CBS Date: 7/7/08



MACTEC Engineering and Consulting, Inc.
3301 Atlantic Avenue
Raleigh, North Carolina 27604

OBSERVATION WELL SAMPLING WORKSHEET

OBSERVATION WELL ID:	OW-809U	MACTEC JOB NUMBER:	6468-07-1950
PROJECT:	Turkey Point COL Project	SITE:	Florida City, Florida
MEASURED WELL DEPTH:	29.71 FT.	SCREENED INTERVAL:	15-25 FT.
HEIGHT OF MEASURING POINT ABOVE LAND SURFACE:	3.2	CASING MATERIAL:	PVC
SAMPLING DEVICE:	See below	TUBING TYPE:	Dedicated, Disposable Tubing
MEASURING POINT:	Top of Casing	DEPTH TO GROUNDWATER:	3.38
SAMPLING PERSONNEL:	K. Charles-Smith	WATER-COLUMN HEIGHT:	26.33
STEEL GUARD PIPE AROUND CASING:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
LOCKING CAP:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
PROTECTIVE POST/ABUTMENT:	<input type="checkbox"/>	YES	<input checked="" type="checkbox"/> NO
NONPOTABLE LABEL:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
ID PLATE:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
WELL INTEGRITY SATISFACTORY:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
WELL YIELD:	<input checked="" type="checkbox"/>	HIGH	<input type="checkbox"/> MODERATE <input type="checkbox"/> LOW
COMMENTS	Monsoon submersible pump, Horiba U-22 S/N MO15-09.		
	Purge volume determined by multiplying water-column height by 0.16 gal/ft for a 2-inch well		

PURGE VOLUME (gallons)	PURGE RATE (gpm)	TEMP (°C)	PH (S.U.)	D.O. (mg/L)	SP. COND. (mS/cm)	TURBIDITY (NTU)	O.R.P. (± mV)	NOTES
9	0.4	31.02	6.99	0.01	85.1	4.39	-368	
18	0.4	30.83	6.98	0.02	84.0	1.09	-370	
22.5	0.4	30.99	6.98	0.02	84.1	0.97	-371	
27	0.4	30.81	6.98	0.01	84.0	0.99	-370	
31.5	0.4	30.81	6.98	0.01	83.9	0.99	-371	
Sample	0.3	30.82	6.98	0.01	83.9	0.97	-371	
Sample collected at 14:55 for the following tests								
Analytical Method								
TDS - Method 160.1 / Alkalinity - Method 310.1								
Anions and Nitrate/Nitrite - Method 300.0								
Cations - Method 6020								
Ammonia - Method 350.1								
Kd - distribution coefficient								

Observation wells purged in accordance with ASTM D-6452-99

Prepared by: WJL Date: 7-7-08
 Checked by: CBS Date: 7/7/08

Laboratory Test Reports



Supplier Deviation Disposition Request

Notes

1. COMPLETE INSTRUCTIONS ON BACK OF THIS SHEET
2. Items 1-18 below to be completed by supplier
3. *Items, Bechtel entries only
4. Nonapplicable items to be marked "N/A"
5. Attach additional information whenever necessary
6. Bechtel must be notified within 5 days after detection of deviation
7. A copy of the completed SDDR form shall be included by the supplier in the quality verification data package for each item to which this SDDR applies.

For Supplier Use				For Bechtel Use			
Supplier SDDR No. 76	Date Submitted 5/18/09	Project FPL Turkey Point COL	Job No. 25409	Bechtel SDDR No. see above	Date Received 4/19/09		
1. Supplier Name MACTEC Engineering and Consulting, Inc		Address 3301 Atlantic Avenue		City & State Raleigh, NC		Zip Code 27604	
2. Supplier's Order No. NA	3. Supplier's Part No. NA	4. Supplier's Part Name NA	5. Deviation Detected Date: 9/22/2008 Method: NCR		6. All Previous SDDRs (Numbers and Dates)		
7. Bechtel PO & Rev. No. Subcontract No. 25409-102-3PS-CT20-00001 rev 001	8. Bechtel Part No. NA	9. Bechtel Part Name NA	10. Bechtel SQR Notified Date: 5/18/2009 Method: SDDR		11. Bechtel Eng. Notified Date: 5/18/2009 Method: SDDR		
12. Deviation Description (Attach extra sheets, photographs, sketches, etc., as necessary and identify quantity and serial numbers as applicable) Please see attached NCR TP 40 (attachment 3 pgs).							
13. Supplier's Proposed Disposition <input type="checkbox"/> Use-As-Is <input type="checkbox"/> Repair <input checked="" type="checkbox"/> Modify Bechtel Requirement DATA REJECTED AS INDICATED BY ATTACHED NCR TP 40.							
14. Cost Impact None				15. Schedule Impact None			
16. Proposed Disposition and Technical (plus Cost/Schedule if applicable) Justification: Attach extra sheets, sketches, etc., as necessary Please see attached document with information (attachment 3 pgs).							
17. Associated Supplier Document Change(s) none							
18. Supplier's Authorized Representative							
Name Richard S. Allen		Signature <i>[Signature]</i>		Title PROJECT MANAGER		Date 5-18-09	
*19. Bechtel Engineering Action							
<input checked="" type="checkbox"/> Accepted	Engineering	<input type="checkbox"/> Drawing Change	<input type="checkbox"/> Bechtel	<input type="checkbox"/> Supplier	<input type="checkbox"/> Licensing Doc. Changes		
<input type="checkbox"/> Rejected	Follow-up	<input type="checkbox"/> Spec/Req. Change	<input type="checkbox"/> Bechtel	<input type="checkbox"/> Supplier	<input type="checkbox"/> Price Adjustment		
		<input type="checkbox"/> Other Suppliers Affected	<input type="checkbox"/> Other				
*20. Bechtel Disposition Statement Including Justification (Attach extra sheets, sketches, etc., as necessary). SEE PAGE 5 FOR DISPOSITION Construction Action Required <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
*21. Bechtel Disposition Approval/Signature		Date		22. Supplier		Date	
RE <i>[Signature]</i>		6/17/09		N/A			
Checker <i>[Signature]</i>		6/17/09					
EGS <i>[Signature]</i>		6/17/09					
PE <i>[Signature]</i>		6-17-09		*23. Bechtel Supplier Quality Representative		Date	
				N/A			

5-19-09
6-15-09

SDDR Document – attachment 3 Pages

DCN# TUR765

PAGE 1 of 5

FPL COL PROJECT - Turkey Point

MACTEC Project No. 6468-07-1950

NCR TP 40		Nonconformance and Corrective Action Report	
Organization: MACTEC Engineering and Consulting		Location: Raleigh	
Reported By: William S. Grimes		Date: 9/22/08	
Nonconformance			
Description of Nonconformance:			
Description of Nonconformance: Based on review of the laboratory test reports, it appears that the total dissolved solids (TDS) results are erroneous. The measured TDS results are typically less than the sum of the individual analytes. TDS values should be as large or larger than the sum of the available analytes.			
Representative Notified: Al Tice			
Date Notified: 9/22/2008		Date Corrective Action Plan Due: 10/10/2008	
Corrective Action Plan			
Description of Evaluation to Determine Root Cause: MACTEC Senior Scientists reviewed the laboratory test reports and concluded that the TDS results did not appear accurate. Additionally, MACTEC QA personnel interviewed TestAmerica to review their testing procedures to determine if errors were made during the testing.			
Assignable Cause: Due to the high concentrations of analytes in the samples, a diluted aliquot was necessary to meet the final method requirements of not exceeding 200 milligrams of residue for the TDS tests. TestAmerica reported in their investigation that any suspended particulates may have affected pipette volume accuracy. Therefore, the TDS values could differ from the sum of available analytes based on an insufficient sample volume.			
Potential Harm: Based on discussions with the Bechtel, we understand that the primary objective for the groundwater sampling and testing assignment was to support review of specific conductivity data. Therefore, we believe the potentially erroneous TDS test results will not compromise Bechtel's objective for the assignment. This will be confirmed with formal submittal of an SDDR to cover this NCR.			
Description of Corrective Actions (current and to prevent recurrence): A MACTEC Senior Chemist reviewed the laboratory test reports to identify issues and disposition the data. Additionally, MACTEC QA coordinated with TestAmerica to identify steps /procedures to make sure this issue is not repeated in future analyses.			
Estimated Completion Date: 10/15/08			
Recommended disposition of nonconforming items (i.e. reject/dispose, repair, rework, use-as-is) Include technical justification: MACTEC rejects the TDS results, please see attached disposition statement.			
10 CFR 21 Notification Required: YES NO			
Signature of Preparer: William S. Grimes <i>William S. Grimes</i>		Date: 5-14-09	
Corrective Action Approval Signature: (Principal or Chief Engineer) <i>[Signature]</i>		Date: 5-14-09	
Corrective Action Closure			
Comments:			
Approved/Actual Disposition of Nonconforming Items:			
BECHTEL Approval Signature: To be confirmed with SDDR		Date:	
MACTEC QAR Approval Signature: <i>[Signature]</i>		Date: 5/14/09	
MACTEC Chief Engineer Signature: <i>[Signature]</i>		Date: 5/13/09 ^{SJC} 5/14/09	

DCN: TUR

SDDR PAGE 2 of 5

NCR TP 40 Disposition Statement

Laboratory reported TDS values should be at least equal to, if not greater than the summation of the individual cations and anions that comprise TDS. During our review of the TDS data, MACTEC identified that the reported TDS values for eight of the twelve groundwater samples tested were less than the summation of the individual analytes. MACTEC identified that the charge balances were all below 10% error which suggests good analytical accuracy for the cation and anion results thus supporting the use of the summed totals for comparison with reported TDS values. Based on these comparisons, the TDS values reported by TestAmerica were deemed suspect.

MACTEC QA personnel interviewed TestAmerica to determine if there were operational or procedural issues that affected the test results. TestAmerica identified that to meet the method requirement for final residue weight, they had to dilute the sample and use a smaller than normal sample aliquot. TestAmerica used a narrow tipped pipette and determined that any suspended particles could have affected pipette volume accuracy, which would have produced lower TDS results (see attached report). To eliminate this potential source of error, TestAmerica ordered custom-made, wide mouth pipettes for drawing small volume aliquots. Additionally, TestAmerica implemented a policy to check to TDS/chloride ratio for samples to determine if the test needs to be rerun within the hold times.

No definite cause for this error could be determined through our investigation. However, MACTEC suspects that inaccurate sample volume is the source for the lower than expected TDS results. Therefore, MACTEC **rejects** all TDS results reported by TestAmerica.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

10-10-08

Turkey Point Data

After re-reviewing the data for the TDS and Chlorides, no definitive answer for the higher Chloride result could be determined. The data for the samples, balances, pipettes and internal QC were re-reviewed and no definitive cause for the low bias to the TDS could be determined. The laboratory conducted an ion mass balance evaluation for the samples, which showed that the charge balance differences were all below 10%, indicating good analytical accuracy for the cations and anions, including chloride. Data was also reviewed by a corporate technical director. The samples were run, for all parameters, at a high dilution due to the high levels of the requested analytes present in the samples. Initially it was suspected that the high levels of the salts may have been a contributing factor. After reviewing technical documents it was decided that the high salt levels in the samples, while making the analysis difficult due to the dilutions we had to apply, really would not explain the lower TDS numbers. The original sample containers were pulled and there were no visible solids found in the sample remaining in the containers.

The Method blanks and LCS samples run with each set of data met all criteria. The balances and pipettes used for the analyses were calibrated the day of use and fell within acceptance criteria. The laboratory has passed the last several sets of PT samples for TDS.

One possible reason for the low TDS result in these samples is the small amount of material used to perform the TDS analysis. The method requires that the final weight of the residue not exceed 200 mg. In order to meet this, the lab used 1 ml of sample, due to the high levels of TDS present. The one ml aliquot is drawn up using a narrow tipped pipette. Any suspended particulates in the sample could interfere with the pipette volume accuracy. The lab has ordered a custom made Class A wide mouth pipette to eliminate this potential source of error.

Another corrective action we will implement is an immediate check of the TDS/Chloride ratio for samples, so that if it fails we can re-run within hold time.

We continue to monitor and evaluate the TDS analysis.



Marti Ward
Quality Assurance Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

13715 Rider Trail North
Earth City, MO 63045
314-298-8566
www.testamericainc.com

Supplier Deviation Disposition Request (Continuation Sheet)

Bechtel SDDR No. 25409-102-YD4-CY00-00076

20. Bechtel Disposition Statement

This SDDR addresses MACTEC NCR TP 40 regarding the laboratory test results for water sample TDS values. The test results have been rejected by MACTEC as the total TDS values for eight of the twelve groundwater samples tested were less than the summation of the individual analytes. TDS totals should be as large as or larger than the sum of the analytes.

Bechtel concurs with rejecting the data and requests that groundwater samples be retested. The October 10, 2008 letter from TestAmerica indicates there are changes that could be made to improve the test procedure and the TDS results while staying within the 200 mg residue limit. Bechtel requests that the TestAmerica test procedure be reviewed and accepted prior to running any further tests as the extremely high salinity values in the groundwater must be accounted for.

Bechtel does not concur with the proposed disposition of **MODIFY BECHTEL REQUIREMENT** as the data has been rejected.



Supplier Deviation Disposition Request

Notes

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. COMPLETE INSTRUCTIONS ON BACK OF THIS SHEET 2. Items 1-18 below to be completed by supplier 3. *Items, Bechtel entries only 4. Nonapplicable items to be marked "N/A" | <ol style="list-style-type: none"> 5. Attach additional information whenever necessary 6. Bechtel must be notified within 5 days after detection of deviation 7. A copy of the completed SDDR form shall be included by the supplier in the quality verification data package for each item to which this SDDR applies. |
|---|--|

For Supplier Use				For Bechtel Use			
Supplier SDDR No. 77		Date Submitted 6/5/09		Project FPL Turkey Point COL		Bechtel SDDR No. SEE ABOVE	
		Job No. 25409				Date Received 6/9/09	
1. Supplier Name MACTEC Engineering and Consulting, Inc			Address 3301 Atlantic Avenue		City & State Raleigh, NC		Zip Code 27604
2. Supplier's Order No. NA		3. Supplier's Part No. NA	4. Supplier's Part Name NA		5. Deviation Detected Date: 5/20/2009 Method: NCR		6. All Previous SDDRs (Numbers and Dates)
7. Bechtel PO & Rev. No. Subcontract No. 25409-102-3PS-CT20-00001 rev 001		8. Bechtel Part No. NA	9. Bechtel Part Name NA		10. Bechtel SQR Notified Date: 6/5/2009 Method: SDDR		11. Bechtel Eng. Notified Date: 6/5/2009 Method: SDDR
12. Deviation Description (Attach extra sheets, photographs, sketches, etc., as necessary and identify quantity and serial numbers as applicable) Please see attached NCR TP 41 (attachment 6 pgs).							
13. Supplier's Proposed Disposition <input type="checkbox"/> Use-As-Is <input checked="" type="checkbox"/> Repair <input type="checkbox"/> Modify Bechtel Requirement							
14. Cost Impact None				15. Schedule Impact None			
16. Proposed Disposition and Technical (plus Cost/Schedule if applicable) Justification: Attach extra sheets, sketches, etc., as necessary Please see attached document with information (attachment 6 pgs).							
17. Associated Supplier Document Change(s) none							
18. Supplier's Authorized Representative							
Name RICHARD S. AUGER		Signature 			Title PROJECT MANAGER		Date 6/5/09
*19. Bechtel Engineering Action							
<input checked="" type="checkbox"/> Accepted		Engineering	<input type="checkbox"/> Drawing Change	Bechtel	<input type="checkbox"/> Supplier	<input type="checkbox"/> Licensing Doc. Changes	
<input type="checkbox"/> Rejected		Follow-up	<input type="checkbox"/> Spec/Req. Change	Bechtel	<input type="checkbox"/> Supplier	<input type="checkbox"/> Price Adjustment	
			<input type="checkbox"/> Other Suppliers Affected		<input type="checkbox"/> Other		
*20. Bechtel Disposition Statement Including Justification (Attach extra sheets, sketches, etc., as necessary). SEE PAGE 8 FOR DISPOSITION Construction Action Required <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
*21. Bechtel Disposition Approval/Signature		Date		22. Supplier		Date	
RE Thomas Bleda		6/17/09		S CRISSENZO		6-3-09	
Checker		6/17/09		(SEE NCARTP 41)			
EGS for JLM		6/17/09		*23. Bechtel Supplier Quality Representative		Date	
PE WDEES		6-17-09		N/A			

SDDR Document - attachment 6 Pages

DCN# TUR781

6-16-09

FPL COL PROJECT - Turkey Point

MACTEC Project No. 6468-07-1950

NCR TP 41		Nonconformance and Corrective Action Report	
Organization: MACTEC Engineering and Consulting		Location: Raleigh	
Reported By: William S. Grimes		Date: 5/20/2009	
Nonconformance			
Description of Nonconformance: During review of the bicarbonate and carbonate alkalinity results (Method 310.1) and total alkalinity results (SM18 2320 B), it was noted that the summation of the bicarbonate and carbonate values were significantly lower than the reported total alkalinity results for seven of the twelve samples. TestAmerica informed MACTEC that bicarbonate values reported for these samples were not valid.			
Representative Notified: Al Tice			
Date Notified: 5/20/2009		Date Corrective Action Plan Due: 5/20/2009	
Corrective Action Plan			
Description of Evaluation to Determine Root Cause: MACTEC Senior Scientists reviewed the laboratory test reports and concluded that seven of the Total Alkalinity results did not agree with the summation of the bicarbonate and carbonate results. Upon receiving information from TestAmerica that the bicarbonate results were erroneous, MACTEC requested that TestAmerica evaluate this condition. TestAmerica reported that the test results manually entered into the report generation software were inadvertently copied from the pH 4.5 column of the bench sheet as opposed to the bicarbonate result column.			
Assignable Cause: The assignable cause is a data entry error. Additionally, a second level review of the data was not thoroughly conducted.			
Potential Harm: Based on discussions with the Bechtel, we understand that the primary objective for the groundwater sampling and testing assignment was to support review of specific conductivity data. Therefore, we believe this deviation will not compromise Bechtel's objective for the assignment. This will be confirmed with formal submittal of an SDDR to cover this NCR.			
Description of Corrective Actions (current and to prevent recurrence): MACTEC requested that TestAmerica investigate this error and prepare a report that describes their investigation, corrective action, and steps to prevent recurrence. No MACTEC corrective action is required. TestAmerica reported that the analyst and second level reviewer were both alerted to the error and re-trained on the critical aspects of TestAmerica's QA policies. To prevent recurrence, TestAmerica has modified their spreadsheet such that the columns to be entered into the laboratory LIMS system are highlighted to serve as a reminder as to what data should be reported.			
Estimated Completion Date: 5/28/2009			
Recommended disposition of nonconforming items (i.e. reject/dispose, repair, rework, use-as-is) include technical justification: Repair - see attached disposition			
10 CFR 21 Notification Required: YES NO			
Signature of Preparer: William S. Grimes <i>William S. Grimes</i>		Date: 5-28-09	
Corrective Action Approval Signature: <i>[Signature]</i> (Principal or Chief Engineer)		Date: 6-2-09	
Corrective Action Closure			
Comments:			
Approved/Actual Disposition of Nonconforming Items: REPAIR <i>REWORK</i> <i>JOM 6/4/09</i>			
BECHTEL Approval Signature: To be confirmed with SDDR		Date:	
MACTEC QAR Approval Signature: <i>[Signature]</i>		Date: 6/4/09	
MACTEC Chief Engineer Signature: <i>[Signature]</i>		Date: 6/3/09	
DCN: TUR			

JOM 6/4/09

SDDR PAGE 2 of 8

NCR TP 41 Disposition Statement

Review of the laboratory test data collected from the selected observation wells indicated that the total alkalinity results were significantly greater than the summation of the bicarbonate and carbonate alkalinity results for the groundwater samples collected from observation wells OW-606L, OW-606U, OW-621U, OW-706L, OW-706U, OW-721L, and OW-721U. After being informed of this condition, TestAmerica reported that the bicarbonate alkalinity results were in error and conducted an investigation.

Through their investigation, TestAmerica identified that a data entry error had occurred during the transfer of the data from the laboratory bench sheets to the LIMS system used for data report preparation. The analyst had apparently transferred the results from the pH 4.5 column into the reporting software as opposed to transferring to bicarbonate results. Additionally, TestAmerica identified that the second level data review was not thoroughly conducted for the two sample lots affected. TestAmerica reported that the analyst and second-level reviewer were alerted to this error, and were re-trained in the critical aspects of TestAmerica's Quality Assurance policies. To prevent recurrence, TestAmerica reported that they have modified the bench sheets such that the columns of data that are transferred to the LIMS system are highlighted to remind analysts to import the correct data. A copy of TestAmerica's Non-Conformance Report is attached.

Based on these findings, TestAmerica issued revised laboratory test reports for those two sample lots. MACTEC has reviewed these reports and accepted the revised bicarbonate alkalinity results. MACTEC has revised Table 5.3 "Summary of Groundwater Test Results" that was included in the Final Data Report Revision 2 10-6-2008. A copy of this table is attached.

MACTEC's recommended disposition of the bicarbonate alkalinity data is to repair the data to include the revisions made by TestAmerica. The revised data, as shown on the attached table, is released as project data.

DCN# TUR781

SDIR PAGE 3 of 8

2/6

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Non-Conformance Report: Alkalinity (Lot F8E300223, F8E290268)

The alkalinity data was incorrectly reported for Lots F8E290268 and F8E300223. The client notified the lab that in both reports, the total alkalinity results were much higher than the summation of Alkalinity-bicarbonate and Alkalinity-carbonate results. The sample duplicate results were outside (high) of the QC limits for total alkalinity. All other method QC samples were within acceptance criteria.

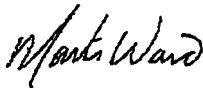
Review of the data shows an error in transcribing the results from the bench sheet to the laboratory's LIM system. The results manually entered into the report generation software were inadvertently taken from the pH 4.5 column on the spreadsheet, instead of from the bicarbonate results column. (See attached bench sheet) No calculation errors were found, and no changes to the raw data are required.

A second, or peer, review of the data is a requirement of the TestAmerica St. Louis QA program. This review includes a comparison of the data on the spreadsheet to the data entered into the LIMs system. In this instance, the second level review was not thoroughly conducted. We recognize the importance of providing accurate results, the analyst and the second level reviewer have been made aware of the issue and re-trained on the key aspects of our process. QA will monitor the process to ensure compliance.

To determine the extent of the error and to determine if it is systematic, QA reviewed sets of alkalinity data before and after this occurrence. No other instances were identified, indicating that the error is isolated and not indicative of the process. No systematic deficiencies were noted. To prevent further occurrences, the spreadsheet is being updated to highlight the columns that are to be used to enter data into the LIMs system. This will act as a reminder as to which data is to be reported.

TestAmerica St. Louis apologizes for any inconvenience caused by this error. If you have any questions, or require additional information, please contact me at (314) 298-8566 or marti.ward@testamericainc.com.

Regards,



Marti Ward
Quality Assurance Manager
TestAmerica St. Louis

Test Area: Water Laboratory
 Alkalinity Method 318.1
 (Waters)

Analyst: zsb

Batch: 815406 815406 815406

Titrant Normality (N) 0.0200

Analysis Date: 6/2/2008

Laboratory ID	Standard Conc. mg/L	Sample Volume mL (Nom. 50ml)	Lancetate Volume DI water (Nom. 100ml)	Titrated Volume mL (Nom. 90ml)	Sample					Alkalinity, Total mg/L			Alkalinity as CaCO ₃ mg/L			Recovery %	RPD %
					pH	pH 4.5	pH 4.2	pH 8.3	Total pH 4.5	Low pH 4.5	Phenyl pH 8.3	Carbonate	Bicarbonate	Hydroxide			
R000AK		50		80	6.88	8.85			177.00	0.00	0.00	0.00	177.00				
R001HJ		50		80	7.05	8.2			164.00	0.00	0.00	0.00	164.00				
R001LD		50		80	7.12	9			180.00	0.00	0.00	0.00	180.00				
R001LR		50		80	7.22	7.78			168.00	0.00	0.00	0.00	168.00				
R001LT		50		80	7.31	8.25			165.00	0.00	0.00	0.00	165.00				
R001LV		50		80	7.07	10.2			204.00	0.00	0.00	0.00	204.00				
R001V1		50		80	7.34	8.58			191.00	0.00	0.00	0.00	191.00				
R001Z		50		80	7.55	8.48			188.00	0.00	0.00	0.00	188.00				
R001ZB		50		80	8.42	12.58			279.00	0.00	0.00	0.00	279.00				
R001ZX		50		80	7.31	8.3			168.00	0.00	0.00	0.00	168.00				12.0%
									\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE
									\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE
									\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE
									\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE
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									\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE
									\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE	\$VALUE

Control Limits (Water): LCS = 90 - 110 RPD 20%
 Control Limits (Water): MS = 50 - 121 RPD 20%

SOP Rev Date
 STL-WC-0018 7 10/22/2007

Total Alkalinity as CaCO₃ = $\frac{\text{Total } X \times N \times 50}{\text{Titrated Vol. ml}}$

Total Alkalinity, Lower CaCO₃ = $\frac{2 \times \text{Total } (pH 4.5) \times \text{ml } (pH 4.5) \times N \times 50000}{\text{Titrated Vol. ml}}$

* Results are raw calculation and do not reflect rounding, requested significant figures, or client reporting limits.
 * Results on spreadsheet are "wet weight".

slav01\WetChem\Results\Alkalinity.xls, modified 11/18/06

DCN# TUR781

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Lims Data Entry Print Out

WDE115

TestAmerica Laboratories, Inc.
Inorganics Batch Review
QC Batch 8154062

Date 6/02/2008
Time 12:53:33

Method Code: UI Alkalinity, Bicarbonate (310.1)
Analyst: Steve Brantz

Work Order	Result	Units	LDL/Dil	Prep. - Anal.	Total Solids	ESRL Flag	R/R	Revised Result	Output LDL	Dil.
KN210-1-AJ	175	mg/L	5	06/02/08	.00	N		175	5.0	1.00
KN216-1-AJ	177	mg/L	5	06/02/08	.00	N		177	5.0	1.00
KN218-1-AJ	91	mg/L	5	06/02/08	.00	N		91.0	5.0	1.00
KN21J-1-AE	71	mg/L	5	06/02/08	.00	N		71.0	5.0	1.00
KN21J-1-BK	73	mg/L	5	06/02/08	.00	N		73.0	5.0	1.00
KN21W-1-AE	55	mg/L	5	06/02/08	.00	N		55.0	5.0	1.00
KN21W-1-BK	52	mg/L	5	06/02/08	.00	N		52.0	5.0	1.00
KN21J-1-AJ	51	mg/L	5	06/02/08	.00	N		51.0	5.0	1.00
KN21J-1-G7	50	mg/L	5	06/02/08	.00	N		50.0	5.0	1.00
KN21K-1-AE	56	mg/L	5	06/02/08	.00	N		56.0	5.0	1.00
KN21K-1-AE	55	mg/L	5	06/02/08	.00	N		55.0	5.0	1.00
KN31J-1-AJ	8.2	mg/L	5	06/02/08	.00	N		8.2	5.0	1.00
KN31D-1-AJ	9	mg/L	5	06/02/08	.00	N		9.0	5.0	1.00
KN31R-1-AJ	7.75	mg/L	5	06/02/08	.00	N		7.8	5.0	1.00
KN31T-1-AJ	8.25	mg/L	5	06/02/08	.00	N		8.2	5.0	1.00
KN41M-1-A2	76	mg/L	5	06/02/08	.00	N		76.0	5.0	1.00
KN41M-1-DM	78	mg/L	5	06/02/08	.00	N		78.0	5.0	1.00
KN41P-1-AD	55	mg/L	5	06/02/08	.00	N		55.0	5.0	1.00
KN51V-1-AE	10.2	mg/L	5	06/02/08	.00	N		10.2	5.0	1.00
KN51L-1-AM	9.55	mg/L	5	06/02/08	.00	N		9.6	5.0	1.00
KN51J-1-AM	9.45	mg/L	5	06/02/08	.00	N		9.4	5.0	1.00
KN51J-1-A5	9.3	mg/L	5	06/02/08	.00	N		9.3	5.0	1.00
KN61W-1-A3	52	mg/L	5	06/02/08	.00	N		52.0	5.0	1.00
KN61A-1-AE	79	mg/L	5	06/02/08	.00	N		79.0	5.0	1.00
KN61H-1-AE	121	mg/L	5	06/02/08	.00	N		121	5.0	1.00

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6-1-8

DCN# TUR781

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TABLE 5.3
SUMMARY OF GROUNDWATER TEST RESULTS
TURKEY POINT COL PROJECT
MACTEC PROJECT NO. 6468-07-1950

Analytical Method →		168.1	6820C								306.0						310.1 - Alkalinity		SM 15 2320B	390.1	SM 15 1030F & API
Constituent →		TDS	Calcium	Iron	Magnesium	Manganese	Potassium	Silica	Silicon	Sodium	Bromide	Chloride	Fluoride	Sulfate	Nitrate	Nitrite	Bicarbonate / Carbonate	Total Alkalinity	Ammonia*	Ion Balance Difference	
Well ID	Date Collected	mg/L	µg/L								mg/L						mg/L	mg/L	%		
OW-606L	5/28/2008	49100 [#]	632,000 N	<50U	1,880,000 N	39.1	549,000 N	2,690 [#]	<250,000 N	15,100,000 N	62.5	29,600	<20.0	3,860	<0.20	<200	165	<5.0	165	1,580	3.2
OW-606U	5/28/2008	43100 [#]	535,000 N	318 NB	1,730,000 N	35.4	525,000 N	729	<250,000 N	14,400,000 N	56.6	27,900	<20.0	3,470	<0.20	<200	155	<5.0	155	844	2.7
OW-621L	6/4/2008	52800 [#]	574,000 N	<50,000 N	1,960,000 N	<2,000 N	586,000 N	133,000 JB	62,100 JB	16,300,000 N	65.9	31,300 B	<20.0	3,610	<0.20	<200	181	<5.0	181	1,300	2.8
OW-621U	5/29/2008	19400 [#]	492,000 N	453 NB	1,600,000 N	36.8	476,000 N	637	<250,000 N	13,100,000 N	50.6	25,500	<1.0	3,210	<4.0	<200	189	<5.0	189	588	2.7
OW-706L	5/29/2008	17400 [#]	413,000 N	531 NB	1,170,000 N	8.3	327,000 N	7,560	<250,000 N	9,440,000 N	37.7 J	19,100	<1.0	2,280	<4.0	<200	191	<5.0	191	611	4.0
OW-706U	5/29/2008	40500 [#]	725,000 N	178 NB	2,150,000 N	43.5	658,000 N	1,840	<250,000 N	17,500,000 N	70.5	33,300	<1.0	3,850	<4.0	<200	204	<5.0	204	2,090	1.1
OW-721L	5/28/2008	54600 [#]	667,000 N	362 NB	2,020,000 N	46.2	587,000 N	3,170	<250,000 N	16,300,000 N	64.9	31,100	<20.0	3,990	<0.20	<200	180	<5.0	180	1,820	1.7
OW-721U	5/28/2008	45400 [#]	603,000 N	329 NB	1,890,000 N	58.1	569,000 N	848	<250,000 N	15,400,000 N	60.1	29,900	<20.0	3,860	<0.20	<200	164	<5.0	164	1,680	2.8
OW-735U	5/27/2008	40,200 [#]	749,000 N	133 NB	2,140,000 N	32.7	655,000 N	<250	<250,000 N	17,700,000 N	262	37,500	<20.0	4,090	<4.0	<200	179	<5.0	179	2,150	6.7
OW-802U	6/5/2008	53900 [#]	579,000 N	<50,000 N	1,980,000 N	<2,000 N	586,000 N	143,000 J	66,700 J	16,490,000 N	65.1	31,600 B	<20.0	3,720	<0.20	<200	178	<5.0	178	1,400	3.0
OW-805U	6/5/2008	45700 [#]	447,000 N	<50,000 N	1,570,000 N	<2,000 N	493,000 N	107,000 J	49,900 J	13,200,000 N	53.6	27,600 B	<20.0	3,070	<0.20	<200	177	<5.0	177	548	6.9
OW-809U	5/27/2008	34,800 [#]	704,000 N	158 NB	2,040,000 N	28.1	607,000 N	<250	<250,000 N	16,700,000 N	241 J	35,900	<1.0	4,050	<4.0	<200	177	<5.0	177	2,210	7.4

* = Test conducted on Nitrogen, as Ammonia.
 <# = Indicates analyte not detected at or above the method detection limit.
 <50U = Indicates analyte detected in the associated method blank at a concentration between the method detection limit and quantitation limit. Based on EPA 540-R-04-004, this result has been flagged as "non-detect" at the quantitation limit.
 N = Spiked analyte recovery is outside stated control limits. Method performance confirmed using Laboratory Control Spike sample results.
 J = Estimated result. Result is less than the reporting limit.
 B = Method blank concentration. The associated method blank contains the target analyte at a reportable level. These data should be used with caution.
 † = Because the initial results exceeded the SOP limits for this test, the samples were diluted and re-analyzed. Re-analysis was conducted out of hold time.
 # = Indicates result has been rejected during data review process (see Section 5.5 for discussion). These results are not considered valid and should not be used.

Prepared by: lwb
 Checked by: CBS

Date: 5-22-09
 Date: 5/22/09

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6/6 JEN# TUR781

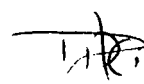
Supplier Deviation Disposition Request (Continuation Sheet)**Bechtel SDDR No. 25409-102-YD4-CY00-00077****20. Bechtel Disposition Statement**

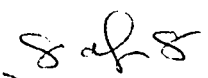
This SDDR addresses MACTEC NCR TP 41 regarding the bicarbonate alkalinity laboratory test results for groundwater sample from observation wells OW-606L, OW-606U, OW-621U, OW-706L, OW-706U, OW-721L, and OW-721U. The reported total alkalinity results were much higher than the summation of alkalinity-bicarbonate and alkalinity-carbonate results.

Bechtel concurs with the corrective actions taken:

- MACTEC notified the analytical laboratory (TestAmerica), which after review of the data identified that a data entry error had occurred during transfer of the data from the laboratory bench sheets to the LIMs system used for report preparation. No calculation errors were found, and no changes in the raw data were required.
- TestAmerica, in order to prevent a recurrence of this problem, retrained their analysts in the critical aspects of TestAmerica's Quality Assurance policies and modified data sheets to highlight columns of data that are transferred to the LIMs system as a reminder to the analysts to import the correct data.
- TestAmerica issued revised laboratory test reports to MACTEC.
- MACTEC QA reviewed these reports and accepted the revised bicarbonate alkalinity results and revised Table 5.3 "Summary of Groundwater Test Results" included in the Final Data Report Revision 2 10-6-2008.

Bechtel concurs with the proposed disposition of **REPAIR** the data to include the revisions made by TestAmerica.


6-16-09


~~Sheet 7 of 7~~



**DOCUMENTATION OF TECHNICAL REVIEW
SUBCONTRACTOR WORK PRODUCT**

Project Name: Turkey Point COL Project

Project Number: 6468-07-1950

Project Manager: Scott Auger

Project Principal: Tom McDaniel

The report described below has been prepared by the named subcontractor retained in accordance with the MACTEC QAPD. The work and report have been reviewed by a MACTEC technically qualified person. Comments on the work or report, if any, have been satisfactorily addressed by the subcontractor. The attached report is approved in accordance with section QS-7 of MACTEC's QAPD.

The information and data contained in the attached report are hereby released by MACTEC for project use.

REPORT : Analytical Report Lot #: F8F050344 rev1

SUBCONTRACTOR: TestAmerica, Earth City, MO

DATE OF ACCEPTANCE : 7/23/2008

TECHNICAL REVIEWER: William S. Grimes

William S. Grimes
Tom McDaniel

PROJECT PRINCIPAL: Tom McDaniel



3301 Atlantic Avenue, Raleigh, NC 27604



LABORATORY DATA REVIEW CHECKLIST

	<u>YES</u>	<u>NO</u>	<u>NOT APPLICABLE</u>
1. Laboratory analytical data report appears complete (all data results present for all samples submitted for analysis) and there are no apparent transcription errors:	✓	___	___
2. Samples analyzed within applicable holding times (based on date of sample collection):*	✓	___	___
3. Trip blanks, field blanks or laboratory method blanks are free of blank contamination:	___	✓ ¹	___
4. If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: **	___	___	✓
5. Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges:	___	___	✓
6. If Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples required to meet project objectives, Percent Recoveries (%R) and Relative Percent Difference (RPD) within laboratory reported acceptance ranges:	___	✓ ²	___
7. Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards):	✓	___	___
8. Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate):	✓	___	___
9. Analytical costs within authorized budget for these services:	___	___	✓

COMMENTS: ¹ Estimated concentrations of silica, silicon, and chloride were detected in the method blank, at concentrations between the PQL and MDL. Concentrations of these analytes in site samples were considerably higher, and likely reflect ambient aquifer conditions. ² MS/MSD recoveries were outside QC limits for several analytes possibly due to matrix interference. QC established based on acceptable LCS recoveries and results for analytes with acceptable recoveries.

Notes: 1. This checklist is intended for use with the laboratory reporting formats typical of most projects. If "no" is answered to one or more of the above checklist questions 1 through 7, a more detailed Data Validation may be required, and a person knowledgeable in Data Validation protocols should be consulted. This checklist should not be used if the project scope requires Data Validation from the onset.

2. * = Based upon EPA Guidance and the applicable analytical method references. See reverse side of checklist for details.

3. ** = Based upon EPA Guidance. Use these criteria on duplicate and sample results which exceed five times the reported detection limit. See reverse side of checklist for details.

Checked by: Walter A. Kim Date: 7-14-08



ANALYTICAL REPORT

REVISED

PROJECT NO. 6468071950

FPL Turkey Point COL

Lot #: F8F050344

Al Tice

MACTEC Engineering and Cons.
3301 Atlantic Ave.
Raleigh, NC 27604

TESTAMERICA LABORATORIES, INC.

A handwritten signature in black ink, appearing to read "Ivan Vania", is written over a light background.

Ivan Vania
Project Manager

July 9, 2008

Case Narrative

LOT NUMBER: F8F050344 – Revision 1

This report contains the analytical results for the sample received under chain of custody by TestAmerica St. Louis on June 5, 2008. This sample is associated with your FPL Turkey Point COL project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

This revision contains results for TDS analysis and corrections to flags for ion balance.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

ICP-MS (SW846-6020)

The MS (MSD) recoveries for batch 8168278 - calcium, potassium, magnesium, sodium, silicon are outside the established QC limits. The analyte concentrations in the original sample are greater than four times the amount spiked, making percent recovery information ineffective. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F8F050344 (1): OW-6211

The MS (MSD) recoveries for batch 8168278 – iron are outside the established QC limits. The RPD is within method acceptance criteria indicating possible matrix interference. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F8F050344 (1): OW-6211

The MS (MSD) recoveries for batch 8164260 - manganese are outside the established QC limits due to matrix interference. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F8F050344 (1): OW-6211

Batch 8168278:

The samples were analyzed at a dilution due to high concentrations of target analytes. The reporting limits were adjusted for the dilution since no analysis at a lesser dilution was performed.

Affected Samples:

F8F050344 (1): OW-6211

Batch 8168278:

The serial dilution for calcium is outside of method acceptance criteria indicating a potential matrix interference. All associated samples are flagged accordingly.

Affected Samples:

F8F050344 (1): OW-6211

There were no other nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F8F050344

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
pH Aqueous	SW846 9040	SW846 9040
Alkalinity, Total	SM18 2320 B	SM18 2320 B
Bicarbonate Alkalinity	MCAWW 310.1	MCAWW 310.1
Bromide	MCAWW 300.0A	MCAWW 300.0A
Carbonate Alkalinity	MCAWW 310.1	MCAWW 310.1
Chloride	MCAWW 300.0A	MCAWW 300.0A
Filterable Residue (TDS)	MCAWW 160.1	MCAWW 160.1
Fluoride	MCAWW 300.0A	MCAWW 300.0A
Ion Balance (%Difference)	SM18 1030F & AP	SM18 1030F & AP
ICP-MS (6020)	SW846 6020	
Nitrate as N	MCAWW 300.0A	MCAWW 300.0A
Nitrite as N	MCAWW 300.0A	MCAWW 300.0A
Nitrogen, Ammonia	MCAWW 350.1	MCAWW 350.1
Sulfate	MCAWW 300.0A	MCAWW 300.0A

References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SM18 "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F8F050344

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
KPF63	001	OW-6211	06/04/08	14:20

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-6211

TOTAL Metals

Lot-Sample #...: F8F050344-001
 Date Sampled...: 06/04/08 14:20 Date Received...: 06/05/08

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8168278					
Calcium	574000 N	100000	ug/L	SW846 6020	06/16-06/25/08	KPF631AD
		Dilution Factor: 1000		Analysis Time...: 17:38		
Iron	ND N	50000	ug/L	SW846 6020	06/16-06/25/08	KPF631AE
		Dilution Factor: 1000		Analysis Time...: 17:38		
Potassium	586000 N	100000	ug/L	SW846 6020	06/16-06/25/08	KPF631AF
		Dilution Factor: 1000		Analysis Time...: 17:38		
Magnesium	1960000 N	50000	ug/L	SW846 6020	06/16-06/25/08	KPF631AG
		Dilution Factor: 1000		Analysis Time...: 17:38		
Manganese	ND N	2000	ug/L	SW846 6020	06/16-06/25/08	KPF631AH
		Dilution Factor: 1000		Analysis Time...: 17:38		
Sodium	16300000 N	50000	ug/L	SW846 6020	06/16-06/25/08	KPF631AJ
		Dilution Factor: 1000		Analysis Time...: 17:38		
Silicon	62100 BN	250000	ug/L	SW846 6020	06/16-06/25/08	KPF631AK
		Dilution Factor: 1000		Analysis Time...: 17:38		
Prep Batch #...	8175115					
Silica	133000 J,B	250000	ug/L	SW846 6020	06/16-06/25/08	KPF631AL
		Dilution Factor: 1000		Analysis Time...: 17:38		

NOTE(S):

- N Spiked analyte recovery is outside stated control limits.
- J Estimated result. Result is less than RL.
- B The associated method blank contains the target analyte at a reportable level.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-6211

General Chemistry

Lot-Sample #....: F8F050344-001 Work Order #....: KPF63
 Date Sampled...: 06/04/08 14:20 Date Received...: 06/05/08

Matrix.....: WATER

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.2	0.10	No Units	SW846 9040	06/05/08	8158106
				Dilution Factor: 1	Analysis Time...: 00:00	
Bicarbonate Alkalinity	181	5.0	mg/L	MCAWW 310.1	06/10/08	8161269
				Dilution Factor: 1	Analysis Time...: 00:00	
Bromide	65.9	50.0	mg/L	MCAWW 300.0A	06/05/08	8175487
				Dilution Factor: 200	Analysis Time...: 08:25	
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/10/08	8161267
				Dilution Factor: 1	Analysis Time...: 00:00	
Chloride	31300 J	2000	mg/L	MCAWW 300.0A	06/05/08	8175488
				Dilution Factor: 10000	Analysis Time...: 08:49	
Fluoride	ND	20.0	mg/L	MCAWW 300.0A	06/05/08	8175489
				Dilution Factor: 200	Analysis Time...: 08:25	
Ion Balance Difference	2.8	0.10	%	SML8 1030F & API	07/01/08	8183319
				Dilution Factor: 1	Analysis Time...: 00:00	
Nitrate	ND	0.20	mg/L	MCAWW 300.0A	06/05/08	8158391
				Dilution Factor: 10	Analysis Time...: 08:13	
Nitrite	ND	200	mg/L	MCAWW 300.0A	06/05/08	8158392
				Dilution Factor: 10000	Analysis Time...: 08:49	
Nitrogen, as Ammonia	1300	100	ug/L	MCAWW 350.1	06/06/08	8156506
				Dilution Factor: 2	Analysis Time...: 00:00	
Sulfate	3610	500	mg/L	MCAWW 300.0A	06/05/08	8175490
				Dilution Factor: 1000	Analysis Time...: 08:37	
Total Alkalinity	181	5.0	mg/L	SML8 2320 B	06/10/08	8161265
				Dilution Factor: 1	Analysis Time...: 00:00	
Total Dissolved Solids	52800	500	mg/L	MCAWW 160.1	06/11-06/12/08	8163486
				Dilution Factor: 100	Analysis Time...: 00:00	

NOTE(S):

RL Reporting Limit

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F8F050344

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F8F160000-278 Prep Batch #...: 8168278						
Calcium	ND B	100	ug/L	SW846 6020	06/16-06/25/08	KP13D1AA
		Dilution Factor: 1				
		Analysis Time...: 17:30				
Iron	ND	50	ug/L	SW846 6020	06/16-06/25/08	KP13D1AC
		Dilution Factor: 1				
		Analysis Time...: 17:30				
Magnesium	ND	50	ug/L	SW846 6020	06/16-06/25/08	KP13D1AE
		Dilution Factor: 1				
		Analysis Time...: 17:30				
Manganese	ND	2	ug/L	SW846 6020	06/16-06/25/08	KP13D1AF
		Dilution Factor: 1				
		Analysis Time...: 17:30				
Potassium	ND	100	ug/L	SW846 6020	06/16-06/25/08	KP13D1AD
		Dilution Factor: 1				
		Analysis Time...: 17:30				
Silicon	67.1 B	250	ug/L	SW846 6020	06/16-06/25/08	KP13D1AH
		Dilution Factor: 1				
		Analysis Time...: 17:30				
Sodium	ND	50	ug/L	SW846 6020	06/16-06/25/08	KP13D1AG
		Dilution Factor: 1				
		Analysis Time...: 17:30				

MB Lot-Sample #: F8F230000-115 Prep Batch #...: 8175115						
Silica	144 J	250	ug/L	SW846 6020	06/16-06/25/08	KQL7H1AA
		Dilution Factor: 1				
		Analysis Time...: 17:38				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

General Chemistry

Client Lot #....: F8F050344

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity	ND	Work Order #: KPLC11AA 5.0	mg/L	MB Lot-Sample #: MCAWW 310.1	F8F090000-269 06/10/08	8161269
		Dilution Factor: 1 Analysis Time...: 00:00				
Bromide	ND	Work Order #: KQG151AA 0.25	mg/L	MB Lot-Sample #: MCAWW 300.0A	F8F230000-487 06/05/08	8175487
		Dilution Factor: 1 Analysis Time...: 07:51				
Carbonate Alkalinity	ND	Work Order #: KPLCR1AA 5.0	mg/L	MB Lot-Sample #: MCAWW 310.1	F8F090000-267 06/10/08	8161267
		Dilution Factor: 1 Analysis Time...: 00:00				
Chloride	0.026 B	Work Order #: KQG161AA 0.20	mg/L	MB Lot-Sample #: MCAWW 300.0A	F8F230000-488 06/05/08	8175488
		Dilution Factor: 1 Analysis Time...: 07:51				
Fluoride	ND	Work Order #: KQG191AA 0.10	mg/L	MB Lot-Sample #: MCAWW 300.0A	F8F230000-489 06/05/08	8175489
		Dilution Factor: 1 Analysis Time...: 07:51				
Nitrate	ND	Work Order #: KPM9F1AA 0.020	mg/L	MB Lot-Sample #: MCAWW 300.0A	F8F060000-391 06/05/08	8158391
		Dilution Factor: 1 Analysis Time...: 07:51				
Nitrite	ND	Work Order #: KPM9K1AA 0.020	mg/L	MB Lot-Sample #: MCAWW 300.0A	F8F060000-392 06/05/08	8158392
		Dilution Factor: 1 Analysis Time...: 07:51				
Nitrogen, as Ammonia	ND	Work Order #: KPD7C1AA 50.0	ug/L	MB Lot-Sample #: MCAWW 350.1	F8F040000-506 06/06/08	8156506
		Dilution Factor: 1 Analysis Time...: 00:00				
Sulfate	ND	Work Order #: KQG2C1AA 0.50	mg/L	MB Lot-Sample #: MCAWW 300.0A	F8F230000-490 06/05/08	8175490
		Dilution Factor: 1 Analysis Time...: 07:51				

(Continued on next page)

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F8F050344

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Alkalinity	ND	Work Order #: KPLCP1AA 5.0	mg/L	MB Lot-Sample #: SM18 2320 B	F8F090000-265 06/10/08	8161265
		Dilution Factor: 1 Analysis Time...: 00:00				
Total Dissolved Solids	ND	Work Order #: KPQXJ1AA 5.0	mg/L	MB Lot-Sample #: MCAWW 160.1	F8F110000-486 06/11-06/12/08	8163486
		Dilution Factor: 1 Analysis Time...: 00:00				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F8F050344

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#: F8F160000-278 Prep Batch #...: 8168278					
Calcium	104	(85 - 115)	SW846 6020	06/16-06/25/08	KP13D1AJ
		Dilution Factor: 1		Analysis Time...: 17:34	
Iron	107	(85 - 115)	SW846 6020	06/16-06/25/08	KP13D1AK
		Dilution Factor: 1		Analysis Time...: 17:34	
Potassium	105	(85 - 115)	SW846 6020	06/16-06/25/08	KP13D1AL
		Dilution Factor: 1		Analysis Time...: 17:34	
Magnesium	102	(85 - 115)	SW846 6020	06/16-06/25/08	KP13D1AM
		Dilution Factor: 1		Analysis Time...: 17:34	
Manganese	112	(85 - 115)	SW846 6020	06/16-06/25/08	KP13D1AN
		Dilution Factor: 1		Analysis Time...: 17:34	
Sodium	102	(85 - 115)	SW846 6020	06/16-06/25/08	KP13D1AP
		Dilution Factor: 1		Analysis Time...: 17:34	
Silicon	113	(85 - 115)	SW846 6020	06/16-06/25/08	KP13D1AQ
		Dilution Factor: 1		Analysis Time...: 17:34	
LCS Lot-Sample#: F8F230000-115 Prep Batch #...: 8175115					
Silica	113 N	(0.0- 0.0)	SW846 6020	06/16-06/25/08	KQL7H1AC
		Dilution Factor: 1		Analysis Time...: 00:00	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #....: F8F050344

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Nitrogen, as Ammonia		WO#:KPD7C1AC-LCS/KPD7C1AD-LCSD		LCS Lot-Sample#: F8F040000-506			
	103	(90 - 110)			MCAWW 350.1	06/06/08	8156506
	100	(90 - 110)	2.7	(0-20)	MCAWW 350.1	06/06/08	8156506
		Dilution Factor: 1		Analysis Time...: 00:00			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8F050344

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)	100	(99 - 101)	Work Order #: KPGWD1AA SW846 9040	LCS Lot-Sample#: F8F060000-106 06/05/08	8158106
			Dilution Factor: 1	Analysis Time...: 00:00	
Bicarbonate Alkalinity	101	(90 - 110)	Work Order #: KPLC11AC MCAWW 310.1	LCS Lot-Sample#: F8F090000-269 06/10/08	8161269
			Dilution Factor: 1	Analysis Time...: 00:00	
Bromide	101	(90 - 110)	Work Order #: KQG151AC MCAWW 300.0A	LCS Lot-Sample#: F8F230000-487 06/05/08	8175487
			Dilution Factor: 1	Analysis Time...: 07:41	
Carbonate Alkalinity	101	(90 - 110)	Work Order #: KPLCR1AC MCAWW 310.1	LCS Lot-Sample#: F8F090000-267 06/10/08	8161267
			Dilution Factor: 1	Analysis Time...: 00:00	
Chloride	98	(90 - 110)	Work Order #: KQG161AC MCAWW 300.0A	LCS Lot-Sample#: F8F230000-488 06/05/08	8175488
			Dilution Factor: 1	Analysis Time...: 07:41	
Fluoride	99	(90 - 110)	Work Order #: KQG191AC MCAWW 300.0A	LCS Lot-Sample#: F8F230000-489 06/05/08	8175489
			Dilution Factor: 1	Analysis Time...: 07:41	
Nitrate	101	(90 - 110)	Work Order #: KPM9F1AC MCAWW 300.0A	LCS Lot-Sample#: F8F060000-391 06/05/08	8158391
			Dilution Factor: 1	Analysis Time...: 07:41	
Nitrite	100	(90 - 110)	Work Order #: KPM9K1AC MCAWW 300.0A	LCS Lot-Sample#: F8F060000-392 06/05/08	8158392
			Dilution Factor: 1	Analysis Time...: 07:41	
Sulfate	95	(90 - 110)	Work Order #: KQG2C1AC MCAWW 300.0A	LCS Lot-Sample#: F8F230000-490 06/05/08	8175490
			Dilution Factor: 1	Analysis Time...: 07:41	
Total Alkalinity	101	(90 - 110)	Work Order #: KPLCP1AC SM18 2320 B	LCS Lot-Sample#: F8F090000-265 06/10/08	8161265
			Dilution Factor: 1	Analysis Time...: 00:00	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F8F050344
 Date Sampled...: 06/04/08 14:20 Date Received...: 06/05/08

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F8F050344-001 Prep Batch #...: 8168278							
Calcium	0 N	(75 - 125)			SW846 6020	06/16-06/25/08	KPF631A8
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/16-06/25/08	KPF631A9
			Dilution Factor: 1000				
			Analysis Time...: 17:45				
Iron	0 N	(75 - 125)			SW846 6020	06/16-06/25/08	KPF631CA
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/16-06/25/08	KPF631CC
			Dilution Factor: 1000				
			Analysis Time...: 17:45				
Magnesium	0 N	(75 - 125)			SW846 6020	06/16-06/25/08	KPF631CF
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/16-06/25/08	KPF631CG
			Dilution Factor: 1000				
			Analysis Time...: 17:45				
Manganese	117	(75 - 125)			SW846 6020	06/16-06/25/08	KPF631CH
	130 N	(75 - 125)	11	(0-20)	SW846 6020	06/16-06/25/08	KPF631CJ
			Dilution Factor: 1000				
			Analysis Time...: 17:45				
Potassium	0 N	(75 - 125)			SW846 6020	06/16-06/25/08	KPF631CD
	17 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/16-06/25/08	KPF631CE
			Dilution Factor: 1000				
			Analysis Time...: 17:45				
Silicon	85 B	(75 - 125)			SW846 6020	06/16-06/25/08	KPF631CM
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/16-06/25/08	KPF631CN
			Dilution Factor: 1000				
			Analysis Time...: 17:45				
Sodium	0 N	(75 - 125)			SW846 6020	06/16-06/25/08	KPF631CK
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/16-06/25/08	KPF631CL
			Dilution Factor: 1000				
			Analysis Time...: 17:45				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

B Estimated result. Result is less than RL.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8F050344

Matrix.....: WATER

Date Sampled...: 06/04/08 14:20 Date Received...: 06/05/08

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bromide	92	Work Order #...: KPF631CP (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8F050344-001 06/05/08	8175487
		Dilution Factor: 200		Analysis Time...: 08:25	
Chloride	97	Work Order #...: KPF631CR (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8F050344-001 06/05/08	8175488
		Dilution Factor: 10000		Analysis Time...: 08:49	
Fluoride	100	Work Order #...: KPF631CU (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8F050344-001 06/05/08	8175489
		Dilution Factor: 200		Analysis Time...: 08:25	
Nitrate	93	Work Order #...: KPF631A2 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8F050344-001 06/05/08	8158391
		Dilution Factor: 10		Analysis Time...: 08:13	
Nitrite	102	Work Order #...: KPF631A4 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8F050344-001 06/05/08	8158392
		Dilution Factor: 10000		Analysis Time...: 08:49	
Nitrogen, as Ammonia	96	Work Order #...: KPC951C5 (90 - 110)	MCAWW 350.1	MS Lot-Sample #: F8F040293-001 06/06/08	8156506
		Dilution Factor: 1		Analysis Time...: 00:00	
Sulfate	100	Work Order #...: KPF631CW (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8F050344-001 06/05/08	8175490
		Dilution Factor: 1000		Analysis Time...: 08:37	
Total Alkalinity	92	Work Order #...: KPF631A0 (80 - 120)	SM18 2320 B	MS Lot-Sample #: F8F050344-001 06/10/08	8161265
		Dilution Factor: 1		Analysis Time...: 00:00	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8F050344 Work Order #...: KPC95-SMP Matrix.....: WATER
KPC95-DUP
Date Sampled...: 06/02/08 09:46 Date Received...: 06/04/08

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Nitrogen, as Ammonia	190	ug/L	14	(0-20)	SD Lot-Sample #: F8F040293-001 MCAWW 350.1	06/06/08	8156506
	160				Dilution Factor: 1	Analysis Time..: 00:00	

F8F050344

CLIENT ANALYSIS SUMMARY

Storage Loc: 1-131-132,M
 Date Received: 2008-06-05
 Analytical Due Date: 2008-06-24
 Report Due Date: 2008-06-26
 Report Type: W
 EDD Code: 00

Project Manager: IV Quote #: 79192 SDG:
 Project: 6468071950 FPL Turkey Point COL
 PO#: 200807151 Report to: AI Tice
 Client: 63036 MACTEC Engineering & Consulting Inc

#SMPS In LOT: 1

Inform PM of any receiving issues.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
1	OW-6211			2008-06-04 / 1420	KPF63	WATER
SAMPLE COMMENTS:						
FE	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
KX	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
MG	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
MN	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
NA	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
SA	MH SW846 6020		WATER, Silica by calculation	0X CALCULATION ONLY	9Q ORG FLAGS FOR INORG; STANDARD	PROT: A WRK LOC 06
SI	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
CA	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	AK MCAW 180.1 W		WATER, 180.1, Solids, Filterable "TDS"	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	C8 MCAW 300.0A W		WATER, 300.0A, Fluoride	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	C9 MCAW 300.0A W		WATER, 300.0A, Nitrate as N	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	CB MCAW 310.1 W		WATER, 310.1, Alkalinity, Carbonate	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	CX MCAW 300.0A W		WATER, 300.0A, Chloride	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	CY MCAW 300.0A W		WATER, 300.0A, Sulfate	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	FJ SW846 9040		WATER, 9040C, pH	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	GM MCAW 300.0A W		WATER, 300.0A, Bromide	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	GO MCAW 300.0A W		WATER, 300.0A, Nitrite as N	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	LV SM18 2320 B		WATER, 2320 B, Alkalinity, Total	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	SL SM18 1030F & API		WATER, 1030F & API, Ion Balance	0X CALCULATION ONLY	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	UX MCAW 310.1 W		WATER, 310.1, Alkalinity, Bicarbonate	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	VM MCAW 350.1 W		WATER, 350.1, Nitrogen, Ammonia	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
S	XX C9 MCAW 300.0A W		WATER, 300.0A, Nitrate as N	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
S	XX GO MCAW 300.0A W		WATER, 300.0A, Nitrite as N	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
S	XX LV SM18 2320 B		WATER, 2320 B, Alkalinity, Total	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
X	XX C9 MCAW 300.0A W		WATER, 300.0A, Nitrate as N	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
X	XX FJ SW846 9040		WATER, 9040C, pH	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
X	XX GO MCAW 300.0A W		WATER, 300.0A, Nitrite as N	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
X	XX LV SM18 2320 B		WATER, 2320 B, Alkalinity, Total	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06

owl 3550

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes No

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007) Client MACTEC		Project Manager Scott Auger		Date 06-04-08	Chain of Custody Number 062466
Address 3301 Atlantic Avenue		Telephone Number (Area Code)/Fax Number 919-976-0416		Lab Number	Page 1 of 1

City Raleigh	State NC	Zip Code 27604	Site Contact Matt Coole	Lab Contact Ivan Vania	Analysis (Attach list if more space is needed)
Project Name and Location (State) Turkey Point Col			Carrier/Waybill Number FE 8656 2694 6064		

Contract/Purchase Order/Quote No. 6468-07-1950		Matrix				Containers & Preservatives								Special Instructions/ Conditions of Receipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc2	NaOH	
OW-621L	06/04/08	1420		X				1	2	1				<p>6250 M)</p> <p>LA, 3X250A</p> <p>CATION: Calcium Iron, Magnesium Manganese Potassium, Silica, Sodium</p> <p>- pH-EPA SW846 9045(D)</p> <p>TDS-EPA 160.1</p> <p>- CATION-EPA 6020C Inorganic Ions MEAWW 300.0A</p> <p>- Alkalinity-EPA 310.1</p> <p>- Ammonia-EPA-350.1 nitrate nitrate-EPA 300.0</p>

Possible Hazard Identification				Sample Disposal				(A fee may be assessed if samples are retained longer than 1 month)			
<input type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Return To Client	<input checked="" type="checkbox"/> Disposal By Lab	<input type="checkbox"/> Archive For _____ Months				

Turn Around Time Required				QC Requirements (Specify)					
<input type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	<input type="checkbox"/> 7 Days	<input type="checkbox"/> 14 Days	<input checked="" type="checkbox"/> 21 Days	<input type="checkbox"/> Other Standard				

1. Relinquished By Kristina Chapp-Smit	Date 06/04/08	Time	1. Received By S. [Signature]	Date 6/5/08	Time 0915
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot#(s): F8F050334
- 3550 - 344

Client: Martec COC/RFA No: 062466 Date: 4/5/08
Quote No: 79142 Initiated By: 67 Time: 09:5

Condition Upon Receipt Form

Shipper Name: FE Shipping Information

Multiple Packages Y N

Shipping # (s):* 8156 2694 6664

1. <u>8156</u>	6. _____	1. <u>7</u>	6. _____
2. _____	7. _____	2. _____	7. _____
3. _____	8. _____	3. _____	8. _____
4. _____	9. _____	4. _____	9. _____
5. _____	10. _____	5. _____	10. _____

*Numbered shipping lines correspond to Numbered Sample Temp lines
**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1. <input checked="" type="radio"/> Y <input type="radio"/> N	Are there custody seals present on the cooler?	8. <input type="radio"/> Y <input checked="" type="radio"/> N	Are there custody seals present on bottles?
2. <input type="radio"/> Y <input checked="" type="radio"/> N <input type="radio"/> N/A	Do custody seals on cooler appear to be tampered with?	9. <input type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Do custody seals on bottles appear to be tampered with?
3. <input checked="" type="radio"/> Y <input type="radio"/> N	Were contents of cooler frisked after opening, but before unpacking?	10. <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Was sample received with proper pH? (If not, make note below)
4. <input checked="" type="radio"/> Y <input type="radio"/> N	Sample received with Chain of Custody?	11. <input type="radio"/> Y <input type="radio"/> N	If N/A- Was pH taken by original TestAmerica lab?
5. <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. <input checked="" type="radio"/> Y <input type="radio"/> N	Sample received in proper containers?
6. <input type="radio"/> Y <input checked="" type="radio"/> N	Was sample received broken?	13. <input type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7. <input checked="" type="radio"/> Y <input type="radio"/> N	Is sample volume sufficient for analysis?	14. <input type="radio"/> Y <input type="radio"/> N	Was Internal COC/Workshare received?

¹ For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:

Client Contact Name: _____ Informed by: _____

Sample(s) processed "as is"

Sample(s) on hold until: _____ If released, notify: _____

Project Management Review: [Signature] Date: 6-6-8

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.



**DOCUMENTATION OF TECHNICAL REVIEW
SUBCONTRACTOR WORK PRODUCT**

Project Name: Turkey Point COL Project

Project Number: 6468-07-1950

Project Manager: Scott Auger

Project Principal: Tom McDaniel

The report described below has been prepared by the named subcontractor retained in accordance with the MACTEC QAPD. The work and report have been reviewed by a MACTEC technically qualified person. Comments on the work or report, if any, have been satisfactorily addressed by the subcontractor. The attached report is approved in accordance with section QS-7 of MACTEC's QAPD.

The information and data contained in the attached report are hereby released by MACTEC for project use.

REPORT : Analytical Report Lot #: F8E280143 rev1

SUBCONTRACTOR: TestAmerica, Earth City, MO

DATE OF ACCEPTANCE : 7/25/2008

TECHNICAL REVIEWER: William S. Grimes

William S. Grimes

SENIOR PROJECT PRINCIPAL: J. Allan Tice

J. Allan Tice



3301 Atlantic Avenue, Raleigh, NC 27604



LABORATORY DATA REVIEW CHECKLIST

	<u>YES</u>	<u>NO</u>	<u>NOT APPLICABLE</u>
1. Laboratory analytical data report appears complete (all data results present for all samples submitted for analysis) and there are no apparent transcription errors:	___	✓ ¹	___
2. Samples analyzed within applicable holding times (based on date of sample collection):*	___	✓ ²	___
3. Trip blanks, field blanks or laboratory method blanks are free of blank contamination:	___	✓ ²	___
4. If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: **	___	___	✓
5. Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges:	___	___	✓
6. If Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples required to meet project objectives, Percent Recoveries (%R) and Relative Percent Difference (RPD) within laboratory reported acceptance ranges:	___	✓ ⁴	___
7. Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards):	✓	___	___
8. Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate):	✓	___	___
9. Analytical costs within authorized budget for these services:	___	___	✓

COMMENTS: ¹ Iron results should be flagged indicating method blank contamination. ² Samples OW-735U and OW-809U for TDS were tested out of hold. B/c the samples were stored under refrigeration, biological degradation should not have been an issue. ³ An estimated concentration of iron was detected in the method blank, at a concentration between the PQL and MDL. Iron concentrations in site samples were considerably higher, and likely reflect ambient aquifer conditions. ⁴ MS/MSD recoveries were outside QC limits for several analytes possibly due to matrix interference. QC established based on acceptable LCS recoveries and results for analytes with acceptable recoveries.

Notes: 1. This checklist is intended for use with the laboratory reporting formats typical of most projects. If "no" is answered to one or more of the above checklist questions 1 through 7, a more detailed Data Validation may be required, and a person knowledgeable in Data Validation protocols should be consulted. This checklist should not be used if the project scope requires Data Validation from the onset.

2. * = Based upon EPA Guidance and the applicable analytical method references. See reverse side of checklist for details.

3. ** = Based upon EPA Guidance. Use these criteria on duplicate and sample results which exceed five times the reported detection limit. See reverse side of checklist for details.

Checked by: William D. Z... Date: 7-25-08



ANALYTICAL REPORT

REVISED

PROJECT NO. 6468071950

FPL Turkey Point COL

Lot #: F8E280143

Al Tice

MACTEC Engineering and Cons.
3301 Atlantic Ave.
Raleigh, NC 27604

TESTAMERICA LABORATORIES, INC.

A handwritten signature in black ink, appearing to read "Ivan Vania", is written over a light background.

Ivan Vania
Project Manager

June 27, 2008

Case Narrative

LOT NUMBER: F8E280143 – Revision 1

This report contains the analytical results for the two samples received under chain of custody by TestAmerica St. Louis on May 28, 2008. These samples are associated with your FPL Turkey Point COL project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

This revision contains corrections to the TDS mass listed in the case narrative.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

ICP-MS (SW846-6020)

Batch 8155134:

The MS (MSD) recoveries for calcium, potassium, magnesium, and sodium are outside the established QC limits. The analyte concentrations in the original samples are greater than four times the amount spiked, making percent recovery information ineffective. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F8E280143 (1): 0W-735U

F8E280143 (2): 0W-809U

Batch 8155134:

The MS (MSD) recovery for iron is outside the established QC limits. The RPD is within method acceptance criteria indicating possible matrix interference. Method performance is demonstrated by acceptable LCS recovery. No further action is required.

Affected Samples:

F8E280143 (1): 0W-735U

F8E280143 (2): 0W-809U

Batch 8155134:

The MS (MSD) recovery for silicon is outside the established QC limits. Matrix interference is physically evident in the sample. The samples are high in salts. Method performance is demonstrated by acceptable LCS recovery

Affected Samples:

F8E280143 (1): 0W-735U

F8E280143 (2): 0W-809U

Batch 8155134:

The Measured Intensity Mean for lead, as measured during the daily performance check, was low. However, the calibration and the second source checks were all within acceptable QC limits. The samples were reported with this narrative.

Affected Samples:

F8E280143 (1): 0W-735U

F8E280143 (2): 0W-809U

Batch 8155134:

The samples were analyzed at a dilution due to high concentrations of salts. The reporting limits were adjusted for the dilution.

Affected Samples:

F8E280143 (1): 0W-735U

F8E280143 (2): 0W-809U

Total Dissolved Solids (MCAWW 160.1)

Batch 8156338:

Initial results exceeded the SOP limit of 200mg. The samples were re-analyzed at a 100X dilution out of hold.

Affected Samples:

F8E280143 (1): 0W-735U

F8E280143 (2): 0W-809U

Anions (MCAWW 300.0A)

Poor matrix spike recovery for Chloride in batch 8165334, Nitrite in batch 8165337, and Ortho Phos in batch 8165338 is attributed to matrix interference. The anion matrix spike solution contains all routine anions. Spiking technique, sample preparation and method compliance is demonstrated by the remaining acceptable MS recoveries.

Affected Samples:

F8E280143 (1): 0W-735U

F8E280143 (2): 0W-809U

The MS recoveries for Bromide in batch 8165345, Chloride in batch 8165346, Fluoride in batch 8165347, Sulfate in batch 8165348, Nitrite in batch 8165349, and Nitrate in batch 8165350 are outside the established QC limits. Matrix interference is evident in the sample. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F8E280143 (1): 0W-735U

F8E280143 (2): 0W-809U

There were no other nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F8E280143

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
pH Aqueous	SW846 9040	SW846 9040
Alkalinity, Total	SM18 2320 B	SM18 2320 B
Bicarbonate Alkalinity	MCAWW 310.1	MCAWW 310.1
Bromide	MCAWW 300.0A	MCAWW 300.0A
Carbonate Alkalinity	MCAWW 310.1	MCAWW 310.1
Chloride	MCAWW 300.0A	MCAWW 300.0A
Filterable Residue (TDS)	MCAWW 160.1	MCAWW 160.1
Fluoride	MCAWW 300.0A	MCAWW 300.0A
Ion Balance % Difference	SM18 1030F & AP	SM18 1030F & AP
ICP-MS (6020)	SW846 6020	
Nitrate as N	MCAWW 300.0A	MCAWW 300.0A
Nitrite as N	MCAWW 300.0A	MCAWW 300.0A
Nitrogen, Ammonia	MCAWW 350.1	MCAWW 350.1
Sulfate	MCAWW 300.0A	MCAWW 300.0A

References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SM18 "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F8E280143

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
KNX8D	001	OW-735U	05/27/08	11:35
KNX8K	002	OW-809U	05/27/08	14:55

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-735U

TOTAL Metals

Lot-Sample #...: F8E280143-001

Matrix.....: WATER

Date Sampled...: 05/27/08 11:35 Date Received...: 05/28/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	8155134					
Calcium	749000 N	100000	ug/L	SW846 6020	06/11-06/24/08	KNX8D1AN
		Dilution Factor: 1000		Analysis Time...: 15:45		
Iron	133 N	100	ug/L	SW846 6020	06/11-06/17/08	KNX8D1AP
		Dilution Factor: 2		Analysis Time...: 02:09		
Potassium	655000 N	100000	ug/L	SW846 6020	06/11-06/21/08	KNX8D1AQ
		Dilution Factor: 1000		Analysis Time...: 22:10		
Magnesium	2140000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KNX8D1AR
		Dilution Factor: 1000		Analysis Time...: 22:10		
Manganese	32.7	4	ug/L	SW846 6020	06/11-06/17/08	KNX8D1AT
		Dilution Factor: 2		Analysis Time...: 02:09		
Sodium	17700000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KNX8D1AU
		Dilution Factor: 1000		Analysis Time...: 22:10		
Silicon	ND N	250000	ug/L	SW846 6020	06/11-06/21/08	KNX8D1AV
		Dilution Factor: 1000		Analysis Time...: 22:10		
Prep Batch #...	8175113					
Silica	ND	250	ug/L	SW846 6020	06/11-06/21/08	KNX8D1AW
		Dilution Factor: 1		Analysis Time...: 00:00		

NOTE(S):

N Spiked analyte recovery is outside stated control limits.

MACTEC Engineering & Consulting Inc

Client Sample ID: 0W-735U

General Chemistry

Lot-Sample #...: F8E280143-001 Work Order #...: KNX8D Matrix.....: WATER
 Date Sampled...: 05/27/08 11:35 Date Received...: 05/28/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.0	0.10	No Units	SW846 9040	05/28/08	8149223
				Dilution Factor: 1	Analysis Time...: 00:00	
Bicarbonate Alkalinity	179	5.0	mg/L	MCAWW 310.1	06/02/08	8154062
				Dilution Factor: 1	Analysis Time...: 00:00	
Bromide	262	250	mg/L	MCAWW 300.0A	05/29/08	8165345
				Dilution Factor: 1000	Analysis Time...: 11:27	
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154061
				Dilution Factor: 1	Analysis Time...: 00:00	
Chloride	37500	2000	mg/L	MCAWW 300.0A	05/29/08	8165346
				Dilution Factor: 10000	Analysis Time...: 11:39	
Fluoride	ND	20.0	mg/L	MCAWW 300.0A	05/29/08	8165347
				Dilution Factor: 200	Analysis Time...: 11:14	
Ion Balance Difference	6.7	0.10	%	SML8 1030F & API	06/23/08	8175543
				Dilution Factor: 1	Analysis Time...: 00:00	
Nitrate	ND	4.0	mg/L	MCAWW 300.0A	05/29/08	8165350
				Dilution Factor: 200	Analysis Time...: 11:14	
Nitrite	ND	200	mg/L	MCAWW 300.0A	05/29/08	8165349
				Dilution Factor: 10000	Analysis Time...: 11:39	
Nitrogen, as Ammonia	2150	200	ug/L	MCAWW 350.1	05/30/08	8150453
				Dilution Factor: 4	Analysis Time...: 00:00	
Sulfate	4090	500	mg/L	MCAWW 300.0A	05/29/08	8165348
				Dilution Factor: 1000	Analysis Time...: 11:27	
Total Alkalinity	179	5.0	mg/L	SML8 2320 B	06/02/08	8154059
				Dilution Factor: 1	Analysis Time...: 00:00	
Total Dissolved Solids	40200	500	mg/L	MCAWW 160.1	06/04-06/05/08	8156338
				Dilution Factor: 100	Analysis Time...: 00:00	

MACTEC Engineering & Consulting Inc

Client Sample ID: 0W-809U

TOTAL Metals

Lot-Sample #...: F8E280143-002

Matrix.....: WATER

Date Sampled...: 05/27/08 14:55 Date Received...: 05/28/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8155134						
Calcium	704000 N	100000	ug/L	SW846 6020	06/11-06/24/08	KNX8KLAN
		Dilution Factor: 1000		Analysis Time...: 15:59		
Iron	158 N	100	ug/L	SW846 6020	06/11-06/17/08	KNX8KLAP
		Dilution Factor: 2		Analysis Time...: 02:24		
Potassium	607000 N	100000	ug/L	SW846 6020	06/11-06/21/08	KNX8KLAQ
		Dilution Factor: 1000		Analysis Time...: 22:26		
Magnesium	2040000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KNX8KLAR
		Dilution Factor: 1000		Analysis Time...: 22:26		
Manganese	28.1	4	ug/L	SW846 6020	06/11-06/17/08	KNX8KLAT
		Dilution Factor: 2		Analysis Time...: 02:24		
Sodium	16700000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KNX8KLAU
		Dilution Factor: 1000		Analysis Time...: 22:26		
Silicon	ND N	250000	ug/L	SW846 6020	06/11-06/21/08	KNX8KLAV
		Dilution Factor: 1000		Analysis Time...: 22:26		
Prep Batch #...: 8175113						
Silica	ND	250	ug/L	SW846 6020	06/11-06/21/08	KNX8KLAW
		Dilution Factor: 1		Analysis Time...: 00:00		

NOTE(S):

N Spiked analyte recovery is outside stated control limits.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-809U

General Chemistry

Lot-Sample #....: F8E280143-002 Work Order #....: KNX8K Matrix.....: WATER
 Date Sampled....: 05/27/08 14:55 Date Received...: 05/28/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.1	0.10	No Units	SW846 9040	05/28/08	8149223
				Dilution Factor: 1 Analysis Time...: 00:00		
Bicarbonate Alkalinity	177	5.0	mg/L	MCAWW 310.1	06/02/08	8154062
				Dilution Factor: 1 Analysis Time...: 00:00		
Bromide	241 B	250	mg/L	MCAWW 300.0A	05/29/08	8165345
				Dilution Factor: 1000 Analysis Time...: 12:42		
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154061
				Dilution Factor: 1 Analysis Time...: 00:00		
Chloride	35900	2000	mg/L	MCAWW 300.0A	05/29/08	8165346
				Dilution Factor: 10000 Analysis Time...: 12:55		
Fluoride	ND	1.0	mg/L	MCAWW 300.0A	05/29/08	8165347
				Dilution Factor: 10 Analysis Time...: 12:16		
Ion Balance Difference	7.4	0.10	%	SML8 1030F & API	06/23/08	8175543
				Dilution Factor: 1 Analysis Time...: 00:00		
Nitrate	ND	4.0	mg/L	MCAWW 300.0A	05/29/08	8165350
				Dilution Factor: 200 Analysis Time...: 12:29		
Nitrite	ND	200	mg/L	MCAWW 300.0A	05/29/08	8165349
				Dilution Factor: 10000 Analysis Time...: 12:55		
Nitrogen, as Ammonia	2210	200	ug/L	MCAWW 350.1	05/30/08	8150453
				Dilution Factor: 4 Analysis Time...: 00:00		
Sulfate	4050	500	mg/L	MCAWW 300.0A	05/29/08	8165348
				Dilution Factor: 1000 Analysis Time...: 12:42		
Total Alkalinity	177	5.0	mg/L	SML8 2320 B	06/02/08	8154059
				Dilution Factor: 1 Analysis Time...: 00:00		
Total Dissolved Solids	34800	500	mg/L	MCAWW 160.1	06/04-06/05/08	8156338
				Dilution Factor: 100 Analysis Time...: 00:00		

NOTE(S):

RL Reporting Limit

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F8E280143

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F8F030000-134 Prep Batch #...: 8155134						
Calcium	ND	100	ug/L	SW846 6020	06/11-06/24/08	KN8W91AA
		Dilution Factor: 1				
		Analysis Time...: 15:38				
Iron	26.0 B	50	ug/L	SW846 6020	06/11-06/17/08	KN8W91AC
		Dilution Factor: 1				
		Analysis Time...: 02:01				
Magnesium	ND	50	ug/L	SW846 6020	06/11-06/21/08	KN8W91AE
		Dilution Factor: 1				
		Analysis Time...: 21:52				
Manganese	ND	2	ug/L	SW846 6020	06/11-06/17/08	KN8W91AF
		Dilution Factor: 1				
		Analysis Time...: 02:01				
Potassium	ND	100	ug/L	SW846 6020	06/11-06/21/08	KN8W91AD
		Dilution Factor: 1				
		Analysis Time...: 21:52				
Silicon	ND	250	ug/L	SW846 6020	06/11-06/21/08	KN8W91AH
		Dilution Factor: 1				
		Analysis Time...: 21:52				
Sodium	ND	50	ug/L	SW846 6020	06/11-06/21/08	KN8W91AG
		Dilution Factor: 1				
		Analysis Time...: 21:52				
MB Lot-Sample #: F8F230000-113 Prep Batch #...: 8175113						
Silica	ND	250	ug/L	SW846 6020	06/11-06/21/08	KQEK81AA
		Dilution Factor: 1				
		Analysis Time...: 00:00				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

General Chemistry

Client Lot #....: F8E280143

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154062
		Work Order #: KN7R51AA MB Lot-Sample #: F8F020000-062				
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Bromide	ND	0.25	mg/L	MCAWW 300.0A	05/29/08	8165345
		Work Order #: KP1JC1AA MB Lot-Sample #: F8F130000-345				
		Dilution Factor: 1				
		Analysis Time...: 09:32				
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154061
		Work Order #: KN7RT1AA MB Lot-Sample #: F8F020000-061				
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Chloride	ND	0.20	mg/L	MCAWW 300.0A	05/29/08	8165346
		Work Order #: KP1JD1AA MB Lot-Sample #: F8F130000-346				
		Dilution Factor: 1				
		Analysis Time...: 09:32				
Fluoride	ND	0.10	mg/L	MCAWW 300.0A	05/29/08	8165347
		Work Order #: KP1JE1AA MB Lot-Sample #: F8F130000-347				
		Dilution Factor: 1				
		Analysis Time...: 09:32				
Nitrate	ND	0.020	mg/L	MCAWW 300.0A	05/29/08	8165350
		Work Order #: KP1JJ1AA MB Lot-Sample #: F8F130000-350				
		Dilution Factor: 1				
		Analysis Time...: 09:32				
	ND	0.020	mg/L	MCAWW 300.0A	05/29/08	8165349
		Dilution Factor: 1				
		Analysis Time...: 09:32				
Nitrogen, as Ammonia	ND	50.0	ug/L	MCAWW 350.1	05/30/08	8150453
		Work Order #: KN3VT1AA MB Lot-Sample #: F8E290000-453				
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Sulfate	ND	0.50	mg/L	MCAWW 300.0A	05/29/08	8165348
		Work Order #: KP1JF1AA MB Lot-Sample #: F8F130000-348				
		Dilution Factor: 1				
		Analysis Time...: 09:32				

(Continued on next page)

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F8E280143

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Alkalinity	ND	Work Order #: KN7RG1AA 5.0	mg/L	MB Lot-Sample #: F8F020000-059 SM18 2320 B	06/02/08	8154059
		Dilution Factor: 1 Analysis Time...: 00:00				
Total Dissolved Solids	ND	Work Order #: KPC5L1AA 5.0	mg/L	MB Lot-Sample #: F8F040000-338 MCAWW 160.1	06/04-06/05/08	8156338
		Dilution Factor: 1 Analysis Time...: 00:00				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F8E280143

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#: F8F030000-134 Prep Batch #...: 8155134					
Calcium	105	(85 - 115)	SW846 6020	06/11-06/24/08	KN8W91AJ
			Dilution Factor: 1	Analysis Time...: 15:42	
Iron	111	(85 - 115)	SW846 6020	06/11-06/17/08	KN8W91AK
			Dilution Factor: 1	Analysis Time...: 02:05	
Potassium	102	(85 - 115)	SW846 6020	06/11-06/21/08	KN8W91AL
			Dilution Factor: 1	Analysis Time...: 21:57	
Magnesium	100	(85 - 115)	SW846 6020	06/11-06/21/08	KN8W91AM
			Dilution Factor: 1	Analysis Time...: 21:57	
Manganese	108	(85 - 115)	SW846 6020	06/11-06/17/08	KN8W91AN
			Dilution Factor: 1	Analysis Time...: 02:05	
Sodium	98	(85 - 115)	SW846 6020	06/11-06/21/08	KN8W91AP
			Dilution Factor: 1	Analysis Time...: 21:57	
Silicon	105	(85 - 115)	SW846 6020	06/11-06/21/08	KN8W91AQ
			Dilution Factor: 1	Analysis Time...: 21:57	
LCS Lot-Sample#: F8F230000-113 Prep Batch #...: 8175113					
Silica	105 N	(0.0- 0.0)	SW846 6020	06/11-06/21/08	KQEK81AC
			Dilution Factor: 1	Analysis Time...: 00:00	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 N Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: F8E280143

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Nitrogen, as Ammonia							
	100	(90 - 110)			MCAWW 350.1	05/30/08	8150453
	99	(90 - 110)	0.77	(0-20)	MCAWW 350.1	05/30/08	8150453
			Dilution Factor: 1		Analysis Time...: 00:00		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #....: F8E280143

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)	100	Work Order #: KN5GJ1AA (99 - 101)	LCS Lot-Sample#: F8E280000-223 SW846 9040	05/28/08	8149223
		Dilution Factor: 1	Analysis Time...: 00:00		
Bicarbonate Alkalinity	100	Work Order #: KN7R51AC (90 - 110)	LCS Lot-Sample#: F8F020000-062 MCAWW 310.1	06/02/08	8154062
		Dilution Factor: 1	Analysis Time...: 00:00		
Bromide	104	Work Order #: KP1JC1AC (90 - 110)	LCS Lot-Sample#: F8F130000-345 MCAWW 300.0A	05/29/08	8165345
		Dilution Factor: 1	Analysis Time...: 09:20		
Carbonate Alkalinity	100	Work Order #: KN7RT1AC (90 - 110)	LCS Lot-Sample#: F8F020000-061 MCAWW 310.1	06/02/08	8154061
		Dilution Factor: 1	Analysis Time...: 00:00		
Chloride	97	Work Order #: KP1JD1AC (90 - 110)	LCS Lot-Sample#: F8F130000-346 MCAWW 300.0A	05/29/08	8165346
		Dilution Factor: 1	Analysis Time...: 09:20		
Fluoride	96	Work Order #: KP1JE1AC (90 - 110)	LCS Lot-Sample#: F8F130000-347 MCAWW 300.0A	05/29/08	8165347
		Dilution Factor: 1	Analysis Time...: 09:20		
Nitrate	104	Work Order #: KP1JU1AC (90 - 110)	LCS Lot-Sample#: F8F130000-350 MCAWW 300.0A	05/29/08	8165350
		Dilution Factor: 1	Analysis Time...: 09:20		
Nitrite	98	Work Order #: KP1JH1AC (90 - 110)	LCS Lot-Sample#: F8F130000-349 MCAWW 300.0A	05/29/08	8165349
		Dilution Factor: 1	Analysis Time...: 09:20		
Sulfate	94	Work Order #: KP1JF1AC (90 - 110)	LCS Lot-Sample#: F8F130000-348 MCAWW 300.0A	05/29/08	8165348
		Dilution Factor: 1	Analysis Time...: 09:20		
Total Alkalinity	100	Work Order #: KN7RG1AC (90 - 110)	LCS Lot-Sample#: F8F020000-059 SM18 2320 B	06/02/08	8154059
		Dilution Factor: 1	Analysis Time...: 00:00		

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E280143

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Dissolved Solids	100	(86 - 115)	MCAWW 160.1	06/04-06/05/08	8156338
		Dilution Factor: 1		Analysis Time...: 00:00	

Work Order #: KPC5L1AC LCS Lot-Sample#: F8F040000-338

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #....: F8E280143

Matrix.....: WATER

Date Sampled...: 05/27/08 11:35 Date Received...: 05/28/08

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F8E280143-001 Prep Batch #...: 8155134							
Calcium	0 N	(75 - 125)			SW846 6020	06/11-06/24/08	KNX8D1A0
	136 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/11-06/24/08	KNX8D1A1
			Dilution Factor: 1000				
			Analysis Time...: 15:52				
Iron	62 N	(75 - 125)			SW846 6020	06/11-06/17/08	KNX8D1A2
	68 N	(75 - 125)	6.1	(0-20)	SW846 6020	06/11-06/17/08	KNX8D1A3
			Dilution Factor: 2				
			Analysis Time...: 02:16				
Magnesium	358 N	(75 - 125)			SW846 6020	06/11-06/21/08	KNX8D1A6
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/11-06/21/08	KNX8D1A7
			Dilution Factor: 1000				
			Analysis Time...: 22:18				
Manganese	79	(75 - 125)			SW846 6020	06/11-06/17/08	KNX8D1A8
	83	(75 - 125)	4.5	(0-20)	SW846 6020	06/11-06/17/08	KNX8D1A9
			Dilution Factor: 2				
			Analysis Time...: 02:16				
Potassium	122 N	(75 - 125)			SW846 6020	06/11-06/21/08	KNX8D1A4
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/11-06/21/08	KNX8D1A5
			Dilution Factor: 1000				
			Analysis Time...: 22:18				
Silicon	182 N	(75 - 125)			SW846 6020	06/11-06/21/08	KNX8D1CD
	138 N,*	(75 - 125)	27	(0-20)	SW846 6020	06/11-06/21/08	KNX8D1CE
			Dilution Factor: 1000				
			Analysis Time...: 22:18				
Sodium	3360 N	(75 - 125)			SW846 6020	06/11-06/21/08	KNX8D1CA
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/11-06/21/08	KNX8D1CC
			Dilution Factor: 1000				
			Analysis Time...: 22:18				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

* Relative percent difference (RPD) is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E280143

Matrix.....: WATER

Date Sampled...: 05/27/08 11:35 Date Received...: 05/28/08

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bromide	122 N	Work Order #...: KNX8D1CF (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E280143-001 05/29/08	8165345
		Dilution Factor: 1000		Analysis Time...: 11:27	
Chloride	89 N	Work Order #...: KNX8D1CH (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E280143-001 05/29/08	8165346
		Dilution Factor: 10000		Analysis Time...: 11:39	
Fluoride	87 N	Work Order #...: KNX8D1CK (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E280143-001 05/29/08	8165347
		Dilution Factor: 200		Analysis Time...: 11:14	
Nitrate	40 N	Work Order #...: KNX8D1CR (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E280143-001 05/29/08	8165350
		Dilution Factor: 200		Analysis Time...: 11:14	
Nitrite	149 N	Work Order #...: KNX8D1CP (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E280143-001 05/29/08	8165349
		Dilution Factor: 10000		Analysis Time...: 11:39	
Nitrogen, as Ammonia	104	Work Order #...: KNW831AP (90 - 110)	MCAWW 350.1	MS Lot-Sample #: F8E270173-001 05/30/08	8150453
		Dilution Factor: 1		Analysis Time...: 00:00	
Sulfate	88 N	Work Order #...: KNX8D1CM (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E280143-001 05/29/08	8165348
		Dilution Factor: 1000		Analysis Time...: 11:27	
Total Alkalinity	90	Work Order #...: KN5J21A2 (80 - 120)	SM18 2320 B	MS Lot-Sample #: F8E300223-003 06/02/08	8154059
		Dilution Factor: 1		Analysis Time...: 00:00	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E280143 Work Order #...: KNW83-SMP Matrix.....: WATER
KNW83-DUP
Date Sampled...: 05/22/08 09:19 Date Received...: 05/24/08

Table with columns: PARAM RESULT, DUPLICATE RESULT, UNITS, RPD, LIMIT, METHOD, PREPARATION- ANALYSIS DATE, PREP BATCH #. Row 1: Nitrogen, as Ammonia, 120, 140 B, ug/L, 19, (0-20), MCAWW 350.1, SD Lot-Sample #: F8E270173-001, 05/30/08, 8150453. Includes Dilution Factor: 1 and Analysis Time...: 00:00.

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
B Estimated result. Result is less than RL.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E280143 Work Order #...: KN2LJ-SMP Matrix.....: WATER
 KN2LJ-DUP
 Date Sampled...: 05/27/08 09:00 Date Received...: 05/28/08

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity					SD Lot-Sample #: F8E290176-002		
71.0	73.0	mg/L	2.8	(0-15)	MCAWW 310.1	06/02/08	8154062
		Dilution Factor: 1			Analysis Time...: 00:00		
Carbonate Alkalinity					SD Lot-Sample #: F8E290176-002		
ND	ND	mg/L	0	(0-20)	MCAWW 310.1	06/02/08	8154061
		Dilution Factor: 1			Analysis Time...: 00:00		
pH (liquid)					SD Lot-Sample #: F8E290176-002		
7.6	7.6	No Units	0.0	(0-0.0)	SW846 9040	05/28/08	8149223
		Dilution Factor: 1			Analysis Time...: 00:00		

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E280143 Work Order #...: KN46M-SMP Matrix.....: WATER
KN46M-DUP
Date Sampled...: 05/29/08 09:45 Date Received...: 05/30/08

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #	
Bicarbonate Alkalinity	76.0	78.0	mg/L	2.6	(0-15)	MCAWW 310.1	06/02/08	8154062
				Dilution Factor: 1	Analysis Time...: 00:00			
Carbonate Alkalinity	ND	ND	mg/L	0	(0-20)	MCAWW 310.1	06/02/08	8154061
				Dilution Factor: 1	Analysis Time...: 00:00			

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E280143 Work Order #...: KN5J2-SMP Matrix.....: WATER
KN5J2-DUP
Date Sampled...: 05/29/08 16:10 Date Received...: 05/30/08

<u>PARAM RESULT</u>	<u>DUPLICATE RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD LIMIT</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bicarbonate Alkalinity 9.4	9.3	mg/L	1.6	(0-15)	MCAWW 310.1	06/02/08	8154062
		Dilution Factor: 1			Analysis Time...: 00:00		
Carbonate Alkalinity ND	ND	mg/L	0	(0-20)	MCAWW 310.1	06/02/08	8154061
		Dilution Factor: 1			Analysis Time...: 00:00		
Total Alkalinity 189	279	mg/L	38	(0-20)	SM18 2320 B	06/02/08	8154059
		Dilution Factor: 1			Analysis Time...: 00:00		

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E280143 Work Order #...: KN5GT-SMP Matrix.....: WATER

KN5GT-DUP

Date Sampled...: 05/28/08 10:02 Date Received...: 05/30/08

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Dissolved Solids	431	420	mg/L	2.6	(0-15)	MCAWW 160.1	06/04-06/05/08	8156338
						SD Lot-Sample #: F8E300212-001		
				Dilution Factor: 1	Analysis Time...: 00:00			

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E280143 Work Order #...: KNX8D-SMP Matrix.....: WATER
 KNX8D-DUP
 Date Sampled...: 05/27/08 11:35 Date Received...: 05/28/08

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bromide	205 B	mg/L	24	(0-20)	SD Lot-Sample #: F8E280143-001 MCAWW 300.0A	05/29/08	8165345
262					Dilution Factor: 1000 Analysis Time...: 11:27		
Chloride	35100	mg/L	6.7	(0-20)	SD Lot-Sample #: F8E280143-001 MCAWW 300.0A	05/29/08	8165346
37500					Dilution Factor: 10000 Analysis Time...: 11:39		
Fluoride	ND	mg/L	0	(0-20)	SD Lot-Sample #: F8E280143-001 MCAWW 300.0A	05/29/08	8165347
ND					Dilution Factor: 200 Analysis Time...: 11:14		
Sulfate	4120	mg/L	0.77	(0-20)	SD Lot-Sample #: F8E280143-001 MCAWW 300.0A	05/29/08	8165348
4090					Dilution Factor: 1000 Analysis Time...: 11:27		
Nitrite	ND	mg/L	0	(0-20)	SD Lot-Sample #: F8E280143-001 MCAWW 300.0A	05/29/08	8165349
ND					Dilution Factor: 10000 Analysis Time...: 11:39		
Nitrate	ND	mg/L	0	(0-20)	SD Lot-Sample #: F8E280143-001 MCAWW 300.0A	05/29/08	8165350
ND					Dilution Factor: 200 Analysis Time...: 11:14		

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 B Estimated result. Result is less than RL.

F8E280143

CLIENT ANALYSIS SUMMARY

Storage Loc: 1-72

Project Manager: IV

Quote #: 79192 SDG:

Date Received: 2008-05-28

Project: 6468071950

FPL Turkey Point COL

Analytical Due Date: 2008-06-16

PO#: 200807151

Report to: Al Tice

Report Due Date: 2008-06-18

Client: 63036 MACTEC Engineering & Consulting Inc

#SMPS in LOT: 2

Report Type: W

EDD Code: 00

Inform PM of any receiving issues.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
1	OW-735U			2008-05-27 / 1135	KNX8D	WATER
SAMPLE COMMENTS:						
FE MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
KX MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
MG MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
MN MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
NA MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
SA MH	SW846 6020		WATER, Silica by calculation	OX	CALCULATION ONLY	9Q ORG FLAGS FOR INORG; STANDARD PROT: A WRK LOC 06
SI MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
CA MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
XX AK	MCAW 160.1 W		WATER, 160.1, Solids, Filterable "TDS"	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX C8	MCAW 300.0A W		WATER, 300.0A, Fluoride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX C9	MCAW 300.0A W		WATER, 300.0A, Nitrate as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX CB	MCAW 310.1 W		WATER, 310.1, Alkalinity, Carbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX CX	MCAW 300.0A W		WATER, 300.0A, Chloride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX CY	MCAW 300.0A W		WATER, 300.0A, Sulfate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX FJ	SW846 9040		WATER, 9040C, pH	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX GM	MCAW 300.0A W		WATER, 300.0A, Bromide	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX GO	MCAW 300.0A W		WATER, 300.0A, Nitrite as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX LV	SM18 2320 B		WATER, 2320 B, Alkalinity, Total	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX UX	MCAW 310.1 W		WATER, 310.1, Alkalinity, Bicarbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX VM	MCAW 350.1 W		WATER, 350.1, Nitrogen, Ammonia	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
2	OW-809U			2008-05-27 / 1455	KNX8K	WATER
SAMPLE COMMENTS:						
FE MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
KX MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
MG MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
MN MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
NA MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
SA MH	SW846 6020		WATER, Silica by calculation	OX	CALCULATION ONLY	9Q ORG FLAGS FOR INORG; STANDARD PROT: A WRK LOC 06
SI MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
CA MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
XX AK	MCAW 160.1 W		WATER, 160.1, Solids, Filterable "TDS"	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX C8	MCAW 300.0A W		WATER, 300.0A, Fluoride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX C9	MCAW 300.0A W		WATER, 300.0A, Nitrate as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06

F8E280143

CLIENT ANALYSIS SUMMARY

Storage Loc: 1-72
 Date Received: 2008-05-28
 Analytical Due Date: 2008-06-16
 Report Due Date: 2008-06-18
 Report Type: W
 EDD Code: 00

Project Manager: IV
 Project: 6468071950
 PO#: 200807151
 Client: 63036 MACTEC Engineering & Consulting Inc

Quote #: 79192
 FPL Turkey Point COL
 Report to: Al Tice

#SMPS in LOT: 2

Inform PM of any receiving issues.

XX	CB	MCAW 310.1 W	WATER, 310.1, Alkalinity, Carbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CX	MCAW 300.0A W	WATER, 300.0A, Chloride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW 300.0A W	WATER, 300.0A, Sulfate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	FJ	SW846 9040	WATER, 9040C, pH	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	GM	MCAW 300.0A W	WATER, 300.0A, Bromide	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	GO	MCAW 300.0A W	WATER, 300.0A, Nitrite as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	LV	SM18 2320 B	WATER, 2320 B, Alkalinity Total	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	UX	MCAW 310.1 W	WATER, 310.1, Alkalinity, Bicarbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	VM	MCAW 350.1 W	WATER, 350.1, Nitrogen, Ammonia	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

CWL 3535

Chain of Custody Record

Temperature on Receipt _____

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Drinking Water? Yes No

TAL-4124 (1007)

Client MACTEC	Project Manager Scott Arger	Date 05-27-08	Chain of Custody Number 062464
Address 3301 Atlantic Avenue	Telephone Number (Area Code)/Fax Number 919-876-0416	Lab Number	Page 1 of 1

City Raleigh	State NC	Zip Code 27604	Site Contact Matt Cooke	Lab Contact Ivan Vania	Analysis (Attach list if more space is needed)
Project Name and Location (State) Turkey Point COL			Carrier/Waybill Number FE 86562820 8233		

Sample I.D. No. and Description <small>(Containers for each sample may be combined on one line)</small>	Date	Time	Matrix							Containers & Preservatives							Special Instructions/ Conditions of Receipt				
			Air	Aqueous	Sed.	Soil	Unpres.	Pres.	AS04	PH03	HCl	NaOH	ZnAc	NaOH	Other	Other					
OW-735U	05/27/08	1135		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>												LP, 3x250P	Cations: calcium Iron, Magnesium Manganese Potassium, Silica Sodium 905(D) PH-EPA SW846 9046 (D) 5-27-08 TDS-EPA 160.1 Cations - EPA 200.7 ^{see note} Inorganic Total Max WW 300.0A Alkalinity - EPA 310.1 Ammonia - EPA 350.1 Nitrate - EPA 353.1 ^{see note}
OW-809U	05/27/08	1455		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>													

Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown

Sample Disposal: Return To Client Disposal By Lab Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: 24 Hours 48 Hours 7 Days 14 Days 21 Days Other **Standard**

QC Requirements (Specify)

1. Relinquished By Kenneth Chip Smith	Date 05/27/08	Time 1625	1. Received By B-JL	Date 5/29/08	Time 0900
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments: **CATIONS EPA 200.7 nitrate/nitrite EPA 300.0**
Cations and nitrate/nitrite Analysis methods may change pending approval of SDPE, please wait
DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy
For instructions from MACTEC on these two analyes.



Lot #(s): F8E280143
- 3535 -

Client: Nadco COC/RFA No: _____ Date: 5/28/08
Quote No: 29192 Initiated By: bn Time: 0900

Condition Upon Receipt Form

Shipping Information

Shipper Name: FE Multiple Packages Y (N)
Shipping # (s):* _____ Sample Temperature (s):** _____
1. 8656 2820 8233 6. _____ 1. 2 6. _____
2. _____ 7. _____ 2. _____ 7. _____
3. _____ 8. _____ 3. _____ 8. _____
4. _____ 9. _____ 4. _____ 9. _____
5. _____ 10. _____ 5. _____ 10. _____

*Numbered shipping lines correspond to Numbered Sample Temp lines
**Sample must be received at 4°C ± 2°C. If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1. <input checked="" type="radio"/> Y <input type="radio"/> N	Are there custody seals present on the cooler?	8. <input type="radio"/> Y <input checked="" type="radio"/> N	Are there custody seals present on bottles?
2. <input type="radio"/> Y <input checked="" type="radio"/> N <input type="radio"/> N/A	Do custody seals on cooler appear to be tampered with?	9. <input type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Do custody seals on bottles appear to be tampered with?
3. <input checked="" type="radio"/> Y <input type="radio"/> N	Were contents of cooler frisked after opening, but before unpacking?	10. <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Was sample received with proper pH? (If not, make note below)
4. <input checked="" type="radio"/> Y <input type="radio"/> N	Sample received with Chain of Custody?	11. <input type="radio"/> Y <input type="radio"/> N	If N/A- Was pH taken by original TestAmerica lab?
5. <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. <input checked="" type="radio"/> Y <input type="radio"/> N	Sample received in proper containers?
6. <input type="radio"/> Y <input checked="" type="radio"/> N	Was sample received broken?	13. <input type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7. <input checked="" type="radio"/> Y <input type="radio"/> N	Is sample volume sufficient for analysis?	14. <input type="radio"/> Y <input type="radio"/> N	Was Internal COC/Workshare received?

1 For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Notes section with multiple horizontal lines for text entry.

Corrective Action:
 Client Contact Name: _____ Informed by: _____
 Sample(s) processed "as is"
 Sample(s) on hold until: _____ If released, notify: _____
Project Management Review: [Signature] Date: 5-29-08
THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.



**DOCUMENTATION OF TECHNICAL REVIEW
SUBCONTRACTOR WORK PRODUCT**

Project Name: Turkey Point COL Project

Project Number: 6468-07-1950

Project Manager: Scott Auger

Project Principal: Tom McDaniel

The report described below has been prepared by the named subcontractor retained in accordance with the MACTEC QAPD. The work and report have been reviewed by a MACTEC technically qualified person. Comments on the work or report, if any, have been satisfactorily addressed by the subcontractor. The attached report is approved in accordance with section QS-7 of MACTEC's QAPD.

The information and data contained in the attached report are hereby released by MACTEC for project use.

REPORT : Analytical Report Lot #: F8F060153

SUBCONTRACTOR: TestAmerica, Earth City, MO

DATE OF ACCEPTANCE : 7/23/2008

TECHNICAL REVIEWER: William S. Grimes

William S. Grimes

PROJECT PRINCIPAL: Tom McDaniel

Tom McDaniel



3301 Atlantic Avenue, Raleigh, NC 27604



LABORATORY DATA REVIEW CHECKLIST

	<u>YES</u>	<u>NO</u>	<u>NOT APPLICABLE</u>
1. Laboratory analytical data report appears complete (all data results present for all samples submitted for analysis) and there are no apparent transcription errors:	___	<input checked="" type="checkbox"/>	___
2. Samples analyzed within applicable holding times (based on date of sample collection):*	<input checked="" type="checkbox"/>	___	___
3. Trip blanks, field blanks or laboratory method blanks are free of blank contamination:	___	<input checked="" type="checkbox"/>	___
4. If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: **	___	___	<input checked="" type="checkbox"/>
5. Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges:	___	___	<input checked="" type="checkbox"/>
6. If Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples required to meet project objectives, Percent Recoveries (%R) and Relative Percent Difference (RPD) within laboratory reported acceptance ranges:	___	<input checked="" type="checkbox"/>	___
7. Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards):	<input checked="" type="checkbox"/>	___	___
8. Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate):	<input checked="" type="checkbox"/>	___	___
9. Analytical costs within authorized budget for these services:	___	___	<input checked="" type="checkbox"/>

COMMENTS: ¹ Ion balance difference results erroneously flagged with a "B" data qualifier. Results should not be flagged, and can be used. ² An estimated concentration of chloride was detected in the method blank, at a concentration between the PQL and MDL. Chloride concentrations in site samples were considerably higher, and likely reflect ambient aquifer conditions. ³ MS/MSD recoveries were outside QC limits for several analytes possibly due to matrix interference. QC established based on acceptable LCS recoveries and results for analytes with acceptable recoveries.

- Notes: 1. This checklist is intended for use with the laboratory reporting formats typical of most projects. If "no" is answered to one or more of the above checklist questions 1 through 7, a more detailed Data Validation may be required, and a person knowledgeable in Data Validation protocols should be consulted. This checklist should not be used if the project scope requires Data Validation from the onset.
2. * = Based upon EPA Guidance and the applicable analytical method references. See reverse side of checklist for details.
3. ** = Based upon EPA Guidance. Use these criteria on duplicate and sample results which exceed five times the reported detection limit. See reverse side of checklist for details.

Checked by: William A. Lin Date: 7-14-08



ANALYTICAL REPORT

PROJECT NO. 6468071950

FPL Turkey Point COL

Lot #: F8F060153

Al Tice

MACTEC Engineering and Cons.
3301 Atlantic Ave.
Raleigh, NC 27604

TESTAMERICA LABORATORIES, INC.

A handwritten signature in black ink, appearing to read "Ivan Vania", is written over the printed name.

Ivan Vania
Project Manager

July 1, 2008

Case Narrative
LOT NUMBER: F8F060153

This report contains the analytical results for the two samples received under chain of custody by TestAmerica St. Louis on June 6, 2008. These samples are associated with your FPL Turkey Point COL project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

ICP-MS (SW846-6020)

The MS (MSD) recoveries for batch 8164260 - calcium, potassium, magnesium, sodium, silicon are outside the established QC limits. The analyte concentrations in the original samples are greater than four times the amount spiked, making percent recovery information ineffective. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F8F060153 (1): OW-802U
F8F060153 (2): OW-805U

The MS (MSD) recoveries for batch 8164260 - iron are outside the established QC limits. The RPD is within method acceptance criteria indicating possible matrix interference. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F8F060153 (1): OW-802U
F8F060153 (2): OW-805U

The MS (MSD) recoveries for batch 8164260 - manganese are outside the established QC limits due to matrix interference. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F8F060153 (1): OW-802U
F8F060153 (2): OW-805U

Batch 8164260:

The samples were analyzed at a dilution due to high concentrations of target analytes. The reporting limits were adjusted for the dilution since no analysis at a lesser dilution was performed.

Affected Samples:

F8F060153 (1): OW-802U

F8F060153 (2): OW-805U

Chloride (MCAWW 300.0A)

Poor matrix spike recovery for Nitrite in batch 8158478 is attributed to matrix interference.

The anion matrix spike solution contains all routine anions. Spiking technique, sample preparation and method compliance is demonstrated by the remaining acceptable MS recoveries.

Affected Samples:

F8F060153 (1): OW-802U

F8F060153 (2): OW-805U

There were no other nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F8F060153

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
pH Aqueous	SW846 9040	SW846 9040
Alkalinity, Total	SM18 2320 B	SM18 2320 B
Bicarbonate Alkalinity	MCAWW 310.1	MCAWW 310.1
Bromide	MCAWW 300.0A	MCAWW 300.0A
Carbonate Alkalinity	MCAWW 310.1	MCAWW 310.1
Chloride	MCAWW 300.0A	MCAWW 300.0A
Filterable Residue (TDS)	MCAWW 160.1	MCAWW 160.1
Fluoride	MCAWW 300.0A	MCAWW 300.0A
Ion Balance (%Difference)	SM18 1030F & AP	SM18 1030F & AP
ICP-MS (6020)	SW846 6020	
Nitrate as N	MCAWW 300.0A	MCAWW 300.0A
Nitrite as N	MCAWW 300.0A	MCAWW 300.0A
Nitrogen, Ammonia	MCAWW 350.1	MCAWW 350.1
Sulfate	MCAWW 300.0A	MCAWW 300.0A

References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SM18 "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F8F060153

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
KPHA3	001	OW-802U	06/05/08	12:35
KPHCH	002	OW-805U	06/05/08	15:00

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-802U

TOTAL Metals

Lot-Sample #...: F8F060153-001

Matrix.....: WATER

Date Sampled...: 06/05/08 12:35 Date Received...: 06/06/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Prep Batch #...: 8164260							
Calcium	579000 N	100000	ug/L	SW846 6020	06/12-06/25/08	KPHA31AN	
		Dilution Factor: 1000		Analysis Time...: 17:02			
Iron	ND N	50000	ug/L	SW846 6020	06/12-06/25/08	KPHA31AP	
		Dilution Factor: 1000		Analysis Time...: 17:02			
Potassium	586000 N	100000	ug/L	SW846 6020	06/12-06/25/08	KPHA31AQ	
		Dilution Factor: 1000		Analysis Time...: 17:02			
Magnesium	1980000 N	50000	ug/L	SW846 6020	06/12-06/25/08	KPHA31AR	
		Dilution Factor: 1000		Analysis Time...: 17:02			
Manganese	ND N	2000	ug/L	SW846 6020	06/12-06/25/08	KPHA31AT	
		Dilution Factor: 1000		Analysis Time...: 17:02			
Sodium	16400000 N	50000	ug/L	SW846 6020	06/12-06/25/08	KPHA31AU	
		Dilution Factor: 1000		Analysis Time...: 17:02			
Silicon	66700 BN	250000	ug/L	SW846 6020	06/12-06/25/08	KPHA31AV	
		Dilution Factor: 1000		Analysis Time...: 17:02			
Prep Batch #...: 8175114							
Silica	143000 J	250000	ug/L	SW846 6020	06/12-06/25/08	KPHA31AW	
		Dilution Factor: 1000		Analysis Time...: 17:02			

NOTE(S):

- N Spiked analyte recovery is outside stated control limits.
- J Estimated result. Result is less than RL.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-802U

General Chemistry

Lot-Sample #...: F8F060153-001 Work Order #...: KPHA3 Matrix.....: WATER
 Date Sampled...: 06/05/08 12:35 Date Received...: 06/06/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.3	0.10	No Units	SW846 9040	06/06/08	8161156
				Dilution Factor: 1 Analysis Time...: 00:00		
Bicarbonate Alkalinity	178	5.0	mg/L	MCAWW 310.1	06/10/08	8161269
				Dilution Factor: 1 Analysis Time...: 00:00		
Bromide	65.1	50.0	mg/L	MCAWW 300.0A	06/06/08	8158474
				Dilution Factor: 200 Analysis Time...: 08:16		
Carbonate Alkalinity ND		5.0	mg/L	MCAWW 310.1	06/10/08	8161267
				Dilution Factor: 1 Analysis Time...: 00:00		
Chloride	31600 J	2000	mg/L	MCAWW 300.0A	06/06/08	8158475
				Dilution Factor: 10000 Analysis Time...: 08:40		
Fluoride	ND	20.0	mg/L	MCAWW 300.0A	06/06/08	8158476
				Dilution Factor: 200 Analysis Time...: 08:16		
Ion Balance Difference	3.0 B	0.10	%	SM18 1030F & API	07/01/08	8183319
				Dilution Factor: 1 Analysis Time...: 00:00		
Nitrate	ND	0.20	mg/L	MCAWW 300.0A	06/06/08	8158479
				Dilution Factor: 10 Analysis Time...: 08:04		
Nitrite	ND	200	mg/L	MCAWW 300.0A	06/06/08	8158478
				Dilution Factor: 10000 Analysis Time...: 08:40		
Nitrogen, as Ammonia	1400	200	ug/L	MCAWW 350.1	06/11/08	8163468
				Dilution Factor: 4 Analysis Time...: 00:00		
Sulfate	3720	500	mg/L	MCAWW 300.0A	06/06/08	8158477
				Dilution Factor: 1000 Analysis Time...: 08:28		
Total Alkalinity	178	5.0	mg/L	SM18 2320 B	06/10/08	8161265
				Dilution Factor: 1 Analysis Time...: 00:00		
Total Dissolved Solids	53900	500	mg/L	MCAWW 160.1	06/11-06/12/08	8163486
				Dilution Factor: 100 Analysis Time...: 00:00		

NOTE(S) :

- RL Reporting Limit
- J Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- B Estimated result. Result is less than RL.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-805U

TOTAL Metals

Lot-Sample #...: F8F060153-002
 Date Sampled...: 06/05/08 15:00 Date Received...: 06/06/08

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...:	8164260					
Calcium	447000 N	100000	ug/L	SW846 6020	06/12-06/25/08	KPHCHLAN
		Dilution Factor: 1000		Analysis Time...: 17:26		
Iron	ND N	50000	ug/L	SW846 6020	06/12-06/25/08	KPHCH1AP
		Dilution Factor: 1000		Analysis Time...: 17:26		
Potassium	493000 N	100000	ug/L	SW846 6020	06/12-06/25/08	KPHCH1AQ
		Dilution Factor: 1000		Analysis Time...: 17:26		
Magnesium	1570000 N	50000	ug/L	SW846 6020	06/12-06/25/08	KPHCH1AR
		Dilution Factor: 1000		Analysis Time...: 17:26		
Manganese	ND N	2000	ug/L	SW846 6020	06/12-06/25/08	KPHCH1AT
		Dilution Factor: 1000		Analysis Time...: 17:26		
Sodium	13200000 N	50000	ug/L	SW846 6020	06/12-06/25/08	KPHCH1AU
		Dilution Factor: 1000		Analysis Time...: 17:26		
Silicon	49900 BN	250000	ug/L	SW846 6020	06/12-06/25/08	KPHCH1AV
		Dilution Factor: 1000		Analysis Time...: 17:26		
Prep Batch #...:	8175114					
Silica	107000 J	250000	ug/L	SW846 6020	06/12-06/25/08	KPHCH1AW
		Dilution Factor: 1000		Analysis Time...: 17:26		

NOTE(S):

- N Spiked analyte recovery is outside stated control limits.
- J Estimated result. Result is less than RL.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-805U

General Chemistry

Lot-Sample #...: F8F060153-002 Work Order #...: KPHCH Matrix.....: WATER
 Date Sampled...: 06/05/08 15:00 Date Received...: 06/06/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.4	0.10	No Units	SW846 9040	06/06/08	8161156
				Dilution Factor: 1 Analysis Time...: 00:00		
Bicarbonate Alkalinity	177	5.0	mg/L	MCAWW 310.1	06/10/08	8161269
				Dilution Factor: 1 Analysis Time...: 00:00		
Bromide	53.6	50.0	mg/L	MCAWW 300.0A	06/06/08	8158474
				Dilution Factor: 200 Analysis Time...: 11:03		
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/10/08	8161267
				Dilution Factor: 1 Analysis Time...: 00:00		
Chloride	27600 J	2000	mg/L	MCAWW 300.0A	06/06/08	8158475
				Dilution Factor: 10000 Analysis Time...: 11:27		
Fluoride	ND	20.0	mg/L	MCAWW 300.0A	06/06/08	8158476
				Dilution Factor: 200 Analysis Time...: 11:03		
Ion Balance Difference	6.9 B	0.10	%	SML8 1030F & API	07/01/08	8183319
				Dilution Factor: 1 Analysis Time...: 00:00		
Nitrate	ND	0.20	mg/L	MCAWW 300.0A	06/06/08	8158479
				Dilution Factor: 10 Analysis Time...: 10:51		
Nitrite	ND	200	mg/L	MCAWW 300.0A	06/06/08	8158478
				Dilution Factor: 10000 Analysis Time...: 11:27		
Nitrogen, as Ammonia	548	50.0	ug/L	MCAWW 350.1	06/11/08	8163468
				Dilution Factor: 1 Analysis Time...: 00:00		
Sulfate	3070	500	mg/L	MCAWW 300.0A	06/06/08	8158477
				Dilution Factor: 1000 Analysis Time...: 11:15		
Total Alkalinity	177	5.0	mg/L	SML8 2320 B	06/10/08	8161265
				Dilution Factor: 1 Analysis Time...: 00:00		
Total Dissolved Solids	45700	500	mg/L	MCAWW 160.1	06/11-06/12/08	8163486
				Dilution Factor: 100 Analysis Time...: 00:00		

NOTE (S) :

RL Reporting Limit

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F8F060153

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F8F120000-260 Prep Batch #...: 8164260						
Calcium	ND B	100	ug/L	SW846 6020	06/12-06/25/08	KPRWF1AA
		Dilution Factor: 1 Analysis Time...: 16:54				
Iron	ND	50	ug/L	SW846 6020	06/12-06/25/08	KPRWF1AC
		Dilution Factor: 1 Analysis Time...: 16:54				
Magnesium	ND	50	ug/L	SW846 6020	06/12-06/25/08	KPRWF1AE
		Dilution Factor: 1 Analysis Time...: 16:54				
Manganese	ND	2	ug/L	SW846 6020	06/12-06/25/08	KPRWF1AF
		Dilution Factor: 1 Analysis Time...: 16:54				
Potassium	ND	100	ug/L	SW846 6020	06/12-06/25/08	KPRWF1AD
		Dilution Factor: 1 Analysis Time...: 16:54				
Silicon	ND	250	ug/L	SW846 6020	06/12-06/25/08	KPRWF1AH
		Dilution Factor: 1 Analysis Time...: 16:54				
Sodium	ND	50	ug/L	SW846 6020	06/12-06/25/08	KPRWF1AG
		Dilution Factor: 1 Analysis Time...: 16:54				

MB Lot-Sample #: F8F230000-114 Prep Batch #...: 8175114

Silica	ND	250	ug/L	SW846 6020	06/12-06/25/08	KQL7E1AA
		Dilution Factor: 1 Analysis Time...: 17:26				

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F8F060153

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/10/08	8161269
		Work Order #: KPLC11AA MB Lot-Sample #: F8F090000-269				
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Bromide	ND	0.25	mg/L	MCAWW 300.0A	06/06/08	8158474
		Work Order #: KPMF61AA MB Lot-Sample #: F8F060000-474				
		Dilution Factor: 1				
		Analysis Time...: 06:34				
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/10/08	8161267
		Work Order #: KPLCR1AA MB Lot-Sample #: F8F090000-267				
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Chloride	0.041 B	0.20	mg/L	MCAWW 300.0A	06/06/08	8158475
		Work Order #: KPMF81AA MB Lot-Sample #: F8F060000-475				
		Dilution Factor: 1				
		Analysis Time...: 06:34				
Fluoride	ND	0.10	mg/L	MCAWW 300.0A	06/06/08	8158476
		Work Order #: KPMGD1AA MB Lot-Sample #: F8F060000-476				
		Dilution Factor: 1				
		Analysis Time...: 06:34				
Nitrate	ND	0.020	mg/L	MCAWW 300.0A	06/06/08	8158479
		Work Order #: KPMGH1AA MB Lot-Sample #: F8F060000-479				
		Dilution Factor: 1				
		Analysis Time...: 06:34				
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	06/06/08	8158478
		Work Order #: KPMGG1AA MB Lot-Sample #: F8F060000-478				
		Dilution Factor: 1				
		Analysis Time...: 06:34				
Nitrogen, as Ammonia	ND	50.0	ug/L	MCAWW 350.1	06/11/08	8163468
		Work Order #: KPQWM1AA MB Lot-Sample #: F8F110000-468				
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Sulfate	ND	0.50	mg/L	MCAWW 300.0A	06/06/08	8158477
		Work Order #: KPMGF1AA MB Lot-Sample #: F8F060000-477				
		Dilution Factor: 1				
		Analysis Time...: 06:34				

(Continued on next page)

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F8F060153

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Alkalinity	ND	Work Order #: KPLCP1AA 5.0	mg/L	MB Lot-Sample #: SM18 2320 B	F8F090000-265 06/10/08	8161265
		Dilution Factor: 1 Analysis Time..: 00:00				
Total Dissolved Solids	ND	Work Order #: KPQXJLAA 5.0	mg/L	MB Lot-Sample #: MCAWW 160.1	F8F110000-486 06/11-06/12/08	8163486
		Dilution Factor: 1 Analysis Time..: 00:00				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F8F060153

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#: F8F120000-260 Prep Batch #...: 8164260					
Calcium	107	(85 - 115)	SW846 6020	06/12-06/25/08	KPRWF1AJ
		Dilution Factor: 1		Analysis Time...: 16:58	
Iron	105	(85 - 115)	SW846 6020	06/12-06/25/08	KPRWF1AK
		Dilution Factor: 1		Analysis Time...: 16:58	
Potassium	106	(85 - 115)	SW846 6020	06/12-06/25/08	KPRWF1AL
		Dilution Factor: 1		Analysis Time...: 16:58	
Magnesium	105	(85 - 115)	SW846 6020	06/12-06/25/08	KPRWF1AM
		Dilution Factor: 1		Analysis Time...: 16:58	
Manganese	111	(85 - 115)	SW846 6020	06/12-06/25/08	KPRWF1AN
		Dilution Factor: 1		Analysis Time...: 16:58	
Sodium	103	(85 - 115)	SW846 6020	06/12-06/25/08	KPRWF1AP
		Dilution Factor: 1		Analysis Time...: 16:58	
Silicon	111	(85 - 115)	SW846 6020	06/12-06/25/08	KPRWF1AQ
		Dilution Factor: 1		Analysis Time...: 16:58	
LCS Lot-Sample#: F8F230000-114 Prep Batch #...: 8175114					
Silica	111 N	(0.0- 0.0)	SW846 6020	06/12-06/25/08	KQL7E1AC
		Dilution Factor: 1		Analysis Time...: 00:00	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: F8F060153

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Nitrogen, as Ammonia		WO#:KPQWMLAC-LCS/KPQWMLAD-LCSD		LCS Lot-Sample#: F8F110000-468			
	103	(90 - 110)			MCAWW 350.1	06/11/08	8163468
	96	(90 - 110)	6.1	(0-20)	MCAWW 350.1	06/11/08	8163468
		Dilution Factor: 1		Analysis Time...: 00:00			

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8F060153

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)	100	Work Order #: KPK3K1AA (99 - 101)	LCS Lot-Sample#: F8F090000-156 SW846 9040	06/06/08	8161156
		Dilution Factor: 1	Analysis Time...: 00:00		
Bicarbonate Alkalinity	101	Work Order #: KPLC11AC (90 - 110)	LCS Lot-Sample#: F8F090000-269 MCAWW 310.1	06/10/08	8161269
		Dilution Factor: 1	Analysis Time...: 00:00		
Bromide	101	Work Order #: KPMF61AC (90 - 110)	LCS Lot-Sample#: F8F060000-474 MCAWW 300.0A	06/06/08	8158474
		Dilution Factor: 1	Analysis Time...: 06:22		
Carbonate Alkalinity	101	Work Order #: KPLCR1AC (90 - 110)	LCS Lot-Sample#: F8F090000-267 MCAWW 310.1	06/10/08	8161267
		Dilution Factor: 1	Analysis Time...: 00:00		
Chloride	99	Work Order #: KPMF81AC (90 - 110)	LCS Lot-Sample#: F8F060000-475 MCAWW 300.0A	06/06/08	8158475
		Dilution Factor: 1	Analysis Time...: 06:22		
Fluoride	96	Work Order #: KPMGD1AC (90 - 110)	LCS Lot-Sample#: F8F060000-476 MCAWW 300.0A	06/06/08	8158476
		Dilution Factor: 1	Analysis Time...: 06:22		
Nitrate	102	Work Order #: KPMGH1AC (90 - 110)	LCS Lot-Sample#: F8F060000-479 MCAWW 300.0A	06/06/08	8158479
		Dilution Factor: 1	Analysis Time...: 06:22		
Nitrite	100	Work Order #: KPMGG1AC (90 - 110)	LCS Lot-Sample#: F8F060000-478 MCAWW 300.0A	06/06/08	8158478
		Dilution Factor: 1	Analysis Time...: 06:22		
Sulfate	96	Work Order #: KPMGF1AC (90 - 110)	LCS Lot-Sample#: F8F060000-477 MCAWW 300.0A	06/06/08	8158477
		Dilution Factor: 1	Analysis Time...: 06:22		
Total Alkalinity	101	Work Order #: KPLCP1AC (90 - 110)	LCS Lot-Sample#: F8F090000-265 SM18 2320 B	06/10/08	8161265
		Dilution Factor: 1	Analysis Time...: 00:00		

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F8F060153

Matrix.....: WATER

Date Sampled...: 06/05/08 12:35 Date Received...: 06/06/08

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD RPD	LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F8F060153-001 Prep Batch #...: 8164260							
Calcium	0 N	(75 - 125)			SW846 6020	06/12-06/25/08	KPHA31CF
	122	(75 - 125)	0.0	(0-20)	SW846 6020	06/12-06/25/08	KPHA31CG
			Dilution Factor: 1000				
			Analysis Time...: 17:10				
Iron	0 N	(75 - 125)			SW846 6020	06/12-06/25/08	KPHA31CH
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/12-06/25/08	KPHA31CJ
			Dilution Factor: 1000				
			Analysis Time...: 17:10				
Magnesium	0 N	(75 - 125)			SW846 6020	06/12-06/25/08	KPHA31CM
	9.5 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/12-06/25/08	KPHA31CN
			Dilution Factor: 1000				
			Analysis Time...: 17:10				
Manganese	146 N	(75 - 125)			SW846 6020	06/12-06/25/08	KPHA31CP
	155 N	(75 - 125)	6.1	(0-20)	SW846 6020	06/12-06/25/08	KPHA31CQ
			Dilution Factor: 1000				
			Analysis Time...: 17:10				
Potassium	0 N	(75 - 125)			SW846 6020	06/12-06/25/08	KPHA31CK
	66 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/12-06/25/08	KPHA31CL
			Dilution Factor: 1000				
			Analysis Time...: 17:10				
Silicon	0 N	(75 - 125)			SW846 6020	06/12-06/25/08	KPHA31CU
	0 N,B	(75 - 125)	0.0	(0-20)	SW846 6020	06/12-06/25/08	KPHA31CV
			Dilution Factor: 1000				
			Analysis Time...: 17:10				
Sodium	0 N	(75 - 125)			SW846 6020	06/12-06/25/08	KPHA31CR
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/12-06/25/08	KPHA31CT
			Dilution Factor: 1000				
			Analysis Time...: 17:10				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

B Estimated result. Result is less than RL.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8F060153

Matrix.....: WATER

Date Sampled...: 06/05/08 12:35 Date Received...: 06/06/08

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bromide	94	Work Order #...: KPHA31A2 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8F060153-001 06/06/08	8158474
		Dilution Factor: 200		Analysis Time...: 08:16	
Chloride	101	Work Order #...: KPHA31A4 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8F060153-001 06/06/08	8158475
		Dilution Factor: 10000		Analysis Time...: 08:40	
Fluoride	90	Work Order #...: KPHA31A6 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8F060153-001 06/06/08	8158476
		Dilution Factor: 200		Analysis Time...: 08:16	
Nitrate	100	Work Order #...: KPHA31CD (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8F060153-001 06/06/08	8158479
		Dilution Factor: 10		Analysis Time...: 08:04	
Nitrite	143 N	Work Order #...: KPHA31CA (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8F060153-001 06/06/08	8158478
		Dilution Factor: 10000		Analysis Time...: 08:40	
Nitrogen, as Ammonia	106	Work Order #...: KPHCH1A1 (90 - 110)	MCAWW 350.1	MS Lot-Sample #: F8F060153-002 06/11/08	8163468
		Dilution Factor: 2		Analysis Time...: 00:00	
Sulfate	95	Work Order #...: KPHA31A8 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8F060153-001 06/06/08	8158477
		Dilution Factor: 1000		Analysis Time...: 08:28	
Total Alkalinity	92	Work Order #...: KPF631A0 (80 - 120)	SM18 2320 B	MS Lot-Sample #: F8F050344-001 06/10/08	8161265
		Dilution Factor: 1		Analysis Time...: 00:00	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8F060153 Work Order #...: KPHA3-SMP Matrix.....: WATER
 KPHA3-DUP
 Date Sampled...: 06/05/08 12:35 Date Received...: 06/06/08

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bromide	65.1	66.0	mg/L	1.5	(0-20)	SD Lot-Sample #: F8F060153-001 MCAWW 300.0A Dilution Factor: 200 Analysis Time...: 08:16	06/06/08	8158474
Chloride	31600 J	31700	mg/L	0.25	(0-20)	SD Lot-Sample #: F8F060153-001 MCAWW 300.0A Dilution Factor: 10000 Analysis Time...: 08:40	06/06/08	8158475
Fluoride	ND	ND	mg/L	0	(0-20)	SD Lot-Sample #: F8F060153-001 MCAWW 300.0A Dilution Factor: 200 Analysis Time...: 08:16	06/06/08	8158476
Sulfate	3720	3690	mg/L	0.64	(0-20)	SD Lot-Sample #: F8F060153-001 MCAWW 300.0A Dilution Factor: 1000 Analysis Time...: 08:28	06/06/08	8158477
Nitrite	ND	ND	mg/L	0	(0-20)	SD Lot-Sample #: F8F060153-001 MCAWW 300.0A Dilution Factor: 10000 Analysis Time...: 08:40	06/06/08	8158478
Nitrate	ND	ND	mg/L	0	(0-20)	SD Lot-Sample #: F8F060153-001 MCAWW 300.0A Dilution Factor: 10 Analysis Time...: 08:04	06/06/08	8158479
pH (liquid)	7.3	7.3	No Units	0.41	(0-0.0)	SD Lot-Sample #: F8F060153-001 SW846 9040 Dilution Factor: 1 Analysis Time...: 00:00	06/06/08	8161156

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8F060153

Work Order #...: KPF63-SMP
KPF63-DUP

Matrix.....: WATER

Date Sampled...: 06/04/08 14:20 Date Received...: 06/05/08

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD LIMIT</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Alkalinity	181	183	mg/L	1.1	(0-20)	SM18 2320 B	06/10/08	8161265
		Dilution Factor: 1		Analysis Time...: 00:00		SD Lot-Sample #: F8F050344-001		

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8F060153

Work Order #...: KN9V9-SMP
KN9V9-DUP

Matrix.....: WATER

Date Sampled...: 06/02/08 07:50

Date Received...: 06/03/08

<u>PARAM RESULT</u>	<u>DUPLICATE RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD LIMIT</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bicarbonate Alkalinity						SD Lot-Sample #: F8F030220-002	
57.0	56.0	mg/L	1.8	(0-15)	MCAWW 310.1	06/10/08	8161269
		Dilution Factor: 1			Analysis Time...: 00:00		
Carbonate Alkalinity						SD Lot-Sample #: F8F030220-002	
ND	ND	mg/L	0	(0-20)	MCAWW 310.1	06/10/08	8161267
		Dilution Factor: 1			Analysis Time...: 00:00		

F8F060153

CLIENT ANALYSIS SUMMARY

Storage Loc: 1-134,METS

Project Manager: IV
 Project: 6468071950
 PO#: 200807151
 Client: 63036

Quote #: 79192 SDG:
 FPL Turkey Point COL
 Report to: Al Tice
 MACTEC Engineering & Consulting Inc

Date Received: 2008-06-06
 Analytical Due Date: 2008-06-20
 Report Due Date: 2008-06-26
 Report Type: W
 EDD Code: 00

#SMPS in LOT: 2

Inform PM of any receiving issues.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
1	OW-802U			2008-06-05 / 1235	KPH3	WATER
SAMPLE COMMENTS:						
FE	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
KX	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
MG	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
MN	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
NA	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
SA	MH SW846 6020		WATER, Silica by calculation	DX CALCULATION ONLY	9Q ORG FLAGS FOR INORG; STANDARD	PROT: A WRK LOC 06
SI	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
CA	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	AK MCAW 160.1 W		WATER, 160.1, Solids, Filterable "TDS"	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	C8 MCAW 300.0A W		WATER, 300.0A, Fluoride	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	C9 MCAW 300.0A W		WATER, 300.0A, Nitrate as N	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	CB MCAW 310.1 W		WATER, 310.1, Alkalinity, Carbonate	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	CX MCAW 300.0A W		WATER, 300.0A, Chloride	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	CY MCAW 300.0A W		WATER, 300.0A, Sulfate	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	FJ SW846 9040		WATER, 9040C, pH	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	GM MCAW 300.0A W		WATER, 300.0A, Bromide	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	GO MCAW 300.0A W		WATER, 300.0A, Nitrite as N	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	LV SM18 2320 B		WATER, 2320 B, Alkalinity, Total	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	SL SM18 1030F & API		WATER, 1030F & API, Ion Balance	0X CALCULATION ONLY	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	UX MCAW 310.1 W		WATER, 310.1, Alkalinity, Bicarbonate	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	VM MCAW 350.1 W		WATER, 350.1, Nitrogen, Ammonia	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
2	OWV-805U			2008-06-05 / 1500	KPHCH	WATER
SAMPLE COMMENTS:						
FE	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
KX	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
MG	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
MN	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
NA	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
SA	MH SW846 6020		WATER, Silica by calculation	0X CALCULATION ONLY	9Q ORG FLAGS FOR INORG; STANDARD	PROT: A WRK LOC 06
SI	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
CA	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	AK MCAW 160.1 W		WATER, 160.1, Solids, Filterable "TDS"	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	C8 MCAW 300.0A W		WATER, 300.0A, Fluoride	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06

F8F060153

CLIENT ANALYSIS SUMMARY

Storage Loc: **1-134,METS**
 Date Received: **2008-06-06**
 Analytical Due Date: **2008-06-20**
 Report Due Date: **2008-06-23**
 Report Type: **W**
 EDD Code: **00**

Project Manager: **IV** Quote #: **79192** SDG:
 Project: **6468071950** FPL Turkey Point COL
 PO#: **200807151** Report to: **Al Tice**
 Client: **63036** MACTEC Engineering & Consulting Inc

#SMPS in LOT: **2**

Inform PM of any receiving issues.

XX	C9	MCAW	300.0A	W	WATER, 300.0A, Nitrate as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	06
XX	CB	MCAW	310.1	W	WATER, 310.1, Alkalinity, Carbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	06
XX	CX	MCAW	300.0A	W	WATER, 300.0A, Chloride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	06
XX	CY	MCAW	300.0A	W	WATER, 300.0A, Sulfate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	06
XX	FJ	SW846	9040		WATER, 9040C, pH	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	06
XX	GM	MCAW	300.0A	W	WATER, 300.0A, Bromide	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	06
XX	GO	MCAW	300.0A	W	WATER, 300.0A, Nitrite as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	06
XX	LV	SM18	2320	B	WATER, 2320 B, Alkalinity, Total	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	06
XX	SL	SM18	1030F & API		WATER, 1030F & API, Ion Balance	0X	CALCULATION ONLY	01	STANDARD TEST SET	PROT: A	WRK	06
XX	UX	MCAW	310.1	W	WATER, 310.1, Alkalinity, Bicarbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	06
XX	VM	MCAW	350.1	W	WATER, 350.1, Nitrogen, Ammonia	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	06

Chain of Custody Record

cut 3244

Temperature on Receipt _____

Drinking Water? Yes No

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client MACTEC	Project Manager Scott Angel	Date 06-05-08	Chain of Custody Number 062467
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Address 3301 Atlantic Avenue	Telephone Number (Area Code)/Fax Number 919-876-0416	Lab Number	Page <u>1</u> of <u>1</u>
--	--	------------	---------------------------

City Raleigh	State NC	Zip Code 27604	Site Contact Matt Cooke	Lab Contact Jean Vania	Analysis (Attach list if more space is needed)
------------------------	--------------------	--------------------------	-----------------------------------	----------------------------------	--

Project Name and Location (State) Turkey Point Col	Carrier/Waybill Number FE 8656 2694 66A2
--	--

Contract/Purchase Order/Quote No. 6550-07-1950	Matrix	Containers & Preservatives	Special Instructions/Conditions of Receipt
--	--------	----------------------------	--

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives							Analysis (Attach list if more space is needed)	Special Instructions/Conditions of Receipt		
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	MeOH	ZnAc/MeOH	Other				
OW-802U	06/05/08	1235	X				12	1									Cations: Calcium Iron, magnesium Manganese Potassium, Silica Sodium PH - EPA SW846 9045(D) TDS - EPA 160.1 Cations - EPA 6020C Inorganic Ions max 300.0 A Alkalinity - EPA 310.1 Ammonia - EPA 350.1 Nitrate Nitrite - EPA 300.0
OW-805U	06/05/08	1500	X				12	1									

*11.01 No. P
12.50 P
13.50 P
14.50 P
15.50 P
16.50 P
17.50 P
18.50 P
19.50 P
20.50 P
21.50 P
22.50 P
23.50 P
24.50 P
25.50 P
26.50 P
27.50 P
28.50 P
29.50 P
30.50 P
31.50 P
32.50 P
33.50 P
34.50 P
35.50 P
36.50 P
37.50 P
38.50 P
39.50 P
40.50 P
41.50 P
42.50 P
43.50 P
44.50 P
45.50 P
46.50 P
47.50 P
48.50 P
49.50 P
50.50 P*

*(1M)
3X250 P, LP
↓
4/1
06/05/08*

Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown	Sample Disposal <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	(A fee may be assessed if samples are retained longer than 1 month)
---	--	---

Turn Around Time Required <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> 14 Days <input checked="" type="checkbox"/> 21 Days <input type="checkbox"/> Other <u>Standard</u>	QC Requirements (Specify)
--	---------------------------

1. Relinquished By <i>Kimberly Chapp-Smyth</i>	Date 06/05/08	Time 1600	1. Received By <i>[Signature]</i>	Date 06-06-08	Time 0930
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy



Lot #(s): F8F060153
- 3244 -

Client: Madec COC/RFA No: 062467 Condition Upon Receipt Form
Quote No: 79192 Initiated By: [Signature] Date: 06-06-08
Time: 0930

Shipper Name: FedEx Shipping Information
Multiple Packages Y (N)
Shipping # (s):*
Sample Temperature (s):**
1. 8636 2694 6642 6. _____ 1. 20 6. _____
2. _____ 7. _____ 2. _____ 7. _____
3. _____ 8. _____ 3. _____ 8. _____
4. _____ 9. _____ 4. _____ 9. _____
5. _____ 10. _____ 5. _____ 10. _____

*Numbered shipping lines correspond to Numbered Sample Temp lines
**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1. <input checked="" type="radio"/> Y <input type="radio"/> N	Are there custody seals present on the cooler?	8. <input checked="" type="radio"/> Y <input type="radio"/> N	Are there custody seals present on bottles?
2. <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Do custody seals on cooler appear to be tampered with?	9. <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Do custody seals on bottles appear to be tampered with?
3. <input checked="" type="radio"/> Y <input type="radio"/> N	Were contents of cooler frisked after opening, but before unpacking?	10. <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Was sample received with proper pH? (If not, make note below)
4. <input checked="" type="radio"/> Y <input type="radio"/> N	Sample received with Chain of Custody?	11. <input type="radio"/> Y <input type="radio"/> N	If N/A- Was pH taken by original TestAmerica lab?
5. <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. <input checked="" type="radio"/> Y <input type="radio"/> N	Sample received in proper containers?
6. <input type="radio"/> Y <input checked="" type="radio"/> N	Was sample received broken?	13. <input type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7. <input checked="" type="radio"/> Y <input type="radio"/> N	Is sample volume sufficient for analysis?	14. <input type="radio"/> Y <input type="radio"/> N	Was Internal COC/Workshare received?

¹For DOE-AL (Partex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Notes section with multiple horizontal lines for text entry.

Corrective Action:
 Client Contact Name: _____ Informed by: _____
 Sample(s) processed "as is"
 Sample(s) on hold until: _____ If released, notify: _____
Project Management Review: [Signature] Date: 6-8-08

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.
ADMIN-0004, REVISED 08/06/07\SIsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc



**DOCUMENTATION OF TECHNICAL REVIEW
SUBCONTRACTOR WORK PRODUCT**

Project Name: Turkey Point COL Project

Project Number: 6468-07-1950

Project Manager: Scott Auger

Project Principal: Tom McDaniel

The report described below has been prepared by the named subcontractor retained in accordance with the MACTEC QAPD. The work and report have been reviewed by a MACTEC technically qualified person. Comments on the work or report, if any, have been satisfactorily addressed by the subcontractor. The attached report is approved in accordance with section QS-7 of MACTEC's QAPD.

The information and data contained in the attached report are hereby released by MACTEC for project use.

REPORT : Analytical Report Lot #: F8E300223

SUBCONTRACTOR: TestAmerica, Earth City, MO

DATE OF ACCEPTANCE : 7/23/2008

TECHNICAL REVIEWER: William S. Grimes

William S. Grimes
Tom McDaniel

PROJECT PRINCIPAL: Tom McDaniel



3301 Atlantic Avenue, Raleigh, NC 27604



LABORATORY DATA REVIEW CHECKLIST

	<u>YES</u>	<u>NO</u>	<u>NOT APPLICABLE</u>
1. Laboratory analytical data report appears complete (all data results present for all samples submitted for analysis) and there are no apparent transcription errors:	___	✓ ¹	___
2. Samples analyzed within applicable holding times (based on date of sample collection):*	✓	___	___
3. Trip blanks, field blanks or laboratory method blanks are free of blank contamination:	___	✓ ²	___
4. If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: **	___	___	✓
5. Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges:	___	___	✓
6. If Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples required to meet project objectives, Percent Recoveries (%R) and Relative Percent Difference (RPD) within laboratory reported acceptance ranges:	___	✓ ³	___
7. Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards):	✓	___	___
8. Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate):	✓	___	___
9. Analytical costs within authorized budget for these services:	___	___	✓

COMMENTS: ¹ Iron results should be flagged indicating method blank contamination. ² An estimated concentration of iron was detected in the method blank, at a concentration between the PQL and MDL. Iron concentrations in site samples were considerably higher, and likely reflect ambient aquifer conditions. ³ MS/MSD recoveries were outside QC limits for several analytes possibly due to matrix interference. QC established based on acceptable LCS recoveries and results for analytes with acceptable recoveries.

- Notes: 1. This checklist is intended for use with the laboratory reporting formats typical of most projects. If "no" is answered to one or more of the above checklist questions 1 through 7, a more detailed Data Validation may be required, and a person knowledgeable in Data Validation protocols should be consulted. This checklist should not be used if the project scope requires Data Validation from the onset.
2. * = Based upon EPA Guidance and the applicable analytical method references. See reverse side of checklist for details.
3. ** = Based upon EPA Guidance. Use these criteria on duplicate and sample results which exceed five times the reported detection limit. See reverse side of checklist for details.

Checked by: Walter J. Sun Date: 7-14-08



ANALYTICAL REPORT

PROJECT NO. 6468071950

FEL Turkey Point COL

Lot #: F8E300223

Al Tice
MACTEC Engineering and Cons.
3301 Atlantic Ave.
Raleigh, NC 27604

TESTAMERICA LABORATORIES, INC.

Ivan Vania
Project Manager

June 27, 2008

Case Narrative
LOT NUMBER: F8E300223

This report contains the analytical results for the three samples received under chain of custody by TestAmerica St. Louis on May 30, 2008. These samples are associated with your FPL Turkey Point COL project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

ICP-MS (SW846-6020)

Batch 8155134:

The MS (MSD) recoveries for calcium, potassium, magnesium, and sodium are outside the established QC limits. The analyte concentrations in the original samples are greater than four times the amount spiked, making percent recovery information ineffective. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F8E300223 (1): OW-706U

F8E300223 (2): OW-706L

F8E300223 (3): OW-621U

Batch 8155134:

The MS (MSD) recovery for iron is outside the established QC limits. The RPD is within method acceptance criteria indicating possible matrix interference. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F8E300223 (1): OW-706U

F8E300223 (2): OW-706L

F8E300223 (3): OW-621U

Batch 8155134:

The MS (MSD) recovery for silicon is outside the established QC limits. Matrix interference is physically evident in the sample. The samples are high in salts. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F8E300223 (1): OW-706U

F8E300223 (2): OW-706L

F8E300223 (3): OW-621U

Batch 8155134:

The Measured Intensity Mean for lead, as measured during the daily performance check, was low. However, the calibration and the second source checks were all within acceptable QC limits. The samples were reported with this narrative.

Affected Samples:

F8E300223 (1): OW-706U

F8E300223 (2): OW-706L

F8E300223 (3): OW-621U

Batch 8155134:

The samples were analyzed at a dilution due to high concentrations of salts. The reporting limits were adjusted for the dilution.

Affected Samples:

F8E300223 (1): OW-706U

F8E300223 (2): OW-706L

F8E300223 (3): OW-621U

Total Dissolved Solids (MCAWW 160.1)

Batch 8157081:

The samples were analyzed at a dilution due to high concentrations of target analytes. The reporting limits were adjusted for the dilution since no analysis at a lesser dilution was performed.

Affected Samples:

F8E300223 (1): OW-706U

F8E300223 (2): OW-706L

F8E300223 (3): OW-621U

Anions (MCAWW 300.0A)

Poor matrix spike recovery for Nitrite in batch 8152136, Ortho Phosphate in batch 8152143, Bromide in batch 8152147, Fluoride in batch 8152149, and Nitrite in batch 8152151 is attributed to matrix interference. The anion matrix spike solution contains all routine anions. Spiking technique, sample preparation and method compliance is demonstrated by the remaining acceptable MS recoveries.

Affected Samples:

F8E300223 (1): OW-706U

F8E300223 (2): OW-706L

F8E300223 (3): OW-621U

There were no other nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F8E300223

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
pH Aqueous	SW846 9040	SW846 9040
Alkalinity, Total	SM18 2320 B	SM18 2320 B
Bicarbonate Alkalinity	MCAWW 310.1	MCAWW 310.1
Bromide	MCAWW 300.0A	MCAWW 300.0A
Carbonate Alkalinity	MCAWW 310.1	MCAWW 310.1
Chloride	MCAWW 300.0A	MCAWW 300.0A
Filterable Residue (TDS)	MCAWW 160.1	MCAWW 160.1
Fluoride	MCAWW 300.0A	MCAWW 300.0A
Ion Balance (%Difference)	SM18 1030F & AP	SM18 1030F & AP
ICP-MS (6020)	SW846 6020	
Nitrate as N	MCAWW 300.0A	MCAWW 300.0A
Nitrite as N	MCAWW 300.0A	MCAWW 300.0A
Nitrogen, Ammonia	MCAWW 350.1	MCAWW 350.1
Sulfate	MCAWW 300.0A	MCAWW 300.0A

References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SM18 "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F8E300223

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KN5JV	001	OW-706U	05/29/08	11:00
KN5J1	002	OW-706L	05/29/08	12:35
KN5J2	003	OW-621U	05/29/08	16:10

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-706U

TOTAL Metals

Lot-Sample #...: F8E300223-001

Matrix.....: WATER

Date Sampled...: 05/29/08 11:00 Date Received...: 05/30/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8155134						
Calcium	725000 N	100000	ug/L	SW846 6020	06/11-06/24/08	KN5JV1AP
		Dilution Factor: 1000		Analysis Time...: 16:25		
Iron	178 N	100	ug/L	SW846 6020	06/11-06/17/08	KN5JV1AQ
		Dilution Factor: 2		Analysis Time...: 02:53		
Potassium	658000 N	100000	ug/L	SW846 6020	06/11-06/21/08	KN5JV1AR
		Dilution Factor: 1000		Analysis Time...: 22:46		
Magnesium	2150000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN5JV1AT
		Dilution Factor: 1000		Analysis Time...: 22:46		
Manganese	43.5	4	ug/L	SW846 6020	06/11-06/17/08	KN5JV1AU
		Dilution Factor: 2		Analysis Time...: 02:53		
Sodium	17500000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN5JV1AV
		Dilution Factor: 1000		Analysis Time...: 22:46		
Silicon	ND N	250000	ug/L	SW846 6020	06/11-06/21/08	KN5JV1AW
		Dilution Factor: 1000		Analysis Time...: 22:46		
Prep Batch #...: 8175113						
Silica	1840	250	ug/L	SW846 6020	06/11-06/21/08	KN5JV1AX
		Dilution Factor: 1		Analysis Time...: 00:00		

NOTE(S):

N Spiked analyte recovery is outside stated control limits.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-706U

General Chemistry

Lot-Sample #...: F8E300223-001 Work Order #...: KN5JV Matrix.....: WATER
 Date Sampled...: 05/29/08 11:00 Date Received...: 05/30/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.2	0.10	No Units	SW846 9040	05/30/08	8154272
				Dilution Factor: 1	Analysis Time...: 00:00	
Bicarbonate Alkalinity	10.2	5.0	mg/L	MCAWW 310.1	06/02/08	8154062
				Dilution Factor: 1	Analysis Time...: 00:00	
Bromide	70.5	50.0	mg/L	MCAWW 300.0A	05/30/08	8152147
				Dilution Factor: 200	Analysis Time...: 11:22	
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154061
				Dilution Factor: 1	Analysis Time...: 00:00	
Chloride	33300	2000	mg/L	MCAWW 300.0A	05/30/08	8152148
				Dilution Factor: 10000	Analysis Time...: 11:46	
Fluoride	ND	1.0	mg/L	MCAWW 300.0A	05/30/08	8152149
				Dilution Factor: 10	Analysis Time...: 11:09	
Ion Balance Difference	1.1	0.10	%	SM18 1030F & API	06/24/08	8176456
				Dilution Factor: 1	Analysis Time...: 00:00	
Nitrate	ND	4.0	mg/L	MCAWW 300.0A	05/30/08	8152152
				Dilution Factor: 200	Analysis Time...: 11:22	
Nitrite	ND	200	mg/L	MCAWW 300.0A	05/30/08	8152151
				Dilution Factor: 10000	Analysis Time...: 11:46	
Nitrogen, as Ammonia	2090	200	ug/L	MCAWW 350.1	06/02/08	8154238
				Dilution Factor: 4	Analysis Time...: 00:00	
Sulfate	3850	500	mg/L	MCAWW 300.0A	05/30/08	8152150
				Dilution Factor: 1000	Analysis Time...: 11:34	
Total Alkalinity	204	5.0	mg/L	SM18 2320 B	06/02/08	8154059
				Dilution Factor: 1	Analysis Time...: 00:00	
Total Dissolved Solids	40500	500	mg/L	MCAWW 160.1	06/05-06/06/08	8157081
				Dilution Factor: 100	Analysis Time...: 00:00	

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-706L

TOTAL Metals

Lot-Sample #...: F8E300223-002
 Date Sampled...: 05/29/08 12:35 Date Received...: 05/30/08

Matrix.....: WATER

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8155134						
Calcium	413000 N	100000	ug/L	SW846 6020	06/11-06/24/08	KN5J11AR
		Dilution Factor: 1000		Analysis Time...: 16:28		
Iron	531 N	100	ug/L	SW846 6020	06/11-06/17/08	KN5J11AT
		Dilution Factor: 2		Analysis Time...: 02:57		
Potassium	327000 N	100000	ug/L	SW846 6020	06/11-06/21/08	KN5J11AU
		Dilution Factor: 1000		Analysis Time...: 22:59		
Magnesium	1170000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN5J11AV
		Dilution Factor: 1000		Analysis Time...: 22:59		
Manganese	8.3	4	ug/L	SW846 6020	06/11-06/17/08	KN5J11AW
		Dilution Factor: 2		Analysis Time...: 02:57		
Sodium	9440000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN5J11AX
		Dilution Factor: 1000		Analysis Time...: 22:59		
Silicon	ND N	250000	ug/L	SW846 6020	06/11-06/21/08	KN5J11A0
		Dilution Factor: 1000		Analysis Time...: 22:59		
Prep Batch #...: 8175113						
Silica	7560	250	ug/L	SW846 6020	06/11-06/21/08	KN5J11A1
		Dilution Factor: 1		Analysis Time...: 00:00		

NOTE(S):

N Spiked analyte recovery is outside stated control limits.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-706L

General Chemistry

Lot-Sample #...: F8E300223-002 Work Order #...: KN5J1 Matrix.....: WATER
 Date Sampled...: 05/29/08 12:35 Date Received...: 05/30/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.3	0.10	No Units	SW846 9040	05/30/08	8154272
				Dilution Factor: 1 Analysis Time...: 00:00		
Bicarbonate Alkalinity	9.6	5.0	mg/L	MCAWW 310.1	06/02/08	8154062
				Dilution Factor: 1 Analysis Time...: 00:00		
Bromide	37.7 B	50.0	mg/L	MCAWW 300.0A	05/31/08	8152147
				Dilution Factor: 200 Analysis Time...: 02:12		
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154061
				Dilution Factor: 1 Analysis Time...: 00:00		
Chloride	19100	2000	mg/L	MCAWW 300.0A	05/31/08	8152148
				Dilution Factor: 10000 Analysis Time...: 02:36		
Fluoride	ND	1.0	mg/L	MCAWW 300.0A	05/31/08	8152149
				Dilution Factor: 10 Analysis Time...: 02:00		
Ion Balance Difference	4.0	0.10	%	SM18 1030F & API	06/24/08	8176456
				Dilution Factor: 1 Analysis Time...: 00:00		
Nitrate	ND	4.0	mg/L	MCAWW 300.0A	05/31/08	8152152
				Dilution Factor: 200 Analysis Time...: 02:12		
Nitrite	ND	200	mg/L	MCAWW 300.0A	05/31/08	8152151
				Dilution Factor: 10000 Analysis Time...: 02:36		
Nitrogen, as Ammonia	611	50.0	ug/L	MCAWW 350.1	06/02/08	8154238
				Dilution Factor: 1 Analysis Time...: 00:00		
Sulfate	2280	100	mg/L	MCAWW 300.0A	05/31/08	8152150
				Dilution Factor: 200 Analysis Time...: 02:12		
Total Alkalinity	191	5.0	mg/L	SM18 2320 B	06/02/08	8154059
				Dilution Factor: 1 Analysis Time...: 00:00		
Total Dissolved Solids	17400	500	mg/L	MCAWW 160.1	06/05-06/06/08	8157081
				Dilution Factor: 100 Analysis Time...: 00:00		

NOTE(S) :

RL Reporting Limit
 B Estimated result. Result is less than RL.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-621U

TOTAL Metals

Lot-Sample #...: F8E300223-003
 Date Sampled...: 05/29/08 16:10 Date Received...: 05/30/08

Matrix.....: WATER

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8155134						
Calcium	492000 N	100000	ug/L	SW846 6020	06/11-06/24/08	KN5J21AR
		Dilution Factor: 1000		Analysis Time...: 16:32		
Iron	453 N	100	ug/L	SW846 6020	06/11-06/17/08	KN5J21AT
		Dilution Factor: 2		Analysis Time...: 03:01		
Potassium	476000 N	100000	ug/L	SW846 6020	06/11-06/21/08	KN5J21AU
		Dilution Factor: 1000		Analysis Time...: 23:03		
Magnesium	1600000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN5J21AV
		Dilution Factor: 1000		Analysis Time...: 23:03		
Manganese	36.8	4	ug/L	SW846 6020	06/11-06/17/08	KN5J21AW
		Dilution Factor: 2		Analysis Time...: 03:01		
Sodium	13100000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN5J21AX
		Dilution Factor: 1000		Analysis Time...: 23:03		
Silicon	ND N	250000	ug/L	SW846 6020	06/11-06/21/08	KN5J21A0
		Dilution Factor: 1000		Analysis Time...: 23:03		
Prep Batch #...: 8175113						
Silica	637	250	ug/L	SW846 6020	06/11-06/21/08	KN5J21A1
		Dilution Factor: 1		Analysis Time...: 00:00		

NOTE(S):

N Spiked analyte recovery is outside stated control limits.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-621U

General Chemistry

Lot-Sample #...: F8E300223-003 Work Order #...: KN5J2 Matrix.....: WATER
 Date Sampled...: 05/29/08 16:10 Date Received...: 05/30/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.3	0.10	No Units	SW846 9040	05/30/08	8154272
				Dilution Factor: 1 Analysis Time...: 00:00		
Bicarbonate Alkalinity	9.4	5.0	mg/L	MCAWW 310.1	06/02/08	8154062
				Dilution Factor: 1 Analysis Time...: 00:00		
Bromide	50.6	50.0	mg/L	MCAWW 300.0A	05/31/08	8152147
				Dilution Factor: 200 Analysis Time...: 03:25		
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154061
				Dilution Factor: 1 Analysis Time...: 00:00		
Chloride	25500	2000	mg/L	MCAWW 300.0A	05/31/08	8152148
				Dilution Factor: 10000 Analysis Time...: 03:49		
Fluoride	ND	1.0	mg/L	MCAWW 300.0A	05/31/08	8152149
				Dilution Factor: 10 Analysis Time...: 03:13		
Ion Balance Difference	2.7	0.10	%	SML8 1030F & API	06/24/08	8176456
				Dilution Factor: 1 Analysis Time...: 00:00		
Nitrate	ND	4.0	mg/L	MCAWW 300.0A	05/31/08	8152152
				Dilution Factor: 200 Analysis Time...: 03:25		
Nitrite	ND	200	mg/L	MCAWW 300.0A	05/31/08	8152151
				Dilution Factor: 10000 Analysis Time...: 03:49		
Nitrogen, as Ammonia	588	50.0	ug/L	MCAWW 350.1	06/02/08	8154238
				Dilution Factor: 1 Analysis Time...: 00:00		
Sulfate	3210	100	mg/L	MCAWW 300.0A	05/31/08	8152150
				Dilution Factor: 200 Analysis Time...: 03:25		
Total Alkalinity	189	5.0	mg/L	SML8 2320 B	06/02/08	8154059
				Dilution Factor: 1 Analysis Time...: 00:00		
Total Dissolved Solids	19400	500	mg/L	MCAWW 160.1	06/05-06/06/08	8157081
				Dilution Factor: 100 Analysis Time...: 00:00		

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F8E300223

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F8F030000-134 Prep Batch #...: 8155134						
Calcium	ND	100	ug/L	SW846 6020	06/11-06/24/08	KN8W91AA
		Dilution Factor: 1				
		Analysis Time...: 15:38				
Iron	26.0 B	50	ug/L	SW846 6020	06/11-06/17/08	KN8W91AC
		Dilution Factor: 1				
		Analysis Time...: 02:01				
Magnesium	ND	50	ug/L	SW846 6020	06/11-06/21/08	KN8W91AE
		Dilution Factor: 1				
		Analysis Time...: 21:52				
Manganese	ND	2	ug/L	SW846 6020	06/11-06/17/08	KN8W91AF
		Dilution Factor: 1				
		Analysis Time...: 02:01				
Potassium	ND	100	ug/L	SW846 6020	06/11-06/21/08	KN8W91AD
		Dilution Factor: 1				
		Analysis Time...: 21:52				
Silicon	ND	250	ug/L	SW846 6020	06/11-06/21/08	KN8W91AH
		Dilution Factor: 1				
		Analysis Time...: 21:52				
Sodium	ND	50	ug/L	SW846 6020	06/11-06/21/08	KN8W91AG
		Dilution Factor: 1				
		Analysis Time...: 21:52				
MB Lot-Sample #: F8F230000-113 Prep Batch #...: 8175113						
Silica	ND	250	ug/L	SW846 6020	06/11-06/21/08	KQEK81AA
		Dilution Factor: 1				
		Analysis Time...: 00:00				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F8E300223

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154062
		Work Order #: KN7R51AA MB Lot-Sample #: F8F020000-062				
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Bromide	ND	0.25	mg/L	MCAWW 300.0A	05/30/08	8152147
		Work Order #: KPRDH1AA MB Lot-Sample #: F8E310000-147				
		Dilution Factor: 1				
		Analysis Time...: 02:51				
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154061
		Work Order #: KN7RT1AA MB Lot-Sample #: F8F020000-061				
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Chloride	ND	0.20	mg/L	MCAWW 300.0A	05/30/08	8152148
		Work Order #: KPRDJ1AA MB Lot-Sample #: F8E310000-148				
		Dilution Factor: 1				
		Analysis Time...: 02:51				
Fluoride	ND	0.10	mg/L	MCAWW 300.0A	05/30/08	8152149
		Work Order #: KPRDK1AA MB Lot-Sample #: F8E310000-149				
		Dilution Factor: 1				
		Analysis Time...: 02:51				
Nitrate	ND	0.020	mg/L	MCAWW 300.0A	05/30/08	8152152
		Work Order #: KPRDN1AA MB Lot-Sample #: F8E310000-152				
		Dilution Factor: 1				
		Analysis Time...: 02:51				
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	05/30/08	8152151
		Work Order #: KPRDM1AA MB Lot-Sample #: F8E310000-151				
		Dilution Factor: 1				
		Analysis Time...: 02:51				
Nitrogen, as Ammonia	ND	50.0	ug/L	MCAWW 350.1	06/02/08	8154238
		Work Order #: KN7Q91AA MB Lot-Sample #: F8F020000-238				
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Sulfate	ND	0.50	mg/L	MCAWW 300.0A	05/30/08	8152150
		Work Order #: KPRDL1AA MB Lot-Sample #: F8E310000-150				
		Dilution Factor: 1				
		Analysis Time...: 02:51				

(Continued on next page)

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F8E300223

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Alkalinity	ND	Work Order #: KN7RG1AA 5.0	mg/L	MB Lot-Sample #: F8F020000-059 SM18 2320 B	06/02/08	8154059
		Dilution Factor: 1 Analysis Time...: 00:00				
Total Dissolved Solids	ND	Work Order #: KPEAR1AA 5.0	mg/L	MB Lot-Sample #: F8F050000-081 MCAWW 160.1	06/05-06/06/08	8157081
		Dilution Factor: 1 Analysis Time...: 00:00				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F8E300223

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#: F8F030000-134 Prep Batch #... : 8155134					
Calcium	105	(85 - 115)	SW846 6020	06/11-06/24/08	KN8W91AJ
		Dilution Factor: 1		Analysis Time...: 15:42	
Iron	111	(85 - 115)	SW846 6020	06/11-06/17/08	KN8W91AK
		Dilution Factor: 1		Analysis Time...: 02:05	
Potassium	102	(85 - 115)	SW846 6020	06/11-06/21/08	KN8W91AL
		Dilution Factor: 1		Analysis Time...: 21:57	
Magnesium	100	(85 - 115)	SW846 6020	06/11-06/21/08	KN8W91AM
		Dilution Factor: 1		Analysis Time...: 21:57	
Manganese	108	(85 - 115)	SW846 6020	06/11-06/17/08	KN8W91AN
		Dilution Factor: 1		Analysis Time...: 02:05	
Sodium	98	(85 - 115)	SW846 6020	06/11-06/21/08	KN8W91AP
		Dilution Factor: 1		Analysis Time...: 21:57	
Silicon	105	(85 - 115)	SW846 6020	06/11-06/21/08	KN8W91AQ
		Dilution Factor: 1		Analysis Time...: 21:57	
LCS Lot-Sample#: F8F230000-113 Prep Batch #... : 8175113					
Silica	105 N	(0.0- 0.0)	SW846 6020	06/11-06/21/08	KQEK81AC
		Dilution Factor: 1		Analysis Time...: 00:00	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: F8E300223

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Nitrogen, as Ammonia		WO#:KN7Q91AC-LCS/KN7Q91AD-LCSD		LCS Lot-Sample#: F8F020000-238			
	105	(90 - 110)			MCAWW 350.1	06/02/08	8154238
	108	(90 - 110)	2.1	(0-20)	MCAWW 350.1	06/02/08	8154238
		Dilution Factor: 1		Analysis Time...: 00:00			

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E300223

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)	100	(99 - 101)	KN7VC1AA SW846 9040	LCS Lot-Sample#: F8F020000-272 05/30/08	8154272
			Dilution Factor: 1	Analysis Time...: 00:00	
Bicarbonate Alkalinity	100	(90 - 110)	KN7R51AC MCAWW 310.1	LCS Lot-Sample#: F8F020000-062 06/02/08	8154062
			Dilution Factor: 1	Analysis Time...: 00:00	
Bromide	102	(90 - 110)	KPRDH1AC MCAWW 300.0A	LCS Lot-Sample#: F8E310000-147 05/30/08	8152147
			Dilution Factor: 1	Analysis Time...: 02:38	
Carbonate Alkalinity	100	(90 - 110)	KN7RT1AC MCAWW 310.1	LCS Lot-Sample#: F8F020000-061 06/02/08	8154061
			Dilution Factor: 1	Analysis Time...: 00:00	
Chloride	94	(90 - 110)	KPRDJ1AC MCAWW 300.0A	LCS Lot-Sample#: F8E310000-148 05/30/08	8152148
			Dilution Factor: 1	Analysis Time...: 02:38	
Fluoride	91	(90 - 110)	KPRDK1AC MCAWW 300.0A	LCS Lot-Sample#: F8E310000-149 05/30/08	8152149
			Dilution Factor: 1	Analysis Time...: 02:38	
Nitrate	103	(90 - 110)	KPRDN1AC MCAWW 300.0A	LCS Lot-Sample#: F8E310000-152 05/30/08	8152152
			Dilution Factor: 1	Analysis Time...: 02:38	
Nitrite	100	(90 - 110)	KPRDM1AC MCAWW 300.0A	LCS Lot-Sample#: F8E310000-151 05/30/08	8152151
			Dilution Factor: 1	Analysis Time...: 02:38	
Sulfate	91	(90 - 110)	KPRDL1AC MCAWW 300.0A	LCS Lot-Sample#: F8E310000-150 05/30/08	8152150
			Dilution Factor: 1	Analysis Time...: 02:38	
Total Alkalinity	100	(90 - 110)	KN7RG1AC SM18 2320 B	LCS Lot-Sample#: F8F020000-059 06/02/08	8154059
			Dilution Factor: 1	Analysis Time...: 00:00	

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E300223

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Dissolved Solids	99	(86 - 115)	MCAWW 160.1	06/05-06/06/08	8157081
		Dilution Factor: 1		Analysis Time...: 00:00	

Work Order #: KPEAR1AC LCS Lot-Sample#: F8F050000-081

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F8E300223

Matrix.....: WATER

Date Sampled...: 05/27/08 11:35 Date Received...: 05/28/08

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F8E280143-001 Prep Batch #...: 8155134							
Calcium	0 N	(75 - 125)			SW846 6020	06/11-06/24/08	KNX8D1A0
	136 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/11-06/24/08	KNX8D1A1
			Dilution Factor: 1000				
			Analysis Time...: 15:52				
Iron	62 N	(75 - 125)			SW846 6020	06/11-06/17/08	KNX8D1A2
	68 N	(75 - 125)	6.1	(0-20)	SW846 6020	06/11-06/17/08	KNX8D1A3
			Dilution Factor: 2				
			Analysis Time...: 02:16				
Magnesium	358 N	(75 - 125)			SW846 6020	06/11-06/21/08	KNX8D1A6
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/11-06/21/08	KNX8D1A7
			Dilution Factor: 1000				
			Analysis Time...: 22:18				
Manganese	79	(75 - 125)			SW846 6020	06/11-06/17/08	KNX8D1A8
	83	(75 - 125)	4.5	(0-20)	SW846 6020	06/11-06/17/08	KNX8D1A9
			Dilution Factor: 2				
			Analysis Time...: 02:16				
Potassium	122 N	(75 - 125)			SW846 6020	06/11-06/21/08	KNX8D1A4
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/11-06/21/08	KNX8D1A5
			Dilution Factor: 1000				
			Analysis Time...: 22:18				
Silicon	182 N	(75 - 125)			SW846 6020	06/11-06/21/08	KNX8D1CD
	138 N,*	(75 - 125)	27	(0-20)	SW846 6020	06/11-06/21/08	KNX8D1CE
			Dilution Factor: 1000				
			Analysis Time...: 22:18				
Sodium	3360 N	(75 - 125)			SW846 6020	06/11-06/21/08	KNX8D1CA
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/11-06/21/08	KNX8D1CC
			Dilution Factor: 1000				
			Analysis Time...: 22:18				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

* Relative percent difference (RPD) is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E300223

Matrix.....: WATER

Date Sampled...: 05/29/08 11:00 Date Received...: 05/30/08

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bromide	88 N	Work Order #...: KN5JV1A3 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E300223-001 05/31/08	8152147
		Dilution Factor: 200		Analysis Time...: 11:22	
Chloride	96	Work Order #...: KN5JV1A5 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E300223-001 05/31/08	8152148
		Dilution Factor: 10000		Analysis Time...: 11:46	
Fluoride	0.0	Work Order #...: KN5JV1A7 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E300223-001 05/31/08	8152149
		Dilution Factor: 10		Analysis Time...: 11:09	
Nitrate	109	Work Order #...: KN5JV1CE (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E300223-001 05/31/08	8152152
		Dilution Factor: 200		Analysis Time...: 11:22	
Nitrite	131 N	Work Order #...: KN5JV1CC (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E300223-001 05/31/08	8152151
		Dilution Factor: 10000		Analysis Time...: 11:46	
Nitrogen, as Ammonia	95	Work Order #...: KN46M1HW (90 - 110)	MCAWW 350.1	MS Lot-Sample #: F8E300179-001 06/02/08	8154238
		Dilution Factor: 1		Analysis Time...: 00:00	
Nitrogen, as Ammonia	102	Work Order #...: KN6XH1DT (90 - 110)	MCAWW 350.1	MS Lot-Sample #: F8E310160-003 06/02/08	8154238
		Dilution Factor: 1		Analysis Time...: 00:00	
Sulfate	92	Work Order #...: KN5JV1A9 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E300223-001 05/31/08	8152150
		Dilution Factor: 1000		Analysis Time...: 11:34	
Total Alkalinity	90	Work Order #...: KN5J21A2 (80 - 120)	SM18 2320 B	MS Lot-Sample #: F8E300223-003 06/02/08	8154059
		Dilution Factor: 1		Analysis Time...: 00:00	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E300223 Work Order #...: KN2LJ-SMP Matrix.....: WATER
KN2LJ-DUP
Date Sampled....: 05/27/08 09:00 Date Received...: 05/28/08

Table with columns: PARAM RESULT, DUPLICATE RESULT, UNITS, RPD, RPD LIMIT, METHOD, PREPARATION- ANALYSIS DATE, PREP BATCH #. Rows include Bicarbonate Alkalinity and Carbonate Alkalinity with values like 71.0, 73.0, mg/L, 2.8, (0-15), MCAWW 310.1, 06/02/08, 8154062.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E300223

Work Order #...: KN2LW-SMP
KN2LW-DUP

Matrix.....: WATER

Date Sampled...: 05/27/08 09:35

Date Received...: 05/28/08

<u>PARAM RESULT</u>	<u>DUPLICATE RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD LIMIT</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bicarbonate Alkalinity	55.0	52.0	mg/L	5.6	(0-15) MCAWW 310.1	06/02/08	8154062
			Dilution Factor: 1		Analysis Time..: 00:00		
Carbonate Alkalinity	ND	ND	mg/L	0	(0-20) MCAWW 310.1	06/02/08	8154061
			Dilution Factor: 1		Analysis Time..: 00:00		

F8E300223

CLIENT ANALYSIS SUMMARY

Storage Loc: 1-100

Project Manager: IV
 Project: 6468071950
 PO#: 200807151
 Client: 63036

Quote #: 79192
 FPL Turkey Point COL
 Report to: AI Tice
 MACTEC Engineering & Consulting Inc

Date Received: 2008-05-30
 Analytical Due Date: 2008-06-20
 Report Due Date: 2008-06-20
 Report Type: W
 EDD Code: 00

#SMPS in LOT: 0

Inform PM of any receiving issues.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
1	OW-706U			2008-05-29 / 1100	KN5JV	WATER
SAMPLE COMMENTS:						
SI	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
CA	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
SA	MH SW846 6020		WATER, Silica by calculation	0X CALCULATION ONLY	9Q ORG FLAGS FOR INORG; STANDARD	PROT: A WRK LOC 06
NA	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
MN	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
MG	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
KX	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
FE	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	ZZ NONE NONE		WATER, ZZ Code for Invoicing	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	AK MCAW 160.1 W		WATER, 160.1, Solids, Filterable "TDS"	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	C8 MCAW 300.0A W		WATER, 300.0A, Fluoride	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	C9 MCAW 300.0A W		WATER, 300.0A, Nitrate as N	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	CB MCAW 310.1 W		WATER, 310.1, Alkalinity, Carbonate	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	CX MCAW 300.0A W		WATER, 300.0A, Chloride	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	CY MCAW 300.0A W		WATER, 300.0A, Sulfate	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	FJ SW846 8040		WATER, 9040C, pH	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	GM MCAW 300.0A W		WATER, 300.0A, Bromide	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	GO MCAW 300.0A W		WATER, 300.0A, Nitrite as N	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	LV SM18 2320 B		WATER, 2320 B, Alkalinity, Total	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	SL SM18 1030F & API		WATER, 1030F & API, Ion Balance	0X CALCULATION ONLY	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	UX MCAW 310.1 W		WATER, 310.1, Alkalinity, Bicarbonate	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	VM MCAW 350.1 W		WATER, 350.1, Nitrogen, Ammonia	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
2	OW-706L			2008-05-29 / 1235	KN5J1	WATER
SAMPLE COMMENTS:						
CA	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
SI	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
SA	MH SW846 6020		WATER, Silica by calculation	0X CALCULATION ONLY	9Q ORG FLAGS FOR INORG; STANDARD	PROT: A WRK LOC 06
NA	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
MN	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
MG	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
FE	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
KX	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL -2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	ZZ NONE NONE		WATER, ZZ Code for Invoicing	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06

F8E300223

CLIENT ANALYSIS SUMMARY

Storage Loc: 1-100
 Date Received: 2008-05-30
 Analytical Due Date: 2008-06-20
 Report Due Date: 2008-06-20
 Report Type: W
 EDD Code: 00

Project Manager: IV Quote #: 79192 SDG:
 Project: 6468071950 FPL Turkey Point COL
 PO#: 200807151 Report to: Al Tice
 Client: 63036 MACTEC Engineering & Consulting Inc

#SMPS in LOT: 0

Inform PM of any receiving issues.

XX AK	MCAW 160.1 W	WATER, 160.1, Solids, Filterable "TDS"	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX C8	MCAW 300.0A W	WATER, 300.0A, Fluoride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX C9	MCAW 300.0A W	WATER, 300.0A, Nitrate as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX CB	MCAW 310.1 W	WATER, 310.1, Alkalinity, Carbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX CX	MCAW 300.0A W	WATER, 300.0A, Chloride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX CY	MCAW 300.0A W	WATER, 300.0A, Sulfate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX FJ	SW846 9040	WATER, 9040C, pH	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX GM	MCAW 300.0A W	WATER, 300.0A, Bromide	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX GO	MCAW 300.0A W	WATER, 300.0A, Nitrite as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX LV	SM18 2320 B	WATER, 2320 B, Alkalinity, Total	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX SL	SM18 1030F & API	WATER, 1030F & API, Ion Balance	0X	CALCULATION ONLY	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX UX	MCAW 310.1 W	WATER, 310.1, Alkalinity, Bicarbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX VM	MCAW 350.1 W	WATER, 350.1, Nitrogen, Ammonia	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
3	OW-621U			2008-05-29 / 1610	KN5J2	WATER
SAMPLE COMMENTS:						
MN MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
SI MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
NA MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
KX MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
FE MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
CA MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
SA MH	SW846 6020		WATER, Silica by calculation	0X	CALCULATION ONLY	9Q ORG FLAGS FOR INORG; STANDARD PROT: A WRK LOC 06
MG MH	SW846 6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01 STANDARD TEST SET PROT: A WRK LOC 06
XX ZZ	NONE NONE		WATER, ZZ Code for Invoicing	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX AK	MCAW 160.1 W		WATER, 160.1, Solids, Filterable "TDS"	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX C8	MCAW 300.0A W		WATER, 300.0A, Fluoride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX C9	MCAW 300.0A W		WATER, 300.0A, Nitrate as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX CB	MCAW 310.1 W		WATER, 310.1, Alkalinity, Carbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX CX	MCAW 300.0A W		WATER, 300.0A, Chloride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX CY	MCAW 300.0A W		WATER, 300.0A, Sulfate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX FJ	SW846 9040		WATER, 9040C, pH	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX GM	MCAW 300.0A W		WATER, 300.0A, Bromide	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX GO	MCAW 300.0A W		WATER, 300.0A, Nitrite as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX LV	SM18 2320 B		WATER, 2320 B, Alkalinity, Total	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06
XX SL	SM18 1030F & API		WATER, 1030F & API, Ion Balance	0X	CALCULATION ONLY	01 STANDARD TEST SET PROT: A WRK LOC 06
XX UX	MCAW 310.1 W		WATER, 310.1, Alkalinity, Bicarbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET PROT: A WRK LOC 06

F8E300223

CLIENT ANALYSIS SUMMARY

Storage Loc: 1-100
 Date Received: 2008-05-30
 Analytical Due Date: 2008-06-20
 Report Due Date: 2008-06-20
 Report Type: W
 EDD Code: 00

Project Manager: IV Quote #: 79192 SDG:
 Project: 6468071950 FPL Turkey Point COL
 PO#: 200807151 Report to: Al Tice
 Client: 63036 MACTEC Engineering & Consulting Inc

#SMPS in LOT: 0

Inform PM of any receiving issues.

[Empty rectangular box for receiving issues]

XX VM MCAW 350.1 WATER, 350.1, Nitrogen, 88 NO SAMPLE PREPARATION 01 STANDARD TEST SET PROT: A WRK 06
 W Ammonia PERFORMED / DIRECT LOC

Chain of Custody Record

CEP
2475

Temperature on Receipt _____

Drinking Water? Yes No

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client MACTEC	Project Manager Scott Anger	Date 05-29-08	Chain of Custody Number 062465
Address 3301 Atlantic Avenue	Telephone Number (Area Code)/Fax Number 919-876-0416	Lab Number	Page 1 of 1

City Raleigh	State NC	Zip Code 27604	Site Contact Matt Cooke	Lab Contact Ivon Vonia	Analysis (Attach list if more space is needed)
Project Name and Location (State) Turkey Point COL			Carrier/Waybill Number FE 8656 2820 8277		Special Instructions/ Conditions of Receipt
Contract/Purchase Order/Quote No. 6468-07-1950			Matrix		

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives						Analysis	Special Instructions/ Conditions of Receipt	
			Alk	Aspen	Seal	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	Zn ²⁺ /NaOH	NaOH			
OW-706U	05/29/08	1100	X					1	2	1					LP, 3x250p	CATIONS: Calcium Iron, Magnesium Manganese, Potassium, Silica Sodium
OW-706L	05/29/08	1235	X					1	2	1						PH: EPA SW846 9045(b)
OW-621U	05/29/08	1610	X					1	2	1						TDS - EPA 160.1 CATIONS - EPA 6020 C Iron, Manganese MCAWW 300.0A Alkalinity - EPA 310.1 Ammonia - EPA 350.1 Nitrate, Nitrite - EPA 300.0

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Return To Client Disposal By Lab Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
 24 Hours 48 Hours 7 Days 14 Days 21 Days Other Standard

1. Relinquished By Kenny Clark Sweet	Date 05/29/08	Time 1800	1. Received By Angela Brown	Date 5-30-08	Time 9:30
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy



Lot #(s): F8E 300223
- 3475 -

Client: Martec COC/RFA No: 062465 Condition Upon Receipt Form
Quote No: 79192 Initiated By: MS Date: 5-30-09
Time: 9:30

Shipper Name: FE Shipping Information
Multiple Packages Y
Shipping # (s):* Sample Temperature (s):**
1. 8656 2820 8277 6. _____ 1. 2 6. _____
2. _____ 7. _____ 2. _____ 7. _____
3. _____ 8. _____ 3. _____ 8. _____
4. _____ 9. _____ 4. _____ 9. _____
5. _____ 10. _____ 5. _____ 10. _____

*Numbered shipping lines correspond to Numbered Sample Temp lines
**Sample must be received at 4°C ± 2°C. If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Are there custody seals present on the cooler?	8.	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	Are there custody seals present on bottles?
2.	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A	Do custody seals on cooler appear to be tampered with?	9.	<input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> N/A	Do custody seals on bottles appear to be tampered with?
3.	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Were contents of cooler frisked after opening, but before unpacking?	10.	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A	Was sample received with proper pH? (If not, make note below)
4.	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Sample received with Chain of Custody?	11.	<input type="checkbox"/> Y <input type="checkbox"/> N	If N/A- Was pH taken by original TestAmerica lab?
5.	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Sample received in proper containers?
6.	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	Was sample received broken?	13.	<input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Is sample volume sufficient for analysis?	14.	<input type="checkbox"/> Y <input type="checkbox"/> N	Was Internal COC/Workshare received?

For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Multiple horizontal lines for handwritten notes.

Corrective Action:

Client Contact Name: _____ Informed by: _____
 Sample(s) processed "as is"
 Sample(s) on hold until: _____ If released, notify: _____
Project Management Review: _____ Date: 5-30-09

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 08/06/07\SI\svr01\QA\FORMS\ST-LOUIS\ADMIN\admin004 rev11.doc



**DOCUMENTATION OF TECHNICAL REVIEW
SUBCONTRACTOR WORK PRODUCT**

Project Name: Turkey Point COL Project

Project Number: 6468-07-1950

Project Manager: Scott Auger

Project Principal: Tom McDaniel

The report described below has been prepared by the named subcontractor retained in accordance with the MACTEC QAPD. The work and report have been reviewed by a MACTEC technically qualified person. Comments on the work or report, if any, have been satisfactorily addressed by the subcontractor. The attached report is approved in accordance with section QS-7 of MACTEC's QAPD.

The information and data contained in the attached report are hereby released by MACTEC for project use with the exception of the iron result for sample OW-606L. Iron was detected at a similar concentration in the associated method blank, both concentrations between the method detection limit and quantitation limit. Based on guidance from the US EPA (EPA 540-R-04-004), this result should be considered nondetect at the quantitation limit of 50 µg/L. The iron concentrations reported for the remaining samples in this sample delivery group were significantly greater and likely reflect aquifer conditions. These data should be used with caution.

REPORT : Analytical Report Lot #: F8E290268

SUBCONTRACTOR: TestAmerica, Earth City, MO

DATE OF ACCEPTANCE : 7/23/2008

TECHNICAL REVIEWER: William S. Grimes

William S. Grimes

PROJECT PRINCIPAL: Tom McDaniel

Tom McDaniel



3301 Atlantic Avenue, Raleigh, NC 27604



LABORATORY DATA REVIEW CHECKLIST

	<u>YES</u>	<u>NO</u>	<u>NOT APPLICABLE</u>
1. Laboratory analytical data report appears complete (all data results present for all samples submitted for analysis) and there are no apparent transcription errors:	___	✓ ¹	___
2. Samples analyzed within applicable holding times (based on date of sample collection):*	✓	___	___
3. Trip blanks, field blanks or laboratory method blanks are free of blank contamination:	___	✓ ²	___
4. If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: **	___	___	✓
5. Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges:	___	___	✓
6. If Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples required to meet project objectives, Percent Recoveries (%R) and Relative Percent Difference (RPD) within laboratory reported acceptance ranges:	___	✓ ³	___
7. Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards):	✓	___	___
8. Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate):	✓	___	___
9. Analytical costs within authorized budget for these services:	___	___	✓

COMMENTS: ¹ Iron results should be flagged indicating method blank contamination. ² An estimated concentration of iron was detected in the method blank, at a concentration between the PQL and MDL. Iron concentrations in site samples were considerably higher, and likely reflect ambient aquifer conditions with the exception of OW-606L. This result should be qualified as nondetect at the quantitation limit of 50 µg/L. ³ MS/MSD recoveries were outside QC limits for several analytes possibly due to matrix interference. QC established based on acceptable LCS recoveries and results for analytes with acceptable recoveries.

- Notes: 1. This checklist is intended for use with the laboratory reporting formats typical of most projects. If "no" is answered to one or more of the above checklist questions 1 through 7, a more detailed Data Validation may be required, and a person knowledgeable in Data Validation protocols should be consulted. This checklist should not be used if the project scope requires Data Validation from the onset.
2. * = Based upon EPA Guidance and the applicable analytical method references. See reverse side of checklist for details.
3. ** = Based upon EPA Guidance. Use these criteria on duplicate and sample results which exceed five times the reported detection limit. See reverse side of checklist for details.

Checked by: William A. Li Date: 7-14-08

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 6468071950

FPL Turkey Point COL

Lot #: F8E290268

Al Tice

MACTEC Engineering and Cons.

3301 Atlantic Ave.

Raleigh, NC 27604

TESTAMERICA LABORATORIES, INC.



Ivan Vania
Project Manager

June 27, 2008

Case Narrative
 LOT NUMBER: F8E290268

This report contains the analytical results for the four samples received under chain of custody by TestAmerica St. Louis on May 29, 2008. These samples are associated with your FPL Turkey Point COL project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

ICP-MS (SW846-6020)

Batch 8155134:

The MS (MSD) recoveries for calcium, potassium, magnesium, and sodium are outside the established QC limits. The analyte concentrations in the original samples are greater than four times the amount spiked, making percent recovery information ineffective. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F8E290268 (1): OW-721U

F8E290268 (2): OW-721L

F8E290268 (3): OW-606U

F8E290268 (4): OW-606L

Batch 8155134:

The MS (MSD) recovery for iron is outside the established QC limits. The RPD is within method acceptance criteria indicating possible matrix interference. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F8E290268 (1): OW-721U

F8E290268 (2): OW-721L

F8E290268 (3): OW-606U

F8E290268 (4): OW-606L

Batch 8155134:

The MS (MSD) recovery for silicon is outside the established QC limits. Matrix interference is physically evident in the sample. The samples are high in salts. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F8E290268 (1): OW-721U

F8E290268 (2): OW-721L

F8E290268 (3): OW-606U

F8E290268 (4): OW-606L

Batch 8155134:

The Measured Intensity Mean for lead, as measured during the daily performance check, was low. However, the calibration and the second source checks were all within acceptable QC limits. The samples were reported with this narrative.

Affected Samples:

F8E290268 (1): OW-721U
F8E290268 (2): OW-721L
F8E290268 (3): OW-606U
F8E290268 (4): OW-606L

Batch 8155134:

The samples were analyzed at a dilution due to high concentrations of salts. The reporting limits were adjusted for the dilution.

Affected Samples:

F8E290268 (1): OW-721U
F8E290268 (2): OW-721L
F8E290268 (3): OW-606U
F8E290268 (4): OW-606L

Total Dissolved Solids (MCAWW 160.1)

Batch 8156338:

The samples were analyzed at a dilution due to high concentrations of target analytes. The reporting limits were adjusted for the dilution since no analysis at a lesser dilution was performed.

Affected Samples:

F8E290268 (1): OW-721U
F8E290268 (2): OW-721L
F8E290268 (3): OW-606U
F8E290268 (4): OW-606L

Anions (MCAWW 300.0A)

Poor matrix spike recovery for Sulfate in batch 8151365 and Nitrite in batch 8151366 is attributed to matrix interference. The anion matrix spike solution contains all routine anions. Spiking technique, sample preparation and method compliance is demonstrated by the remaining acceptable MS recoveries.

Affected Samples:

F8E290268 (1): OW-721U
F8E290268 (2): OW-721L
F8E290268 (3): OW-606U
F8E290268 (4): OW-606L

There were no other nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F8E290268

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
pH Aqueous	SW846 9040	SW846 9040
Alkalinity, Total	SM18 2320 B	SM18 2320 B
Bicarbonate Alkalinity	MCAWW 310.1	MCAWW 310.1
Bromide	MCAWW 300.0A	MCAWW 300.0A
Carbonate Alkalinity	MCAWW 310.1	MCAWW 310.1
Chloride	MCAWW 300.0A	MCAWW 300.0A
Filterable Residue (TDS)	MCAWW 160.1	MCAWW 160.1
Fluoride	MCAWW 300.0A	MCAWW 300.0A
Ion Balance (%Difference)	SM18 1030F & AP	SM18 1030F & AP
ICP-MS (6020)	SW846 6020	
Nitrate as N	MCAWW 300.0A	MCAWW 300.0A
Nitrite as N	MCAWW 300.0A	MCAWW 300.0A
Nitrogen, Ammonia	MCAWW 350.1	MCAWW 350.1
Sulfate	MCAWW 300.0A	MCAWW 300.0A

References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SM18 "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F8E290268

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KN3HJ	001	OW-721U	05/28/08	11:00
KN3JD	002	OW-721L	05/28/08	13:25
KN3JR	003	OW-606U	05/28/08	16:10
KN3JT	004	OW-606L	05/28/08	15:40

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-721U

TOTAL Metals

Lot-Sample #...: F8E290268-001

Matrix.....: WATER

Date Sampled...: 05/28/08 11:00 Date Received...: 05/29/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8155134						
Calcium	603000 N	100000	ug/L	SW846 6020	06/11-06/24/08	KN3HJIAN
		Dilution Factor: 1000		Analysis Time...: 16:03		
Iron	329 N	100	ug/L	SW846 6020	06/11-06/17/08	KN3HJ1AP
		Dilution Factor: 2		Analysis Time...: 02:28		
Potassium	569000 N	100000	ug/L	SW846 6020	06/11-06/21/08	KN3HJ1AQ
		Dilution Factor: 1000		Analysis Time...: 22:30		
Magnesium	1890000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN3HJ1AR
		Dilution Factor: 1000		Analysis Time...: 22:30		
Manganese	58.1	4	ug/L	SW846 6020	06/11-06/17/08	KN3HJ1AT
		Dilution Factor: 2		Analysis Time...: 02:28		
Sodium	15400000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN3HJ1AU
		Dilution Factor: 1000		Analysis Time...: 22:30		
Silicon	ND N	250000	ug/L	SW846 6020	06/11-06/21/08	KN3HJ1AV
		Dilution Factor: 1000		Analysis Time...: 22:30		
Prep Batch #...: 8175113						
Silica	848	250	ug/L	SW846 6020	06/11-06/21/08	KN3HJ1AO
		Dilution Factor: 1		Analysis Time...: 00:00		

NOTE(S):

N Spiked analyte recovery is outside stated control limits.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-721U

General Chemistry

Lot-Sample #...: F8E290268-001
Date Sampled...: 05/28/08 11:00

Work Order #...: KN3HJ
Date Received...: 05/29/08

Matrix.....: WATER

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.3	0.10	No Units	SW846 9040	05/29/08	8151296
		Dilution Factor: 1		Analysis Time...: 00:00		
Bicarbonate Alkalinity	8.2	5.0	mg/L	MCAWW 310.1	06/02/08	8154062
		Dilution Factor: 1		Analysis Time...: 00:00		
Bromide	60.1	50.0	mg/L	MCAWW 300.0A	05/30/08	8151362
		Dilution Factor: 200		Analysis Time...: 12:27		
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154061
		Dilution Factor: 1		Analysis Time...: 00:00		
Chloride	29900	2000	mg/L	MCAWW 300.0A	05/30/08	8151363
		Dilution Factor: 10000		Analysis Time...: 12:51		
Fluoride	ND	20.0	mg/L	MCAWW 300.0A	05/30/08	8151364
		Dilution Factor: 200		Analysis Time...: 12:27		
Ion Balance Difference	2.8	0.10	%	SML8 1030F & API	06/24/08	8176456
		Dilution Factor: 1		Analysis Time...: 00:00		
Nitrate	ND	0.20	mg/L	MCAWW 300.0A	05/30/08	8151367
		Dilution Factor: 10		Analysis Time...: 12:14		
Nitrite	ND	200	mg/L	MCAWW 300.0A	05/30/08	8151366
		Dilution Factor: 10000		Analysis Time...: 12:51		
Nitrogen, as Ammonia	1680	200	ug/L	MCAWW 350.1	05/30/08	8150453
		Dilution Factor: 4		Analysis Time...: 00:00		
Sulfate	3860	100	mg/L	MCAWW 300.0A	05/30/08	8151365
		Dilution Factor: 200		Analysis Time...: 12:27		
Total Alkalinity	164	5.0	mg/L	SML8 2320 B	06/02/08	8154059
		Dilution Factor: 1		Analysis Time...: 00:00		
Total Dissolved Solids	45400	500	mg/L	MCAWW 160.1	06/04-06/05/08	8156338
		Dilution Factor: 100		Analysis Time...: 00:00		

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-721L

TOTAL Metals

Lot-Sample #...: F8E290268-002

Matrix.....: WATER

Date Sampled...: 05/28/08 13:25 Date Received...: 05/29/08

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #...: 8155134							
Calcium	667000 N	100000	ug/L	SW846 6020	06/11-06/24/08	KN3JD1AN	
		Dilution Factor: 1000		Analysis Time...: 16:06			
Iron	362 N	100	ug/L	SW846 6020	06/11-06/17/08	KN3JD1AP	
		Dilution Factor: 2		Analysis Time...: 02:32			
Potassium	587000 N	100000	ug/L	SW846 6020	06/11-06/21/08	KN3JD1AQ	
		Dilution Factor: 1000		Analysis Time...: 22:34			
Magnesium	2020000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN3JD1AR	
		Dilution Factor: 1000		Analysis Time...: 22:34			
Manganese	46.2	4	ug/L	SW846 6020	06/11-06/17/08	KN3JD1AT	
		Dilution Factor: 2		Analysis Time...: 02:32			
Sodium	16300000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN3JD1AU	
		Dilution Factor: 1000		Analysis Time...: 22:34			
Silicon	ND N	250000	ug/L	SW846 6020	06/11-06/21/08	KN3JD1AV	
		Dilution Factor: 1000		Analysis Time...: 22:34			
Prep Batch #...: 8175113							
Silica	3170	250	ug/L	SW846 6020	06/11-06/21/08	KN3JD1AO	
		Dilution Factor: 1		Analysis Time...: 00:00			

NOTE(S) :

N Spiked analyte recovery is outside stated control limits.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-721L

General Chemistry

Lot-Sample #...: F8E290268-002 Work Order #...: KN3JD Matrix.....: WATER
 Date Sampled...: 05/28/08 13:25 Date Received...: 05/29/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.3	0.10	No Units	SW846 9040	05/29/08	8151296
				Dilution Factor: 1 Analysis Time...: 00:00		
Bicarbonate Alkalinity	9.0	5.0	mg/L	MCAWW 310.1	06/02/08	8154062
				Dilution Factor: 1 Analysis Time...: 00:00		
Bromide	64.9	50.0	mg/L	MCAWW 300.0A	05/30/08	8151362
				Dilution Factor: 200 Analysis Time...: 04:30		
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154061
				Dilution Factor: 1 Analysis Time...: 00:00		
Chloride	31100	2000	mg/L	MCAWW 300.0A	05/30/08	8151363
				Dilution Factor: 10000 Analysis Time...: 04:54		
Fluoride	ND	20.0	mg/L	MCAWW 300.0A	05/30/08	8151364
				Dilution Factor: 200 Analysis Time...: 04:30		
Ion Balance Difference	1.7	0.10	%	SM18 1030F & API	06/24/08	8176456
				Dilution Factor: 1 Analysis Time...: 00:00		
Nitrate	ND	0.20	mg/L	MCAWW 300.0A	05/30/08	8151367
				Dilution Factor: 10 Analysis Time...: 04:18		
Nitrite	ND	200	mg/L	MCAWW 300.0A	05/30/08	8151366
				Dilution Factor: 10000 Analysis Time...: 04:54		
Nitrogen, as Ammonia	1820	200	ug/L	MCAWW 350.1	05/30/08	8150453
				Dilution Factor: 4 Analysis Time...: 00:00		
Sulfate	3990	100	mg/L	MCAWW 300.0A	05/30/08	8151365
				Dilution Factor: 200 Analysis Time...: 04:30		
Total Alkalinity	180	5.0	mg/L	SM18 2320 B	06/02/08	8154059
				Dilution Factor: 1 Analysis Time...: 00:00		
Total Dissolved Solids	54600	500	mg/L	MCAWW 160.1	06/04-06/05/08	8156338
				Dilution Factor: 100 Analysis Time...: 00:00		

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-606U

TOTAL Metals

Lot-Sample #...: F8E290268-003

Matrix.....: WATER

Date Sampled...: 05/28/08 16:10 Date Received...: 05/29/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8155134						
Calcium	535000 N	100000	ug/L	SW846 6020	06/11-06/24/08	KN3JR1AN
		Dilution Factor: 1000		Analysis Time...: 16:10		
Iron	318 N	100	ug/L	SW846 6020	06/11-06/17/08	KN3JR1AP
		Dilution Factor: 2		Analysis Time...: 02:36		
Potassium	525000 N	100000	ug/L	SW846 6020	06/11-06/21/08	KN3JR1AQ
		Dilution Factor: 1000		Analysis Time...: 22:38		
Magnesium	1730000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN3JR1AR
		Dilution Factor: 1000		Analysis Time...: 22:38		
Manganese	35.4	4	ug/L	SW846 6020	06/11-06/17/08	KN3JR1AT
		Dilution Factor: 2		Analysis Time...: 02:36		
Sodium	14400000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN3JR1AU
		Dilution Factor: 1000		Analysis Time...: 22:38		
Silicon	ND N	250000	ug/L	SW846 6020	06/11-06/21/08	KN3JR1AV
		Dilution Factor: 1000		Analysis Time...: 22:38		
Prep Batch #...: 8175113						
Silica	729	250	ug/L	SW846 6020	06/11-06/21/08	KN3JR1A0
		Dilution Factor: 1		Analysis Time...: 00:00		

NOTE(S):

N Spiked analyte recovery is outside stated control limits.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-606U

General Chemistry

Lot-Sample #...: F8E290268-003
Date Sampled...: 05/28/08 16:10Work Order #...: KN3JR
Date Received...: 05/29/08

Matrix.....: WATER

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.4	0.10	No Units	SW846 9040	05/29/08	8151296
				Dilution Factor: 1 Analysis Time...: 00:00		
Bicarbonate Alkalinity	7.8	5.0	mg/L	MCAWW 310.1	06/02/08	8154062
				Dilution Factor: 1 Analysis Time...: 00:00		
Bromide	56.6	50.0	mg/L	MCAWW 300.0A	05/30/08	8151362
				Dilution Factor: 200 Analysis Time...: 03:41		
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154061
				Dilution Factor: 1 Analysis Time...: 00:00		
Chloride	27900	2000	mg/L	MCAWW 300.0A	05/30/08	8151363
				Dilution Factor: 10000 Analysis Time...: 04:06		
Fluoride	ND	20.0	mg/L	MCAWW 300.0A	05/30/08	8151364
				Dilution Factor: 200 Analysis Time...: 03:41		
Ion Balance Difference	2.7	0.10	%	SML8 1030F & API	06/24/08	8176456
				Dilution Factor: 1 Analysis Time...: 00:00		
Nitrate	ND	0.20	mg/L	MCAWW 300.0A	05/30/08	8151367
				Dilution Factor: 10 Analysis Time...: 03:29		
Nitrite	ND	200	mg/L	MCAWW 300.0A	05/30/08	8151366
				Dilution Factor: 10000 Analysis Time...: 04:06		
Nitrogen, as Ammonia	844	50.0	ug/L	MCAWW 350.1	05/30/08	8150453
				Dilution Factor: 1 Analysis Time...: 00:00		
Sulfate	3470	100	mg/L	MCAWW 300.0A	05/30/08	8151365
				Dilution Factor: 200 Analysis Time...: 03:41		
Total Alkalinity	155	5.0	mg/L	SML8 2320 B	06/02/08	8154059
				Dilution Factor: 1 Analysis Time...: 00:00		
Total Dissolved Solids	43100	500	mg/L	MCAWW 160.1	06/04-06/05/08	8156338
				Dilution Factor: 100 Analysis Time...: 00:00		

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-606L

TOTAL Metals

Lot-Sample #...: F8E290268-004

Matrix.....: WATER

Date Sampled...: 05/28/08 15:40 Date Received...: 05/29/08

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK
		LIMIT	UNITS		ANALYSIS DATE	ORDER #
Prep Batch #...: 8155134						
Calcium	632000 N	100000	ug/L	SW846 6020	06/11-06/24/08	KN3JT1AN
		Dilution Factor: 1000		Analysis Time...: 16:21		
Iron	88.2 BN	100	ug/L	SW846 6020	06/11-06/17/08	KN3JT1AP
		Dilution Factor: 2		Analysis Time...: 02:49		
Potassium	549000 N	100000	ug/L	SW846 6020	06/11-06/21/08	KN3JT1AQ
		Dilution Factor: 1000		Analysis Time...: 22:42		
Magnesium	1880000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN3JT1AR
		Dilution Factor: 1000		Analysis Time...: 22:42		
Manganese	39.1	4	ug/L	SW846 6020	06/11-06/17/08	KN3JT1AT
		Dilution Factor: 2		Analysis Time...: 02:49		
Sodium	15100000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN3JT1AU
		Dilution Factor: 1000		Analysis Time...: 22:42		
Silicon	ND N	250000	ug/L	SW846 6020	06/11-06/21/08	KN3JT1AV
		Dilution Factor: 1000		Analysis Time...: 22:42		
Prep Batch #...: 8175113						
Silica	2630	250	ug/L	SW846 6020	06/11-06/21/08	KN3JT1A0
		Dilution Factor: 1		Analysis Time...: 00:00		

NOTE(S):

N Spiked analyte recovery is outside stated control limits.

MACTEC Engineering & Consulting Inc

Client Sample ID: OW-606L

General Chemistry

Lot-Sample #...: F8E290268-004 Work Order #...: KN3JT Matrix.....: WATER
 Date Sampled...: 05/28/08 15:40 Date Received...: 05/29/08

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.3	0.10	No Units	SW846 9040	05/29/08	8151296
				Dilution Factor: 1 Analysis Time...: 00:00		
Bicarbonate Alkalinity	8.2	5.0	mg/L	MCAWW 310.1	06/02/08	8154062
				Dilution Factor: 1 Analysis Time...: 00:00		
Bromide	62.5	50.0	mg/L	MCAWW 300.0A	05/30/08	8151362
				Dilution Factor: 200 Analysis Time...: 05:43		
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154061
				Dilution Factor: 1 Analysis Time...: 00:00		
Chloride	29600	2000	mg/L	MCAWW 300.0A	05/30/08	8151363
				Dilution Factor: 10000 Analysis Time...: 06:07		
Fluoride	ND	20.0	mg/L	MCAWW 300.0A	05/30/08	8151364
				Dilution Factor: 200 Analysis Time...: 05:43		
Ion Balance Difference	3.2	0.10	%	SM18 1030F & API	06/24/08	8176456
				Dilution Factor: 1 Analysis Time...: 00:00		
Nitrate	ND	0.20	mg/L	MCAWW 300.0A	05/30/08	8151367
				Dilution Factor: 10 Analysis Time...: 05:31		
Nitrite	ND	200	mg/L	MCAWW 300.0A	05/30/08	8151366
				Dilution Factor: 10000 Analysis Time...: 06:07		
Nitrogen, as Ammonia	1580	200	ug/L	MCAWW 350.1	05/30/08	8150453
				Dilution Factor: 4 Analysis Time...: 00:00		
Sulfate	3860	100	mg/L	MCAWW 300.0A	05/30/08	8151365
				Dilution Factor: 200 Analysis Time...: 05:43		
Total Alkalinity	165	5.0	mg/L	SM18 2320 B	06/02/08	8154059
				Dilution Factor: 1 Analysis Time...: 00:00		
Total Dissolved Solids	49100	500	mg/L	MCAWW 160.1	06/04-06/05/08	8156338
				Dilution Factor: 100 Analysis Time...: 00:00		

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F8E290268

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F8F030000-134 Prep Batch #...: 8155134						
Calcium	ND	100	ug/L	SW846 6020	06/11-06/24/08	KN8W91AA
		Dilution Factor: 1				
		Analysis Time...: 15:38				
Iron	26.0 B	50	ug/L	SW846 6020	06/11-06/17/08	KN8W91AC
		Dilution Factor: 1				
		Analysis Time...: 02:01				
Magnesium	ND	50	ug/L	SW846 6020	06/11-06/21/08	KN8W91AE
		Dilution Factor: 1				
		Analysis Time...: 21:52				
Manganese	ND	2	ug/L	SW846 6020	06/11-06/17/08	KN8W91AF
		Dilution Factor: 1				
		Analysis Time...: 02:01				
Potassium	ND	100	ug/L	SW846 6020	06/11-06/21/08	KN8W91AD
		Dilution Factor: 1				
		Analysis Time...: 21:52				
Silicon	ND	250	ug/L	SW846 6020	06/11-06/21/08	KN8W91AH
		Dilution Factor: 1				
		Analysis Time...: 21:52				
Sodium	ND	50	ug/L	SW846 6020	06/11-06/21/08	KN8W91AG
		Dilution Factor: 1				
		Analysis Time...: 21:52				
MB Lot-Sample #: F8F230000-113 Prep Batch #...: 8175113						
Silica	ND	250	ug/L	SW846 6020	06/11-06/21/08	KQEK81AA
		Dilution Factor: 1				
		Analysis Time...: 00:00				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 B Estimated result. Result is less than RL.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F8E290268

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Bicarbonate Alkalinity	ND	Work Order #: KN7R51AA 5.0	mg/L	MB Lot-Sample #: F8F020000-062 MCAWW 310.1	06/02/08	8154062
		Dilution Factor: 1 Analysis Time...: 00:00				
Bromide	ND	Work Order #: KPR011AA 0.25	mg/L	MB Lot-Sample #: F8E300000-362 MCAWW 300.0A	05/29/08	8151362
		Dilution Factor: 1 Analysis Time...: 06:46				
Carbonate Alkalinity	ND	Work Order #: KN7RT1AA 5.0	mg/L	MB Lot-Sample #: F8F020000-061 MCAWW 310.1	06/02/08	8154061
		Dilution Factor: 1 Analysis Time...: 00:00				
Chloride	ND	Work Order #: KPR071AA 0.20	mg/L	MB Lot-Sample #: F8E300000-363 MCAWW 300.0A	05/29/08	8151363
		Dilution Factor: 1 Analysis Time...: 06:46				
Fluoride	ND	Work Order #: KPR091AA 0.10	mg/L	MB Lot-Sample #: F8E300000-364 MCAWW 300.0A	05/29/08	8151364
		Dilution Factor: 1 Analysis Time...: 06:46				
Nitrate	ND	Work Order #: KPR1J1AA 0.020	mg/L	MB Lot-Sample #: F8E300000-367 MCAWW 300.0A	05/29/08	8151367
		Dilution Factor: 1 Analysis Time...: 06:46				
Nitrite	ND	Work Order #: KPR1F1AA 0.020	mg/L	MB Lot-Sample #: F8E300000-366 MCAWW 300.0A	05/29/08	8151366
		Dilution Factor: 1 Analysis Time...: 06:46				
Nitrogen, as Ammonia	ND	Work Order #: KN3VT1AA 50.0	ug/L	MB Lot-Sample #: F8E290000-453 MCAWW 350.1	05/30/08	8150453
		Dilution Factor: 1 Analysis Time...: 00:00				
Sulfate	ND	Work Order #: KPR1D1AA 0.50	mg/L	MB Lot-Sample #: F8E300000-365 MCAWW 300.0A	05/29/08	8151365
		Dilution Factor: 1 Analysis Time...: 06:46				

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METHOD BLANK REPORT

General Chemistry

Client Lot #...: F8E290268

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Alkalinity	ND	Work Order #: KN7RG1AA 5.0	mg/L	MB Lot-Sample #: SM18 2320 B	F8F020000-059 06/02/08	8154059
		Dilution Factor: 1 Analysis Time...: 00:00				
Total Dissolved Solids	ND	Work Order #: KPC5L1AA 5.0	mg/L	MB Lot-Sample #: MCAWW 160.1	F8F040000-338 06/04-06/05/08	8156338
		Dilution Factor: 1 Analysis Time...: 00:00				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F8E290268

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#: F8F030000-134 Prep Batch #...: 8155134					
Calcium	105	(85 - 115)	SW846 6020	06/11-06/24/08	KN8W91AJ
		Dilution Factor: 1		Analysis Time...: 15:42	
Iron	111	(85 - 115)	SW846 6020	06/11-06/17/08	KN8W91AK
		Dilution Factor: 1		Analysis Time...: 02:05	
Potassium	102	(85 - 115)	SW846 6020	06/11-06/21/08	KN8W91AL
		Dilution Factor: 1		Analysis Time...: 21:57	
Magnesium	100	(85 - 115)	SW846 6020	06/11-06/21/08	KN8W91AM
		Dilution Factor: 1		Analysis Time...: 21:57	
Manganese	108	(85 - 115)	SW846 6020	06/11-06/17/08	KN8W91AN
		Dilution Factor: 1		Analysis Time...: 02:05	
Sodium	98	(85 - 115)	SW846 6020	06/11-06/21/08	KN8W91AP
		Dilution Factor: 1		Analysis Time...: 21:57	
Silicon	105	(85 - 115)	SW846 6020	06/11-06/21/08	KN8W91AQ
		Dilution Factor: 1		Analysis Time...: 21:57	
LCS Lot-Sample#: F8F230000-113 Prep Batch #...: 8175113					
Silica	105 N	(0.0- 0.0)	SW846 6020	06/11-06/21/08	KQEK81AC
		Dilution Factor: 1		Analysis Time...: 00:00	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: F8E290268

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Nitrogen, as Ammonia		WO#:KN3VT1AC-LCS/KN3VT1AD-LCSD			LCS	Lot-Sample#: F8E290000-453	
	100	(90 - 110)			MCAWW 350.1	05/30/08	8150453
	99	(90 - 110)	0.77	(0-20)	MCAWW 350.1	05/30/08	8150453
		Dilution Factor: 1			Analysis Time...: 00:00		

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E290268

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)	100	(99 - 101)	SW846 9040	05/29/08	8151296
			Dilution Factor: 1	Analysis Time..: 00:00	
Bicarbonate Alkalinity	100	(90 - 110)	MCAWW 310.1	06/02/08	8154062
			Dilution Factor: 1	Analysis Time..: 00:00	
Bromide	97	(90 - 110)	MCAWW 300.0A	05/29/08	8151362
			Dilution Factor: 1	Analysis Time..: 06:34	
Carbonate Alkalinity	100	(90 - 110)	MCAWW 310.1	06/02/08	8154061
			Dilution Factor: 1	Analysis Time..: 00:00	
Chloride	95	(90 - 110)	MCAWW 300.0A	05/29/08	8151363
			Dilution Factor: 1	Analysis Time..: 06:34	
Fluoride	91	(90 - 110)	MCAWW 300.0A	05/29/08	8151364
			Dilution Factor: 1	Analysis Time..: 06:34	
Nitrate	99	(90 - 110)	MCAWW 300.0A	05/29/08	8151367
			Dilution Factor: 1	Analysis Time..: 06:34	
Nitrite	100	(90 - 110)	MCAWW 300.0A	05/29/08	8151366
			Dilution Factor: 1	Analysis Time..: 06:34	
Sulfate	91	(90 - 110)	MCAWW 300.0A	05/29/08	8151365
			Dilution Factor: 1	Analysis Time..: 06:34	
Total Alkalinity	100	(90 - 110)	SM18 2320 B	06/02/08	8154059
			Dilution Factor: 1	Analysis Time..: 00:00	

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E290268

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Dissolved Solids	100	(86 - 115)	MCAWW 160.1	06/04-06/05/08	8156338
		Dilution Factor: 1		Analysis Time...: 00:00	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F8E290268
 Date Sampled...: 05/27/08 11:35 Date Received...: 05/28/08

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F8E280143-001 Prep Batch #...: 8155134							
Calcium	0 N	(75 - 125)			SW846 6020	06/11-06/24/08	KNX8D1A0
	136 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/11-06/24/08	KNX8D1A1
Dilution Factor: 1000 Analysis Time...: 15:52							
Iron	62 N	(75 - 125)			SW846 6020	06/11-06/17/08	KNX8D1A2
	68 N	(75 - 125)	6.1	(0-20)	SW846 6020	06/11-06/17/08	KNX8D1A3
Dilution Factor: 2 Analysis Time...: 02:16							
Magnesium	358 N	(75 - 125)			SW846 6020	06/11-06/21/08	KNX8D1A6
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/11-06/21/08	KNX8D1A7
Dilution Factor: 1000 Analysis Time...: 22:18							
Manganese	79	(75 - 125)			SW846 6020	06/11-06/17/08	KNX8D1A8
	83	(75 - 125)	4.5	(0-20)	SW846 6020	06/11-06/17/08	KNX8D1A9
Dilution Factor: 2 Analysis Time...: 02:16							
Potassium	122 N	(75 - 125)			SW846 6020	06/11-06/21/08	KNX8D1A4
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/11-06/21/08	KNX8D1A5
Dilution Factor: 1000 Analysis Time...: 22:18							
Silicon	182 N	(75 - 125)			SW846 6020	06/11-06/21/08	KNX8D1CD
	138 N,*	(75 - 125)	27	(0-20)	SW846 6020	06/11-06/21/08	KNX8D1CE
Dilution Factor: 1000 Analysis Time...: 22:18							
Sodium	3360 N	(75 - 125)			SW846 6020	06/11-06/21/08	KNX8D1CA
	0 N	(75 - 125)	0.0	(0-20)	SW846 6020	06/11-06/21/08	KNX8D1CC
Dilution Factor: 1000 Analysis Time...: 22:18							

NOTE(S):

- Calculations are performed before rounding to avoid round-off errors in calculated results.
- N Spiked analyte recovery is outside stated control limits.
- * Relative percent difference (RPD) is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E290268

Matrix.....: WATER

Date Sampled...: 05/28/08 11:00 Date Received...: 05/29/08

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bromide	90	Work Order #...: KN3HJ1A1 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E290268-001 05/30/08	8151362
		Dilution Factor: 200		Analysis Time...: 12:27	
Chloride	98	Work Order #...: KN3HJ1A3 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E290268-001 05/30/08	8151363
		Dilution Factor: 10000		Analysis Time...: 12:51	
Fluoride	95	Work Order #...: KN3HJ1A5 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E290268-001 05/30/08	8151364
		Dilution Factor: 200		Analysis Time...: 12:27	
Nitrate	99	Work Order #...: KN3HJ1CC (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E290268-001 05/30/08	8151367
		Dilution Factor: 10		Analysis Time...: 12:14	
Nitrite	120 N	Work Order #...: KN3HJ1A9 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E290268-001 05/30/08	8151366
		Dilution Factor: 10000		Analysis Time...: 12:51	
Nitrogen, as Ammonia	104	Work Order #...: KNW831AP (90 - 110)	MCAWW 350.1	MS Lot-Sample #: F8E270173-001 05/30/08	8150453
		Dilution Factor: 1		Analysis Time...: 00:00	
Sulfate	78 N	Work Order #...: KN3HJ1A7 (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F8E290268-001 05/30/08	8151365
		Dilution Factor: 200		Analysis Time...: 12:27	
Total Alkalinity	90	Work Order #...: KN5J21A2 (80 - 120)	SM18 2320 B	MS Lot-Sample #: F8E300223-003 06/02/08	8154059
		Dilution Factor: 1		Analysis Time...: 00:00	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

F8E290268

CLIENT ANALYSIS SUMMARY

Storage Loc: 1-90,METS

Project Manager: IV Quote #: 79192 SDG: Date Received: 2008-05-29
 Project: 6468071950 FPL Turkey Point COL Analytical Due Date: 2008-06-19
 PO#: 200807151 Report to: Al Tice Report Due Date: 2008-06-19
 Client: 63036 MACTEC Engineering & Consulting Inc Report Type: W
 #SMPS in LOT: 4 EDD Code: 00

Inform PM of any receiving issues.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
1	OW-721U			2008-05-28 / 1100	KN3HJ	WATER
SAMPLE COMMENTS:						
FE	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
KX	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
MG	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
MN	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
NA	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
SA	MH SW846 6020		WATER, Silica by calculation	0X CALCULATION ONLY	9Q ORG FLAGS FOR INORG: STANDARD	PROT: A WRK LOC 06
SI	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
CA	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	AK MCAW 160.1 W		WATER, 160.1, Solids, Filterable "TDS"	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	C8 MCAW 300.0A W		WATER, 300.0A, Fluoride	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	C9 MCAW 300.0A W		WATER, 300.0A, Nitrate as N	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	CB MCAW 310.1 W		WATER, 310.1, Alkalinity, Carbonate	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	CX MCAW 300.0A W		WATER, 300.0A, Chloride	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	CY MCAW 300.0A W		WATER, 300.0A, Sulfate	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	FJ SW846 9040		WATER, 9040C, pH	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	GM MCAW 300.0A W		WATER, 300.0A, Bromide	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	GO MCAW 300.0A W		WATER, 300.0A, Nitrite as N	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	LV SM18 2320 B		WATER, 2320 B, Alkalinity, Total	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	SL SM18 1030F & API		WATER, 1030F & API, Ion Balance	0X CALCULATION ONLY	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	UX MCAW 310.1 W		WATER, 310.1, Alkalinity, Bicarbonate	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	VM MCAW 350.1 W		WATER, 350.1, Nitrogen, Ammonia	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
2	OW-721L			2008-05-28 / 1325	KN3JD	WATER
SAMPLE COMMENTS:						
MN	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
SI	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
SA	MH SW846 6020		WATER, Silica by calculation	0X CALCULATION ONLY	9Q ORG FLAGS FOR INORG: STANDARD	PROT: A WRK LOC 06
NA	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
KX	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
FE	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
CA	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
MG	MH SW846 6020		WATER, 6020, Metals	GJ METALS, TOTAL - 2% HCL	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	AK MCAW 160.1 W		WATER, 160.1, Solids, Filterable "TDS"	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06
XX	C8 MCAW 300.0A W		WATER, 300.0A, Fluoride	88 NO SAMPLE PREPARATION PERFORMED / DIRECT	01 STANDARD TEST SET	PROT: A WRK LOC 06

F8E290268

CLIENT ANALYSIS SUMMARY

Storage Loc: 1-90,METS

Project Manager: IV Quote #: 79192 SDG: Date Received: 2008-05-29
 Project: 6468071950 FPL Turkey Point COL Analytical Due Date: 2008-06-19
 PO#: 200807151 Report to: Al Tice Report Due Date: 2008-06-19
 Client: 63036 MACTEC Engineering & Consulting Inc Report Type: W
 #SMPS in LOT: 4 EDD Code: 00

Inform PM of any receiving issues.

XX	C9	MCAW 300.0A W	WATER, 300.0A, Nitrate as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CB	MCAW 310.1 W	WATER, 310.1, Alkalinity, Carbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CX	MCAW 300.0A W	WATER, 300.0A, Chloride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW 300.0A W	WATER, 300.0A, Sulfate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	FJ	SW846 9040	WATER, 9040C, pH	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	GM	MCAW 300.0A W	WATER, 300.0A, Bromide	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	GO	MCAW 300.0A W	WATER, 300.0A, Nitrite as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	LV	SM18 2320 B	WATER, 2320 B, Alkalinity, Total	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	SL	SM18 1030F & API	WATER, 1030F & API, Ion Balance	0X	CALCULATION ONLY	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	UX	MCAW 310.1 W	WATER, 310.1, Alkalinity, Bicarbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	VM	MCAW 350.1 W	WATER, 350.1, Nitrogen, Ammonia	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE # 3 CLIENT SAMPLE ID OW-606U Site ID Client Matrix DATE/TIME SAMPLED 2008-05-28 / 1610 WORKORDER KN3JR WATER

SAMPLE COMMENTS:

FE	MH	SW846 6020	WATER, 6020, Metals	GJ	METALS, TOTAL -2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
KX	MH	SW846 6020	WATER, 6020, Metals	GJ	METALS, TOTAL -2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
MG	MH	SW846 6020	WATER, 6020, Metals	GJ	METALS, TOTAL -2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
MN	MH	SW846 6020	WATER, 6020, Metals	GJ	METALS, TOTAL -2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
NA	MH	SW846 6020	WATER, 6020, Metals	GJ	METALS, TOTAL -2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
SA	MH	SW846 6020	WATER, Silica by calculation	0X	CALCULATION ONLY	9Q	ORG FLAGS FOR INORG: STANDARD	PROT: A	WRK LOC	06
SI	MH	SW846 6020	WATER, 6020, Metals	GJ	METALS, TOTAL -2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
CA	MH	SW846 6020	WATER, 6020, Metals	GJ	METALS, TOTAL -2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	AK	MCAW 160.1 W	WATER, 160.1, Solids, Filterable "TDS"	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CB	MCAW 300.0A W	WATER, 300.0A, Fluoride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW 300.0A W	WATER, 300.0A, Nitrate as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CB	MCAW 310.1 W	WATER, 310.1, Alkalinity, Carbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CX	MCAW 300.0A W	WATER, 300.0A, Chloride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW 300.0A W	WATER, 300.0A, Sulfate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	FJ	SW846 9040	WATER, 9040C, pH	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	GM	MCAW 300.0A W	WATER, 300.0A, Bromide	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	GO	MCAW 300.0A W	WATER, 300.0A, Nitrite as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	LV	SM18 2320 B	WATER, 2320 B, Alkalinity, Total	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	SL	SM18 1030F & API	WATER, 1030F & API, Ion Balance	0X	CALCULATION ONLY	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	UX	MCAW 310.1 W	WATER, 310.1, Alkalinity, Bicarbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	VM	MCAW 350.1 W	WATER, 350.1, Nitrogen, Ammonia	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE # CLIENT SAMPLE ID Site ID Client Matrix DATE/TIME SAMPLED WORKORDER 1

F8E290268

CLIENT ANALYSIS SUMMARY

Storage Loc: 1-90,METS
 Date Received: 2008-05-29
 Analytical Due Date: 2008-06-19
 Report Due Date: 2008-06-19
 Report Type: W
 EDD Code: 00

Project Manager: IV
 Project: 6468071950
 PO#: 200807151
 Client: 63036 MACTEC Engineering & Consulting Inc

Quote #: 79192
 FPL Turkey Point COL
 Report to: Al Tice

#SMPS In LOT: 4

Inform PM of any receiving issues.

4 OW-606L 2008-05-28 / 1540 KN3JT WATER

SAMPLE COMMENTS:

MN	MH	SW846 6020	WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
SI	MH	SW846 6020	WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
SA	MH	SW846 6020	WATER, Silica by calculation	0X	CALCULATION ONLY	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: A	WRK LOC	06
NA	MH	SW846 6020	WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
KX	MH	SW846 6020	WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
CA	MH	SW846 6020	WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
FE	MH	SW846 6020	WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
MG	MH	SW846 6020	WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	AK	MCAW 160.1 W	WATER, 160.1, Solids, Filterable "TDS"	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C8	MCAW 300.0A W	WATER, 300.0A, Fluoride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW 300.0A W	WATER, 300.0A, Nitrate as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CB	MCAW 310.1 W	WATER, 310.1, Alkalinity, Carbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CX	MCAW 300.0A W	WATER, 300.0A, Chloride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW 300.0A W	WATER, 300.0A, Sulfate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	FJ	SW846 9040	WATER, 9040C, pH	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	GM	MCAW 300.0A W	WATER, 300.0A, Bromide	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	GO	MCAW 300.0A W	WATER, 300.0A, Nitrite as N	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	LV	SM18 2320 B	WATER, 2320 B, Alkalinity, Total	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	SL	SM18 1030F & API	WATER, 1030F & API, Ion Balance	0X	CALCULATION ONLY	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	UX	MCAW 310.1 W	WATER, 310.1, Alkalinity, Bicarbonate	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	VM	MCAW 350.1 W	WATER, 350.1, Nitrogen, Ammonia	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Temperature on Receipt _____
 Drinking Water? Yes No

Chain of Custody Record

TAL-4124 (1007)

Client: **MACTEC** Project Manager: **Scott Anger** Chain of Custody Number: **062463**

Address: **3301 Atlantic Avenue** Telephone Number (Area Code/Fax Number): **919-876-0416** Date: **05-28-08**

City: **Raleigh** State: **NC** Zip Code: **27604** Site Contact: **Matt Cooke** Lab Contact: **Ivan Vania** Page: **1** of **1**

Project Name and Location (State): **Turkey Point Col** Carrier/Bill Number: **FE**

Contract/Purchase Order/Quote No.: **6468-07-1950**

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix			Containers & Preservatives					Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt		
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl			NaOH	ZnAc/NaOH
OW-721U	05/28/08	1100	X							121				Calcium Iron, Magnesium Manganese Potassium Sodium
OW-721L	05/28/08	1325	X							121				(IM) 34 250P
OW-606U	05/28/08	1610	X							121				PH-EPA SUB46 9045(D)
OW-606L	05/28/08	1540	X							121				TDS-EPA 160.1 Calcium - EPA 8007 Iron - EPA 8007 Manganese - EPA 8007 Potassium - EPA 8007 Sodium - EPA 8007 Alkalinity - EPA 310.1 Ammonia - EPA 350.1 Nitrate - EPA 350.1 Nitrite - EPA 350.1 EPA 300.0 EPA 300.0 CATINO EPA 6020C

Possible Hazard Identification:
 Non-Hazard Flammable Skin Irritant Poison B Unknown

Sample Disposal:
 Return to Client Disposed by Lab Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required:
 24 Hours 48 Hours 7 Days 14 Days 21 Days Other: **Standard**

1. Relinquished By: **Kenneth J. Smith** Date: **05/28/08** Time: **1630**

2. Relinquished By: _____ Date: _____ Time: _____

3. Relinquished By: _____ Date: _____ Time: _____

1. Received By: _____ Date: **05-29-08** Time: **09:00**

2. Received By: _____ Date: _____ Time: _____

3. Received By: _____ Date: _____ Time: _____

Comments: **CATINO - ASBESTOS/LEAD methods they charge for and approval of SPDR please wait for instructions from MACTEC - CATINO EPA 6020C - Nitrate attached EPA 300.0 - 1950-08**

DISTRIBUTION: **WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy**



Lot #(s): F8E290268
 - 3468 -

Client: Mack COC/RFA No: 062463 Condition Upon Receipt Form
 Quote No: 79192 Initiated By: [Signature] Date: 05-29-08
 Time: 0900

Shipper Name: FedEx Shipping Information
 Shipping # (s):* 8686 2820 8260 Multiple Packages Y (N)
 Sample Temperature (s):**
 1. 3 6. _____
 2. _____ 7. _____
 3. _____ 8. _____
 4. _____ 9. _____
 5. _____ 10. _____

*Numbered shipping lines correspond to Numbered Sample Temp Lines
 **Sample must be received at 4°C ± 2°C. If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1. <input checked="" type="radio"/> Y <input type="radio"/> N	Are there custody seals present on the cooler?	8. <input checked="" type="radio"/> Y <input checked="" type="radio"/> N	Are there custody seals present on bottles?
2. <input checked="" type="radio"/> Y <input checked="" type="radio"/> N <input type="radio"/> N/A	Do custody seals on cooler appear to be tampered with?	9. <input checked="" type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Do custody seals on bottles appear to be tampered with?
3. <input checked="" type="radio"/> Y <input type="radio"/> N	Were contents of cooler frisked after opening, but before unpacking?	10. <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Was sample received with proper pH? (If not, make note below)
4. <input checked="" type="radio"/> Y <input type="radio"/> N	Sample received with Chain of Custody?	11. <input type="radio"/> Y <input type="radio"/> N	If N/A- Was pH taken by original TestAmerica lab?
5. <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. <input checked="" type="radio"/> Y <input type="radio"/> N	Sample received in proper containers?
6. <input checked="" type="radio"/> Y <input checked="" type="radio"/> N	Was sample received broken?	13. <input type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7. <input checked="" type="radio"/> Y <input type="radio"/> N	Is sample volume sufficient for analysis?	14. <input type="radio"/> Y <input type="radio"/> N	Was Internal COC/Workshare received?

¹ For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
 Client Contact Name: _____ Informed by: _____
 Sample(s) processed "as is"
 Sample(s) on hold until: _____ If released, notify: _____
 Project Management Review: [Signature] Date: 6-3-08

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 08/06/07\SI\svr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

Slug Test Data Forms

Appendix G
Summary Table of Input Values for Hydraulic Conductivity Test Analyses
Turkey Point COL Project
MACTEC Project No. 6488-07-1950

WELL ID	Test Date		Test Method	Borehole Depth (ft bgs ¹)	Static H2O (ft TOC ²)	Riser (ft ags)	Static H2O (ft bgs)	Water Column Height (feet)	Formation Depth	Borehole Length vs Formation Extent	Saturated Thickness ³ (feet, bgs)	Maximum Displacement (feet)		Top of Well Screen ⁴ (feet bgs)	Well Screen Length ⁴ (feet)	Radius of Well Casing (feet)	Radius of Screen (feet)	Radius of Probe (feet)	Probe Serial Number	Notes	
	Background	Falling Head										Rising Head	Falling Head								Rising Head
OW-606 U	5/20/2008		5/20/2008	pneumatic	30.17	3.48	3.2	0.28	29.89	24.00	6.17	29.89		2.792	15	15.17	0.083	0.30	0.03	118478	
			5/20/2008	pneumatic	30.17	3.48	3.2	0.28	29.89	24.00	6.17	29.89		3.394						118478	Test 2
OW-606 L	5/18/2008	5/18/2008	5/18/2008	manual slug	109.00	3.24	2.8	0.44	108.56	116.00	-7.00	92	1.013	1.817	92.8	17.2	0.083	0.29	0.03	118478	
	5/20/2008		5/20/2008	pneumatic	109.00	3.07	2.8	0.27	108.73	116.00	-7.00	92		4.388						118478	
OW-621 U	5/20/2008		5/20/2008	pneumatic	30.00	5.74	3.3	2.44	27.56	26.00	4.00	27.56		10.561	14.4	15.6	0.083	0.30	0.03	118478	
OW-621 L	5/17/2008	5/17/2008	5/17/2008	manual slug	110.00	4.13	3.0	1.13	108.87	114.50	-4.50	88.5	19.286	3.011	95	15	0.083	0.30	0.03	103345	
			5/17/2008	manual slug	110.00	4.13	3.0	1.13	108.87	114.50	-4.50	88.5		2.103						103345	Test 2
	5/20/2008		5/20/2008	pneumatic	110.00	4.71	3.0	1.71	108.29	114.50	-4.50	88.5		12.053						118478	
OW-636 U	5/21/2008		5/21/2008	pneumatic	29.80	4.35	3.4	0.95	28.85	26.00	3.80	28.85		9.553	12.8	17	0.083	0.25	0.03	118478	
			5/21/2008	pneumatic	29.80	4.35	3.4	0.95	28.85	26.00	3.80	28.85		7.909						118478	
OW-636 L	5/21/2008		5/21/2008	pneumatic	111.00	2.74	3.4	-0.66	111.66	114.00	-3.00	88		8.321	93.5	17.5	0.083	0.25	0.03	118478	
			5/21/2008	pneumatic	111.00	2.74	3.4	-0.66	111.66	114.00	-3.00	88		5.913						118478	Test 2
OW-706 U	5/16/2008	5/16/2008	5/16/2008	manual slug	29.00	3.74	3.2	0.54	28.46	31.20	-2.20	30.66	0.941	0.96	13.4	15.6	0.083	0.25	0.03	103345	
	5/20/2008		5/20/2008	pneumatic	29.00	3.74	3.2	0.54	28.46	31.20	-2.20	30.66		4.189						118478	Test 2
OW-706 L	5/16/2008	5/16/2008	5/16/2008	manual slug	112.00	1.50	3.2	-1.70	113.70	114.00	-2.00	82.8	1.19	2.893	96.9	15.1	0.083	0.25	0.03	103345	
OW-721 U	5/15/2008	5/15/2008	5/15/2008	manual slug	26.00	4.35	3.1	1.25	24.75	24.00	2.00	24.75	3.338	1.444	9.9	16.1	0.083	0.25	0.03	103345	
	5/20/2008		5/20/2008	pneumatic	26.00	4.73	3.1	1.63	24.37	24.00	2.00	24.37		10.884						118478	
OW-721 L	5/15/2008	5/15/2008	5/15/2008	manual slug	109.00	2.17	3.2	-1.03	110.03	114.00	-5.00	90	2.451	5.904	92	17	0.083	0.25	0.03	103345	
	5/20/2008		5/20/2008	pneumatic	109.00	1.97	3.2	-1.23	110.23	114.00	-5.00	90		9.341						118478	
OW-735 U	5/15/2008	5/15/2008	5/15/2008	manual slug	28.00	4.85	3.3	1.55	26.45	26.00	2.00	26.45	0.553	1.519	12	16	0.083	0.25	0.03	103345	
	5/20/2008		5/20/2008	pneumatic	28.00	4.95	3.3	1.65	26.35	26.00	2.00	26.35		10.051						118478	
OW-735 L	5/15/2008	5/15/2008	5/15/2008	manual slug	110.00	2.97	3.4	-0.43	110.43	113.00	-3.00	87	3.004	5.779	92.3	17.7	0.083	0.25	0.03	103345	
OW-802 U	5/20/2008	6/6/2008	5/20/2008	pneumatic	27.00	4.60	3.4	1.20	25.80	27.00	0.00	25.80		7.799	10	17	0.083	0.25	0.03	118478	
OW-802 L	5/20/2008	6/6/2008	5/20/2008	pneumatic	110.00	3.06	3.3	-0.24	110.24	115.00	-5.00	88		12.796	93	17	0.083	0.21	0.03	118478	
OW-805 U	6/6/2008	6/6/2008	6/6/2008	pneumatic	30.00	3.00	2.8	0.20	28.80	32.50	-2.50	32.30		3.886	13	17	0.083	0.25	0.03	118478	
OW-805 L	6/6/2008	6/6/2008	6/6/2008	pneumatic	97.00	3.19	3.7	-0.51	97.51	100.00	-3.00	67.5		10.511	80	17	0.083	0.21	0.03	118478	
OW-809 U	5/15/2008	5/15/2008	5/15/2008	manual slug	27.00	4.68	3.2	1.48	25.52	25.00	2.00	25.52	6.358	3.175	12.6	14.4	0.083	0.25	0.03	118478	
	5/20/2008	5/20/2008	5/20/2008	pneumatic	27.00	4.72	3.2	1.52	25.48	25.00	2.00	25.48		11.016						118478	
OW-809 L	5/15/2008	5/15/2008	5/15/2008	manual slug	110.00	3.26	3.3	-0.04	110.04	113.00	-3.00	88	11.287	2.64	91	19	0.083	0.25	0.03	103345	
OW-812 U	5/20/2008		5/20/2008	pneumatic	27.00	4.55	3.0	1.55	25.45	27.00	0.00	25.45		11.884	11	16	0.083	0.25	0.03	118478	
OW-812 L	5/20/2008		5/20/2008	pneumatic	109.00	3.01	3.3	-0.29	109.29	113.00	-4.00	86		10.477	94	15	0.083	0.25	0.03	118478	

- Note: Anisotropy ratio (Kv/Kh) is assumed to be 1
¹ Measured in feet below ground surface (bgs).
² Measured in feet below the top of the well casing (TOC).
³ Saturated thickness values determined as:
 1) water column height for all U wells that fully penetrate the Miami Formation
 2) Water column height plus the depth from the bottom of the borehole to the base of the Miami Formation for all U wells that do not fully penetrate the Miami Formation
 3) Thickness of Thompson Formation for all L wells
⁴ Well screen dimensions based on direction from Bechtel to use borehole annulus

Prepared by: AKG Date: 6/20/08
 Checked by: hse Date: 6/20/08

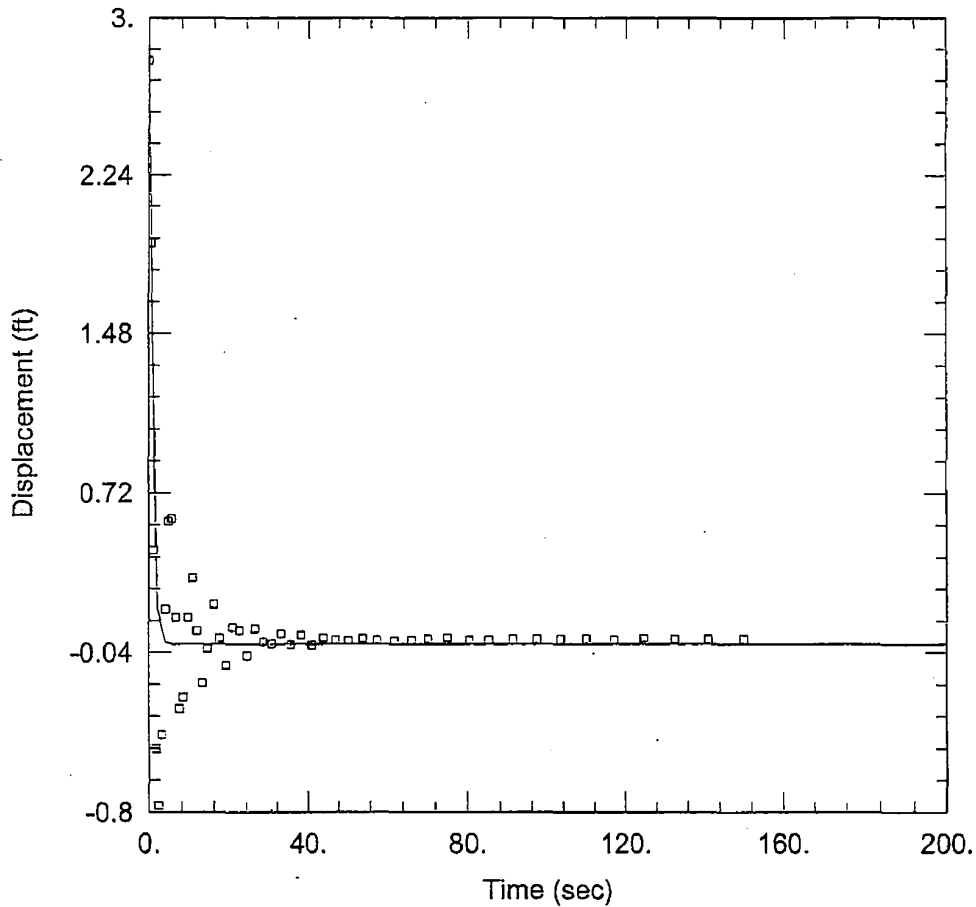
MACTEC Engineering and Consulting, Inc.
 Raleigh, NC



SLUG TEST REPORT

Project Name: <u>TPCOL</u>	Project Number: <u>6468-07-1950</u>		Page <u>1</u> of <u>1</u>
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-606U</u>	MACTEC Rep: <u>Kim Charles-Smith</u>	Date: <u>05/20/08</u>	
UNITS			
Length	Feet		
Time	Minutes		
Well Data	Final static = 2.97' Fromgs.		
Static Water Level	3.48' feet From top		
Total Well Depth	31.91' feet From top		
Static Water Column Height (H)	feet		
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	NA		
Saturated Thickness (b)	feet		
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1		
Depth to Top of Well Screen (d)			
Length of Well Screen (L)	10' feet		
Radius of Well Casing (rc)	0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)			
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	mini troll transducer probe calibrated 4/29/08, exp 4/29/09 SN: 118478 level troll @ 700 winsate		
Slug Data			
Length	used pneumatic slug to perform test.		
weight			
Diameter			
Slug Test File	Background	Falling	Rising
File Name	<u>OW-606UBG</u>	<u>NA</u>	<u>OW-606UR</u>
Start Time	<u>11:49:55</u>		<u>12:01:33</u>
End Time	<u>11:54:59</u>		<u>12:04:17</u>
Notes	<u>OW-606UR</u> <u>12:06:45</u> <u>12:07:47</u>		

Rev 0



OW-606 U RISING HEAD 5/20/08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-606 U
 Test Date: 5-20-08

AQUIFER DATA

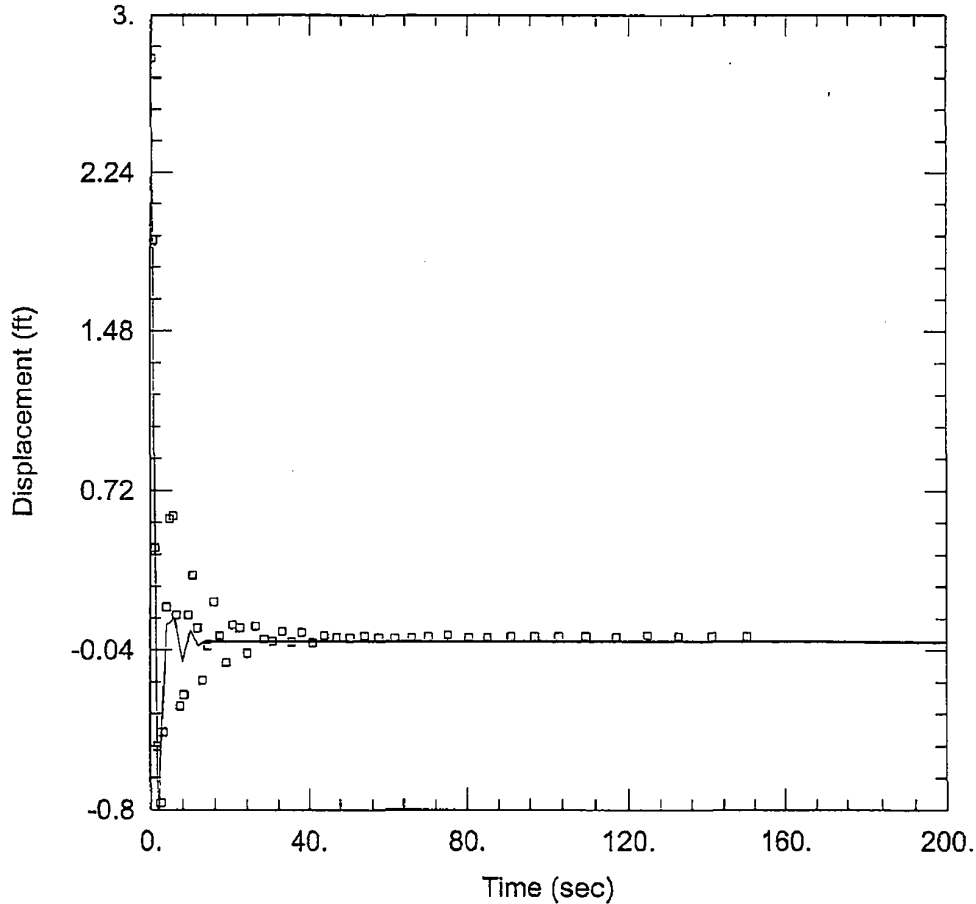
Saturated Thickness: 29.89 ft

WELL DATA (OW-606 U)

Initial Displacement: 2.792 ft Static Water Column Height: 29.89 ft
 Total Well Penetration Depth: 30.17 ft Screen Length: 15.17 ft
 Casing Radius: 0.083 ft Well Radius: 0.3 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: KGS Model
 Kr = 97.98 ft/day Ss = 4.167E-12 ft⁻¹
 Kz/Kr = 1.



OW-606 U RISING HEAD 5/20/08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-606 U
 Test Date: 5-20-08

AQUIFER DATA

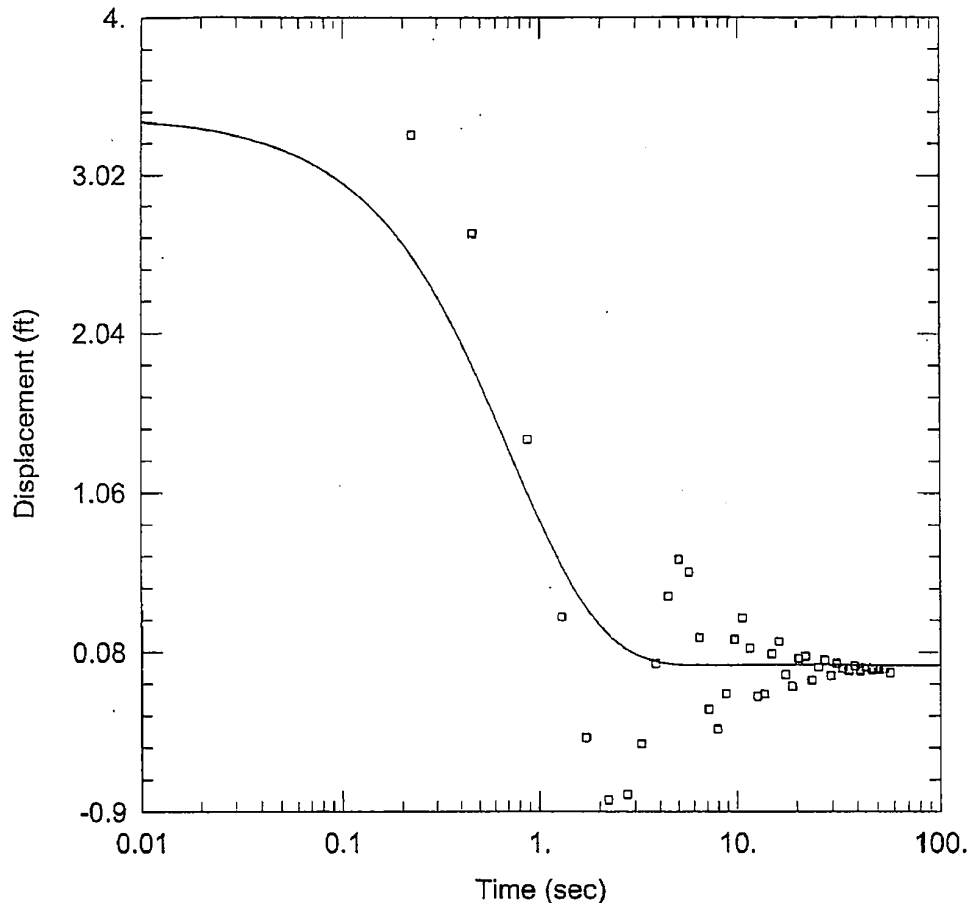
Saturated Thickness: 29.89 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-606 U)

Initial Displacement: 2.792 ft Static Water Column Height: 29.89 ft
 Total Well Penetration Depth: 30.17 ft Screen Length: 15.17 ft
 Casing Radius: 0.083 ft Well Radius: 0.3 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 134.8 ft/day Le = 17.69 ft



OW-606 U RISING HEAD 5/20/08 TEST 2

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-606 U
 Test Date: 5-20-08

AQUIFER DATA

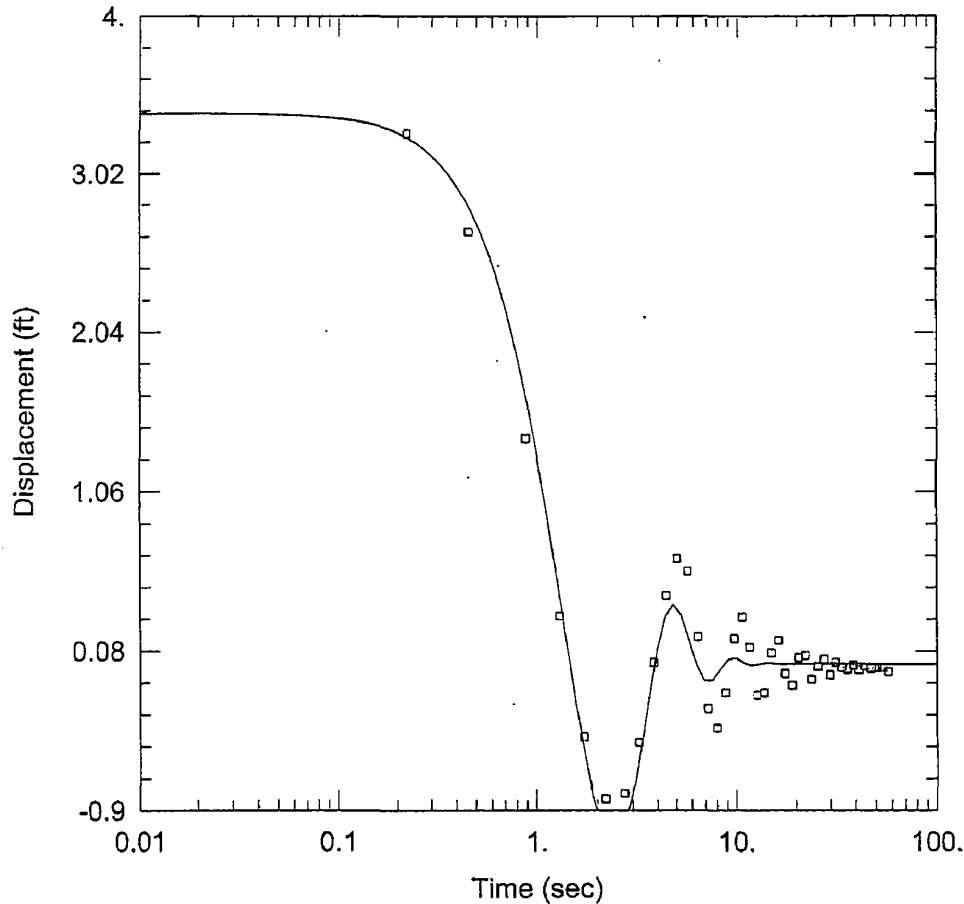
Saturated Thickness: 29.89 ft

WELL DATA (OW-606 U)

Initial Displacement: 3.394 ft Static Water Column Height: 29.89 ft
 Total Well Penetration Depth: 30.17 ft Screen Length: 15.17 ft
 Casing Radius: 0.083 ft Well Radius: 0.3 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: KGS Model
 $K_r = 92.02 \text{ ft/day}$ $S_s = 4.167\text{E-}12 \text{ ft}^{-1}$
 $K_z/K_r = 1.$



OW-606 U RISING HEAD 5/20/08 TEST 2

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-606 U
 Test Date: 5-20-08

AQUIFER DATA

Saturated Thickness: 29.89 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-606 U)

Initial Displacement: 3.394 ft Static Water Column Height: 29.89 ft
 Total Well Penetration Depth: 30.17 ft Screen Length: 15.17 ft
 Casing Radius: 0.083 ft Well Radius: 0.3 ft

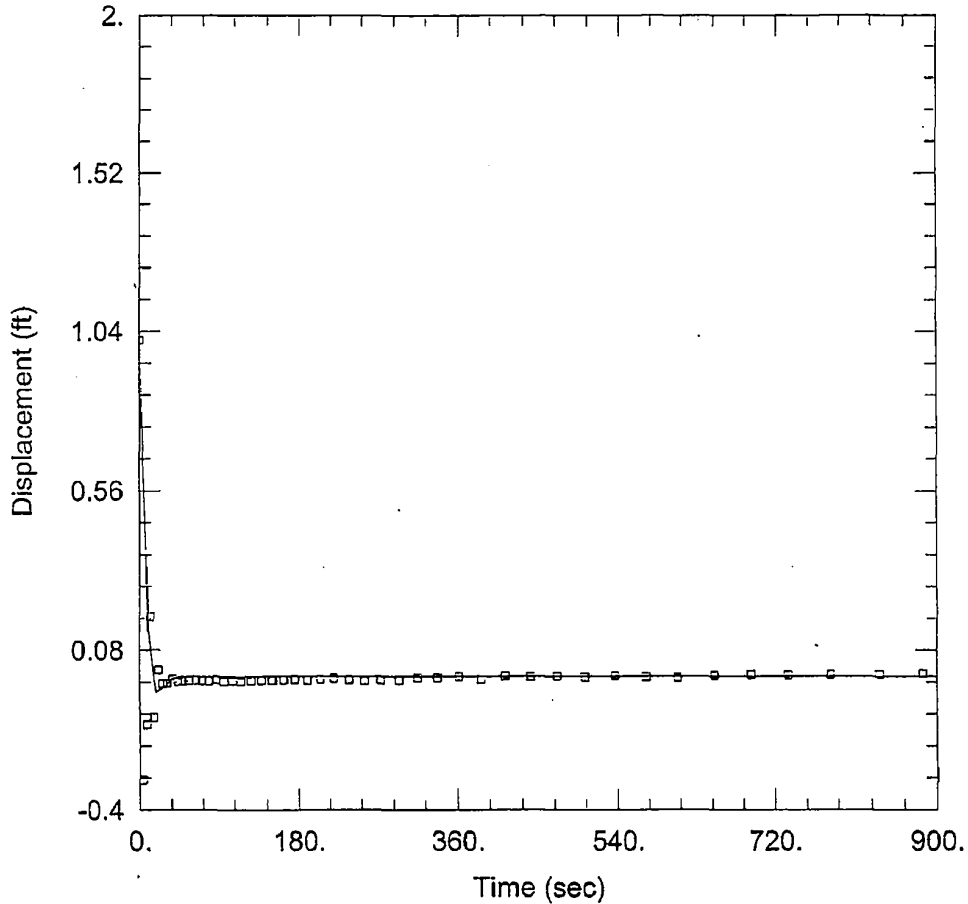
SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 123.1 ft/day Le = 16.66 ft



SLUG TEST REPORT

Project Name: <u>TPCCL</u>	Project Number:		Page	of
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>			
Location: <u>OW-606L</u>	MACTEC Rep: <u>Kim Chels Smith</u>	Date: <u>05/18/08</u>		
UNITS				
Length	Feet			
Time	Minutes			
Well Data	<u>Final Setup = 3.14' above above g.S. by 5-18-08</u>			
Static Water Level	<u>3.24' feet from TOC</u>			
Total Well Depth	<u>111.31' feet from TOC</u>			
Static Water Column Height (H)	<u>108.27' feet</u>			
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head	
	NA			
Saturated Thickness (b)	feet			
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1			
Depth to Top of Well Screen (d)				
Length of Well Screen (L)	<u>10' feet</u>			
Radius of Well Casing (rc)	0.088 feet			
Radius of Screen (rw)	0.083 feet			
Radius of Probe (req)				
Radius of Boring (rb) Skin Effect	0.083 feet			
Probe Serial Number	<u>mini toll transducer calibrated 4/29/08, exp. 4/29/09.</u>			
Slug Data <u>SLUG #2</u>				
Length	<u>65.438 inches</u>			
Weight	<u>8.811 lbs.</u>			
Diameter	<u>1.622 inches</u>			
Slug Test File	Background	Falling	Rising	
File Name	<u>OW-606L BG</u>	<u>OW-606L F</u>	<u>OW-606L R</u>	
Start Time	<u>08:13:29</u>	<u>08:31:14</u>	<u>08:48:16</u>	
End Time	<u>08:21:54</u>	<u>08:45:20</u>	<u>09:06:04</u>	
Notes	<u>Extended top of casing to 5.16' above g.S. to run tests.</u>			
Rev 0				



OW-606 L FALLING HEAD TEST 5-18-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-606 L
 Test Date: 5-18-08

AQUIFER DATA

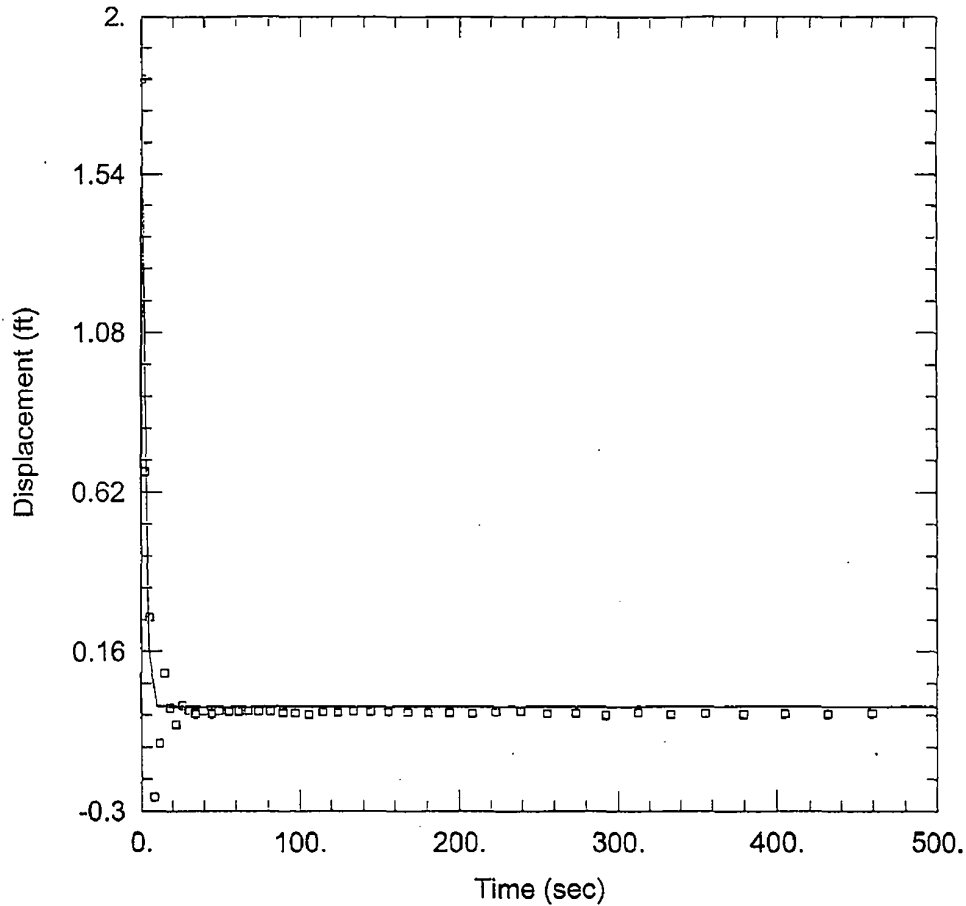
Saturated Thickness: 92. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-606 L)

Initial Displacement: 1.013 ft Static Water Column Height: 108.6 ft
 Total Well Penetration Depth: 109. ft Screen Length: 16.2 ft
 Casing Radius: 0.083 ft Well Radius: 0.29 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 119.9 ft/day Le = 86.28 ft



OW-606 L RISING HEAD TEST 5-18-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-606 L
 Test Date: 5-18-08

AQUIFER DATA

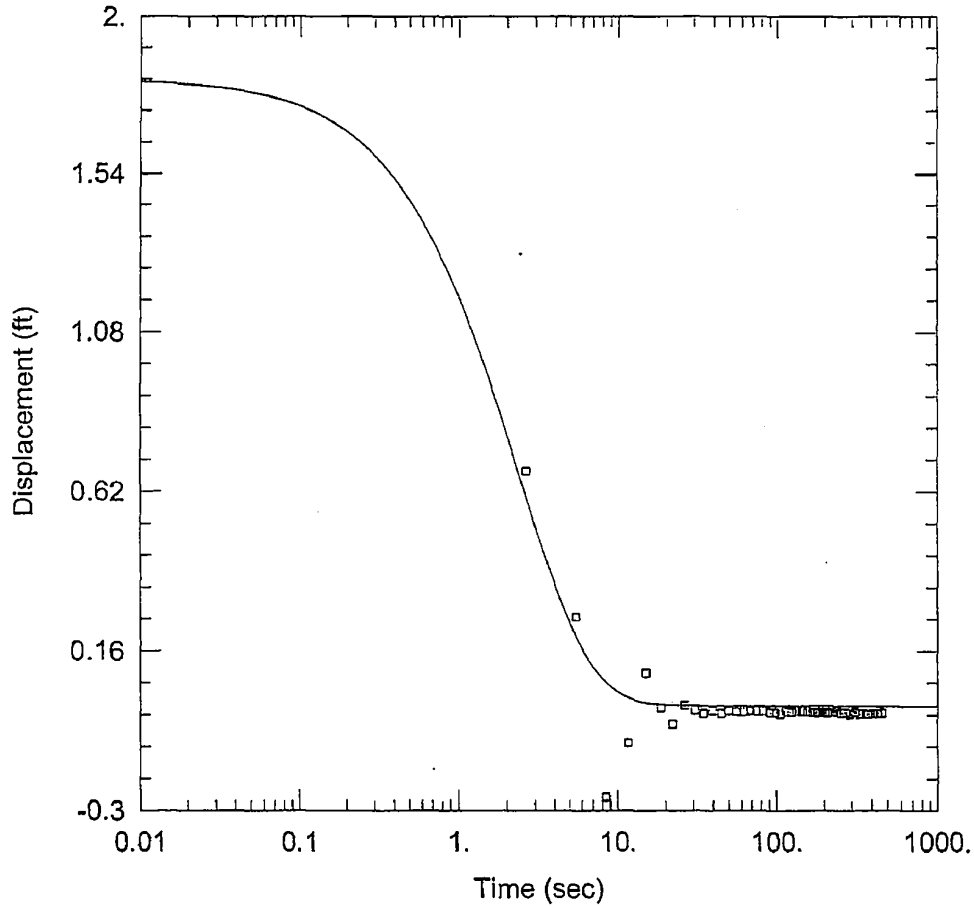
Saturated Thickness: 92. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-606 L)

Initial Displacement: 1.817 ft Static Water Column Height: 108.6 ft
 Total Well Penetration Depth: 109. ft Screen Length: 16.2 ft
 Casing Radius: 0.083 ft Well Radius: 0.29 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 30.16 ft/day Le = 58.94 ft



OW-606 L RISING HEAD TEST 5-18-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-606 L
 Test Date: 5-18-08

AQUIFER DATA

Saturated Thickness: 92 ft

WELL DATA (OW-606 L)

Initial Displacement: 1.817 ft Static Water Column Height: 108.6 ft
 Total Well Penetration Depth: 109 ft Screen Length: 16.2 ft
 Casing Radius: 0.083 ft Well Radius: 0.29 ft

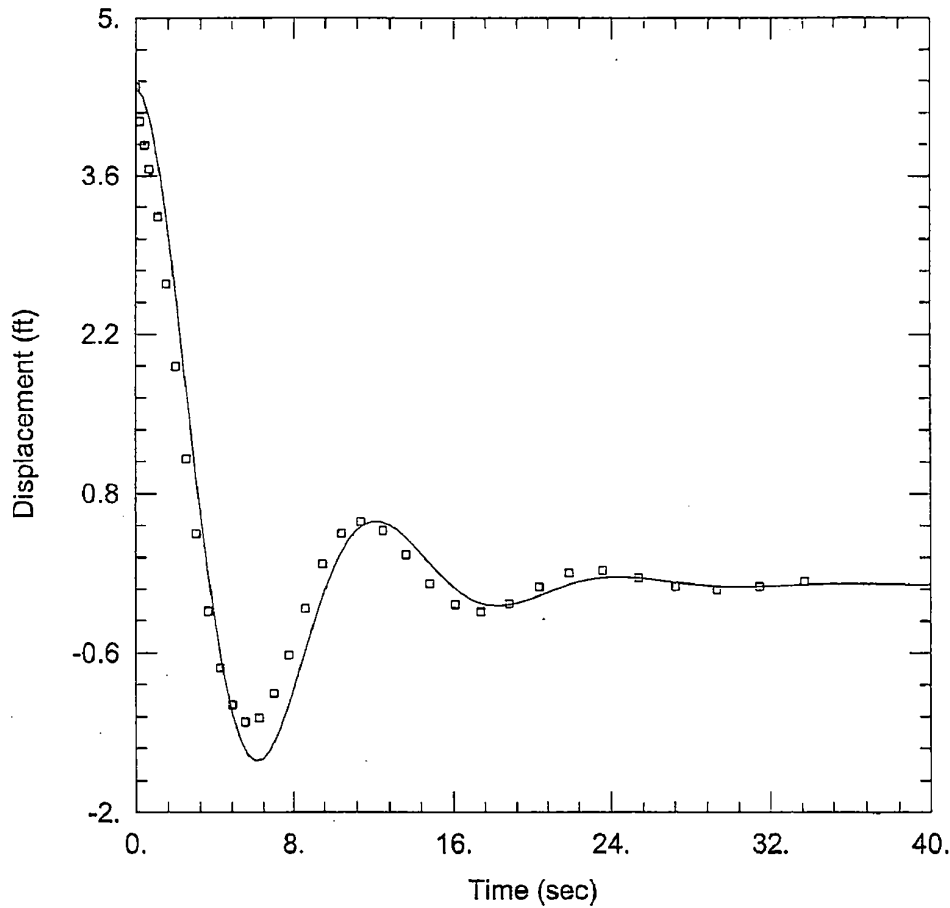
SOLUTION

Aquifer Model: Confined Solution Method: KGS Model
 Kr = 35.04 ft/day Ss = 1.087E-12 ft⁻¹
 Kz/Kr = 1



SLUG TEST REPORT

Project Name: <u>TPCOL</u>	Project Number: <u>LAGB-07-1950</u>		Page <u>1</u> of <u>1</u>
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-606L</u>	MACTEC Rep: <u>Kim Charles-Smith</u>	Date: <u>05/20/08</u>	
UNITS			
Length	Feet		
Time	Minutes		
Well Data	Final Stickup = <u>3.14'</u>		
Static Water Level	<u>3.07'</u>	feet	
Total Well Depth	<u>111.31'</u>	feet	
Static Water Column Height (H)	feet		
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	NA		
Saturated Thickness (b)	feet		
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1		
Depth to Top of Well Screen (d)	feet		
Length of Well Screen (L)	<u>10'</u>	feet	
Radius of Well Casing (rc)	0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)	feet		
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	Mini Troll Transducer probe calibrated 4/29/08, Exp 4/29/09 Sn: <u>118478</u> Level Troll @ <u>700</u> <u>Winstar</u>		
Slug Data	<u>Used pneumatic slug to perform test.</u>		
Length	feet		
Weight	pounds		
Diameter	inches		
Slug Test File	Background	Falling	Rising
File Name	<u>OW-606L BG</u>	<u>NA</u>	<u>OW-606L R</u>
Start Time	<u>12:16:04</u>		<u>12:25:30</u>
End Time	<u>12:17:59</u>		<u>12:26:09</u>
Notes			
Rev 0			



OW-606 L RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-606 L
 Test Date: 5-18-08

AQUIFER DATA

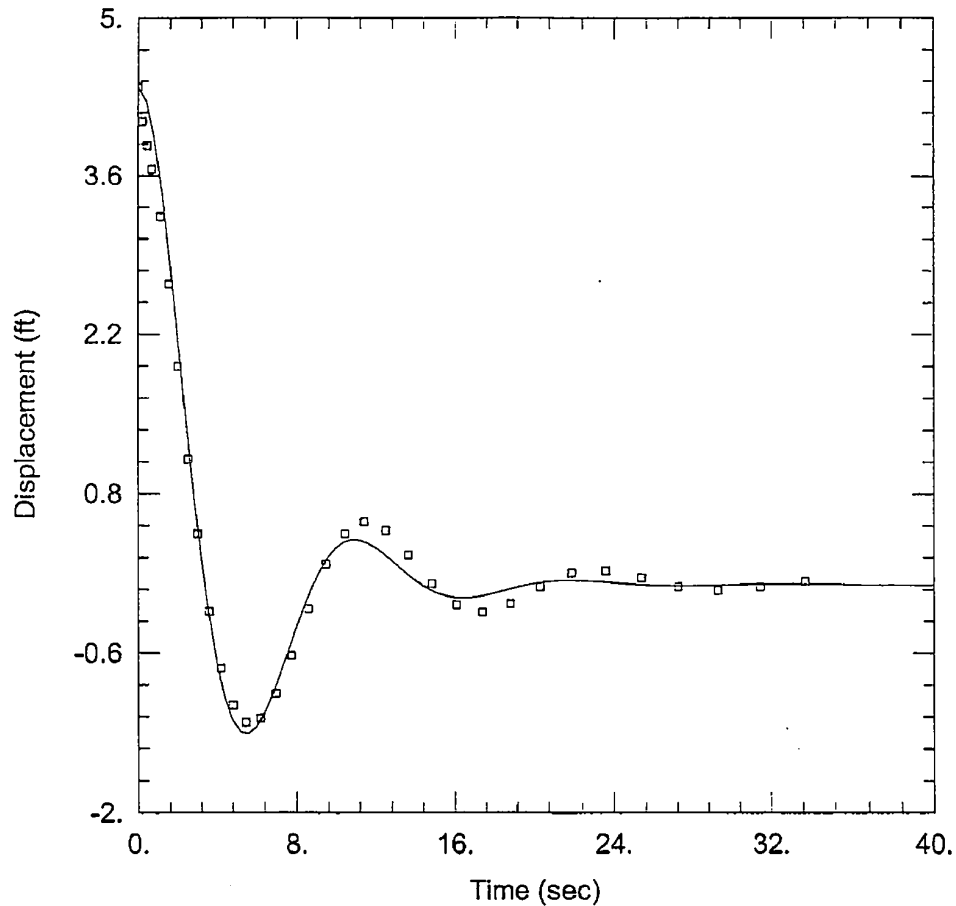
Saturated Thickness: 92. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-606 L)

Initial Displacement: 4.388 ft Static Water Column Height: 108.7 ft
 Total Well Penetration Depth: 109. ft Screen Length: 16.2 ft
 Casing Radius: 0.083 ft Well Radius: 0.29 ft

SOLUTION

Aquifer Model: Confined Solution Method: McElwee-Zenner
 K = 66.13 ft/day β = 2.736E-317 ft
 A = 0. $v(0)^*$ = 0. ft/day



OW-606 L RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-606 L
 Test Date: 5-18-08

AQUIFER DATA

Saturated Thickness: 92 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-606 L)

Initial Displacement: 4.388 ft Static Water Column Height: 108.7 ft
 Total Well Penetration Depth: 109 ft Screen Length: 16.2 ft
 Casing Radius: 0.083 ft Well Radius: 0.29 ft

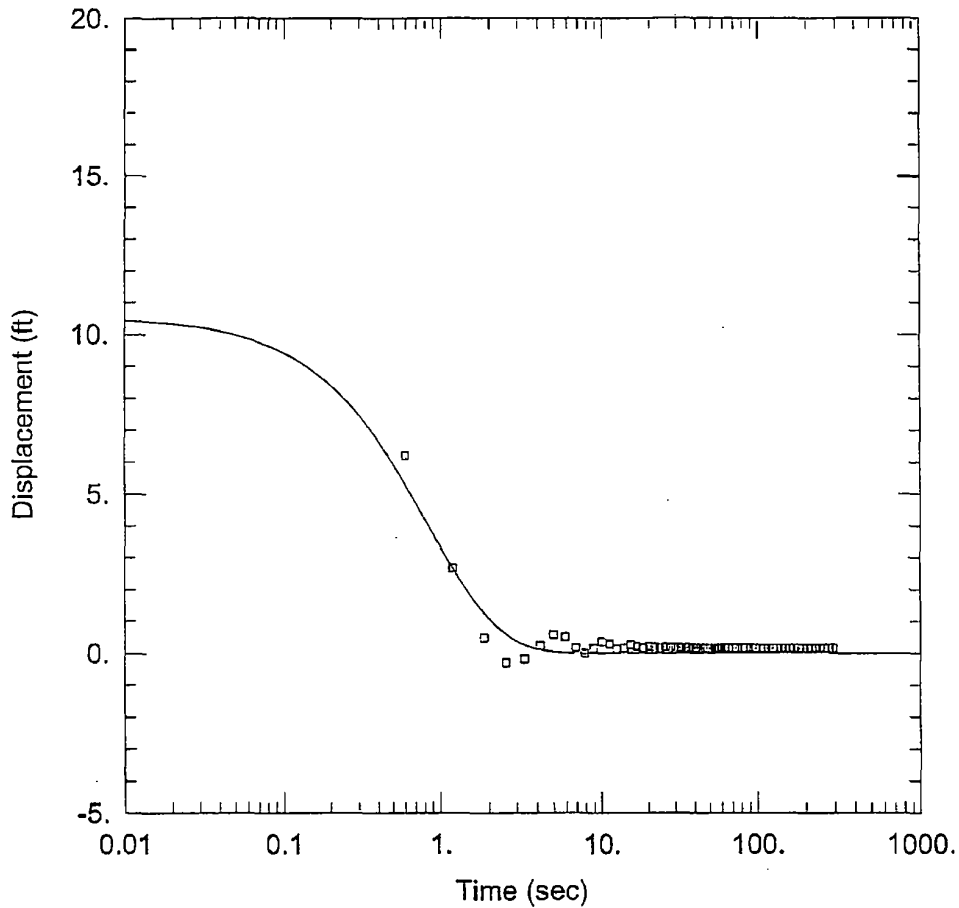
SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 67.4 ft/day Le = 85.16 ft



SLUG TEST REPORT

Project Name: <u>TPCOL</u>	<u>0408-07-1950</u> Project Number:		Page <u>1</u> of <u>1</u>
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-621U</u>	MACTEC Rep: <u>Kim Chris-Smell</u>	Date: <u>05/20/08</u>	
UNITS			
Length	Feet		
Time	Minutes		
Well Data	<u>Final stickup = 3.77' from GS.</u>		
Static Water Level	<u>5.74' feet from TAC</u>		
Total Well Depth	<u>32.36' feet from TAC</u>		
Static Water Column Height (H)	feet		
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	NA		
Saturated Thickness (b)	feet		
Conductivity Anisotropy (K _v /K _h)	Assume 1 to 1		
Depth to Top of Well Screen (d)			
Length of Well Screen (L)	<u>10' feet</u>		
Radius of Well Casing (rc)	0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)			
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	<u>mini troll transducer probe cal 4/29/08, Exp 4/29/09.</u> <u>SN: 118478 level troll @ 700</u> <u>Winsata</u>		
Slug Data	<u>USED pneumatic slug to perform slug test.</u>		
Length			
weight			
Diameter			
Slug Test File	Background	Falling	Rising
File Name	<u>OW-621UBG</u>	<u>NA</u>	<u>OW-621UR</u>
Start Time	<u>14:55:02</u>		<u>15:01:55</u>
End Time	<u>14:56:38</u>		<u>15:06:56</u>
Notes			



OW-621 U RISING HEAD TEST

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-621 U
 Test Date: 5-20-08

AQUIFER DATA

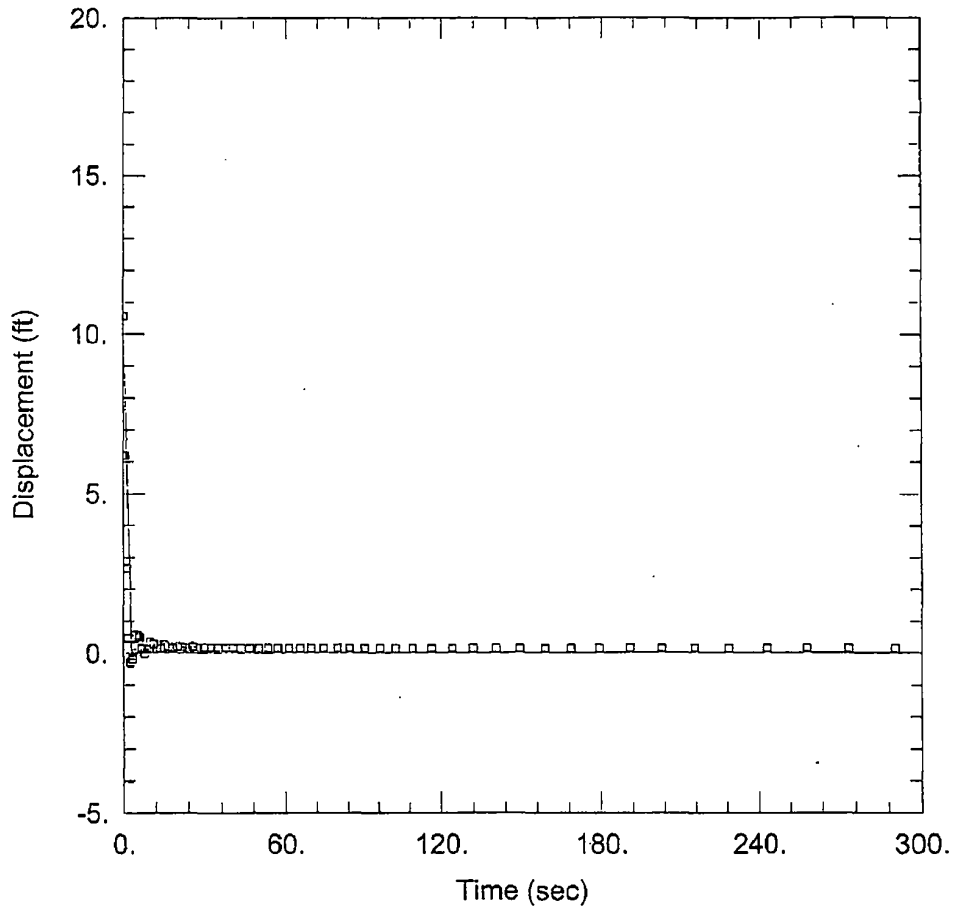
Saturated Thickness: 27.56 ft

WELL DATA (OW-621 U)

Initial Displacement: <u>10.56 ft</u>	Static Water Column Height: <u>27.56 ft</u>
Total Well Penetration Depth: <u>30. ft</u>	Screen Length: <u>15.6 ft</u>
Casing Radius: <u>0.083 ft</u>	Well Radius: <u>0.3 ft</u>

SOLUTION

Aquifer Model: <u>Unconfined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>94.35 ft/day</u>	Ss = <u>3.846E-12 ft⁻¹</u>
Kz/Kr = <u>1.</u>	



OW-621 U RISING HEAD TEST

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-621 U
 Test Date: 5-20-08

AQUIFER DATA

Saturated Thickness: 27.56 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-621 U)

Initial Displacement: 10.56 ft Static Water Column Height: 27.56 ft
 Total Well Penetration Depth: 30. ft Screen Length: 15.6 ft
 Casing Radius: 0.083 ft Well Radius: 0.3 ft

SOLUTION

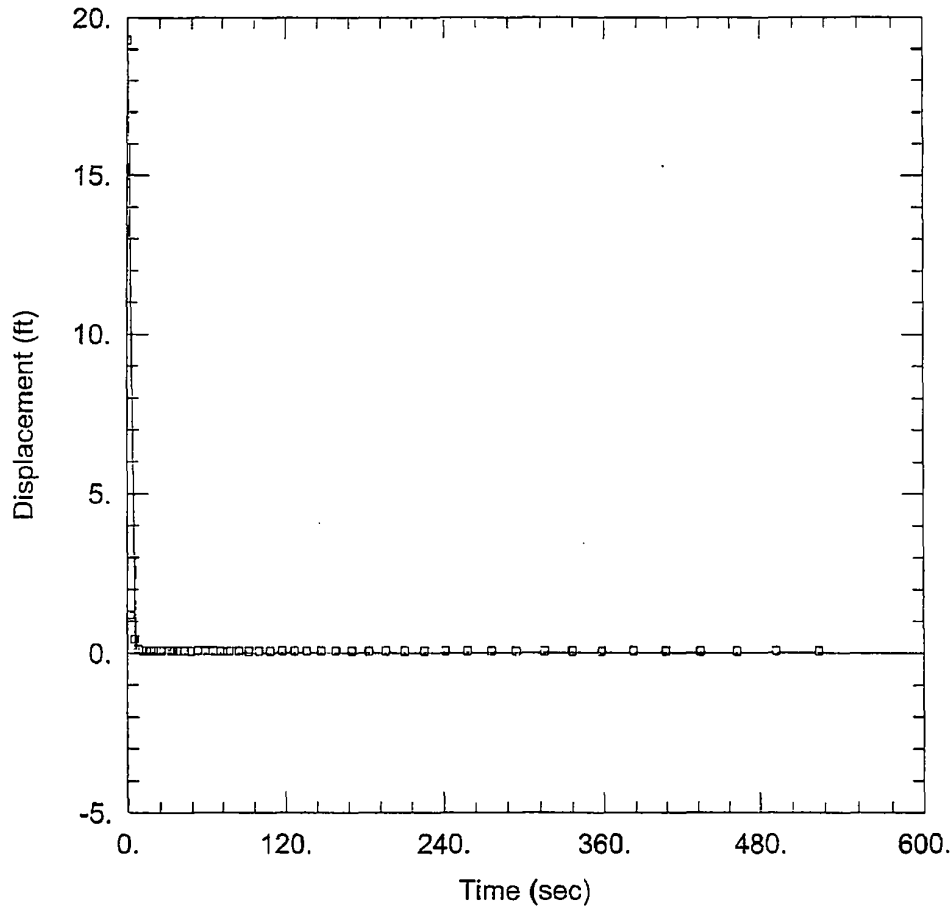
Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 68.89 ft/day Le = 7.075 ft



SLUG TEST REPORT

Project Name: <u>TPCOL</u>	Project Number:	Page <u>1</u> of <u>1</u>		
Client: <u>Becthel</u>	Contractor: <u>MACTEC</u>			
Location: <u>OW-621L</u>	MACTEC Rep: <u>Kim Chels Smith</u>	Date: <u>05/17/08</u>		
UNITS				
Length	Feet			
Time	Minutes			
Well Data	Final Stackup = <u>3.27'</u> from g.S.			
Static Water Level	<u>4.13'</u> feet From TOC			
Total Well Depth	<u>111.55'</u> feet From TOC			
Static Water Column Height (H)	<u>107.42'</u> feet			
Observed Initial Displacement (H ₀)	Background	Falling Head		
	NA			
Saturated Thickness (b)	feet			
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1			
Depth to Top of Well Screen (d)				
Length of Well Screen (L)	<u>10'</u> feet			
Radius of Well Casing (rc)	0.083 feet			
Radius of Screen (rw)	0.083 feet			
Radius of Probe (req)				
Radius of Boring (rsk) Skin Effect	0.083 feet			
Probe Serial Number	Mini Troll transducer calibrated <u>4/29/08</u> exp. <u>4/29/09</u> Sn: <u>103345</u>			
Slug Data <u>Slug #2</u>				
Length	<u>65.438</u> inches			
Weight	<u>8.811</u> lbs.			
Diameter	<u>1.662</u> inches			
Slug Test File	Background	Falling	Rising	
	File Name	<u>OW-621LBG</u>	<u>OW-621LF</u>	<u>OW-621LR</u>
	Start Time	<u>13:08:51</u>	<u>13:19:05</u>	<u>13:34:46</u>
	End Time	<u>13:15:32</u>	<u>13:31:41</u>	<u>13:43:41</u>
Notes	<p><u>pot slug in well and recover = OW-621LR BCG</u></p> <p><u>OW-621LBG</u> <u>OW-621LR (re-test)</u></p> <p><u>13:49:25</u> <u>14:03:14</u></p> <p><u>13:59:51</u> <u>14:20:02</u></p> <p style="text-align: right;"><u>K/S-7-08</u></p>			

Rev 0



OW-621 L FALLING HEAD TEST 5-17-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-621 L
 Test Date: 5-17-08

AQUIFER DATA

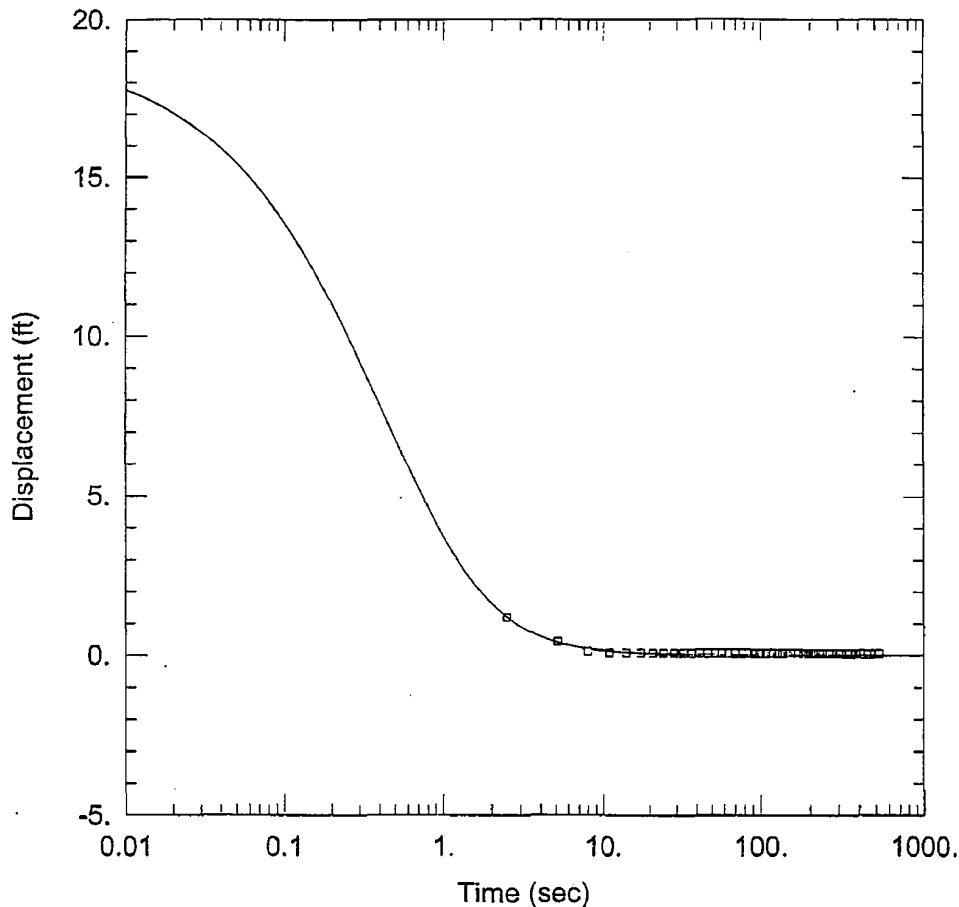
Saturated Thickness: 88.5 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-621 L)

Initial Displacement: 19.29 ft Static Water Column Height: 108.9 ft
 Total Well Penetration Depth: 110. ft Screen Length: 15. ft
 Casing Radius: 0.083 ft Well Radius: 0.3 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 91.59 ft/day Le = 0.1 ft



OW-621 L FALLING HEAD TEST 5-17-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-621 L
 Test Date: 5-17-08

AQUIFER DATA

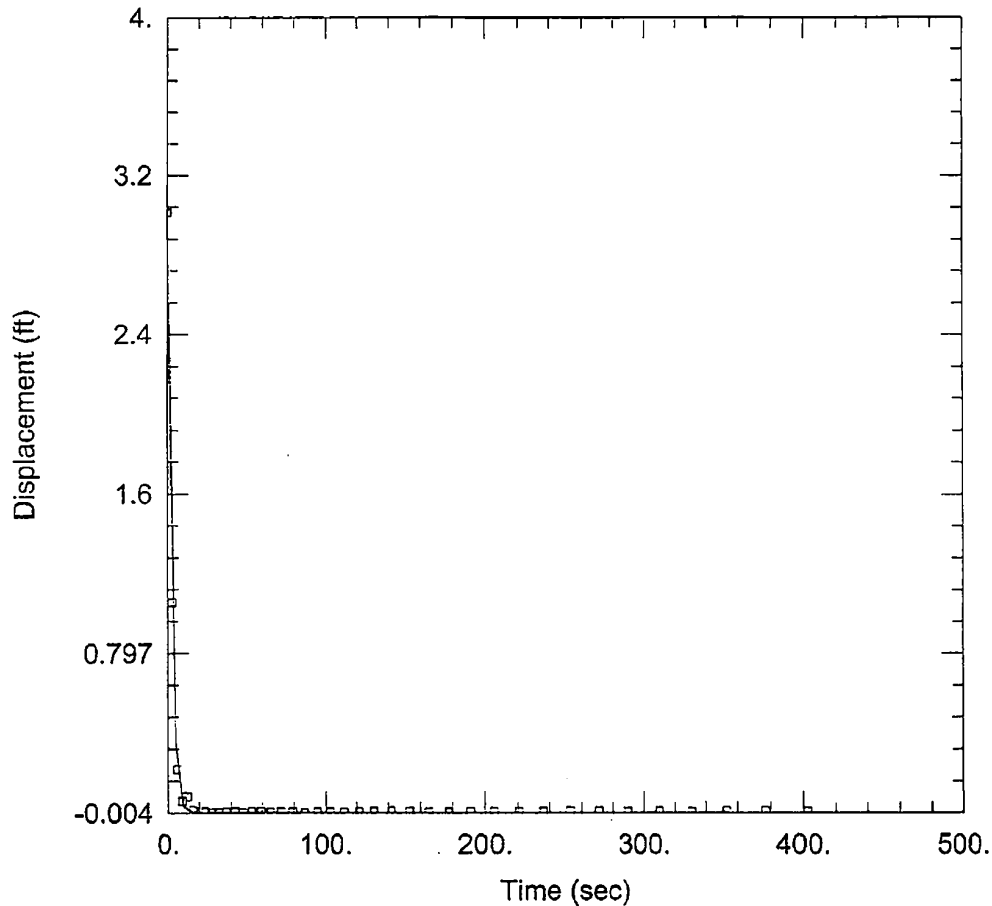
Saturated Thickness: 88.5 ft

WELL DATA (OW-621 L)

Initial Displacement: <u>19.29 ft</u>	Static Water Column Height: <u>108.9 ft</u>
Total Well Penetration Depth: <u>110. ft</u>	Screen Length: <u>15. ft</u>
Casing Radius: <u>0.083 ft</u>	Well Radius: <u>0.3 ft</u>

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>71.28 ft/day</u>	Ss = <u>0.0001716 ft⁻¹</u>
Kz/Kr = <u>1.</u>	



OW-621 L RISING HEAD TEST 5-17-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-621 L
 Test Date: 5-17-08

AQUIFER DATA

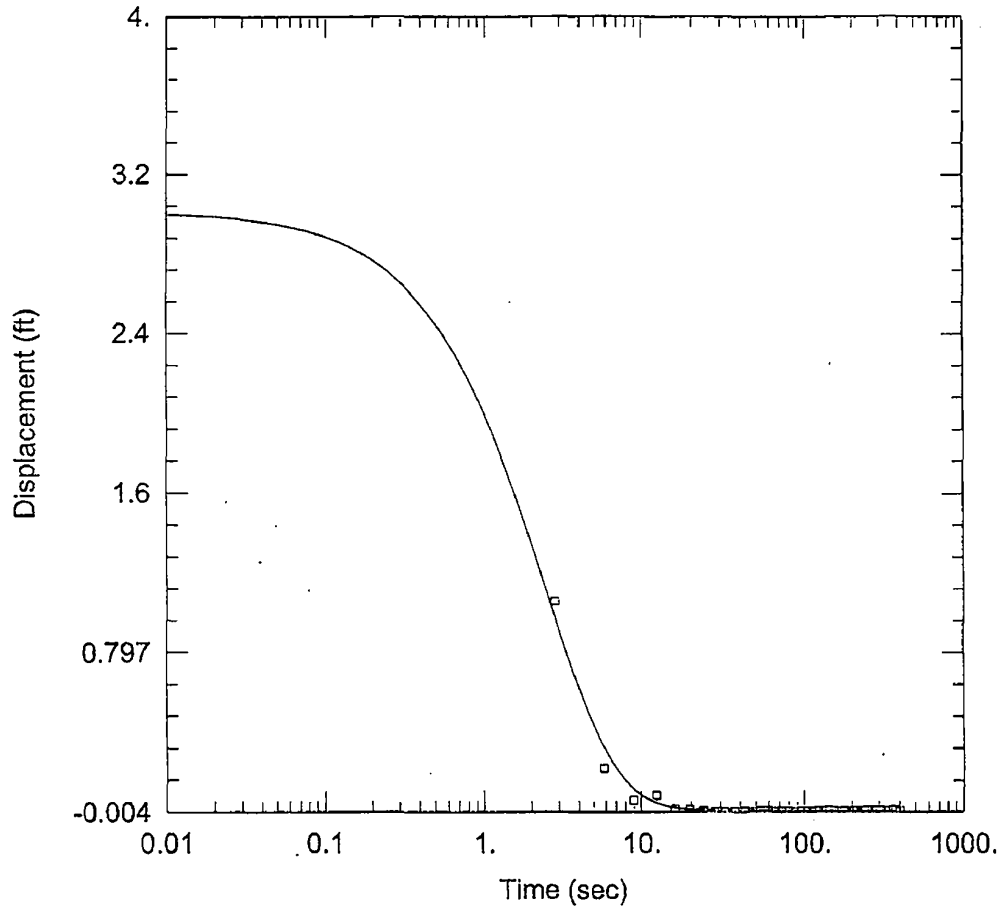
Saturated Thickness: 88.5 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-621 L)

Initial Displacement: 3.011 ft Static Water Column Height: 108.9 ft
 Total Well Penetration Depth: 110. ft Screen Length: 15. ft
 Casing Radius: 0.083 ft Well Radius: 0.3 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 31.07 ft/day Le = 41.67 ft



OW-621 L RISING HEAD TEST 5-17-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-621 L
 Test Date: 5-17-08

AQUIFER DATA

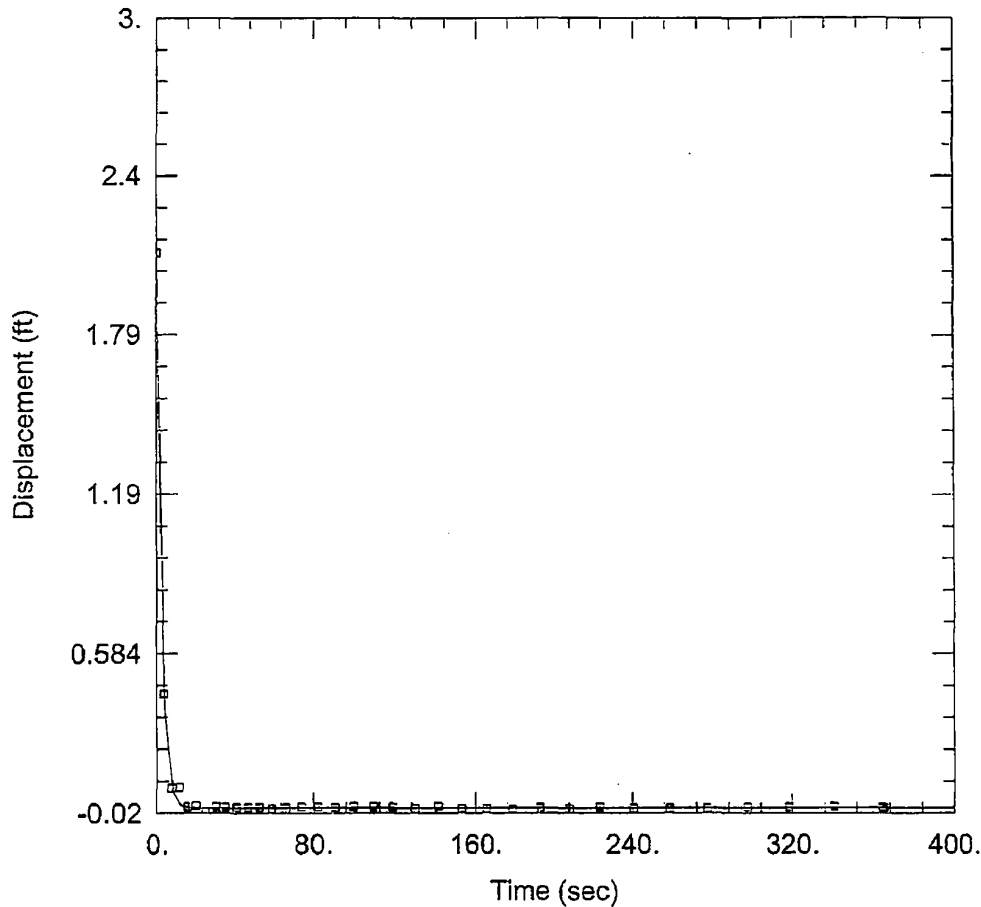
Saturated Thickness: 88.5 ft

WELL DATA (OW-621 L)

Initial Displacement: 3.011 ft Static Water Column Height: 108.9 ft
 Total Well Penetration Depth: 110. ft Screen Length: 15. ft
 Casing Radius: 0.083 ft Well Radius: 0.3 ft

SOLUTION

Aquifer Model: Confined Solution Method: KGS Model
 Kr = -33.31 ft/day Ss = 1.13E-12 ft⁻¹
 Kz/Kr = 1.



OW-621 L RISING HEAD TEST # 2 5-17-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-621 L
 Test Date: 5-17-08

AQUIFER DATA

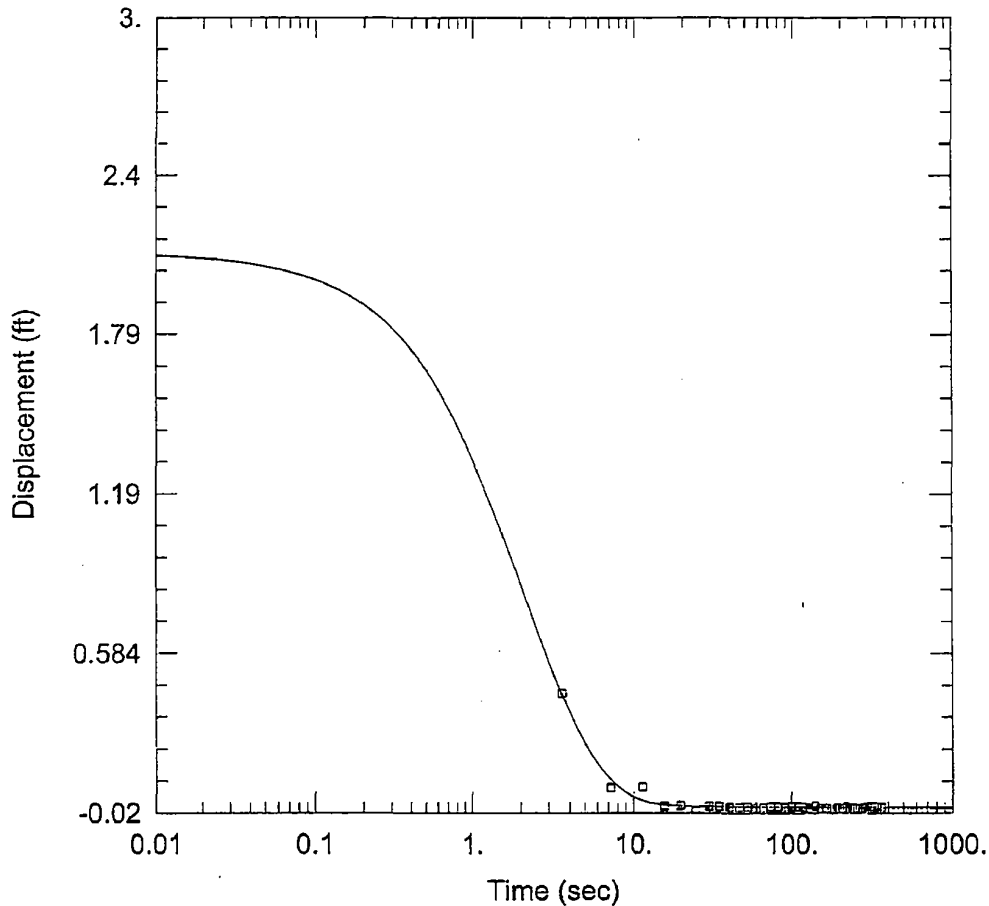
Saturated Thickness: 88.5 ft Anisotropy Ratio (Kz/Kr): 1

WELL DATA (OW-621 L)

Initial Displacement: 2.103 ft Static Water Column Height: 108.9 ft
 Total Well Penetration Depth: 110 ft Screen Length: 15 ft
 Casing Radius: 0.083 ft Well Radius: 0.3 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 35.72 ft/day Le = 0.1 ft



OW-621 L RISING HEAD TEST # 2 5-17-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-621 L
 Test Date: 5-17-08

AQUIFER DATA

Saturated Thickness: 88.5 ft

WELL DATA (OW-621 L)

Initial Displacement: <u>2.103</u> ft	Static Water Column Height: <u>108.9</u> ft
Total Well Penetration Depth: <u>110.</u> ft	Screen Length: <u>15.</u> ft
Casing Radius: <u>0.083</u> ft	Well Radius: <u>0.3</u> ft

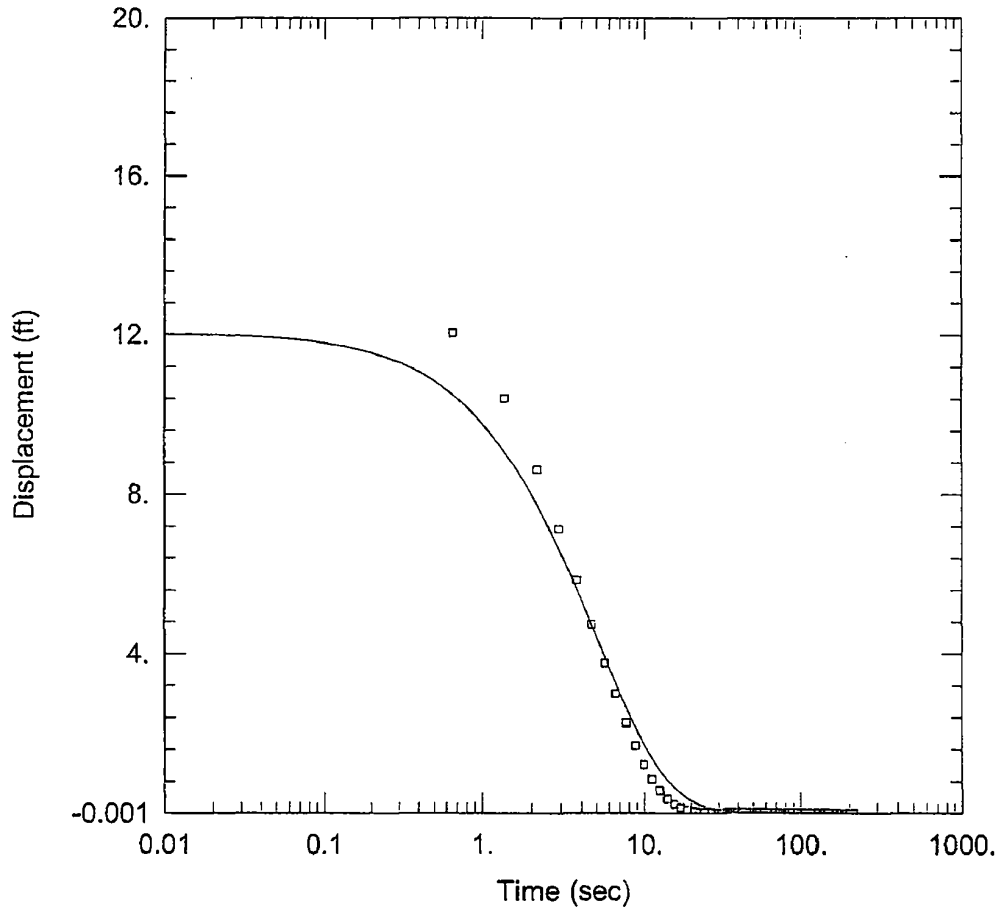
SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>30.4</u> ft/day	Ss = <u>5.781E-8</u> ft ⁻¹
Kz/Kr = <u>1.</u>	



SLUG TEST REPORT

Project Name: TPCOL	6468-07-1950		Page 1 of 1
Client: Bechtel	Contractor: MACTEC		
Location: OW-621L	MACTEC Rep: Kim Chads-Smith		Date: 05/20/08
UNITS			
Length	Feet		
Time	Minutes		
Well Data	Final stickup = 3.27'		
Static Water Level	4.71' feet From TOC		
Total Well Depth	111.55' feet From TOC		
Static Water Column Height (H)	feet		
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	NA		
Saturated Thickness (b)	feet		
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1		
Depth to Top of Well Screen (d)			
Length of Well Screen (L)	10' feet		
Radius of Well Casing (rc)	0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)			
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	mini troll Transducer probe calibrated 9/29/08, Exp 9/29/09. SN: 118478 level troll @ 700 winsitu		
Slug Data	used pneumatic slug to perform test.		
Length			
Weight			
Diameter			
Slug Test File	Background	Falling	Rising
File Name	OW-621L BG	NA	OW-621LR
Start Time	15:14:40		15:22:48
End Time	15:17:33		15:26:44
Notes			
Rev 0			



OW-621 L RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-621 L
 Test Date: 5-17-08

AQUIFER DATA

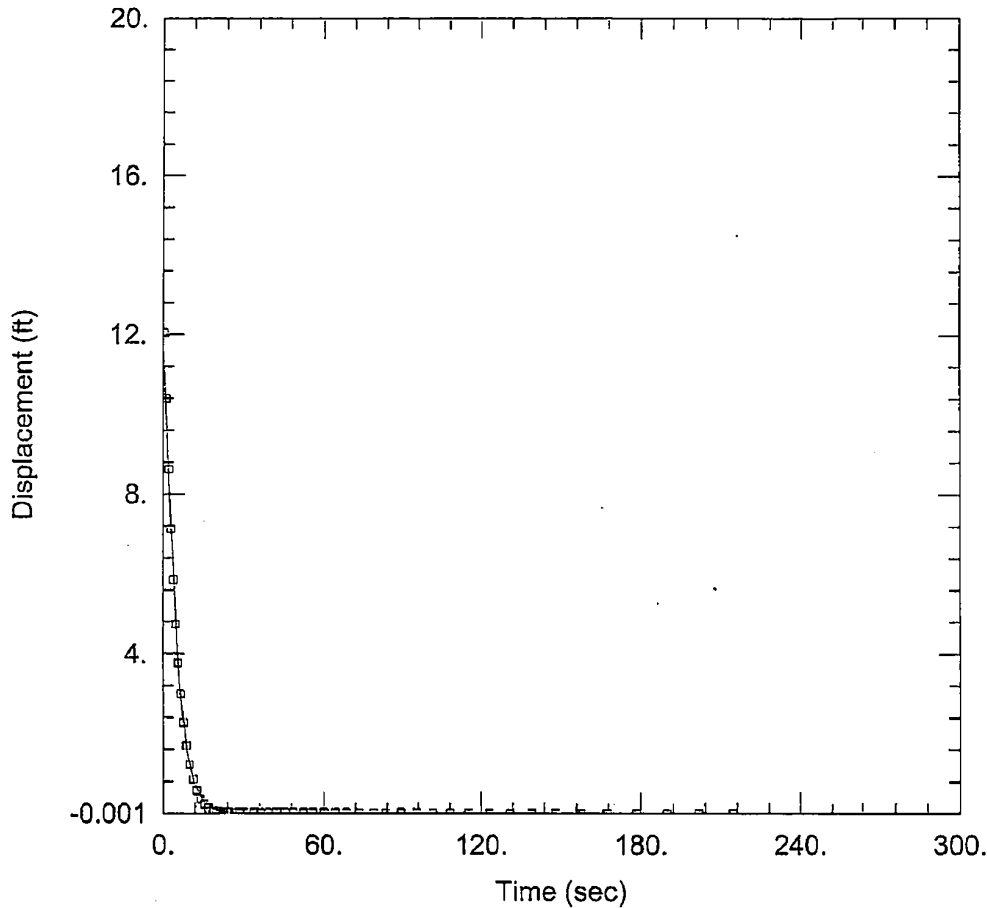
Saturated Thickness: 88.5 ft

WELL DATA (OW-621 L)

Initial Displacement: <u>12.05 ft</u>	Static Water Column Height: <u>108.3 ft</u>
Total Well Penetration Depth: <u>110. ft</u>	Screen Length: <u>15. ft</u>
Casing Radius: <u>0.083 ft</u>	Well Radius: <u>0.3 ft</u>

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>16.66 ft/day</u>	Ss = <u>1.13E-12 ft⁻¹</u>
Kz/Kr = <u>1.</u>	



OW-621 L RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-621 L
 Test Date: 5-17-08

AQUIFER DATA

Saturated Thickness: 88.5 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-621 L)

Initial Displacement: 12.05 ft Static Water Column Height: 108.3 ft
 Total Well Penetration Depth: 110. ft Screen Length: 15. ft
 Casing Radius: 0.083 ft Well Radius: 0.3 ft

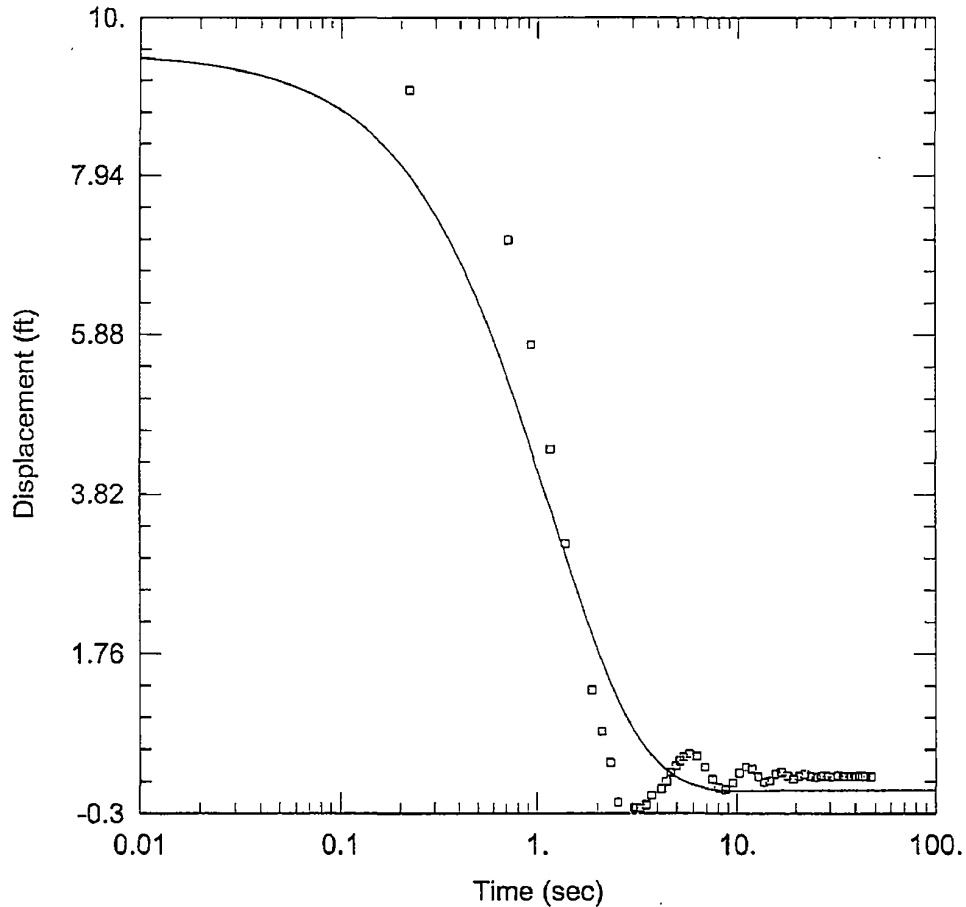
SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 16.65 ft/day Le = 117.9 ft



SLUG TEST REPORT

Project Name: <u>TPCOL</u>		Project Number: <u>468-07-1857</u> Page <u>1</u> of <u>1</u>	
Client: <u>Bechtel</u>		Contractor: <u>MACTEC</u>	
Location: <u>OW-636U</u>		MACTEC Rep: <u>CHB</u>	Date: <u>5/21/08</u>
UNITS			
Length	Feet		
Time	Minutes		
Well Data			
Static Water Level	<u>4.35</u> feet		
Total Well Depth	<u>31.35</u> feet		
Static Water Column Height (H)	feet		
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	<u>NA</u>	<u>NA</u>	
Saturated Thickness (b)	feet		
Conductivity Anisotropy (Kv/Kh)	<u>Assume 1 to 1</u>		
Depth to Top of Well Screen (d)			
Length of Well Screen (L)	<u>10'</u> feet		
Radius of Well Casing (rc)	0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)	<u>0.75 inch</u>		
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	<u>SN: 118478</u> <u>Level trail @ 700 calibrated 4/29/08, Exp 4/29/09</u> <u>Winstar</u>		
Slug Data			
Length	<u>pneumatic slug</u>		
Weight			
Diameter			
Slug Test File	Background	Falling	Rising
File Name	<u>OW-636UB6</u>	<u>NA</u>	<u>OW-636UR</u>
Start Time			<u>OW-636UR Test 2</u>
End Time			
Notes	<u>OW-636UR</u> <u>OW-636UR Test</u> <u>12:05:37</u> <u>12:10:35</u> <u>12:06:27</u> <u>12:11:13</u>		
Rev 0			



OW-636 U RISING HEAD TEST 5-21-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-636 U
 Test Date: 5-21-08

AQUIFER DATA

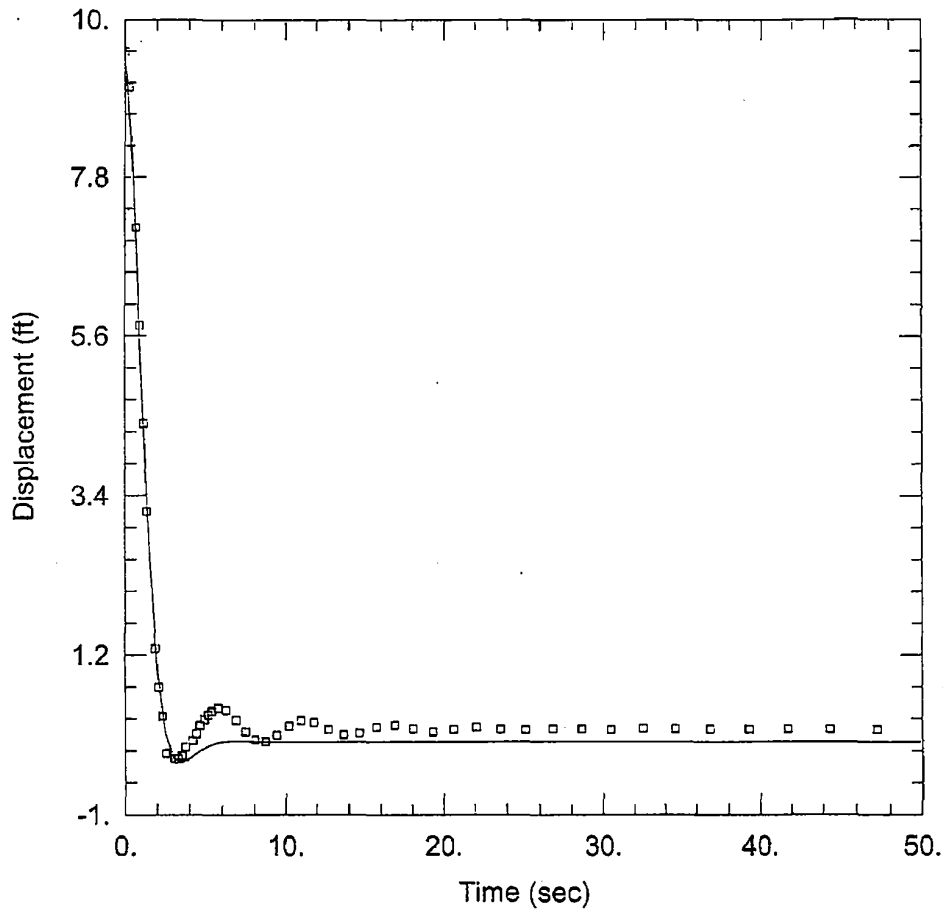
Saturated Thickness: 28.85 ft

WELL DATA (OW-636 U)

Initial Displacement: 9.553 ft Static Water Column Height: 28.85 ft
 Total Well Penetration Depth: 29.8 ft Screen Length: 17. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: KGS Model
 Kr = 57.27 ft/day Ss = 3.846E-12 ft⁻¹
 Kz/Kr = 1.



OW-636 U RISING HEAD TEST 5-21-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-636 U
 Test Date: 5-21-08

AQUIFER DATA

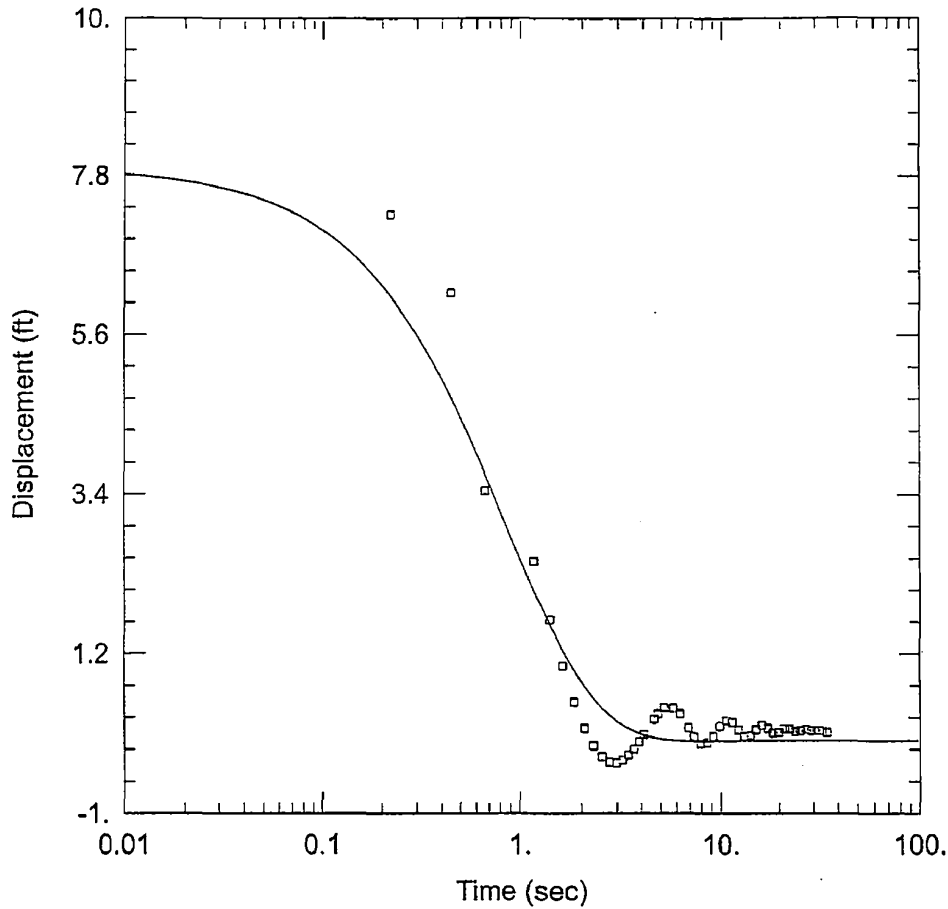
Saturated Thickness: 28.85 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-636 U)

Initial Displacement: 9.553 ft Static Water Column Height: 28.85 ft
 Total Well Penetration Depth: 29.8 ft Screen Length: 17. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 50.64 ft/day Le = 17.14 ft



OW-636 U RISING HEAD TEST # 2 5-21-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-636 U
 Test Date: 5-21-08

AQUIFER DATA

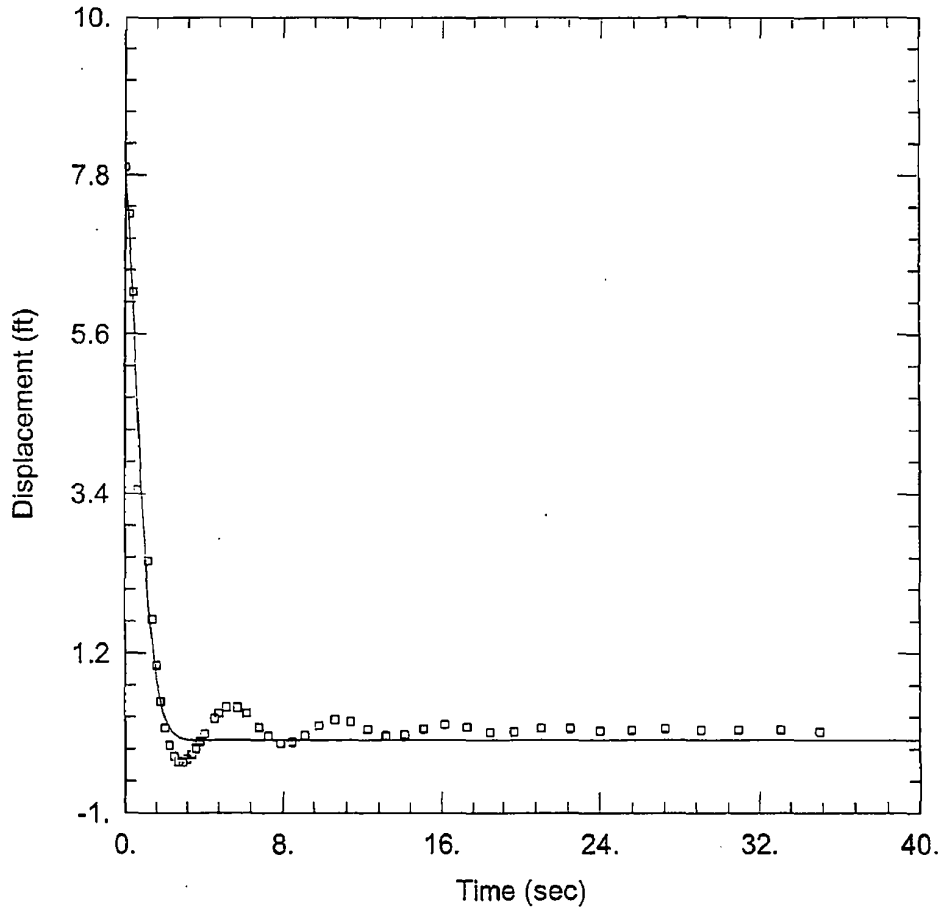
Saturated Thickness: 28.85 ft

WELL DATA (OW-636 U)

Initial Displacement: 7.909 ft Static Water Column Height: 28.85 ft
 Total Well Penetration Depth: 29.8 ft Screen Length: 17 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: KGS Model
 $K_r = 79.27$ ft/day $S_s = 3.846E-12$ ft⁻¹
 $K_z/K_r = 1$



OW-636 U RISING HEAD TEST # 2 5-21-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-636 U
 Test Date: 5-21-08

AQUIFER DATA

Saturated Thickness: 28.85 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-636 U)

Initial Displacement: 7.909 ft Static Water Column Height: 28.85 ft
 Total Well Penetration Depth: 29.8 ft Screen Length: 17 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

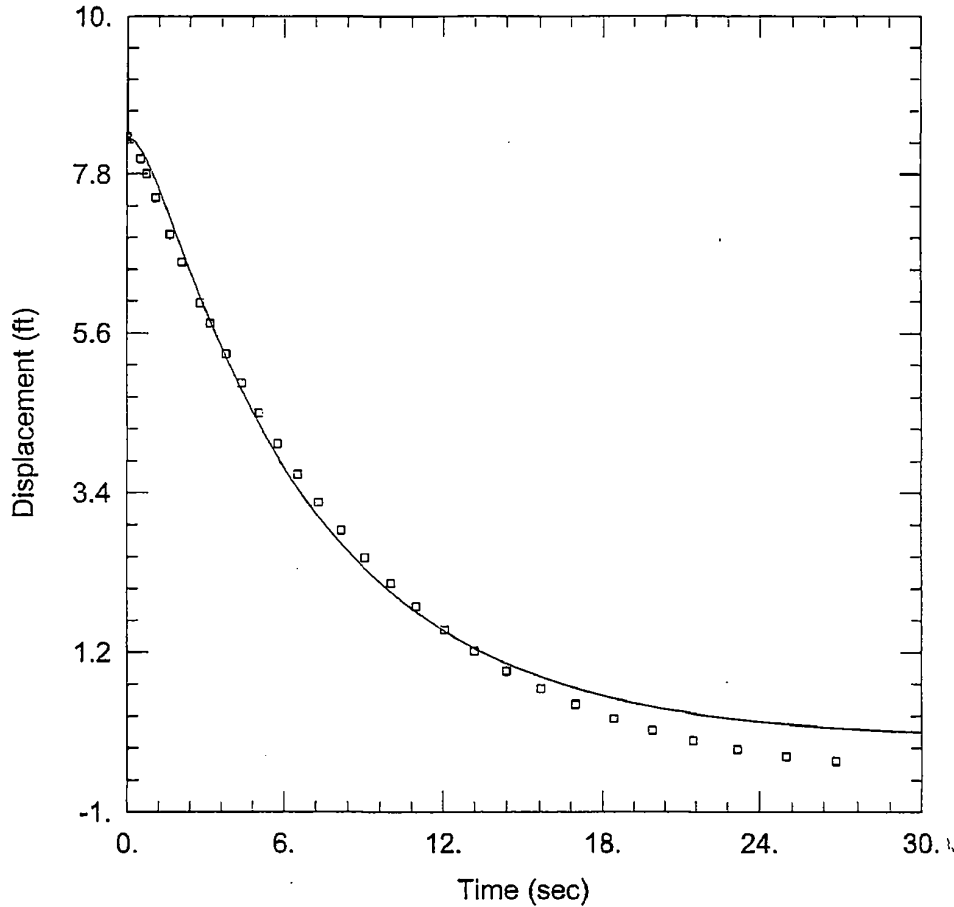
SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 64.33 ft/day Le = 6.95 ft



SLUG TEST REPORT

Project Name: <u>TRCOL</u>	Project Number: <u>6468-07-1800</u> Page <u>1</u> of <u>1</u>		
Client: <u>Bachtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-636L</u>	MACTEC Rep: <u>CHB</u>	Date: <u>5/21/08</u>	
UNITS			
Length	Feet		
Time	Minutes		
Well Data			
Static Water Level	<u>2.74</u> feet		
Total Well Depth	<u>111.75</u> feet		
Static Water Column Height (H)	feet		
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	<u>NA</u>	<u>NA</u>	
Saturated Thickness (b)	feet		
Conductivity Anisotropy (Kv/Kh)	<u>Assume 1 to 1</u>		
Depth to Top of Well Screen (d)			
Length of Well Screen (L)	feet		
Radius of Well Casing (rc)	<u>10'</u> 0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)			
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	<u>min¹⁰⁰ Trill 700 calibrated 4/21/08, exp 4/21/09</u> <u>Sr: 118478 Winsite</u>		
Slug Data			
Length	<u>pneumatic slug</u>		
Weight			
Diameter			
Slug Test File	Background	Falling	Rising
	<u>OW-636L BG</u>	<u>NA</u>	<u>OW-636L R</u>
File Name			<u>OW-636L R Test 2</u>
Start Time	<u>12:23:14</u>		
End Time	<u>12:29:22</u>		
Notes	<u>OW-636L R</u>		
	<u>12:32:42</u>		
	<u>12:33:15</u>		
	<u>OW-636L R Test</u>		
	<u>12:38:53</u>		
<u>12:42:14</u>			
Rev 0			



OW-636 L RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-636 L
 Test Date: 5-21-08

AQUIFER DATA

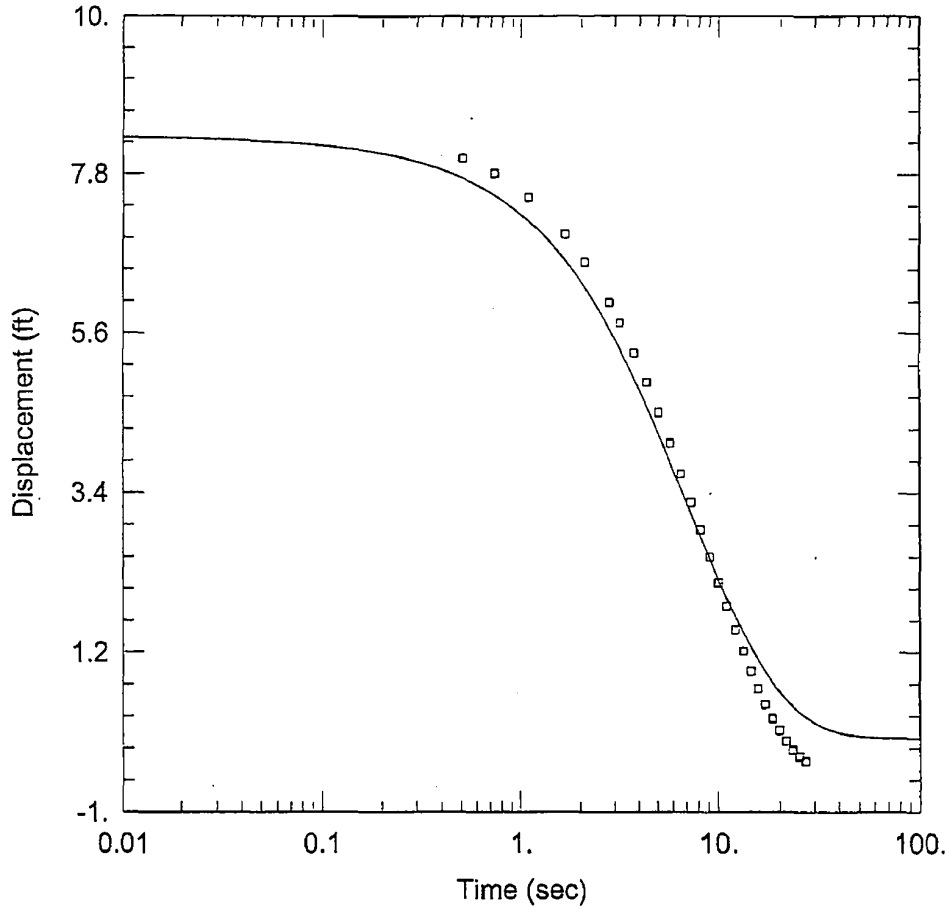
Saturated Thickness: 88 ft Anisotropy Ratio (Kz/Kr): 1

WELL DATA (OW-621 L)

Initial Displacement: 8.321 ft Static Water Column Height: 111.7 ft
 Total Well Penetration Depth: 111 ft Screen Length: 17.5 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 10.08 ft/day Le = 158.1 ft



OW-636 L RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-636 L
 Test Date: 5-21-08

AQUIFER DATA

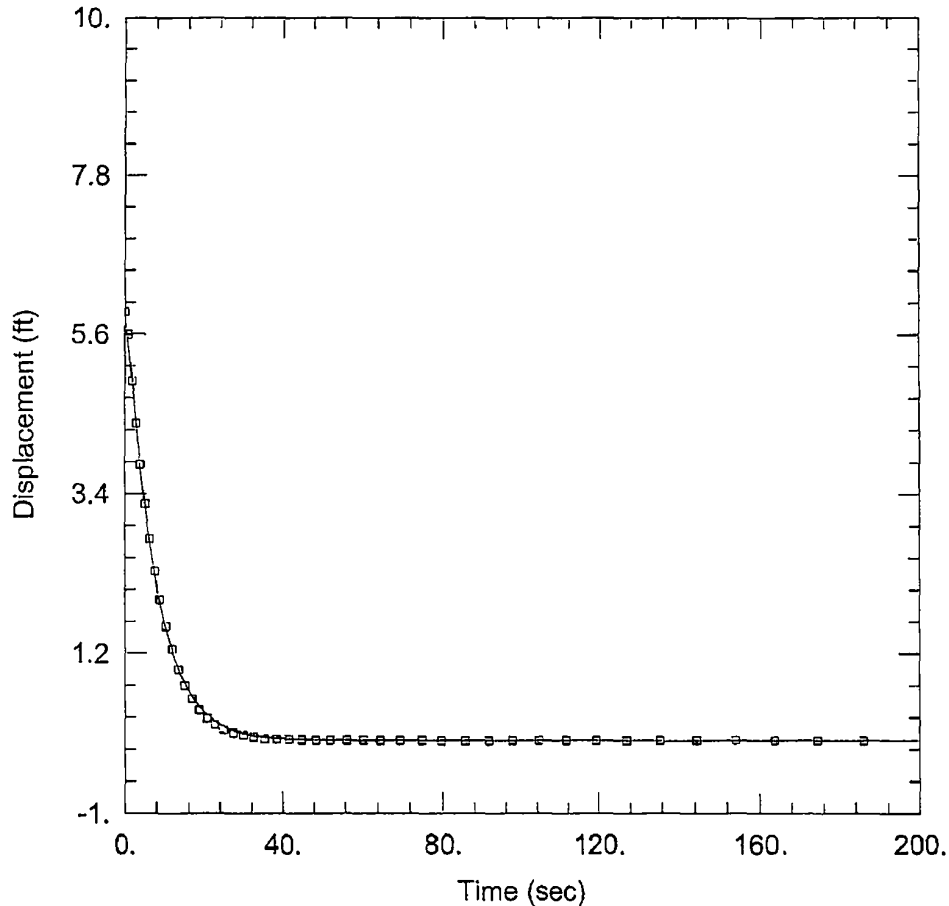
Saturated Thickness: 88 ft

WELL DATA (OW-636 L)

Initial Displacement: 8.321 ft Static Water Column Height: 111.7 ft
 Total Well Penetration Depth: 111 ft Screen Length: 17.5 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: KGS Model
 Kr = 10.58 ft/day Ss = 1.13E-12 ft⁻¹
 Kz/Kr = 1



OW-636 L RISING HEAD TEST # 2 5-20-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-636 L
 Test Date: 5-21-08

AQUIFER DATA

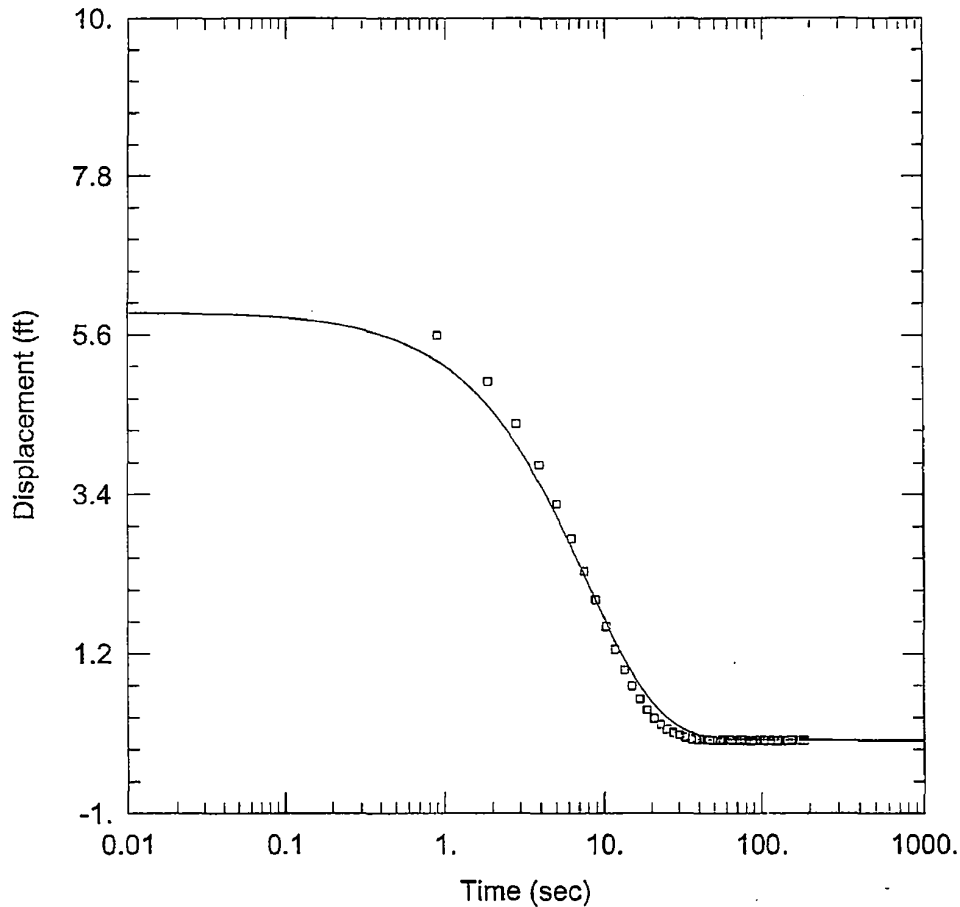
Saturated Thickness: 88. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-621 L)

Initial Displacement: 5.913 ft Static Water Column Height: 111.7 ft
 Total Well Penetration Depth: 111. ft Screen Length: 17.5 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 9.425 ft/day Le = 166.7 ft



OW-636 L RISING HEAD TEST # 2 5-20-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-636 L
 Test Date: 5-21-08

AQUIFER DATA

Saturated Thickness: 88 ft

WELL DATA (OW-636 L)

Initial Displacement: <u>5.913</u> ft	Static Water Column Height: <u>111.7</u> ft
Total Well Penetration Depth: <u>111</u> ft	Screen Length: <u>17.5</u> ft
Casing Radius: <u>0.083</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

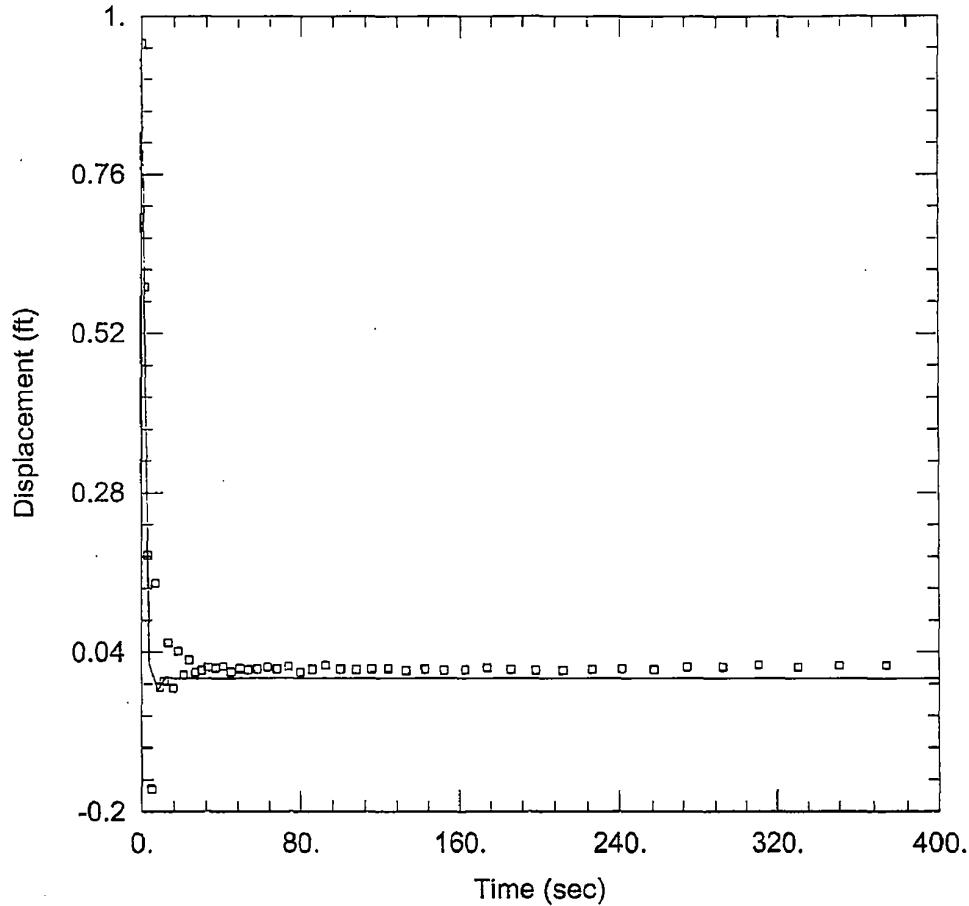
Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>10.01</u> ft/day	Ss = <u>1.13E-12</u> ft ⁻¹
Kz/Kr = <u>1</u>	



Checked by: CHB Date: 6-20-08

SLUG TEST REPORT

Project Name: <u>TPCoL</u>	Project Number:	Page <u>1</u> of <u>1</u>	
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-706U</u>	MACTEC Rep: <u>Kim Chole Smith</u>	Date: <u>05/16/08</u>	
UNITS			
Length	Feet		
Time	Minutes		
Well Data	<u>Sticker 3.61' from 25. Fand</u>		
Static Water Level	<u>3.74' feet From TOC</u>		
Total Well Depth	<u>31.72' feet From TOC</u>		
Static Water Column Height (H)	<u>27.97' feet</u>		
Observed Initial Displacement (H ₀)	Background	Falling Head	
	NA		
Saturated Thickness (b)	feet		
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1		
Depth to Top of Well Screen (d)			
Length of Well Screen (L)	<u>10' feet</u>		
Radius of Well Casing (rc)	0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)			
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	<u>mini trail Transducer probe calibrated 4/29/08 EXP. 4/29/09.</u>		
Slug Data <u>SUG #2</u>			
Length	<u>65.438 inches</u>		
weight	<u>8.811 lbs.</u>		
Diameter	<u>1.662 inches</u>		
Slug Test File	Background	Falling	
File Name	<u>OW-706UBG</u>	<u>OW-706UF</u>	<u>OW-706UR</u>
Start Time	<u>15:21:06</u>	<u>15:41:27</u>	<u>15:45:39</u>
End Time	<u>15:27:24</u>	<u>15:42:57</u>	<u>15:59:11</u>
Notes <u>Run 1st test Water came out of TOC, run second flats set with extension on TOC.</u>	<u>Extended casing to 5.53' above g.s. to run OW-706UF 15:45:39 to 16:33:34 Data Set</u>		
	<u>OW-706UBG</u>	<u>OW-706UF</u>	<u>OW-706UR</u>
	<u>16:33:34</u>	<u>16:41:27</u>	<u>16:57:23</u>
	<u>16:39:31</u>	<u>16:53:55</u>	<u>17:02:05</u>
Rev 0			



OW-706 U RISING HEAD TEST 5-16-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-706 U
 Test Date: 5-16-08

AQUIFER DATA

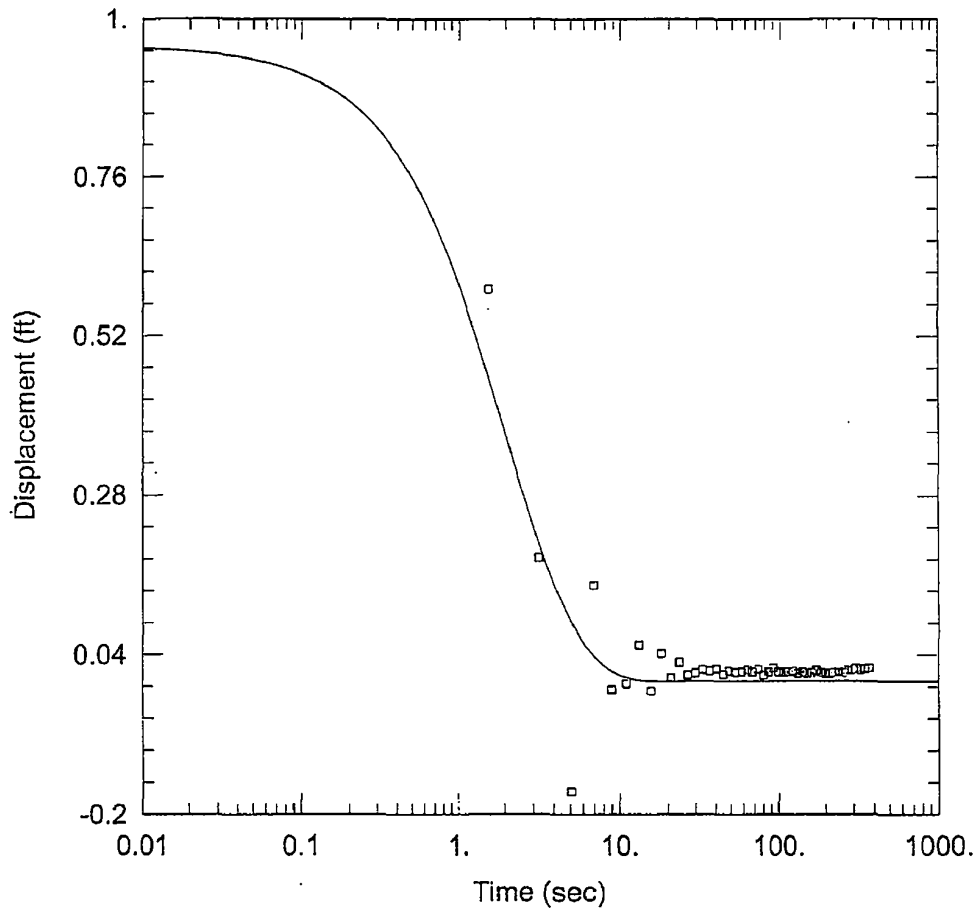
Saturated Thickness: 30.66 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-706 U)

Initial Displacement: 0.96 ft Static Water Column Height: 28.46 ft
 Total Well Penetration Depth: 28.9 ft Screen Length: 15.5 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 30.27 ft/day Le = 56.23 ft



OW-706 U RISING HEAD TEST 5-16-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-706 U
 Test Date: 5-16-08

AQUIFER DATA

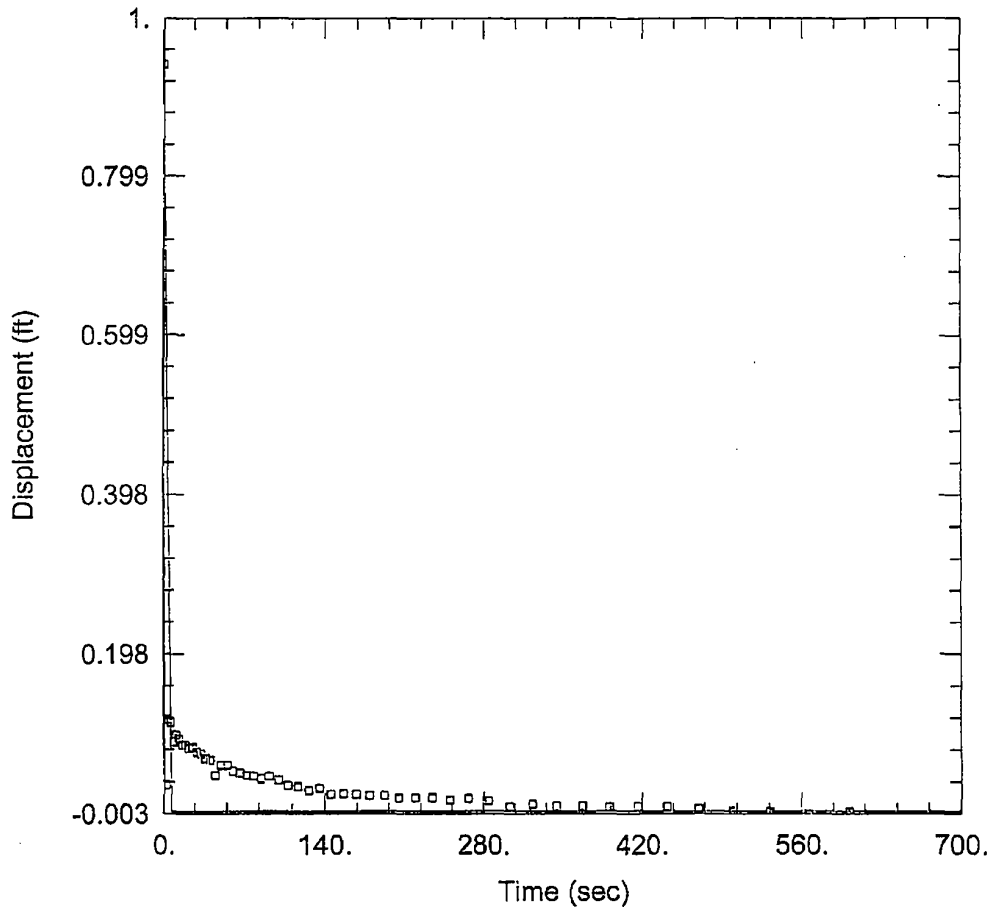
Saturated Thickness: 30.66 ft

WELL DATA (OW-706 U)

Initial Displacement: 0.96 ft Static Water Column Height: 28.46 ft
 Total Well Penetration Depth: 28.9 ft Screen Length: 15.5 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: KGS Model
 $K_r = 31.19 \text{ ft/day}$ $S_s = 3.205E-12 \text{ ft}^{-1}$
 $K_z/K_r = 1.$



OW-706 U FALLING HEAD TEST 5-16-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-706 U
 Test Date: 5-16-08

AQUIFER DATA

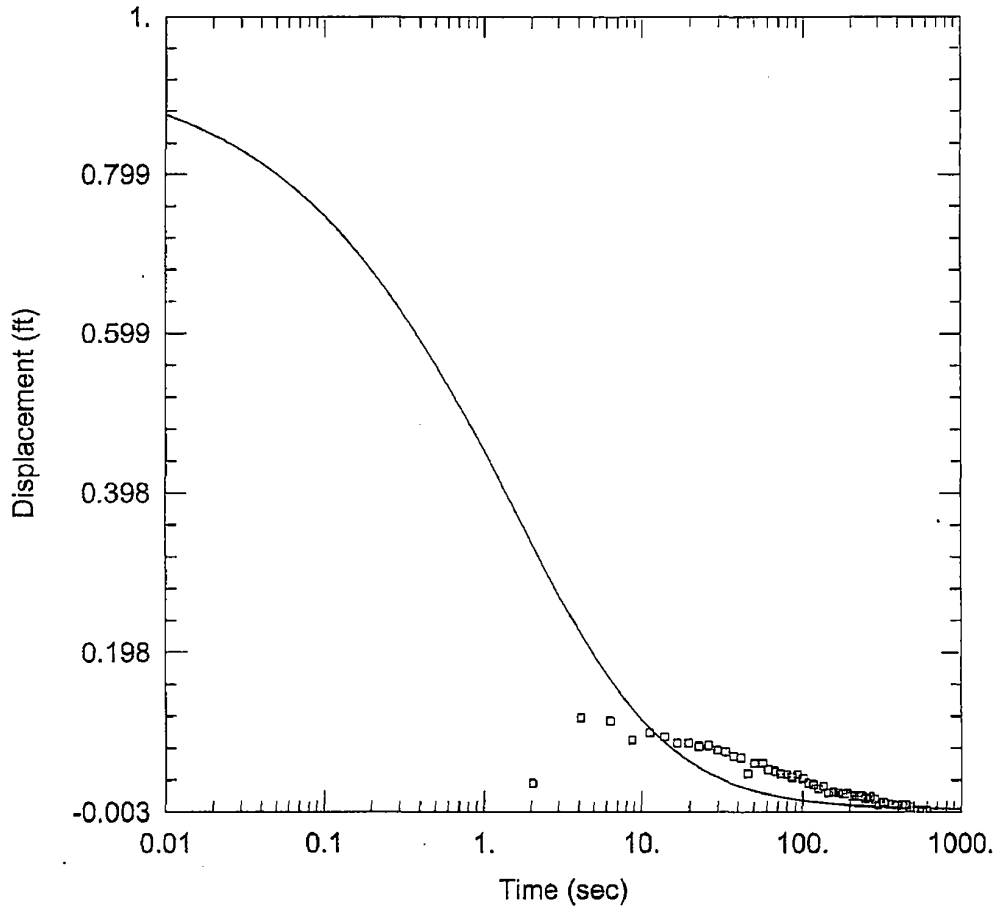
Saturated Thickness: 30.66 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-706 U)

Initial Displacement: 0.941 ft Static Water Column Height: 28.46 ft
 Total Well Penetration Depth: 28.9 ft Screen Length: 15.5 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 83.78 ft/day Le = 0.1 ft



OW-706 U FALLING HEAD TEST 5-16-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-706 U
 Test Date: 5-16-08

AQUIFER DATA

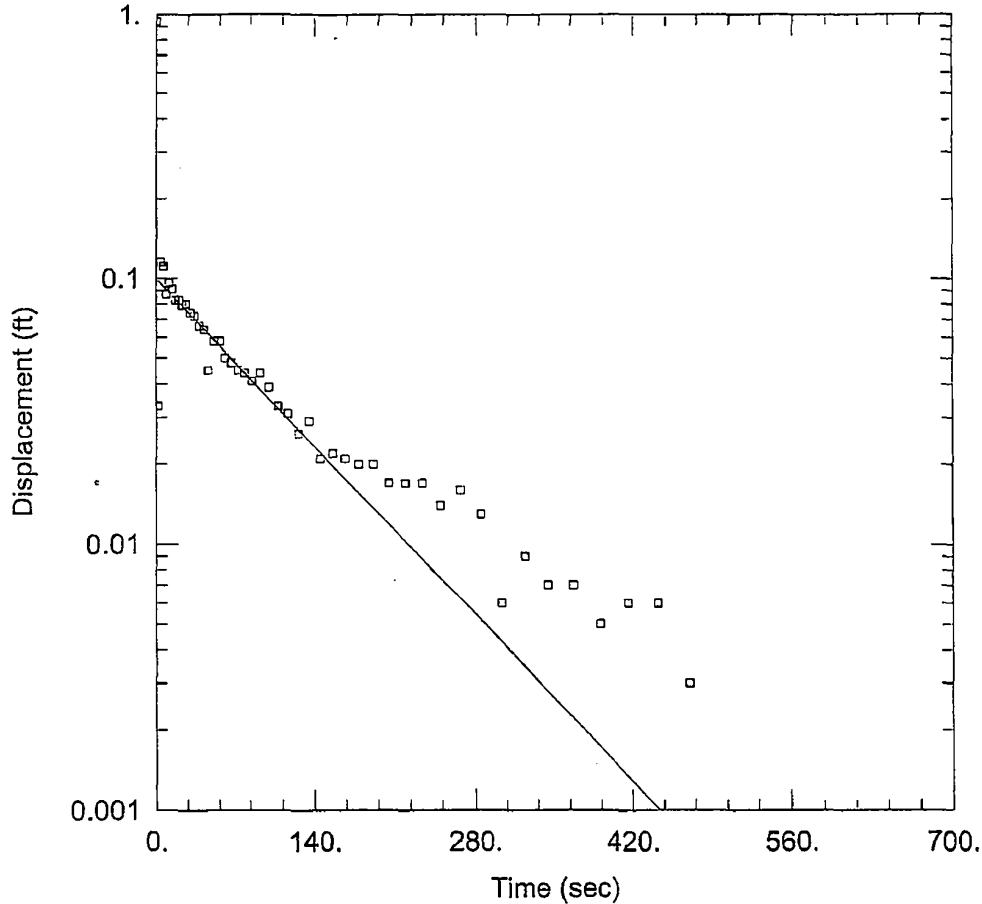
Saturated Thickness: 30.66 ft

WELL DATA (OW-706 U)

Initial Displacement: 0.941 ft Static Water Column Height: 28.46 ft
 Total Well Penetration Depth: 28.9 ft Screen Length: 15.5 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: KGS Model
 Kr = 6.423 ft/day Ss = 0.003205 ft⁻¹
 Kz/Kr = 1.



OW-706 U FALLING HEAD TEST 5-16-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-706 U
 Test Date: 5-16-08

AQUIFER DATA

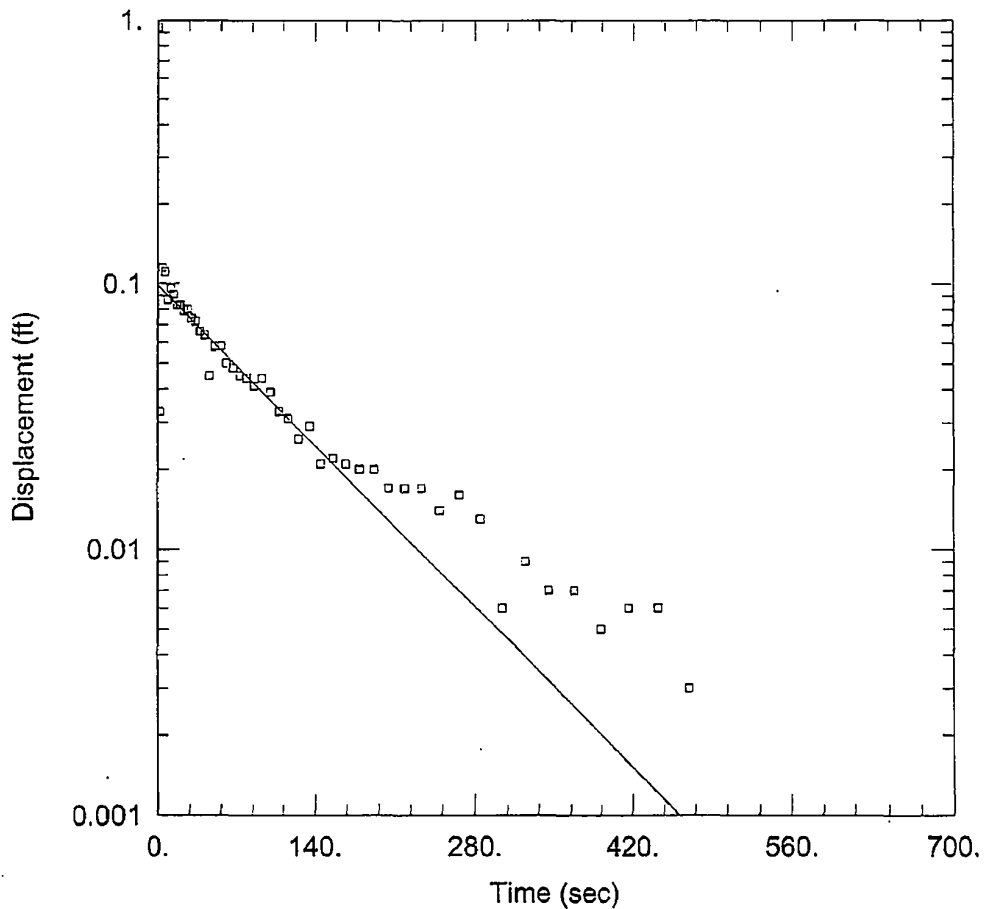
Saturated Thickness: 30.66 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-706 U)

Initial Displacement: 0.941 ft Static Water Column Height: 28.46 ft
 Total Well Penetration Depth: 28.9 ft Screen Length: 15.5 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev
 K = 0.7146 ft/day y0 = 0.09968 ft



OW-706 U FALLING HEAD TEST 5-16-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-706 U
 Test Date: 5-16-08

AQUIFER DATA

Saturated Thickness: 30.66 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-706 U)

Initial Displacement: 0.941 ft Static Water Column Height: 28.46 ft
 Total Well Penetration Depth: 28.9 ft Screen Length: 15.5 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

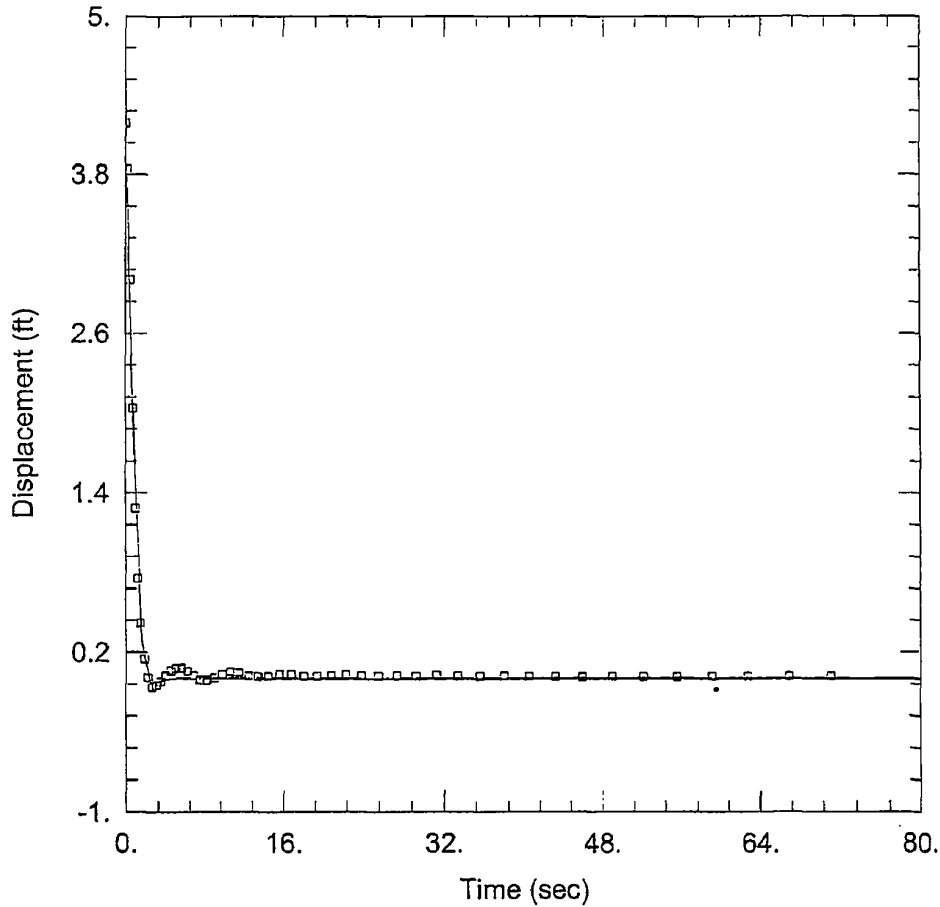
Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 K = 0.5455 ft/day y0 = 0.09865 ft



SLUG TEST REPORT

Project Name: <u>TPCD</u>	Project Number: <u>6468-07-PSO</u>		Page <u>1</u> of <u>1</u>
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-706U</u>	MACTEC Rep: <u>Kimi Charles-Smith</u>	Date: <u>05/20/08</u>	
UNITS			
Length	Feet		
Time	Minutes		
Well Data	<u>Final stickup = 3.61' From g.S.</u>		
Static Water Level	<u>3.74' feet From TOC</u>		
Total Well Depth	<u>31.72' feet From TOC</u>		
Static Water Column Height (H)	feet		
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	NA		
Saturated Thickness (b)	feet		
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1		
Depth to Top of Well Screen (d)			
Length of Well Screen (L)	<u>10' feet</u>		
Radius of Well Casing (rc)	0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)			
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	<u>mini Troll Transverse probe calibrated 1/29/08, Exp. 7/29/09</u> <u>Sn: 118478 level troll @ 700</u> <u>win s70</u>		
Slug Data	<u>used pneumatic slug to perform test.</u>		
Length			
weight			
Diameter			
Slug Test File	Background	Falling	Rising
File Name	<u>OW-706UBG</u>	<u>NA</u>	<u>OW-706UR</u>
Start Time	<u>09:55:26</u>		<u>10:00:13</u>
End Time	<u>09:56:33</u>		<u>10:01:29</u>
Notes	<u>OW-706UR</u> <u>10:03:40</u> <u>10:04:36</u>		

Rev 0



OW-706 U RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-706 U
 Test Date: 5-16-08

AQUIFER DATA

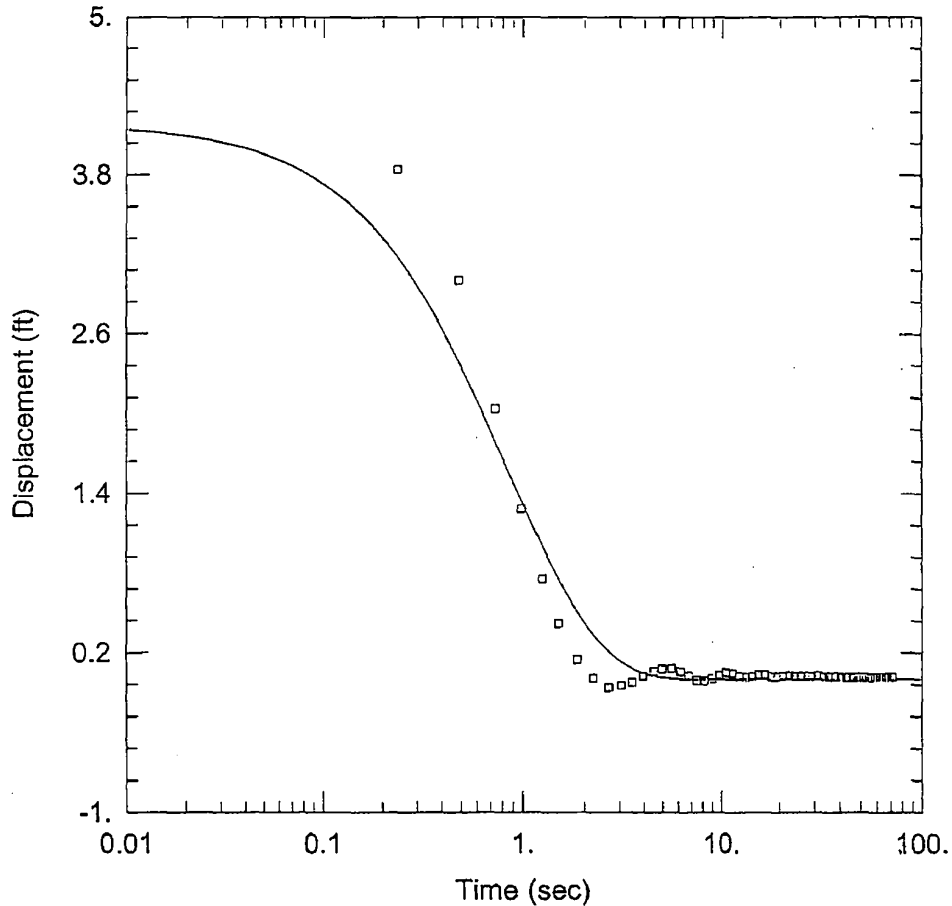
Saturated Thickness: 30.66 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-706 U)

Initial Displacement: 4.189 ft Static Water Column Height: 28.46 ft
 Total Well Penetration Depth: 28.9 ft Screen Length: 15.5 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 70.18 ft/day Le = 7.303 ft



OW-706 U RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-706 U
 Test Date: 5-16-08

AQUIFER DATA

Saturated Thickness: 30.66 ft

WELL DATA (OW-706 U)

Initial Displacement: <u>4.189 ft</u>	Static Water Column Height: <u>28.46 ft</u>
Total Well Penetration Depth: <u>28.9 ft</u>	Screen Length: <u>15.5 ft</u>
Casing Radius: <u>0.083 ft</u>	Well Radius: <u>0.25 ft</u>

SOLUTION

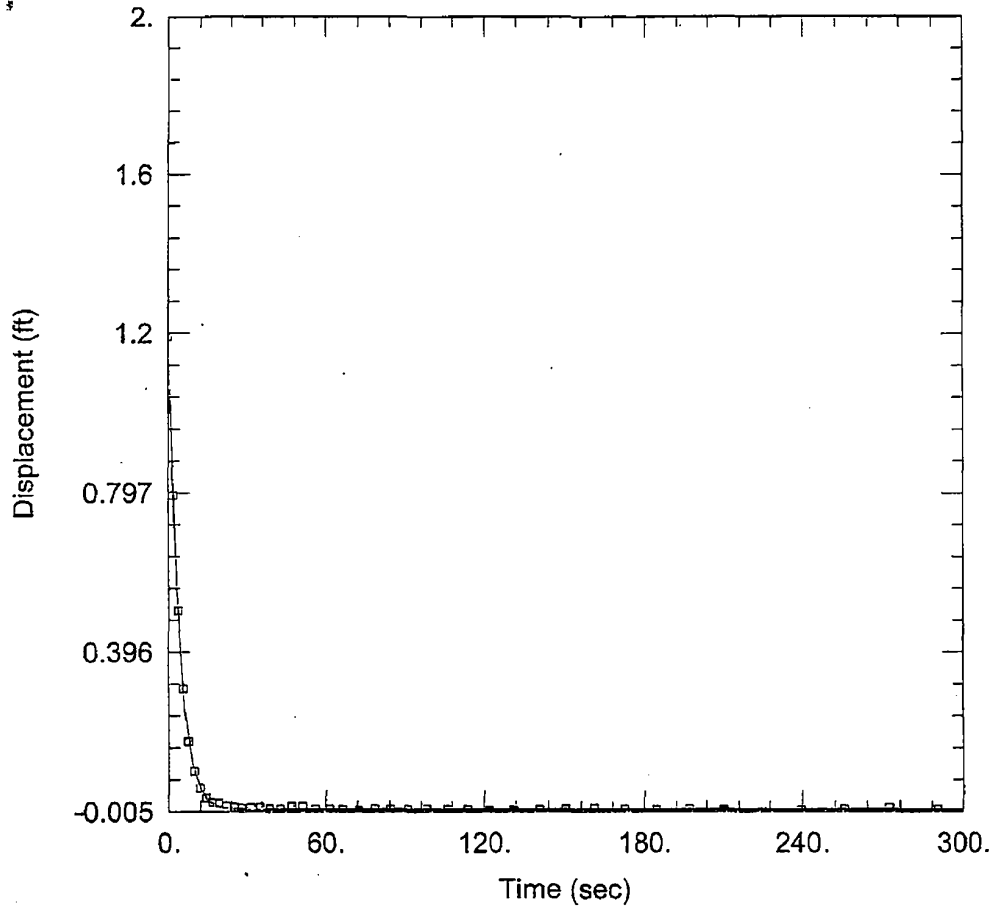
Aquifer Model: <u>Unconfined</u>	Solution Method: <u>KGS Model</u>
$K_r = \underline{76.09 \text{ ft/day}}$	$S_s = \underline{3.205E-12 \text{ ft}^{-1}}$
$K_z/K_r = \underline{1.}$	

MACTEC

SLUG TEST REPORT

Project Name: <u>TP COL</u>	Project Number:		Page 1 of 1
Client: <u>Bichtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-706L</u>	MACTEC Rep: <u>Kim Chalk-Smith</u>	Date: <u>05/16/08</u>	
UNITS			
Length:	Feet		
Time:	Minutes		
Well Data	Final stickup = <u>3.74'</u> From <u>GS</u> .		
Static Water Level	<u>1.50'</u> feet	From <u>TOC</u>	
Total Well Depth	<u>114.56'</u> feet	From <u>TOC</u>	
Static Water Column Height (H)	<u>116.8'</u> feet		
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	NA		
Saturated Thickness (b)	feet		
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1		
Depth to Top of Well Screen (d)			
Length of Well Screen (L)	<u>10.0'</u> feet		
Radius of Well Casing (rc)	0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)			
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	<u>Transducer Mini Trail Calibrated 4/29/08 by 4/29/09</u> <u>Sri 103345</u>		
	<u>Setup 05/16/08</u>		
Slug Data	<u>slug #2</u>		
Length	<u>65.438 inches</u>		
Weight	<u>8.811 lbs.</u>		
Diameter	<u>1.662 inches</u>		
Slug Test File	Background	Falling	Rising
File Name	<u>OW-706LBG</u>	<u>OW-706LF</u>	<u>OW-706LR</u>
Start Time	<u>13:53:29</u>	<u>14:11:28</u>	<u>14:40:40</u>
End Time	<u>14:00:40</u>	<u>14:37:41</u>	<u>14:58:09</u>
Notes			

Rev 0



OW-706 L FALLING HEAD TEST 5-16-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-706 L
 Test Date: 5-16-08

AQUIFER DATA

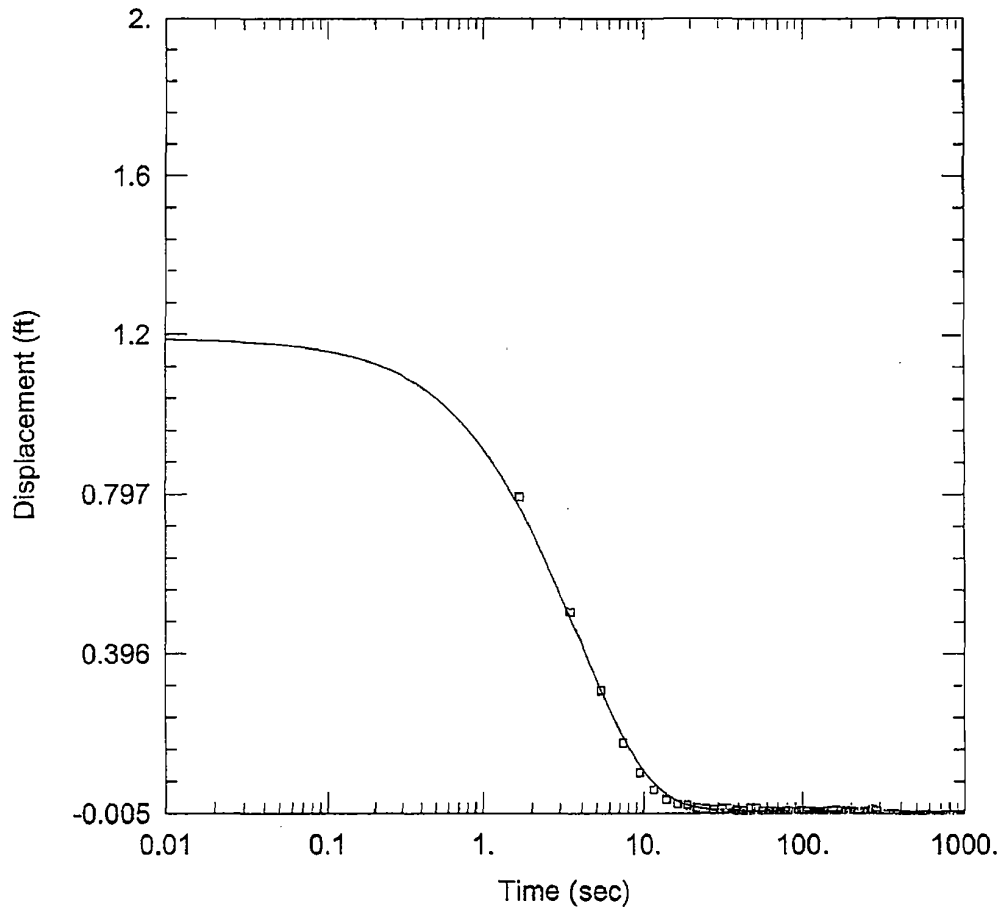
Saturated Thickness: 82.8 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-706 L)

Initial Displacement: 1.19 ft Static Water Column Height: 113.7 ft
 Total Well Penetration Depth: 112 ft Screen Length: 15.1 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 21.2 ft/day Le = 17.46 ft



OW-706 L FALLING HEAD TEST 5-16-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-706 L
 Test Date: 5-16-08

AQUIFER DATA

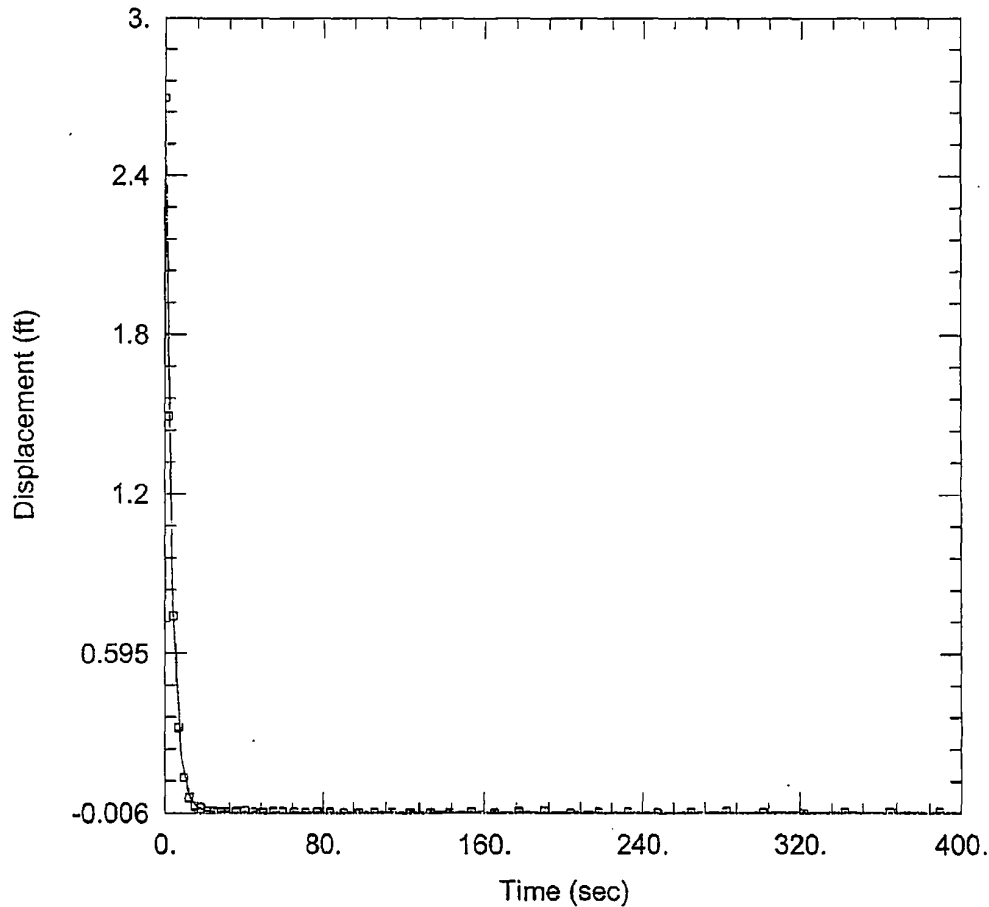
Saturated Thickness: 82.8 ft

WELL DATA (OW-706 L)

Initial Displacement: 1.19 ft Static Water Column Height: 113.7 ft
 Total Well Penetration Depth: 112. ft Screen Length: 15.1 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: KGS Model
 Kr = 21.97 ft/day Ss = 1.208E-12 ft⁻¹
 Kz/Kr = 1.



OW-706 L RISING HEAD TEST 5-16-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-706 L
 Test Date: 5-16-08

AQUIFER DATA

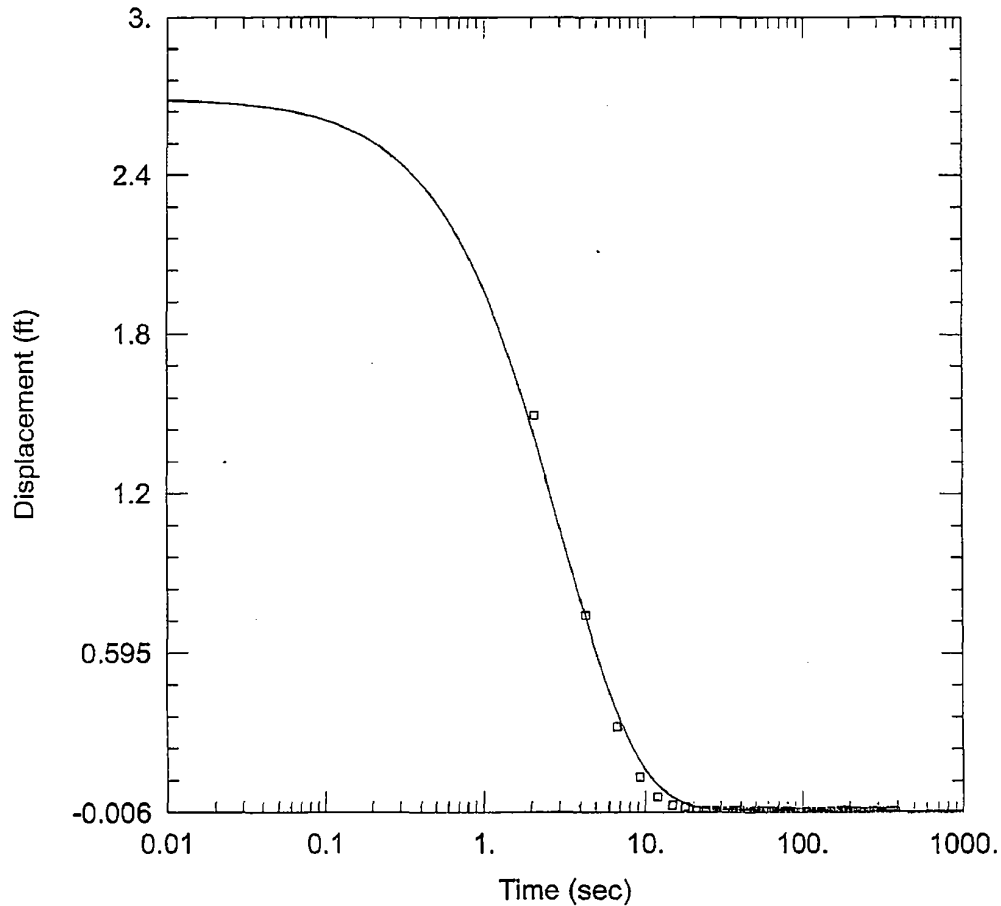
Saturated Thickness: 82.8 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-706 L)

Initial Displacement: 2.693 ft Static Water Column Height: 113.7 ft
 Total Well Penetration Depth: 112. ft Screen Length: 15.1 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 25.09 ft/day Le = 29.71 ft



OW-706 L RISING HEAD TEST 5-16-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-706 L
 Test Date: 5-16-08

AQUIFER DATA

Saturated Thickness: 82.8 ft

WELL DATA (OW-706 L)

Initial Displacement: <u>2.693</u> ft	Static Water Column Height: <u>113.7</u> ft
Total Well Penetration Depth: <u>112.</u> ft	Screen Length: <u>15.1</u> ft
Casing Radius: <u>0.083</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

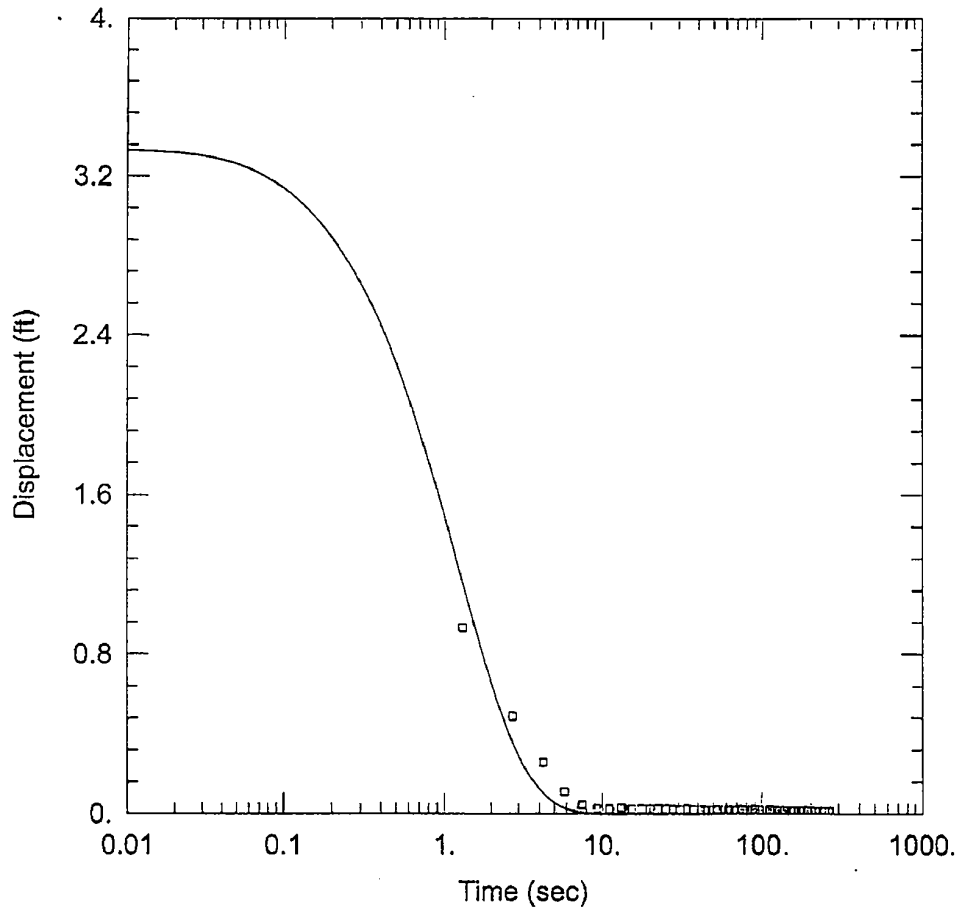
Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>26.07</u> ft/day	Ss = <u>1.208E-12</u> ft ⁻¹
Kz/Kr = <u>1.</u>	



SLUG TEST REPORT

Project Name: <u>TPCOL</u>	Project Number:	Page <u>1</u> of <u>1</u>	
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-721U</u>	MACTEC Rep: <u>Kim Charles Smith</u>	Date: <u>05/15/08</u>	
UNITS			
Length	Feet		
Time	Minutes		
Well Data	<u>Stickup = 3.65' from g.S.</u>		
Static Water Level	<u>4.35' feet from toe</u>		
Total Well Depth	<u>28.0' feet from toe</u>		
Static Water Column Height (H)	<u>23.45' 20.0' feet 5-15-08</u>		
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	NA		
Saturated Thickness (b)	feet		
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1		
Depth to Top of Well Screen (d)			
Length of Well Screen (L)	<u>10.0' feet</u>		
Radius of Well Casing (rc)	0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)			
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	<u>Transducer mini well calibrated 9/29/09, Exp. 9/29/09</u>		
Slug Data			
Length	<u>65.438 inches</u>		
Weight	<u>8.811 lbs.</u>		
Diameter	<u>1.662 inches</u>		
Slug Test File	Background	Falling	Rising
File Name	<u>OW-721UBG</u>	<u>OW-721UF</u>	<u>OW-721UR</u>
Start Time	<u>17:00:35</u>	<u>17:11:11</u>	<u>17:22:12 (5/15/08)</u>
End Time	<u>17:07:40</u>	<u>17:15:55</u>	<u>07:17:00 (5/16/08)</u>
Notes	<u>Extended toe to 5.65' above g.S. Ran background and falling head test for 24 hrs in well overnight per Chris Bruce on rising head test. Stopped OW-721UR on 05/16/08 and 5/16/08 07:18:00.</u>		

Rev 0



OW-721 U FALLING HEAD 5-15-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-721 U
 Test Date: 5-15-08

AQUIFER DATA

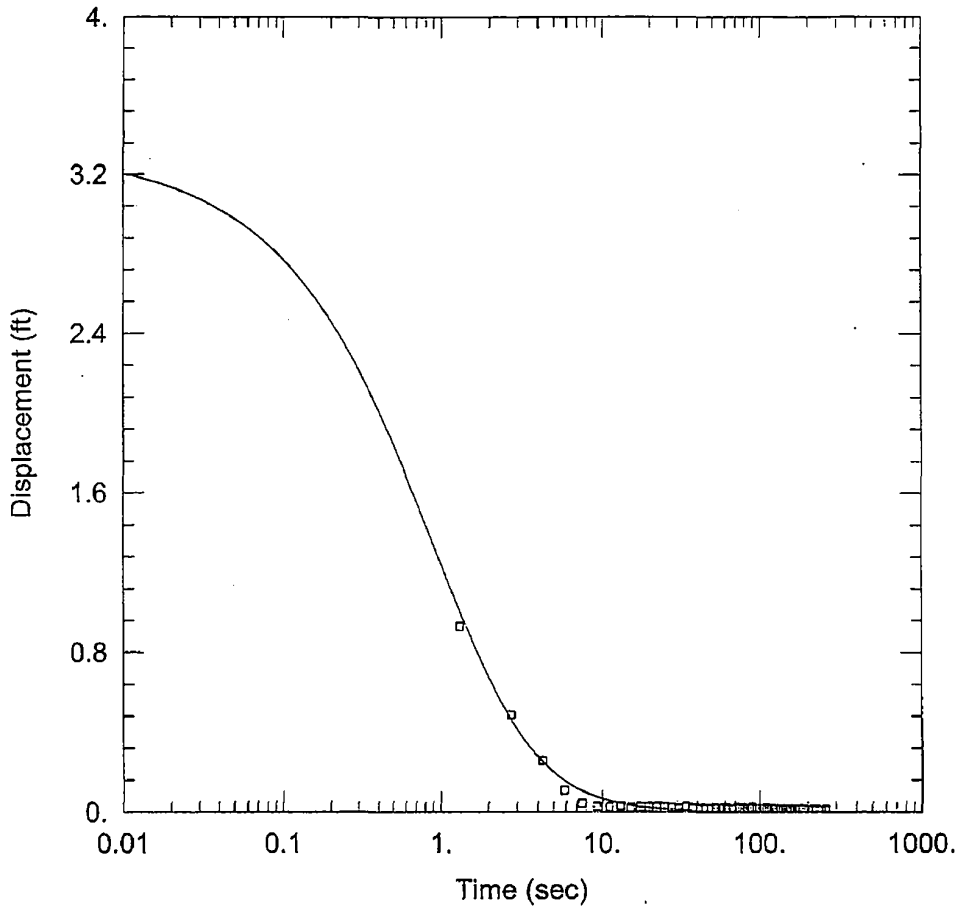
Saturated Thickness: 24.75 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-721 U)

Initial Displacement: 3.338 ft Static Water Column Height: 24.75 ft
 Total Well Penetration Depth: 26. ft Screen Length: 16.1 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 45.5 ft/day Le = 1. ft



OW-721 U FALLING HEAD 5-15-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-721 U
 Test Date: 5-15-08

AQUIFER DATA

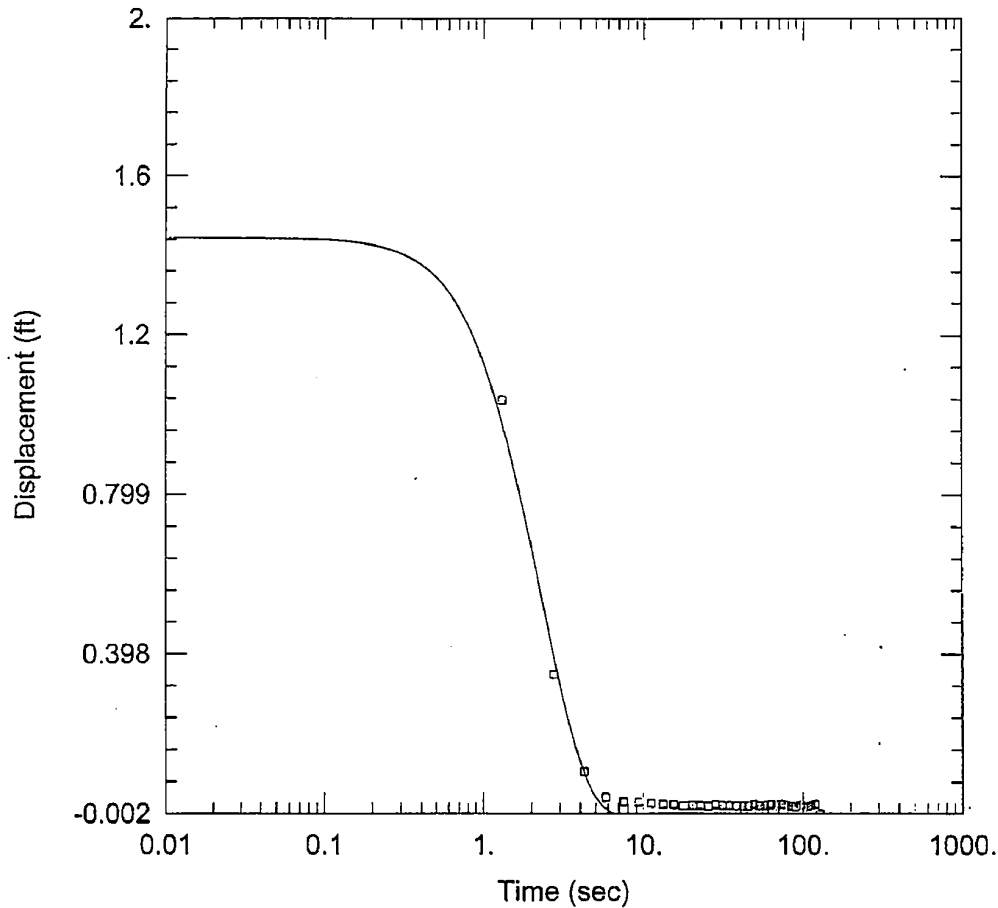
Saturated Thickness: 24.75 ft

WELL DATA (OW-721 U)

Initial Displacement: <u>3.338 ft</u>	Static Water Column Height: <u>24.75 ft</u>
Total Well Penetration Depth: <u>26 ft</u>	Screen Length: <u>16.1 ft</u>
Casing Radius: <u>0.083 ft</u>	Well Radius: <u>0.25 ft</u>

SOLUTION

Aquifer Model: <u>Unconfined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>45.5 ft/day</u>	Ss = <u>9.486E-5 ft⁻¹</u>
Kz/Kr = <u>1</u>	



OW-721 U RISING HEAD 5-15-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-721 U
 Test Date: 5-15-08

AQUIFER DATA

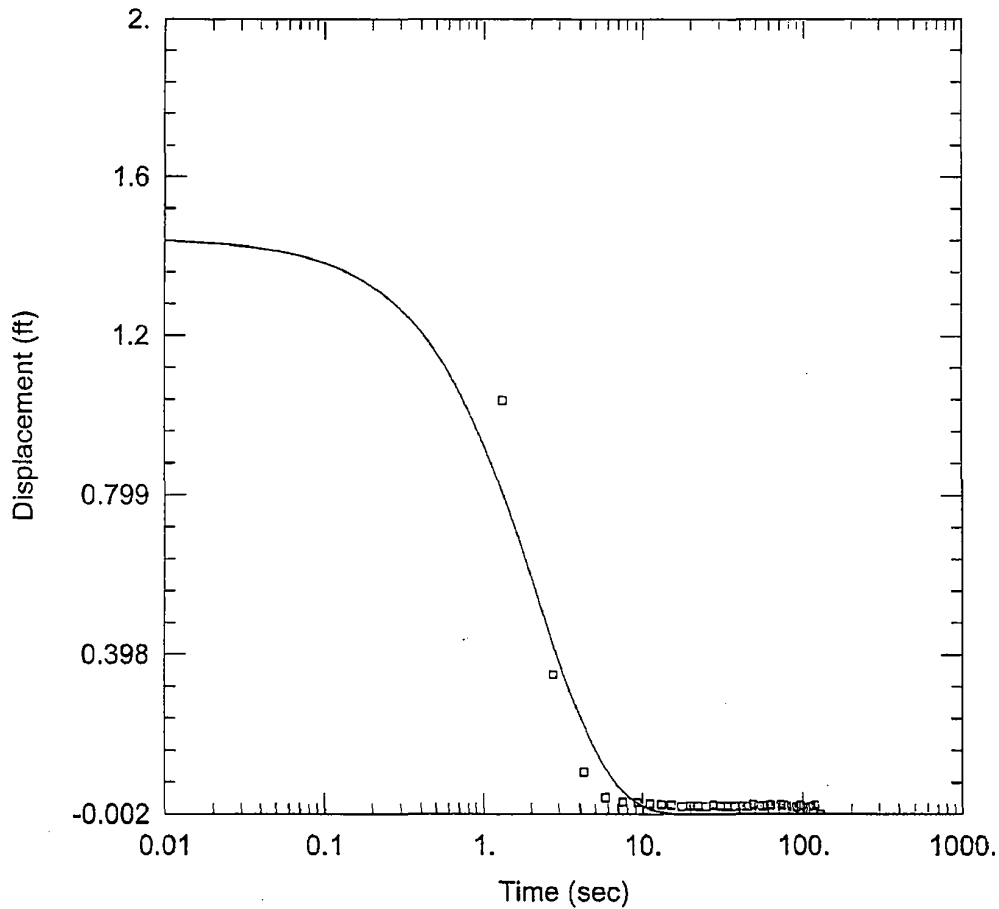
Saturated Thickness: 24.75 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-721 U)

Initial Displacement: 1.444 ft Static Water Column Height: 24.75 ft
 Total Well Penetration Depth: 26. ft Screen Length: 16.1 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 27.03 ft/day Le = 46.33 ft



OW-721 U RISING HEAD 5-15-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-721 U
 Test Date: 5-15-08

AQUIFER DATA

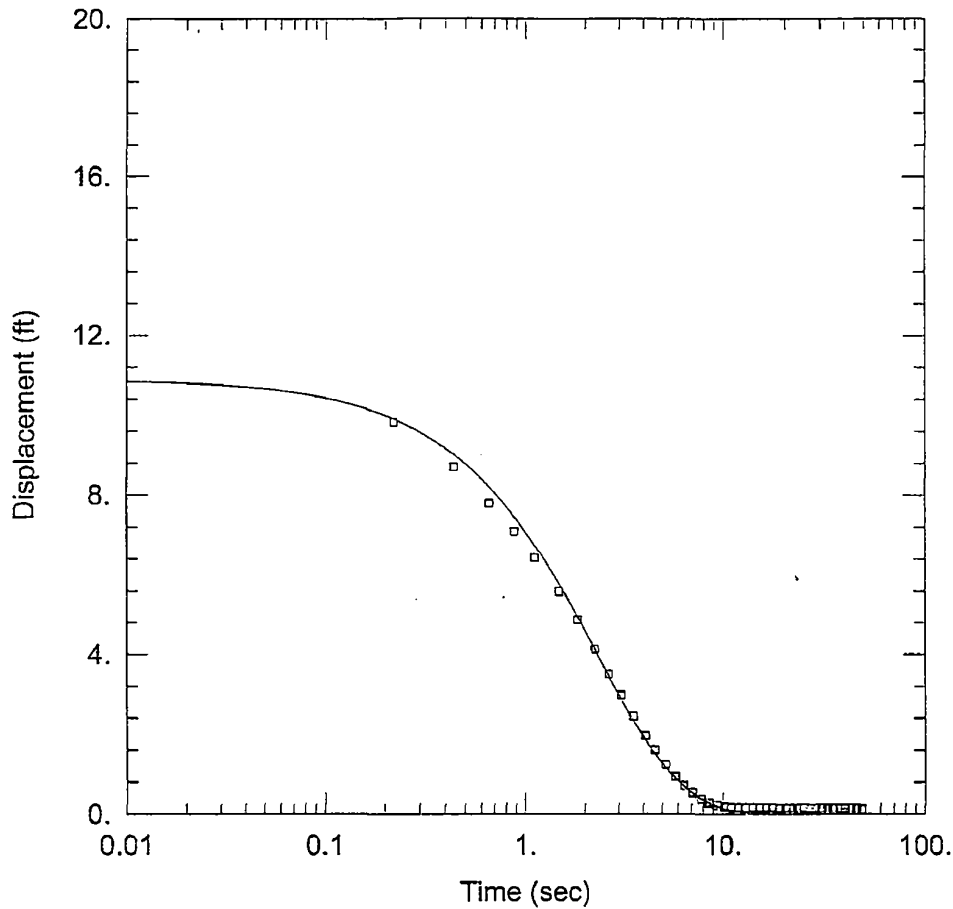
Saturated Thickness: 24.75 ft

WELL DATA (OW-721 U)

Initial Displacement: 1.444 ft Static Water Column Height: 24.75 ft
 Total Well Penetration Depth: 26. ft Screen Length: 16.1 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: KGS Model
 $K_r = 32.46 \text{ ft/day}$ $S_s = 4.167E-12 \text{ ft}^{-1}$
 $K_z/K_r = 1.$



OW-721 U RISING HEAD 5-20-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-721 U
 Test Date: 5-20-08

AQUIFER DATA

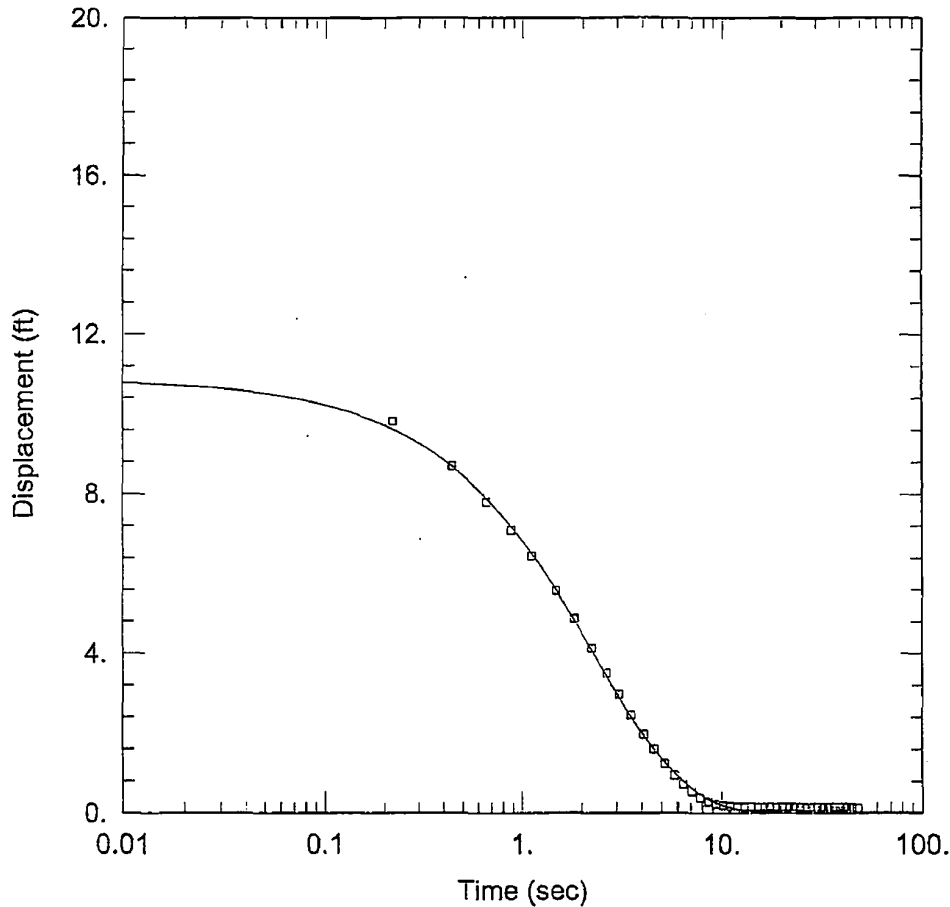
Saturated Thickness: 24.37 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-721 U)

Initial Displacement: 10.88 ft Static Water Column Height: 24.37 ft
 Total Well Penetration Depth: 26. ft Screen Length: 16.1 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 24.39 ft/day Le = 0.1 ft



OW-721 U RISING HEAD 5-20-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-721 U
 Test Date: 5-20-08

AQUIFER DATA

Saturated Thickness: 24.37 ft

WELL DATA (OW-721 U)

Initial Displacement: <u>10.88 ft</u>	Static Water Column Height: <u>24.37 ft</u>
Total Well Penetration Depth: <u>26. ft</u>	Screen Length: <u>16.1 ft</u>
Casing Radius: <u>0.083 ft</u>	Well Radius: <u>0.25 ft</u>

SOLUTION

Aquifer Model: <u>Unconfined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>32.47 ft/day</u>	Ss = <u>2.056E-6 ft⁻¹</u>
Kz/Kr = <u>1.</u>	

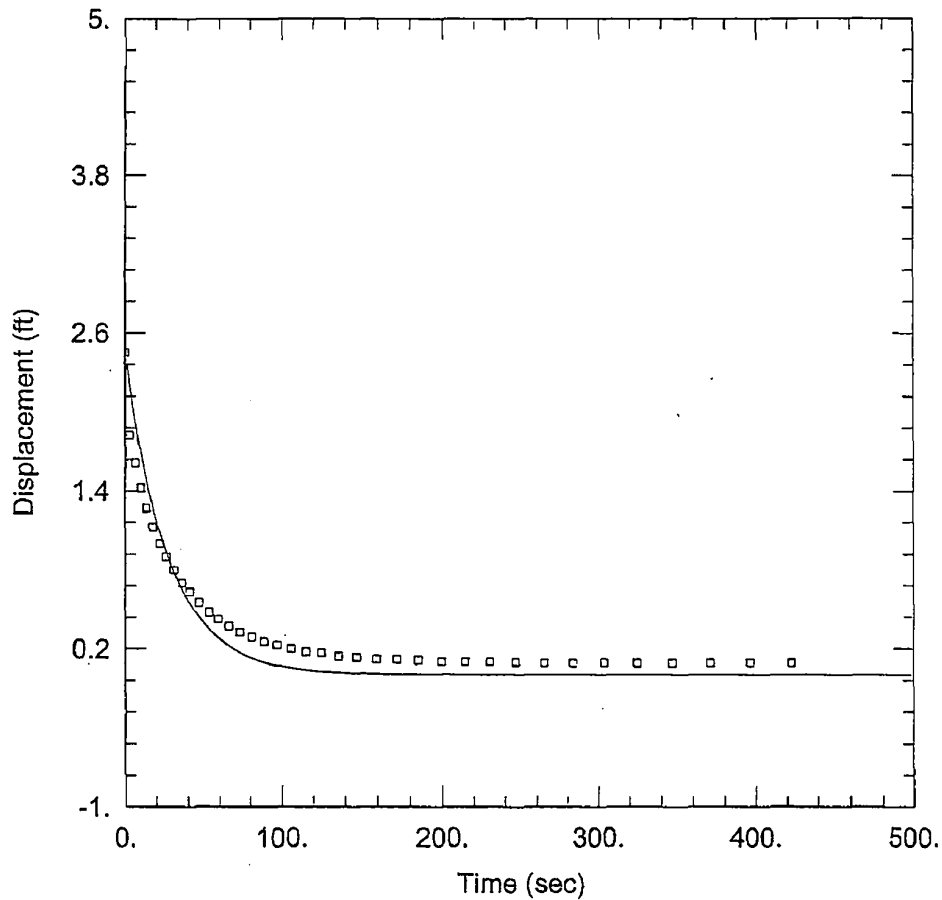
MACTEC

SLUG TEST REPORT

Project Name: <u>TPCOL</u>	Project Number:	Page	of	
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>			
Location: <u>OW-F21L</u>	MACTEC Rep: <u>Kim Chalo Smith</u>	Date: <u>05/15/08</u>		
UNITS				
Length	Feet			
Time	Minutes			
Well Data	Final stickup = 3.68' From G.S.			
Static Water Level	<u>2.17'</u> feet From TOC			
Total Well Depth	<u>107.62'</u> feet From TOC			
Static Water Column Height (H)	<u>102.43'</u> feet			
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head	
	NA			
Saturated Thickness (b)	feet			
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1			
Depth to Top of Well Screen (d)	feet			
Length of Well Screen (L)	<u>10.0'</u> feet			
Radius of Well Casing (rc)	0.083 feet			
Radius of Screen (rw)	0.083 feet			
Radius of Probe (req)	feet			
Radius of Boring (rsk) Skin Effect	0.083 feet			
Probe Serial Number	<u>Mini Trail Transducer Calibrated 4/29/08, EQ. 4/29/09</u>			
Probe Serial Number	<u>Sn. 103345</u>			
Slug Data <u>Slug #2</u>				
Length	<u>65.438 inches</u>			
Weight	<u>8.811 lbs.</u>			
Diameter	<u>1.662 inches</u>			
Slug Test File	Background	Falling	Rising	
File Name	<u>OW-F21L BG</u>	<u>OW-F21L F</u>	<u>OW-F21L R</u>	
Start Time	<u>15:53:52</u>	<u>16:02:43</u>	<u>16:21:32</u>	
End Time	<u>16:00:33</u>	<u>16:18:56</u>	<u>16:37:20</u>	
Notes	<u>Extended TOC to 5' above G.S. 5.63' by 5/15/08.</u> <u>to run slug test.</u>			
Rev 0				

Prepared by: C.H.B. Date: 6-20-08

Checked by: LOE Date: 6-20-08



OW-721 L FALLING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: Turkey Point
Client: BECHTEL
Project: 6468-07-1950
Location: Turkey Point
Test Well: OW-721 L
Test Date: 5-16-08

AQUIFER DATA

Saturated Thickness: 90. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-721 L)

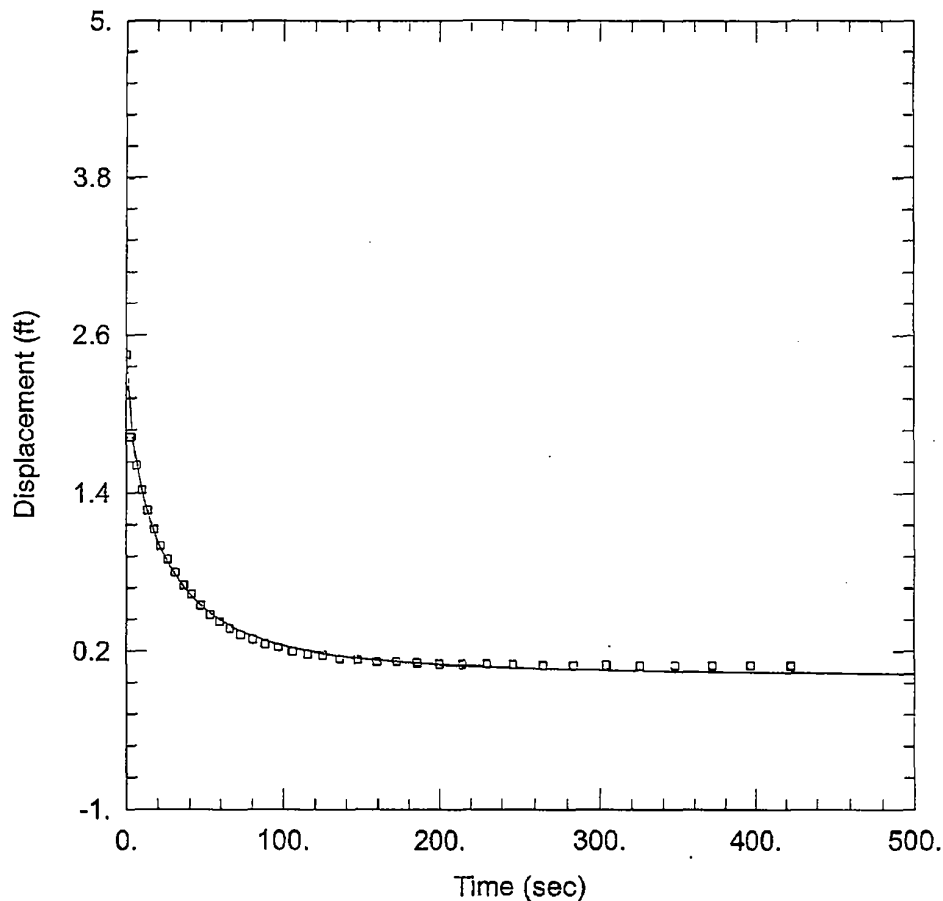
Initial Displacement: 2.451 ft Static Water Column Height: 110. ft
Total Well Penetration Depth: 109. ft Screen Length: 17. ft
Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
K = 2.726 ft/day Le = 0.1 ft

Prepared by: CKB Date: 6-20-08

Checked by: WSE Date: 6-20-08



OW-721 L FALLING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: Turkey Point
Client: BECHTEL
Project: 6468-07-1950
Location: Turkey Point
Test Well: OW-721 L
Test Date: 5-16-08

AQUIFER DATA

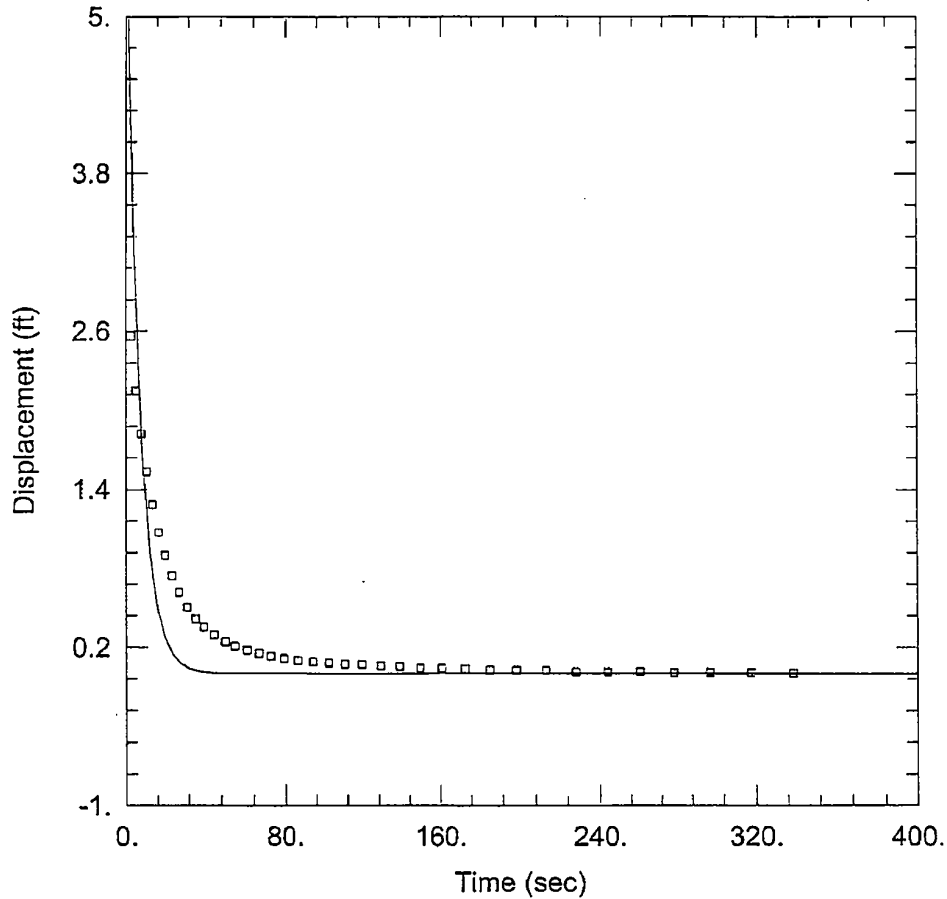
Saturated Thickness: 90. ft

WELL DATA (OW-721 L)

Initial Displacement: 2.451 ft Static Water Column Height: 110. ft
Total Well Penetration Depth: 109. ft Screen Length: 17. ft
Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: KGS Model
 $K_r = 1.13$ ft/day $S_s = 0.0002728$ ft⁻¹
 $K_z/K_r = 1.$



OW-721 L RISING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-721 L
 Test Date: 5-16-08

AQUIFER DATA

Saturated Thickness: 90. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-721 L)

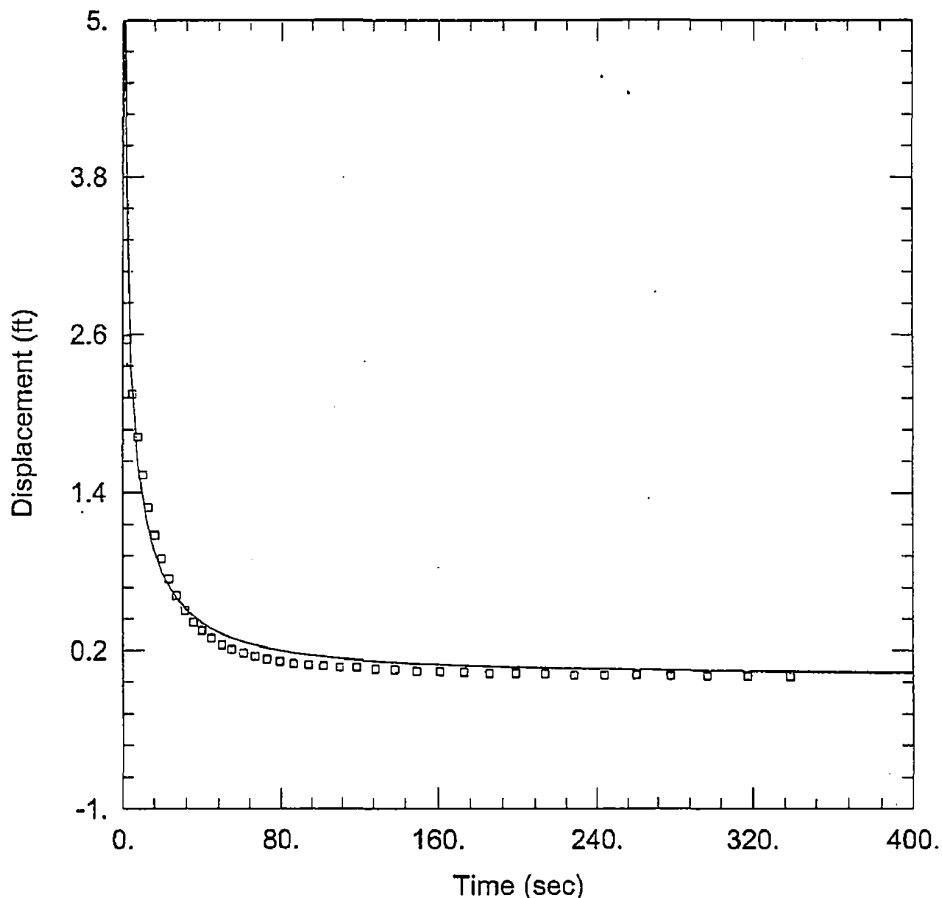
Initial Displacement: 5.904 ft Static Water Column Height: 110. ft
 Total Well Penetration Depth: 109. ft Screen Length: 17. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 11.59 ft/day Le = 0.1 ft

Prepared by: CMS Date: 6-20-08

Checked by: WSR Date: 6-20-08



OW-721 L RISING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: Turkey Point
Client: BECHTEL
Project: 6468-07-1950
Location: Turkey Point
Test Well: OW-721 L
Test Date: 5-16-08

AQUIFER DATA

Saturated Thickness: 90. ft

WELL DATA (OW-721 L)

Initial Displacement: 5.904 ft Static Water Column Height: 110. ft
Total Well Penetration Depth: 109. ft Screen Length: 17. ft
Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

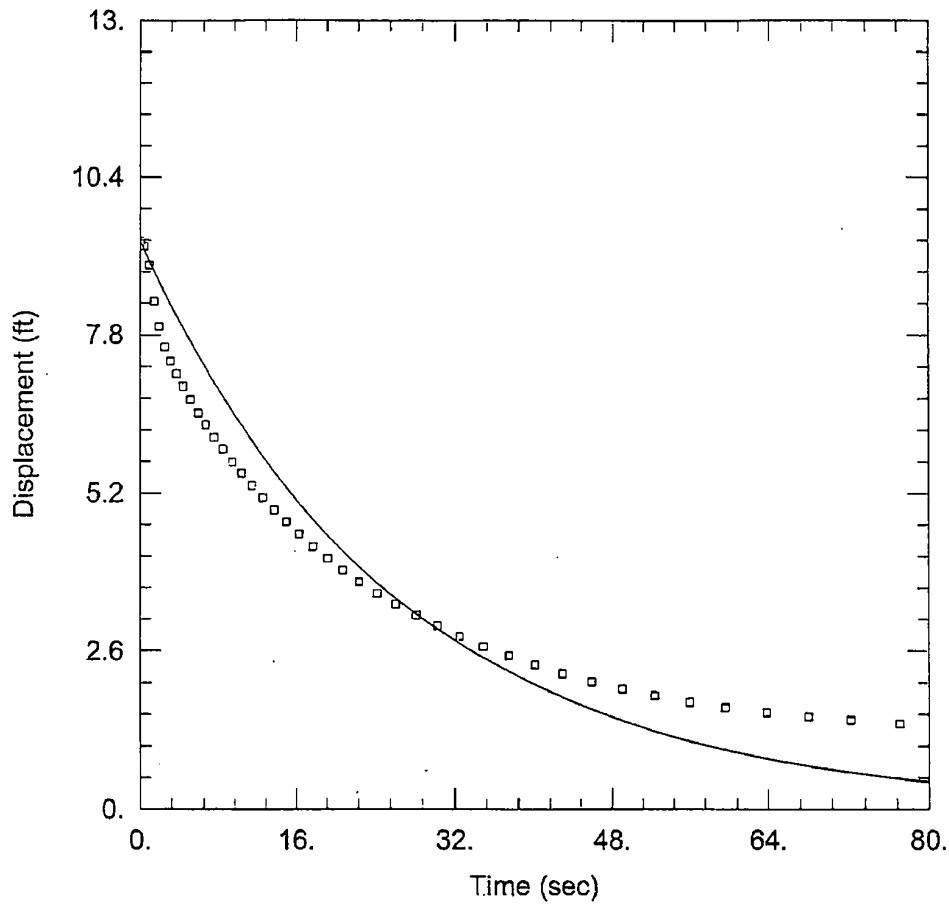
Aquifer Model: Confined Solution Method: KGS Model
Kr = 2.91 ft/day Ss = 0.001921 ft⁻¹
Kz/Kr = 1.



SLUG TEST REPORT

Project Name: <u>TPCOL</u>	Project Number: <u>6408-07-R50</u>		Page <u>1</u> of <u>1</u>
Client: <u>Bchtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-721L</u>	MACTEC Rep: <u>Kim Chals Smith</u>	Date: <u>05/20/08</u>	
UNITS			
Length	Feet		
Time	Minutes		
Well Data	Final static = <u>3.68'</u> from g.s.		
Static Water Level	<u>1.97'</u>	feet	From <u>TOC</u>
Total Well Depth	<u>107.62'</u>	feet	From <u>TOC</u>
Static Water Column Height (H)		feet	
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	NA		
Saturated Thickness (b)		feet	
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1		
Depth to Top of Well Screen (d)			
Length of Well Screen (L)	<u>10'</u>	feet	
Radius of Well Casing (rc)		0.083 feet	
Radius of Screen (rw)		0.083 feet	
Radius of Probe (req)			
Radius of Boring (rsk) Skin Effect		0.083 feet	
Probe Serial Number	<u>mini troll Transducer probe calibrated 4/29/08/exp 4/29/09</u> <u>SN: 118478 level troll @ 700</u> <u>Winsitu</u>		
Slug Data	<u>used pneumatic slug to perform test.</u>		
Length			
Weight			
Diameter			
Slug Test File	Background	Falling	Rising
File Name	<u>OW-721L BG</u>	<u>NA</u>	<u>OW-721LR</u>
Start Time	<u>10:56:02</u>		<u>11:08:52</u>
End Time	<u>11:04:43</u>		<u>11:10:18</u>
Notes			

Rev 0



OW-721 L RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-721 L
 Test Date: 5-20-08

AQUIFER DATA

Saturated Thickness: 90 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-721 L)

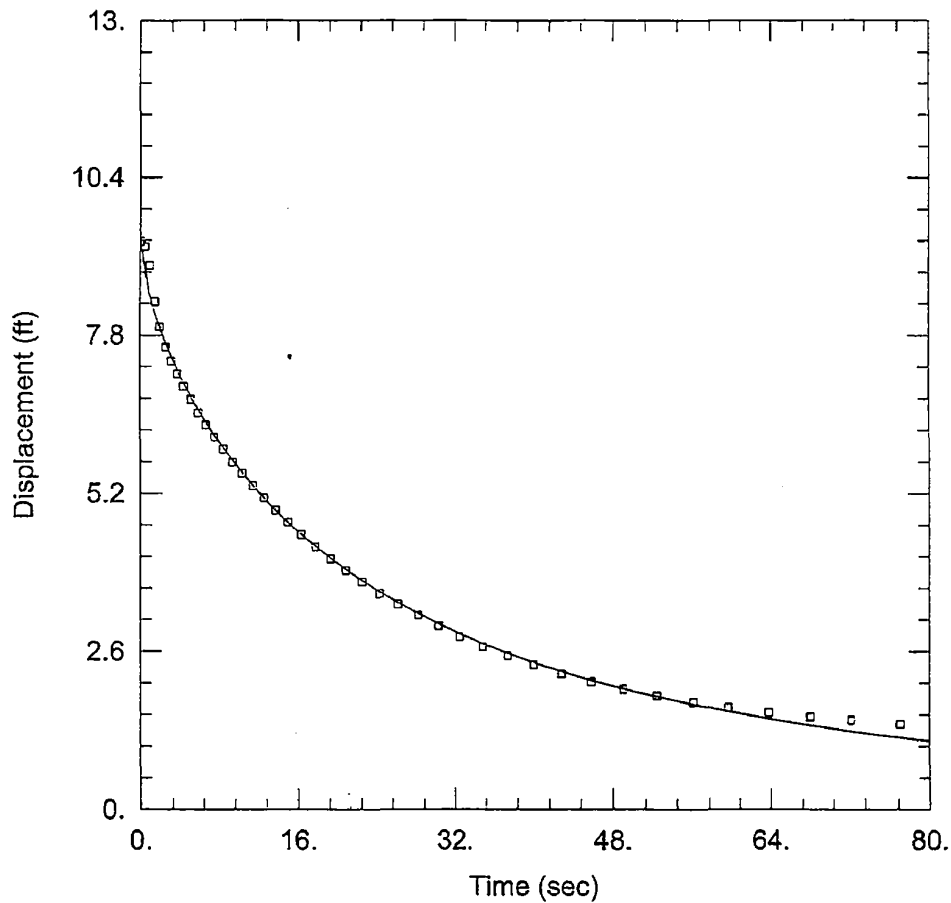
Initial Displacement: 9.341 ft Static Water Column Height: 110.2 ft
 Total Well Penetration Depth: 109 ft Screen Length: 17 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 2.839 ft/day Le = 0.1 ft

Prepared by: CHS Date: 6-20-08

Checked by: WSE Date: 6-20-08



OW-721 L RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: Turkey Point
Client: BECHTEL
Project: 6468-07-1950
Location: Turkey Point
Test Well: OW-721 L
Test Date: 5-20-08

AQUIFER DATA

Saturated Thickness: 90 ft

WELL DATA (OW-721 L)

Initial Displacement: 9.341 ft
Total Well Penetration Depth: 109 ft
Casing Radius: 0.083 ft

Static Water Column Height: 110.2 ft
Screen Length: 17 ft
Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined

Solution Method: KGS Model

Kr = 1.325 ft/day

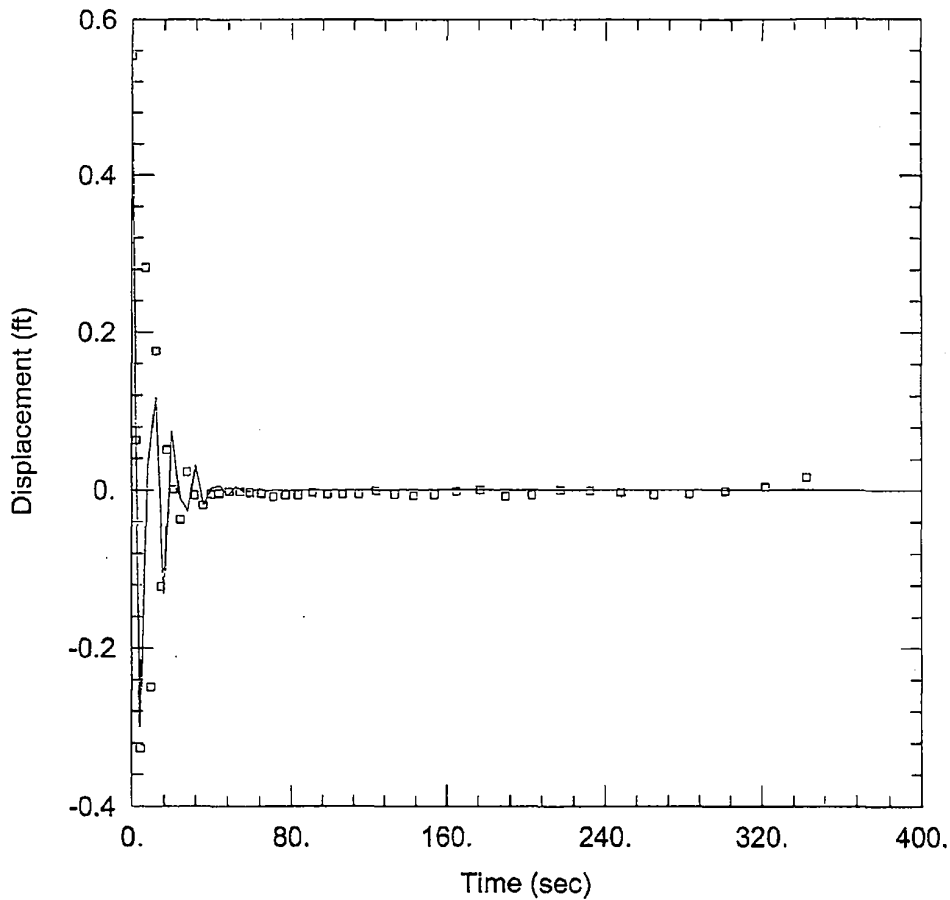
Ss = 0.0001285 ft⁻¹

Kz/Kr = 1



SLUG TEST REPORT

Project Name: <u>TPCOL</u>		Project Number:		Page	of
Client: <u>Bechtel</u>		Contractor: <u>MACTEC</u>			
Location: <u>OW-73SUB</u> <u>K85-15-08</u>		MACTEC Rep: <u>Kim Charles Smith</u>		Date: <u>5/15/08</u>	
UNITS					
Length		Feet			
Time		Minutes			
Well Data		Skin Effect = 3.27'			
Static Water Level		4.85' feet From TOR			
Total Well Depth		30.19' feet From TOC			
Static Water Column Height (H)		28.34' <u>25.34'</u> feet <u>5/15/08</u>			
Observed Initial Displacement (H ₀)	Background		Falling Head		Rising Head
	NA				
Saturated Thickness (b)		feet			
Conductivity Anisotropy (Kv/Kh)		Assume 1 to 1			
Depth to Top of Well Screen (d)					
Length of Well Screen (L)		10' feet			
Radius of Well Casing (rc)		0.083 feet			
Radius of Screen (rw)		0.083 feet			
Radius of Probe (req)					
Radius of Boring (rsk) Skin Effect		0.083 feet			
Probe Serial Number		Mini Trail Transducer probe calibrated 4/29/08 ^{Exp.} 4/29/09			
Probe Serial Number		SN: 103345			
Slug Data #2					
Length		65.438 inch			
Weight		8.811 lbs.			
Diameter		1.662 inch			
Slug Test File		Background		Falling	
File Name		ow-73SUB.G		ow-73SUB.F	
Start Time		10:16:12		09:16:44 ^{5:00}	
End Time		10:25:07		10:51:30	
Notes		Adjusted elevation to top of casing total Skin Effect = 5.28'			
Rev 0					



Prepared by: CLB Date: 6-20-08

Checked by: LSL Date: 6-20-08

OW-735 U FALLING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-735 U
 Test Date: 5/15/2008

AQUIFER DATA

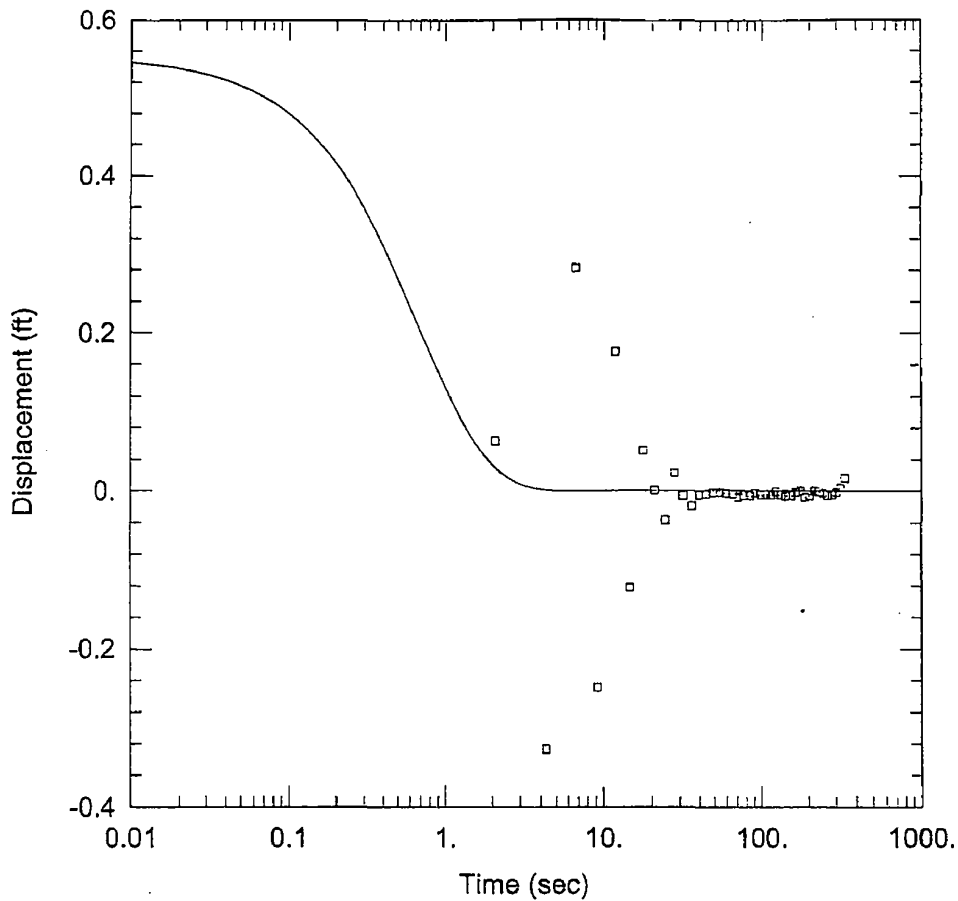
Saturated Thickness: 26.45 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-735 U)

Initial Displacement: 0.553 ft Static Water Column Height: 26.45 ft
 Total Well Penetration Depth: 28. ft Screen Length: 16. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 319.2 ft/day Le = 33.28 ft



Prepared by: CHB Date: 6-20-08

Checked by: WSK Date: 6-20-08

OW-735 U FALLING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-735 U
 Test Date: 5/15/2008

AQUIFER DATA

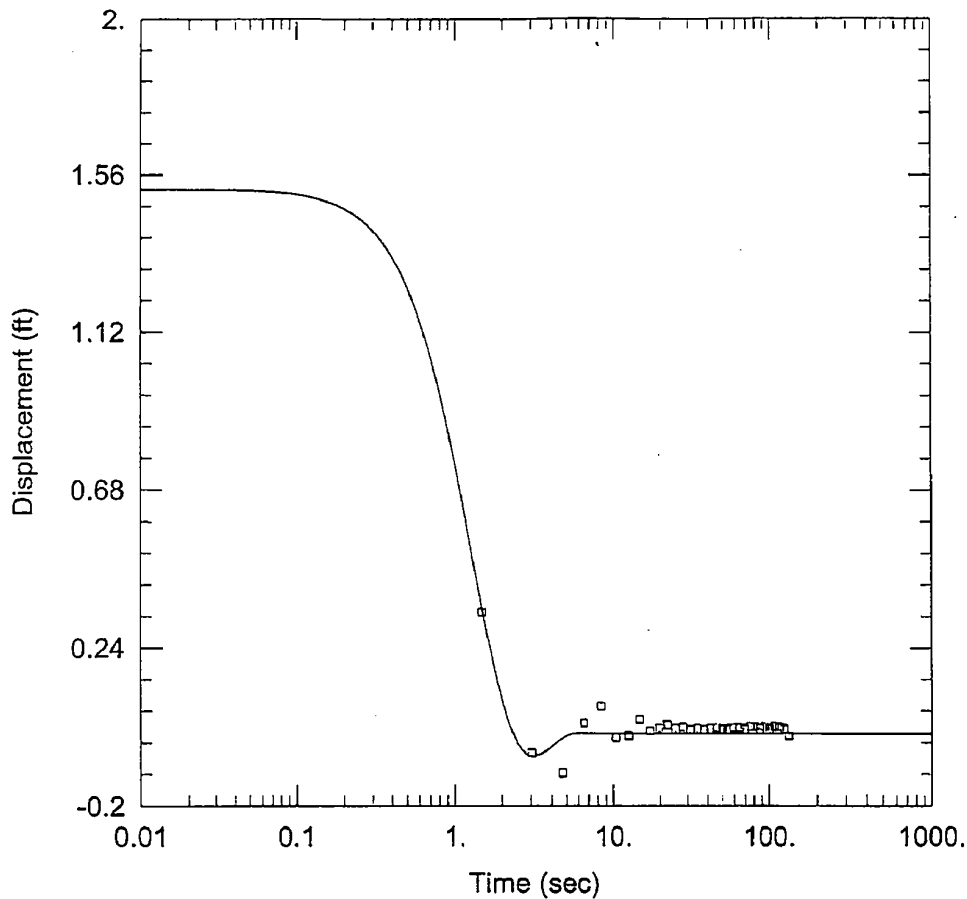
Saturated Thickness: 26.45 ft

WELL DATA (OW-735 U)

Initial Displacement: 0.553 ft Static Water Column Height: 26.45 ft
 Total Well Penetration Depth: 28. ft Screen Length: 16. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: KGS Model
 $K_r = 109.5 \text{ ft/day}$ $S_s = 3.846E-12 \text{ ft}^{-1}$
 $K_z/K_r = 1.$



Prepared by: LAB Date: 6-20-08

Checked by: WSE Date: 6-20-08

OW-735 U RISING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-735 U
 Test Date: 5/15/2008

AQUIFER DATA

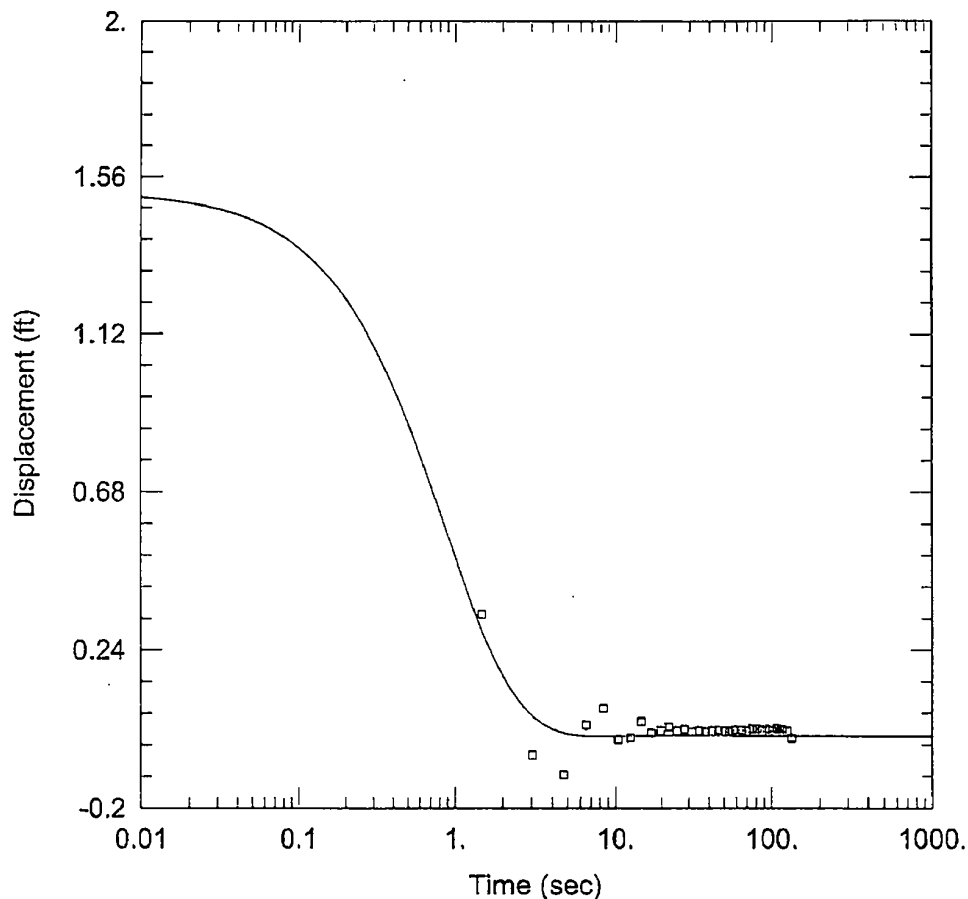
Saturated Thickness: 26.45 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-735 U)

Initial Displacement: 1.519 ft Static Water Column Height: 26.45 ft
 Total Well Penetration Depth: 28. ft Screen Length: 16. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 58.21 ft/day Le = 15.64 ft



Prepared by: CHK Date: 6-20-08

Checked by: WSL Date: 6-20-08

OW-735 U RISING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-735 U
 Test Date: 5/15/2008

AQUIFER DATA

Saturated Thickness: 26.45 ft

WELL DATA (OW-735 U)

Initial Displacement: 1.519 ft Static Water Column Height: 26.45 ft
 Total Well Penetration Depth: 28. ft Screen Length: 16. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

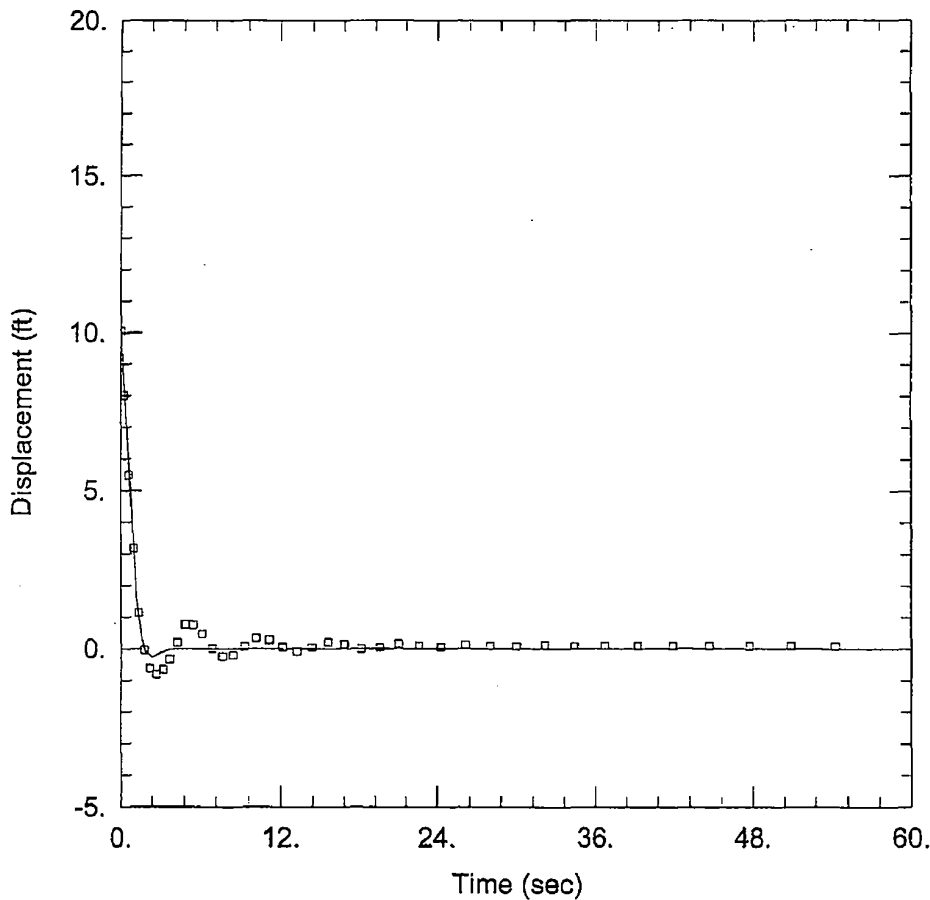
Aquifer Model: Unconfined Solution Method: KGS Model
 $K_r = 84.68 \text{ ft/day}$ $S_s = 3.846E-12 \text{ ft}^{-1}$
 $K_z/K_r = 1.$



SLUG TEST REPORT

Project Name: <u>TPCOL</u>	Project Number: <u>668-07-1950</u>		Page <u>1</u> of <u>1</u>									
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>											
Location: <u>5-20-08 Ipeol OW-735U</u>	MACTEC Rep: <u>Kim Charles-Smith</u>	Date: <u>05/20/08</u>										
UNITS												
Length	Feet											
Time	Minutes											
Well Data	Final stickup = 3.27'											
Static Water Level	4.95' feet From toe											
Total Well Depth	30.19' feet From toe											
Static Water Column Height (ft)	feet											
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head									
	NA											
Saturated Thickness (b)	feet											
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1											
Depth to Top of Well Screen (d)												
Length of Well Screen (L)	10' feet											
Radius of Well Casing (rc)	0.083 feet											
Radius of Screen (rw)	0.083 feet											
Radius of Probe (req)												
Radius of Boring (rsk) Skin Effect	0.083 feet											
Probe Serial Number	mini Troll Transducer probe calibrated 4/29/08 EXP 4/29/09 SN: 118478 level toll @ 700 Win Situ											
Slug Data	Used pneumatic slug to perform test.											
Length	SN: 118478 kg 05-20-08											
weight												
Diameter												
Slug Test File	Background	Falling	Rising									
File Name	<u>OW-735UBG</u>	<u>NA</u>	<u>OW-735UR</u>									
Start Time	<u>08:32:51</u>		<u>08:44:59</u>									
End Time	<u>08:37:09</u>		<u>08:49:27</u>									
Notes	<table border="1"> <tr> <td><u>OW-735UR</u></td> <td><u>OW-735UR</u></td> <td><u>OW-735UR</u></td> </tr> <tr> <td><u>08:53:57</u></td> <td><u>08:59:20</u></td> <td><u>09:03:23</u></td> </tr> <tr> <td><u>08:57:33</u></td> <td><u>09:00:15</u></td> <td><u>09:04:20</u></td> </tr> </table>			<u>OW-735UR</u>	<u>OW-735UR</u>	<u>OW-735UR</u>	<u>08:53:57</u>	<u>08:59:20</u>	<u>09:03:23</u>	<u>08:57:33</u>	<u>09:00:15</u>	<u>09:04:20</u>
<u>OW-735UR</u>	<u>OW-735UR</u>	<u>OW-735UR</u>										
<u>08:53:57</u>	<u>08:59:20</u>	<u>09:03:23</u>										
<u>08:57:33</u>	<u>09:00:15</u>	<u>09:04:20</u>										

Rev 0



Prepared by: CKB Date: 5-20-08
 Checked by: WJ Date: 6-20-08

OW-735 U RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-735 U
 Test Date: 5/15/2008

AQUIFER DATA

Saturated Thickness: 26.35 ft Anisotropy Ratio (Kz/Kr): 1.

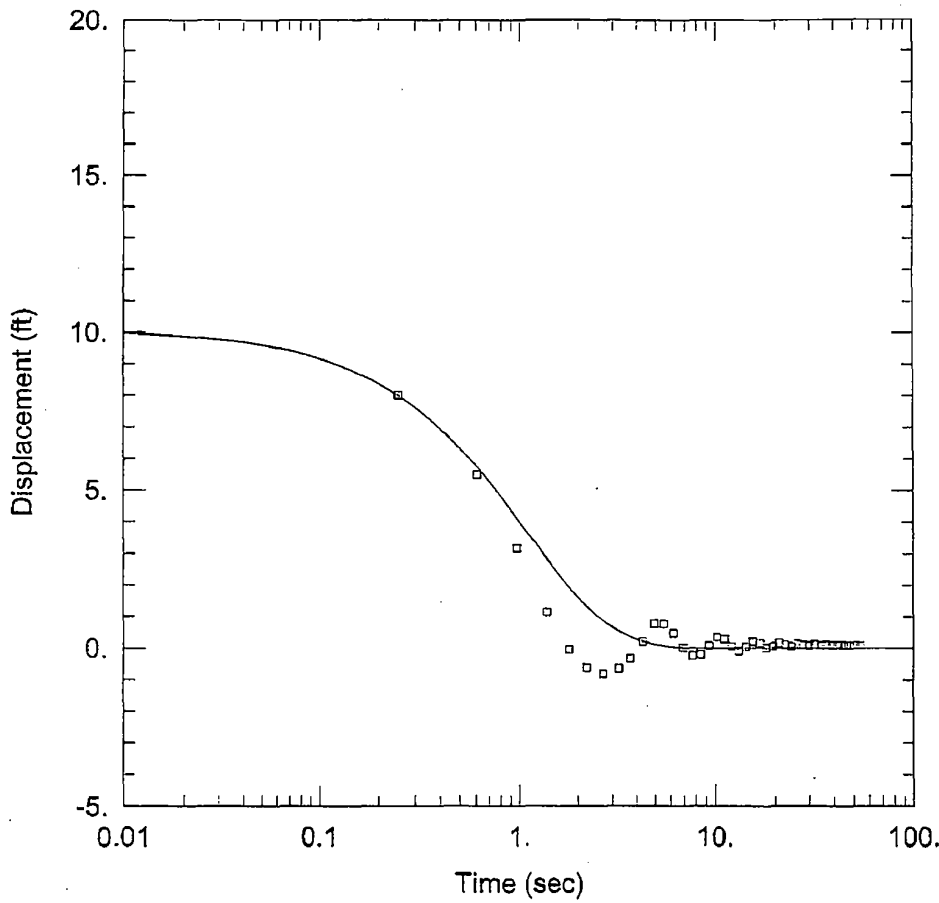
WELL DATA (OW-735 U)

Initial Displacement: 10.05 ft Static Water Column Height: 26.35 ft
 Total Well Penetration Depth: 28. ft Screen Length: 16. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 80.18 ft/day Le = 7.402 ft

Prepared by: CLB Date: 6-20-08
 Checked by: WJL Date: 6-20-08



OW-735 U RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-735 U
 Test Date: 5/15/2008

AQUIFER DATA

Saturated Thickness: 26.35 ft

WELL DATA (OW-735 U)

Initial Displacement: 10.05 ft Static Water Column Height: 26.35 ft
 Total Well Penetration Depth: 28 ft Screen Length: 16 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

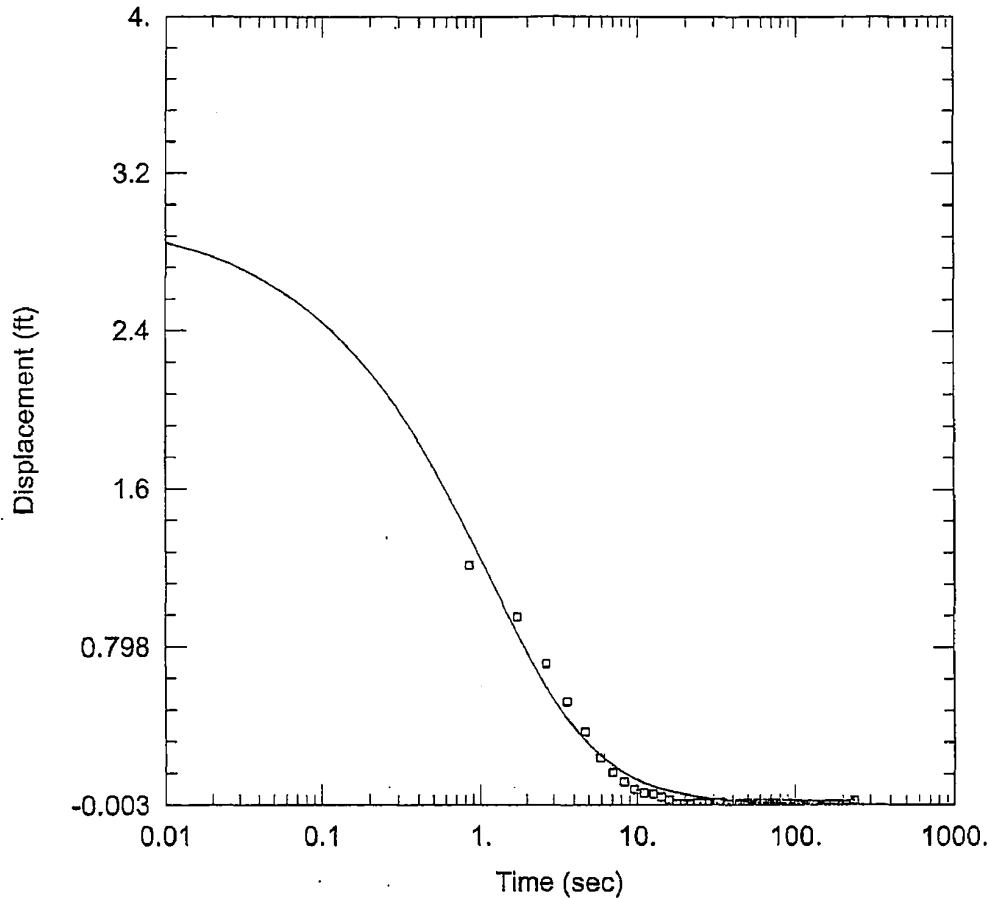
Aquifer Model: Unconfined Solution Method: KGS Model
 $K_r = \underline{70.7 \text{ ft/day}}$ $S_s = \underline{2.291E-10 \text{ ft}^{-1}}$
 $K_z/K_r = \underline{1}$



SLUG TEST REPORT

Project Name: <u>TPCOL</u>	Project Number:	Page <u>1</u> of <u>1</u>
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>	
Location: <u>OW-735L</u>	MACTEC Rep: <u>Kim Chedko Smith</u>	Date: <u>05/13/08</u>
UNITS		
Length	Feet	
Time	Minutes	
Well Data	Final stickup = 3.58'	
Static Water Level	<u>2.97'</u> feet from <u>TGC</u>	
Total Well Depth	<u>111.08'</u> <u>108.15'</u> feet from <u>J.S. TGC</u>	
Static Water Column Height (H)	<u>108.71'</u> <u>105.13'</u> feet <u>K/S</u> <u>8-5-08</u>	
Observed Initial Displacement (H ₀)	Background <u>5-13-08</u>	Falling Head
	NA	Rising Head
Saturated Thickness (b)	feet	
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1	
Depth to Top of Well Screen (d)	<u>96.9'</u>	
Length of Well Screen (L)	<u>10</u> feet	
Radius of Well Casing (rc)	0.083 feet	
Radius of Screen (rw)	0.083 feet	
Radius of Probe (req)		
Radius of Boring (rsk)-Skin Effect	0.083 feet	
Probe Serial Number	<u>Sn: 103345</u> mini troll transducer probe calibrated <u>4/29/08</u> Exp. <u>4/29/09</u>	
Slug Data #2		
Length	<u>65.438 inches</u>	
weight	<u>8.811 lbs.</u>	
Diameter	<u>1.662 inches</u>	
Slug Test File	Background	Falling
File Name	<u>OW-735LBG</u>	<u>OW-735LF</u>
Start Time	<u>16:48:56</u>	<u>17:02:43</u>
End Time	<u>16:58:22</u>	<u>17:06:57</u>
Notes	<u>Extended casing to 5.58' above J.S. to</u> <u>run on target IS K/S 5/13/08.</u>	

Rev 0



OW-735 L FALLING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-735 L
 Test Date: 5-15-08

AQUIFER DATA

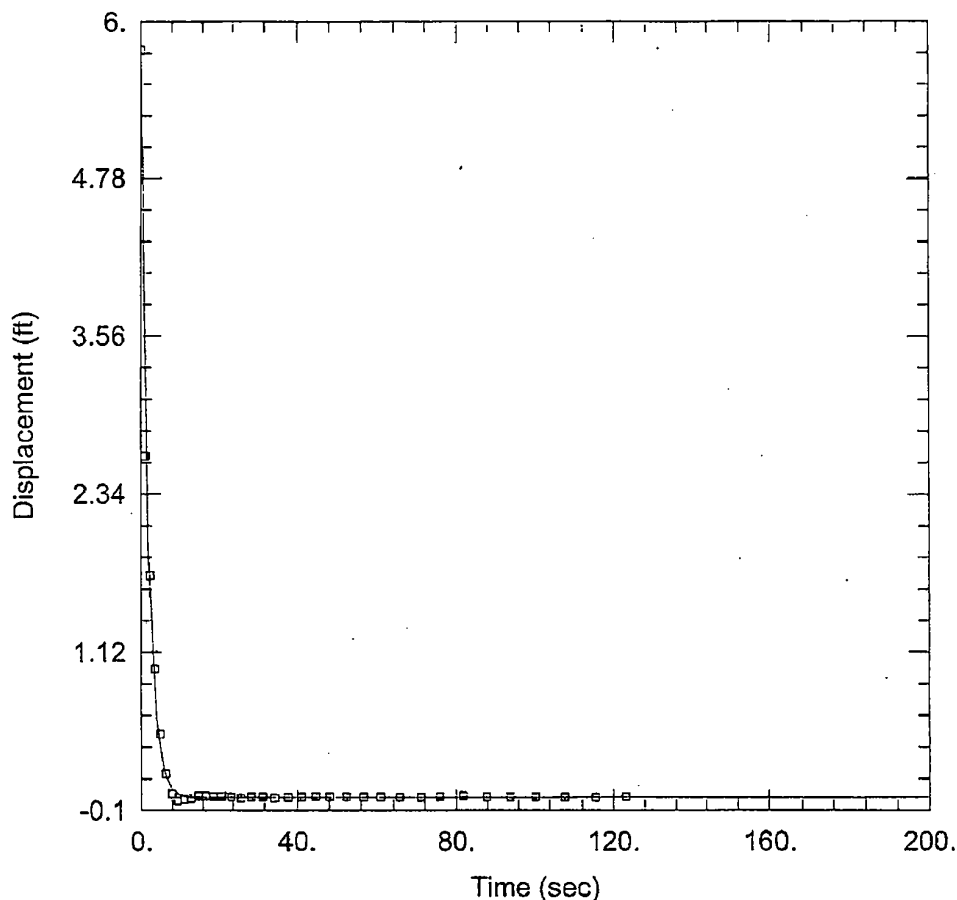
Saturated Thickness: 87. ft

WELL DATA (OW-735 L)

Initial Displacement: 3.004 ft Static Water Column Height: 110.4 ft
 Total Well Penetration Depth: 110. ft Screen Length: 17.7 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: KGS Model
 $K_r = 20.57 \text{ ft/day}$ $S_s = 0.0003506 \text{ ft}^{-1}$
 $K_z/K_r = 1.$



OW-735 L RISING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-735 L
 Test Date: 5-20-08

AQUIFER DATA

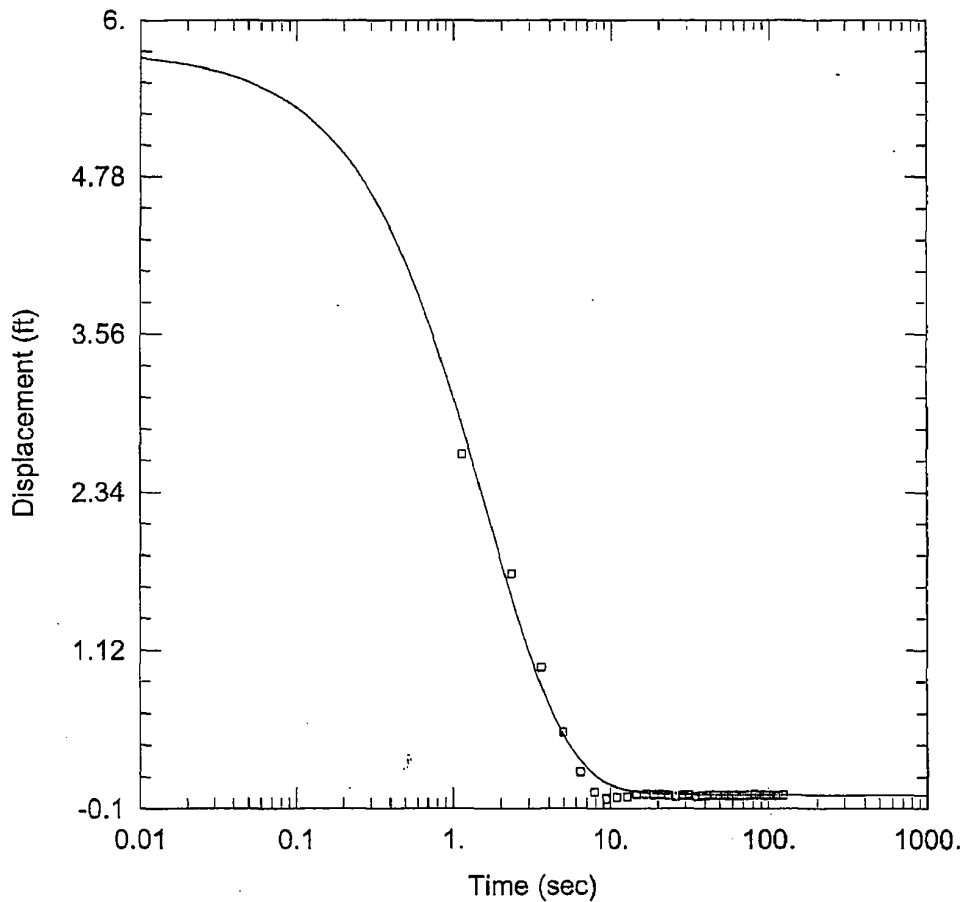
Saturated Thickness: 87. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-735 L)

Initial Displacement: 5.779 ft Static Water Column Height: 110.4 ft
 Total Well Penetration Depth: 110. ft Screen Length: 17.7 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 42.01 ft/day Le = 0.1 ft



OW-735 L RISING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-735 L
 Test Date: 5-20-08

AQUIFER DATA

Saturated Thickness: 87. ft

WELL DATA (OW-735 L)

Initial Displacement: 5.779 ft Static Water Column Height: 110.4 ft
 Total Well Penetration Depth: 110. ft Screen Length: 17.7 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

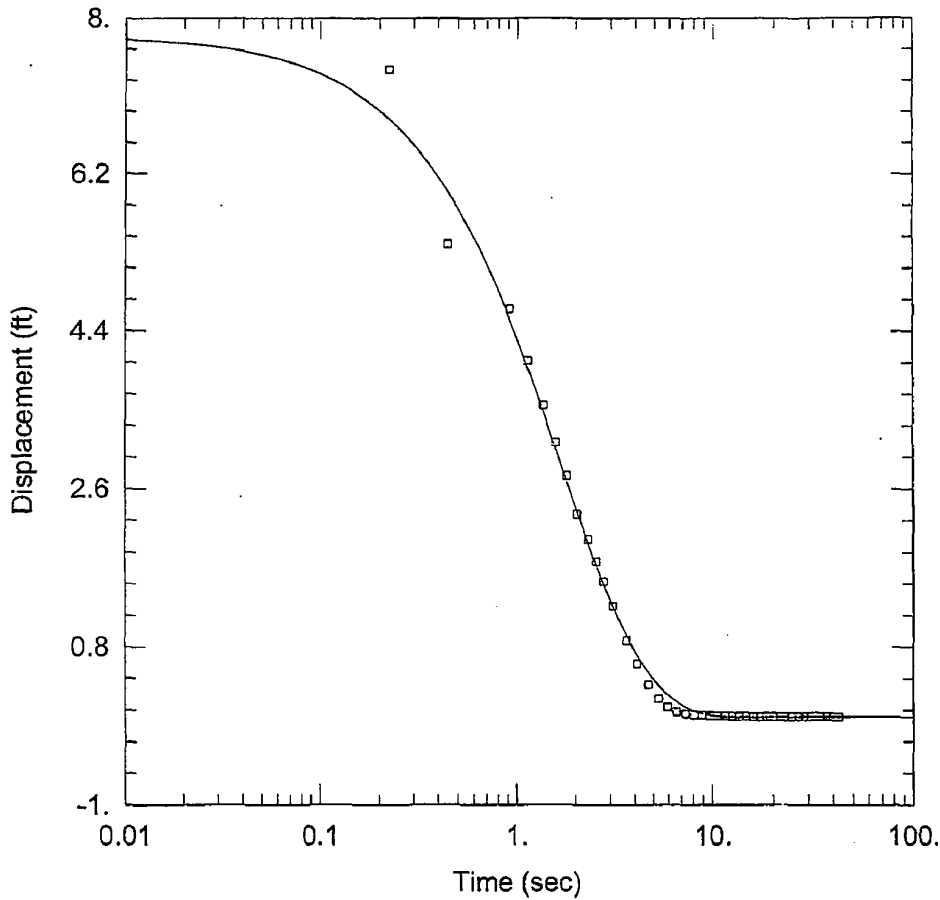
SOLUTION

Aquifer Model: Confined Solution Method: KGS Model
 $K_r = 32.05 \text{ ft/day}$ $S_s = 2.446\text{E-}6 \text{ ft}^{-1}$
 $K_z/K_r = 1.$



SLUG TEST REPORT

Project Name: <u>TPCOL</u>	Project Number: <u>6408-07-1950</u>		Page <u>1</u> of <u>1</u>
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-802U</u>	MACTEC Rep: <u>Kim Chels-Smith</u>	Date: <u>05/20/08</u>	
UNITS			
Length	Feet		
Time	Minutes		
Well Data	<u>Final stickup from g.s. = 3.53'</u>		
Static Water Level	<u>4.60' feet From TOC</u>		
Total Well Depth	<u>29.11' feet From TOC</u>		
Static Water Column Height (H)	feet		
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	NA		
Saturated Thickness (b)	feet		
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1		
Depth to Top of Well Screen (d)			
Length of Well Screen (L)	<u>10' feet</u>		
Radius of Well Casing (rc)	0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)			
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	<u>mini troll transducer probe calibrated 4/29/08</u> <u>Expires 4/29/09. Level troll 700</u> <u>SN: 118478 winsite:</u>		
Slug Data	<u>USED pneumatic slug to perform test.</u>		
Length			
Weight			
Diameter			
Slug Test File	Background	Falling	Rising
File Name	<u>OW-802UBG</u>	<u>NA</u>	<u>OW-802UR</u>
Start Time	<u>16:31:44</u>		<u>16:36:39</u>
End Time	<u>16:33:16</u>		<u>16:37:26</u>
Notes	<u>Key 5-20-08</u>		



Prepared by: NHB Date: 6-20-08
 Checked by: LW Date: 6-20-08

OW-802 U RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-802 U
 Test Date: 5/20/2008

AQUIFER DATA

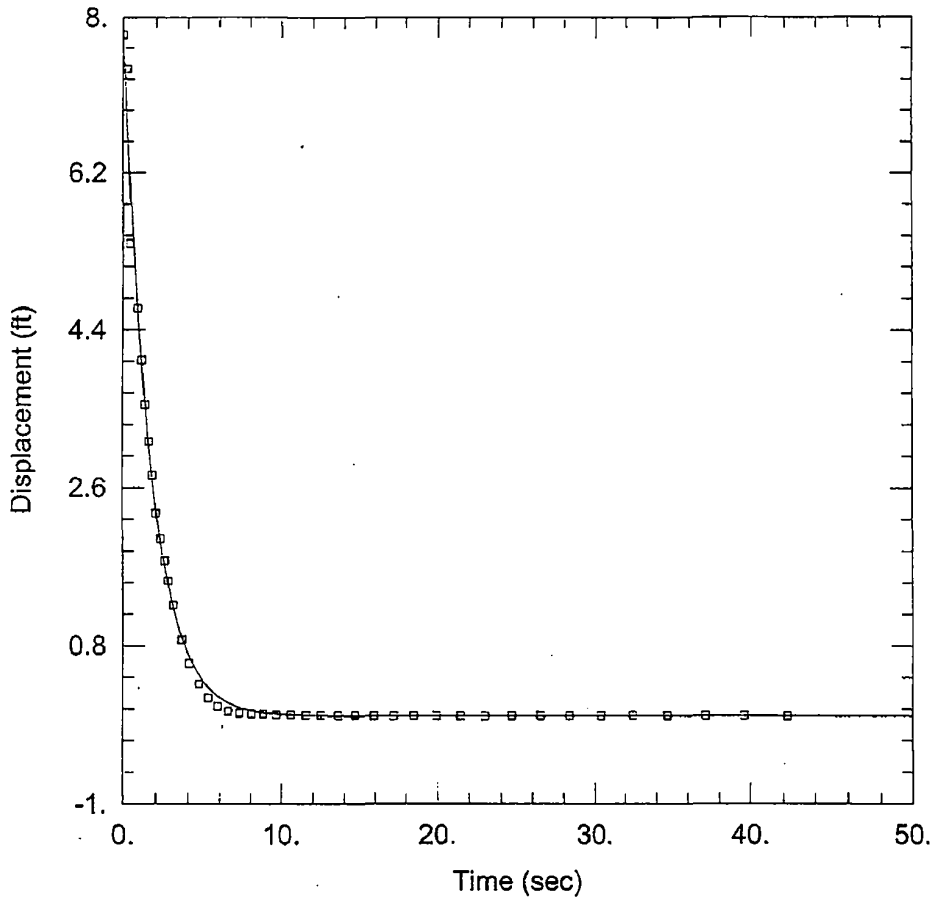
Saturated Thickness: 25.8 ft

WELL DATA (OW-802 U)

Initial Displacement: <u>7.799 ft</u>	Static Water Column Height: <u>25.8 ft</u>
Total Well Penetration Depth: <u>27. ft</u>	Screen Length: <u>17. ft</u>
Casing Radius: <u>0.083 ft</u>	Well Radius: <u>0.25 ft</u>

SOLUTION

Aquifer Model: <u>Unconfined</u>	Solution Method: <u>KGS Model</u>
$K_r = 41.06 \text{ ft/day}$	$S_s = 3.704E-12 \text{ ft}^{-1}$
$K_z/K_r = 1.$	



Prepared by: CHB Date: 6-20-08

Checked by: WJ Date: 6-10-08

OW-802 U RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-802 U
 Test Date: 5/20/2008

AQUIFER DATA

Saturated Thickness: 25.8 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-802 U)

Initial Displacement: 7.799 ft Static Water Column Height: 25.8 ft
 Total Well Penetration Depth: 27. ft Screen Length: 17. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

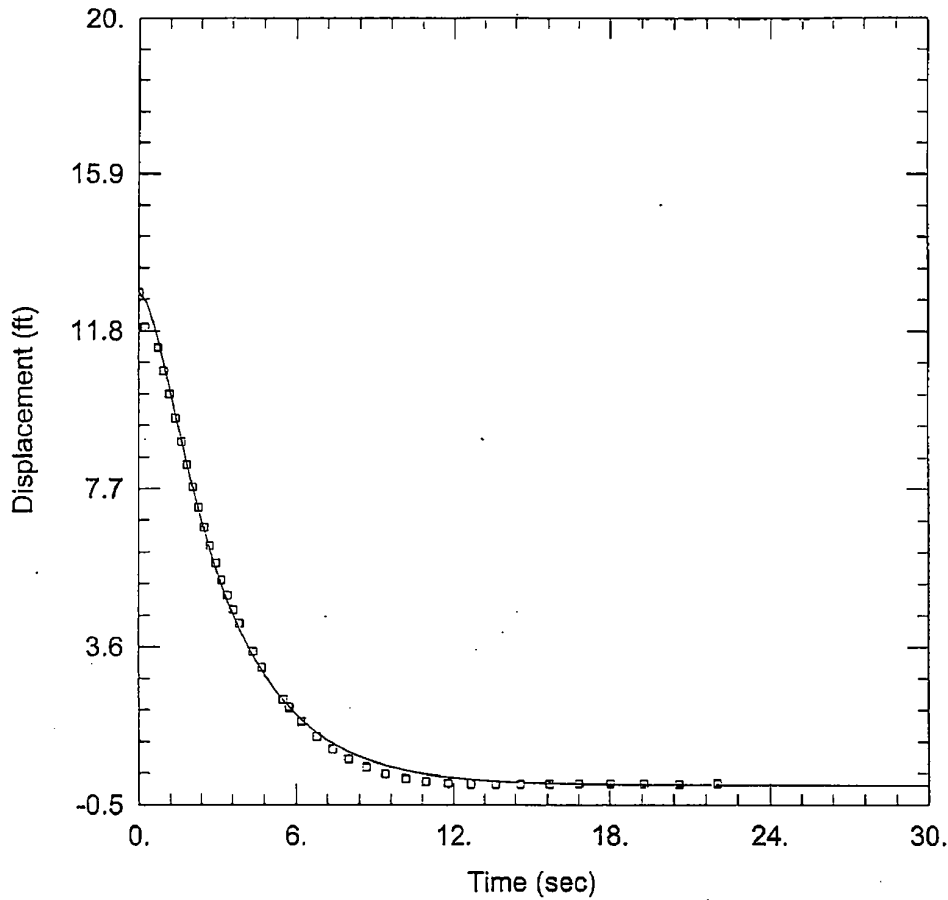
Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 31.9 ft/day Le = 1.8 ft



SLUG TEST REPORT

Project Name: <u>TPCD</u>	Project Number: <u>6468-07-1950</u>		Page <u>1</u> of <u>1</u>
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW 802L</u>	MACTEC Rep: <u>Kim Chels Smith</u>	Date: <u>05/20/08</u>	
UNITS			
Length	Feet		
Time	Minutes		
Well Data	<u>Final stickup = 3.45'</u>		
Static Water Level	<u>3.06'</u> feet <u>From TOC</u>		
Total Well Depth	<u>112.35'</u> feet <u>From TOC</u>		
Static Water Column Height (H)	feet		
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	NA		
Saturated Thickness (b)	feet		
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1		
Depth to Top of Well Screen (d)			
Length of Well Screen (L)	<u>10'</u> feet		
Radius of Well Casing (rc)	0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)			
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	<u>mini trail transducer calibrated 4/29/08, Exp. 4/29/09</u> <u>SN: 118478 level trail @ 700</u> <u>Winstar</u>		
Slug Data	<u>Used pneumatic slug to perform test.</u>		
Length			
Weight			
Diameter			
Slug Test File	Background	Falling	Rising
File Name	<u>OW 802L BG</u>	<u>NA</u>	<u>OW 802LR</u>
Start Time	<u>8:26:08</u>		<u>17:15:19</u>
End Time			<u>17:15:45</u>
Notes			

Prepared by: CHB Date: 6-20-08
 Checked by: WBL Date: 6-30-08



OW-802 L RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-802 L
 Test Date: 5/20/2008

AQUIFER DATA

Saturated Thickness: 88. ft Anisotropy Ratio (Kz/Kr): 1.

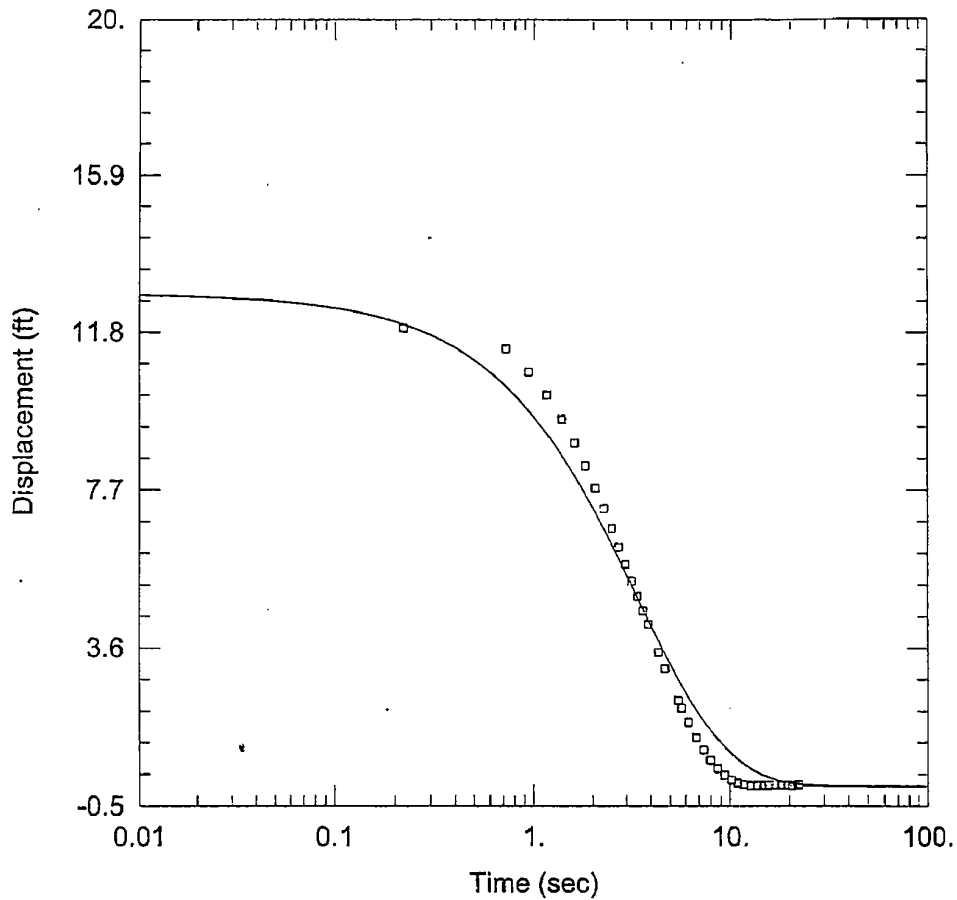
WELL DATA (OW-802 L)

Initial Displacement: 12.8 ft Static Water Column Height: 110.2 ft
 Total Well Penetration Depth: 110. ft Screen Length: 17. ft
 Casing Radius: 0.083 ft Well Radius: 0.21 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 23.28 ft/day Le = 58.98 ft

Prepared by: CLB Date: 6-20-08
 Checked by: WGL Date: 6-20-08



OW-802 L RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-802 L
 Test Date: 5/20/2008

AQUIFER DATA

Saturated Thickness: 88 ft

WELL DATA (OW-802 L)

Initial Displacement: 12.8 ft Static Water Column Height: 110.2 ft
 Total Well Penetration Depth: 110 ft Screen Length: 17 ft
 Casing Radius: 0.083 ft Well Radius: 0.21 ft

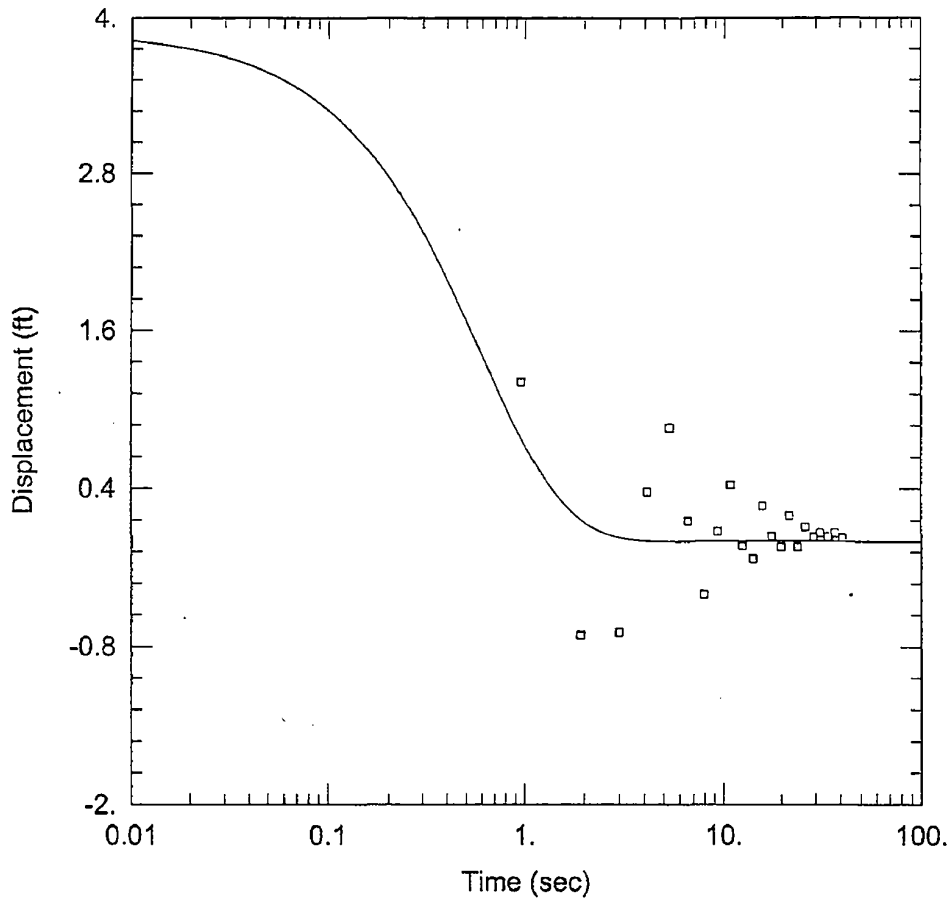
SOLUTION

Aquifer Model: Confined Solution Method: KGS Model
 $K_r = 30.99$ ft/day $S_s = 1.26E-20$ ft⁻¹
 $K_z/K_r = 1$



SLUG TEST REPORT

Project Name: Tukey Point COL	6468071950	Page 1 of 1
Client: Bechtel	Contractor: MACTEC	OW-805U
Location: Homestead, FL	MACTEC Rep: <u>Kim Chaff-Smith</u>	Date: <u>06/06/08</u>
UNITS		
Length	Feet	
Time	Minutes	
Well Data	Stickup = 3.1' from g.s.	
Static Water Level	3.00' feet from TOC	
Total Well Depth	33.85' feet from TOC	
Static Water Column Height (H)	feet	
Observed Infiltration Displacement (H ₀)	Background	Falling Head
	NA	
Saturated Thickness (b)	feet 15-28 screen	
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1 13 Top surf	
Depth to Top of Well Screen (d)		
Length of Well Screen (L)	10 feet	
Radius of Well Casing (rc)	0.083 feet	
Radius of Screen (rw)	0.083 feet	
Radius of Probe (req)		
Radius of Boring (rsk) Skin Effect	0.083 feet	
Probe Serial Number	mini Troll Transducer probe calibrated 4/29/08 Expires 4/29/09 level troll (P) 700 SN: 118478 winsitu	
Slug Data	Used pneumatic slug to perform test	
Length		
Weight		
Diameter		
Slug Test File	Background	Falling
	OW-805UBG	NA
File Name	OW-805UR	
Start Time	03:35:15	03:48:34
End Time	03:37:21	03:50:05
Notes	2nd rising test OW-805UR 03:54:32 03:55:29 KX 6-08	
Rev 0		



Prepared by: CHP Date: 6-20-08

Checked by: int Date: 6-20-08

OW-805 U RISING HEAD TEST 6-06-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-805 U
 Test Date: 6/06/2008

AQUIFER DATA

Saturated Thickness: 32.3 ft

WELL DATA (OW-805 U)

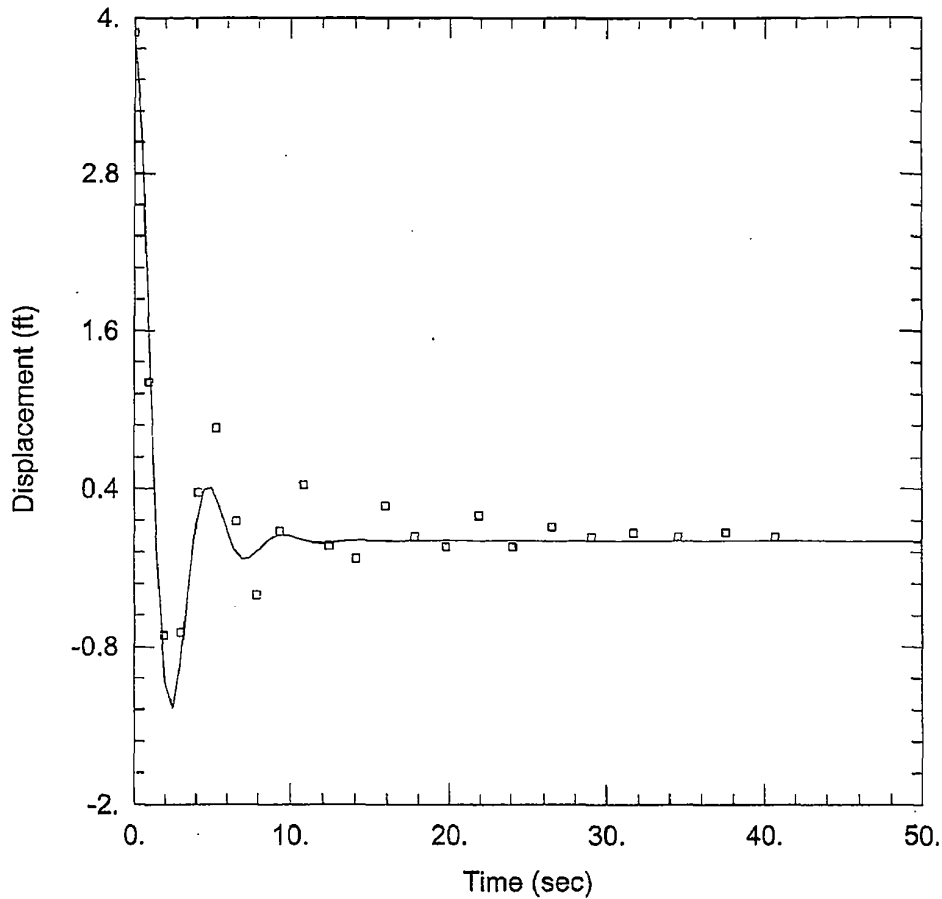
Initial Displacement: 3.886 ft Static Water Column Height: 29.8 ft
 Total Well Penetration Depth: 30. ft Screen Length: 17. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: KGS Model
 $K_r = 101.7 \text{ ft/day}$ $S_s = 3.077E-12 \text{ ft}^{-1}$
 $K_z/K_r = 1.$

Prepared by: CHL Date: 6-20-08

Checked by: WSL Date: 6-20-08



OW-805 U RISING HEAD TEST 6-06-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-805 U
 Test Date: 6/06/2008

AQUIFER DATA

Saturated Thickness: 32.3 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-805 U)

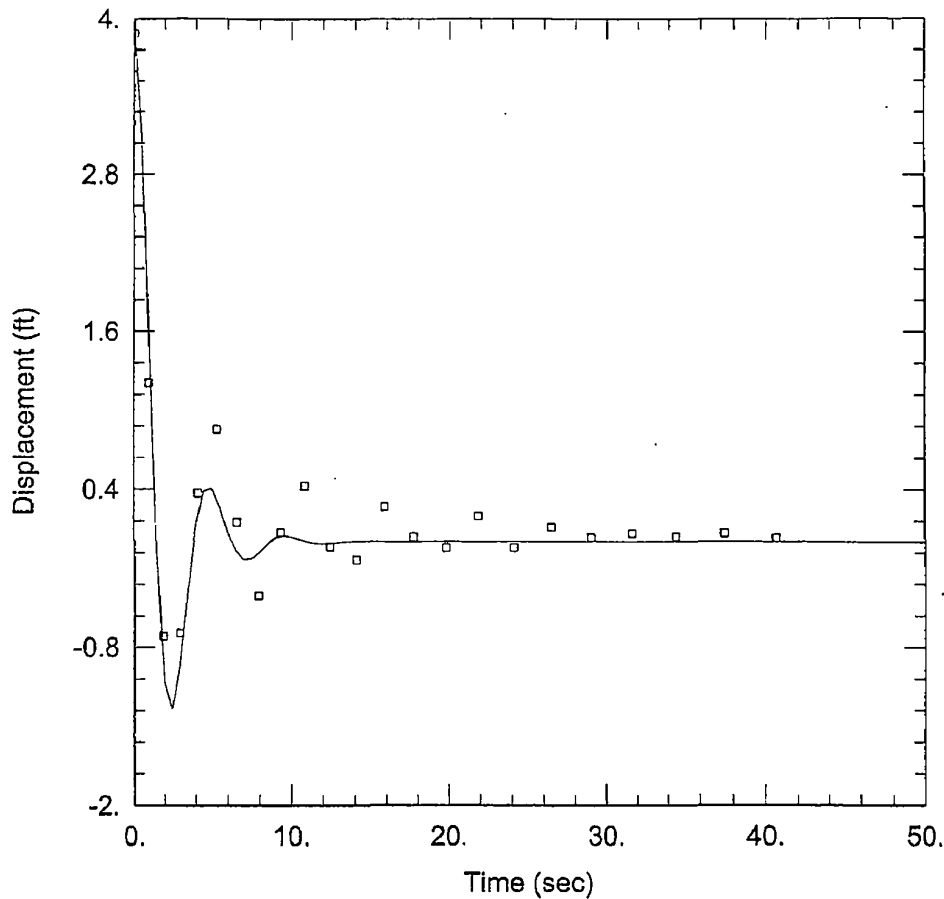
Initial Displacement: 3.886 ft Static Water Column Height: 29.8 ft
 Total Well Penetration Depth: 30. ft Screen Length: 17. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 136.4 ft/day Le = 16.61 ft

Prepared by: CLK Date: 6-20-08

Checked by: WV Date: 6-20-08



OW-805 U RISING HEAD TEST 6-06-08

PROJECT INFORMATION

Company: MACTEC
Client: Bechtel
Project: 6468-07-1950
Location: Turkey Point COL
Test Well: OW-805 U
Test Date: 6/06/2008

AQUIFER DATA

Saturated Thickness: 32.3 ft Anisotropy Ratio (Kz/Kr): 1

WELL DATA (OW-805 U)

Initial Displacement: 3.886 ft Static Water Column Height: 29.8 ft
Total Well Penetration Depth: 30 ft Screen Length: 17 ft
Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

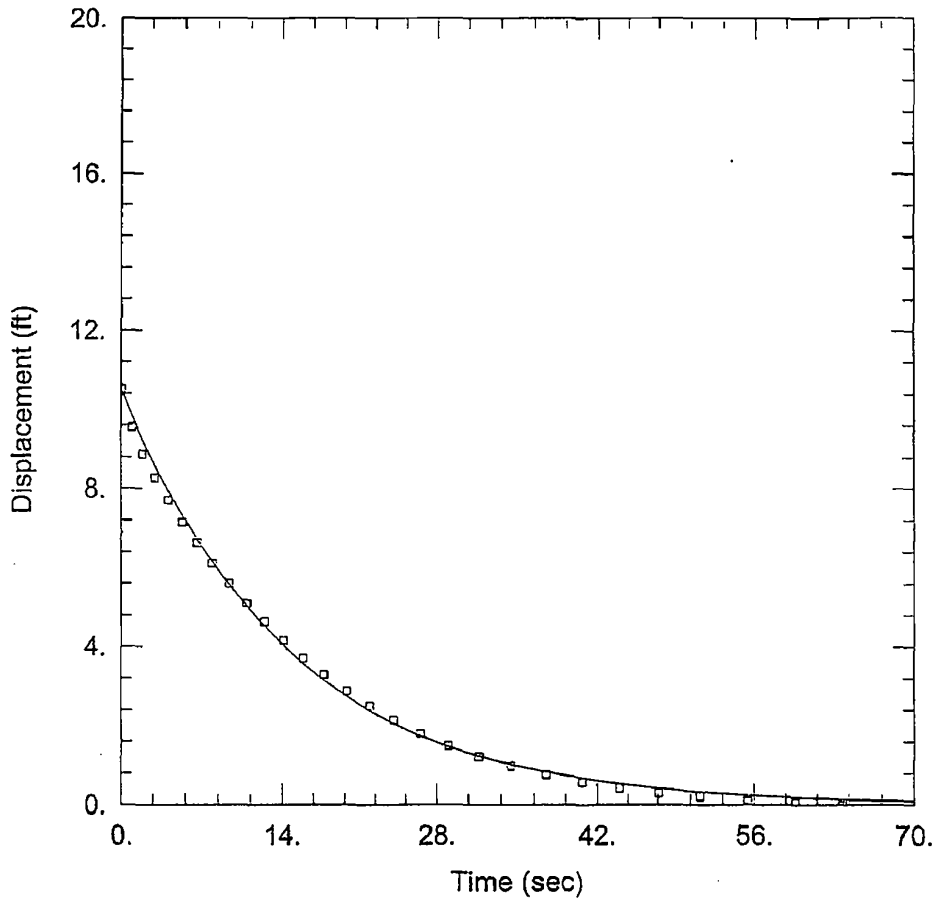
Aquifer Model: Unconfined Solution Method: Springer-Gelhar
K = 107.1 ft/day Le = 16.61 ft



SLUG TEST REPORT

Project Name: Tukey Point COL	8468071950	Page 1 of 1
Client: Bechtel	Contractor: MACTEC	OW-805L
Location: Homestead, FL	MACTEC Rep: <u>Kim Chalks Smith</u>	Date: <u>06/06/08</u>
UNITS		
Length	Feet	
Time	Minutes	
Well Data	Stickup = 2.9' From G.S.	
Static Water Level	3.19' feet	From TOC
Total Well Depth	97.9' feet	From TOC
Static Water Column Height (H)	feet	
Observed Initial Displacement (H ₀)	Background	Falling Head
	NA	
Saturated Thickness (b)	feet	Sand 80 - 92.9
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1	85-95
Depth to Top of Well Screen (d)		
Length of Well Screen (L)	10	feet
Radius of Well Casing (rc)	0.083 feet	
Radius of Screen (rw)	0.083 feet	
Radius of Probe (req)		
Radius of Boring (rsk) Skin Effect	0.083 feet	
Probe Serial Number	mini Troll transducer probe calibrated 4/29/08. Expires 4/29/09. level troll @ 700 SN: 118478 Winsitu	
Slug Data	Used pneumatic slug to perform test	
Length		
weight		
Diameter		
Slug Test File	Background	Falling
File Name	OW-805L-805L	NA
Start Time	03:35:15	04:16:39
End Time	03:37:21	04:17:43
Notes	04:09:39 04:10:42 2nd OW-805LR 04:24:09 04:25:29	
Rev 0		

Prepared by: CHS Date: 6-20-08
 Checked by: laser Date: 6-20-08



OW-805 L RISING HEAD TEST 6-06-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-805 L
 Test Date: 6/06/2008

AQUIFER DATA

Saturated Thickness: 67.5 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-805 L)

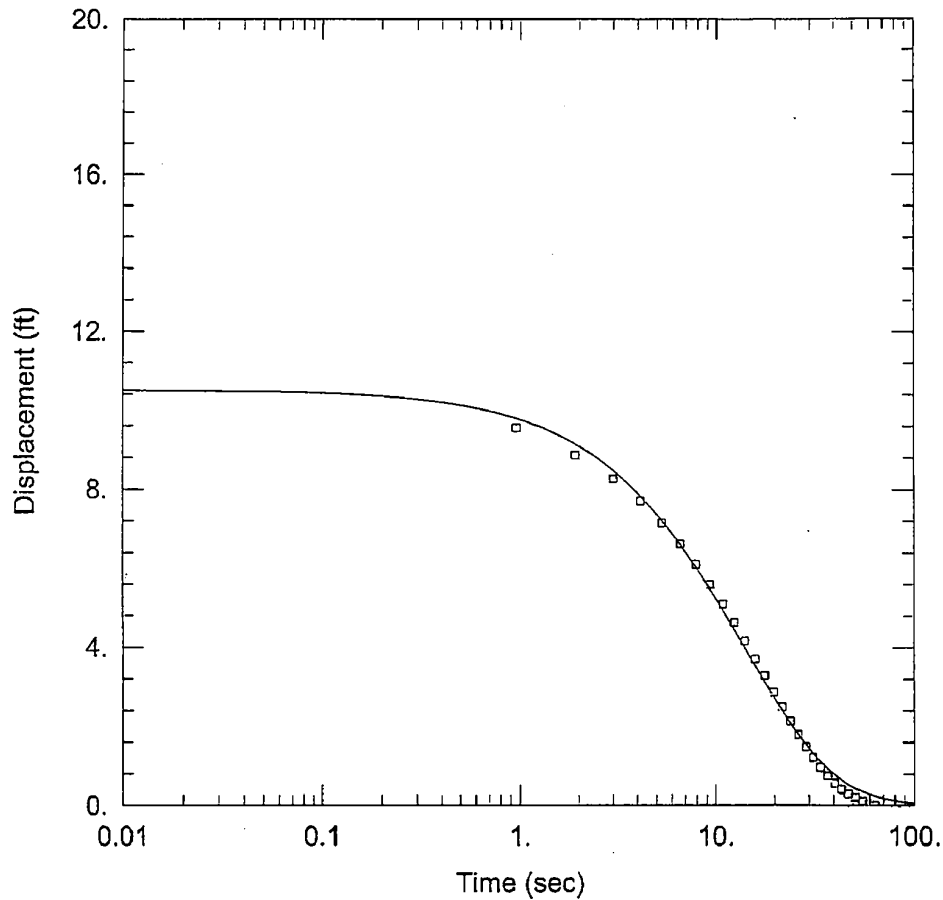
Initial Displacement: 10.51 ft Static Water Column Height: 97.51 ft
 Total Well Penetration Depth: 97. ft Screen Length: 17. ft
 Casing Radius: 0.083 ft Well Radius: 0.21 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 5.269 ft/day Le = 0.1 ft

Prepared by: CKB Date: 6-20-08

Checked by: WST Date: 6-20-08



OW-805 L RISING HEAD TEST 6-06-08

PROJECT INFORMATION

Company: MACTEC
Client: Bechtel
Project: 6468-07-1950
Location: Turkey Point COL
Test Well: OW-805 L
Test Date: 6/06/2008

AQUIFER DATA

Saturated Thickness: 67.5 ft

WELL DATA (OW-805 L)

Initial Displacement: 10.51 ft Static Water Column Height: 97.51 ft
Total Well Penetration Depth: 97 ft Screen Length: 17 ft
Casing Radius: 0.083 ft Well Radius: 0.21 ft

SOLUTION

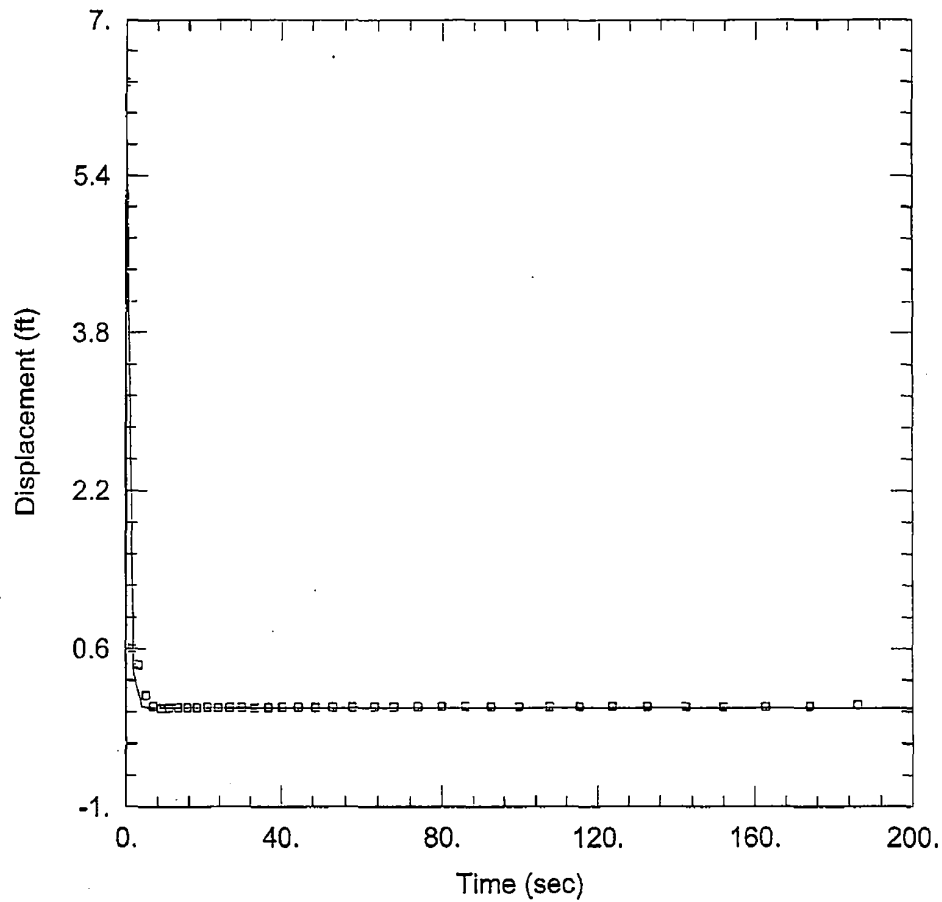
Aquifer Model: Confined Solution Method: KGS Model
Kr = 5.936 ft/day Ss = 1.481E-12 ft⁻¹
Kz/Kr = 1



SLUG TEST REPORT

Project Name: <u>TP COL</u>	Project Number:	Page	of
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-809U</u>	MACTEC Rep: <u>Kevin Charles Smith</u>	Date: <u>05/15/08</u>	
UNITS			
Length	Feet		
Time	Minutes		
Well Data	Final Sluckup = 3.83'		
Static Water Level	4.68' feet From TOC		
Total Well Depth	29.71' feet From TOC		
Static Water Column Height (H)	25.03' feet From G.S.		
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	NA		
Saturated Thickness (b)	feet		
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1		
Depth to Top of Well Screen (d)			
Length of Well Screen (L)	10' feet		
Radius of Well Casing (rc)	0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)			
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	Mini Trill transducer calibrated 4/29/08, Exp 4/29/09.		
Sn: <u>103345</u>			
Slug Data <u>Slug #2</u>			
Length	65.438 inches		
weight	8.811 lbs.		
Diameter	1.662 inches		
Slug Test File	Background	Falling	Rising
	File Name	<u>OW-809UBG</u>	<u>OW-809UF</u>
Start Time	<u>13:22:17</u>	<u>13:38:04</u>	<u>13:54:56</u>
End Time	<u>13:34:53</u>	<u>13:48:40</u>	<u>14:10:44</u>
Notes	<u>no exten used on TOC</u> <u>Refr. OW-809UF @ 14:13:16 hrs.</u>		
Rev 0			

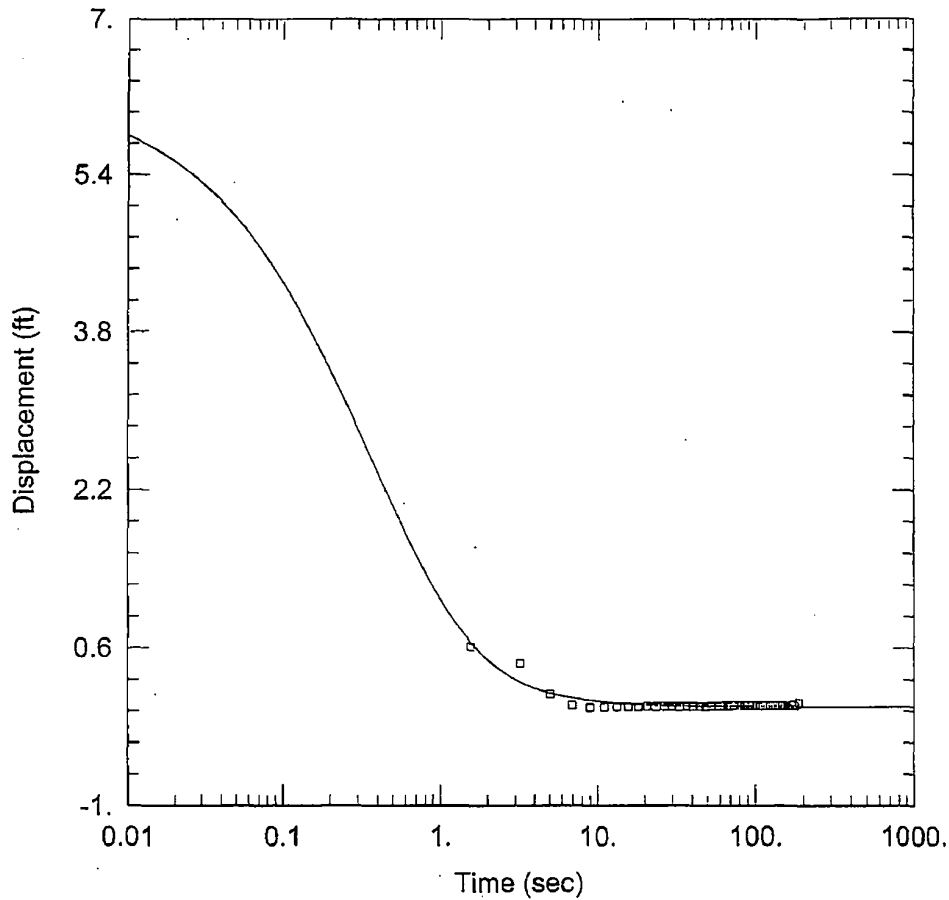
Prepared by: CHB Date: 6-20-08
 Checked by: WSU Date: 6-20-08



<u>OW-809 U FALLING HEAD TEST 5-15-08</u>	
<u>PROJECT INFORMATION</u>	
Company: <u>MACTEC</u> Client: <u>Bechtel</u> Project: <u>6468-07-1950</u> Location: <u>Turkey Point COL</u> Test Well: <u>OW-809 U</u> Test Date: <u>5/15/2008</u>	
<u>AQUIFER DATA</u>	
Saturated Thickness: <u>25.52</u> ft	Anisotropy Ratio (Kz/Kr): <u>1.</u>
<u>WELL DATA (OW-809 U)</u>	
Initial Displacement: <u>6.358</u> ft	Static Water Column Height: <u>25.52</u> ft
Total Well Penetration Depth: <u>27.</u> ft	Screen Length: <u>14.4</u> ft
Casing Radius: <u>0.083</u> ft	Well Radius: <u>0.25</u> ft
<u>SOLUTION</u>	
Aquifer Model: <u>Unconfined</u>	Solution Method: <u>Springer-Gelhar</u>
K = <u>91.2</u> ft/day	Le = <u>0.1</u> ft

Prepared by: CHB Date: 6-22-08

Checked by: WSE Date: 6-22-08



OW-809 U FALLING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: MACTEC
Client: Bechtel
Project: 6468-07-1950
Location: Turkey Point COL
Test Well: OW-809 U
Test Date: 5/15/2008

AQUIFER DATA

Saturated Thickness: 25.52 ft

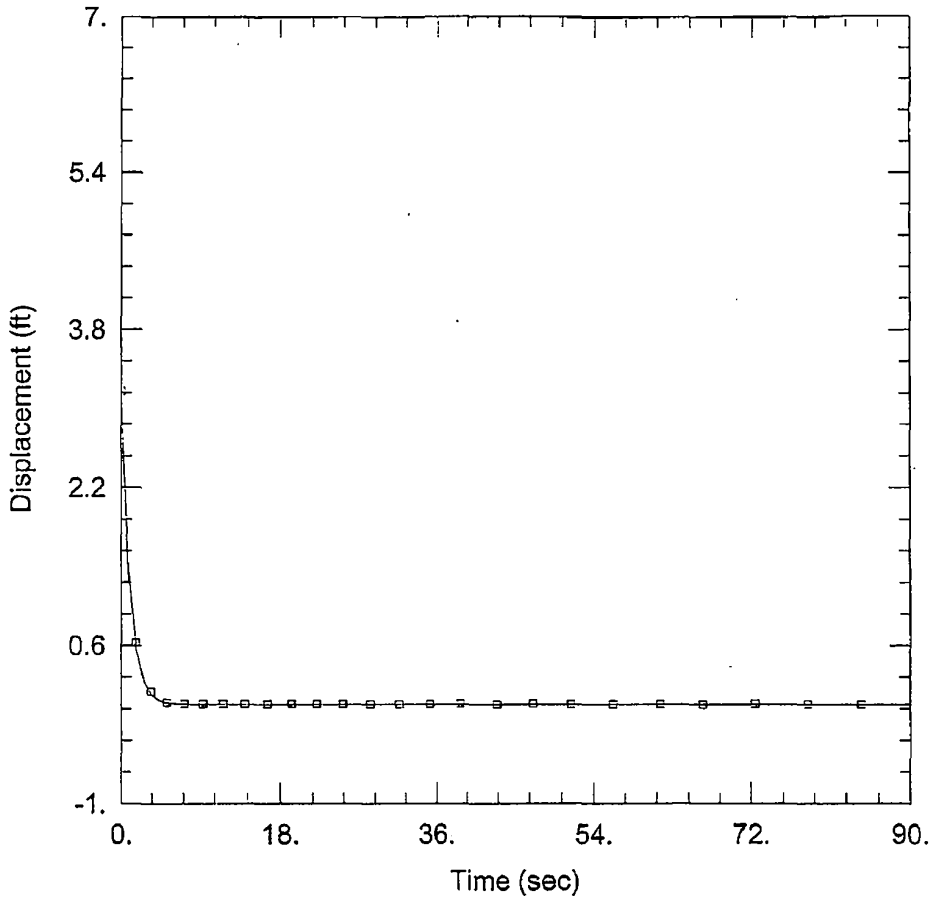
WELL DATA (OW-809 U)

Initial Displacement: 6.358 ft Static Water Column Height: 25.52 ft
Total Well Penetration Depth: 27. ft Screen Length: 14.4 ft
Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: KGS Model
 $K_r = 102.9 \text{ ft/day}$ $S_s = 0.0003374 \text{ ft}^{-1}$
 $K_z/K_r = 1.$

Prepared by: CRB Date: 6-20-08
 Checked by: WS Date: 6-20-08



OW-809 U RISING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-809 U
 Test Date: 5/15/2008

AQUIFER DATA

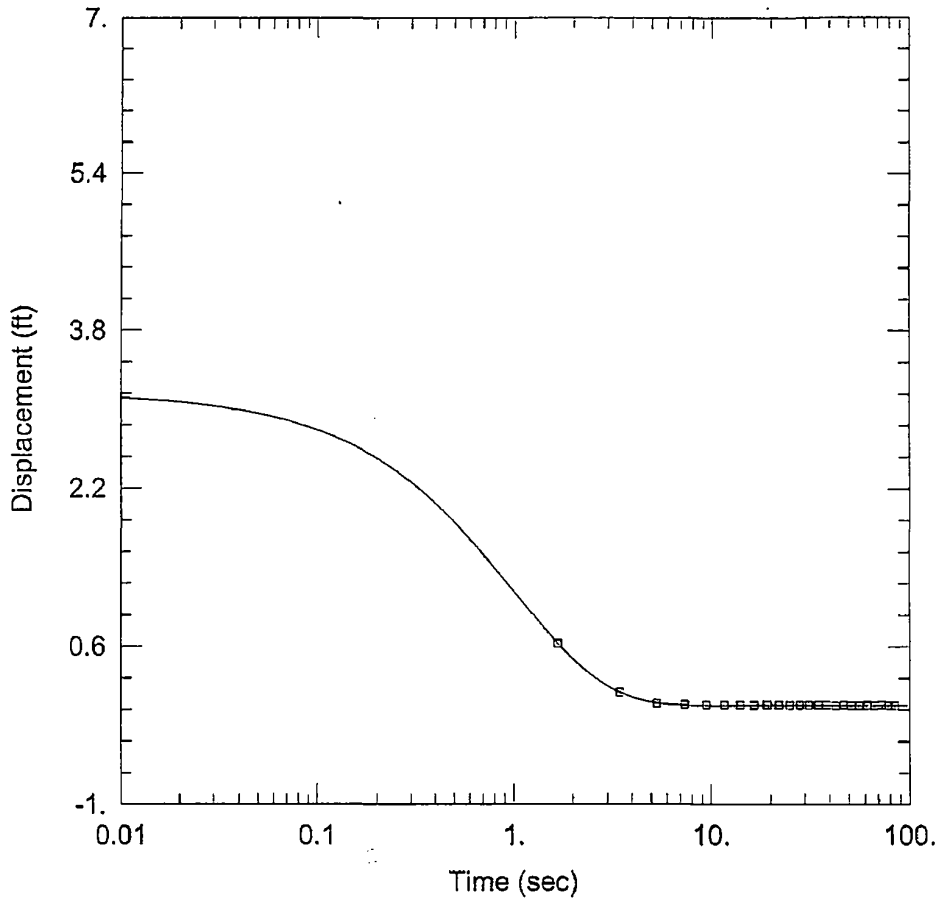
Saturated Thickness: 25.52 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-809 U)

Initial Displacement: 3.175 ft Static Water Column Height: 25.52 ft
 Total Well Penetration Depth: 27. ft Screen Length: 14.4 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 60.67 ft/day Le = 0.1 ft



Prepared by: CHB Date: 6-22-08
 Checked by: JSV Date: 6-26-08

OW-809 U RISING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-809 U
 Test Date: 5/15/2008

AQUIFER DATA

Saturated Thickness: 25.52 ft

WELL DATA (OW-809 U)

Initial Displacement: <u>3.175 ft</u>	Static Water Column Height: <u>25.52 ft</u>
Total Well Penetration Depth: <u>27. ft</u>	Screen Length: <u>14.4 ft</u>
Casing Radius: <u>0.083 ft</u>	Well Radius: <u>0.25 ft</u>

SOLUTION

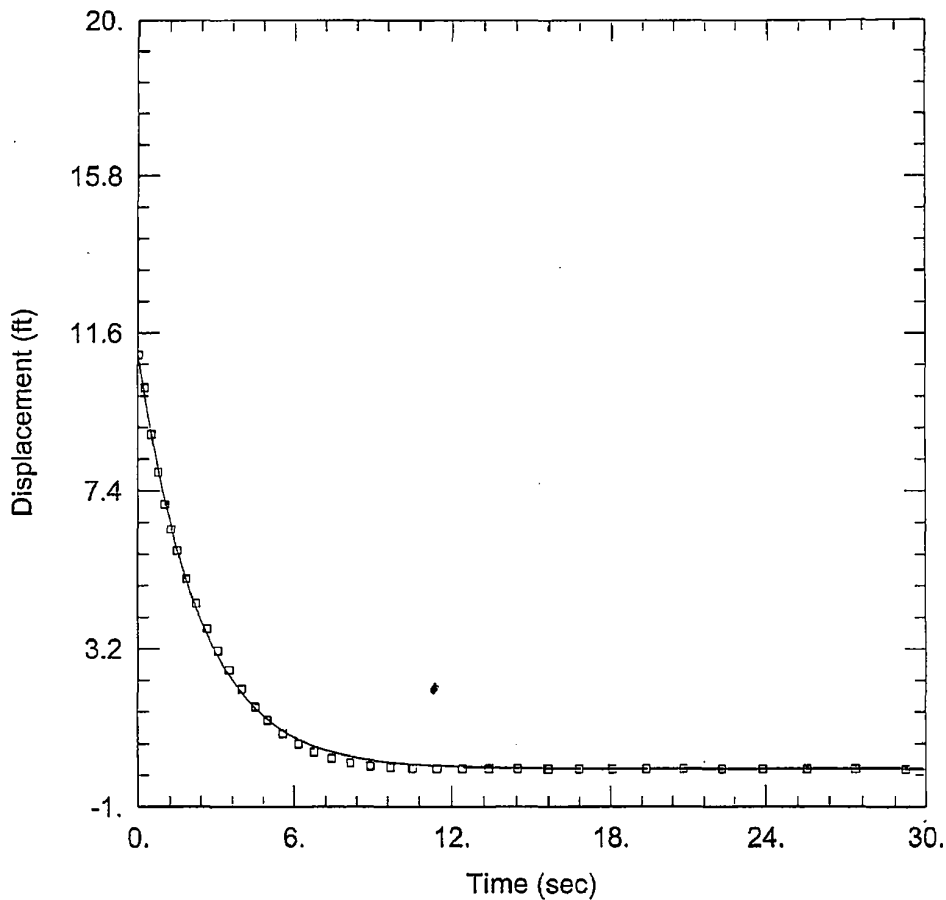
Aquifer Model: <u>Unconfined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>82.32 ft/day</u>	Ss = <u>2.789E-6 ft⁻¹</u>
Kz/Kr = <u>1.</u>	



SLUG TEST REPORT

Project Name: <u>TPCOL</u>	Project Number: <u>LAB-01450</u>	Page <u>1</u> of <u>1</u>
Client: <u>Bechtel</u>	Contractor: MACTEC	
Location: <u>OW-8094</u>	MACTEC Rep: <u>Kim Charles Smith</u>	Date: <u>05/20/08</u>
UNITS		
Length	Feet	
Time	Minutes	
Well Data	Final stickup = <u>3.83'</u>	
Static Water Level	<u>4.72'</u> feet From TOC	
Total Well Depth	<u>29.71'</u> feet From TOC	
Static Water Column Height (H)	feet	
Observed Initial Displacement (H ₀)	Background	Falling Head
	NA	
Saturated Thickness (b)	feet	
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1	
Depth to Top of Well Screen (d)		
Length of Well Screen (L)	<u>10'</u> feet	
Radius of Well Casing (rc)	0.083 feet	
Radius of Screen (rw)	0.083 feet	
Radius of Probe (req)		
Radius of Boring (rsk) Skin Effect	0.083 feet	
Probe Serial Number	mini troll Transducer probe calibrated <u>4/29/08</u> , EXP <u>4/29/09</u> <u>SN 118478</u> level troll @ <u>FOC</u> <u>Winsito</u>	
Slug Data	used pneumatic slug to perform test	
Length		
weight		
Diameter		
Slug Test File	Background	Falling
	File Name	NA
Start Time	<u>09:24:23</u>	<u>09:33:23</u>
End Time	<u>09:27:32</u>	<u>09:33:54</u>
Notes		

Rev 0



Prepared by: CHB Date: 6-20-08
 Checked by: WJ Date: 6-20-08

OW-809 U RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-809 U
 Test Date: 5/20/2008

AQUIFER DATA

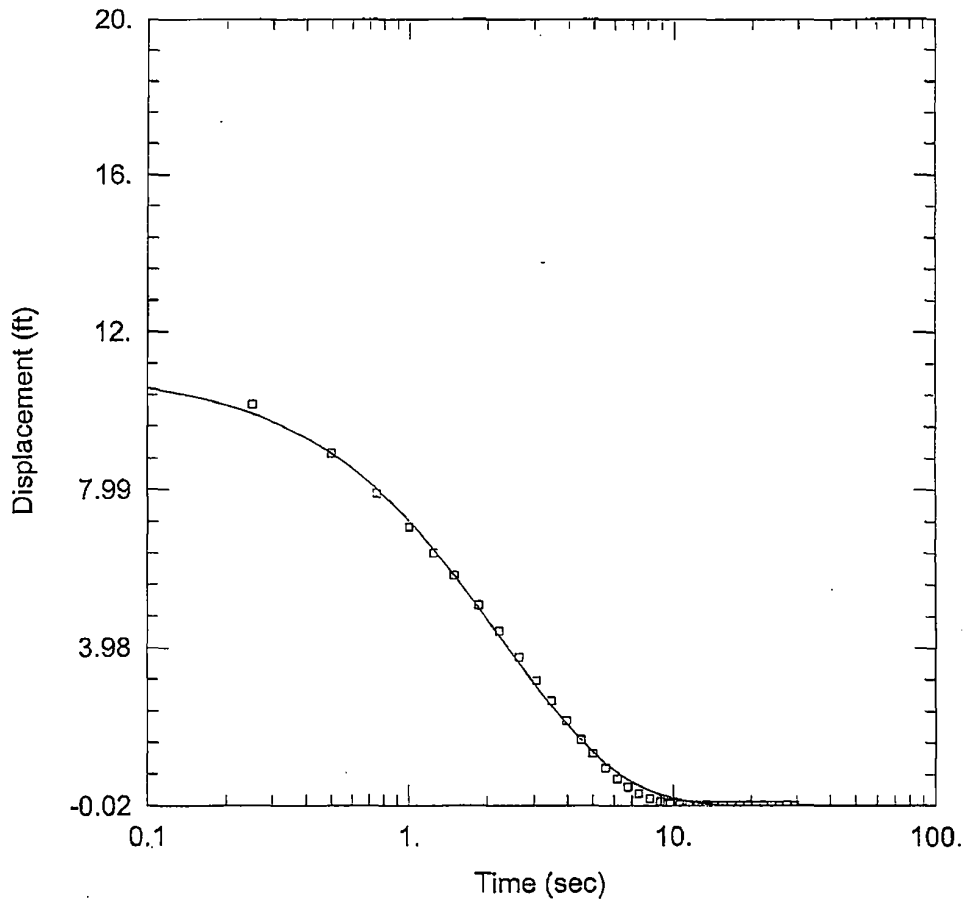
Saturated Thickness: 25.48 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-809 U)

Initial Displacement: 11.02 ft Static Water Column Height: 25.48 ft
 Total Well Penetration Depth: 27. ft Screen Length: 14.4 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 26.86 ft/day Le = 1.028 ft



Prepared by: CHS Date: 6-20-08
 Checked by: WR Date: 6-10-08

OW-809 U RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-809 U
 Test Date: 5/20/2008

AQUIFER DATA

Saturated Thickness: 25.48 ft

WELL DATA (OW-809 U)

Initial Displacement: 11.02 ft Static Water Column Height: 25.48 ft
 Total Well Penetration Depth: 27. ft Screen Length: 14.4 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

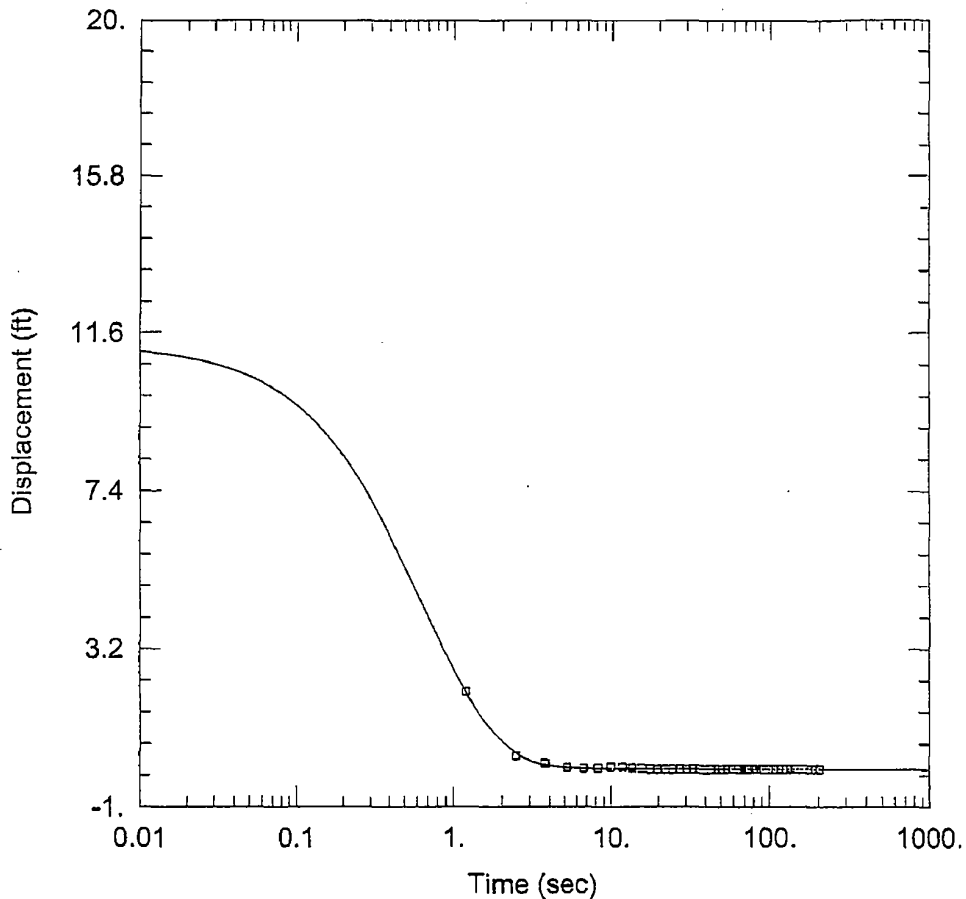
SOLUTION

Aquifer Model: Unconfined Solution Method: KGS Model
 $K_r = 35.94 \text{ ft/day}$ $S_s = 4.032E-19 \text{ ft}^{-1}$
 $K_z/K_r = 1.$



SLUG TEST REPORT

Project Name: <u>TP Col</u>	Project Number:	Page	of
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-809L</u>	MACTEC Rep: <u>Kim Chels Smith</u>	Date: <u>05/15/08</u>	
UNITS			
Length	Feet		
Time	Minutes		
Well Data:	<u>Final Stuckup = 3.75'</u>		
Static Water Level	<u>3.26 feet From TOC</u>		
Total Well Depth	<u>109.92 feet From TOC</u>		
Static Water Column Height (H)	<u>106.66 105.68 feet From G.S.</u>		
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	NA		
Saturated Thickness (b)	feet		
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1		
Depth to Top of Well Screen (d)	feet		
Length of Well Screen (L)	<u>10'</u> feet		
Radius of Well Casing (rc)	0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)	feet		
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	<u>Mini Toll Pical Calibrated 4/29/08. Exp. 4/29/09. Transducer</u>		
Slug Data	<u>Slug #2</u>		
Length	<u>65.438 inches</u>		
Weight	<u>8.811 lbs.</u>		
Diameter	<u>1.662 inches</u>		
Slug Test File	Background	Falling	Rising
	File Name	<u>OW-809LBG</u>	<u>OW-809LF</u>
Start Time	<u>12:36:37</u>	<u>12:46:05</u>	<u>12:59:45</u>
End Time	<u>12:42:56</u>	<u>12:56:41</u>	<u>13:13:03</u>
Notes	<u>Extended TOC TO 5181' above G.S.</u>		
Rev 0			



Prepared by: CHS Date: 6-20-08

Checked by: LS Date: 6-20-08

OW-809 L FALLING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-809 L
 Test Date: 5/15/2008

AQUIFER DATA

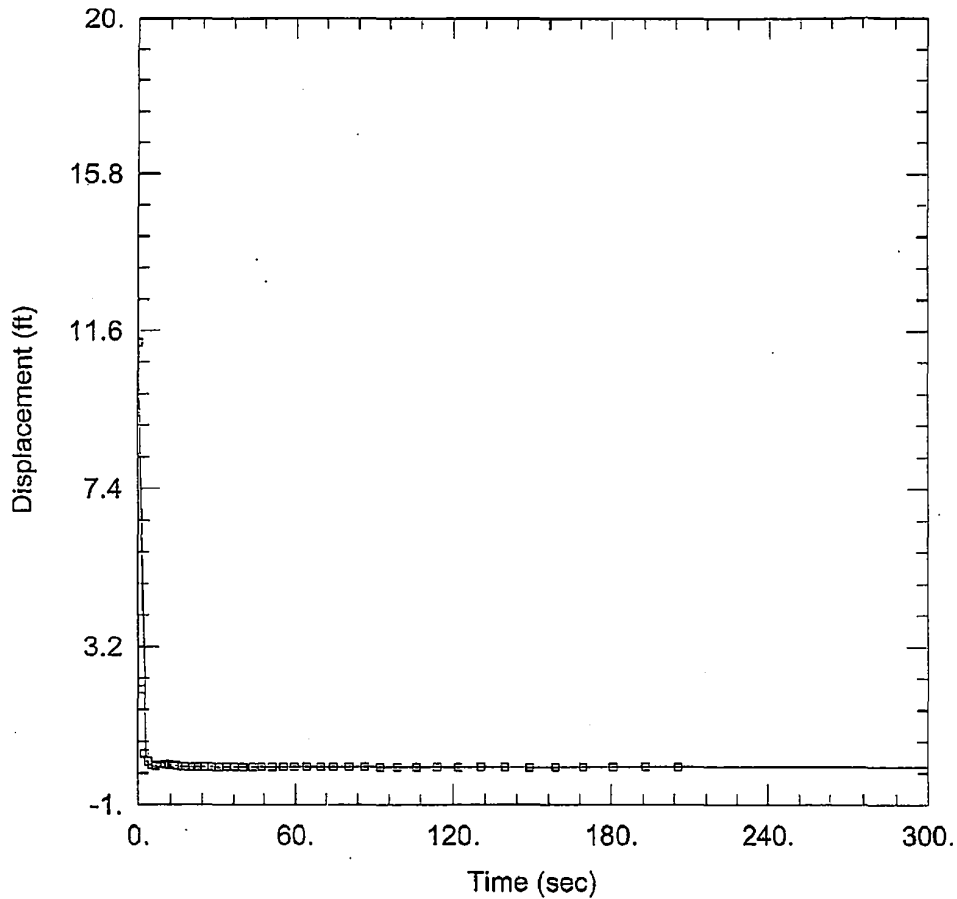
Saturated Thickness: 88. ft

WELL DATA (OW-809 L)

Initial Displacement: 11.29 ft Static Water Column Height: 110. ft
 Total Well Penetration Depth: 110. ft Screen Length: 19. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: KGS Model
 $K_r = 108.6 \text{ ft/day}$ $S_s = 4.263E-12 \text{ ft}^{-1}$
 $K_z/K_r = 1.$



Prepared by: CHB Date: 6-20-08
 Checked by: WJG Date: 6-20-08

OW-809 L FALLING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-809 L
 Test Date: 5/15/2008

AQUIFER DATA

Saturated Thickness: 88. ft Anisotropy Ratio (Kz/Kr): 1.

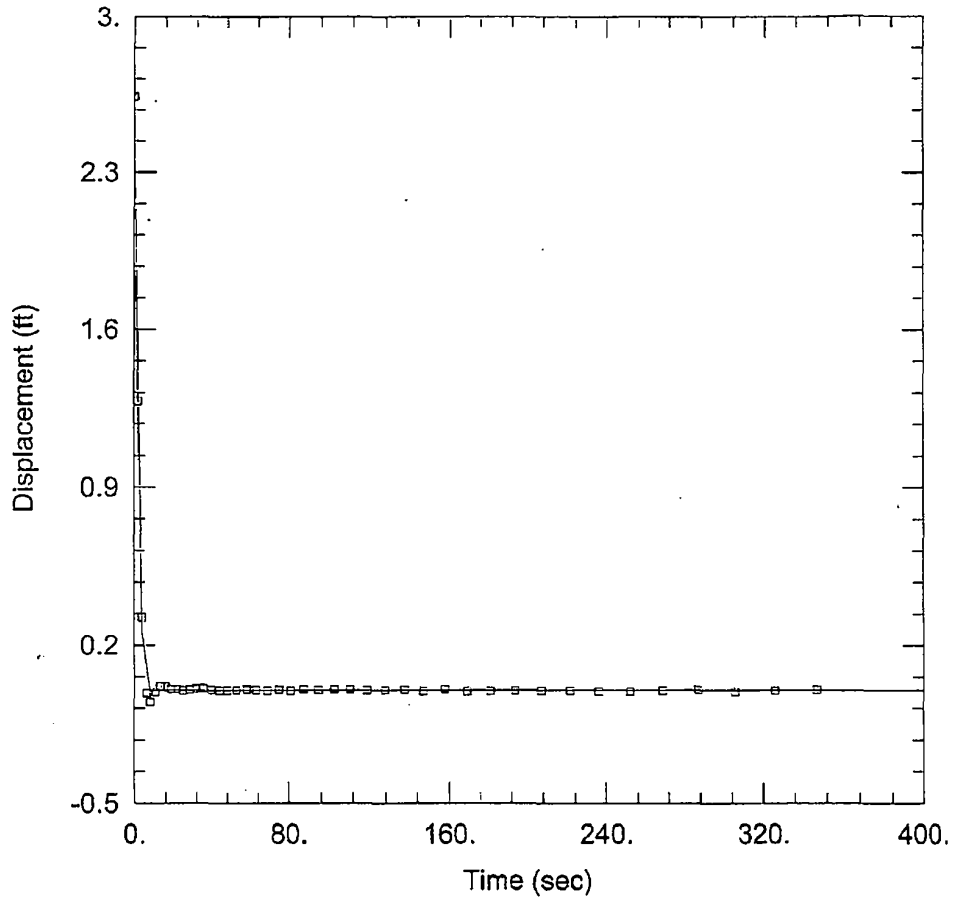
WELL DATA (OW-809 L)

Initial Displacement: 11.29 ft Static Water Column Height: 110. ft
 Total Well Penetration Depth: 110. ft Screen Length: 19. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 103.7 ft/day Le = 0.1 ft

Prepared by: CLH Date: 6-20-08
 Checked by: WJR Date: 6-20-08



OW-809 L RISING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-809 L
 Test Date: 5/15/2008

AQUIFER DATA

Saturated Thickness: 88. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-809 L)

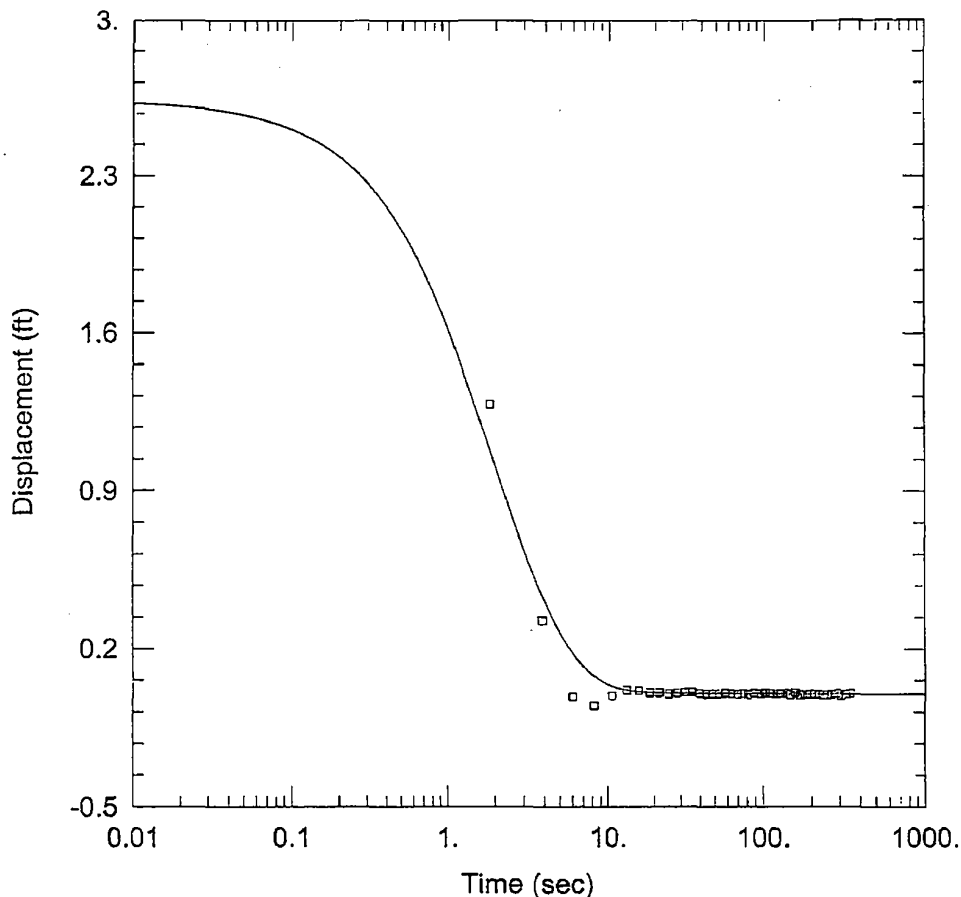
Initial Displacement: 2.64 ft Static Water Column Height: 110. ft
 Total Well Penetration Depth: 110. ft Screen Length: 19. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 33.43 ft/day Le = 42.49 ft

Prepared by: CLB Date: 6-20-08

Checked by: WJL Date: 6-20-08



OW-809 L RISING HEAD TEST 5-15-08

PROJECT INFORMATION

Company: MACTEC
Client: Bechtel
Project: 6468-07-1950
Location: Turkey Point COL
Test Well: OW-809 L
Test Date: 5/15/2008

AQUIFER DATA

Saturated Thickness: 88 ft

WELL DATA (OW-809 L)

Initial Displacement: 2.64 ft Static Water Column Height: 110 ft
Total Well Penetration Depth: 110 ft Screen Length: 19 ft
Casing Radius: 0.083 ft Well Radius: 0.25 ft

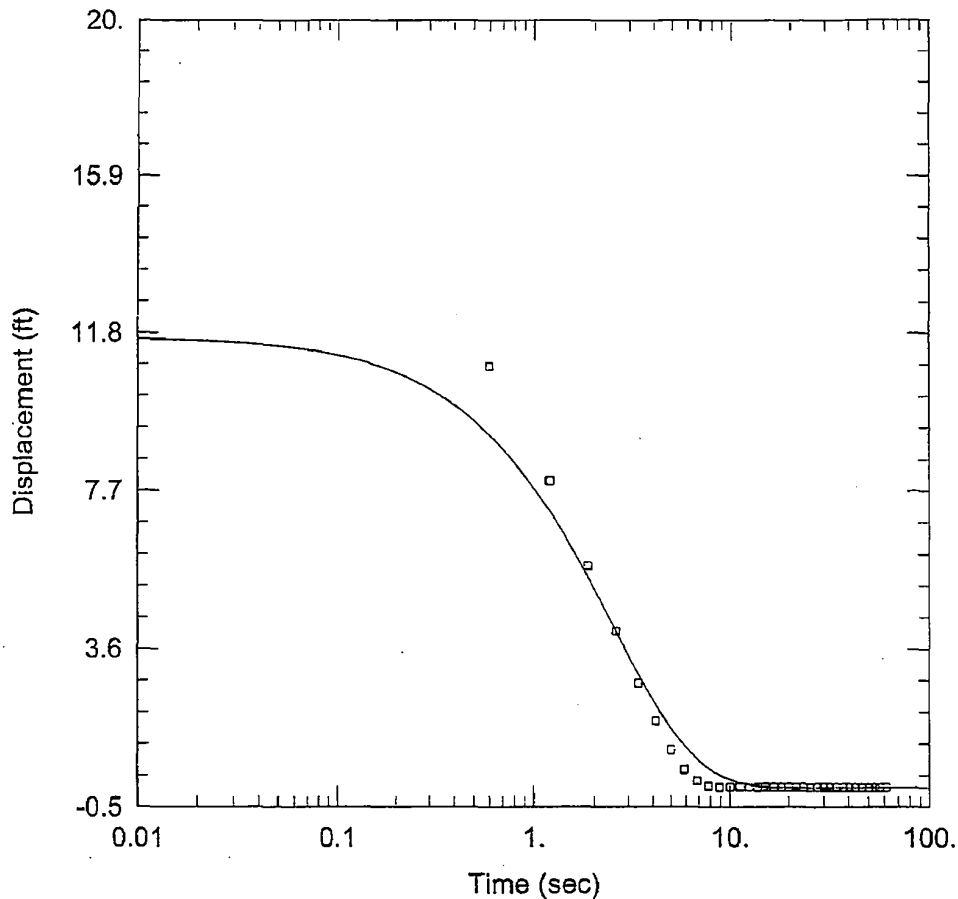
SOLUTION

Aquifer Model: Confined Solution Method: KGS Model
Kr = 36.57 ft/day Ss = 1.136E-12 ft⁻¹
Kz/Kr = 1



SLUG TEST REPORT

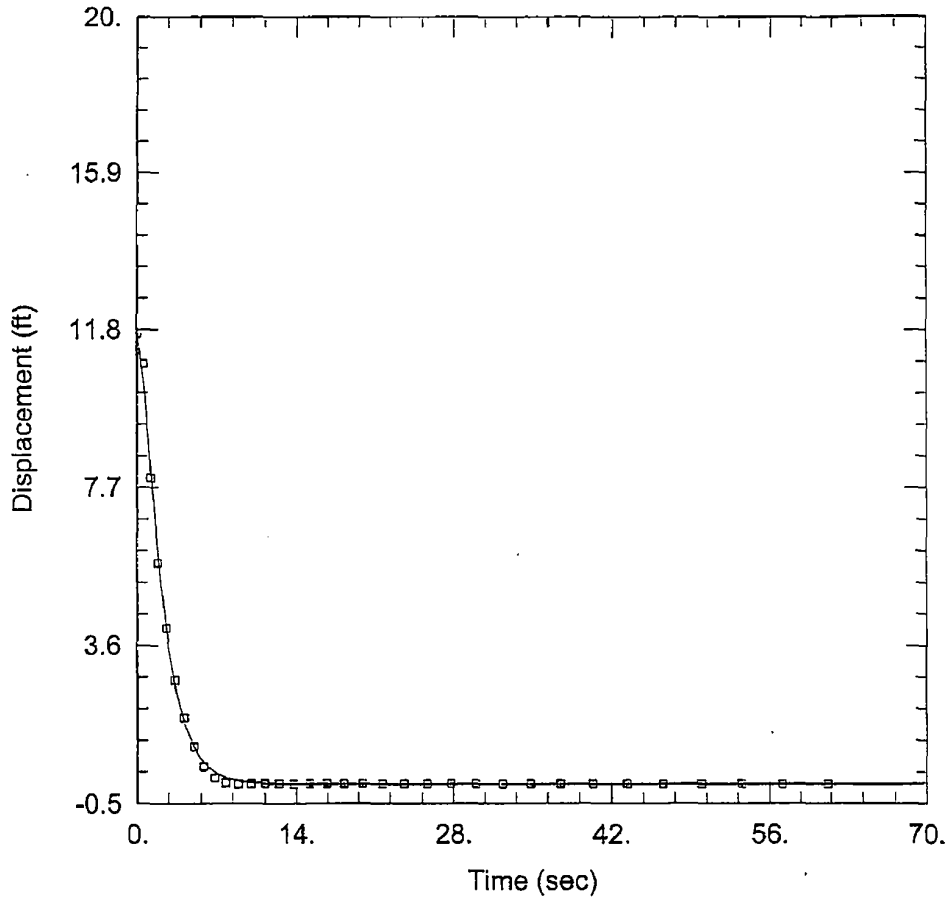
Project Name: <u>TPCOL</u>	Project Number: <u>6408-07-1150</u>		
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-812U</u>	MACTEC Rep: <u>Kim Chabo-Smith</u>	Date: <u>05/20/08</u>	
UNITS			
Length	Feet		
Time	Minutes		
Well Data	Fall Steep = 3:15' From S.S.		
Static Water Level	4.55' feet From TOC		
Total Well Depth	30.30' feet From TOC		
Static Water Column Height (H)	feet		
Observed Initial Displacement (H ₀)	Background	Falling Head	Rising Head
	NA		
Saturated Thickness (b)	feet		
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1		
Depth to Top of Well Screen (d)			
Length of Well Screen (L)	10' feet		
Radius of Well Casing (rc)	0.083 feet		
Radius of Screen (rw)	0.083 feet		
Radius of Probe (req)			
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	Mini toll transducer probe calibrated 4/29/08, 4/29/08 SN: 118478 level trail @ 700 Winsitu		
Slug Data	Used pneumatic slug to perform test.		
Length			
Weight			
Diameter			
Slug Test File	Background	Falling	Rising
File Name	<u>OW-812UBG</u>	<u>NA</u>	<u>OW-812UR</u>
Start Time	<u>16:05:53</u>		<u>16:13:19</u>
End Time	<u>16:08:21</u>		<u>16:14:31</u>
Notes			
Rev 0			



Prepared by: CVB Date: 6-20-08
 Checked by: msk Date: 6-26-08

<u>OW-812 U RISING HEAD TEST 5-20-08</u>	
<u>PROJECT INFORMATION</u>	
Company: <u>MACTEC</u> Client: <u>Bechtel</u> Project: <u>6468-07-1950</u> Location: <u>Turkey Point COL</u> Test Well: <u>OW-812 U</u> Test Date: <u>5/20/2008</u>	
<u>AQUIFER DATA</u>	
Saturated Thickness: <u>25.45 ft</u>	
<u>WELL DATA (OW-812 U)</u>	
Initial Displacement: <u>11.68 ft</u>	Static Water Column Height: <u>25.45 ft</u>
Total Well Penetration Depth: <u>27. ft</u>	Screen Length: <u>16. ft</u>
Casing Radius: <u>0.083 ft</u>	Well Radius: <u>0.25 ft</u>
<u>SOLUTION</u>	
Aquifer Model: <u>Unconfined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>31.24 ft/day</u>	Ss = <u>3.704E-20 ft⁻¹</u>
Kz/Kr = <u>1.</u>	

Prepared by: CHB Date: 6-20-08
 Checked by: WJK Date: 6-10-08



OW-812 U RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-812 U
 Test Date: 5/20/2008

AQUIFER DATA

Saturated Thickness: 25.45 ft Anisotropy Ratio (Kz/Kr): 1

WELL DATA (OW-812 U)

Initial Displacement: 11.68 ft Static Water Column Height: 25.45 ft
 Total Well Penetration Depth: 27 ft Screen Length: 16 ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

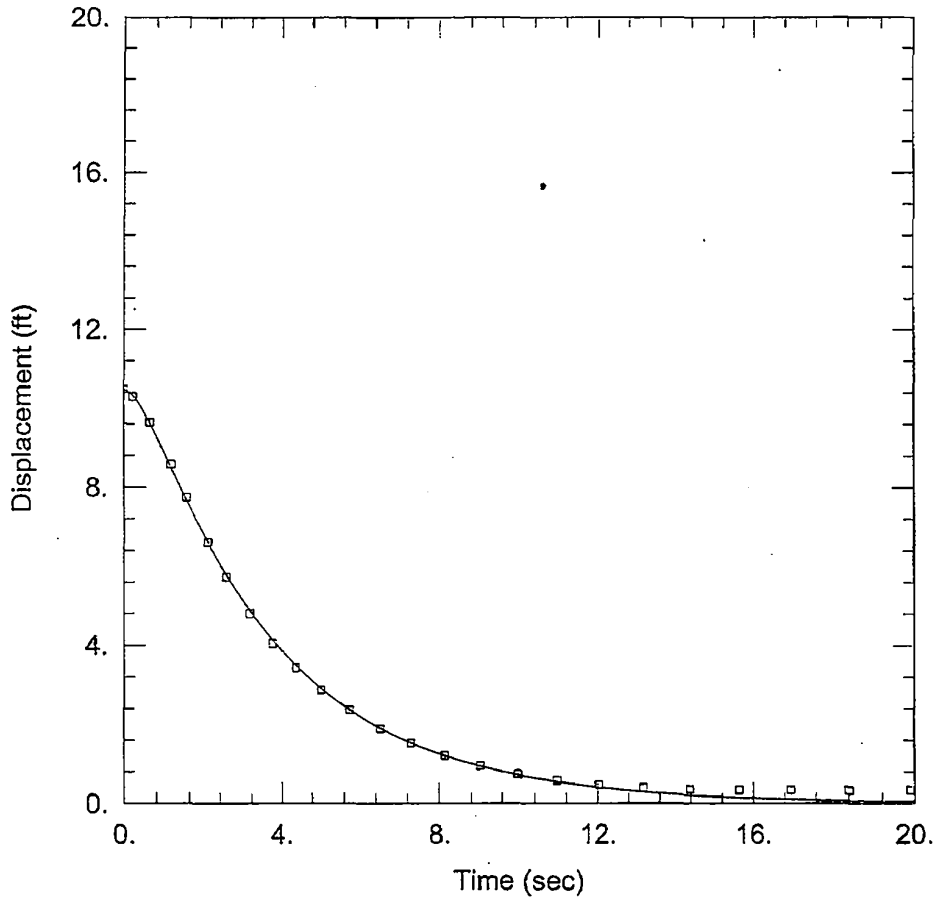
Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 24.49 ft/day Le = 36.28 ft



SLUG TEST REPORT

Project Name: <u>TPCOL</u>	<u>6468-07-1950</u> Project Number:			Page	of	1
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>					
Location: <u>OW-812L</u>	MACTEC Rep: <u>Kim Charles Smith</u>			Date: <u>05/20/08</u>		
UNITS						
Length	Feet					
Time	Minutes					
Well Data	<u>Kind Stuckup from GS = 3.33'</u>					
Static Water Level	<u>3.01'</u> feet					
Total Well Depth	<u>111.75'</u> feet					
Static Water Column Height (H)	feet					
Observed Initial Displacement (H ₀)	Background		Falling Head		Rising Head	
	NA					
Saturated Thickness (b)	feet					
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1					
Depth to Top of Well Screen (d)						
Length of Well Screen (L)	<u>10</u> feet					
Radius of Well Casing (rc)	0.083 feet					
Radius of Screen (rw)	0.083 feet					
Radius of Probe (req)						
Radius of Boring (rsk) Skin Effect	0.083 feet					
Probe Serial Number	<u>Transducer Mini-trail probe calibrated 4/22/08, 2/4/09/09</u> <u>SN: 110478 level Trail 700</u> <u>Winsite</u>					
Slug Data	<u>USED pneumatic slug to perform test</u>					
Length						
Weight						
Diameter						
Slug Test File	Background		Falling		Rising	
	<u>OW-812L BG</u>		<u>NA</u>		<u>OW-812LR</u>	
Start Time	<u>15:52:14</u>				<u>15:58:28</u>	
End Time	<u>15:55:13</u>				<u>15:58:52</u>	
Notes						
Rev 0						

Prepared by: CHB Date: 6-20-08
 Checked by: led Date: 6-20-08



OW-812 L RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-812 L
 Test Date: 5/20/2008

AQUIFER DATA

Saturated Thickness: 86. ft Anisotropy Ratio (Kz/Kr): 1.

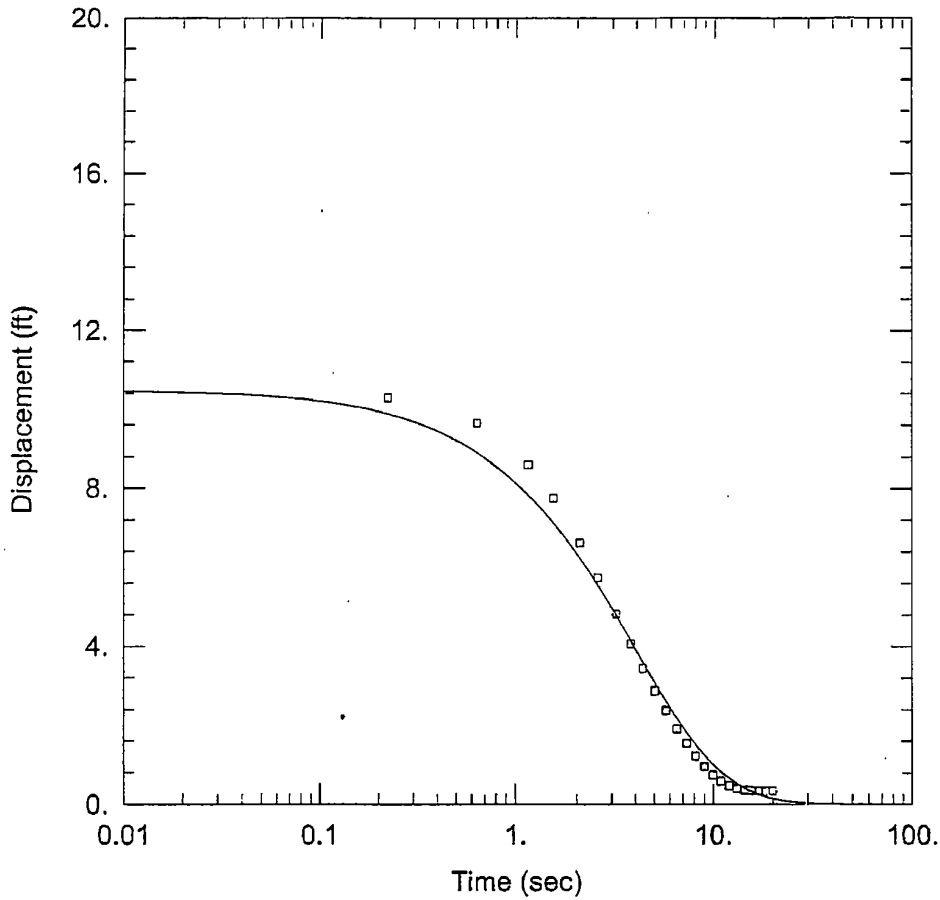
WELL DATA (OW-812 L)

Initial Displacement: 10.48 ft Static Water Column Height: 109.3 ft
 Total Well Penetration Depth: 109. ft Screen Length: 15. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler
 K = 21.01 ft/day Le = 47.1 ft

Prepared by: CHB Date: 6-20-08
 Checked by: LSK Date: 6-16-08



OW-812 L RISING HEAD TEST 5-20-08

PROJECT INFORMATION

Company: MACTEC
 Client: Bechtel
 Project: 6468-07-1950
 Location: Turkey Point COL
 Test Well: OW-812 L
 Test Date: 5/20/2008

AQUIFER DATA

Saturated Thickness: 86. ft

WELL DATA (OW-812 L)

Initial Displacement: 10.48 ft Static Water Column Height: 109.3 ft
 Total Well Penetration Depth: 109. ft Screen Length: 15. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined Solution Method: KGS Model
 Kr = 21.2 ft/day Ss = 1.163E-12 ft⁻¹
 Kz/Kr = 1.