

**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 McDanielFolio #: 30-7034000-0010STATE 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. <u>13-69-2631</u>
Florida Unique I.D. _____
Permit Exemptions Required (See attached)
62-324 well <input type="checkbox"/>
WUP Application No. _____
RECEIVED - DISTRICT OFFICE OF THE STATE

1. Florida Power & Light Co 9700 SW 344th Street Florida City 33034 3052466402
 Owner, Legal Name of Entity if 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 - Philip Pitts FL #11035 404 8734761
 Well Drilling Contractor License No. Telephone No.

396 Plaster Ave SW 1/4 of NW 1/4 of Section 34
 Address (Indicate Well on Chart) ☒

Atlanta GA 30324 575 40 E
 City State Zip Township Range

5. 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
 (See back) Irrigation (type) Public Water Supply (type) (See back) List Other _____

Distance from septic system N/A ft. Description of facility _____ Estimated start of construction date 5/21/08

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

9. Estimated: Well Depth 130' + 1' Sand Casing Depth 120' Screen Interval from 120'
 Casing Material: Blk Steel / Galv PVC Casing Diameter 2" Seal Material Sealant

10. If applicable: Proposed From 120 to 131 Seal Material 14/20 Silica Sand
 Grouting Interval From 117 to 120 Seal Material Bentonite
 From 0 to 117 Seal Material Portland Cement

11. Telescope Casing ☒ or Liner ☒ (check one) Diameter 2" Slurry
 Blk Steel / Galvanized ☒ 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 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 complete. I will comply with all applicable laws, rules, and regulations, and I agree to provide a well construction report to the District within 30 days after drilling or the well is completed, whichever is later.

I certify that I am the owner of this 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's signature to be printed on the WUP or a representative's access to the well site.

11035 5/20/08
 License No. Date

Approval Granted By: EDWARD EDWARDS Issue Date: 5/20/08 Hydrologist Approval: _____
 Owner Number: _____ Fee Received: \$ 50 Receipt No.: 1080520430 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-WD-34019

1080520430



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. 1359-7743
 Florida Unique I.D. _____
 Permit stipulations Required (See attached)
 62-524 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 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. SW 1/4 of NW 1/4 of Section 34
 (Indicate Well on Chart) X
 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. wastewater 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 101' ft Casing Depth 90 ft
 Casing Material: Blk-Steel / Gal / PVC rvc 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 83 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 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 true and that I will obtain necessary approval from other federal, state, or local governmental agencies and agree to provide a well completion report to the District within 30 days after drilling and/or pumping 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 40, Florida Statutes, to maintain or properly abandon this well or, if certified 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 in the Construction of personal in the WMD or a representative access to the well site.

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

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. 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.

Form 0123 Rev. 4/95

DCN# TUR060

Fax #: 919-831-8136



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. _____
 AGENCY USE ONLY (DO NOT WRITE IN THESE SPACES)

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 & Corporation Address City Zip Telephone Number

2. Turkey Point Nuclear Generating Station - coordinates of proposed wells attached 8760 SW 344 St

Well Location - Address, Road Name or Number, City

3. MACTEC Engineering and Consulting, Inc. - Phillip K. Pitts FL # 11035

Well Drilling Contractor

License No.

Telephone No.

396 Plasters Avenue

4. SW 1/4 of NW 1/4 of Section 34

Address

Atlanta Georgia 30324

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

(See Back) 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: 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 rec 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

(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 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, as applicable, before I provide a well completion report to the District within 30 days after drilling of the well is complete, 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 374, Florida Statutes, to maintain or properly abandon this well, or, I certify that I am the agent for the owner, and the information provided is accurate, and that I have informed the owner of his responsibilities as stated above. I am a representative of the owner or a representative of the owner.

Signature of Contractor

11035

License No.

Signature of Owner or Agent

Date

DO NOT WRITE TO LOW THIS LINE - FOR OFFICIAL USE ONLY

Approval Granted By: ASRID 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

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

Permit No. 13-69-2242
 Florida Unique I.D. _____
 Permit Stipulations Required (See attached)
 62-524 well ☐
 CUP/WUP Application No. _____
 ADWJ 10-22-07 10-22-07 10-22-07

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, Flood 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
 (smaller) (larger) (Indicate Well on Chart)

5. Township 57S Range 40E
 (Indicate Well on Chart)

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
 (See Back) Irrigation (type) Public Water Supply (type) List Other
 Distance from septic system N/A ft. Description of facility Int. 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 101 * ft Casing Depth 90 ft
 Casing Material: Blk-Steel / Gal / PVC Casing Diameter 2" Screen Interval from 90 to 100
 Seal Material see below
 *Well will be installed with a one-foot sand plug

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 ☒ (check one) Diameter 2"
 Blk-Steel / Galvanized / PVC / PVC Other (specify):

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

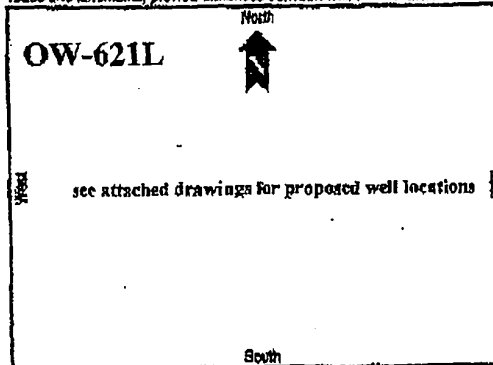
13. Indicate total No. of wells on site 0 List number of unused wells on site 0

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 27 NAD 83)

15. I hereby certify that I will comply with the applicable rules of the 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 completion or inspection, 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 370 of the 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 obtained the owner's signature and approval as stated above. Owner's signature to be provided to the WMD or a representative before the well site.

Signature of Contractor 1035 License No. 1035
 Signature of Owner's Representative 7/19/08 Date



Approval Granted By: ASTRID BOWARDS Issue Date: 2-19-08 Hydrologist Approval: _____
 Owner Number: _____ Fee Received: \$ 50 Receipt No.: T08021544 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.

Form 0123 Rev. 4/95

~~SEVEN~~

DCN# TUR060


**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. 1269-2244
Florida Unique I.D. _____
Permit Stipulations Required (See attached)
62-524 well ☐
CUP Application No. _____
WUP _____

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. **NW 1/4 of NW 1/4 of Section 34** (smaller) (larger) (Indicate Well on Chart)

Atlanta Georgia 30324 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

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) 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: **X** 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/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 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 withdrawal 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. I agree to provide a well completion report to the District within 30 days after drilling and/or installation of the well.

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 403, 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's Signature _____ Date **2/19/08**

OW-621U
see attached drawings for proposed well locations
North
South

Approval Granted By: **STEP EDWARDS** Issue Date: **2-19-08** Hydrologist Approval _____
Owner Number: _____ Fee Received: \$ **50** Receipt No: **1620215426** 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. 4/85

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.

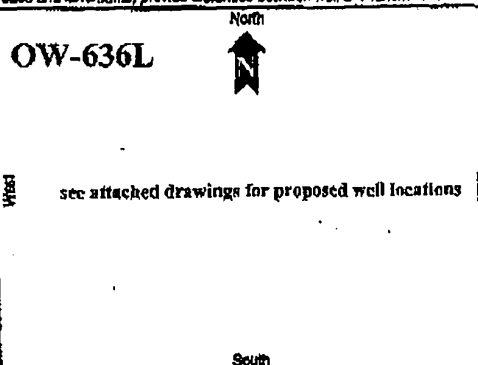
CHECK BOX FOR APPROPRIATE DISTRICT. ADDRESS ON BACK OF PERMIT FORM.

Permit No. 13-69-2246
 Florida Unique I.D. _____
 Permit Stipulations Required (See attached)
 62-624 well ☐
 CUP/WUP Application No. _____
 ACTIVE THROUGH SEPTEMBER 30, 2015

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
 (encompassed) (approx)
 (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
 (See Back) (See Back)
 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 101* ft Casing Depth 90 ft
 Casing Material: Blk-Steel / Gs. / PVC m/c 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
 *Well will be installed with a one-foot screen
 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 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 governmental agencies as applicable to provide a well completion report to the District within 30 days after drilling or test pump operation, 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 679, 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 parameters of the WUP or a replacement access to the well site.
 Signature of Contractor License No. 11035
 Signature of Owner or Agent's Signature Date 2/19/08



Approval Granted By: ASTED EDWARDS Issue Date: 2-19-08 Hydrologist Approval: _____
 Owner Number: _____ Fee Received: \$ 96 Receipt No.: TD3021546 Check No.: 524534
 Enter numerical month, day and full, four-digit year.

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

SEWAGE DIV.

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

APPROPRIATE COUNTY TO BE FILLED IN

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

4. SE 1/4 of SE 1/4 of Section 34
 (smaller) (larger)

(Indicate Well on Chart)

Address

Atlanta

Georgia

30324

City

State

Zip

5. Township 57S Range 40E

6. Miami-Dade

N/A

N/A

N/A

N/A

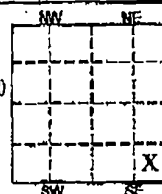
County

Subdivision Name

Lot

Block

Unit



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

(See Back) Irrigation (type)

Public Water Supply (type)

List Other

Distance from septic system N/A

P.

Description of facility

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

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 20' to 13'

Seal Material

Bentonite

From 0' to 10'

Seal Material

Portland/bentonite slurry

*Well will be installed with a one-foot screen

11. Telescope Casing or Liner (check one) Diameter 2"

Blk-Steel / Galvanized / PVGFVC 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 approval is required. 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 agree to provide a well completion report to the District within 30 days after completion of the well construction, which may occur 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 its representative access to the well site.

Signature of Contractor

11035

License No.

Signature of Owner or Agent

2/19/08

Date

DO NOT WRITE BELOW THIS LINE FOR OFFICIAL USE ONLY

Approval Granted By: ASTRO EDWARDS

Issue Date: 2-19-08

Hydrologist Approval

Owner Number:

Fee Received: \$ 50

Receipt No. 168021546

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

SEALING STAMP

DCN# TUR060

FAX: 305-826-1299

To: TOM MU DANIEL

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. <u>10-59-2692</u>
Florida Unique I.D. _____
Permit Substitutions Required (See attached) _____
B2-B24 well <input type="checkbox"/>
SWP Application No. _____
APPROPRIATE COUNTY COMPLETED BY DATE _____

1. Florida Power & Light Co. 9700 SW 34th 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 34th Street Florida City FL 33035
 Well Location - Address, Road Name or Number, City

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

396 Plaster Ave
 Address
 Atlanta GA 30324
 City State Zip

4. NE 1/4 of SE 1/4 of Section 33
 (Indicate Well on Chart)

5. Township 57 S Range 40 E

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
 (See Back) (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)

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

11. Telescope Casing or Liner (check one) Diameter Slurry
 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 obtained prior to commencement of well construction. I further certify that all information provided on this application is true and correct, and that I am duly licensed to perform this work, or that I am duly licensed to perform this work, or that I am duly licensed to perform this work.

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, and I certify that I am the agent for the owner. That the information provided is accurate, and that I have obtained the consent of the responsible parties as stated above. Owner's signature: [Signature] Date: 5/20/08

Approval Granted By: RYAN DOWD (Issue Date: 5-22-08) Hydrologist Approval: _____
 Owner Number: _____ Fee Received: \$ 60 Receipt No.: 1680520430 Check No.: _____
 Enter numerical month, day and full, four-digit year.

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)

62-624 well ☐

CUP/WUP Application No.

ABOVE THESE LINES, LISTED BY DISTRICT

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 & 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

4. NE 1/4 of SE 1/4 of Section 33

Address

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

(See Back) 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 101* ft Casing Depth 90 ft

Screen interval from 90 to 100

Casing Material: Blk-Steel / Gal / PVC rvc Casing Diameter 2"

Seal Material: see below

10. If applicable: Proposed From 88 to 100 Seal Material 10/20 silica sand
 Grouting Interval From 83 to 85 Seal Material Bentonite
 From 8 to 83 Seal Material Portland/bentonite slurry

*Well will be cased with a one-foot supply

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 27 NAD 83)

Draw a map of well location and indicate well site with known roads and landmarks; provide distances between well and landmarks.

OW-706L

North



see attached drawings for proposed well locations

South

15. I hereby certify that I will comply with this applicable rule (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. I agree to provide a well completion report to the District within 30 days after drilling or the permit expiration, 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 possession of the WMD or a representative access to the well site.

Signature of Contractor

License No.

Signature of Agent/Signature

Date

DO NOT WRITE BELOW THIS LINE FOR OFFICIAL USE ONLY

Approval Granted By: AGUED EDWARDS

Issue Date: 2/19-08

Hydrologist Approval

Owner Number:

Fee Received: \$ 50

Receipt No. 10801506

Check No. 524534

Enter numerical month, day and full, four-digit year.

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. 4/96

SEWARD-GUN

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. <u>1359-2247</u>
Florida Unique I.D. _____
Permit Stipulations Required (See attached)
82-524 well <input type="checkbox"/>
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
4. NE 1/4 of SE 1/4 of Section 33
Address
Atlanta Georgia 30324
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
(See Back) 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: X 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 8 to 10 Seal Material Portland/bentonite slurry**
***Well will be installed with a one-foot slant**
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
(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 I will 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 provide necessary approval from other federal, state, or local governments, if applicable, to provide a well completion report to the District within 90 days after drilling or abandonment, 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's name to be recorded in the WMD or representations access to the well site.
Signature of Contractor License No. 11035
Owner's or Agent's Signature Date 2/19/08
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.: 524534
Enter numerical month, day and full, four-digit year.
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
STANDARD COPY
DCN# TUR060


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

- ☐ Southwest
☐ Northwest
☐ St. John's 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 A PROPRATE DISTRICT, ADDRESS ON BACK OF PERMIT FORM.

Permit No. <u>10-59-2260</u>
Florida Unique I.D. _____
Permit Stipulations Required (See attached)
62-524 well <input type="checkbox"/>
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 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	4. SE 1/4 of NE 1/4 of Section 33
City State Zip	(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
(See Back) Irrigation (type)	Public Water Supply (type)	List Other
Distance from septic system N/A	8. Description of facility Ind. wastewater discharge area	Estimated start of construction date 2/19/08

8. Application for: <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Repair/Modify <input type="checkbox"/> Abandonment	(Reason for Abandonment)
9. Estimated: Well Depth 101* ft Casing Depth 90 ft	Screen Interval from 90 to 100
Casing Material: Blk-Steel / Gal / PVC and Casing Diameter 2"	Seal Material see below

10. If applicable: Proposed From 38 to 100 Seal Material 10/20 silica sand	*Well will be furnished with a one-foot auger
Grouting Interval From 43 to 85 Seal Material Bentonite	
From 0 to 83 Seal Material Portland/bentonite slurry	

11. Telescope Casing or Liner <input checked="" type="checkbox"/> (check one) Diameter 2"	Draw a map of well location and indicate well site with N, S, E, W, identify known roads and landmarks, provide distances between well and landmarks.
Blk-Steel / Galvanized / PVC/PVC Other (specify: _____)	

12. Method of Construction: <input checked="" type="checkbox"/> Rotary <input type="checkbox"/> Cable Tool <input type="checkbox"/> Combination	see attached drawings for proposed well locations
<input checked="" type="checkbox"/> Auger <input type="checkbox"/> 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 draw on the owner's contiguous property covered under a Consumptive Water Use Permit (CUP/WUP) or CUP/WUP Application? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes

(If yes, complete the following) CUP/WUP No. N/A
--

District well I.D. No. N/A
Latitude N/A Longitude N/A
Date 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 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 the permit application, 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 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 the responsibilities as stated above. Owner or agent to be signed by the WMD or a representative access to the well site.
--	---

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

DO NOT WRITE BELOW THIS LINE FOR OFFICIAL USE ONLY	
Approval Granted By: <u>AROLD EDWARDS</u>	Issue Date: <u>2-19-08</u> Hydrologist Approval <u>[Signature]</u>

Owner Number: _____ Fee Received: \$ <u>60</u> Receipt No.: <u>108021506</u> Check No.: <u>52 24534</u>

Enter numerical month, day and full, four-digit year. 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

STANDARD

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. <u>13-59-2249</u>
Florida Unique I.D. _____
Permit Stipulations Required (See attached)
62-524 well <input type="checkbox"/>
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 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		4. SE 1/4 of NE 1/4 of Section 33		(Indicate Well on Chart)	
City State Zip		(smallest) (largest)			
5. Township 57S Range 40E					
Miami-Dade N/A N/A N/A N/A					
County Subdivision Name Lot Block Unit				SW SE	
7. Number of proposed wells <u>1</u> Check the use of well: (See back of permit for additional choices) Domestic Monitor (type) Observation well					
(See Back) Irrigation (type) Public Water Supply (type) List Other _____					
Distance from septic system <u>N/A</u> ft. Description of facility <u>Ind. wastewater discharge area</u> Estimated start of construction date <u>2/19/08</u>					
8. Application for: <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Repair/Modify <input type="checkbox"/> Abandonment (Reason for Abandonment)					
9. Estimated: Well Depth <u>26+ ft</u> Casing Depth <u>15 ft</u> Screen Interval from <u>15</u> to <u>25</u>					
Casing Material: <u>Blk-Steel / Gal / PVC rvc</u> Casing Diameter <u>2"</u> Seal Material <u>see below</u>					
10. If applicable: Proposed From <u>13</u> to <u>25</u> Seal Material <u>10/20 silica sand</u>					
Grouting Interval From <u>10</u> to <u>13</u> Seal Material <u>Bentonite</u>					
From <u>0</u> to <u>10</u> Seal Material <u>Portland/bentonite slurry</u>					
11. Telescope Casing <input type="checkbox"/> or Liner <input checked="" type="checkbox"/> (check one) Diameter <u>2"</u>					
Blk-Steel / Galvanized / PVC / PVC Other (specify): _____					
12. Method of Construction: <input checked="" type="checkbox"/> Rotary <input type="checkbox"/> Cable Tool <input type="checkbox"/> Combination					
<input checked="" type="checkbox"/> Auger <input type="checkbox"/> Other (specify): _____					
12. Indicate total No. of wells on site <u>0</u> List number of unused wells on site <u>0</u>					
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? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes					
(If yes, complete the following) CUP/WUP No. <u>N/A</u>					
District well I.D. No. <u>N/A</u>					
Latitude <u>N/A</u> Longitude <u>N/A</u>					
Data obtained from GPS <input type="checkbox"/> or map <input type="checkbox"/> or survey <input type="checkbox"/> (map datum NAD 27 <input type="checkbox"/> NAD 83 <input type="checkbox"/>)					
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 technical 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 governmental agencies. I agree to provide a well completion report to the District within 30 days after drilling or the best representative well log 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's consent to personnel of the WMD or a representative access to the well site.					
Signature of Contractor <u>[Signature]</u>		License No. <u>11035</u>		Owner's or Agent's Signature <u>[Signature]</u> Date <u>2/19/08</u>	

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

Draw a map of well location and indicate well site with an "X". Identify known roads and landmarks; provide distances between well and landmarks.

OW-72IU

North

South

see attached drawings for proposed well locations

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

Owner Number: _____ Fee Received: \$ 50 Receipt No.: T80215406 Check No.: 524534

Enter numerical month, day and full, four-digit year.

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

~~EXEMPTED FROM~~

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. 13-59-2252
Florida Unique I.D. _____
Permit Stipulations Required (See attached)
82-524 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
Atlanta Georgia 30324
City State Zip

4. SW 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
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
(See Back) 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 101' ft Casing Depth 90 ft
Casing Material: Bk-Steel / Gal / PVC PVC Casing Diameter 2"
Screen Interval from 90 to 100
Seal Material: see below

10. If applicable: Proposed From 38 to 100 Seal Material 10/20 silica sand
Grouting Interval From 33 to 85 Seal Material Bentonite
From 0 to 83 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: ☒ 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 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 true and was obtained from either federal, state, or local government. If applicable, I agree to provide a well completion report to the District within 30 days after drilling the permit location, if the well is 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 373, 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 replacement society to the well site.

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

OW-735L
North
South
see attached drawings for proposed well locations

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.

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 delegated county where applicable.

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

Permit No. <u>13-59-2251</u>
Florida Unique I.D. _____
Permit Stipulations Required (See attached)
02-524 well <input type="checkbox"/>
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

4. SW 1/4 of SE 1/4 of Section 33
 (smaller) (larger) (Indicate Well on Chart)

Address

Atlanta Georgia 30324

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

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

(See Back) Irrigation (type) Public Water Supply (type) List Other

Distance from septic system N/A ft. Description of facility Sewer, 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
 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

*Well will be installed with a one-foot pump

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 with drawal 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 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, before providing a well location report to the District within 30 days after drilling or other perturbation, 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 375, 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 contractor to personnel of the WMD or a representative access to the well site.

Signature of Contractor

License No. 11035

Signature of Owner or Agent

Date 2/15/08

DO NOT WRITE BELOW THIS LINE FOR OFFICIAL USE ONLY

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

Owner Number: _____ Fee Received: \$ 50 Receipt No.: 1090215406 Check No.: 524534

Enter numerical month, day and full, four-digit year.

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

APPROVED

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. <u>19-59-2254</u>
Florida Unique I.D. _____
Permit Situations Required (See attached)
62-624 well <input type="checkbox"/>
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 Entity & 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. **NE** 1/4 of **NE** 1/4 of Section **34**

(partial) (partial) (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 _____

(See Back) (See Back) (See Back)

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: ☒ New Construction _____ Repair/Modify _____ Abandonment _____

(Reason for Abandonment)

9. Estimated: Well Depth **101* ft** Casing Depth **90 ft** Screen Interval from **98** to **100**

Casing Material: **Blk-Steel / Gal / PVC** Casing Diameter **2"** Seal Material **see below**

"Well will be installed with a one-foot screen"

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: ☒ 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 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 the permit application, which ever 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 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. Owner consents to partitioning by the WMD of a representative access to the well site.

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

OW-802L

North

see attached drawings for proposed well locations

South

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

Owner Number: _____ Fee Received: \$ **50** 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

STANDARD

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.	12-69-7743
Florida Unique ID.	
Permit Stipulations Required (See attached)	
62-524 well	<input type="checkbox"/>
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

4. NE 1/4 of NE 1/4 of Section 34

Address

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

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 w/c Casing Diameter 2"

Seal Material: see below

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

*Well will be installed with a one-foot annular

11. Telescope Casing or Liner (check one) Diameter 2"

Blk-Steel / Galvanized / PVC / VC 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 withdrawn 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

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, 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, before I provide a well completed in report to the District within 30 days after drilling or recharge installation, 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 375, 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 acknowledges to personnel of the WMD or a representative access to the well site.

Signature of Contractor License No. 11035

Owner's or Agent's Signature Date 2/15/08

DO NOT WRITE BELOW THIS LINE FOR OFFICIAL USE ONLY

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

Owner Number: Fee Received: \$ 50 Receipt No. 108021546 Check No. 524534

Enter numerical month, day and full, four-digit year.

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

FORWARD ONLY

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. <u>13-59-2256</u>
Florida Unique I.D. _____
Permit Stipulations Required (See attached)
62-524 well <input type="checkbox"/>
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 Entity & 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 34

(smaller) (bigger)

(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

(See Back) (See Back)

Distance from septic system N/A ft. Description of facility Soil water/water 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 101* ft Casing Depth 90 ft Screen Interval from 90 to 100

Casing Material: Blk-Steel / Gal / PVC pvc Casing Diameter 2" Seal Material see below

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

Grouting Interval From 88 to 85 Seal Material Bentonite

From 0 to 83 Seal Material Portland/bentonite slurry

11. Telescopic 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 will drawal 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 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 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 or within the applicable time period.

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 Director/Agent Signature [Signature] Date 2/19/08

APPROVED
 Permit No. 13-59-2256
 Date: 2-19-08
 Miami-Dade County Health Department

OW-805L

North

see attached drawings for proposed well locations

South

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

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

Enter numerical month, day and full, four-digit year.

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 <input type="checkbox"/>
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.

396 Plasters Avenue

Address

4. NE 1/4 of SE 1/4 of Section 34

(smaller) (larger)

(Indicate Well on Chart)

5. Township 57S Range 40E

City Atlanta Georgia 30324

City State Zip

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

Intigation (type) Public Water Supply (type) List Other

(See Back) Distance from septic system N/A 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 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 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 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 report necessary information from other federal, state, or local governments, if applicable, to comply with a well completed on 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 372, Florida Statutes, to maintain or properly abandon this well or, if 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 personal or a representative access to the well site.

Signature of Contractor License No. Date

OW-805U

North

see attached drawings for proposed well locations

West

South

Approval Granted By: **ARLEN 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.

Form 0123 Rev. 4/95

RETURNED TO SENDER

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. 19-69-2258
 Florida Unique I.D. _____
 Permit Stipulations Required (See attached)
 B2-524 well ☐
 GWP 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
 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: (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: 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: 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 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: ☒ Rotary ☐ Cable Tool ☐ Combination
☒ Auger ☐ Other (specify):

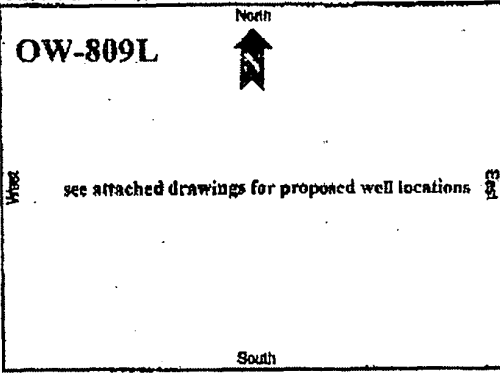
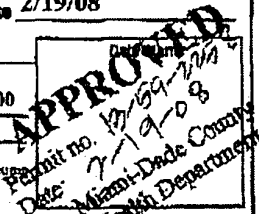
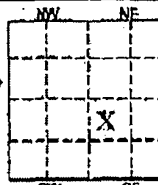
13. Indicate total No. of wells on site 0 List number of unused wells on site 0

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 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 provide necessary approval from other federal, state, or local government agencies. I agree to provide a well completion report to the District within 30 days after drilling and/or completion. (If denied, permit fee is non-refundable.)

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, if 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 is present or the WMD or a representative access to the well site.

Signature of Contractor: [Signature] License No. 11035 Owner or Agent Signature: [Signature] Date: 2/15/08



Approval Granted By: ARND EDWARDS Issue Date: 2-19-08 Hydrologist Approval: _____
 Owner Number: _____ Fee Received: \$ 50 Receipt No.: 108021546 Check No.: 524534
 Enter numerical month, day and full, four-digit year.
 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

Edward G. Giv


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. <u>13-59-7757</u>
Florida Unique I.D. _____
Permit Stipulations Required (See attached)
62-524 well <input type="checkbox"/>
CUP 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

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: (See back of permit for additional choices) Domestic Monitor (type) Observation well

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

8. Application for: ☒ New Construction ☐ Repair/Modify ☐ Abandonment

9. Estimated: Well Depth 26* ft Casing Depth 15 ft

Casing Material: Blk-Steel / Gal / PVC rec 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 9 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: ☒ Rotar/ ☐ 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 27 NAD 83)

15. I hereby 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 the use of the well for a hydrogeologic investigation.

Signature of Contractor _____ License No. 11035

Signature of Owner or Agent _____ Date 2/19/08

OW-809U

sec attached drawings for proposed well locations

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

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

Form 0123 Rev. 4/95

www.floridawater.com

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

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. <u>13-59-2260</u>
Florida Unique I.D. _____
Permit Stipulations Required (See attached)
G2-524 well <input type="checkbox"/>
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 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. NW 1/4 of NE 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	

7. Number of proposed wells 1	Check the use of well: (See back of permit for additional choices)	Domestic Monitor (type) Observation well
(See Back) 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: <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Repair/Modify <input type="checkbox"/> Abandonment	(Reason for Abandonment)
9. Estimated: Well Depth 101' ft Casing Depth 90 ft	Screen Interval from 90 to 100
Casing Material: Blk-Steel / Gal / PVC rvc Casing Diameter 2"	Seal Material sec below

10. If applicable: Proposed From 55 to 100 Seal Material 10/20 silica sand	*Well will be installed with a one-foot seal.
Grouting Interval From 15 to 85 Seal Material Bentonite	
From 0 to 83 Seal Material Portland/Cement/Slurry	

11. Telescope Casing or Liner <input checked="" type="checkbox"/> (check one) Diameter 2"
Blk-Steel / Galvanized / PVC/PVC Other (specify):

12. Method of Construction: <input checked="" type="checkbox"/> Rotary <input type="checkbox"/> Cable Tool <input type="checkbox"/> Combination
<input checked="" type="checkbox"/> Auger <input type="checkbox"/> 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? <input checked="" type="checkbox"/> No <input type="checkbox"/> 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 this 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 also in 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 completion of well construction, which shall include:	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 the permit of the WMD or a representative access to the well site.
---	--

Signature of Contractor

License No.

Owner's or Agent's Signature

Date

DO NOT WRITE BELOW THIS LINE - FOR OFFICIAL USE ONLY

Approval Granted By: ASTRAD EDW ABRS Issue Date: 2-19-08 Hydrologist Approval: _____Owner Number: _____ Fee Received: \$ 50 Receipt No. 1080215406 Check No.: 524534

Enter numerical month, day and full, four-digit year.

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

seward.gov



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. 13-59-2259
 Florida Unique ID.
 Permit Supersessions Required (See attached)
 62-524 well ☐
 WPD Application No.
 Date of Application 2/19/08

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
 (small lot) (big lot) (Indicate Well on Chart)
 5. Township 57S Range 40E
 8. Miami-Dade 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
 (See Back) (See Back)
 Distance from septic system N/A ft. Description of facility Dr. 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
 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 ☒ (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 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 expires, 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

APPROVED
 Permit No. 13-59-2259
 Date: 2/19/08
 Miami-Dade County
 Health Department

Draw a map of well location and indicate well site with "X". Identify known roads and landmarks; provide distances between well and landmarks.

OW-812U

see attached drawings for proposed well locations

North

South

Approval Granted By: ARTRIP 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.

Form 0123 Rev. 4/95

Observation Well Records

Observation Well Data Sheet

Prepared by: WJS 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

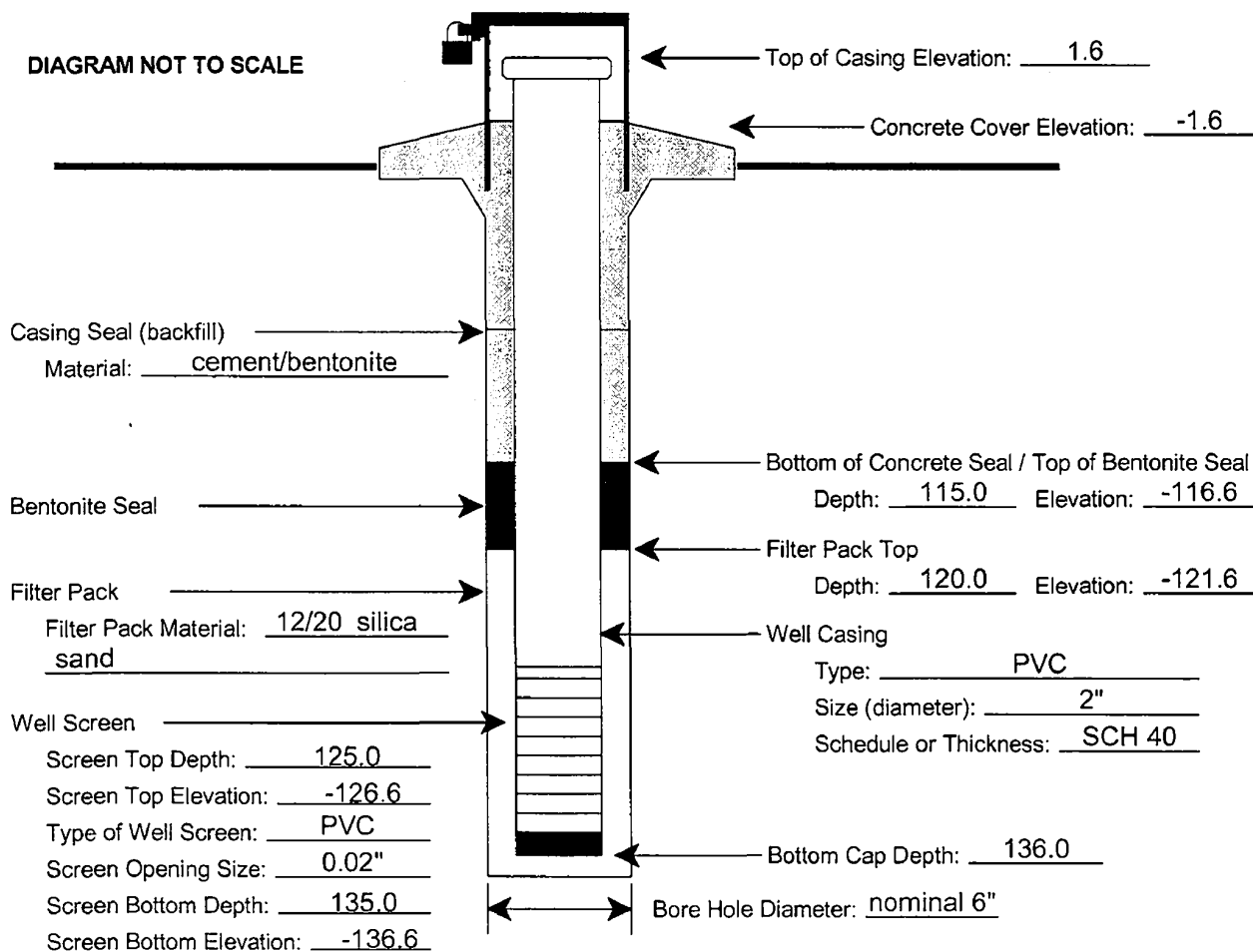
Name: MACTEC
License No.: 11035

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: WJS 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

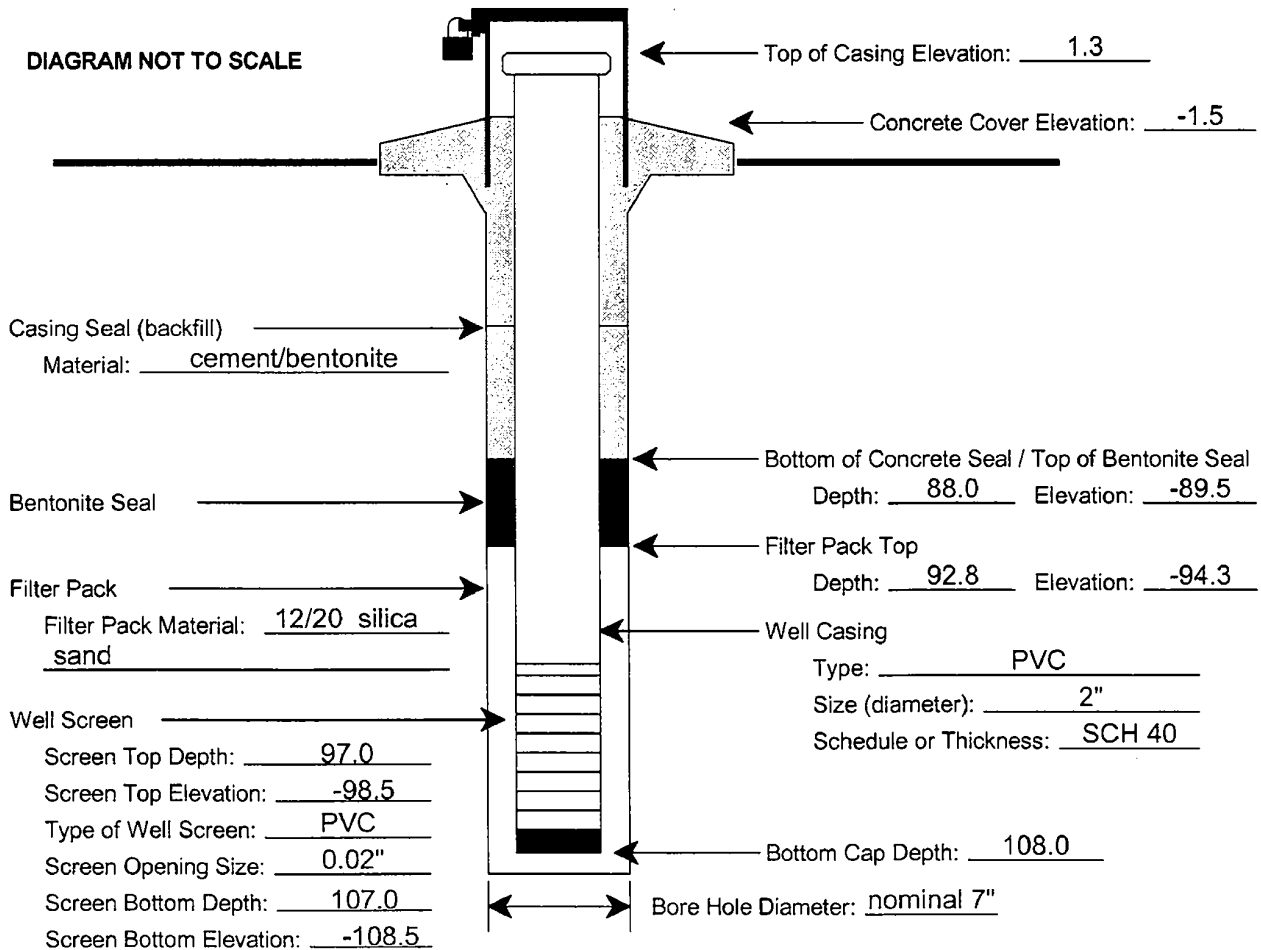
Name: Miller Drilling/MACTEC
License No.: 11035

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:

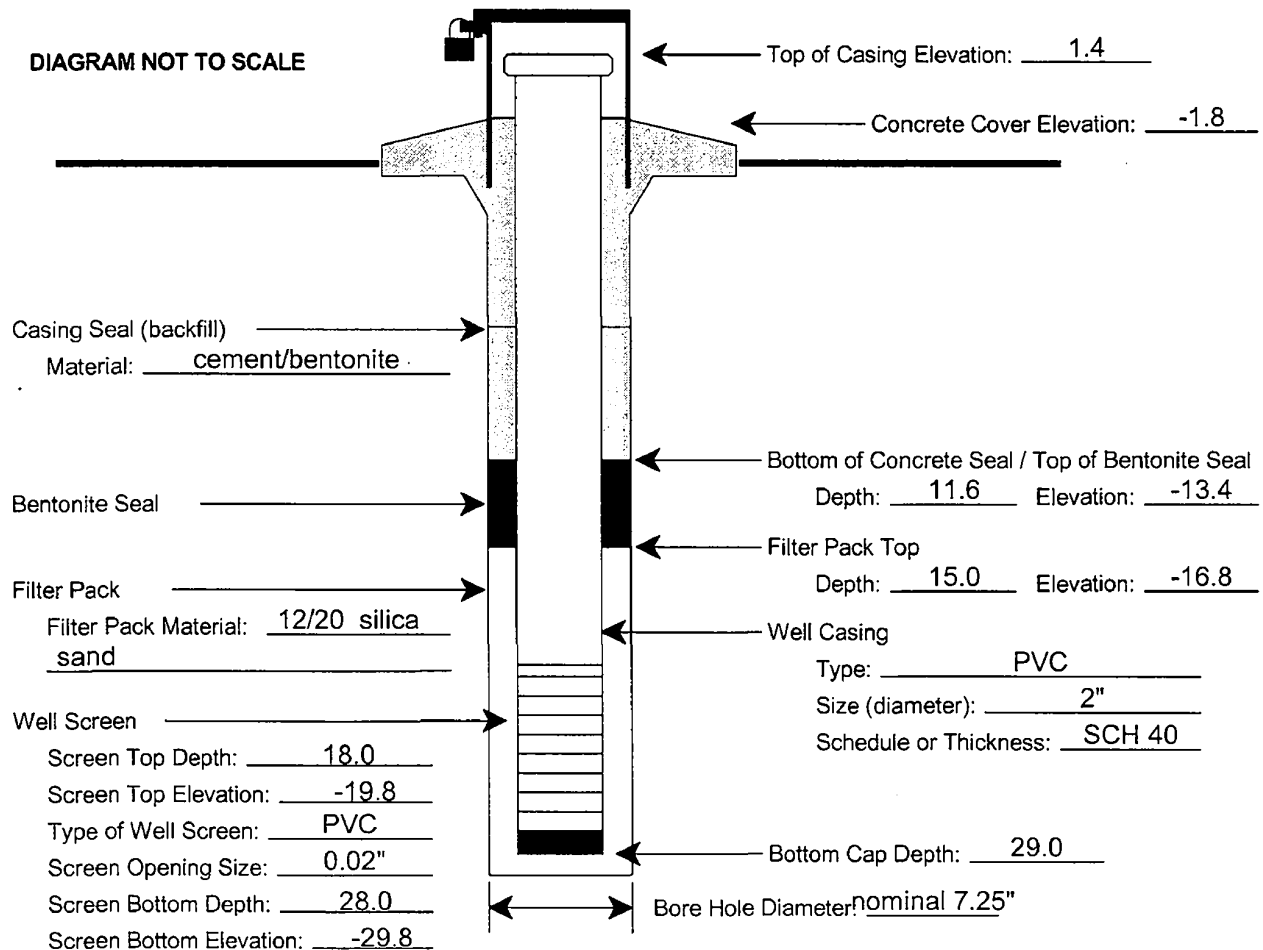
Name: Miller Drilling/MACTEC
License No.: 11035

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: W4 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-6211
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

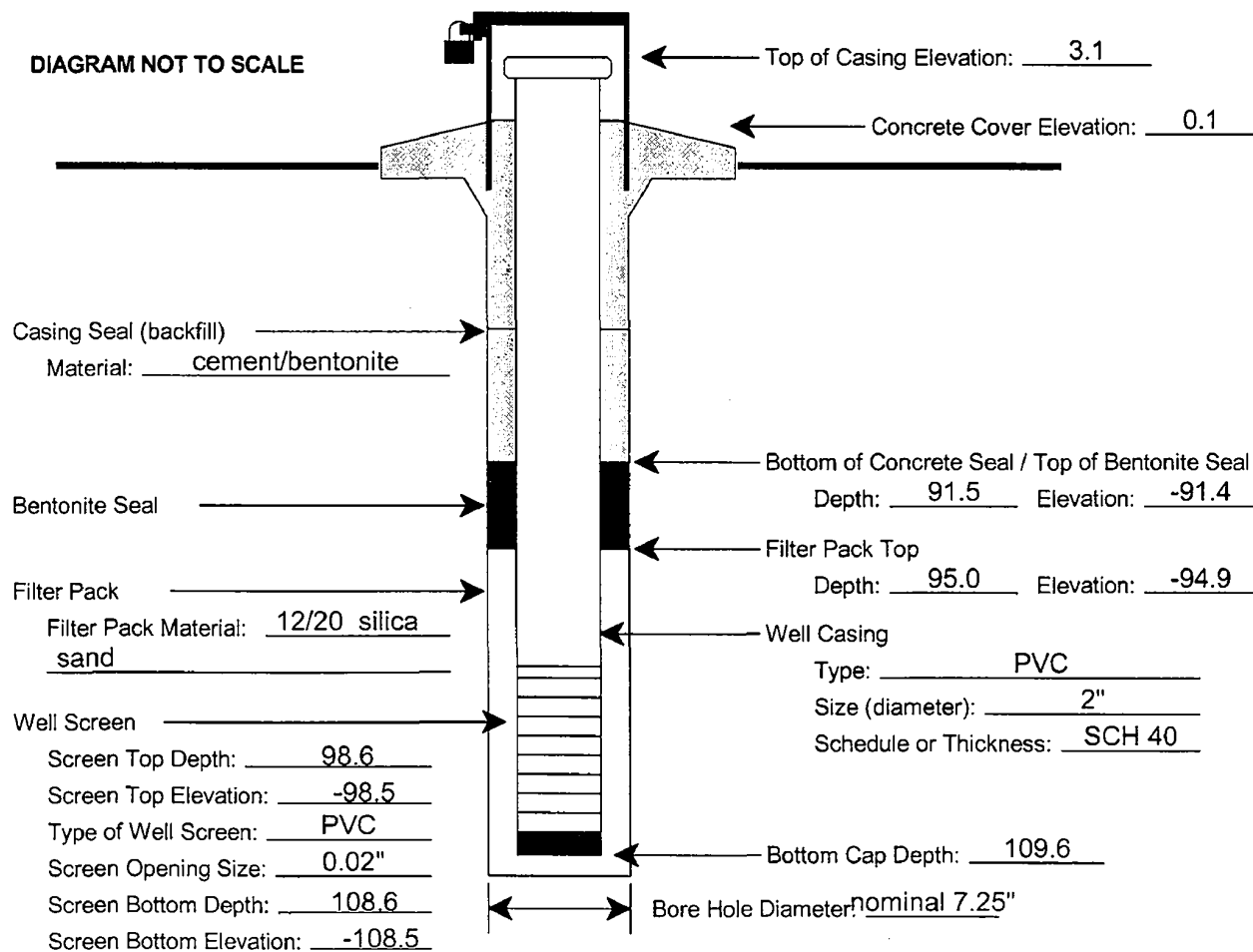
Name: Miller Drilling/MACTEC
License No.: 11035

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: 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.: 13-59-2244
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

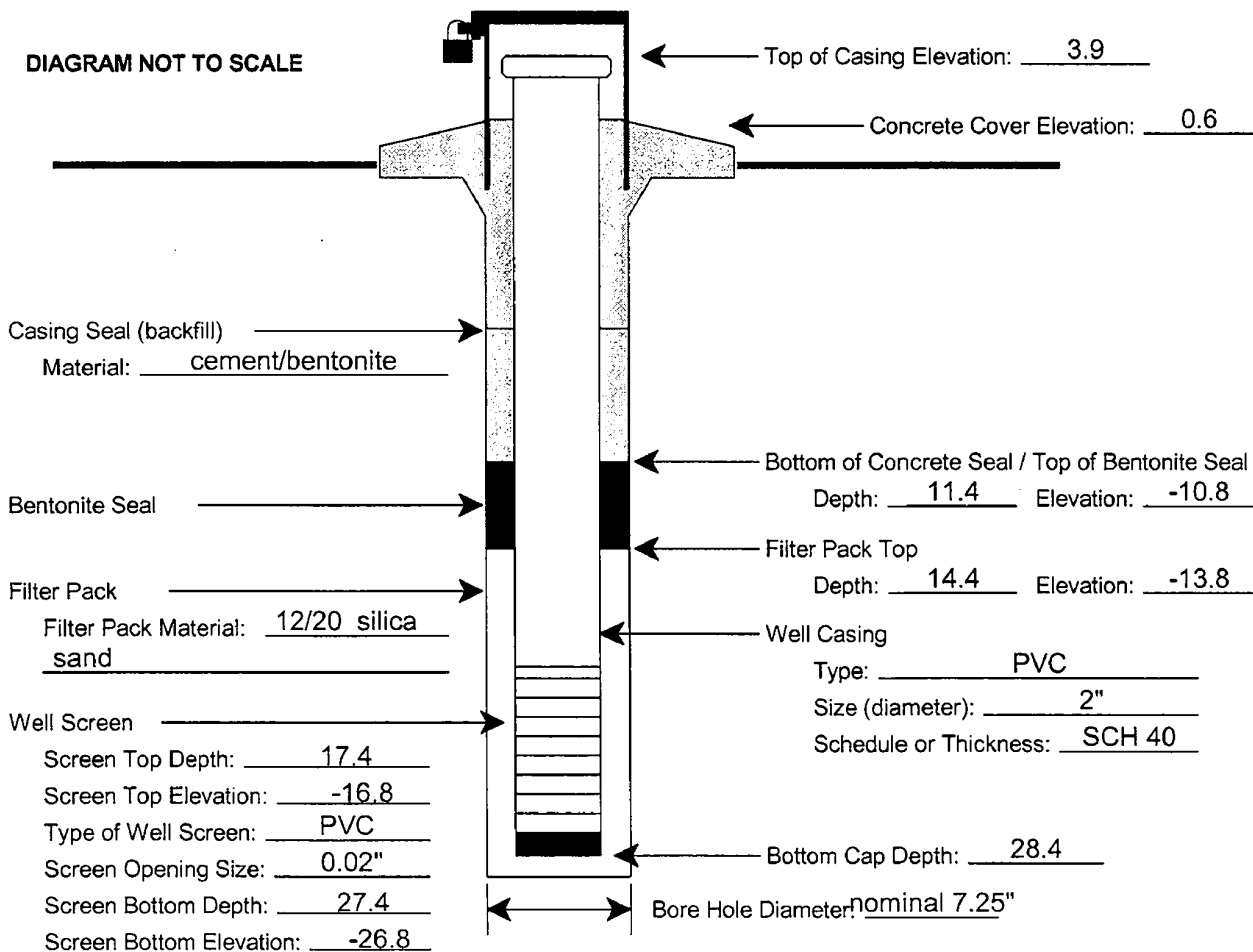
Name: Miller Drilling/MACTEC
License No.: 11035

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: 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.: 13-59-2246
County: Miami-Dade County, Florida Observation Well I.D.: OW-6361
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

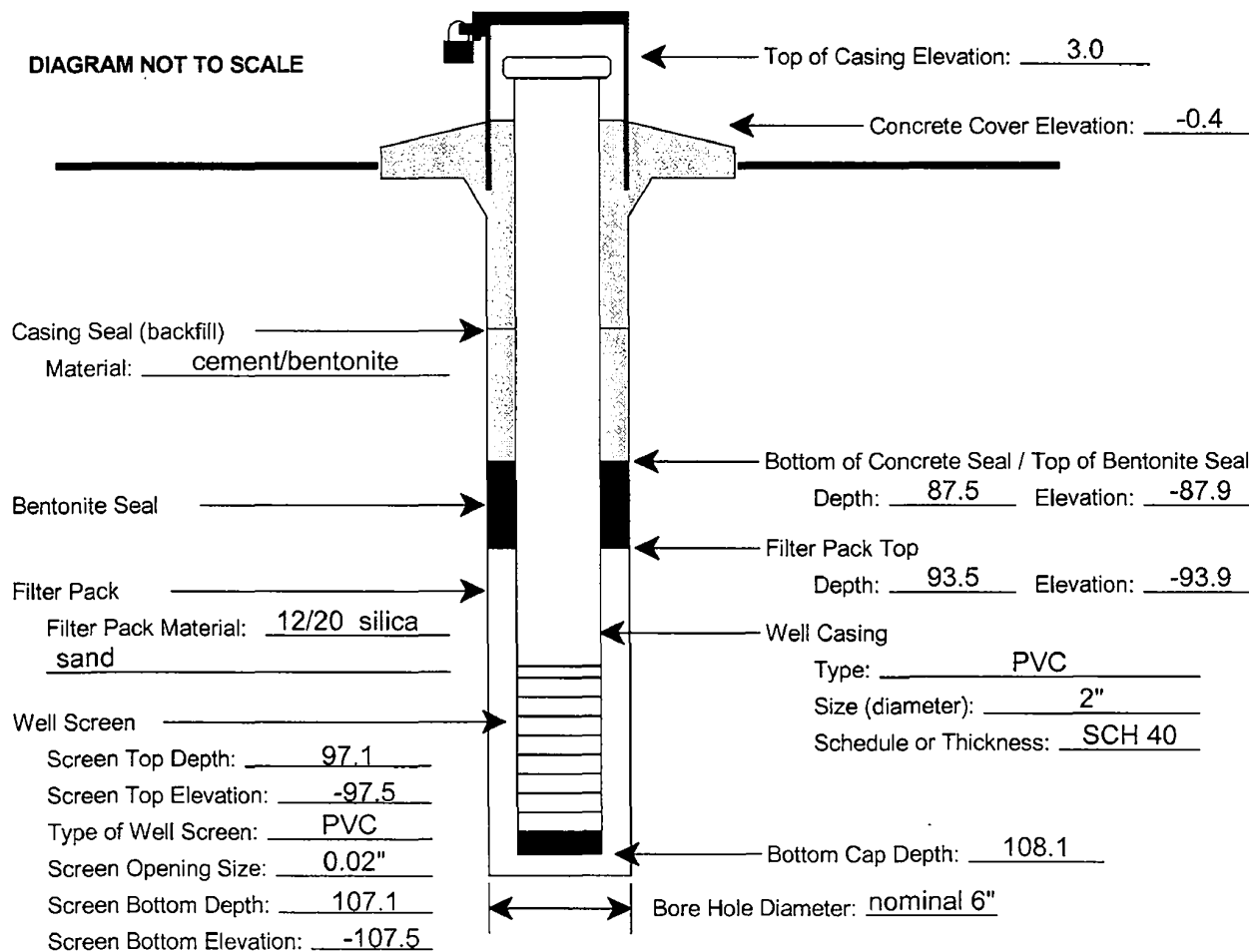
Name: MACTEC
License No.: 11035

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

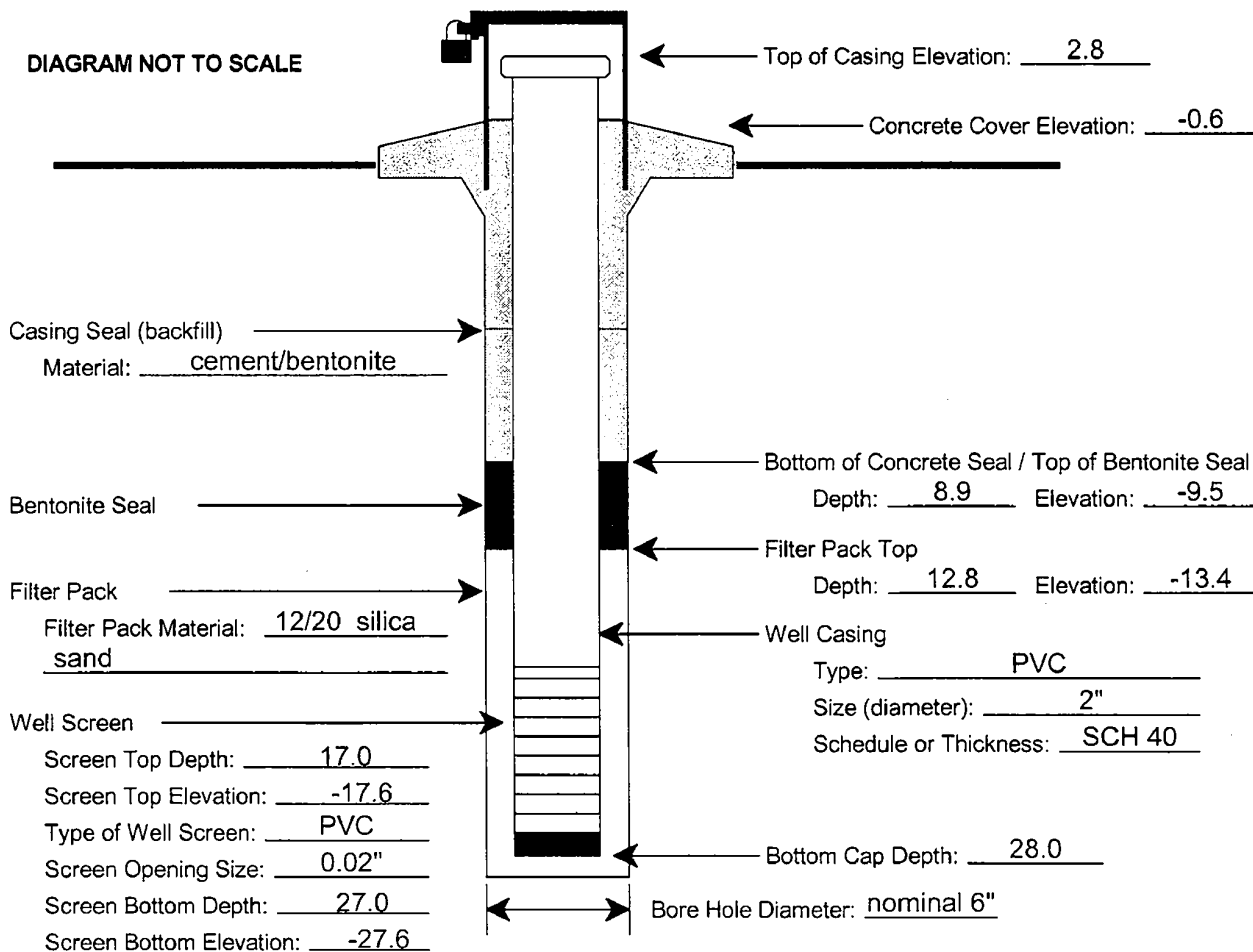
Name: MACTEC
License No.: 11035

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: 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.: 13-59-2672
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

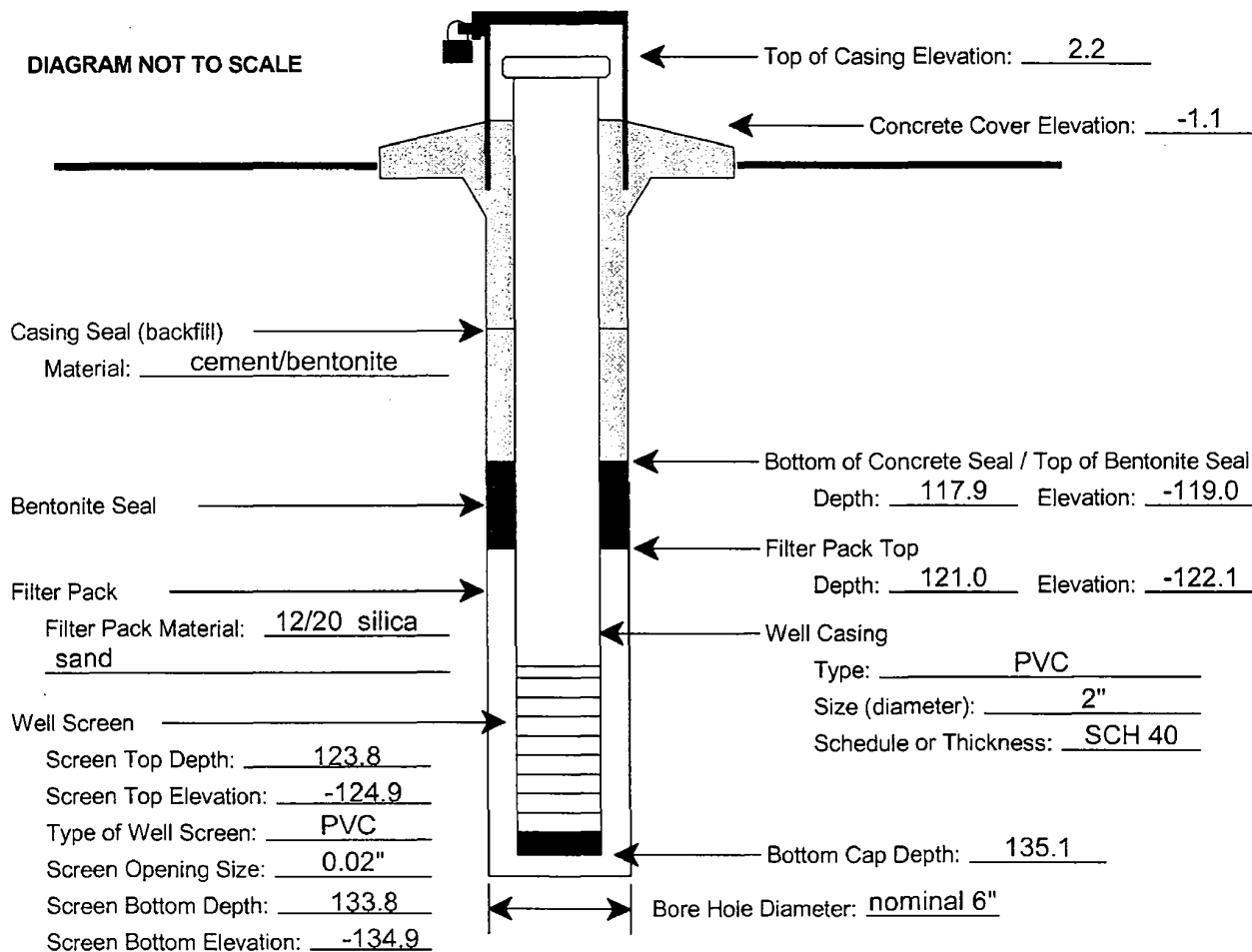
Name: MACTEC
License No.: 11035

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

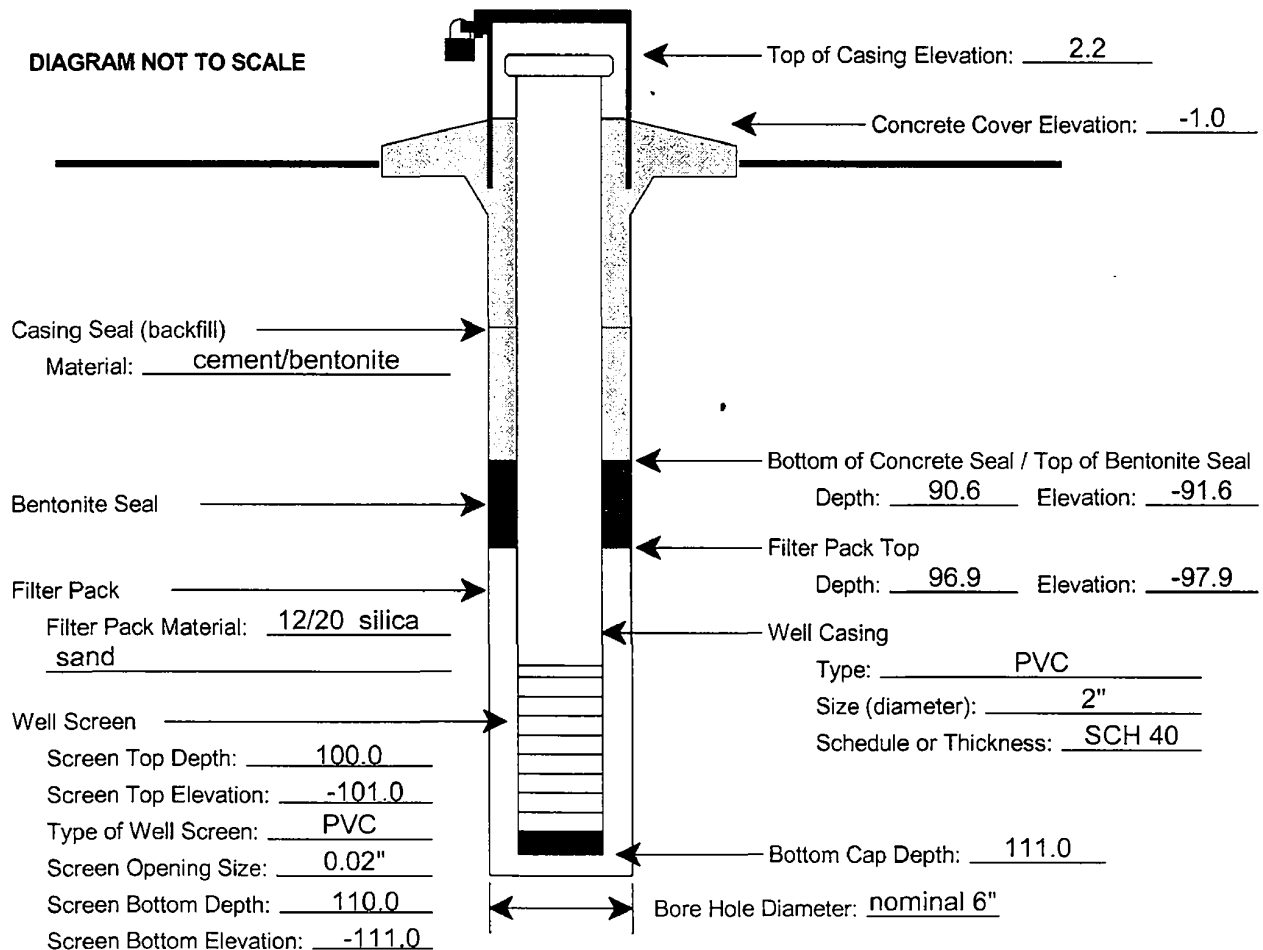
Name: MACTEC
License No.: 11035

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

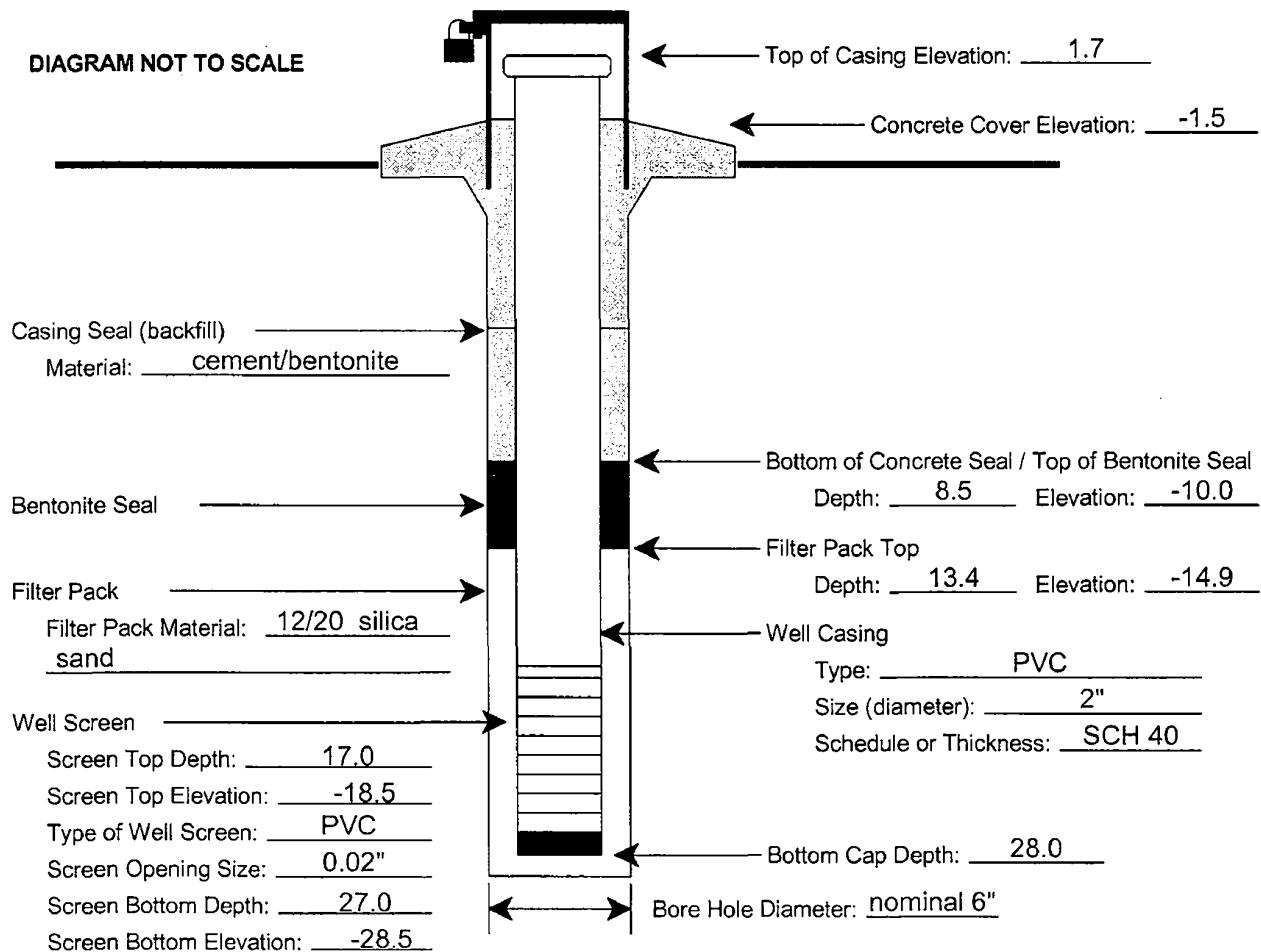
Name: MACTEC
License No.: 11035

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

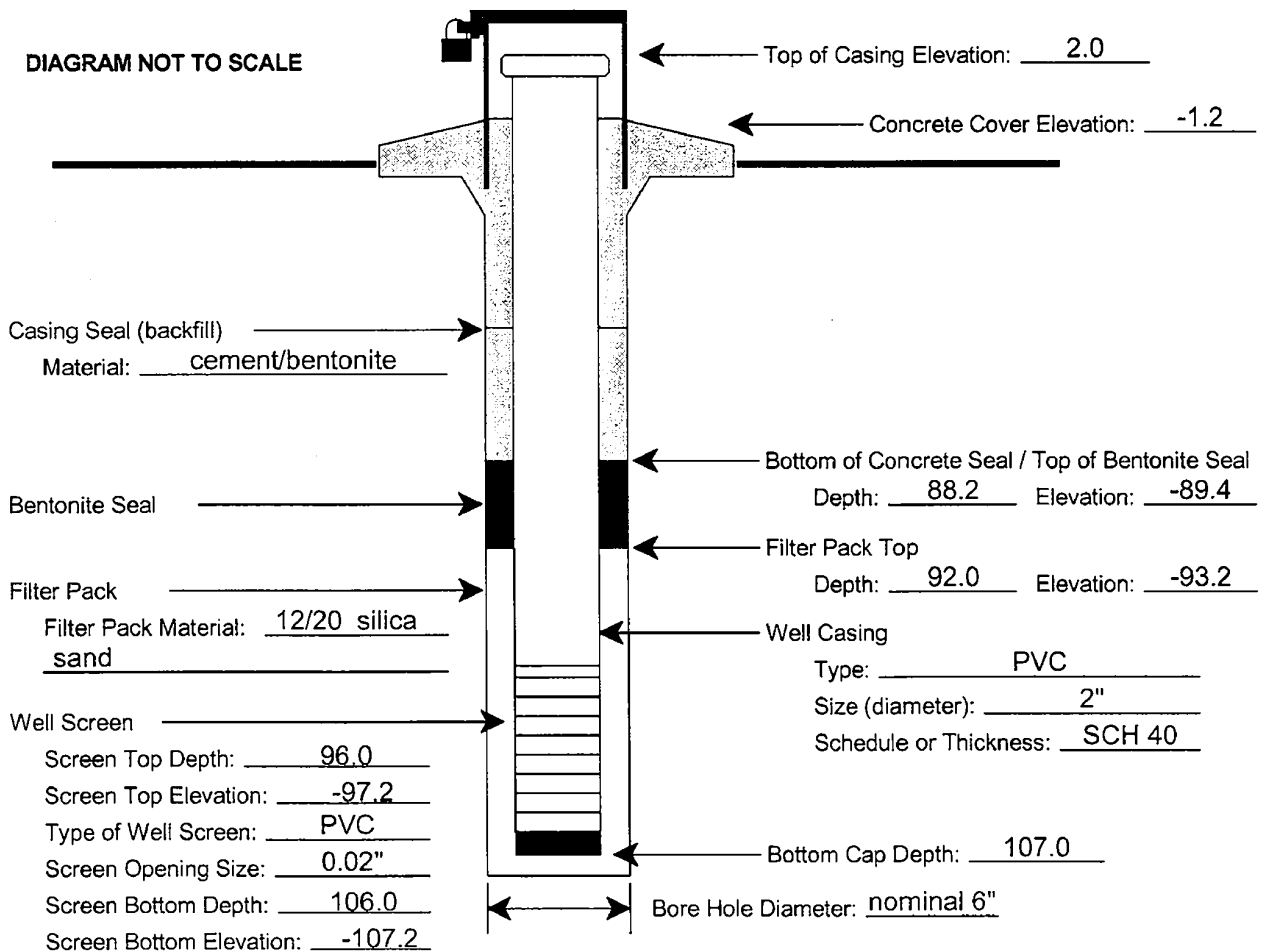
Name: MACTEC
License No.: 11035

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

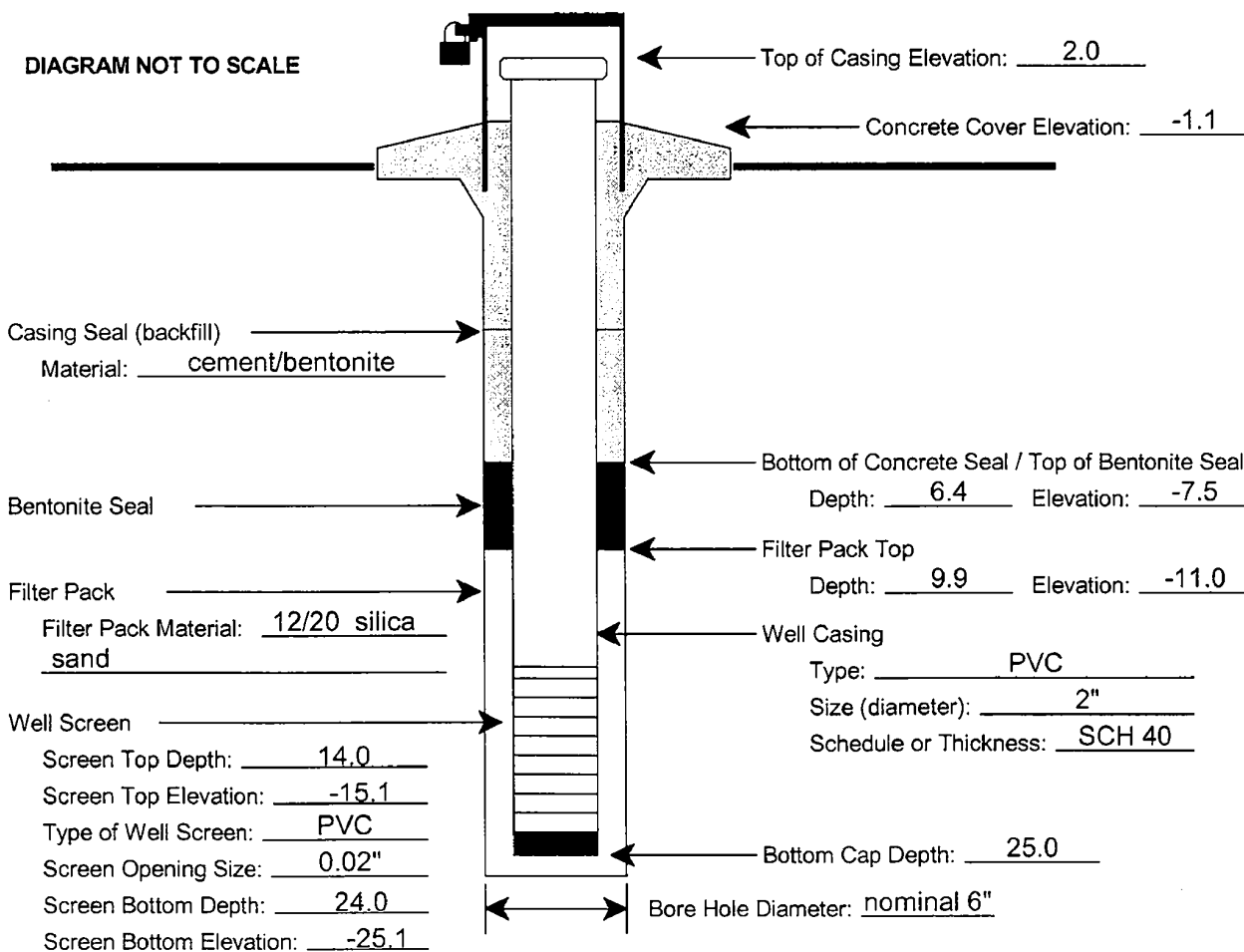
Name: MACTEC
License No.: 11035

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: 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.: 13-59-2252
County: Miami-Dade County, Florida Observation Well I.D.: OW-7351
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

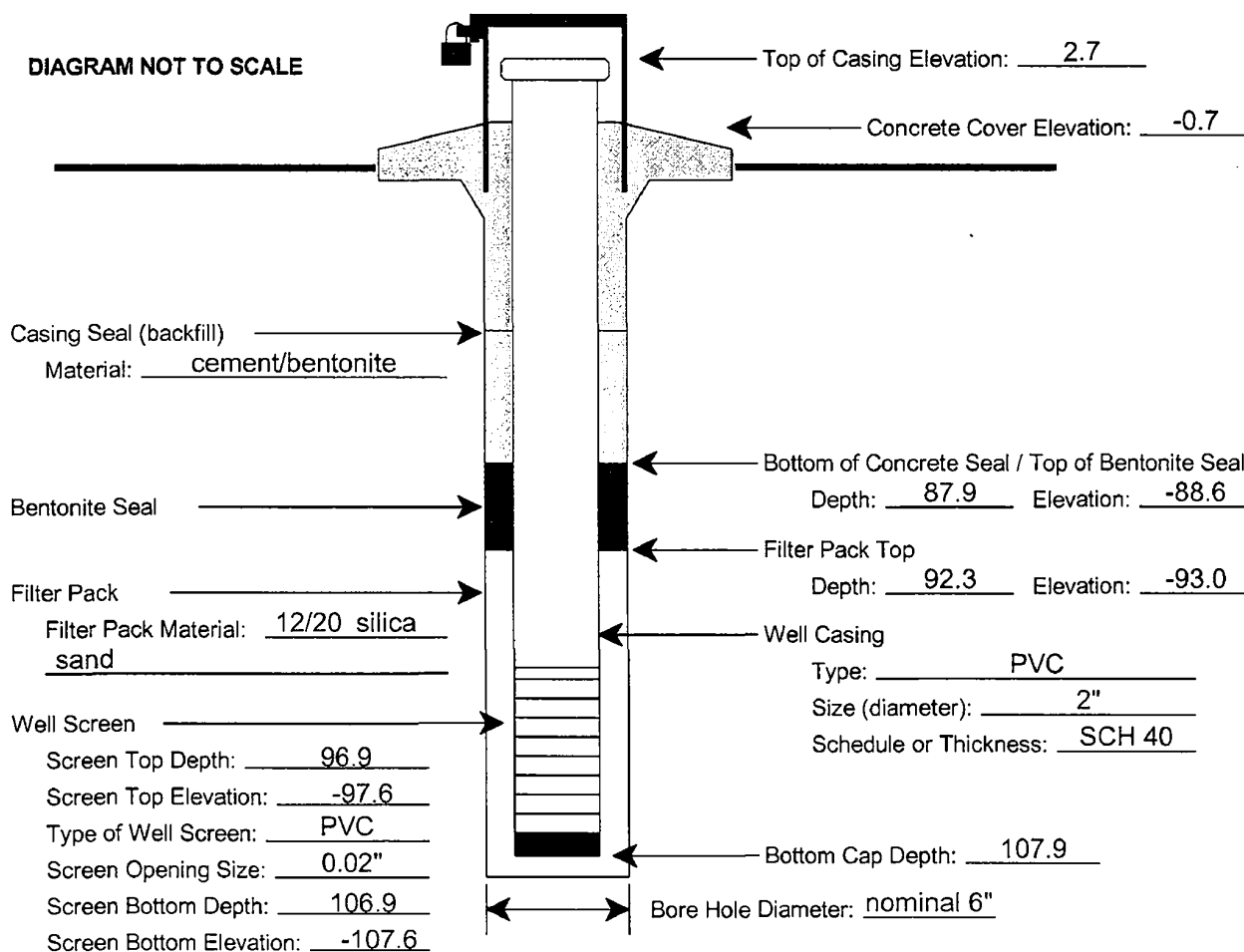
Name: MACTEC
License No.: 11035

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

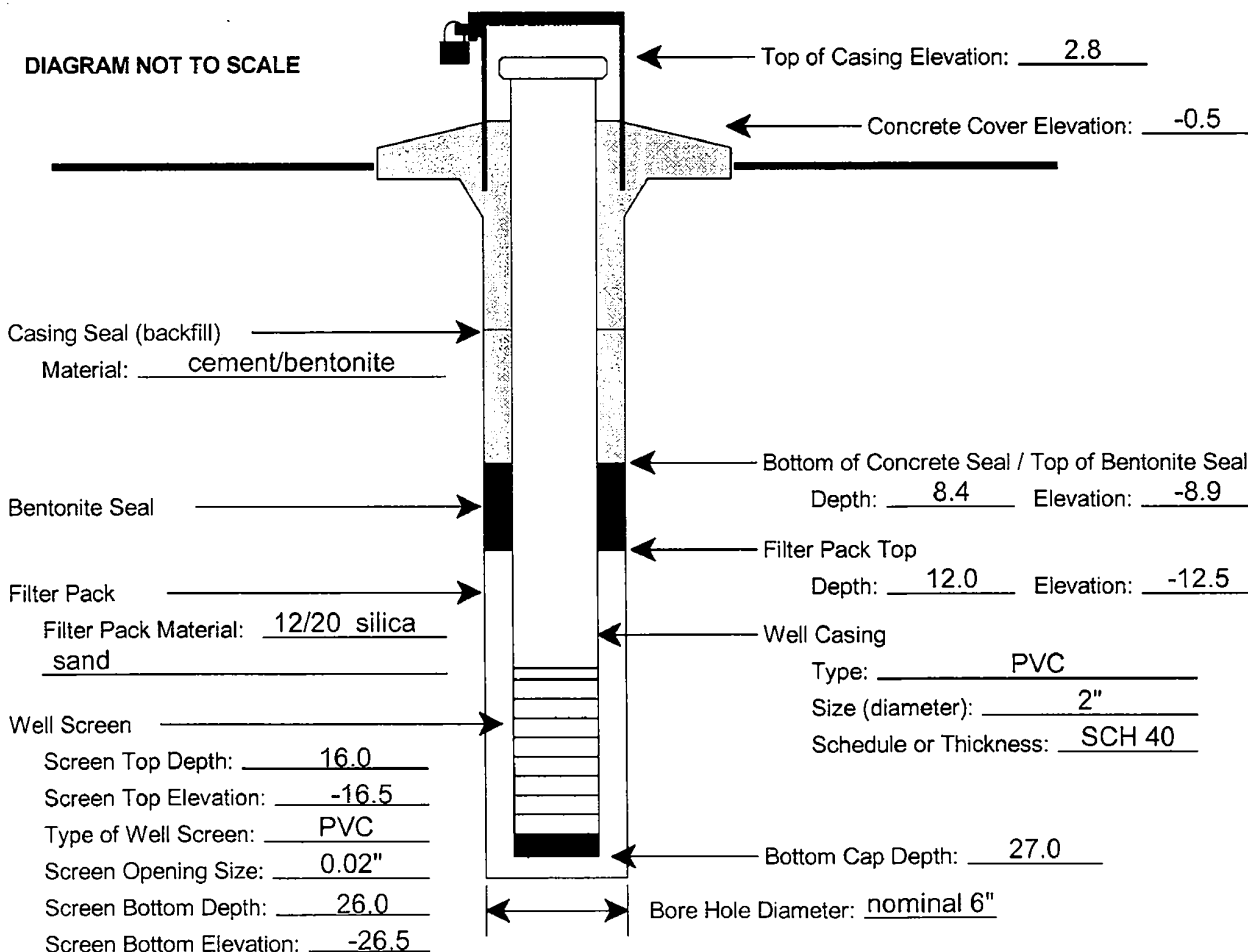
Name: MACTEC
License No.: 11035

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

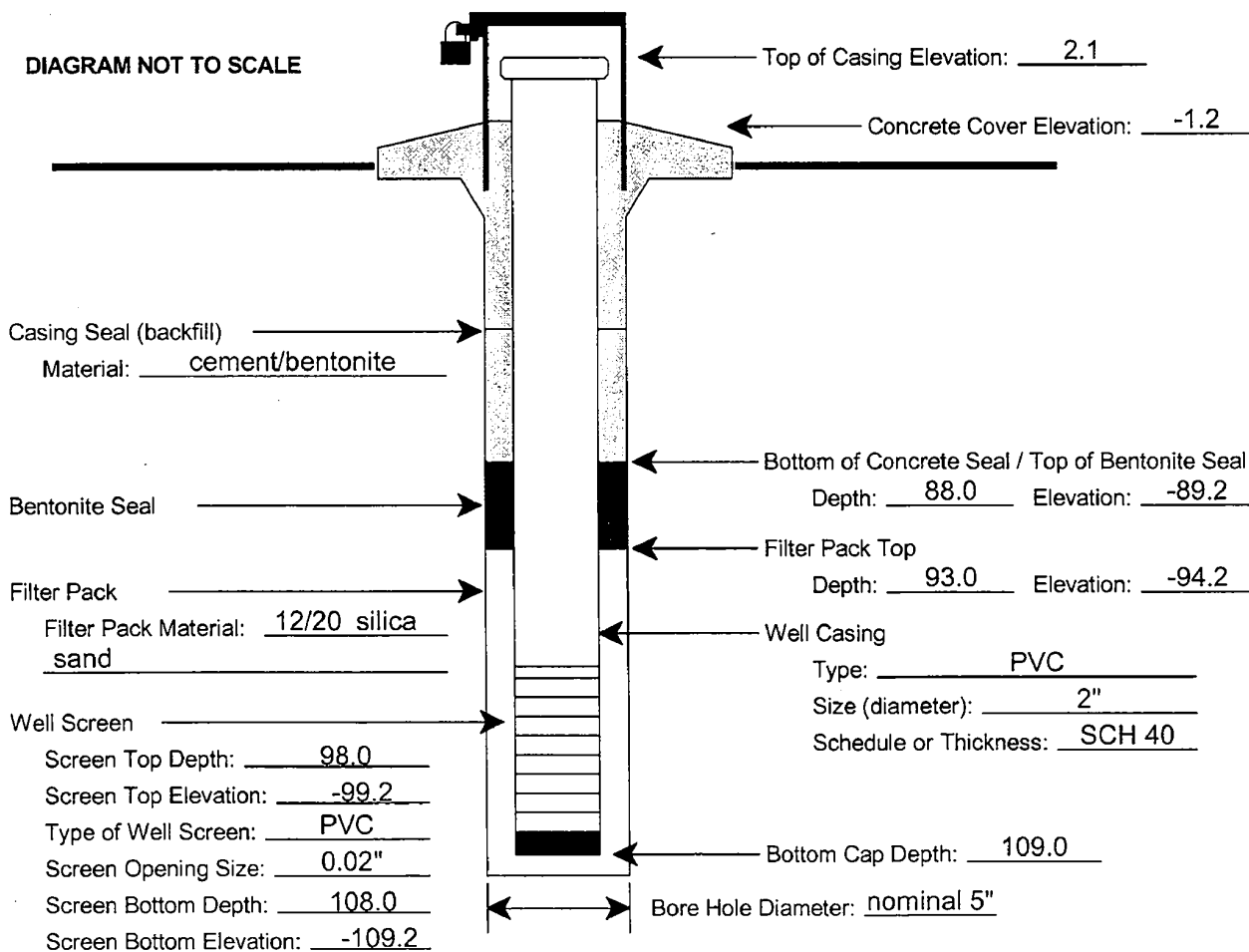
Name: MACTEC
License No.: 11035

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

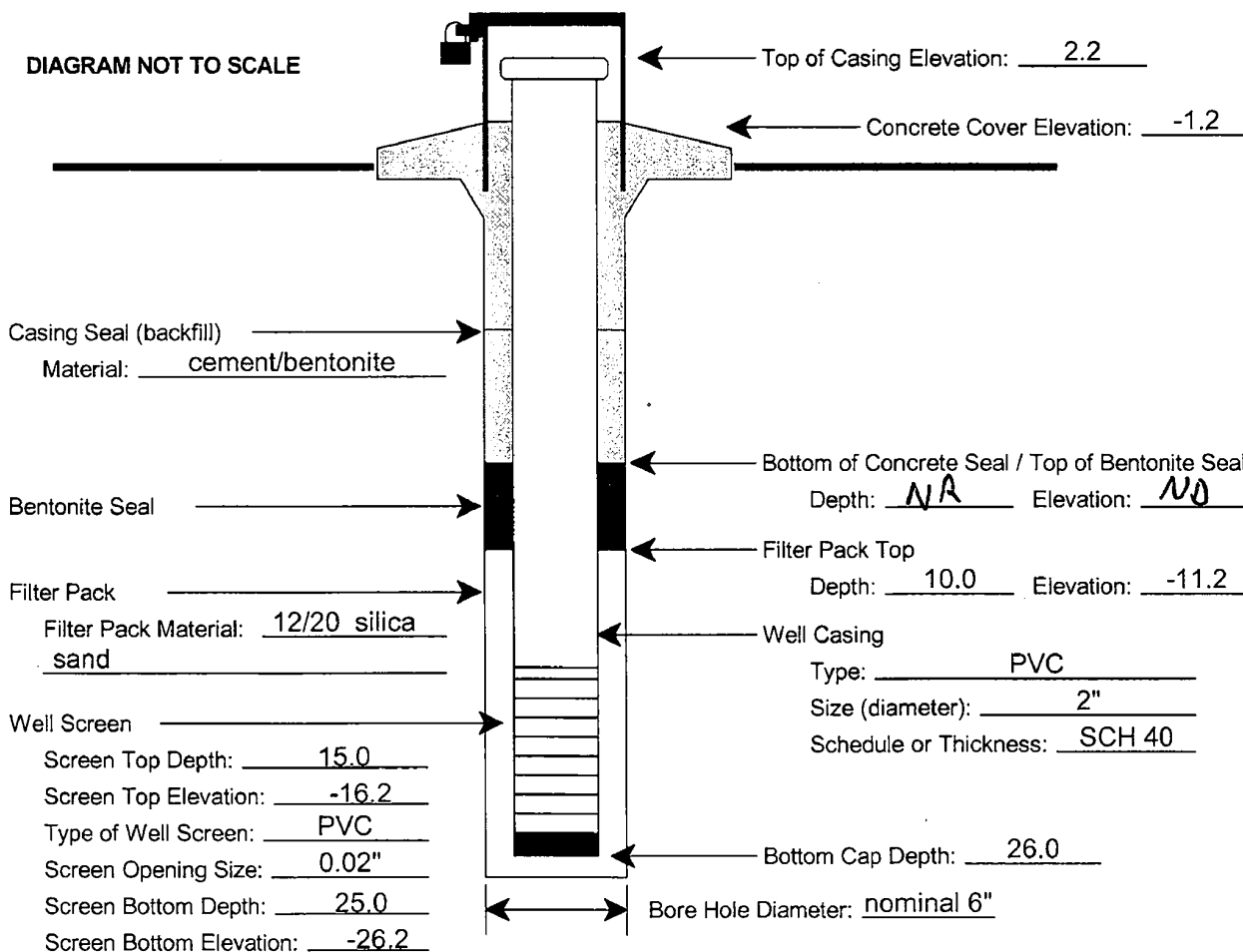
Name: MACTEC
License No.: 11035

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: WJB 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

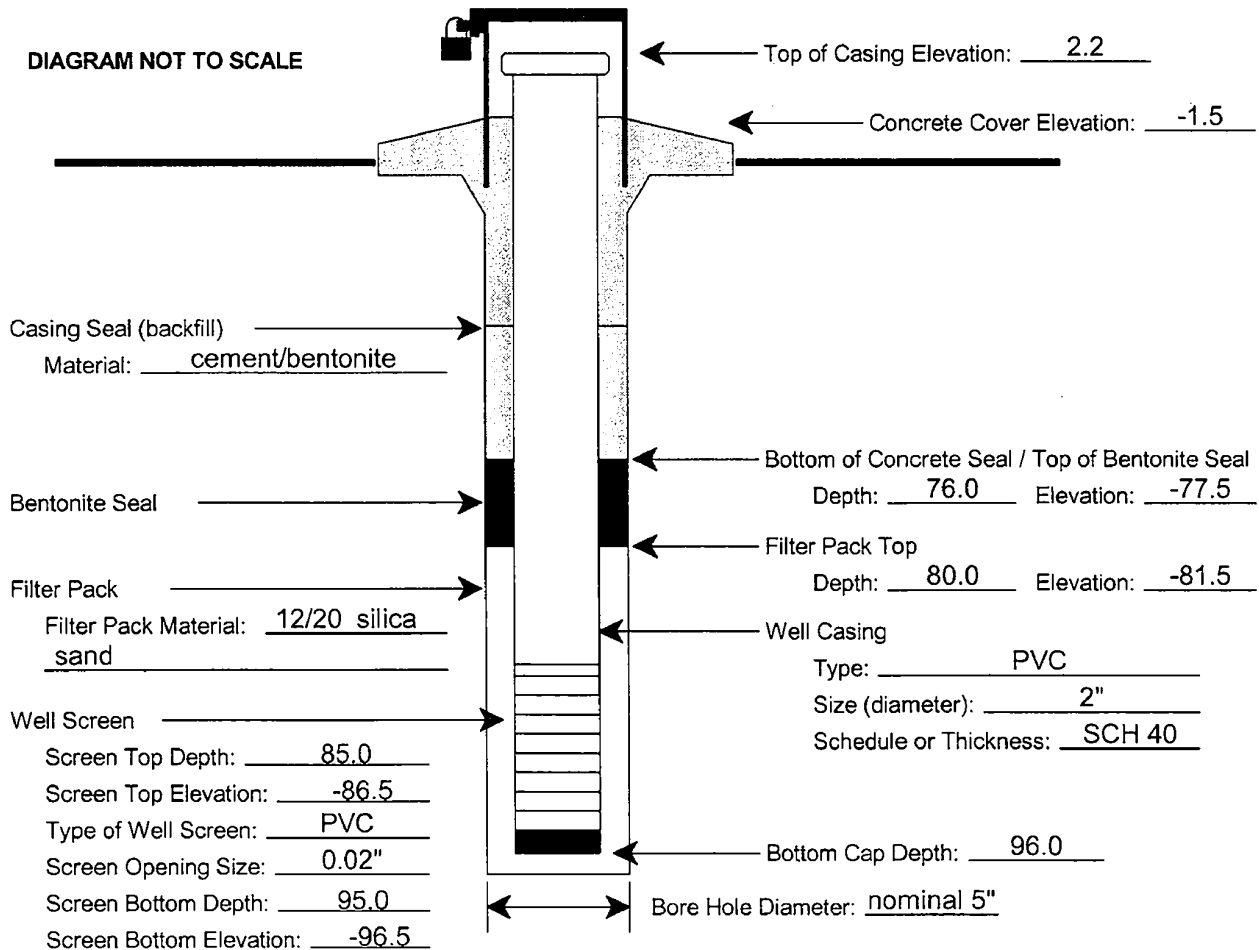
Name: MACTEC
License No.: 11035

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: LSL 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

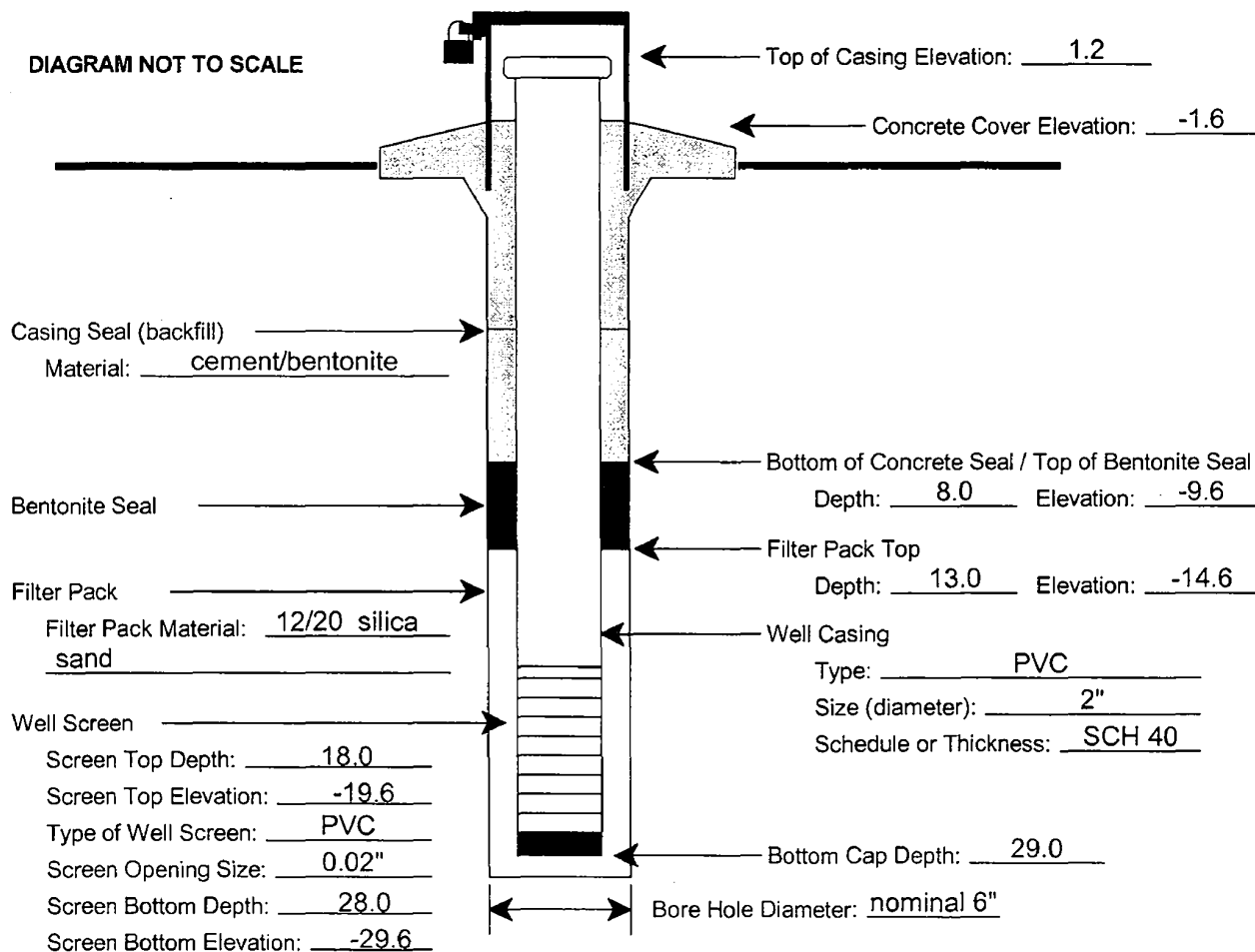
Name: MACTEC
License No.: 11035

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: WSE Date: 7-6-08
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

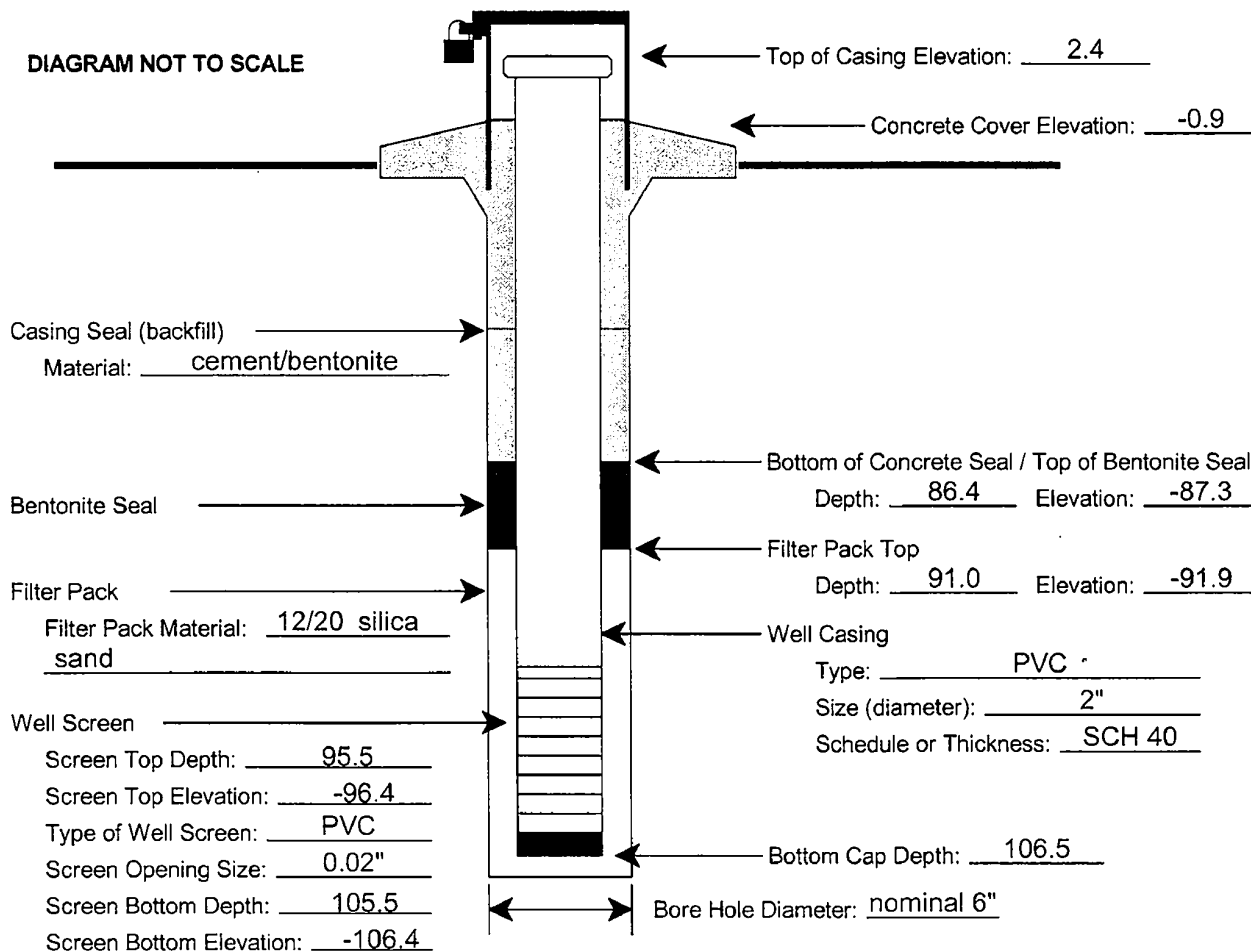
Name: MACTEC
License No.: 11035

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

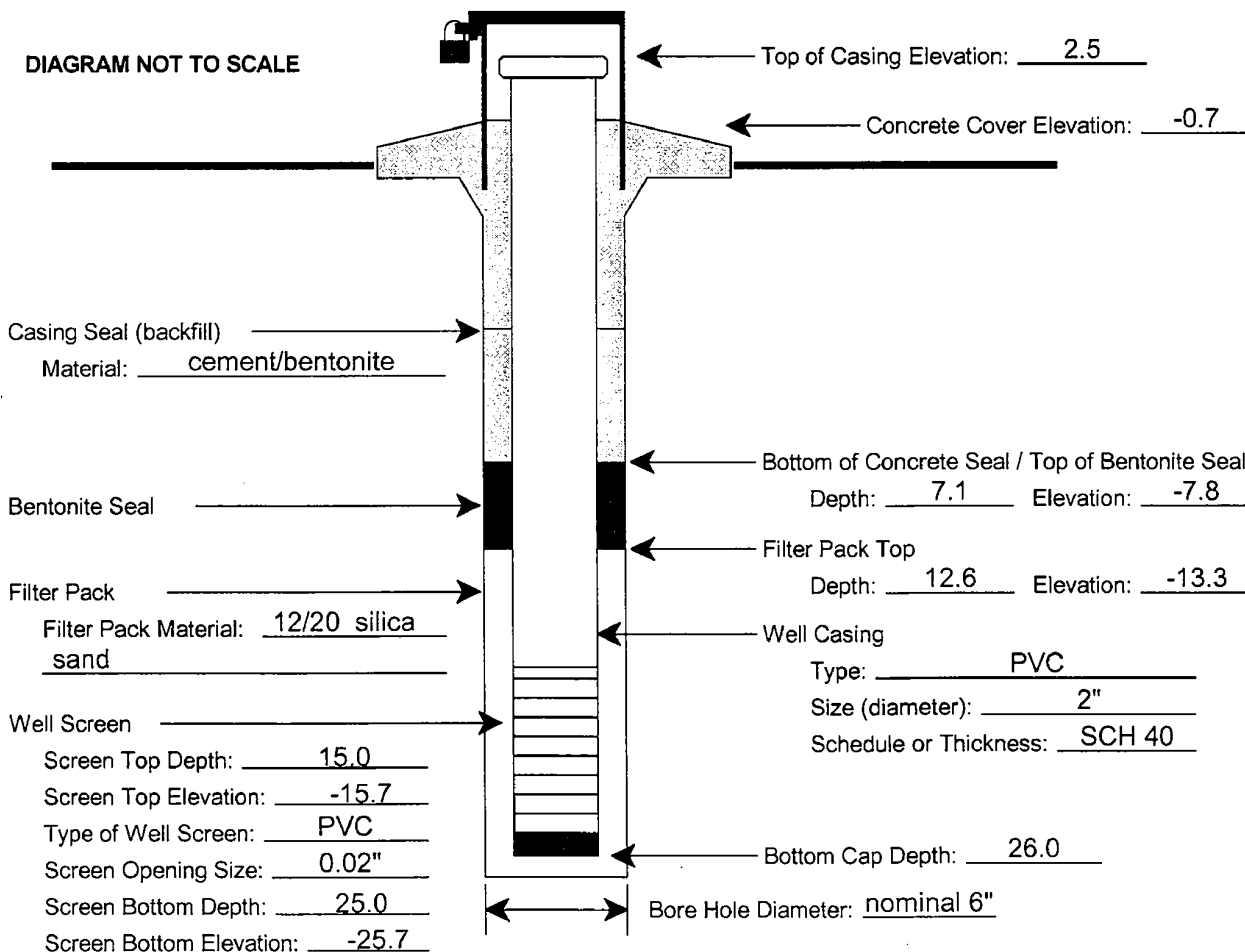
Name: MACTEC
License No.: 11035

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: 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.: 13-59-2260
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

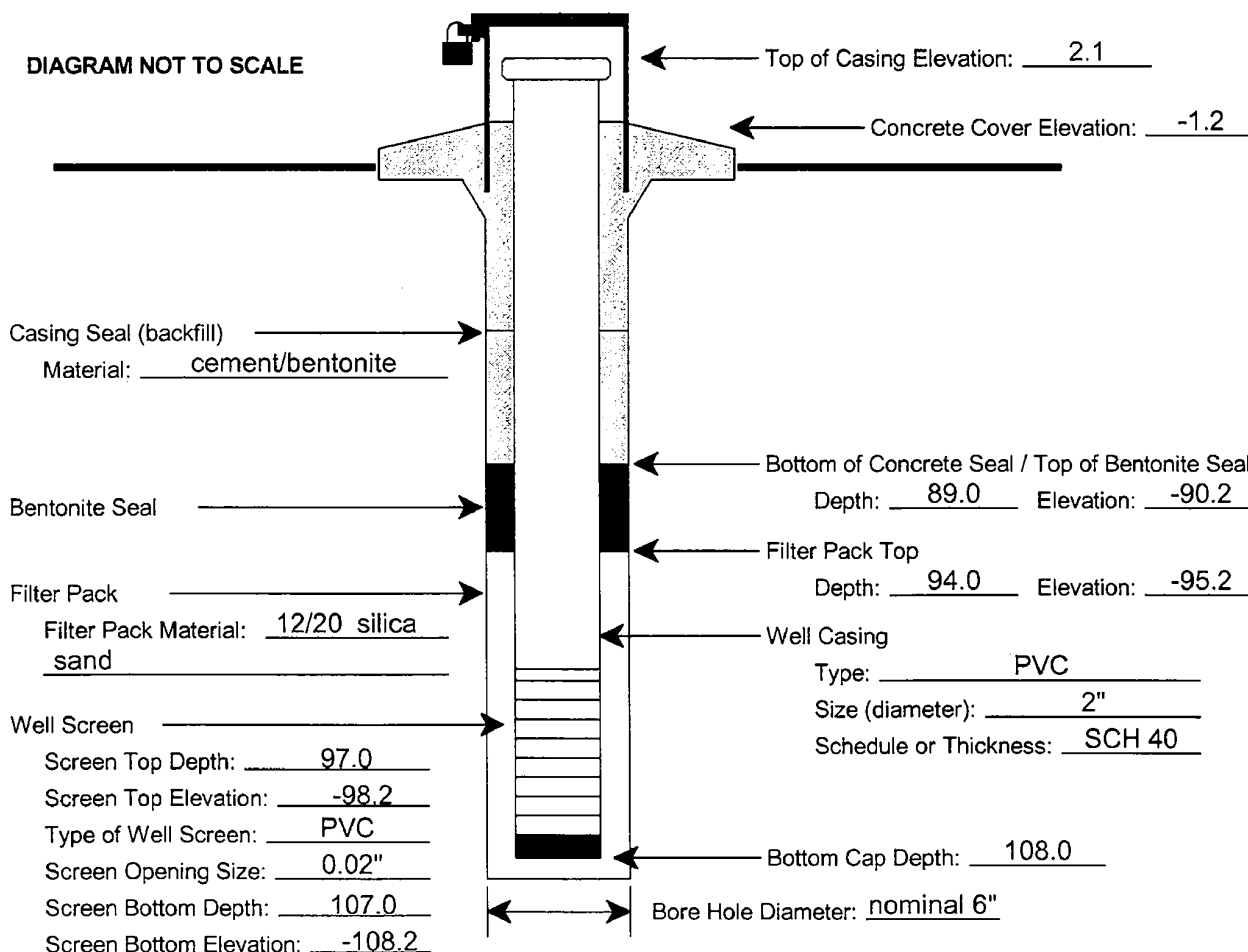
Name: MACTEC
License No.: 11035

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

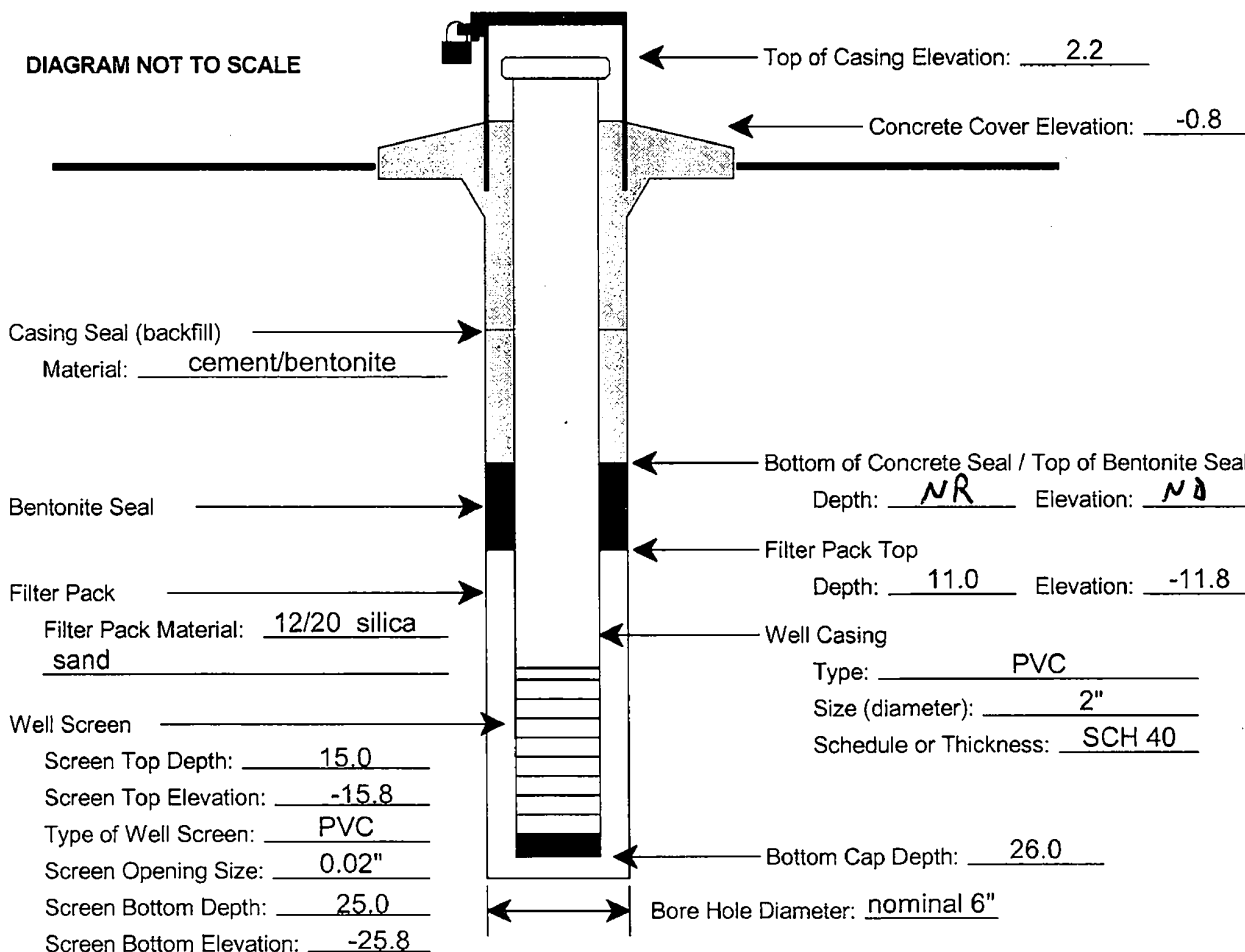
Project Name / No. : Turkey Point Power Station / 6468-07-1950 Observation Well Permit No.: 13-59-2259
County: Miami-Dade County, Florida Observation Well I.D.: OW-812U
Date of Observation Well Installation: 5/6/08 Date of Well Development: 5/7/08
Observation Well Northing: 398933.9 US ft Easting: 875043.5 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																																																																																																																											
<div style="display: flex; justify-content: space-between;"> <div> <p>Height of Water Column: _____ (ft.)</p> <p>x _____</p> <p>_____ gal./ft. (2 in.)</p> <p>_____ gal./ft. (4 in.)</p> <p>_____ gal./ft. (6 in.)</p> <p>_____ gal./ft. (_____ in.) = _____</p> </div> <div style="text-align: right;"> <p>Hy 5-17-08</p> <p>see notes</p> </div> </div>																																																																																																																											
<div style="display: flex; flex-direction: column; gap: 10px;"> <div>0.88'</div> <div>0.89'</div> <div>0.88'</div> <div>0.88'</div> </div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">Number of Well Volumes:</th> <th style="padding: 5px;">Time:</th> <th style="padding: 5px;">Temperature: °C</th> <th style="padding: 5px;">pH: su</th> <th style="padding: 5px;">Conductivity: mS/cm</th> <th style="padding: 5px;">Approximate Pumping Rate (gal./min.):</th> <th style="padding: 5px;">Turbidity (NTU's):</th> </tr> </thead> <tbody> <tr><td style="padding: 5px;">1) 26 gal.</td><td style="padding: 5px;">1011</td><td style="padding: 5px;">27.95</td><td style="padding: 5px;">6.43</td><td style="padding: 5px;">9.29</td><td style="padding: 5px;">3.1 gpm</td><td style="padding: 5px;">197</td></tr> <tr><td style="padding: 5px;">2) 52 gal.</td><td style="padding: 5px;">1020</td><td style="padding: 5px;">29.03</td><td style="padding: 5px;">7.01</td><td style="padding: 5px;">9.04</td><td style="padding: 5px;">↓</td><td style="padding: 5px;">153</td></tr> <tr><td style="padding: 5px;">3) 78 gal.</td><td style="padding: 5px;">1029</td><td style="padding: 5px;">31.00</td><td style="padding: 5px;">7.02</td><td style="padding: 5px;">8.64</td><td style="padding: 5px;">↓</td><td style="padding: 5px;">107</td></tr> <tr><td style="padding: 5px;">4) 104 gal.</td><td style="padding: 5px;">1038</td><td style="padding: 5px;">32.55</td><td style="padding: 5px;">7.08</td><td style="padding: 5px;">8.96</td><td style="padding: 5px;">3.1 gpm</td><td style="padding: 5px;">104</td></tr> <tr><td style="padding: 5px;">5) 130 gal.</td><td style="padding: 5px;">1047</td><td style="padding: 5px;">28.59</td><td style="padding: 5px;">7.09</td><td style="padding: 5px;">9.04</td><td style="padding: 5px;">↓</td><td style="padding: 5px;">101</td></tr> <tr><td style="padding: 5px;">6) 156 gal.</td><td style="padding: 5px;">1056</td><td style="padding: 5px;">28.82</td><td style="padding: 5px;">7.08</td><td style="padding: 5px;">8.98</td><td style="padding: 5px;">↓</td><td style="padding: 5px;">20</td></tr> <tr><td style="padding: 5px;">7) 182 gal.</td><td style="padding: 5px;">1105</td><td style="padding: 5px;">28.60</td><td style="padding: 5px;">7.07</td><td style="padding: 5px;">9.03</td><td style="padding: 5px;">3.1 gpm</td><td style="padding: 5px;">8</td></tr> <tr><td style="padding: 5px;">8) 208 gal.</td><td style="padding: 5px;">1114</td><td style="padding: 5px;">28.61</td><td style="padding: 5px;">7.08</td><td style="padding: 5px;">9.03</td><td style="padding: 5px;">↓</td><td style="padding: 5px;">7</td></tr> <tr><td style="padding: 5px;">9) 234 gal.</td><td style="padding: 5px;">1123</td><td style="padding: 5px;">28.65</td><td style="padding: 5px;">7.07</td><td style="padding: 5px;">9.01</td><td style="padding: 5px;">↓</td><td style="padding: 5px;">55</td></tr> <tr><td style="padding: 5px;">10) 260 gal.</td><td style="padding: 5px;">1132</td><td style="padding: 5px;">28.59</td><td style="padding: 5px;">7.09</td><td style="padding: 5px;">9.03</td><td style="padding: 5px;">↓</td><td style="padding: 5px;">3</td></tr> <tr><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td></tr> <tr><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td></tr> <tr><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td></tr> <tr><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td></tr> <tr><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td></tr> <tr><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td><td style="padding: 5px;"> </td></tr> </tbody> </table>	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	32.55	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	9) 234 gal.	1123	28.65	7.07	9.01	↓	55	10) 260 gal.	1132	28.59	7.09	9.03	↓	3																																											<p>Notes: Surged well pump + screen for entire 1st well volume at well pumping. Water is gray w/very Fine Sand. Set pump in middle of screen.</p> <p>- see well volume calculation spreadsheet for volume calcs.</p>		
Number of Well Volumes:	Time:	Temperature: °C	pH: su	Conductivity: mS/cm	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):																																																																																																																					
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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 Fluvings

Water Level during Initial Pumping/Purging (ft.): 0.24' From T/C

Water Level at Termination of Pumping/Purging (ft.): 0.35' From T/C

Weather: Sunny ~ 75°F

Height of Water Column:

(ft.)

x

0.16 gal./ft. (2 in.)

0.65 gal./ft. (4 in.)

1.5 gal./ft. (8 in.)

gal./ft. (in.) =

Well Volume (gal./ft.)

See notes

Kf 5-1-08

Water level below toe

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) 53 gal.

1119

27.83

7.12

63.3

5 gpm

1.43

(5) 66 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 Chaf. Smith

FIGURE 9

Graphics\Misc\Forms

MACTEC Engineering and Consulting, Inc.

Well Development Record

Well No.:

OW-621L

Project No. 6468-07-1950

Logged By: Kim Chalo-Smith

Client Name: Bechtel

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 185-3-08 185-3-08

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:
(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.)

5-3-08 KJ see notes

Water Level
below TOC

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

OW-6214

Checked By:

Finish Date: 4-19-08

Finish Time: 1124

5308

1.86

(ft): 1.98'

Sunny ~ 80°F

gal./ft. () in

Well Volume (gal./ft.)

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

Kenneth Chaf. Sweet

FIGURE 9

Well Development Record

Well No.:

OW-636L

Project No. 6468-07-1950

Logged By: Kim Chole-Smith

Client Name: Bechtel KY

Project Name: TPCOL 4-5-08

Checked By:

Well Installation Date: 4-4-08 5-5-08

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.)

K8 5-5-08 See notes

Water level
from TAC

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	29.47	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 Chole-Smith

FIGURE 9

Well Development Record

Well No.:

OW-636U

Project No. 6468-07-1950

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.)

Well Volume (gal./ft.)

Ky 5-5-08
See notes

Water level below TC

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:

Set Granat 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.:

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

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.)

TOC
water level

1.07'

1.19'

1.19'

1.21'

Number of Well Volumes:	Time:	Temperature: °C	pH:	Conductivity: <u>MF/cm</u>	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
(1) 25 gal.	1245	27.84	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	53.9	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 Groutos ~ 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.:

aw-706u

Project No. 6468-07-1950

Logged By: Kim Chlo 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

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

Ref 4-30-08

See notes

Well Volume (gal./ft.)

water level
from TOC

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

Notes:

Set Grundfos pump ~ 2' from bottom of well.
Surged well w/pump until water ran
clear approx. 5 gallons. ^{Ref 4-30-08}

See well volume calculation spreadsheet for volume
calcs.

Well Developers Signature:

Kim Chlo 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 ft
5-4-08

3.59'

3.95'

3.87'

3.87'

Number of Well Volumes:	Time:	Temperature:	pH:	Conductivity:	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 Sunpand Soged well with pump.

- See well volume calculator sheet for volume calca.

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 0.65 gal./ft. (4 in.)

1.5 gal./ft. (6 in.)

gal./ft. (in.)

See notes

Kx
5-4-08

Well Volume (gal./ft.)

water level
from TOC

1.86'

1.73'

1.50'

1.49'

Number of
Well Volumes:

5.4.08

Time: 0948

Temperature:
°C

pH:
su

Conductivity:
mS/cm

Approximate
Pumping Rate
(gal./min.):

Turbidity
(NTU's):

(1) 10 gal.
(2) 20 gal.
(3) 30 gal.
(4) 40 gal.
(5) 50 gal.
(6) 60 gal.
(7) 70 gal.
(8) 80 gal.
(9) 90 gal.
(10) 100 gal.

0950
0952
0954
0956
0958
1000
1002
1004
1006
1008

27.76
28.07
28.64
28.77
28.79
28.74
28.84
28.93
28.95
28.96

6.69
7.00
7.03
7.06
7.05
7.08
7.07
7.08
7.07
7.07

41.0
42.4
42.3
43.0
43.1
43.5
43.3
43.2
43.0
43.1

5 gpm
↓
↓
5 gpm
↓
↓
5 gpm
↓
5 gpm
5 gpm

54.8
25.4
14.2
14.6
16.9
9.73
7.92
7.14
6.31
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

4-30-08 See notes

Height of Water Column:
(ft.)

0.16 gal./ft. (2 in.)

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

1.5 gal./ft. (6 in.)

gal./ft. (in.) =

Well Volume (gal./ft.)

water level
from TOC

0.83'

0.84'

0.65'

Number of
Well Volumes:

Time:

Temperature:
°C

pH:
5.1

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

Graphics\Misc\Forms

MACTEC Engineering and Consulting, Inc.

See well volume calculation sheet for volume calcs.

Well Development Record

Well No.:

OW-7354

Project No. C468-07-1950

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

Height of Water Column:
(ft.)

0.16 gal./ft. (2 in.)

x

0.65 gal./ft. (4 in.)

1.5 gal./ft. (8 in.)

gal./ft. (in.) =

Well Volume (gal./ft.)

See
notes

under test

2.03'

2.04'

2.02'

2.03'

Number of Well Volumes:	Time:	Temperature:	pH:	See note Conductivity:	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):
1 (10 gal.)	1130	28.12	6.77	ms/cm	2.0 gpm	17.7
2 (20 gal.)	1141	29.83	6.89	0.001	2.0 gpm	12.0
3 (30 gal.)	1156	30.31	6.88	0.001	2.5 gpm	7.96
4 (40 gal.)	1200	29.25	6.48	60.5	2.5 gpm	5.82
5 (50 gal.)	1335	29.70	6.73	60.4	2.5 gpm	2.71
6 (60 gal.)	1339	29.95	6.77	61.7	3.0 gpm	4.34
7 (70 gal.)	1344	29.77	6.78	62.0	4.0 gpm	7.65
8 (80 gal.)	1347	29.72	6.79	62.5	4.0 gpm	8.80
9 (90 gal.)	1350	29.81	6.80	62.2	4.5 gpm	8.41
10 (100 gal.)	1353	29.93	6.81	62.1	4.5 gpm	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

Graphics\Misc\Forms

MACTEC Engineering and Consulting, Inc.

note: had a problem with conductivity, had to clean probes.
First two conductivity readings not valid.

Well Development Record

Well No.:

OW-802L

Project No. 468-07-1950

Logged By: Kim Chels Smith

Client Name: Bechtel

Project Name: TPCCL

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

Height of Water Column:
(ft.)

0.16 gal./ft. (2 in.)

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

1.5 gal./ft. (6 in.)

gal./ft. (in.)

Well Volume (gal./ft.)

Key 5-5-08
See notes

interlevel
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	3.03 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	3.02 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	3.09 gpm	0.36
	1621					
	Key 5-5-08					

Notes:

Surged Sump w/Grundfos while pumping, for first well volumes removed.

— See well volume calculation spreadsheet for volume calcd.

Well Developers Signature:

Kim Chels 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: 5:40 AM

Finish Time: 1:13 PM

Initial Water Level (ft.): 2.10'

K 5-7-08 15135-08

15135-08

Water Level during Initial Pumping/Purging (ft.): 2.10'

2.64'

155 K 5-7-08

Water Level at Termination of Pumping/Purging (ft.): 2.99'

Weather: Sunny ~ 85°F

Height of Water Column:

(ft.)

x

0.16 gal./ft. (2 in.)

0.66 gal./ft. (4 in.)

1.5 gal./ft. (6 in.)

gal./ft. (in.)

See notes

K 5-7-08

Well Volume (gal./ft.)

Water level
From TAC

2.64'

2.65'

2.67'

2.68'

2.68'

Number of
Well Volumes:

Time:

Temperature:

°C

pH:

5.4

Conductivity:

ms/cm

Approximate

Pumping Rate

(gal./min.):

Turbidity

(NTU's):

1) 10 gal.

14:35:55

28.97

6.36

66.5

5 gpm

4.92

2) 20 gal.

14:35:57

28.68

6.70

68.6

↓

2.49

3) 30 gal.

14:35:59

28.66

6.75

69.8

5 gpm

1.87

4) 40 gal.

15:14:01

28.64

6.76

70.4

↓

1.84

5) 50 gal.

15:14:03

28.58

6.77

70.3

↓

1.76

6) 60 gal.

15:14:05

28.70

6.75

70.6

5 gpm

1.25

7) 70 gal.

15:14:07

28.68

6.81

70.7

↓

1.19

8) 80 gal.

15:14:09

28.70

6.82

71.1

↓

1.16

9) 90 gal.

15:14:11

28.69

6.82

71.1

5 gpm

1.06

10) 100 gal.

15:14:13

28.71

6.82

71.3

5 gpm

0.82

Notes:

Surged pump 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 Chale-Smith

Client Name: Dechdel

Project Name: TPCOL

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: _____ 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.)

Ky 5-13-08 See note

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:

Ky 5-13-08 Ky 5-13-08
Surged Grand pump Sump w/Gruntfos 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 Chale-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: TPCd

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.)

0.16 gal./ft. (2 in.)

0.65 gal./ft. (4 in.)

1.5 gal./ft. (6 in.)

gal./ft. (in.) =

See notes

pg 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):
(1) 10 gal.	0847	26.80	6.38	65.8	4.0 gpm	2.37
(2) 20 gal.	0850	27.97	6.91	69.1	4.0 gpm	1.86
(3) 30 gal.	0853	29.29	6.96	69.3	4.0 gpm	1.53
(4) 40 gal.	0856	29.34	6.99	68.9	4.0 gpm	1.46
(5) 50 gal.	0859	29.32	6.97	68.8	4.0 gpm	1.48
(6) 60 gal.	0902	29.53	6.99	68.9	5.0 gpm	1.23
(7) 70 gal.	0904	29.43	7.00	68.9	5.0 gpm	0.63
(8) 80 gal.	0906	29.04	7.02	68.8	5.0 gpm	0.92
(9) 90 gal.	0908	29.15	7.01	68.7	5.0 gpm	1.29
(10) 100 gal.	0910	29.18	7.00	68.6	5.0 gpm	1.58

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.: <div style="font-size: 1.2em;">OW - 812L</div>																																																																																																																																													
Project No. <u>6468-07-1950</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> ^{K9} <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>																																																																																																																																																	
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Water Level at Termination of Pumping/Purging (ft.): <u>1.55'</u>																																																																																																																																																	
Weather: <u>Sunny ~ 80°F</u>																																																																																																																																																	
<div style="display: flex; justify-content: space-between;"> <div> Height of Water Column: _____ (ft.) </div> <div> 0.16 gal./ft. (2 in.) 0.65 gal./ft. (4 in.) 1.5 gal./ft. (6 in.) gal./ft. () in. = </div> <div> <div style="text-align: right;">Key see notes</div> <div style="text-align: right;">5-13-08</div> </div> </div>																																																																																																																																																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Number of Well Volumes:</th> <th style="width: 10%;">Time:</th> <th style="width: 10%;">Temperature: °C</th> <th style="width: 10%;">pH: SU</th> <th style="width: 10%;">Conductivity: ⁵⁻¹³⁻⁰⁸ 5000 <u>ms/cm</u></th> <th style="width: 10%;">Approximate Pumping Rate (gal./min.):</th> <th style="width: 10%;">Turbidity (NTU's):</th> </tr> </thead> <tbody> <tr> <td>1) <u>23 gal.</u></td> <td><u>1024</u></td> <td><u>31.74</u></td> <td><u>6.57</u></td> <td><u>42.0</u></td> <td><u>3.0 gpm</u></td> <td><u>0.75</u></td> </tr> <tr> <td>2) <u>46 gal.</u></td> <td><u>1032</u></td> <td><u>31.23</u></td> <td><u>6.84</u></td> <td><u>42.0</u></td> <td><u>↓</u></td> <td><u>1.23</u></td> </tr> <tr> <td>3) <u>69 gal.</u></td> <td><u>1040</u></td> <td><u>31.01</u></td> <td><u>6.84</u></td> <td><u>42.5</u></td> <td><u>↓</u></td> <td><u>0.80</u></td> </tr> <tr> <td>4) <u>92 gal.</u></td> <td><u>1048</u></td> <td><u>30.78</u></td> <td><u>6.84</u></td> <td><u>42.2</u></td> <td><u>↓</u></td> <td><u>0.58</u></td> </tr> <tr> <td>5) <u>115 gal.</u></td> <td><u>1056</u></td> <td><u>30.93</u></td> <td><u>6.85</u></td> <td><u>42.2</u></td> <td><u>3.0 gpm</u></td> <td><u>0.42</u></td> </tr> <tr> <td>6) <u>138 gal.</u></td> <td><u>1104</u></td> <td><u>30.83</u></td> <td><u>6.86</u></td> <td><u>42.6</u></td> <td><u>↓</u></td> <td><u>0.63</u></td> </tr> <tr> <td>7) <u>161 gal.</u></td> <td><u>1112</u></td> <td><u>30.91</u></td> <td><u>6.86</u></td> <td><u>42.6</u></td> <td><u>↓</u></td> <td><u>0.58</u></td> </tr> <tr> <td>8) <u>184 gal.</u></td> <td><u>1120</u></td> <td><u>30.83</u></td> <td><u>6.86</u></td> <td><u>42.7</u></td> <td><u>↓</u></td> <td><u>0.64</u></td> </tr> <tr> <td>9) <u>207 gal.</u></td> <td><u>1128</u></td> <td><u>30.77</u></td> <td><u>6.86</u></td> <td><u>42.8</u></td> <td><u>3.0 gpm</u></td> <td><u>0.66</u></td> </tr> <tr> <td>10) <u>230 gal.</u></td> <td><u>1136</u></td> <td><u>30.80</u></td> <td><u>6.85</u></td> <td><u>42.7</u></td> <td><u>↓</u></td> <td><u>0.51</u></td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>						Number of Well Volumes:	Time:	Temperature: °C	pH: SU	Conductivity: ⁵⁻¹³⁻⁰⁸ 5000 <u>ms/cm</u>	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):	1) <u>23 gal.</u>	<u>1024</u>	<u>31.74</u>	<u>6.57</u>	<u>42.0</u>	<u>3.0 gpm</u>	<u>0.75</u>	2) <u>46 gal.</u>	<u>1032</u>	<u>31.23</u>	<u>6.84</u>	<u>42.0</u>	<u>↓</u>	<u>1.23</u>	3) <u>69 gal.</u>	<u>1040</u>	<u>31.01</u>	<u>6.84</u>	<u>42.5</u>	<u>↓</u>	<u>0.80</u>	4) <u>92 gal.</u>	<u>1048</u>	<u>30.78</u>	<u>6.84</u>	<u>42.2</u>	<u>↓</u>	<u>0.58</u>	5) <u>115 gal.</u>	<u>1056</u>	<u>30.93</u>	<u>6.85</u>	<u>42.2</u>	<u>3.0 gpm</u>	<u>0.42</u>	6) <u>138 gal.</u>	<u>1104</u>	<u>30.83</u>	<u>6.86</u>	<u>42.6</u>	<u>↓</u>	<u>0.63</u>	7) <u>161 gal.</u>	<u>1112</u>	<u>30.91</u>	<u>6.86</u>	<u>42.6</u>	<u>↓</u>	<u>0.58</u>	8) <u>184 gal.</u>	<u>1120</u>	<u>30.83</u>	<u>6.86</u>	<u>42.7</u>	<u>↓</u>	<u>0.64</u>	9) <u>207 gal.</u>	<u>1128</u>	<u>30.77</u>	<u>6.86</u>	<u>42.8</u>	<u>3.0 gpm</u>	<u>0.66</u>	10) <u>230 gal.</u>	<u>1136</u>	<u>30.80</u>	<u>6.85</u>	<u>42.7</u>	<u>↓</u>	<u>0.51</u>																																																															
Number of Well Volumes:	Time:	Temperature: °C	pH: SU	Conductivity: ⁵⁻¹³⁻⁰⁸ 5000 <u>ms/cm</u>	Approximate Pumping Rate (gal./min.):	Turbidity (NTU's):																																																																																																																																											
1) <u>23 gal.</u>	<u>1024</u>	<u>31.74</u>	<u>6.57</u>	<u>42.0</u>	<u>3.0 gpm</u>	<u>0.75</u>																																																																																																																																											
2) <u>46 gal.</u>	<u>1032</u>	<u>31.23</u>	<u>6.84</u>	<u>42.0</u>	<u>↓</u>	<u>1.23</u>																																																																																																																																											
3) <u>69 gal.</u>	<u>1040</u>	<u>31.01</u>	<u>6.84</u>	<u>42.5</u>	<u>↓</u>	<u>0.80</u>																																																																																																																																											
4) <u>92 gal.</u>	<u>1048</u>	<u>30.78</u>	<u>6.84</u>	<u>42.2</u>	<u>↓</u>	<u>0.58</u>																																																																																																																																											
5) <u>115 gal.</u>	<u>1056</u>	<u>30.93</u>	<u>6.85</u>	<u>42.2</u>	<u>3.0 gpm</u>	<u>0.42</u>																																																																																																																																											
6) <u>138 gal.</u>	<u>1104</u>	<u>30.83</u>	<u>6.86</u>	<u>42.6</u>	<u>↓</u>	<u>0.63</u>																																																																																																																																											
7) <u>161 gal.</u>	<u>1112</u>	<u>30.91</u>	<u>6.86</u>	<u>42.6</u>	<u>↓</u>	<u>0.58</u>																																																																																																																																											
8) <u>184 gal.</u>	<u>1120</u>	<u>30.83</u>	<u>6.86</u>	<u>42.7</u>	<u>↓</u>	<u>0.64</u>																																																																																																																																											
9) <u>207 gal.</u>	<u>1128</u>	<u>30.77</u>	<u>6.86</u>	<u>42.8</u>	<u>3.0 gpm</u>	<u>0.66</u>																																																																																																																																											
10) <u>230 gal.</u>	<u>1136</u>	<u>30.80</u>	<u>6.85</u>	<u>42.7</u>	<u>↓</u>	<u>0.51</u>																																																																																																																																											
Notes: <u>Surged well pump with Grundfos to remove sediment Set 8 Grundfos pump in screen and removed 10 well volumes.</u> <u>- see well volume calculation spreadsheet for volume calcs.</u>																																																																																																																																																	
Well Developers Signature: <u>Kim Charles Smith</u>					FIGURE 9																																																																																																																																												

Well Development Record

Well No.:

OW-8124

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

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: _____
(ft.)

0.16 gal./ft. (2 in.)
0.65 gal./ft. (4 in.)
1.5 gal./ft. (6 in.)
_____ gal./ft. (_____ in.)

See notes
Kf 5-7-08

Well Volume (gal./ft.)

Water level
from TOC

2.68'

1) 10 gal.

1335

Temperature: 32.77

pH: 6.80

Conductivity: 76.3

Approximate Pumping Rate (gal./min.): 5 gpm

Turbidity (NTU's): 5.08

2) 20 gal.

1337

32.44

6.79

76.7

5 gpm

3.30

3) 30 gal.

1339

32.90

6.80

79.6

5 gpm

1.89

2.76'

4) 40 gal.

1341

33.05

6.80

77.7

5 gpm

1.26

5) 50 gal.

1343

33.28

6.81

77.6

5 gpm

0.80

2.78'

6) 60 gal.

1345

33.20

6.81

77.5

5 gpm

0.83

7) 70 gal.

1347

33.01

6.82

77.8

5 gpm

0.78

2.79'

8) 80 gal.

1349

33.17

6.81

77.7

5 gpm

0.88

9) 90 gal.

13451

33.16

6.81

77.7

5 gpm

0.67

2.80'

10) 100 gal.

13453

33.10

6.81

77.4

5 gpm

0.51

Notes:

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

Well Developers Signature:

Kim Chels-Smith

FIGURE 9

Well Sampling Records



OBSERVATION WELL SAMPLING WORKSHEET

MACTEC JOB NUMBER: 6468-07-1950

DATE: 5/29/2008

3.30 CASING MATERIAL: PVC

TUBING TYPE: Dedicated, Disposable Tubing

DEPTH TO GROUNDWATER: 5.23

WATER-COLUMN HEIGHT: 27.13

<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO
-------------------------------------	-----	--------------------------	----

<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO
-------------------------------------	-----	--------------------------	----

<input type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO
--------------------------	-----	-------------------------------------	----

<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO
-------------------------------------	-----	--------------------------	----

<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO
-------------------------------------	-----	--------------------------	----

<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO
-------------------------------------	-----	--------------------------	----

<input checked="" type="checkbox"/>	HIGH	<input type="checkbox"/>	MODERATE	<input type="checkbox"/>	LOW
-------------------------------------	------	--------------------------	----------	--------------------------	-----

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

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

Date: 7-7-08

Date: 7/7/06

DCN# TUR512



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:		See 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: WGR

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		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:		3.05		
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		DATE:	5/27/2008
MEASURED WELL DEPTH:		29.71 FT.		SCREENED INTERVAL:		15-25 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:		3.38			
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: WSE

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.	Date Submitted	Project	FPL Turkey Point COL	Bechtel SDDR No.	Date Received		
76	5/18/09	Job No.	25409	see above	4/19/09		
1. Supplier Name		Address		City & State		Zip Code	
MACTEC Engineering and Consulting, Inc		3301 Atlantic Avenue		Raleigh, NC		27604	
2. Supplier's Order No.	3. Supplier's Part No.	4. Supplier's Part Name	5. Deviation Detected		6. All Previous SDDRs (Numbers and Dates)		
NA	NA	NA	Date Method				
			9/22/2008 NCR				
7. Bechtel PO & Rev. No.	8. Bechtel Part No.	9. Bechtel Part Name	10. Bechtel SQR Notified		11. Bechtel Eng. Notified		
Subcontract No. 25409-102-3PS-CT20-00001 rev 001	NA	NA	Date Method		Date Method		
			5/18/2009 SDDR		5/18/2009 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		Signature		Title		Date	
RICHARD S. AUGER				PROJECT MANAGER		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		6/11/09		N/A			
Checker		6/17/09					
EGS		6/17/09					
PE		6-17-09		*23. Bechtel Supplier Quality Representative		Date	
				N/A			

SDDR Document – attachment 3 Pages

DCN# TUR765

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		
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

13715 Rider Trail North Earth City, MO 63045 tel 314.298.8566 fax 314.298.8757 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

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.	Date Submitted	Project	Job No.	Bechtel SDDR No.	Date Received		
77	6/5/09	FPL Turkey Point COL	25409	SEE ABOVE	6/9/09		
1. Supplier Name		Address		City & State		Zip Code	
MACTEC Engineering and Consulting, Inc		3301 Atlantic Avenue		Raleigh, NC		27604	
2. Supplier's Order No.	3. Supplier's Part No.	4. Supplier's Part Name		5. Deviation Detected		6. All Previous SDDRs (Numbers and Dates)	
NA	NA	NA		Date	Method		
				5/20/2009	NCR		
7. Bechtel PO & Rev. No.	8. Bechtel Part No.	9. Bechtel Part Name		10. Bechtel SQR Notified		11. Bechtel Eng. Notified	
Subcontract No. 25409-102-3PS-CT20-00001 rev 001	NA	NA		Date	Method	Date	Method
				6/5/2009	SDDR	6/5/2009	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				15. Schedule Impact			
None				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		Signature		Title		Date	
RICARDO S. AUGER				PROJECT MANAGER		6/5/09	
*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 8 FOR DISPOSITION Construction Action Required <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
*21. Bechtel Disposition Approval/Signature				22. Supplier			
RE		Date		S CRISCENZO		Date	
		6/17/09		(SEE NCARTP 41)		6-3-09	
Checker		Date					
		6/17/09					
EGS		Date		*23. Bechtel Supplier Quality Representative			
		6-17-09		N/A			
PE		Date					

SDDR Document - attachment 6 Pages

DCN# TUR781

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		Date: 5-28-09
Corrective Action Approval Signature: (Principal or Chief Engineer)		Date: 6-2-09
Corrective Action Closure		
Comments:		
Approved/Actual Disposition of Nonconforming Items: REPAIR REWORK		
BECHTEL Approval Signature: To be confirmed with SDDR		
MACTEC QAR Approval Signature:		Date: 6/4/09
MACTEC Chief Engineer Signature:		Date: 6/3/09

DCN: TUR

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

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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 LIMS 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

SDDR PAGE 4 of 8

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Lims Data Entry Print Out

WDE115

TestAmerica Laboratories, Inc.
Inorganic Batch Review
QC Batch 8154062Date 6/02/2008
Time 12:33:33Method Code: UI Alkalinity, Bicarbonate (310.1)
Analyst: Steve Brantz

Work Order	Result	Units	LDL/Dil	Prep. - Anal.	Total Solids	PHSL Flag	R/R	Rounded Result	Output LDL	Dil.
KN12D-1-AJ	175	mg/L	5	06/02/08	.00	N		175	5.0	1.00
KN12K-1-AJ	177	mg/L	5	06/02/08	.00	N		177	5.0	1.00
KN21K-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
KN21J-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
KN31J-1-AJ	8.25	mg/L	5	06/02/08	.00	N		8.2	5.0	1.00
KN41M-1-AJ	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-AJ	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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6-2-8

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	6828C								306.0						310.1 - Alkalinity		SM 18 2320B	399.1	SM 18 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	µg/L	%	
OW-606L	5/28/2008	49100 ^a	632,000 N	<50U	1,880,000 N	39.1	549,000 N	2,690 ^a	<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 ^a	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 ^a	574,000 N	<50,000 N	1,960,000 N	<2,000 N	586,000 N	133,000 JB	62,100 JB ^a	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 ^a	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 ^a	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 ^a	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 ^a	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 ^a	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 ^a	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 ^a	579,000 N	<50,000 N	1,980,000 N	<2,000 N	586,000 N	143,000 J	66,700 JB	16,400,000 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 ^a	447,000 N	<50,000 N	1,570,000 N	<2,000 N	493,000 N	107,000 J	49,900 JB	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 ^a	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 contamination. The associated method blank contains the target analyte at a reportable level. These data should be used with caution.

¹ = 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.

^a = 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: LWS

Date: 5-22-09

Checked by: CBS

Date: 5/22/09

SINK PAGE 7 of 8

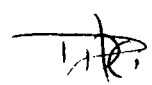
Supplier Deviation Disposition Request (Continuation Sheet)**Bechtel SDDR No. 25409-102-YD4-CY00-00077****20. Bechtel Disposition Statement**

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

8 of 8
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
TM

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: | <u>✓</u> | <u> </u> | <u> </u> |
| 2. Samples analyzed within applicable holding times (based on date of sample collection):* | <u>✓</u> | <u> </u> | <u> </u> |
| 3. Trip blanks, field blanks or laboratory method blanks are free of blank contamination: | <u> </u> | <u>✓¹</u> | <u> </u> |
| 4. If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: ** | <u> </u> | <u> </u> | <u>✓</u> |
| 5. Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges: | <u> </u> | <u> </u> | <u>✓</u> |
| 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: | <u> </u> | <u>✓²</u> | <u> </u> |
| 7. Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards): | <u>✓</u> | <u> </u> | <u> </u> |
| 8. Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate): | <u>✓</u> | <u> </u> | <u> </u> |
| 9. Analytical costs within authorized budget for these services: | <u> </u> | <u> </u> | <u>✓</u> |

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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.



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

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
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

Matrix.....: WATER

Date Sampled...: 06/04/08 14:20 Date Received...: 06/05/08

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	%	SM18 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	SM18 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	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	06/05/08	8175487
		Work Order #: KQG151AA MB Lot-Sample #: F8F230000-487				
		Dilution Factor: 1				
		Analysis Time... 07:51				
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	0.026 B	0.20	mg/L	MCAWW 300.0A	06/05/08	8175488
		Work Order #: KQG161AA MB Lot-Sample #: F8F230000-488				
		Dilution Factor: 1				
		Analysis Time... 07:51				
Fluoride	ND	0.10	mg/L	MCAWW 300.0A	06/05/08	8175489
		Work Order #: KQG191AA MB Lot-Sample #: F8F230000-489				
		Dilution Factor: 1				
		Analysis Time... 07:51				
Nitrate	ND	0.020	mg/L	MCAWW 300.0A	06/05/08	8158391
		Work Order #: KPM9F1AA MB Lot-Sample #: F8F060000-391				
		Dilution Factor: 1				
		Analysis Time... 07:51				
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	06/05/08	8158392
		Work Order #: KPM9K1AA MB Lot-Sample #: F8F060000-392				
		Dilution Factor: 1				
		Analysis Time... 07:51				
Nitrogen, as Ammonia	ND	50.0	ug/L	MCAWW 350.1	06/06/08	8156506
		Work Order #: KPD7C1AA MB Lot-Sample #: F8F040000-506				
		Dilution Factor: 1				
		Analysis Time... 00:00				
Sulfate	ND	0.50	mg/L	MCAWW 300.0A	06/05/08	8175490
		Work Order #: KQG2C1AA MB Lot-Sample #: F8F230000-490				
		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 #: F8F090000-265 SM18 2320 B	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 #: F8F110000-486 MCAWW 160.1	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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	100	Work Order #: KPGWD1AA LCS Lot-Sample#: F8F060000-106 (99 - 101)	SW846 9040	06/05/08	8158106
		Dilution Factor: 1	Analysis Time...: 00:00		
Bicarbonate Alkalinity	101	Work Order #: KPLC11AC LCS Lot-Sample#: F8F090000-269 (90 - 110)	MCAWW 310.1	06/10/08	8161269
		Dilution Factor: 1	Analysis Time...: 00:00		
Bromide	101	Work Order #: KQG151AC LCS Lot-Sample#: F8F230000-487 (90 - 110)	MCAWW 300.0A	06/05/08	8175487
		Dilution Factor: 1	Analysis Time...: 07:41		
Carbonate Alkalinity	101	Work Order #: KPLCR1AC LCS Lot-Sample#: F8F090000-267 (90 - 110)	MCAWW 310.1	06/10/08	8161267
		Dilution Factor: 1	Analysis Time...: 00:00		
Chloride	98	Work Order #: KQG161AC LCS Lot-Sample#: F8F230000-488 (90 - 110)	MCAWW 300.0A	06/05/08	8175488
		Dilution Factor: 1	Analysis Time...: 07:41		
Fluoride	99	Work Order #: KQG191AC LCS Lot-Sample#: F8F230000-489 (90 - 110)	MCAWW 300.0A	06/05/08	8175489
		Dilution Factor: 1	Analysis Time...: 07:41		
Nitrate	101	Work Order #: KPM9F1AC LCS Lot-Sample#: F8F060000-391 (90 - 110)	MCAWW 300.0A	06/05/08	8158391
		Dilution Factor: 1	Analysis Time...: 07:41		
Nitrite	100	Work Order #: KPM9K1AC LCS Lot-Sample#: F8F060000-392 (90 - 110)	MCAWW 300.0A	06/05/08	8158392
		Dilution Factor: 1	Analysis Time...: 07:41		
Sulfate	95	Work Order #: KQG2C1AC LCS Lot-Sample#: F8F230000-490 (90 - 110)	MCAWW 300.0A	06/05/08	8175490
		Dilution Factor: 1	Analysis Time...: 07:41		
Total Alkalinity	101	Work Order #: KPLCP1AC LCS Lot-Sample#: F8F090000-265 (90 - 110)	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 #...: F8F050344

Matrix.....: WATER

Date Sampled...: 06/04/08 14:20 Date Received...: 06/05/08

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
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
KPC95-DUP

Matrix.....: WATER

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	160	ug/L	14	(0-20)	SD Lot-Sample #: F8F040293-001 MCAWW 350.1	06/06/08	8156506
				Dilution Factor: 1	Analysis Time...: 00:00			

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #....: F8F050344

Work Order #....: KN9V9-SMP
KN9V9-DUP

Matrix.....: WATER

Date Sampled....: 06/02/08 07:50 Date Received...: 06/03/08

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate					SD Lot-Sample #: F8F030220-002		
Alkalinity							
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		

F8F050344

CLIENT ANALYSIS SUMMARY

Storage Loc: 1-131-132,M

Project Manager: IV

Quote #: 79192

SDG:

Date Received: 2008-06-05

Project: 6468071950

FPL Turkey Point COL

Analytical Due Date: 2008-06-24

PO#: 200807151

Report to: Al Tice

Report Due Date: 2008-06-26

Client: 63036 MACTEC Engineering & Consulting Inc

#SMPS In LOT: 1

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-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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F8F050334
- 3550 - 344

Client: Maier COC/RFA No: 062466 Date: 4/5/08
Quote No: 79142 Initiated By: BN Time: 09:5

Shipping Information

Shipper Name: FE Multiple Packages Y (N)
Shipping # (s):* 8156 2694 6664 Sample Temperature (s):** 7
1. 8156 6. 2694 7. 6664
2. 7. 8.
3. 8. 9.
4. 9. 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. <u>(Y)</u> N	Are there custody seals present on the cooler?	8. Y <u>(N)</u>	Are there custody seals present on bottles?
2. Y <u>(N)</u> N/A	Do custody seals on cooler appear to be tampered with?	9. Y N <u>(N/A)</u>	Do custody seals on bottles appear to be tampered with?
3. <u>(Y)</u> N	Were contents of cooler frisked after opening, but before unpacking?	10. <u>(Y)</u> N N/A	Was sample received with proper pH? (If not, make note below)
4. <u>(Y)</u> N	Sample received with Chain of Custody?	11. Y N	If N/A- Was pH taken by original TestAmerica lab?
5. <u>(Y)</u> N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. <u>(Y)</u> N	Sample received in proper containers?
6. Y <u>(N)</u>	Was sample received broken?	13. Y N <u>(N/A)</u>	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7. <u>(Y)</u> N	Is sample volume sufficient for analysis?	14. Y 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:

Corrective Action:

☐ Client Contact Name: _____ Informed by: _____
☐ Sample(s) processed "as is"
☐ Sample(s) on hold until: _____ If released, notify: _____

Project Management Review: 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.

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.

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:	_____	<u>✓</u> ¹	_____
2. Samples analyzed within applicable holding times (based on date of sample collection):*	_____	<u>✓</u> ²	_____
3. Trip blanks, field blanks or laboratory method blanks are free of blank contamination:	_____	<u>✓</u> ³	_____
4. If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: **	_____	_____	<u>✓</u>
5. Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges:	_____	_____	<u>✓</u>
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:	_____	<u>✓</u> ⁴	_____
7. Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards):	<u>✓</u>	_____	_____
8. Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate):	<u>✓</u>	_____	_____
9. Analytical costs within authorized budget for these services:	_____	_____	<u>✓</u>

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 A. 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 positioned above the printed name and title.

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

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
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: OW-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	%	SM18 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	SM18 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: OW-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	KNX8K1AN
		Dilution Factor: 1000		Analysis Time...: 15:59		
Iron	158 N	100	ug/L	SW846 6020	06/11-06/17/08	KNX8K1AP
		Dilution Factor: 2		Analysis Time...: 02:24		
Potassium	607000 N	100000	ug/L	SW846 6020	06/11-06/21/08	KNX8K1AQ
		Dilution Factor: 1000		Analysis Time...: 22:26		
Magnesium	2040000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KNX8K1AR
		Dilution Factor: 1000		Analysis Time...: 22:26		
Manganese	28.1	4	ug/L	SW846 6020	06/11-06/17/08	KNX8K1AT
		Dilution Factor: 2		Analysis Time...: 02:24		
Sodium	16700000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KNX8K1AU
		Dilution Factor: 1000		Analysis Time...: 22:26		
Silicon	ND N	250000	ug/L	SW846 6020	06/11-06/21/08	KNX8K1AV
		Dilution Factor: 1000		Analysis Time...: 22:26		
Prep Batch #...	8175113					
Silica	ND	250	ug/L	SW846 6020	06/11-06/21/08	KNX8K1AW
		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
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Bromide	ND	0.25	mg/L	MCAWW 300.0A	05/29/08	8165345
		Dilution Factor: 1				
		Analysis Time...: 09:32				
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154061
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Chloride	ND	0.20	mg/L	MCAWW 300.0A	05/29/08	8165346
		Dilution Factor: 1				
		Analysis Time...: 09:32				
Fluoride	ND	0.10	mg/L	MCAWW 300.0A	05/29/08	8165347
		Dilution Factor: 1				
		Analysis Time...: 09:32				
Nitrate	ND	0.020	mg/L	MCAWW 300.0A	05/29/08	8165350
		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
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Sulfate	ND	0.50	mg/L	MCAWW 300.0A	05/29/08	8165348
		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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
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 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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
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 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 #....: KNX8K-SMP
KNX8K-DUP

Matrix.....: WATER

Date Sampled...: 05/27/08 14:55 Date Received...: 05/28/08

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
pH (liquid)						SD Lot-Sample #:	F8E280143-002	
	7.1	7.1	No Units	0.14	(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 #...: KN6XH-SMP
KN6XH-DUP

Matrix.....: WATER

Date Sampled...: 05/30/08 09:45 Date Received...: 05/31/08

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Bicarbonate						SD Lot-Sample #: F8E310160-003		
Alkalinity	121	120	mg/L	0.83	(0-15)	MCAWW 310.1	06/02/08	8154062
			Dilution Factor: 1			Analysis Time...: 00:00		
Carbonate Alkalinity						SD Lot-Sample #: F8E310160-003		
	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 #....: KN5RL-SMP

Matrix.....: WATER

KN5RL-DUP

Date Sampled....: 05/28/08 10:17 Date Received...: 05/30/08

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Dissolved						SD Lot-Sample #: F8E300262-001		
Solids	1690	1870	mg/L	9.9	(0-15)	MCAWW 160.1	06/04-06/05/08	8156338
			Dilution Factor: 1			Analysis Time...: 00:00		

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

Report Type: W

#SMPS in LOT: 2

EDD Code: 00

Inform PM of any receiving issues.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	1
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	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 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
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	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

TestAmerica - St. Louis

Logged in by: WILSONS

2008-05-28

9:51:54

printed on: Wednesday, May 28, 2008 11:16 A

Page 1 of 2

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.

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

CUL 3535

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 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		

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.	Pres.	NaOH	ZnAc	NaOH	Analysis	Special Instructions/Conditions of Receipt
OW-735U	05/27/08	1135		X			1	2				1	Cations: calcium
OW-809U	05/27/08	1455		X			1	2				1	Iron, Magnesium
												2	Manganese
													Potassium, Silica
													Sodium 9045(D)
													PH-EPA SW846 9045(D)
													TDS-EPA 160.1
													Cations-EPA 200.7
													Iron-MCW 300.0A
													Alkalinity-EPA 310.1
													Ammonia-EPA 350.1
													Nitrate-EPA 353.1

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 Kevin Chip Smith	Date 05/27/08	Time 1625	1. Received By B-JC	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 6020C 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 instruction from MACTEC on these two analyses.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F8E280143
- 3535 -

Client: Nadco COC/RFA No: 662964 Date: 5/28/08
Quote No: 29192 Initiated By: bn Time: 0900

Shipping Information

Shipper Name: FE Multiple Packages Y (N)
Shipping # (s):* 8656 2820 8233 Sample Temperature (s):**
1. 2 6. 2
2. 2 7. 2
3. 2 8. 2
4. 2 9. 2
5. 2 10. 2

*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. <u>(Y)</u> N	Are there custody seals present on the cooler?	8. Y <u>(N)</u>	Are there custody seals present on bottles?
2. Y <u>(N)</u> N/A	Do custody seals on cooler appear to be tampered with?	9. Y N <u>(N/A)</u>	Do custody seals on bottles appear to be tampered with?
3. <u>(Y)</u> N	Were contents of cooler frisked after opening, but before unpacking?	10. <u>(Y)</u> N N/A	Was sample received with proper pH? (If not, make note below)
4. <u>(Y)</u> N	Sample received with Chain of Custody?	11. Y N	If N/A- Was pH taken by original TestAmerica lab?
5. <u>(Y)</u> N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. <u>(Y)</u> N	Sample received in proper containers?
6. Y <u>(N)</u>	Was sample received broken?	13. Y N <u>(N/A)</u>	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7. <u>(Y)</u> N	Is sample volume sufficient for analysis?	14. Y 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: 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.

ADMIN-0004, REVISED 08/06/07\NLS\01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

LOT# F8e280143 - Rev 1

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**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:	_____	<u>✓¹</u>	_____
2. Samples analyzed within applicable holding times (based on date of sample collection):*	<u>✓</u>	_____	_____
3. Trip blanks, field blanks or laboratory method blanks are free of blank contamination:	_____	<u>✓²</u>	_____
4. If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: **	_____	_____	<u>✓</u>
5. Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges:	_____	_____	<u>✓</u>
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:	_____	<u>✓³</u>	_____
7. Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards):	<u>✓</u>	_____	_____
8. Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate):	<u>✓</u>	_____	_____
9. Analytical costs within authorized budget for these services:	_____	_____	<u>✓</u>

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: 7-24-08



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 above the printed name and title.

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

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
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

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
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 LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK 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

Matrix.....: WATER

Date Sampled...: 06/05/08 15:00 Date Received...: 06/06/08

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	KPHCH1AN
		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	%	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...: 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	SM18 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
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Bromide	ND	0.25	mg/L	MCAWW 300.0A	06/06/08	8158474
		Dilution Factor: 1				
		Analysis Time...: 06:34				
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/10/08	8161267
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Chloride	0.041 B	0.20	mg/L	MCAWW 300.0A	06/06/08	8158475
		Dilution Factor: 1				
		Analysis Time...: 06:34				
Fluoride	ND	0.10	mg/L	MCAWW 300.0A	06/06/08	8158476
		Dilution Factor: 1				
		Analysis Time...: 06:34				
Nitrate	ND	0.020	mg/L	MCAWW 300.0A	06/06/08	8158479
		Dilution Factor: 1				
		Analysis Time...: 06:34				
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	06/06/08	8158478
		Dilution Factor: 1				
		Analysis Time...: 06:34				
Nitrogen, as Ammonia	ND	50.0	ug/L	MCAWW 350.1	06/11/08	8163468
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Sulfate	ND	0.50	mg/L	MCAWW 300.0A	06/06/08	8158477
		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 #: F8F090000-265 SM18 2320 B	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 #: F8F110000-486 MCAWW 160.1	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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
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 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 #....: KPF63-SMP
KPF63-DUP

Matrix.....: WATER

Date Sampled....: 06/04/08 14:20 Date Received...: 06/05/08

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Alkalinity	181	183	mg/L	1.1	(0-20)	SM18 2320 B	SD Lot-Sample #: F8F050344-001 06/10/08	8161265
				Dilution Factor: 1	Analysis Time... 00:00			

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

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate						SD Lot-Sample #:	F8F030220-002	
Alkalinity	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		

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8F060153

Work Order #...: KPHCH-SMP

Matrix.....: WATER

KPHCH-DUP

Date Sampled...: 06/05/08 15:00 Date Received...: 06/06/08

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u> <u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Nitrogen, as Ammonia						SD Lot-Sample #:	F8F060153-002	
548		578	ug/L	5.4	(0-20)	MCAWW 350.1	06/11/08	8163468
			Dilution Factor: 1			Analysis Time...: 00:00		

F8F060153

CLIENT ANALYSIS SUMMARY

Storage Loc: 1-134,METS

Project Manager: IV

Quote #: 79192

SDG:

Date Received: 2008-06-06

Project: 6468071950

FPL Turkey Point COL

Analytical Due Date: 2008-06-20

PO#: 200807151

Report to: Al Tice

Report Due Date: 2008-06-26

Client: 63036 MACTEC Engineering & Consulting Inc

Report Type: W

#SMPS in LOT: 2

EDD Code: 00

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	KPHA3	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	OW-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

TestAmerica - St. Louis

Logged in by: DANIELSB

2008-06-07

8:38:04

printed on: Saturday, June 07, 2008 09:45 AM

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LOT# F8F060153

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F8F060153

CLIENT ANALYSIS SUMMARY

Storage Loc: 1-134,METS

Project Manager: IV

Quote #: 79192

SDG:

Date Received: 2008-06-06

Project: 6468071950

FPL Turkey Point COL

Analytical Due Date: 2008-06-20

PO#: 200807151

Report to: Al Tice

Report Due Date: 2008-06-23

Client: 63036 MACTEC Engineering & Consulting Inc

#SMPS in LOT: 2

Report Type: W

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	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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F8F060153
- 3244 -Client: Maclec COC/RFA No: 062467 Condition Upon Receipt Form
Quote No: 79192 Initiated By: W Date: 04-06-08
Time: 0930

Shipping Information

Shipper Name: FedEx

Shipping # (s):*

8636 2694 6642

1. _____ 6. _____

2. _____ 7. _____

3. _____ 8. _____

4. _____ 9. _____

5. _____ 10. _____

Multiple Packages Y (N)

Sample Temperature (s):**

1. 2° 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. <u>(Y)</u> N	Are there custody seals present on the cooler?	8. <u>(Y)</u> <u>(N)</u>	Are there custody seals present on bottles?
2. <u>(Y)</u> <u>(N)</u> N/A	Do custody seals on cooler appear to be tampered with?	9. <u>(Y)</u> <u>(N)</u> <u>(N/A)</u>	Do custody seals on bottles appear to be tampered with?
3. <u>(Y)</u> N	Were contents of cooler frisked after opening, but before unpacking?	10. <u>(Y)</u> N N/A	Was sample received with proper pH? (If not, make note below)
4. <u>(Y)</u> N	Sample received with Chain of Custody?	11. <u>(Y)</u> N	If N/A- Was pH taken by original TestAmerica lab?
5. <u>(Y)</u> N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. <u>(Y)</u> N	Sample received in proper containers?
6. <u>(Y)</u> <u>(N)</u>	Was sample received broken?	13. <u>(Y)</u> N <u>(N/A)</u>	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7. <u>(Y)</u> N	Is sample volume sufficient for analysis?	14. <u>(Y)</u> 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:

Corrective Action:

☐ Client Contact Name: _____

Informed by: _____

☐ Sample(s) processed "as is"☐ Sample(s) on hold until: _____

If released, notify: _____

Project Management Review: _____

Date: 6-8-8

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.

ADMIN-0004, REVISED 08/06/07\SIsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

LOT# F8F060153

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**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

PROJECT PRINCIPAL: Tom McDaniel

William S. Grimes
TM



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:	___	<u>✓¹</u>	___
2. Samples analyzed within applicable holding times (based on date of sample collection):*	<u>✓</u>	___	___
3. Trip blanks, field blanks or laboratory method blanks are free of blank contamination:	___	<u>✓²</u>	___
4. If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: **	___	___	<u>✓</u>
5. Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges:	___	___	<u>✓</u>
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:	___	<u>✓³</u>	___
7. Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards):	<u>✓</u>	___	___
8. Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate):	<u>✓</u>	___	___
9. Analytical costs within authorized budget for these services:	___	___	<u>✓</u>

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. Lin Date: 7-14-08



ANALYTICAL REPORT

PROJECT NO. 6468071950

FPL Turkey Point COL

Lot #: F8E300223

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 horizontal line.

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

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
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**

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
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 LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK 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

Matrix.....: WATER

Date Sampled...: 05/29/08 12:35 Date Received...: 05/30/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK 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	KN5J11AO
		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

Matrix.....: WATER

Date Sampled....: 05/29/08 16:10 Date Received...: 05/30/08

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK 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	%	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...: 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	SM18 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
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Bromide	ND	0.25	mg/L	MCAWW 300.0A	05/30/08	8152147
		Dilution Factor: 1				
		Analysis Time...: 02:51				
Carbonate Alkalinity	ND	5.0	mg/L	MCAWW 310.1	06/02/08	8154061
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Chloride	ND	0.20	mg/L	MCAWW 300.0A	05/30/08	8152148
		Dilution Factor: 1				
		Analysis Time...: 02:51				
Fluoride	ND	0.10	mg/L	MCAWW 300.0A	05/30/08	8152149
		Dilution Factor: 1				
		Analysis Time...: 02:51				
Nitrate	ND	0.020	mg/L	MCAWW 300.0A	05/30/08	8152152
		Dilution Factor: 1				
		Analysis Time...: 02:51				
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	05/30/08	8152151
		Dilution Factor: 1				
		Analysis Time...: 02:51				
Nitrogen, as Ammonia	ND	50.0	ug/L	MCAWW 350.1	06/02/08	8154238
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Sulfate	ND	0.50	mg/L	MCAWW 300.0A	05/30/08	8152150
		Dilution Factor: 1				
		Analysis Time...: 02:51				

(Continued on next page)

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F8E300223

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 #: 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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	100	Work Order #: KN7VC1AA (99 - 101)	LCS Lot-Sample#: F8F020000-272 SW846 9040	05/30/08	8154272
		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	102	Work Order #: KPRDH1AC (90 - 110)	LCS Lot-Sample#: F8E310000-147 MCAWW 300.0A	05/30/08	8152147
		Dilution Factor: 1	Analysis Time...: 02:38		
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	94	Work Order #: KPRDJ1AC (90 - 110)	LCS Lot-Sample#: F8E310000-148 MCAWW 300.0A	05/30/08	8152148
		Dilution Factor: 1	Analysis Time...: 02:38		
Fluoride	91	Work Order #: KPRDK1AC (90 - 110)	LCS Lot-Sample#: F8E310000-149 MCAWW 300.0A	05/30/08	8152149
		Dilution Factor: 1	Analysis Time...: 02:38		
Nitrate	103	Work Order #: KPRDN1AC (90 - 110)	LCS Lot-Sample#: F8E310000-152 MCAWW 300.0A	05/30/08	8152152
		Dilution Factor: 1	Analysis Time...: 02:38		
Nitrite	100	Work Order #: KPRDM1AC (90 - 110)	LCS Lot-Sample#: F8E310000-151 MCAWW 300.0A	05/30/08	8152151
		Dilution Factor: 1	Analysis Time...: 02:38		
Sulfate	91	Work Order #: KPRDL1AC (90 - 110)	LCS Lot-Sample#: F8E310000-150 MCAWW 300.0A	05/30/08	8152150
		Dilution Factor: 1	Analysis Time...: 02:38		
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 #...: 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 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

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate						SD Lot-Sample #: F8E290176-002	
Alkalinity							
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		

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E300223

Work Order #...: KN2LW-SMP

Matrix.....: WATER

KN2LW-DUP

Date Sampled...: 05/27/08 09:35

Date Received...: 05/28/08

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate					SD Lot-Sample #: F8E290176-003		
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					SD Lot-Sample #: F8E290176-003		
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 #....: F8E300223

Work Order #....: KN2NJ-SMP
KN2NJ-DUP

Matrix.....: WATER

Date Sampled....: 05/28/08 08:10 Date Received...: 05/29/08

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate							
Alkalinity							
51.0	50.0	mg/L	2.0	(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 #....: F8E300223

Work Order #....: KN6XH-SMP
KN6XH-DUP

Matrix.....: WATER

Date Sampled....: 05/30/08 09:45

Date Received...: 05/31/08

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Dissolved Solids						SD Lot-Sample #: F8E310160-003		
	4780	5240	mg/L	9.2	(0-15)	MCAWW 160.1	06/05-06/06/08	8157081
				Dilution Factor: 10		Analysis Time...: 00:00		
Bicarbonate Alkalinity						SD Lot-Sample #: F8E310160-003		
	121	120	mg/L	0.83	(0-15)	MCAWW 310.1	06/02/08	8154062
				Dilution Factor: 1		Analysis Time...: 00:00		
Carbonate Alkalinity						SD Lot-Sample #: F8E310160-003		
	ND	ND	mg/L	0	(0-20)	MCAWW 310.1	06/02/08	8154061
				Dilution Factor: 1		Analysis Time...: 00:00		
Nitrogen, as Ammonia						SD Lot-Sample #: F8E310160-003		
	ND	ND	ug/L	0	(0-20)	MCAWW 350.1	06/02/08	8154238
				Dilution Factor: 1		Analysis Time...: 00:00		

F8E300223

CLIENT ANALYSIS SUMMARY

Storage Loc:

1-100

Project Manager: IV

Quote #: 79192

SDG:

Date Received:

2008-05-30

Project: 6468071950

FPL Turkey Point COL

Analytical Due Date:

2008-06-20

PO#: 200807151

Report to: AI Tice

Report Due Date:

2008-06-20

Client: 63036 MACTEC Engineering & Consulting Inc

#SMPS in LOT: 0

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-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 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-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

TestAmerica - St. Louis

Logged in by:

WILSONS

2008-05-30

12:22:38

printed on: Friday, May 30, 2008 01:30 PM

Page 1 of 3

LOT# F8E300223

28 of 32

F8E300223

CLIENT ANALYSIS SUMMARY

Storage Loc:

1-100

Project Manager: IV

Quote #: 79192

SDG:

Date Received:

2008-05-30

Project: 6468071950

FPL Turkey Point COL

Analytical Due Date:

2008-06-20

PO#: 200807151

Report to: Al Tice

Report Due Date:

2008-06-20

Client: 63036 MACTEC Engineering & Consulting Inc

#SMPS in LOT: 0

Report Type: W

EDD Code: 00

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 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	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

TestAmerica - St. Louis

Logged in by: WILSONS

2008-05-30

12:22:38

printed on: Friday, May 30, 2008 01:30 PM

Page 2 of 3

LOT# F8E300223

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F8E300223

CLIENT ANALYSIS SUMMARY

Storage Loc:

1-100

Project Manager: IV

Quote #: 79192

SDG:

Date Received:

2008-05-30

Project: 6468071950

FPL Turkey Point COL

Analytical Due Date:

2008-06-20

PO#: 200807151

Report to: Al Tice

Report Due Date:

2008-06-20

Client: 63036 MACTEC Engineering & Consulting Inc

#SMPS in LOT: 0

Report Type: W

EDD Code: 00

Inform PM of any receiving issues.

XX VM

MCAW 350.1
WWATER, 350.1, Nitrogen,
Ammonia

88

NO SAMPLE PREPARATION
PERFORMED / DIRECT

01

STANDARD TEST SET

PROT: A

WRK 06
LOC

Chain of Custody Record

CLP
3475

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 Ivan Vonia	Analysis (Attach list if more space is needed)
Project Name and Location (State) Turkey Point COL			Carrier/Waybill Number FE 8656 2820 8277		

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	Alt	Agitation	Seal	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc	NaOH	Other	Analysis	Special Instructions/Conditions of Receipt
OW-706U	05/29/08	1100		X				1	2	1					1 1 2	Cations: Calcium, Iron, Magnesium, manganese, potassium, silica, sodium
OW-706L	05/29/08	1235		X				1	2	1					1 1 2	PH: EPA SW846 9045(b)
OW-621U	05/29/08	1610		X				1	2	1					1 1 2	TDS-EPA 160.1
																Cations - EPA 6020 C
																Inorganic ions
																MCANW 300.0A
																Alkalinity - EPA 310.1
																Ammonia - EPA 350.1
																nitrate, nitrite - EPA 300.0

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 Kenneth 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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F8E 300223
- 3475 -

Client: Martex COC/RFA No: 062465 Condition Upon Receipt Form
Quote No: 79192 Initiated By: MS Date: 5-30-08
Time: 9:30

Shipper Name: FE
Shipping # (s):*

1. 8656 2820 8277 6.
2. 7.
3. 8.
4. 9.
5. 10.

Shipping Information

Multiple Packages Y (N)
Sample Temperature (s):**
1. 2 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. <u>(Y)</u> N	Are there custody seals present on the cooler?	8. Y <u>(N)</u>	Are there custody seals present on bottles?
2. Y <u>(N)</u> N/A	Do custody seals on cooler appear to be tampered with?	9. Y N <u>(N/A)</u>	Do custody seals on bottles appear to be tampered with?
3. <u>(Y)</u> N	Were contents of cooler frisked after opening, but before unpacking?	10. <u>(Y)</u> N N/A	Was sample received with proper pH? (If not, make note below)
4. <u>(Y)</u> N	Sample received with Chain of Custody?	11. Y N	If N/A- Was pH taken by original TestAmerica lab?
5. <u>(Y)</u> N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. <u>(Y)</u> N	Sample received in proper containers?
6. Y <u>(N)</u>	Was sample received broken?	13. Y N <u>(N/A)</u>	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7. <u>(Y)</u> N	Is sample volume sufficient for analysis?	14. Y 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:

Corrective Action:

☐ Client Contact Name: _____ Informed by: _____

☐ Sample(s) processed "as is"

☐ Sample(s) on hold until: _____

If released, notify: _____

Project Management Review: _____

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\SL\svr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

LOT# F8E300223

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**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:	_____	<u>✓¹</u>	_____
2. Samples analyzed within applicable holding times (based on date of sample collection):*	<u>✓</u>	_____	_____
3. Trip blanks, field blanks or laboratory method blanks are free of blank contamination:	_____	<u>✓²</u>	_____
4. If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: **	_____	_____	<u>✓</u>
5. Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges:	_____	_____	<u>✓</u>
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:	_____	<u>✓³</u>	_____
7. Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards):	<u>✓</u>	_____	_____
8. Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate):	<u>✓</u>	_____	_____
9. Analytical costs within authorized budget for these services:	_____	_____	<u>✓</u>

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. L. Date: 7-14-08

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 6468071950

FPL Turkey Point COL

Lot #: F8E290268

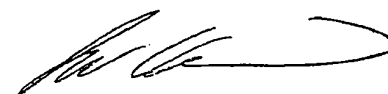
Al Tice

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	KN3HJIAP
		Dilution Factor: 2		Analysis Time...: 02:28		
Potassium	569000 N	100000	ug/L	SW846 6020	06/11-06/21/08	KN3HJIAQ
		Dilution Factor: 1000		Analysis Time...: 22:30		
Magnesium	1890000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN3HJIAR
		Dilution Factor: 1000		Analysis Time...: 22:30		
Manganese	58.1	4	ug/L	SW846 6020	06/11-06/17/08	KN3HJIAT
		Dilution Factor: 2		Analysis Time...: 02:28		
Sodium	15400000 N	50000	ug/L	SW846 6020	06/11-06/21/08	KN3HJIAU
		Dilution Factor: 1000		Analysis Time...: 22:30		
Silicon	ND N	250000	ug/L	SW846 6020	06/11-06/21/08	KN3HJIAV
		Dilution Factor: 1000		Analysis Time...: 22:30		
Prep Batch #...	8175113					
Silica	848	250	ug/L	SW846 6020	06/11-06/21/08	KN3HJIAO
		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 Work Order #...: KN3HJ Matrix.....: WATER
 Date Sampled...: 05/28/08 11:00 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	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	%	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...: 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	SM18 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 LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
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 LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK 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 Work Order #....: KN3JR Matrix.....: WATER
 Date Sampled....: 05/28/08 16:10 Date Received...: 05/29/08

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	%	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...: 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	SM18 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 LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK 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

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity	ND	Work Order #: KN7R51AA		MB Lot-Sample #: F8F020000-062		
		5.0	mg/L	MCAWW 310.1	06/02/08	8154062
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Bromide	ND	Work Order #: KPR011AA		MB Lot-Sample #: F8E300000-362		
		0.25	mg/L	MCAWW 300.0A	05/29/08	8151362
		Dilution Factor: 1				
		Analysis Time...: 06:46				
Carbonate Alkalinity	ND	Work Order #: KN7RT1AA		MB Lot-Sample #: F8F020000-061		
		5.0	mg/L	MCAWW 310.1	06/02/08	8154061
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Chloride	ND	Work Order #: KPR071AA		MB Lot-Sample #: F8E300000-363		
		0.20	mg/L	MCAWW 300.0A	05/29/08	8151363
		Dilution Factor: 1				
		Analysis Time...: 06:46				
Fluoride	ND	Work Order #: KPR091AA		MB Lot-Sample #: F8E300000-364		
		0.10	mg/L	MCAWW 300.0A	05/29/08	8151364
		Dilution Factor: 1				
		Analysis Time...: 06:46				
Nitrate	ND	Work Order #: KPR1J1AA		MB Lot-Sample #: F8E300000-367		
		0.020	mg/L	MCAWW 300.0A	05/29/08	8151367
		Dilution Factor: 1				
		Analysis Time...: 06:46				
Nitrite	ND	Work Order #: KPR1F1AA		MB Lot-Sample #: F8E300000-366		
		0.020	mg/L	MCAWW 300.0A	05/29/08	8151366
		Dilution Factor: 1				
		Analysis Time...: 06:46				
Nitrogen, as Ammonia	ND	Work Order #: KN3VT1AA		MB Lot-Sample #: F8E290000-453		
		50.0	ug/L	MCAWW 350.1	05/30/08	8150453
		Dilution Factor: 1				
		Analysis Time...: 00:00				
Sulfate	ND	Work Order #: KPR1D1AA		MB Lot-Sample #: F8E300000-365		
		0.50	mg/L	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

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 #...: F8E290268

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrogen, as Ammonia		WO#:KN3VT1AC	LCS/KN3VT1AD-LCSD	LCS	Lot-Sample#:	F8E29	0000-453
	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

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	100	Work Order #: KN5JA1AA (99 - 101)	LCS Lot-Sample#: F8E300000-296 SW846 9040	05/29/08	8151296
		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	97	Work Order #: KPR011AC (90 - 110)	LCS Lot-Sample#: F8E300000-362 MCAWW 300.0A	05/29/08	8151362
		Dilution Factor: 1	Analysis Time...: 06:34		
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	95	Work Order #: KPR071AC (90 - 110)	LCS Lot-Sample#: F8E300000-363 MCAWW 300.0A	05/29/08	8151363
		Dilution Factor: 1	Analysis Time...: 06:34		
Fluoride	91	Work Order #: KPR091AC (90 - 110)	LCS Lot-Sample#: F8E300000-364 MCAWW 300.0A	05/29/08	8151364
		Dilution Factor: 1	Analysis Time...: 06:34		
Nitrate	99	Work Order #: KPR1J1AC (90 - 110)	LCS Lot-Sample#: F8E300000-367 MCAWW 300.0A	05/29/08	8151367
		Dilution Factor: 1	Analysis Time...: 06:34		
Nitrite	100	Work Order #: KPR1F1AC (90 - 110)	LCS Lot-Sample#: F8E300000-366 MCAWW 300.0A	05/29/08	8151366
		Dilution Factor: 1	Analysis Time...: 06:34		
Sulfate	91	Work Order #: KPR1D1AC (90 - 110)	LCS Lot-Sample#: F8E300000-365 MCAWW 300.0A	05/29/08	8151365
		Dilution Factor: 1	Analysis Time...: 06:34		
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		

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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

Matrix.....: WATER

Date Sampled....: 05/27/08 11:35 Date Received...: 05/28/08

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	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.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E290268 Work Order #...: KNW83-SMP Matrix.....: WATER
KNW83-DUP
Date Sampled...: 05/22/08 09:19 Date Received...: 05/24/08

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Nitrogen, as Ammonia	120	140 B	ug/L	19	(0-20)	SD Lot-Sample #: F8E270173-001 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.

B Estimated result. Result is less than RL.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E290268

Work Order #...: KN3JD-SMP

Matrix.....: WATER

KN3JD-DUP

Date Sampled...: 05/28/08 13:25

Date Received...: 05/29/08

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
pH (liquid)					SD Lot-Sample #:	F8E290268-002	
7.3		7.3	No Units	0.14	(0-0.0) SW846 9040	05/29/08	8151296
			Dilution Factor: 1		Analysis Time...: 00:00		

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E290268

Work Order #...: KN3HJ-SMP
KN3HJ-DUP

Matrix.....: WATER

Date Sampled...: 05/28/08 11:00 Date Received...: 05/29/08

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bromide	60.1	62.5	mg/L	3.9	(0-20)	SD Lot-Sample #: F8E290268-001 MCAWW 300.0A	05/30/08	8151362
						Dilution Factor: 200 Analysis Time...: 12:27		
Chloride	29900	29700	mg/L	0.65	(0-20)	SD Lot-Sample #: F8E290268-001 MCAWW 300.0A	05/30/08	8151363
						Dilution Factor: 10000 Analysis Time...: 12:51		
Fluoride	ND	ND	mg/L	0	(0-20)	SD Lot-Sample #: F8E290268-001 MCAWW 300.0A	05/30/08	8151364
						Dilution Factor: 200 Analysis Time...: 12:27		
Sulfate	3860	3860	mg/L	0.013	(0-20)	SD Lot-Sample #: F8E290268-001 MCAWW 300.0A	05/30/08	8151365
						Dilution Factor: 200 Analysis Time...: 12:27		
Nitrite	ND	ND	mg/L	0	(0-20)	SD Lot-Sample #: F8E290268-001 MCAWW 300.0A	05/30/08	8151366
						Dilution Factor: 10000 Analysis Time...: 12:51		
Nitrate	ND	ND	mg/L	0	(0-20)	SD Lot-Sample #: F8E290268-001 MCAWW 300.0A	05/30/08	8151367
						Dilution Factor: 10 Analysis Time...: 12:14		

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E290268 Work Order #...: KN2LJ-SMP Matrix.....: WATER
KN2LJ-DUP
Date Sampled...: 05/27/08 09:00 Date Received...: 05/28/08

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Bicarbonate						SD Lot-Sample #: F8E290176-002		
Alkalinity	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	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 #....: F8E290268

Work Order #....: KN2LW-SMP
KN2LW-DUP

Matrix.....: WATER

Date Sampled....: 05/27/08 09:35 Date Received...: 05/28/08

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate					SD Lot-Sample #: F8E290176-003		
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					SD Lot-Sample #: F8E290176-003		
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 #...: F8E290268

Work Order #...: KN2NJ-SMP

Matrix.....: WATER

KN2NJ-DUP

Date Sampled...: 05/28/08 08:10 Date Received...: 05/29/08

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate						SD Lot-Sample #: F8E290185-001		
Alkalinity	51.0	50.0	mg/L	2.0	(0-15)	MCAWW 310.1	06/02/08	8154062
			Dilution Factor: 1			Analysis Time...: 00:00		
Carbonate Alkalinity						SD Lot-Sample #: F8E290185-001		
	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 #: F8E290185-001		
	7.6	7.6	No Units	0.53	(0-0.0)	SW846 9040	05/29/08	8151296
			Dilution Factor: 1			Analysis Time...: 00:00		

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E290268 Work Order #...: KN46M-SMP Matrix.....: WATER
KN46M-DUP
Date Sampled...: 05/29/08 09:45 Date Received...: 05/30/08

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Bicarbonate						SD Lot-Sample #: F8E300179-001		
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						SD Lot-Sample #: F8E300179-001		
ND	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 #...: F8E290268

Work Order #...: KN6XH-SMP

Matrix.....: WATER

KN6XH-DUP

Date Sampled...: 05/30/08 09:45

Date Received...: 05/31/08

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate						SD Lot-Sample #: F8E310160-003		
Alkalinity	121	120	mg/L	0.83	(0-15)	MCAWW 310.1	06/02/08	8154062
				Dilution Factor: 1		Analysis Time...: 00:00		
Carbonate Alkalinity						SD Lot-Sample #: F8E310160-003		
	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 #....: F8E290268

Work Order #....: KN5GT-SMP
KN5GT-DUP

Matrix.....: WATER

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						SD Lot-Sample #: F8E300212-001		
Solids								
	431	420	mg/L	2.6	(0-15)	MCAWW 160.1	06/04-06/05/08	8156338
			Dilution Factor: 1			Analysis Time...: 00:00		

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E290268 Work Order #...: KN5RL-SMP Matrix.....: WATER
KN5RL-DUP
Date Sampled...: 05/28/08 10:17 Date Received...: 05/30/08

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Total Dissolved						SD Lot-Sample #: F8E300262-001		
Solids	1690	1870	mg/L	9.9	(0-15)	MCAWW 160.1	06/04-06/05/08	8156338
			Dilution Factor: 1			Analysis Time...: 00:00		

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
<u>SAMPLE COMMENTS:</u>						
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
<u>SAMPLE COMMENTS:</u>						
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	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

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
3	OW-606U			2008-05-28 / 1610	KN3JR	WATER

SAMPLE COMMENTS:

FE	MH	SW846	6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06
KX	MH	SW846	6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06
MG	MH	SW846	6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06
MN	MH	SW846	6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06
NA	MH	SW846	6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06
SA	MH	SW846	6020		WATER, Silica by calculation	0X	CALCULATION ONLY	9Q	ORG FLAGS FOR INORG: STANDARD	PROT: A	WRK	06
SI	MH	SW846	6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06
CA	MH	SW846	6020		WATER, 6020, Metals	GJ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	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	06
XX	C8	MCAW	300.0A	W	WATER, 300.0A, Fluoride	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	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	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

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
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TestAmerica - St. Louis

Logged in by: BRUNSONA 2008-05-29 14:54:12

printed on: Thursday, May 29, 2008 03:57 PM

Page 2 of 3

LOT# F8E290268

35 of 38

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 PIM 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	MACREC	Project Manager	Scott Anger	Date	05-28-08	Chain of Custody Number	062463
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
Project Name and Location (State)						Carter Waybill Number			
Turkey Point COL						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	H2O2		
OW-721U	05/28/08	1100		X					121				112	Cationic: Calcium Iron, Magnesium Manganese Potassium Nitrate Sodium
OW-721L	05/28/08	1325		X					121				112	(1M) 34 250P
OW-606U	05/28/08	1610		X					121				112	↓
OW-606L	05/28/08	1540		X					121				112	PH-EPA 8046 9045(b) TPS-EPA 160.1 Cationics-EPA 8007 Phosphoric Iron-NEN 3000A Alkalinity-EPA 310.1 Ammonia-EPA 350.1 Nitrate-EPA 353.1 Nitrite-EPA 300.0 EPA 300.0 Cationic EPA 6020C

Possible Hazard Identification	Sample Disposal	QC Requirements (Specify)
<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"/> Disposed 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	1. Relinquished By	2. Relinquished By	3. Relinquished By
<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	Date: 05/28/08 Time: 1630 Signature: [Signature]	Date: 05/29/08 Time: 09:00 Signature: [Signature]	Date: _____ Time: _____ Signature: [Signature]

Comments: Cationic and Nitrate/Hydroxide methods they charge. Pending approval of SDRK, please wait for instructions from MACREC. Cationic EPA 6020C. Nitrate-EPA 300.0-K15-28-08

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s):
- 3468 -

F8E290268

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. <u>(Y)</u> N	Are there custody seals present on the cooler?	8. <u>(Y)</u> <u>(N)</u>	Are there custody seals present on bottles?
2. <u>(Y)</u> <u>(N)</u> N/A	Do custody seals on cooler appear to be tampered with?	9. <u>(Y)</u> <u>(N)</u> <u>(N/A)</u>	Do custody seals on bottles appear to be tampered with?
3. <u>(Y)</u> N	Were contents of cooler frisked after opening, but before unpacking?	10. <u>(Y)</u> <u>(N)</u> N/A	Was sample received with proper pH? (If not, make note below)
4. <u>(Y)</u> N	Sample received with Chain of Custody?	11. <u>(Y)</u> N	If N/A- Was pH taken by original TestAmerica lab?
5. <u>(Y)</u> N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. <u>(Y)</u> N	Sample received in proper containers?
6. <u>(Y)</u> <u>(N)</u>	Was sample received broken?	13. <u>(Y)</u> <u>(N)</u> <u>(N/A)</u>	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7. <u>(Y)</u> N	Is sample volume sufficient for analysis?	14. <u>(Y)</u> 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:

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\SL\svr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

LOT# F8E290268

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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	29.80	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	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		11.684	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: hsl Date: 6-20-08

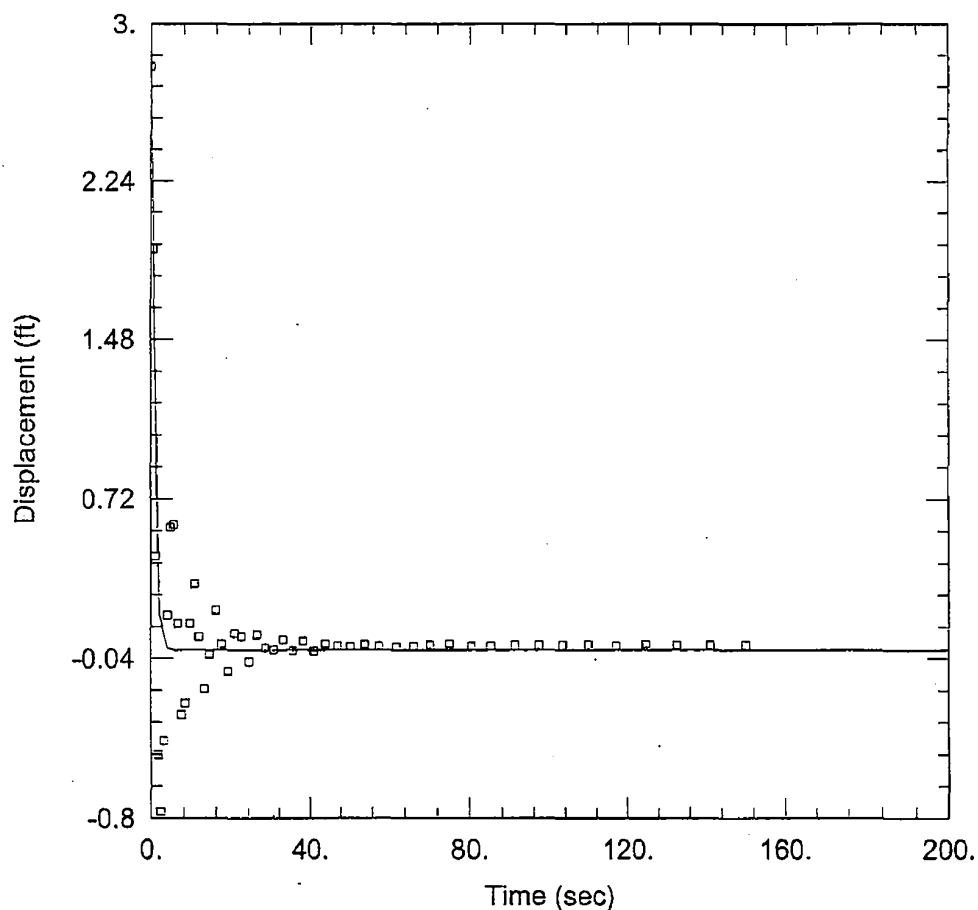
MACTEC Engineering and Consulting, Inc.
Raleigh, NC

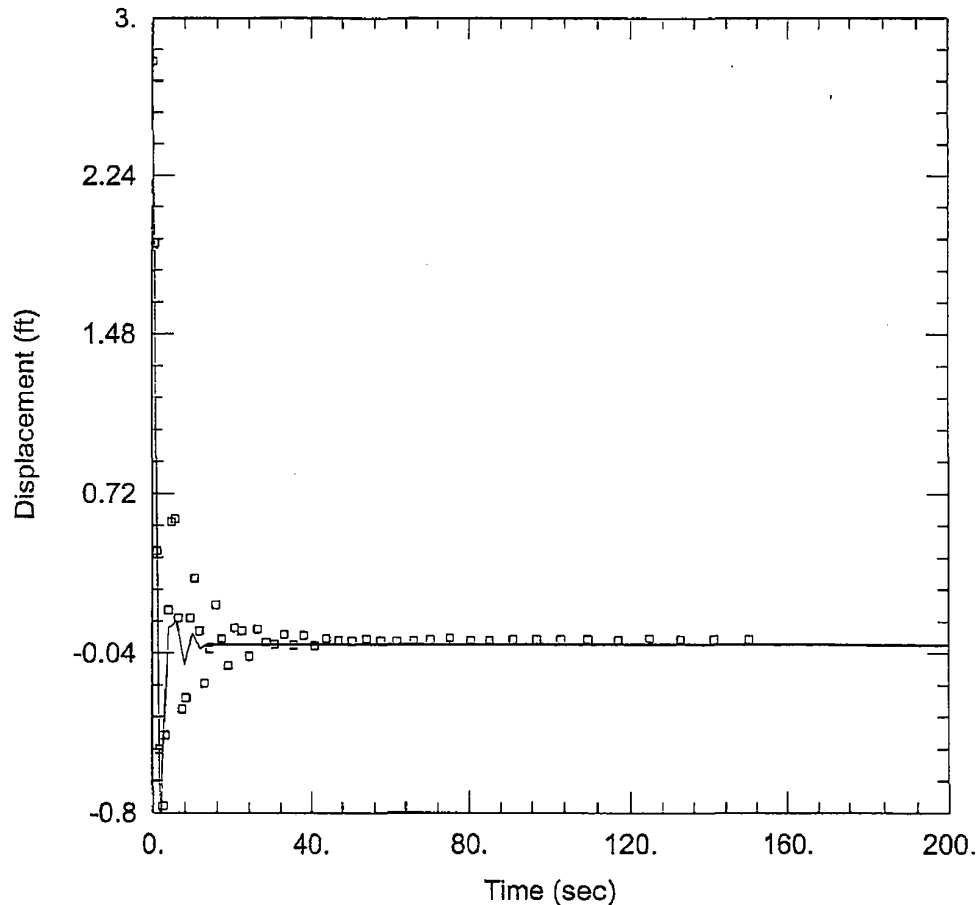


SLUG TEST REPORT

Project Name: <u>TPCOL</u>	Project Number: <u>6468-07-1950</u>		Page <u>1</u> of <u>1</u>
Client: <u>Beechtel</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' Frmsgs.		
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 (K _v /K _h)	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	OW-606UBG	NA	OW-606UR
Start Time	11:49:55		12:01:33
End Time	11:54:59		12:04:17
Notes	OW-606UR 12:06:45 12:07:47		

Rev 0

OW-606 U RISING HEAD 5/20/08PROJECT INFORMATIONCompany: Turkey PointClient: BECHTELProject: 6468-07-1950Location: Turkey PointTest Well: OW-606 UTest Date: 5-20-08AQUIFER DATASaturated Thickness: 29.89 ftWELL DATA (OW-606 U)Initial Displacement: 2.792 ftStatic Water Column Height: 29.89 ftTotal Well Penetration Depth: 30.17 ftScreen Length: 15.17 ftCasing Radius: 0.083 ftWell Radius: 0.3 ftSOLUTIONAquifer Model: UnconfinedSolution Method: KGS Model $K_r = 97.98 \text{ ft/day}$ $S_s = 4.167\text{E-}12 \text{ ft}^{-1}$ $K_z/K_r = 1.$



OW-606 U RISING HEAD 5/20/08

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 (K_z/K_r): 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

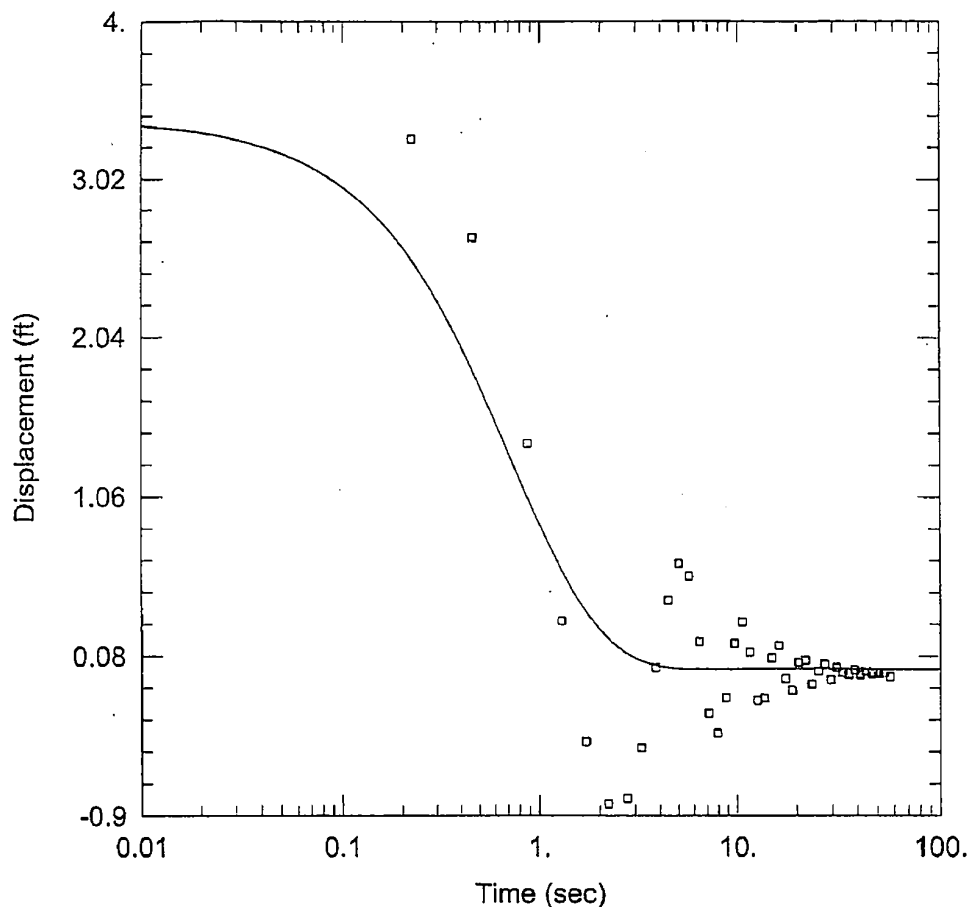
SOLUTION

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
 Total Well Penetration Depth: 30.17 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 29.89 ft
 Screen Length: 15.17 ft
 Well Radius: 0.3 ft

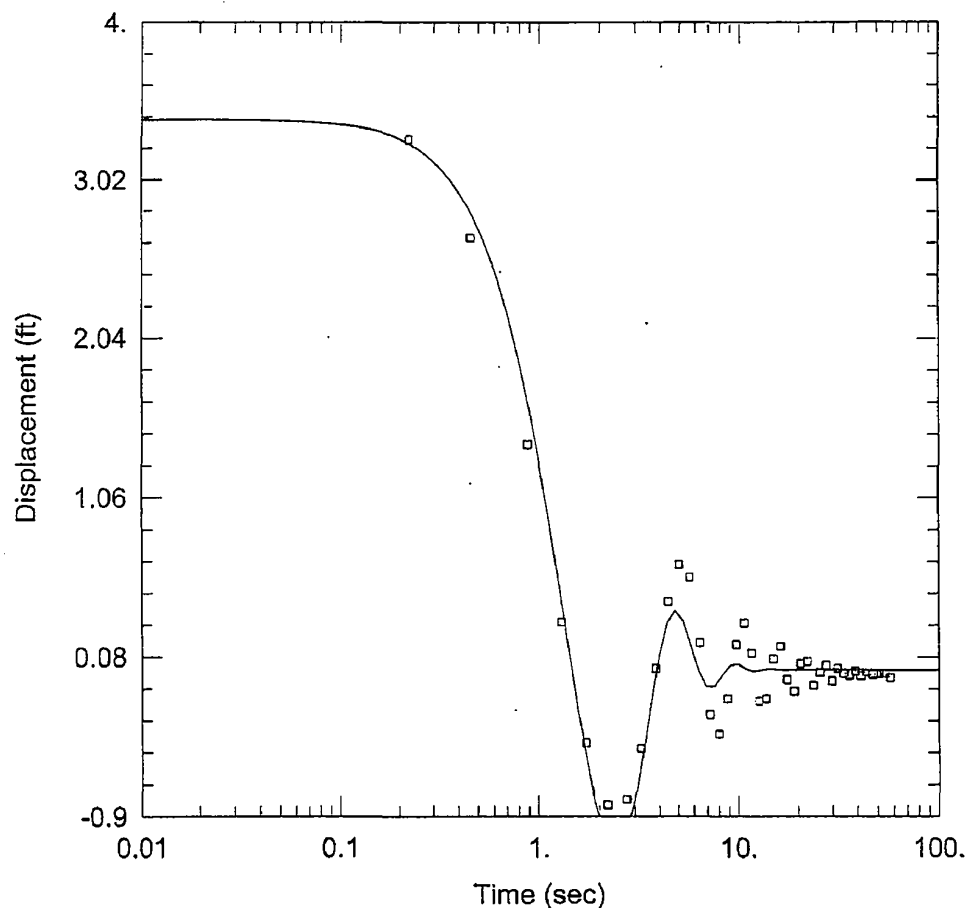
SOLUTION

Aquifer Model: Unconfined

Solution Method: KGS Model

Kr = 92.02 ft/day
 Kz/Kr = 1.

Ss = 4.167E-12 ft⁻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 (K_z/K_r): 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

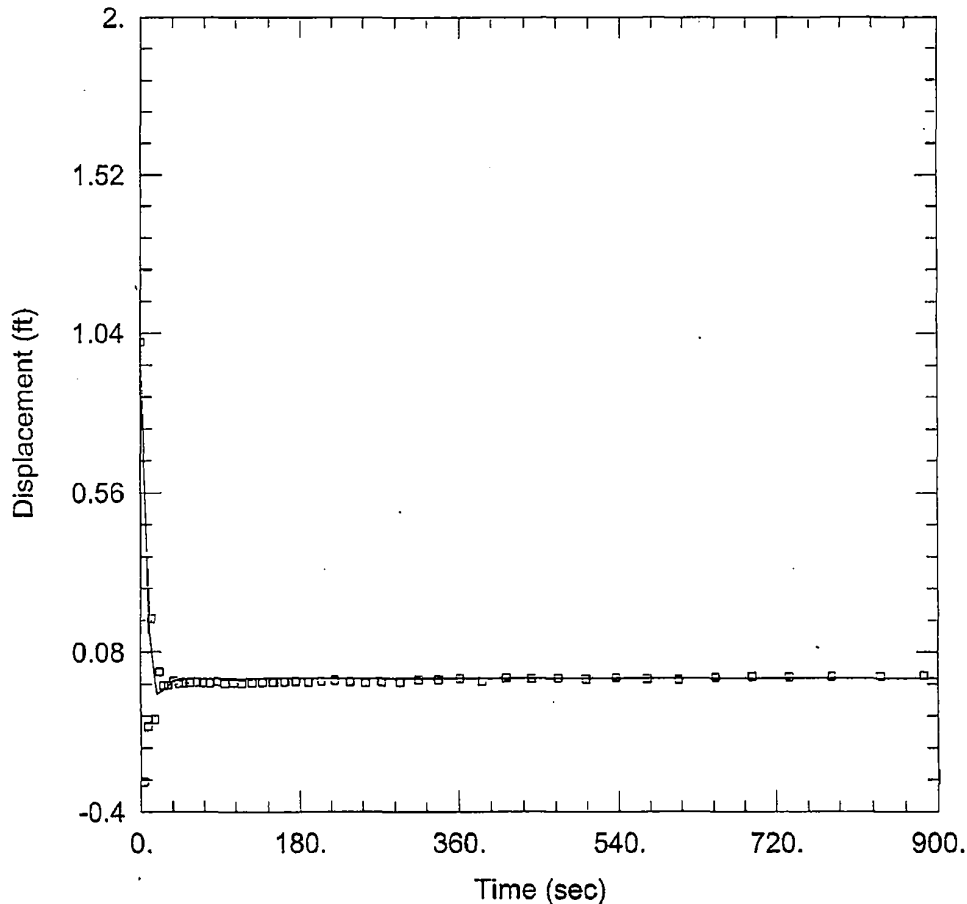


SLUG TEST REPORT

Project Name: <u>TPCA</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 g.s. 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 (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)	0.088 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>			
<u>Sn: 103345</u>				
Slug Data <u>SLUG #2</u>				
Length	<u>65.438 inches</u>			
Weight	<u>8.811 lbs.</u>			
Diameter	<u>1.622 inches</u>			
Slug Test File	Background	Falling	Rising	
File Name	<u>OW-606LBG</u>	<u>OW-606LF</u>	<u>OW-606LR</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 D				

Prepared by: CHS Date: 6-20-08

Checked by: Wtr Date: 6-20-08



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

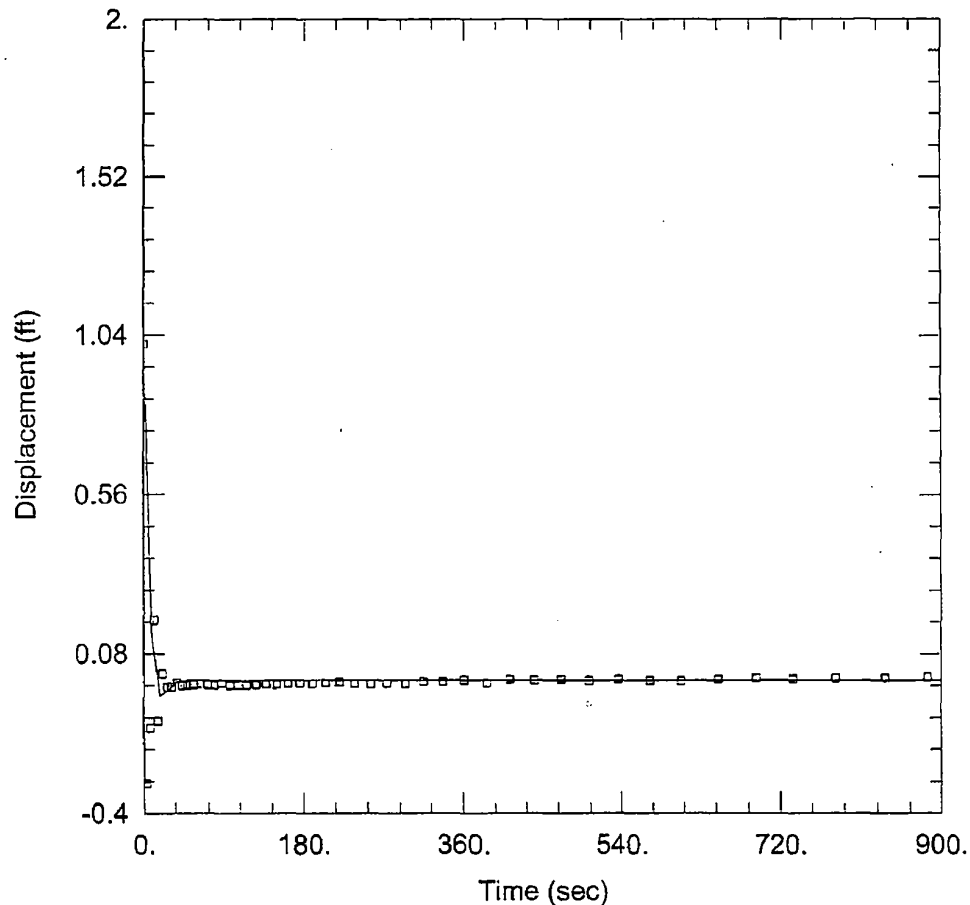
Solution Method: Butler

K = 119.9 ft/day

Le = 86.28 ft

Prepared by: CHS Date: 6-20-08

Checked by: WBL Date: 6-24-08



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
 Total Well Penetration Depth: 109. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 108.6 ft
 Screen Length: 16.2 ft
 Well Radius: 0.29 ft

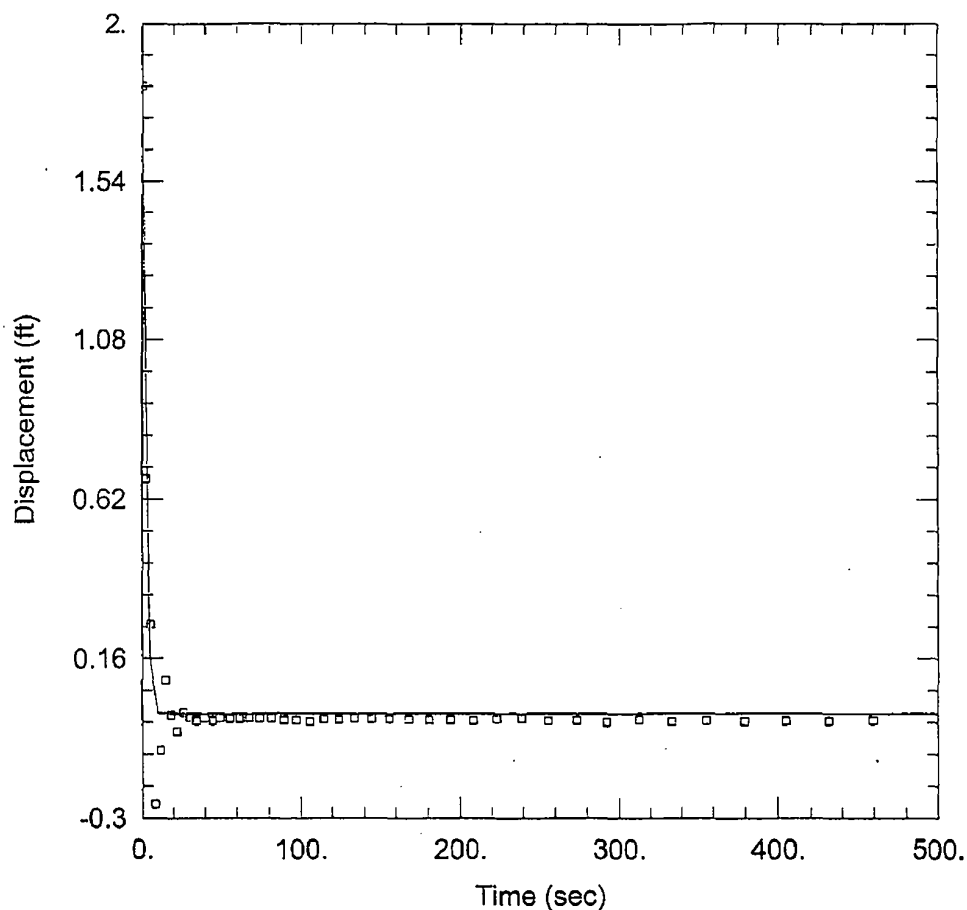
SOLUTION

Aquifer Model: Confined

Solution Method: McElwee-Zenner

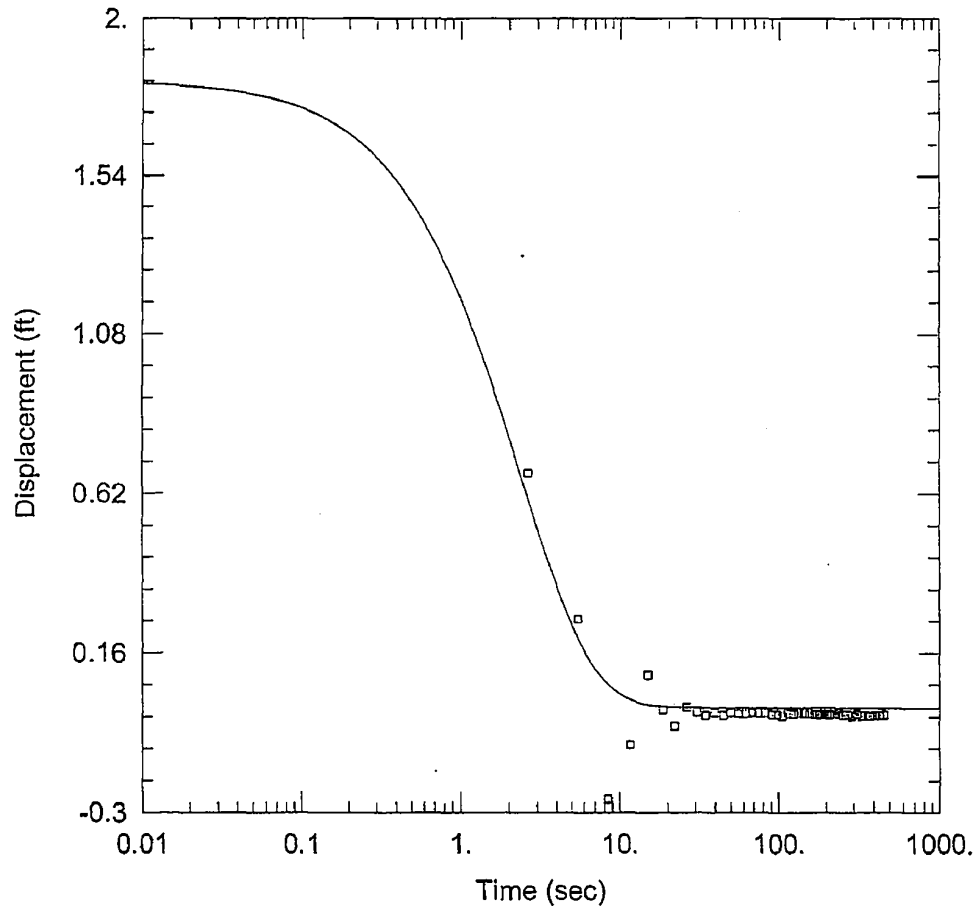
K = 117.8 ft/day
 A = 0.

β = -22.15 ft
 $v(0)$ = 0. ft/day

OW-606 L RISING HEAD TEST 5-18-08PROJECT INFORMATIONCompany: Turkey PointClient: BECHTELProject: 6468-07-1950Location: Turkey PointTest Well: OW-606 LTest Date: 5-18-08AQUIFER DATASaturated Thickness: 92. ftAnisotropy Ratio (K_z/K_r): 1.WELL DATA (OW-606 L)Initial Displacement: 1.817 ftStatic Water Column Height: 108.6 ftTotal Well Penetration Depth: 109. ftScreen Length: 16.2 ftCasing Radius: 0.083 ftWell Radius: 0.29 ftSOLUTIONAquifer Model: ConfinedSolution Method: Butler $K = 30.16$ ft/day $Le = 58.94$ ft

Prepared by: CMB Date: 6-22-08

Checked by: LSR Date: 6-26-08



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
 Total Well Penetration Depth: 109 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 108.6 ft
 Screen Length: 16.2 ft
 Well Radius: 0.29 ft

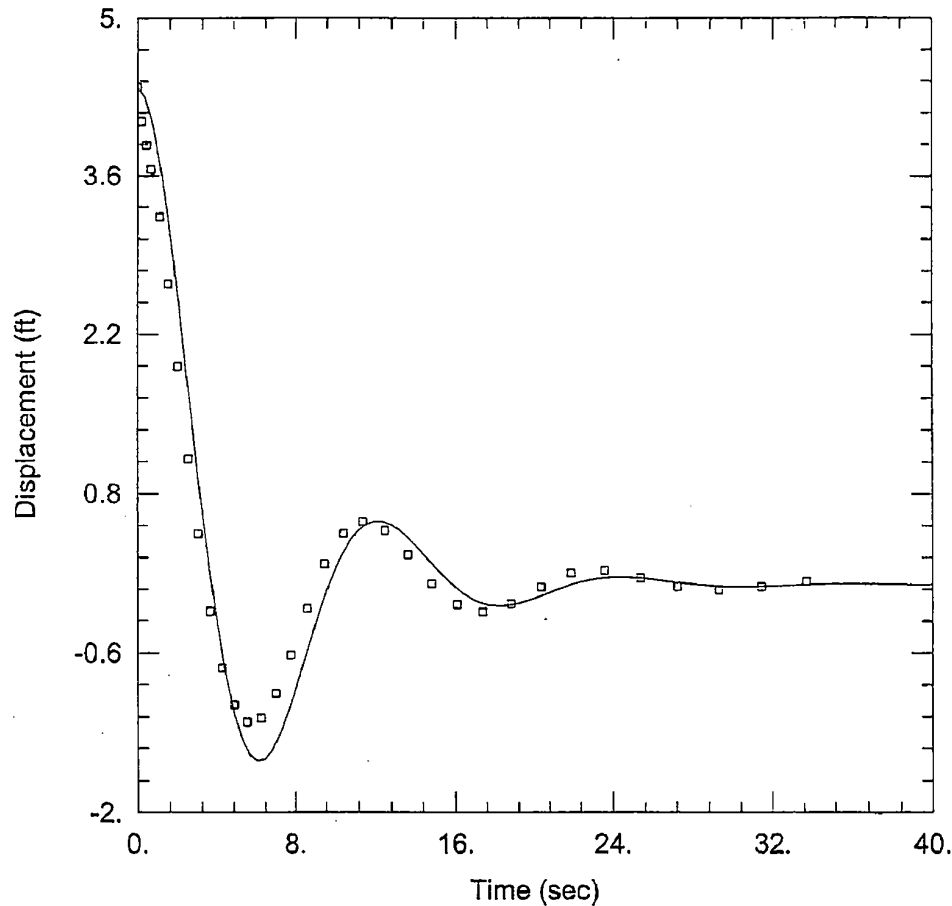
SOLUTION

Aquifer Model: Confined
 $K_r = 35.04$ ft/day
 $K_z/K_r = 1$

Solution Method: KGS Model
 $S_s = 1.087E-12$ ft⁻¹

Prepared by: CHS Date: 6-20-08

Checked by: WSE Date: 6-20-08



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 (K_z/K_r): 1.

WELL DATA (OW-606 L)

Initial Displacement: 4.388 ft
 Total Well Penetration Depth: 109. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 108.7 ft
 Screen Length: 16.2 ft
 Well Radius: 0.29 ft

SOLUTION

Aquifer Model: Confined

Solution Method: McElwee-Zenner

$K = 66.13$ ft/day

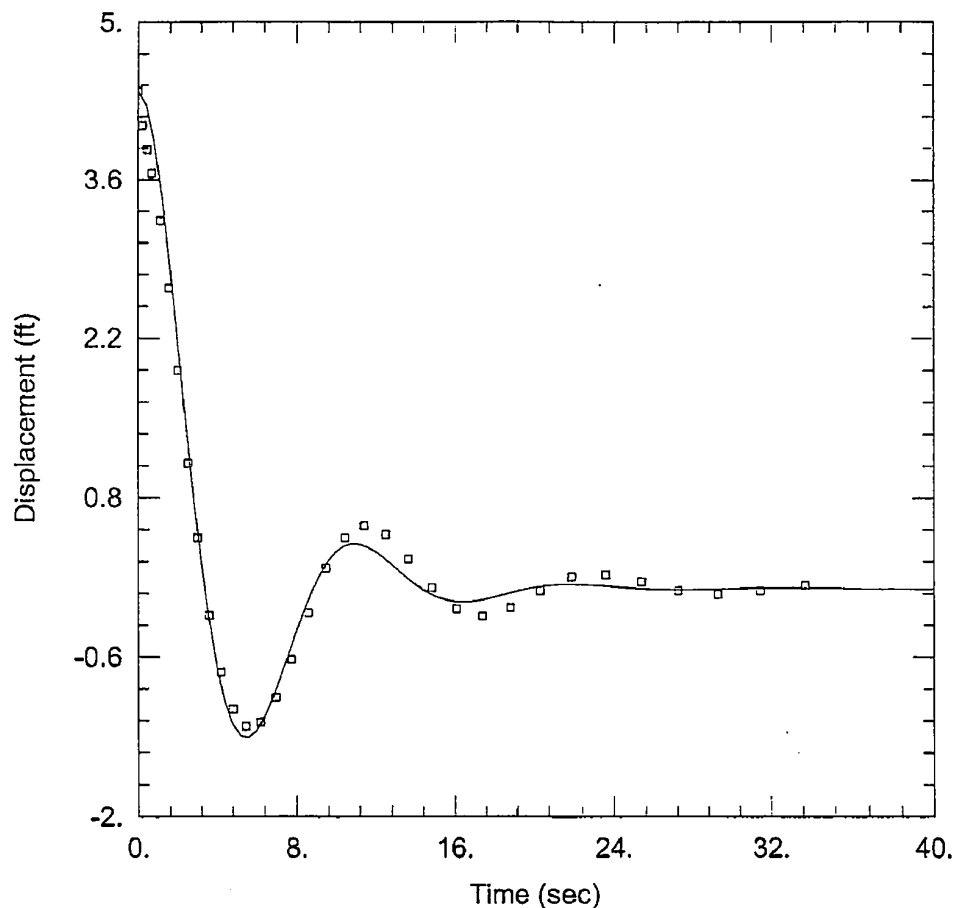
$\beta = 2.736E-317$ ft

$A = 0.$

$v(0) = 0.$ ft/day

Prepared by: CHB Date: 6-20-08

Checked by: LSB Date: 6-20-08



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

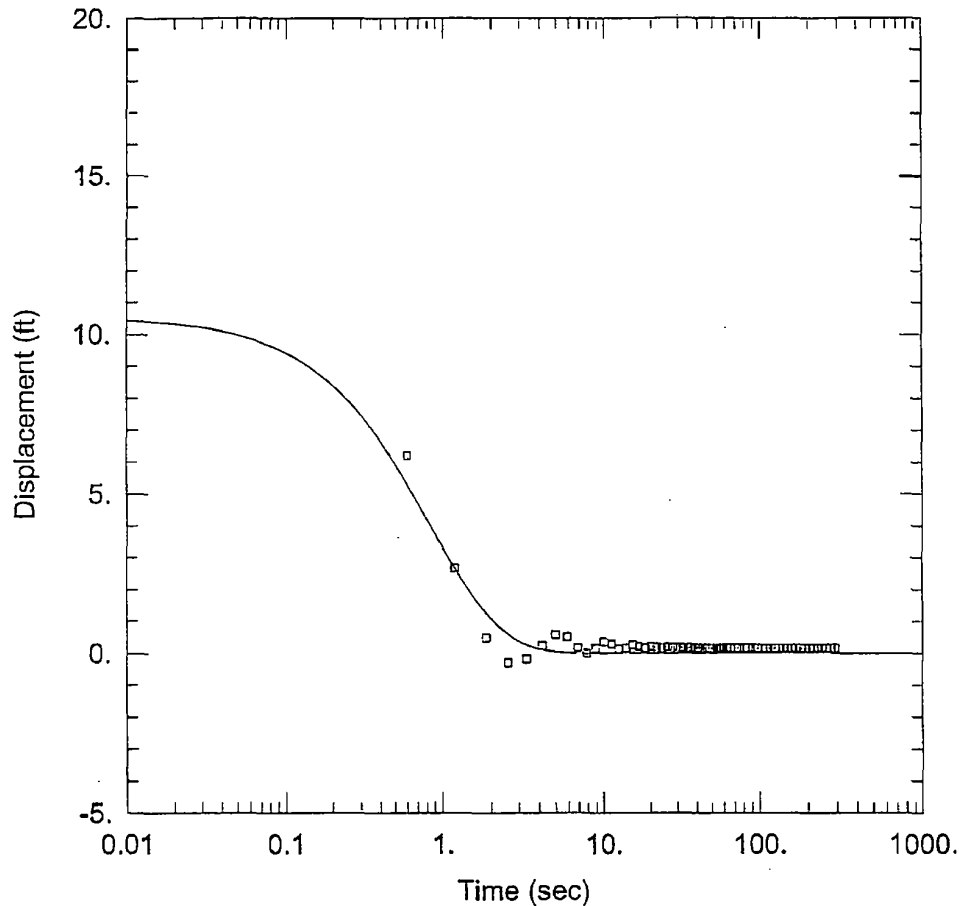
Solution Method: Butler

K = 67.4 ft/day

Le = 85.16 ft

Prepared by: CBB Date: 6-20-08

Checked by: WSB Date: 6-20-08



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: 10.56 ft
 Total Well Penetration Depth: 30. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 27.56 ft
 Screen Length: 15.6 ft
 Well Radius: 0.3 ft

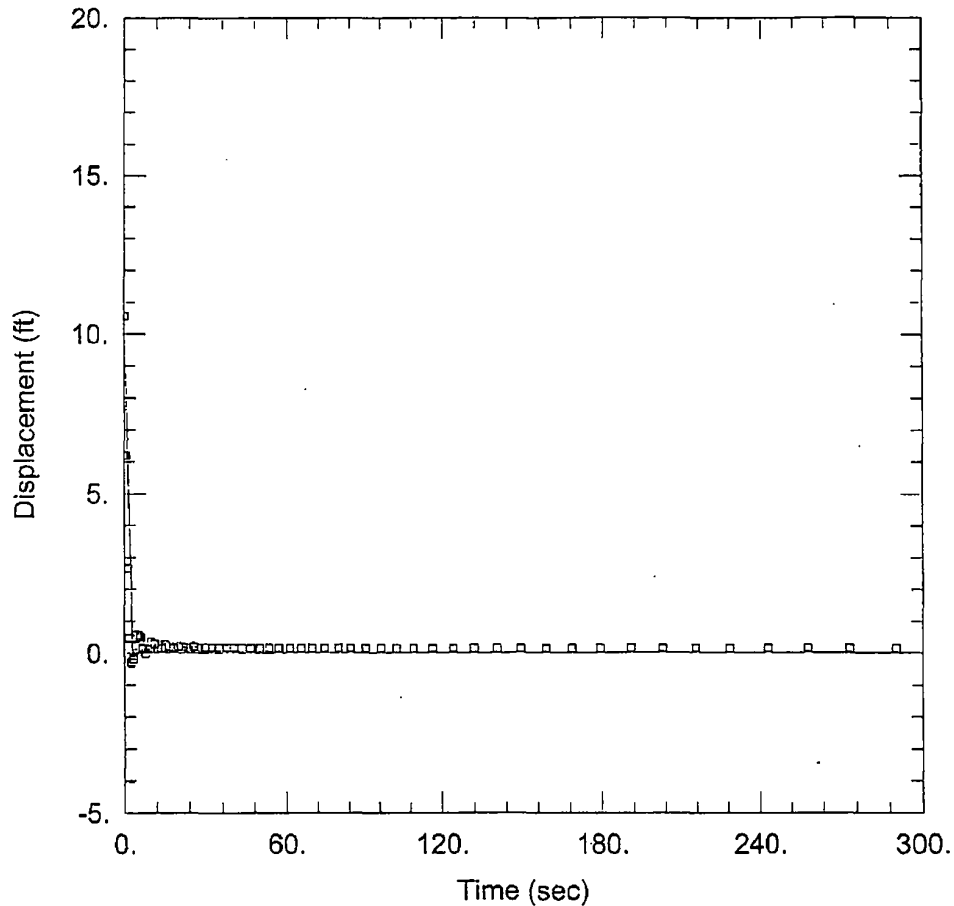
SOLUTION

Aquifer Model: Unconfined
 $K_r = 94.35 \text{ ft/day}$
 $K_z/K_r = 1.$

Solution Method: KGS Model
 $S_s = 3.846E-12 \text{ ft}^{-1}$

Prepared by: CMB Date: 6-20-08

Checked by: WJ Date: 6-20-08



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
 Total Well Penetration Depth: 30. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 27.56 ft
 Screen Length: 15.6 ft
 Well Radius: 0.3 ft

SOLUTION

Aquifer Model: Unconfined
 K = 68.89 ft/day

Solution Method: Springer-Gelhar
 Le = 7.075 ft



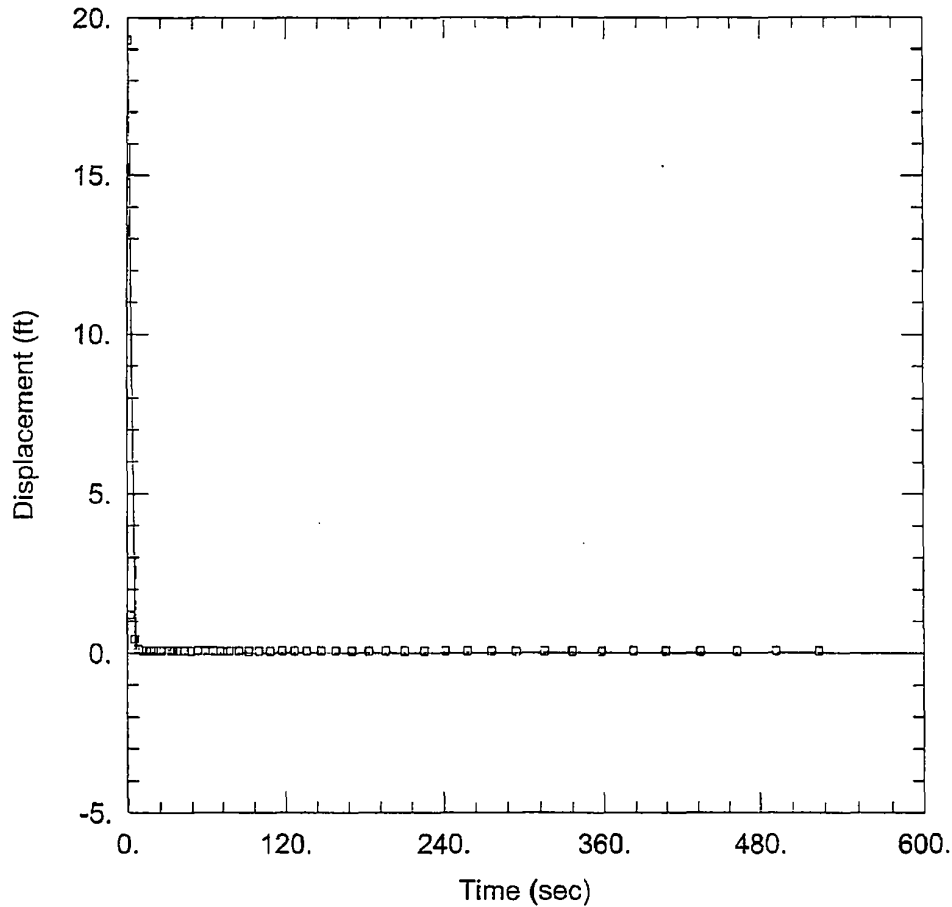
SLUG TEST REPORT

Project Name: <u>TPCOL</u>	Project Number:		Page <u>1</u> of <u>1</u>
Client: <u>Bachtel</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	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	Mini Trail 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-621L BG</u>	<u>OW-621L F</u>	<u>OW-621L R</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 re-test = OW-621L R BG</u></p> <p><u>OW-621L BG</u> <u>OW-621L R (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-1708</u></p>		

Rev 0

Prepared by: CKB Date: 6-20-08

Checked by: WJ Date: 6-20-08



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

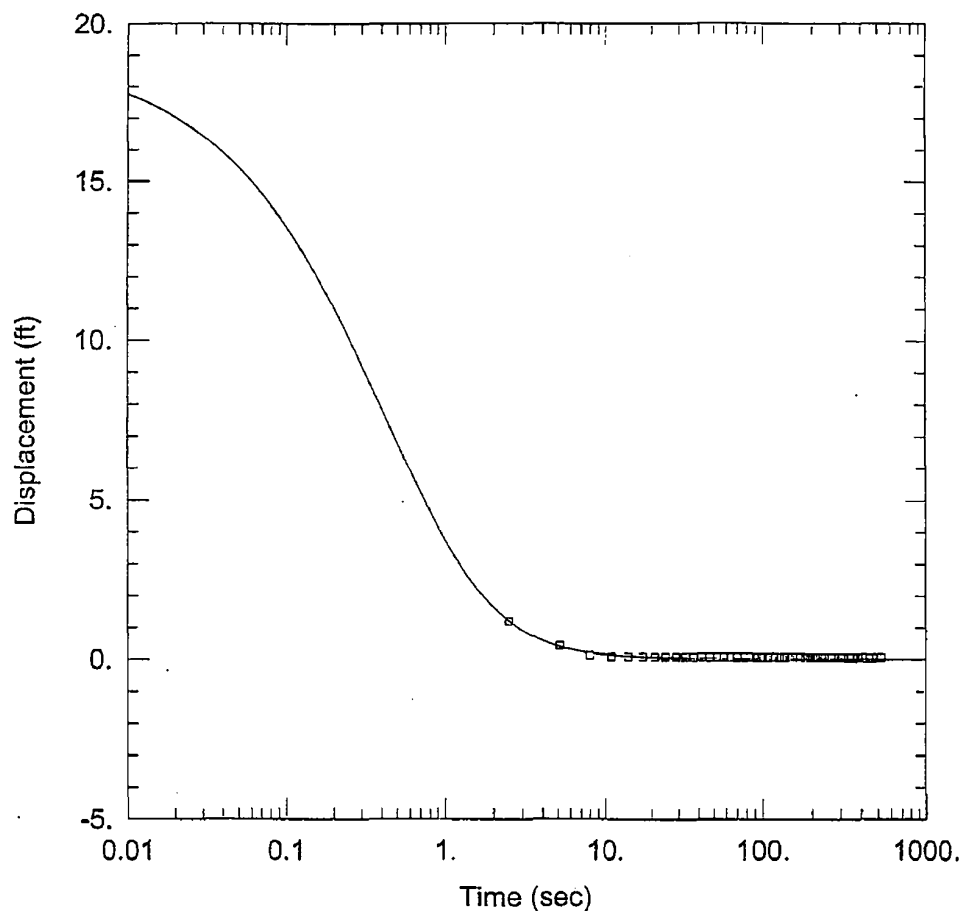
Saturated Thickness: 88.5 ft Anisotropy Ratio (Kz/Kr): 1.

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)

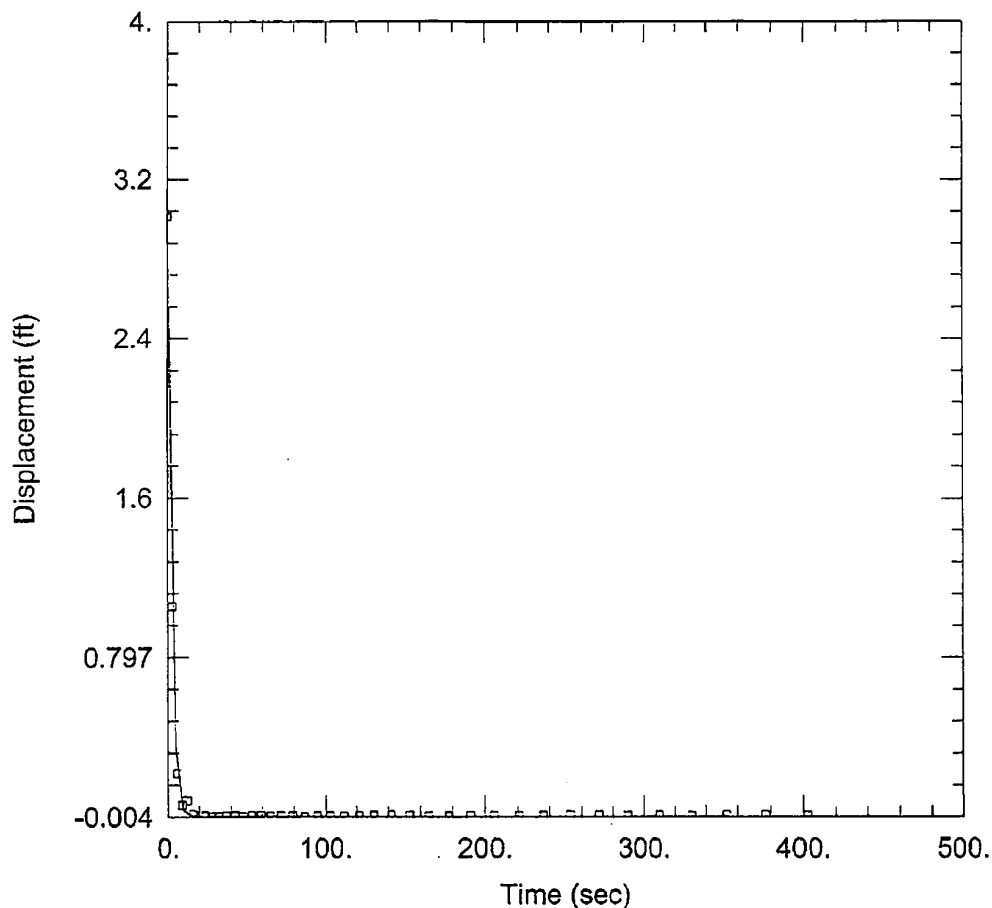
Initial Displacement: 19.29 ft Static Water Column Height: 108.9 ft
 Total Well Penetration Depth: 110. ft Screen Length: 15. ft
 Casing Radius: 0.083 ft Well Radius: 0.3 ft

SOLUTION

Aquifer Model: Confined Solution Method: KGS Model
 $K_r = 71.28 \text{ ft/day}$ $S_s = 0.0001716 \text{ ft}^{-1}$
 $K_z/K_r = 1.$

Prepared by: CAB Date: 6-20-08

Checked by: WV Date: 6-20-08



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

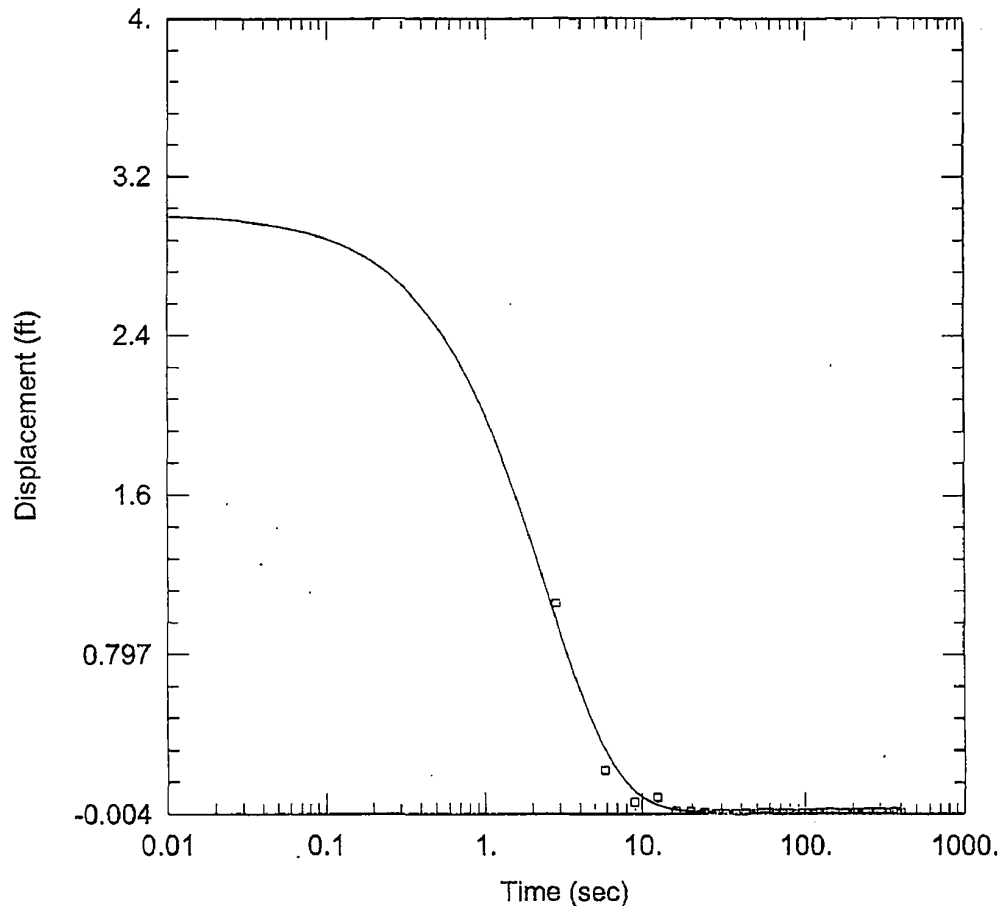
SOLUTION

Aquifer Model: Confined

Solution Method: Butler

K = 31.07 ft/day

Le = 41.67 ft

OW-621 L RISING HEAD TEST 5-17-08PROJECT 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)

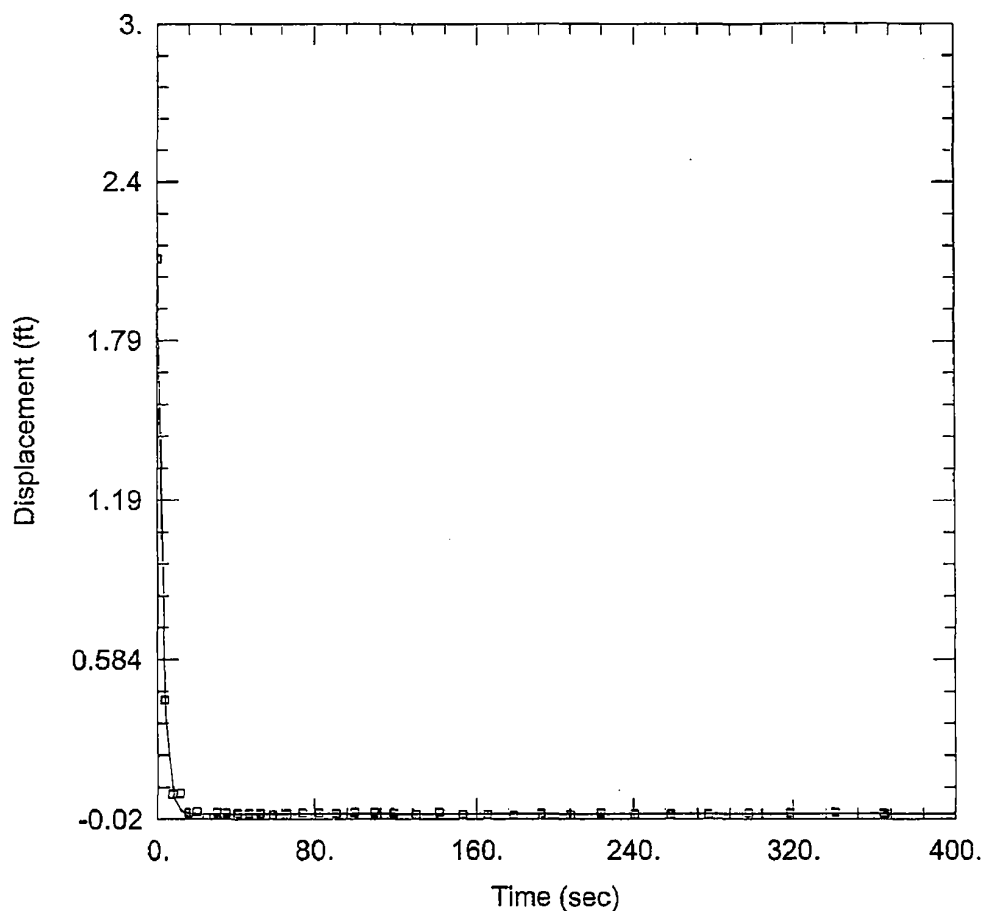
Initial Displacement: 3.011 ft
Total Well Penetration Depth: 110. ft
Casing Radius: 0.083 ft

Static Water Column Height: 108.9 ft
Screen Length: 15. ft
Well Radius: 0.3 ft

SOLUTION

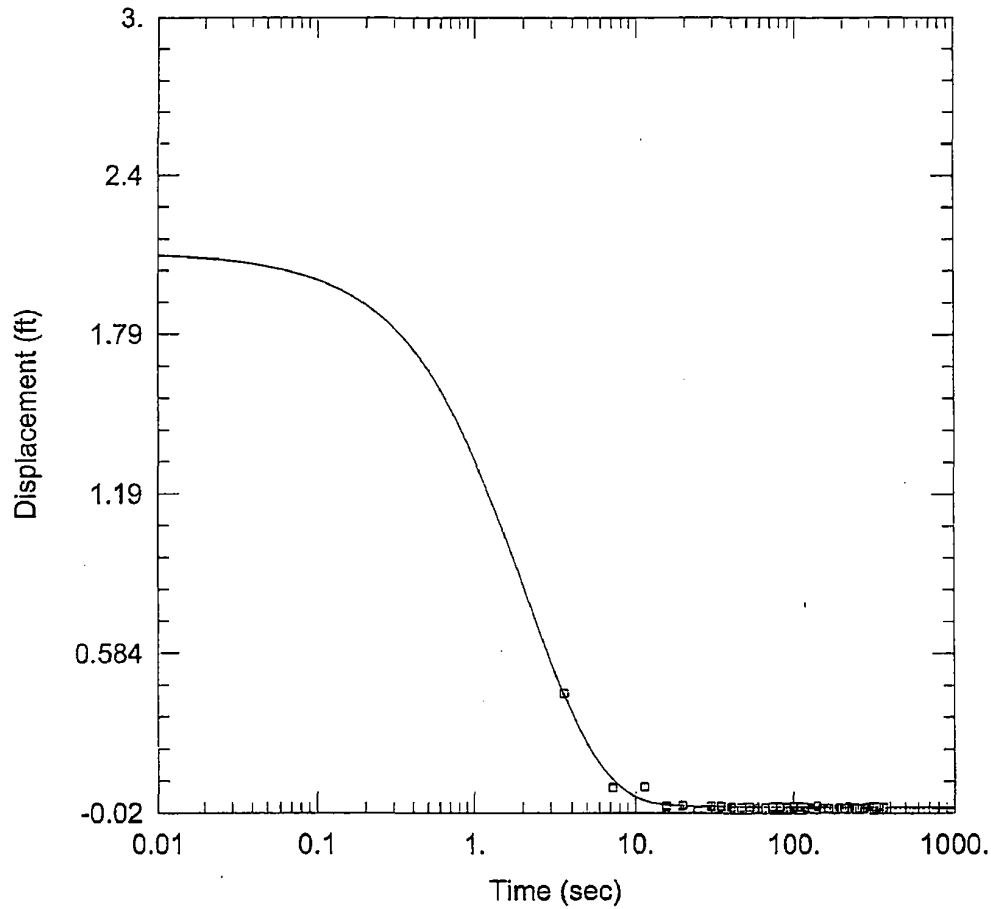
Aquifer Model: Confined
Kr = 33.31 ft/day
Kz/Kr = 1.

Solution Method: KGS Model
Ss = 1.13E-12 ft⁻¹

OW-621 L RISING HEAD TEST # 2 5-17-08PROJECT INFORMATION

Company: Turkey Point
Client: BECHTEL
Project: 6468-07-1950
Location: Turkey Point
Test Well: OW-621 L
Test Date: 5-17-08

AQUIFER DATASaturated Thickness: 88.5 ftAnisotropy Ratio (Kz/Kr): 1.WELL DATA (OW-621 L)Initial Displacement: 2.103 ftStatic Water Column Height: 108.9 ftTotal Well Penetration Depth: 110. ftScreen Length: 15. ftCasing Radius: 0.083 ftWell Radius: 0.3 ftSOLUTIONAquifer Model: ConfinedSolution Method: ButlerK = 35.72 ft/dayLe = 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: 2.103 ft
 Total Well Penetration Depth: 110. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 108.9 ft
 Screen Length: 15. ft
 Well Radius: 0.3 ft

SOLUTION

Aquifer Model: Confined

Solution Method: KGS Model

Kr = 30.4 ft/day

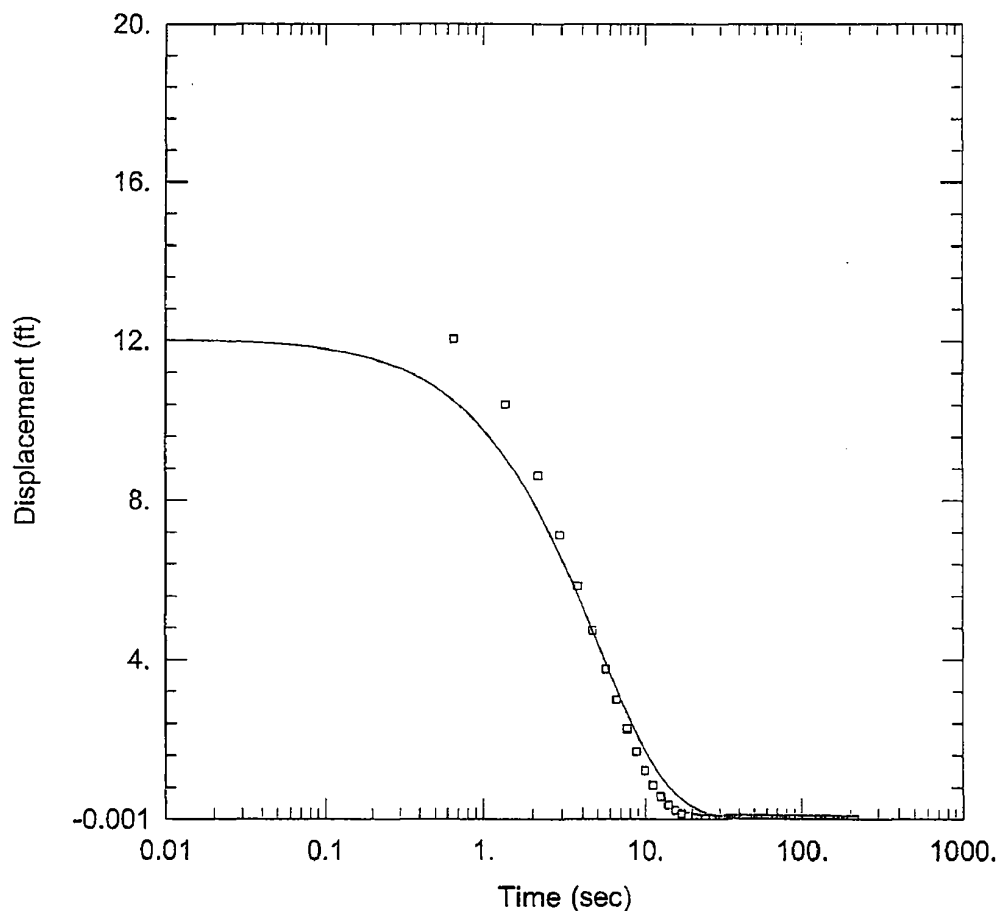
Ss = 5.781E-8 ft⁻¹

Kz/Kr = 1.



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-621L</u>	MACTEC Rep: <u>Kim Chads-Smith</u>		Date: <u>05/20/08</u>
UNITS			
Length	Feet		
Time	Minutes		
Well Data	Final Stickup = <u>3.27'</u>		
Static Water Level	<u>4.71'</u> feet From TOC		
Total Well Depth	<u>111.55'</u> 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)	<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 4/29/08, Exp 4/29/09. SN: <u>118478</u> Level Troll @ <u>700</u> winsitu		
Slug Data	used pneumatic slug to perform test.		
Length			
Weight			
Diameter			
Slug Test File	Background	Falling	Rising
File Name	<u>OW-621L BG</u>	<u>NA</u>	<u>OW-621L R</u>
Start Time	<u>15:14:40</u>		<u>15:22:48</u>
End Time	<u>15:17:33</u>		<u>15:26:44</u>
Notes			
Rev D			



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: 12.05 ft
 Total Well Penetration Depth: 110. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 108.3 ft
 Screen Length: 15. ft
 Well Radius: 0.3 ft

SOLUTION

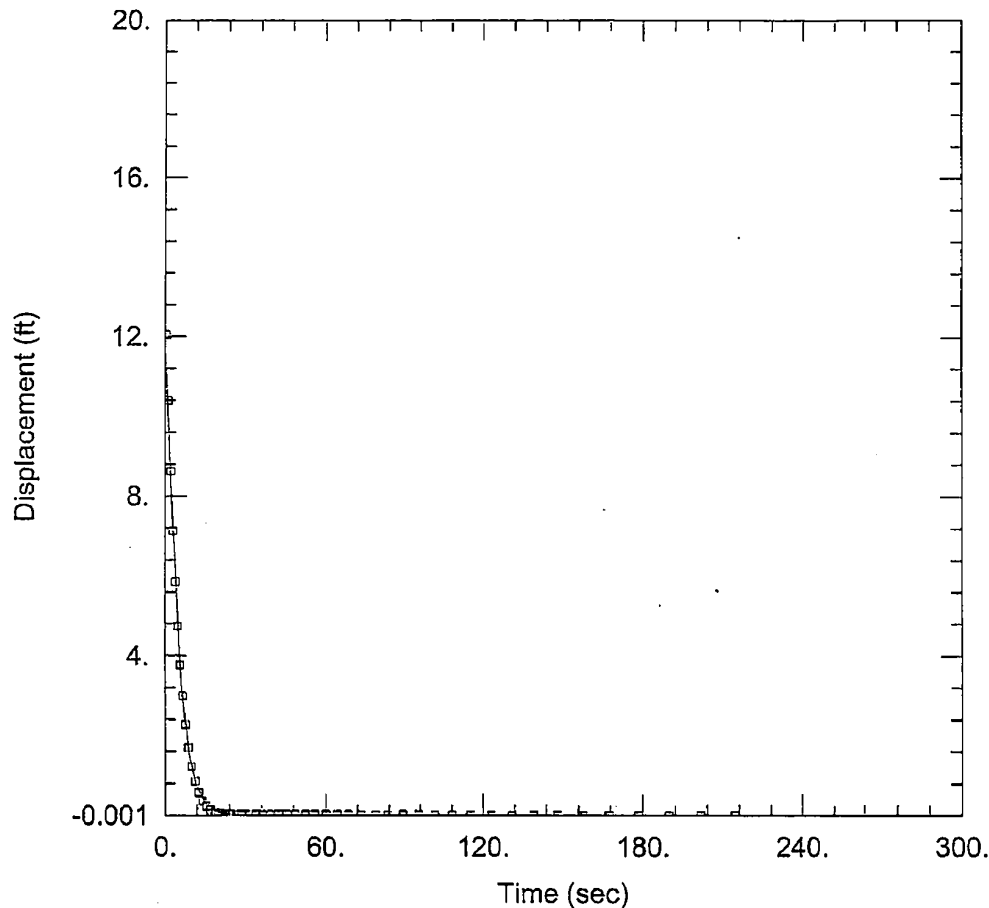
Aquifer Model: Confined

Solution Method: KGS Model

Kr = 16.66 ft/day

Ss = 1.13E-12 ft⁻¹

Kz/Kr = 1.

OW-621 L RISING HEAD TEST 5-20-08PROJECT INFORMATION

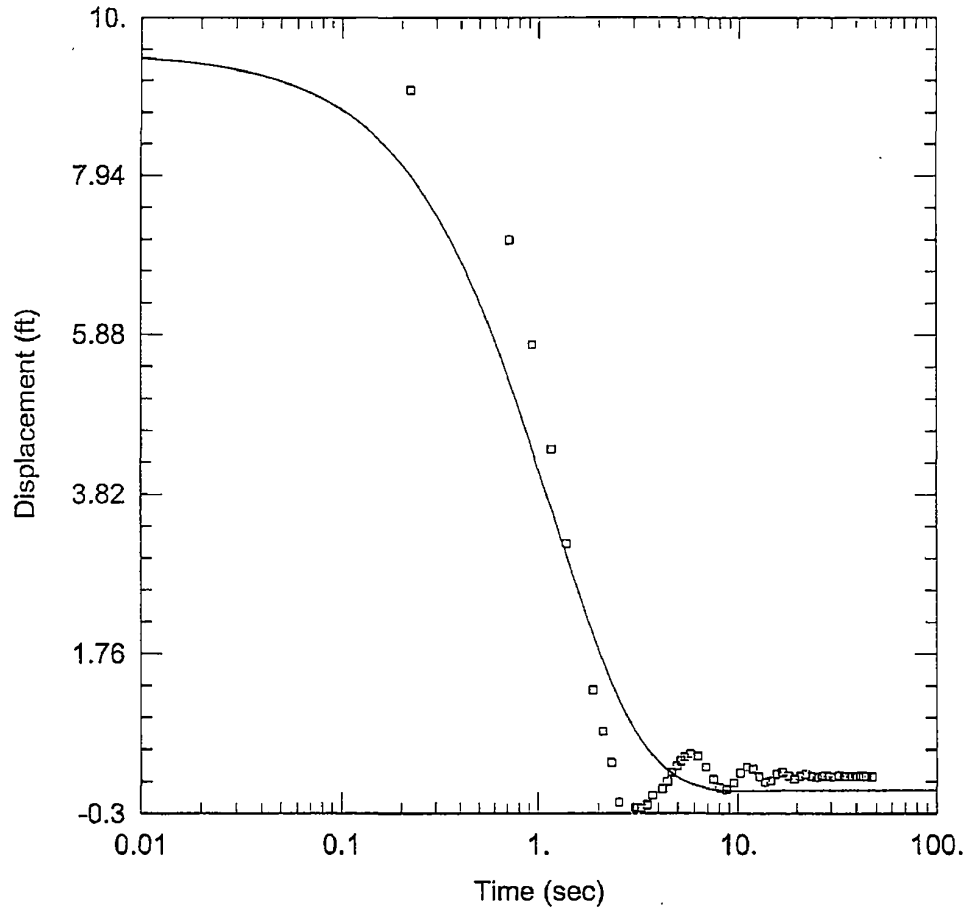
Company: Turkey Point
Client: BECHTEL
Project: 6468-07-1950
Location: Turkey Point
Test Well: OW-621 L
Test Date: 5-17-08

AQUIFER DATASaturated Thickness: 88.5 ftAnisotropy Ratio (Kz/Kr): 1.WELL DATA (OW-621 L)Initial Displacement: 12.05 ftStatic Water Column Height: 108.3 ftTotal Well Penetration Depth: 110. ftScreen Length: 15. ftCasing Radius: 0.083 ftWell Radius: 0.3 ftSOLUTIONAquifer Model: ConfinedSolution Method: ButlerK = 16.65 ft/dayLe = 117.9 ft



SLUG TEST REPORT

Project Name: <u>TPCOL</u>		Project Number: <u>8468-07-1857</u> Page <u>1</u> of <u>1</u>	
Client: <u>Bechtel</u>		Contractor: <u>MACTEC</u>	
Location: <u>OW-636 U</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 (Kw/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)	<u>0.75 inch</u>		
Radius of Boring (rsk) Skin Effect	0.083 feet		
Probe Serial Number	<u>SN: 118478</u> <u>Winstar</u> <u>Level troll @ 700 calibrated 4/29/08, Exp 4/29/09</u>		
Slug Data			
Length	<u>pneumatic slug</u>		
Weight			
Diameter			
Slug Test File	Background	Falling	Rising
File Name	<u>OW-636 U B6</u>	<u>NA</u>	<u>OW-636 U R</u>
Start Time			<u>OW-636 U R Test 2</u>
End Time			
Notes	<u>OW-636 U R</u> <u>OW-636 U R 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 5-21-08PROJECT 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)

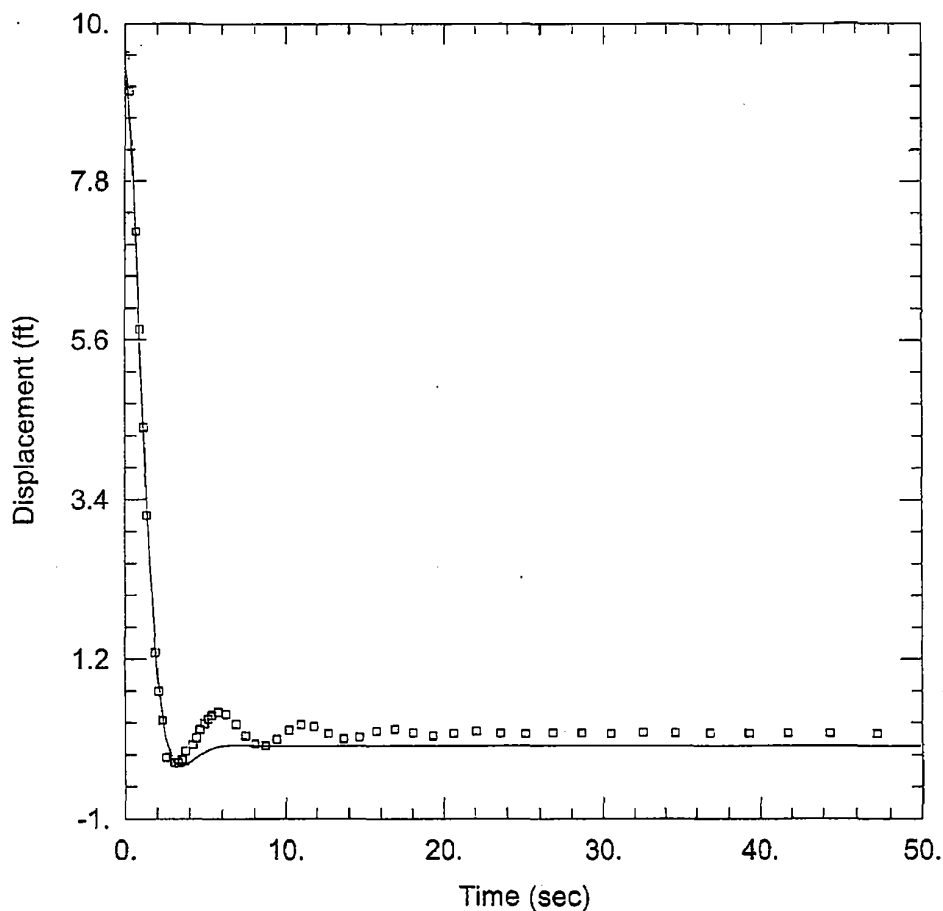
Initial Displacement: 9.553 ft
Total Well Penetration Depth: 29.8 ft
Casing Radius: 0.083 ft

Static Water Column Height: 28.85 ft
Screen Length: 17. ft
Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
 $K_r = 57.27 \text{ ft/day}$
 $K_z/K_r = 1.$

Solution Method: KGS Model
 $S_s = 3.846\text{E-}12 \text{ ft}^{-1}$

OW-636 U RISING HEAD TEST 5-21-08PROJECT INFORMATION

Company: Turkey Point
Client: BECHTEL
Project: 6468-07-1950
Location: Turkey Point
Test Well: OW-636 U
Test Date: 5-21-08

AQUIFER DATASaturated Thickness: 28.85 ftAnisotropy Ratio (K_z/K_r): 1.WELL DATA (OW-636 U)

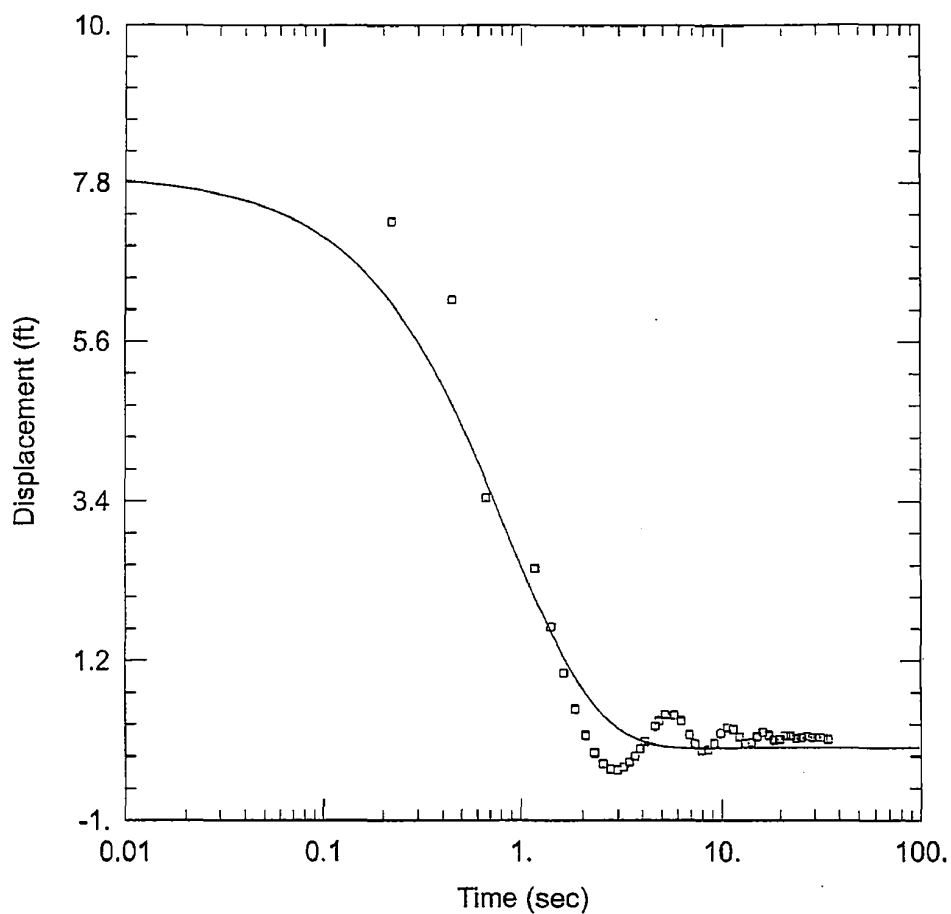
Initial Displacement: 9.553 ft
Total Well Penetration Depth: 29.8 ft
Casing Radius: 0.083 ft

Static Water Column Height: 28.85 ft
Screen Length: 17. ft
Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
 $K = 50.64$ ft/day

Solution Method: Springer-Gelhar
 $Le = 17.14$ 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
 Total Well Penetration Depth: 29.8 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 28.85 ft
 Screen Length: 17 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined

Solution Method: KGS Model

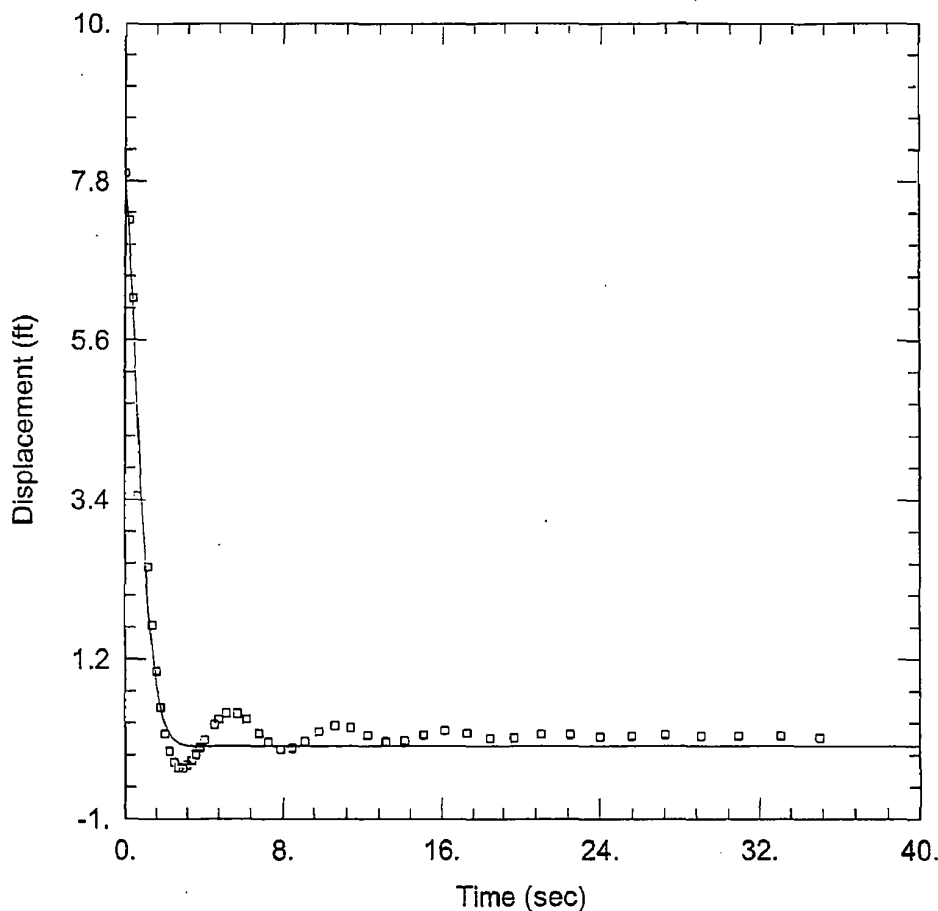
Kr = 79.27 ft/day

Ss = 3.846E-12 ft⁻¹

Kz/Kr = 1

Prepared by: CLB Date: 6-22-08

Checked by: LSL Date: 6-22-08



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
 Total Well Penetration Depth: 29.8 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 28.85 ft
 Screen Length: 17. ft
 Well Radius: 0.25 ft

SOLUTION

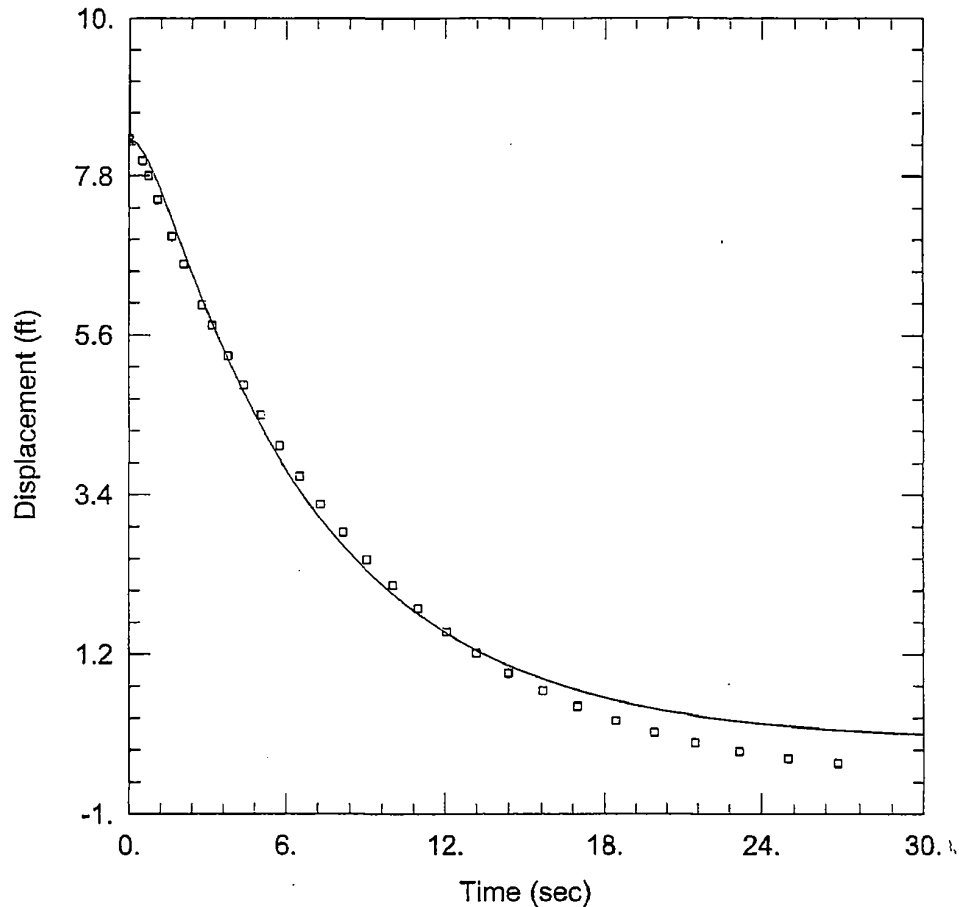
Aquifer Model: Unconfined
 K = 64.33 ft/day

Solution Method: Springer-Gelhar
 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)	Assume 1 to 1			
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>min. ^{1st} trial @ 700 calibrated 4/29/08, exp 4/29/09</u> <u>Sn: 118478 winsite</u>			
Slug Data	<u>pneumatic slug</u>			
Length				
weight				
Diameter				
Slug Test File	Background	Falling	Rising	
File Name	<u>OW-636L BG</u>	<u>NA</u>	<u>OW-636L R</u>	
Start Time	<u>12:23:14</u>		<u>OW-636L R Test 2</u>	
End Time	<u>12:29:22</u>			
Notes	<u>OW-636L R</u> <u>OW-636L R Test</u> <u>12:32:42</u> <u>12:38:53</u> <u>12:33:15</u> <u>12:42:14</u>			
Rev 0				

OW-636 L RISING HEAD TEST 5-20-08PROJECT 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

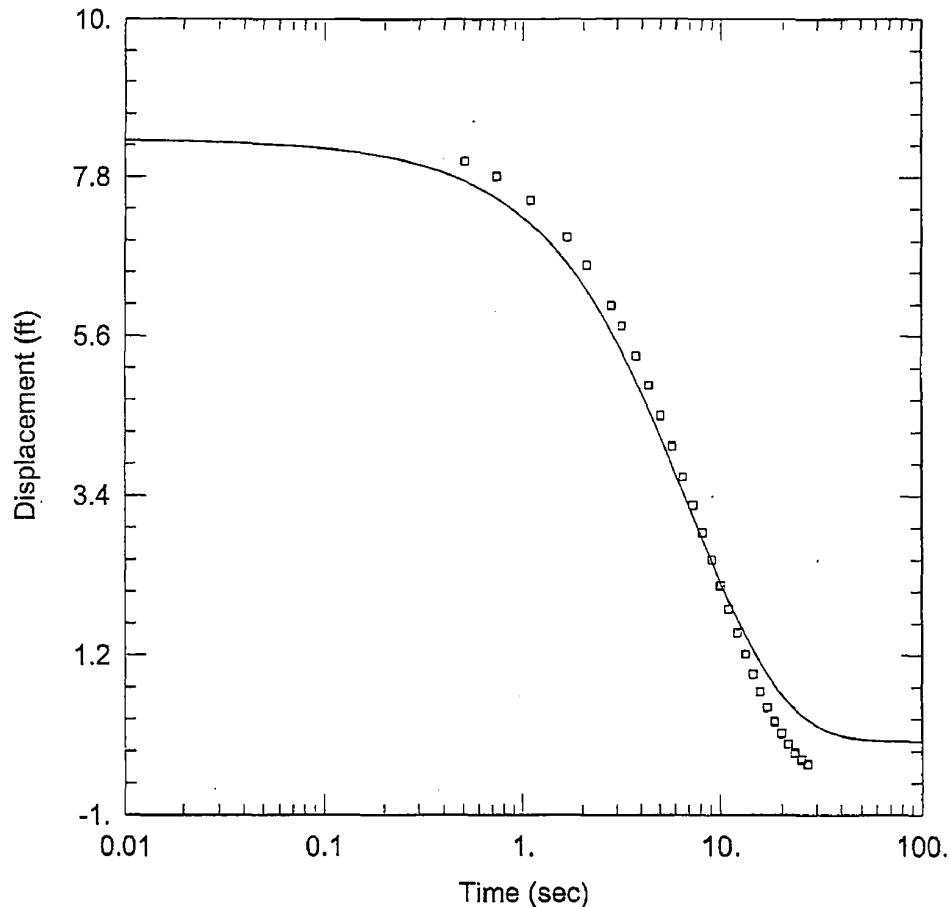
Saturated Thickness: 88 ft Anisotropy Ratio (K_z/K_r): 1

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 $L_e = 158.1$ ft

OW-636 L RISING HEAD TEST 5-20-08PROJECT 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
Total Well Penetration Depth: 111 ft
Casing Radius: 0.083 ft

Static Water Column Height: 111.7 ft
Screen Length: 17.5 ft
Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined

Solution Method: KGS Model

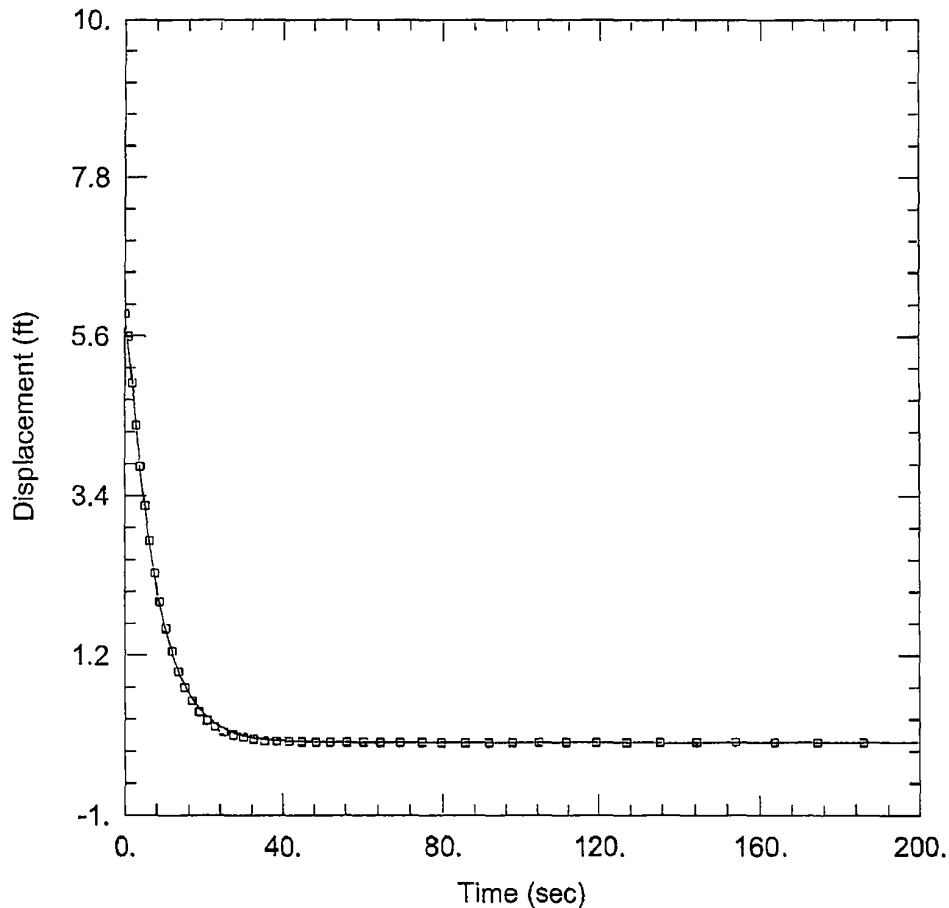
Kr = 10.58 ft/day

Ss = 1.13E-12 ft⁻¹

Kz/Kr = 1

Prepared by: LHB Date: 6-20-08

Checked by: WLR Date: 6-20-08



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

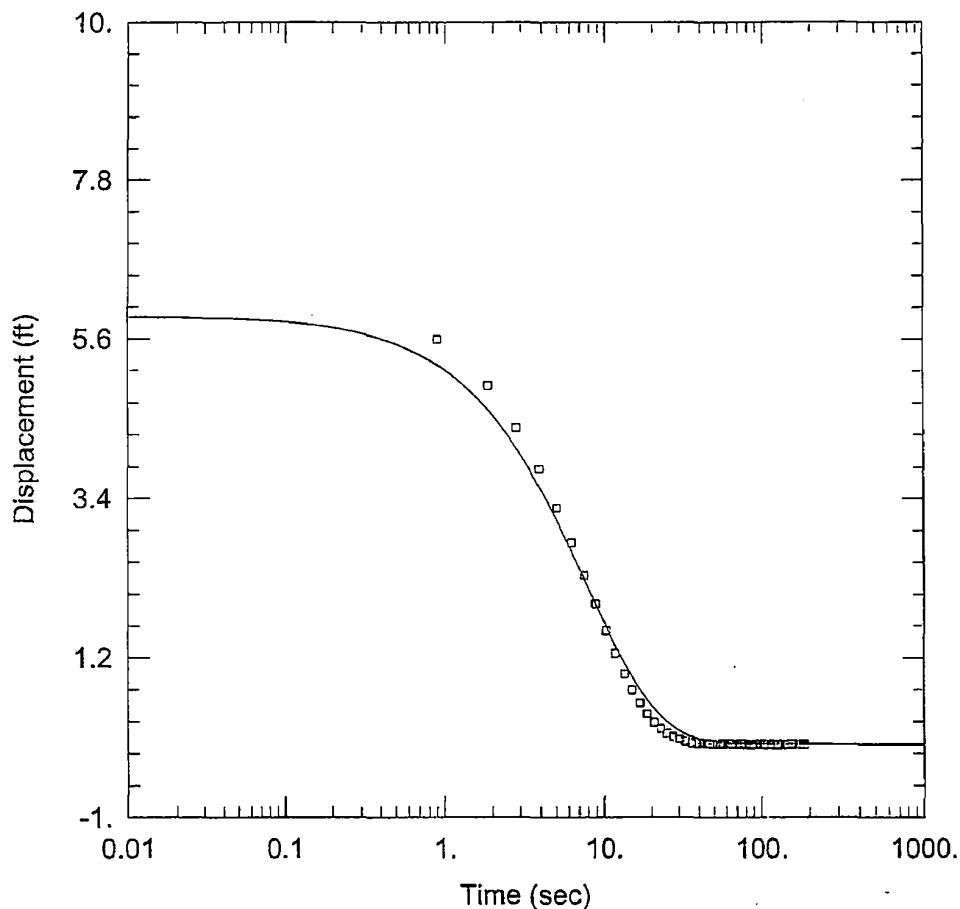
SOLUTION

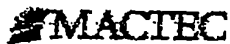
Aquifer Model: Confined

Solution Method: Butler

K = 9.425 ft/day

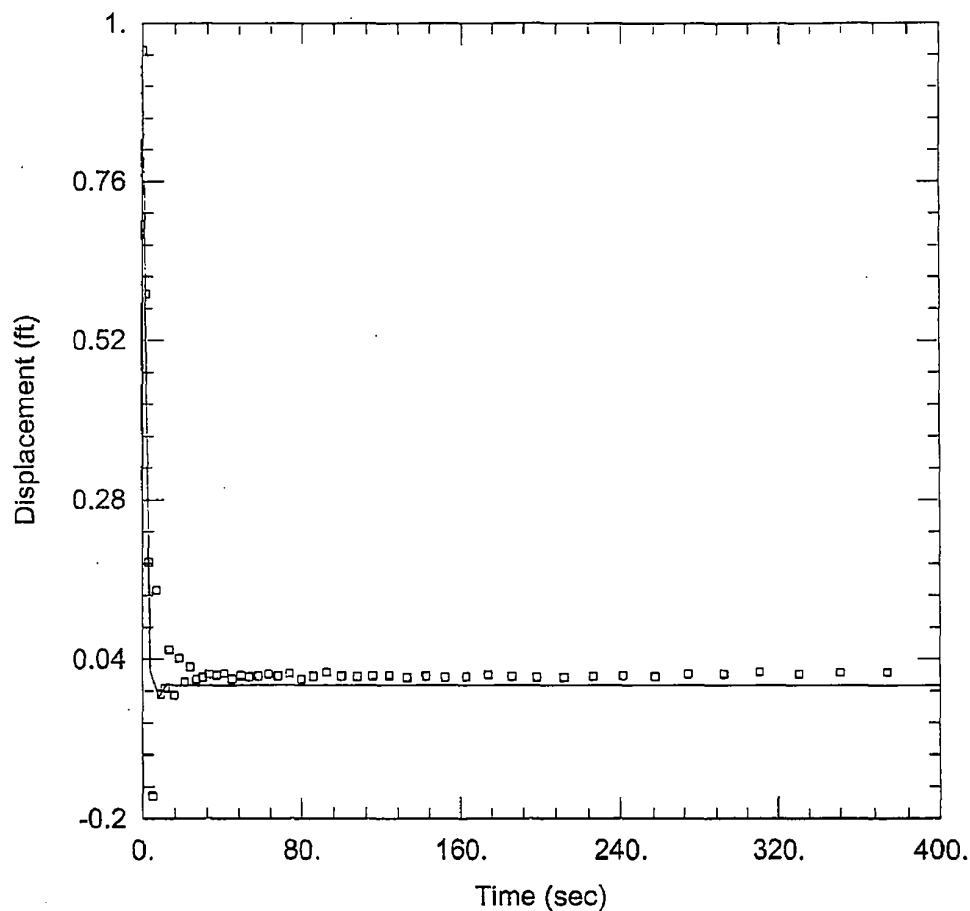
Le = 166.7 ft

OW-636 L RISING HEAD TEST # 2 5-20-08PROJECT INFORMATIONCompany: Turkey PointClient: BECHTELProject: 6468-07-1950Location: Turkey PointTest Well: OW-636 LTest Date: 5-21-08AQUIFER DATASaturated Thickness: 88 ftWELL DATA (OW-636 L)Initial Displacement: 5.913 ftTotal Well Penetration Depth: 111 ftCasing Radius: 0.083 ftStatic Water Column Height: 111.7 ftScreen Length: 17.5 ftWell Radius: 0.25 ftSOLUTIONAquifer Model: ConfinedSolution Method: KGS Model $K_r = 10.01$ ft/day $S_s = 1.13E-12$ ft⁻¹ $K_z/K_r = 1$

Checked by: CHB Date: 6-20-08

SLUG TEST REPORT

Project Name: <u>TPCCL</u>	Project Number:	Page <u>1</u> of <u>1</u>
Client: <u>Bectel</u>	Contractor: <u>MACTEC</u>	
Location: <u>OW-706U</u>	MACTEC Rep: <u>Kim Chab Smith</u>	Date: <u>05/16/08</u>
UNITS		
Length	Feet	
Time	Minutes	
Well Data	<u>Sticker 3.61' from 25. Final</u>	
Static Water Level	<u>3.74'</u> feet <u>From TOC</u>	
Total Well Depth	<u>31.72'</u> feet <u>From TOC</u>	
Static Water Column Height (H)	<u>27.97'</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	<u>mini trail Transducer probe calibrated 4/29/08</u> <u>EXP. 4/29/09.</u>	
SN: <u>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
File Name	<u>OW-706UBG</u>	<u>OW-706UF</u>
Start Time	<u>15:21:06</u>	<u>15:41:27</u>
End Time	<u>15:27:24</u>	<u>15:42:57</u>
Notes <u>Run 1st test</u> <u>Water came out</u> <u>of TOC, run</u> <u>second flats set</u> <u>with extension</u> <u>on TOC.</u>	<u>Extended casing to 5.58' above g.s. to</u> <u>run OW-706UF 15:45:39 to 16:33:34</u> <u>Data Set</u>	
	<u>OW-706UBG</u>	<u>OW-706UF</u>
	<u>16:33:34</u>	<u>16:41:27</u>
	<u>16:39:31</u>	<u>16:53:55</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
 Total Well Penetration Depth: 28.9 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 28.46 ft
 Screen Length: 15.5 ft
 Well Radius: 0.25 ft

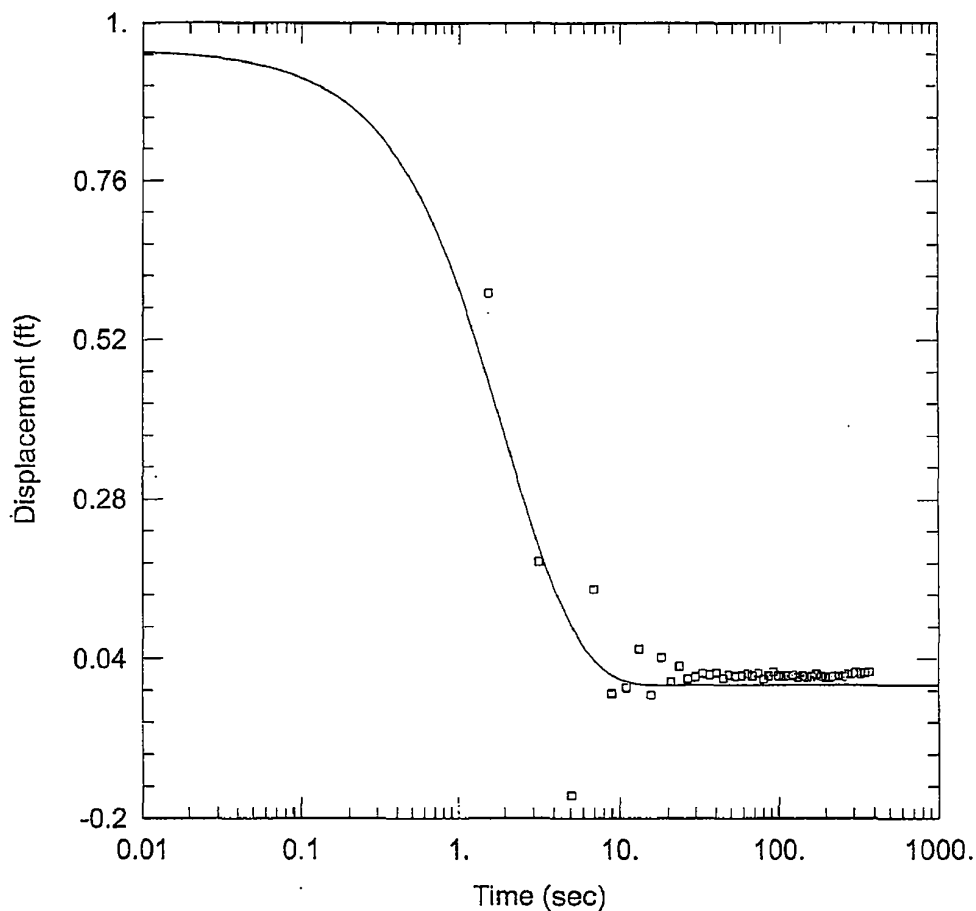
SOLUTION

Aquifer Model: Unconfined

Solution Method: Springer-Gelhar

K = 30.27 ft/day

Le = 56.23 ft

OW-706 U RISING HEAD TEST 5-16-08PROJECT 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
Total Well Penetration Depth: 28.9 ft
Casing Radius: 0.083 ft

Static Water Column Height: 28.46 ft
Screen Length: 15.5 ft
Well Radius: 0.25 ft

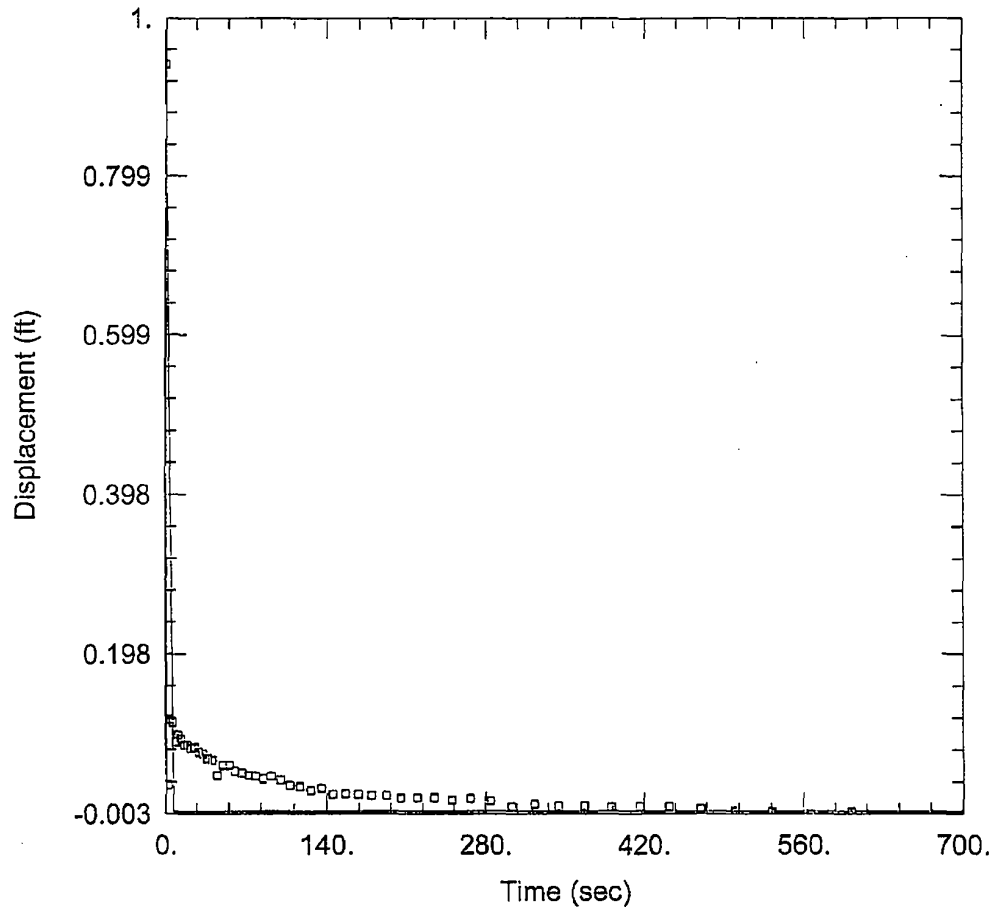
SOLUTION

Aquifer Model: Unconfined

Solution Method: KGS Model

Kr = 31.19 ft/day
Kz/Kr = 1.

Ss = 3.205E-12 ft⁻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

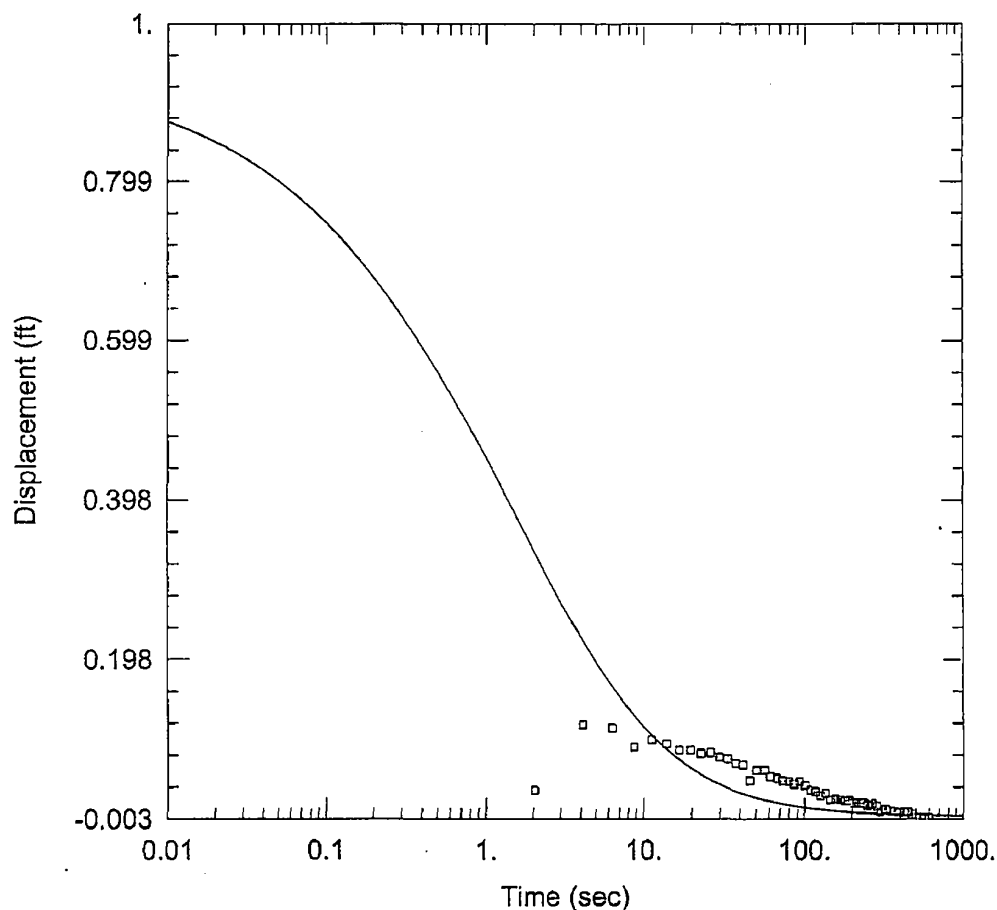
Saturated Thickness: 30.66 ft Anisotropy Ratio (K_z/K_r): 1.

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)

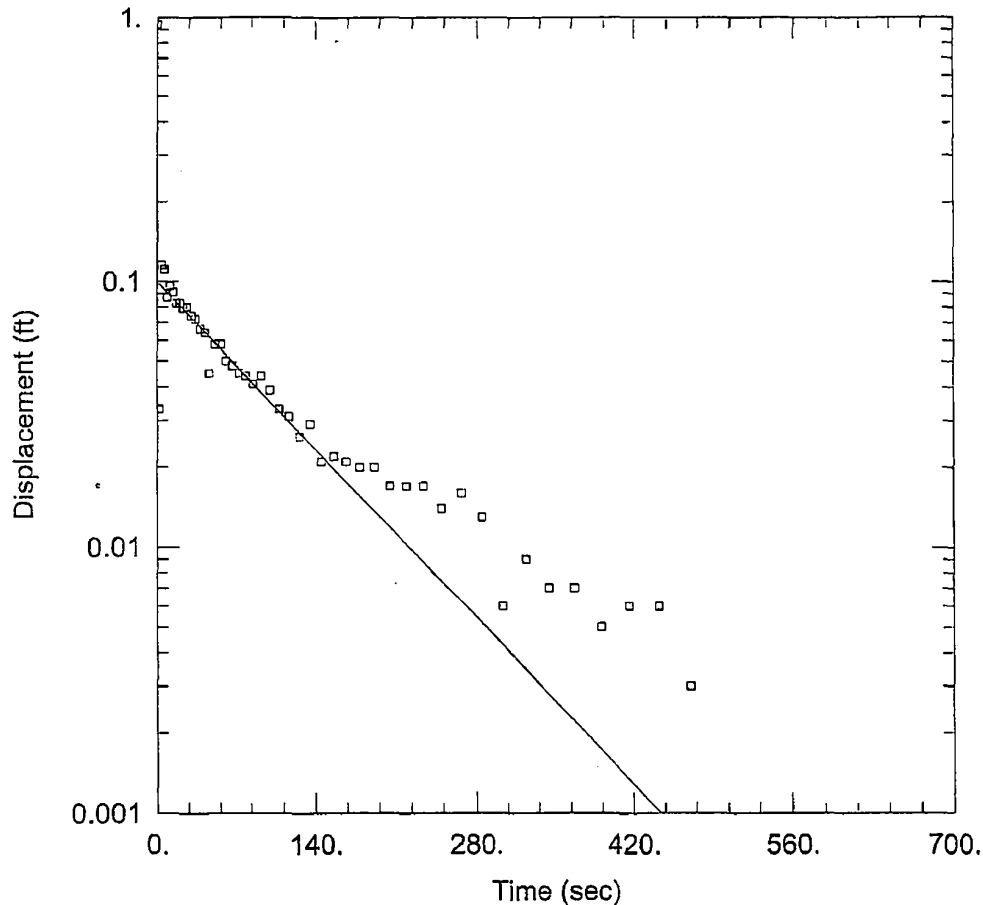
Initial Displacement: 0.941 ft
 Total Well Penetration Depth: 28.9 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 28.46 ft
 Screen Length: 15.5 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
 $K_r = 6.423 \text{ ft/day}$
 $K_z/K_r = 1$

Solution Method: KGS Model
 $S_s = 0.003205 \text{ ft}^{-1}$

OW-706 U FALLING HEAD TEST 5-16-08PROJECT INFORMATION

Company: Turkey Point
Client: BECHTEL
Project: 6468-07-1950
Location: Turkey Point
Test Well: OW-706 U
Test Date: 5-16-08

AQUIFER DATASaturated Thickness: 30.66 ftAnisotropy Ratio (Kz/Kr): 1.WELL DATA (OW-706 U)

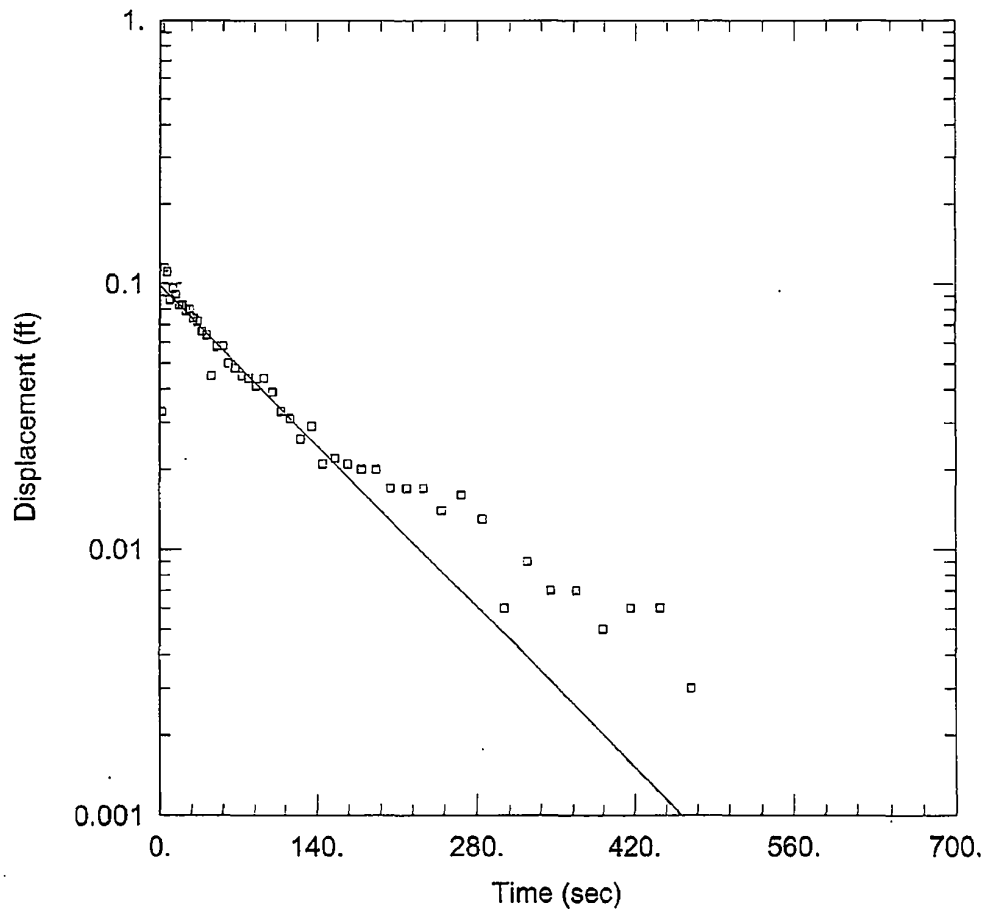
Initial Displacement: 0.941 ft
Total Well Penetration Depth: 28.9 ft
Casing Radius: 0.083 ft

Static Water Column Height: 28.46 ft
Screen Length: 15.5 ft
Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
K = 0.7146 ft/day

Solution Method: Hvorslev
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

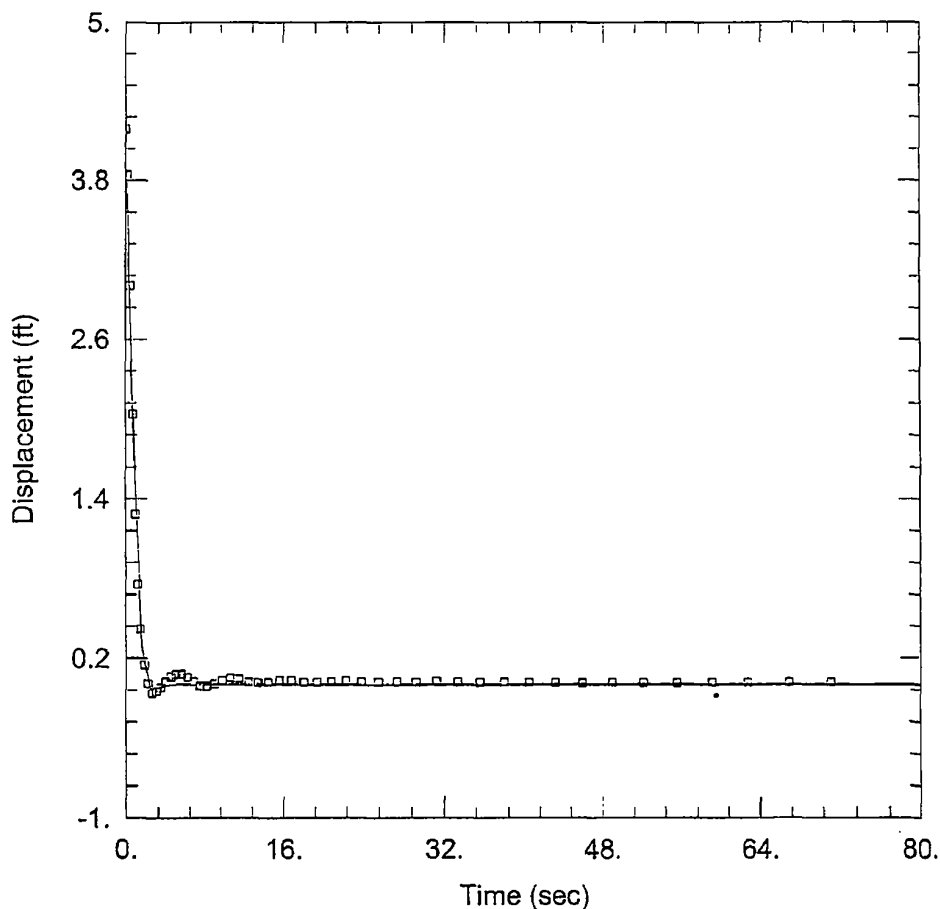
Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 K = 0.5455 ft/day y0 = 0.09865 ft



SLUG TEST REPORT

Project Name: <u>TPCOL</u>	Project Number: <u>6468-07-P50</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	Final Pickup = 3.61' From g.s.		
Static Water Level	3.74' feet From TOC		
Total Well Depth	31.72' 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 4/29/08, Exp. 4/29/09 Sn: 118478 level troll @ 700 win situ		
Slug Data	used pneumatic slug to perform test		
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>		

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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 (K_z/K_r): 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

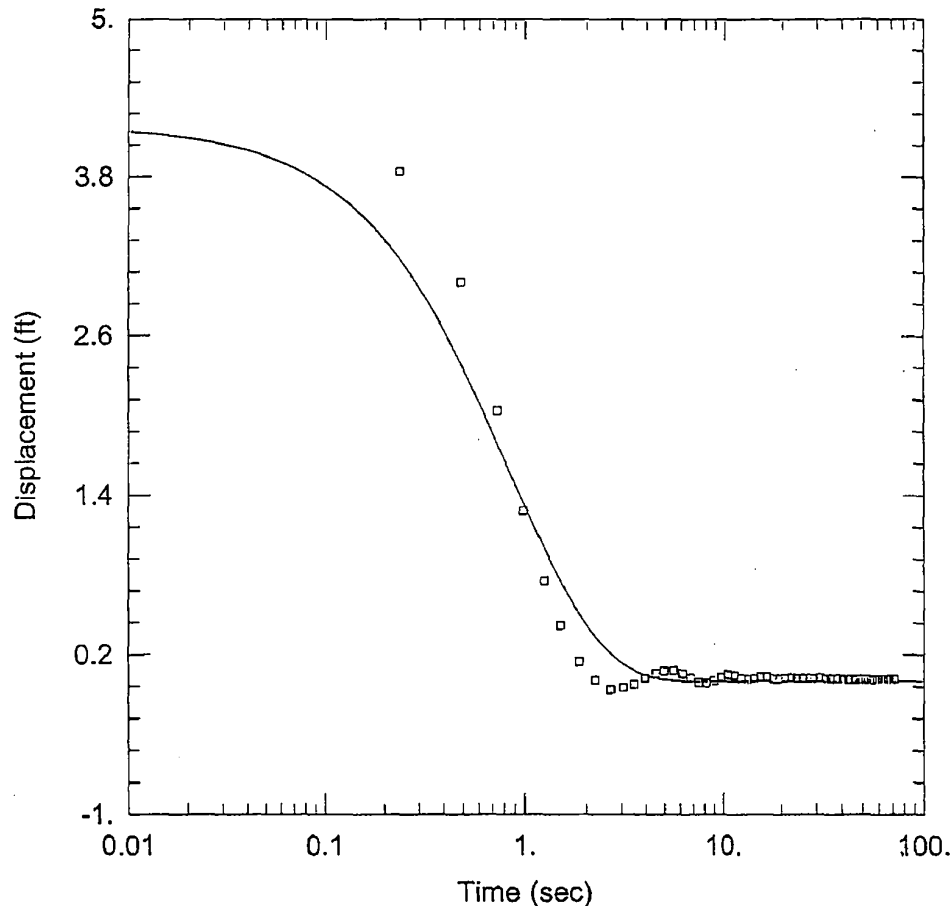
Solution Method: Springer-Gelhar

$K = 70.18$ ft/day

$Le = 7.303$ ft

Prepared by: CHB Date: 6-20-08

Checked by: WSE Date: 6-20-08



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: 4.189 ft
 Total Well Penetration Depth: 28.9 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 28.46 ft
 Screen Length: 15.5 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined

Solution Method: KGS Model

Kr = 76.09 ft/day
 Kz/Kr = 1.

Ss = 3.205E-12 ft⁻¹



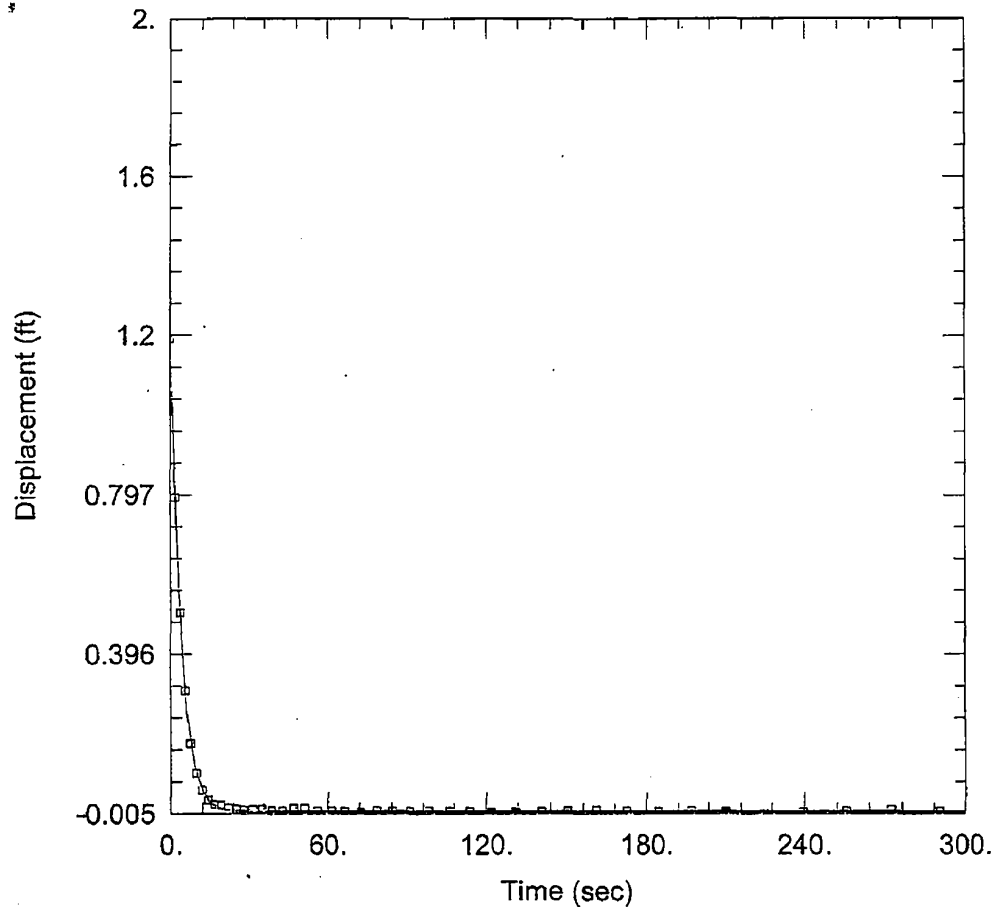
SLUG TEST REPORT

Project Name: <u>TP COL</u>	Project Number:	Page <u>1</u> of <u>1</u>
Client: <u>Bichtel</u>	Contractor: <u>MACTEC</u>	
Location: <u>OW-706L</u>	MACTEC Rep: <u>Kim Chale-Smith</u>	Date: <u>05/16/08</u>
UNITS		
Length	Feet	
Time	Minutes	
Well Data	Final Stickup = 3.74' From GS.	
Static Water Level	1.50' feet From TOC	
Total Well Depth	114.56' feet From TOC	
Static Water Column Height (H)	116.8' feet	
	Background	Falling Head
Observed Initial Displacement (H ₀)	NA	Rising Head
Saturated Thickness (b)	feet	
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1	
Depth to Top of Well Screen (d)		
Length of Well Screen (L)	10.0' 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	Transducer Mini Trail Calibrated 4/29/08 by 4/24/09	
<u>Sri</u>	103345	
<u>STW 05/16/08</u>		
Slug Data	Slug #2	
Length	65.438 inches	
Weight	8.811 lbs.	
Diameter	1.662 inches	
Slug Test File	Background	Falling
File Name	OW-706LBG	OW-706LF
Start Time	13:53:29	14:11:28
End Time	14:00:40	14:37:41
Notes	14:40:40	
	14:58:09	

Rev 0

Prepared by: CHB Date: 6-22-08

Checked by: WJ Date: 6-22-08



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 (K_z/K_r): 1.

WELL DATA (OW-706 L)

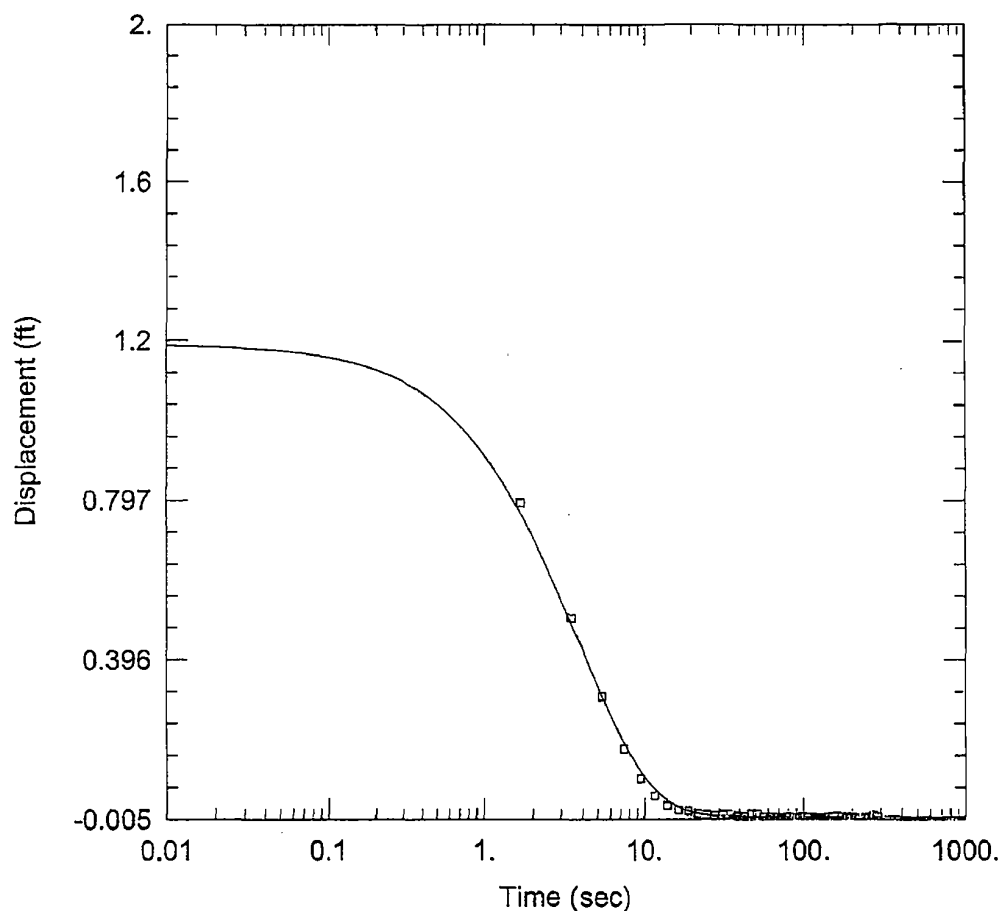
Initial Displacement: 1.19 ft
 Total Well Penetration Depth: 112. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 113.7 ft
 Screen Length: 15.1 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined
 $K = 21.2$ ft/day

Solution Method: Butler
 $L_e = 17.46$ 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)

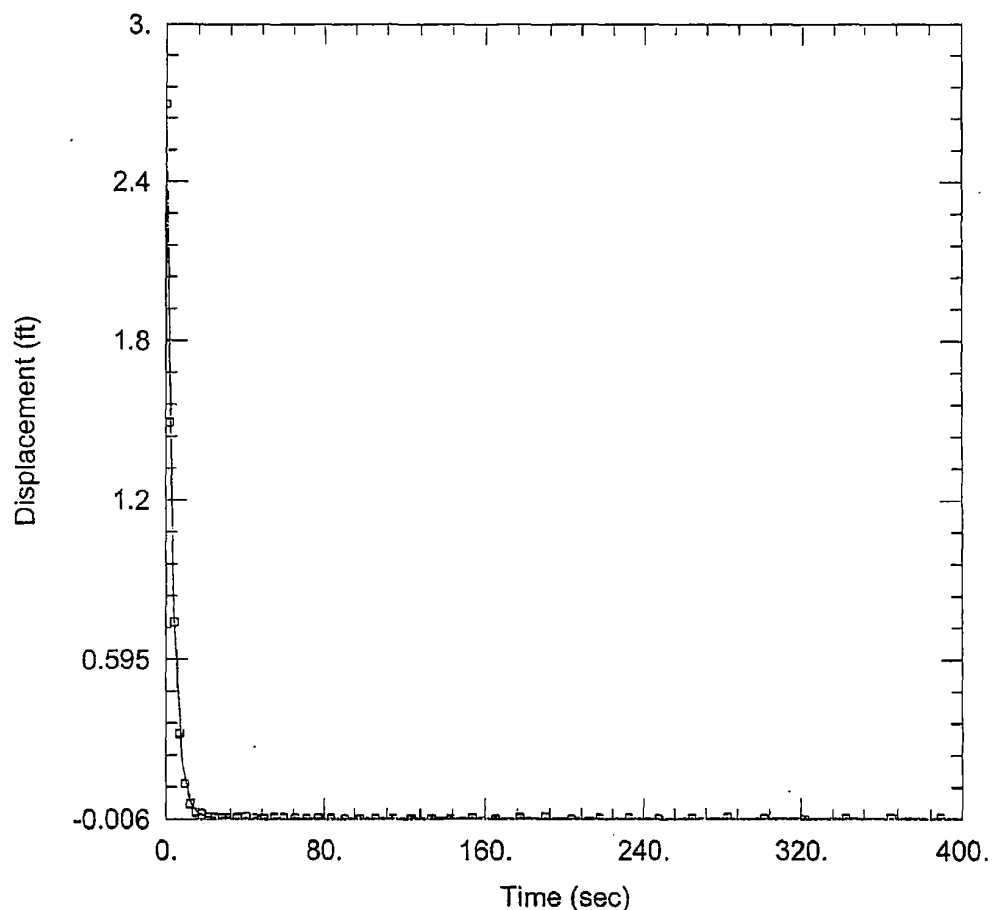
Initial Displacement: 1.19 ft
 Total Well Penetration Depth: 112. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 113.7 ft
 Screen Length: 15.1 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined
 $K_r = 21.97 \text{ ft/day}$
 $K_z/K_r = 1.$

Solution Method: KGS Model
 $S_s = 1.208\text{E-}12 \text{ ft}^{-1}$



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)

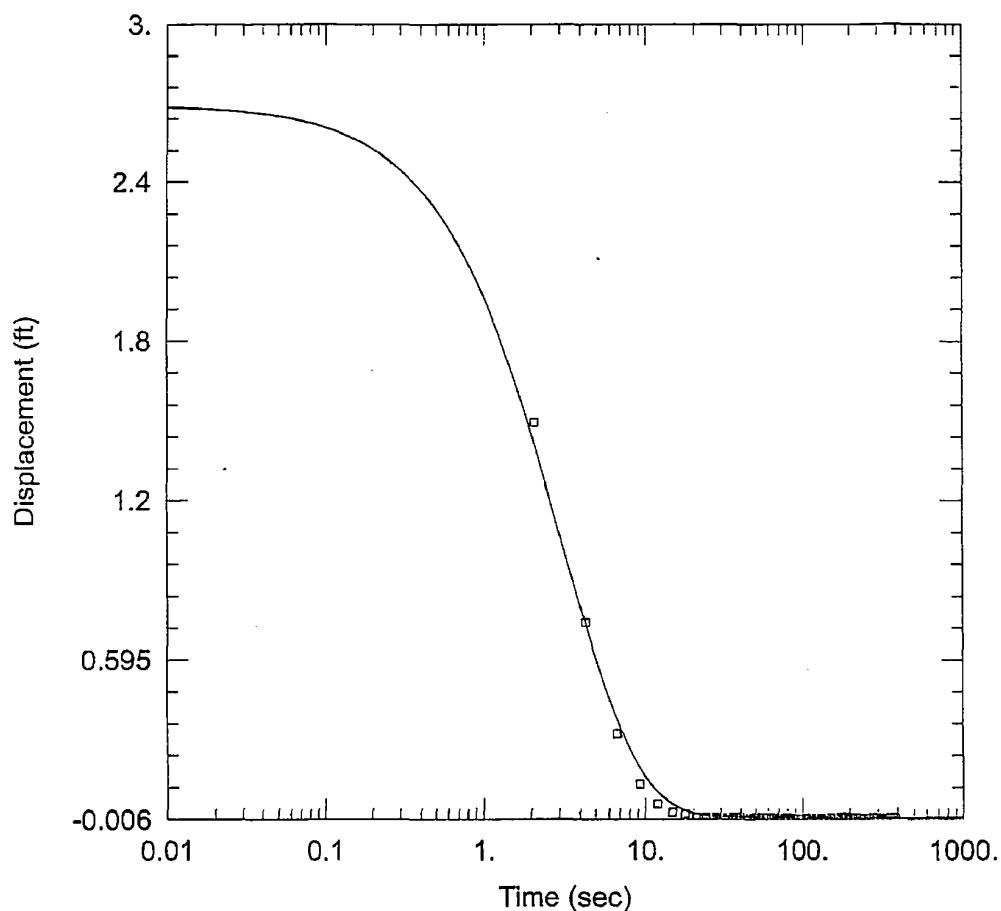
Initial Displacement: 2.693 ft
 Total Well Penetration Depth: 112. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 113.7 ft
 Screen Length: 15.1 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined
 K = 25.09 ft/day

Solution Method: Butler
 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: 2.693 ft
 Total Well Penetration Depth: 112. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 113.7 ft
 Screen Length: 15.1 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined
 $K_r = 26.07$ ft/day
 $K_z/K_r = 1.$

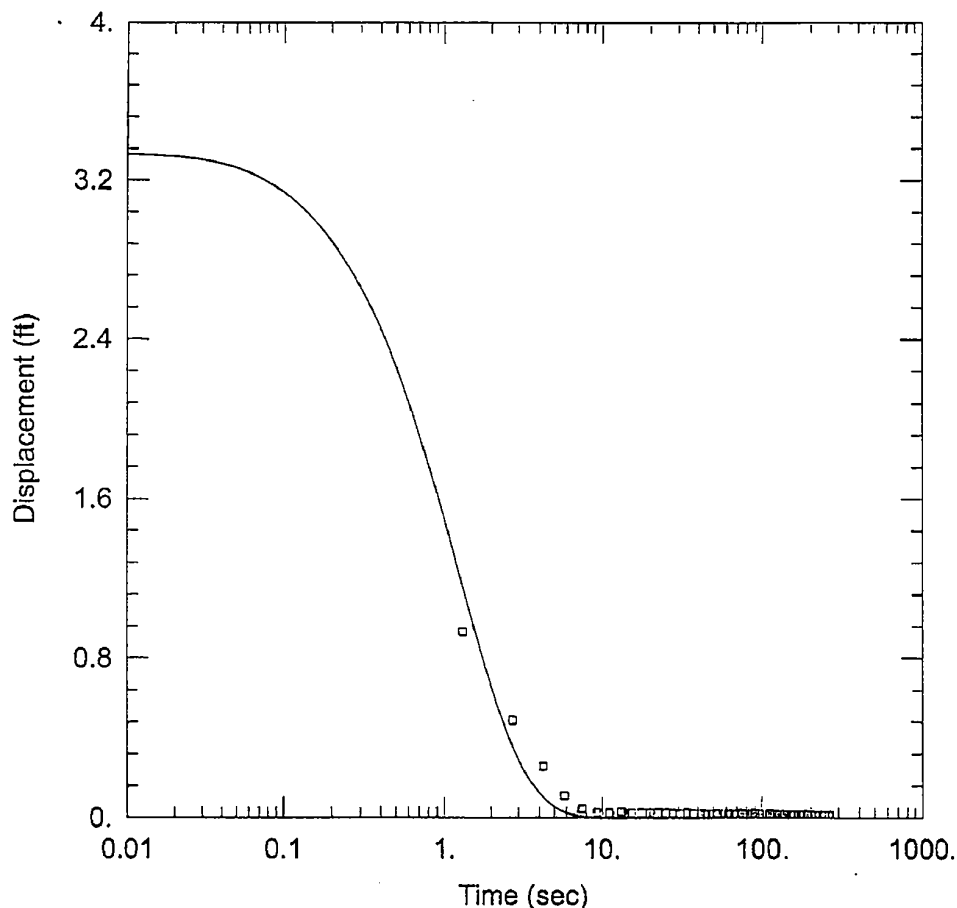
Solution Method: KGS Model
 $S_s = 1.208E-12$ ft⁻¹



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-721U</u>	MACTEC Rep: <u>Kim Chado 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>23.65' feet 5-15-08</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>10.0' 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	
	<u>Transducer mini well calibrated 9/29/08, Exp. 9/29/09</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
File Name	<u>OW-721UBG</u>	<u>OW-721UF</u>
Start Time	<u>17:00:35</u>	<u>17:11:11</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.</u> <u>Ran Background and Falling head test for 1st</u> <u>in well overnight for Chris Bruce on rising</u> <u>head test. Stopped OW-721UR on 05/16/08</u> <u>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

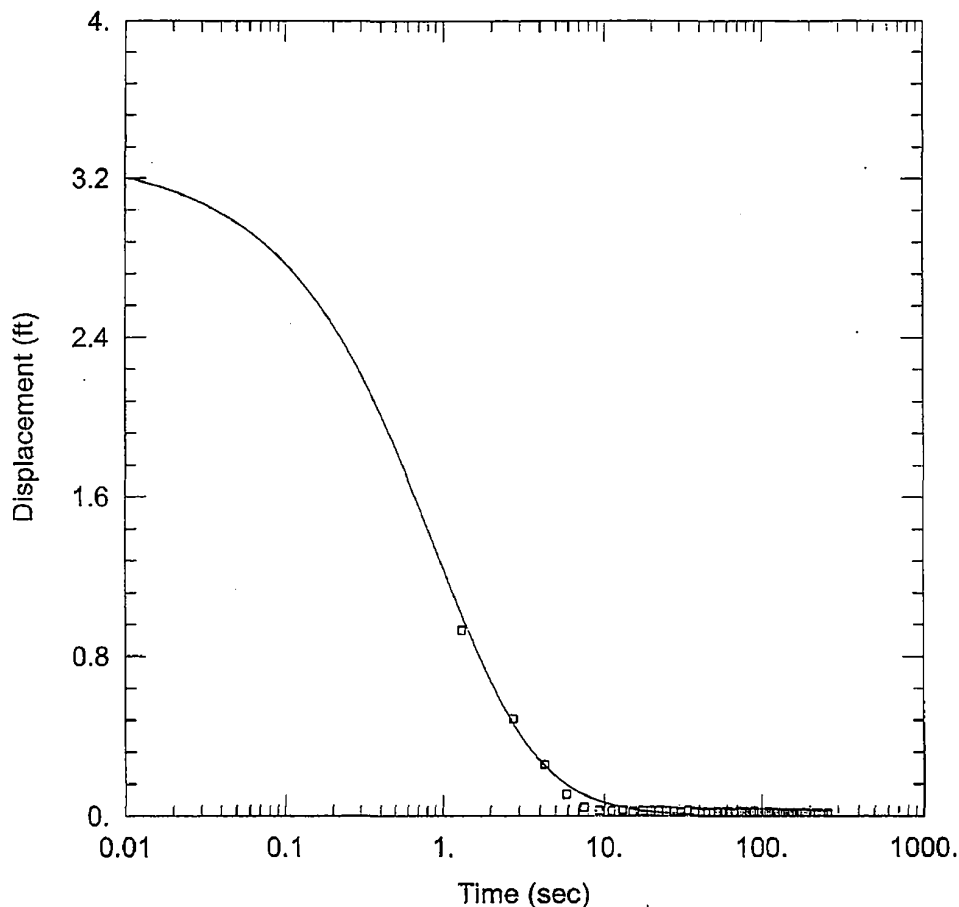
Saturated Thickness: 24.75 ft Anisotropy Ratio (Kz/Kr): 1.

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)

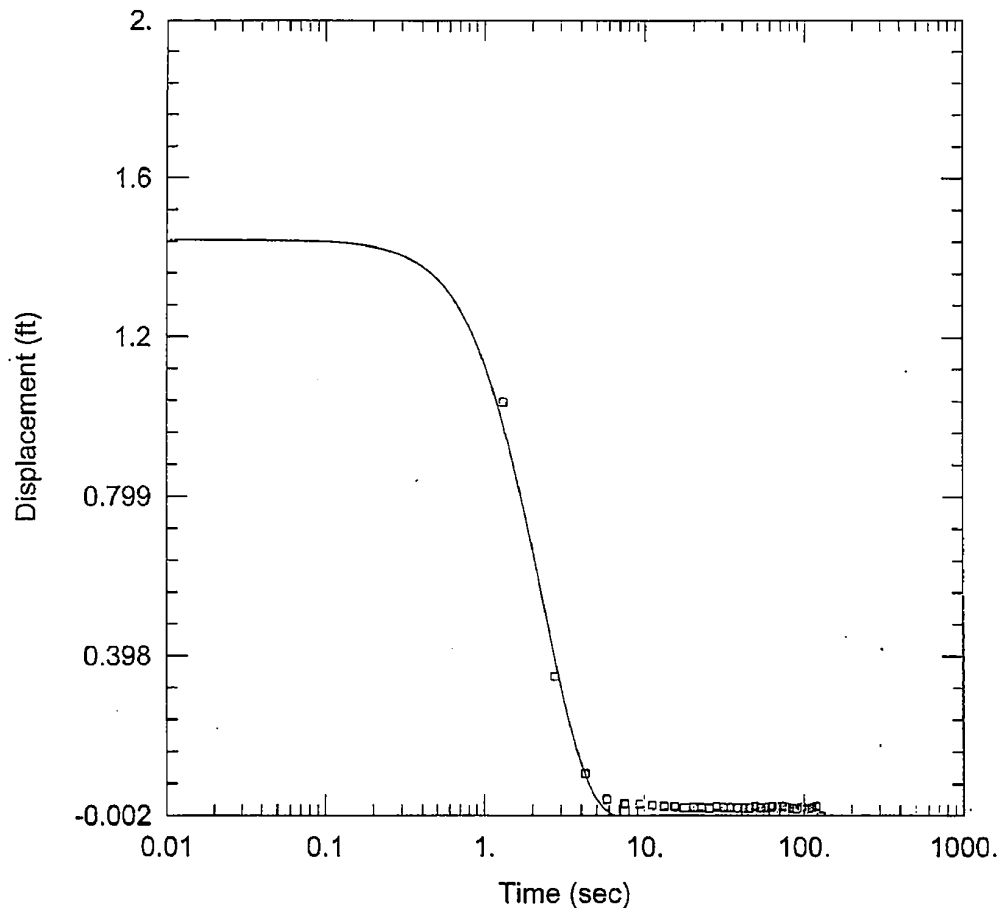
Initial Displacement: 3.338 ft
 Total Well Penetration Depth: 26 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 24.75 ft
 Screen Length: 16.1 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
 $K_r = 45.5 \text{ ft/day}$
 $K_z/K_r = 1$

Solution Method: KGS Model
 $S_s = 9.486E-5 \text{ ft}^{-1}$

OW-721 U RISING HEAD 5-15-08PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-721 U
 Test Date: 5-15-08

AQUIFER DATASaturated Thickness: 24.75 ftAnisotropy Ratio (Kz/Kr): 1.WELL DATA (OW-721 U)

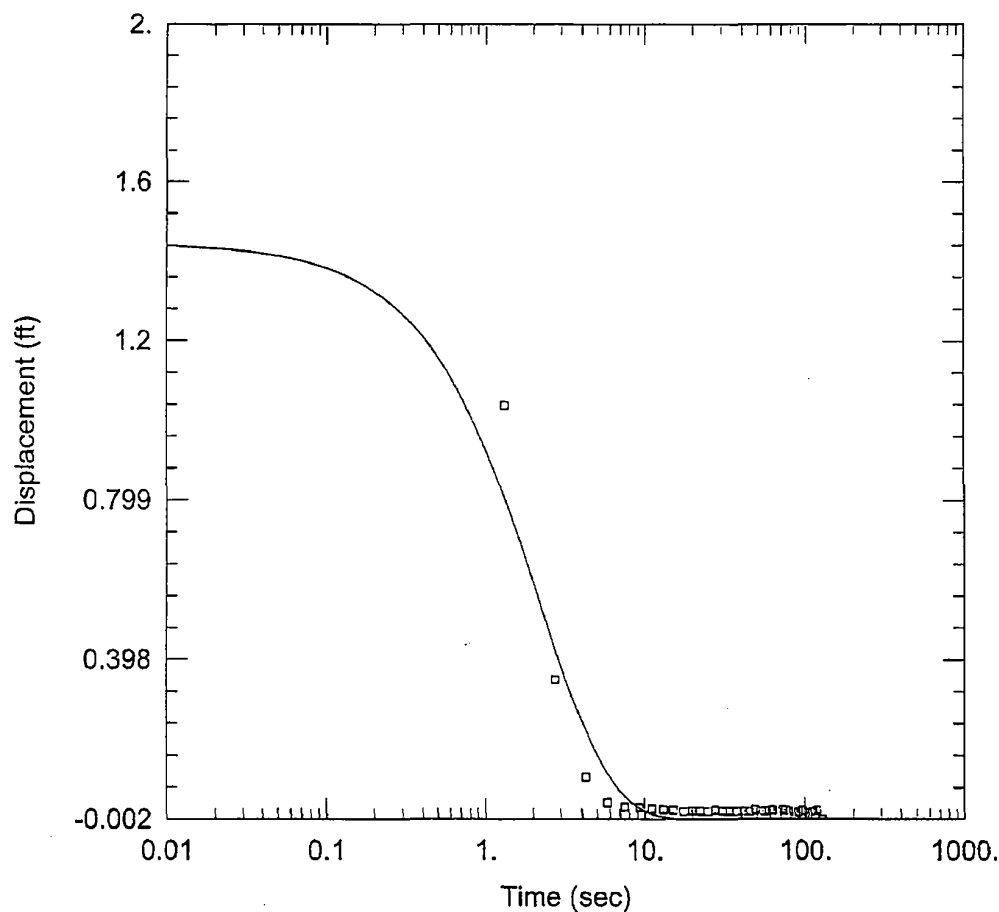
Initial Displacement: 1.444 ft
 Total Well Penetration Depth: 26. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 24.75 ft
 Screen Length: 16.1 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
 K = 27.03 ft/day

Solution Method: Springer-Gelhar
 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
 Total Well Penetration Depth: 26. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 24.75 ft
 Screen Length: 16.1 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined

Solution Method: KGS Model

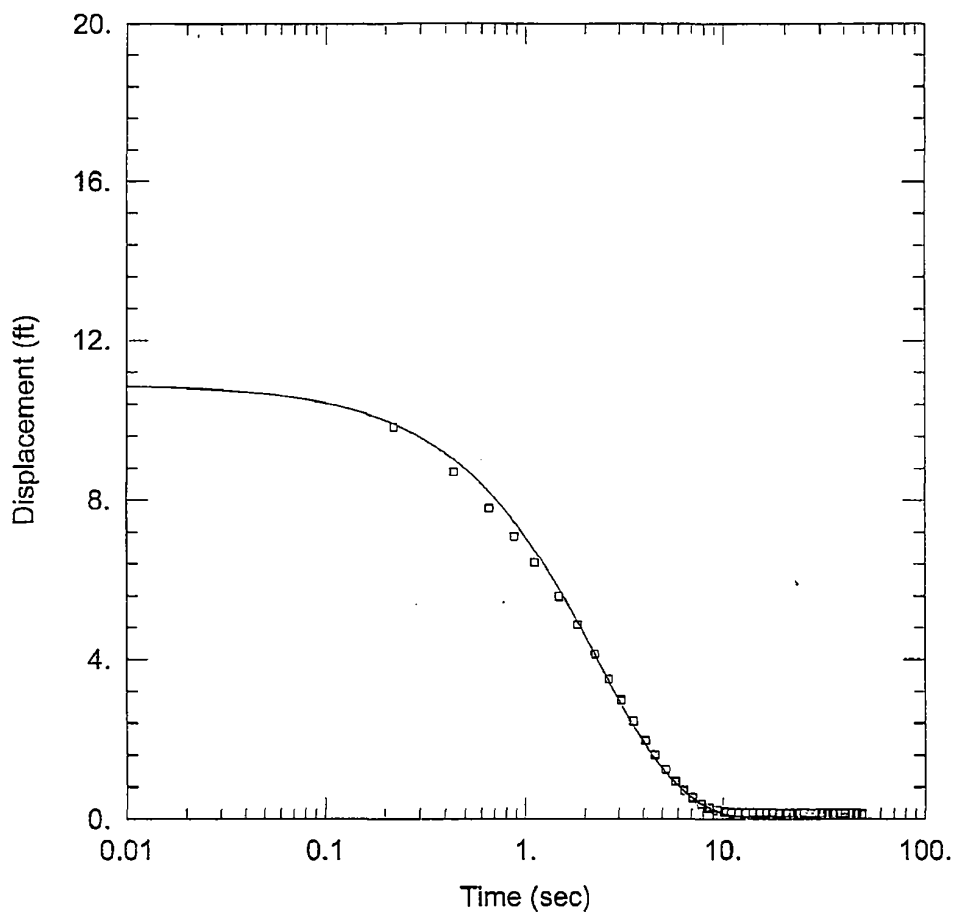
Kr = 32.46 ft/day
 Kz/Kr = 1.

Ss = 4.167E-12 ft⁻¹

SLUG TEST REPORT

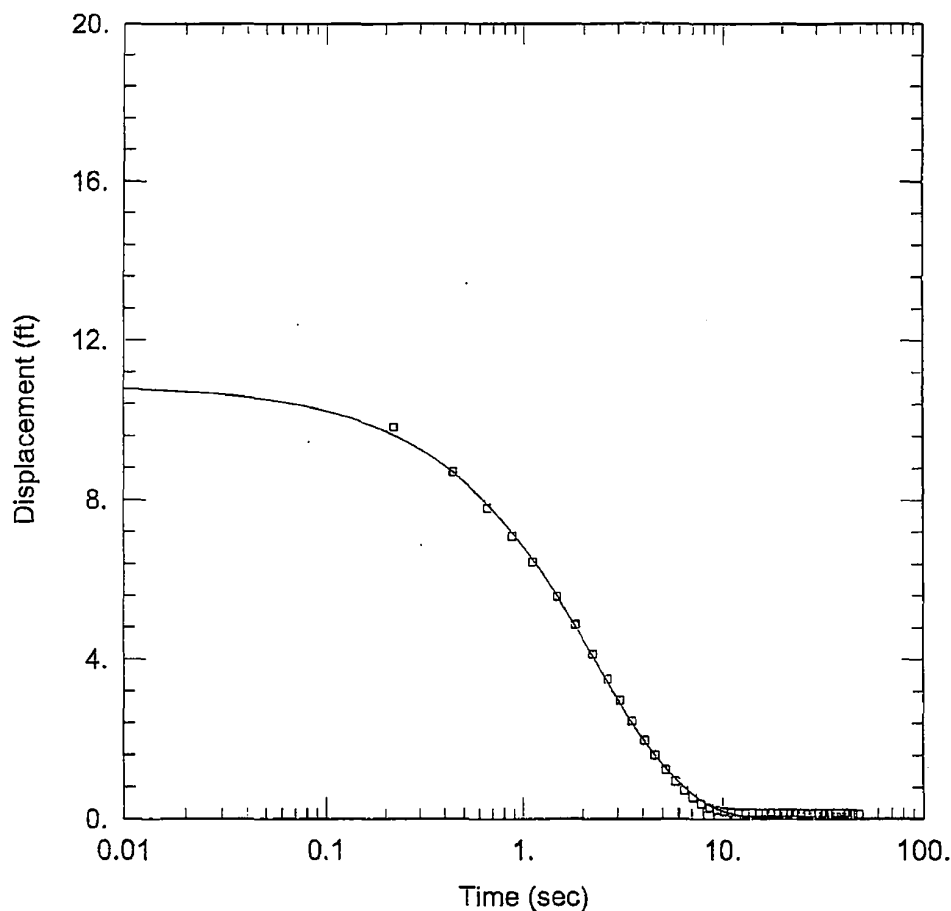
Project Name: <u>TPCOL</u>	Project Number: <u>6468-07-P50</u>		Page <u>1</u> of <u>1</u>
Client: <u>Bechtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-7214</u>	MACTEC Rep: <u>Kim Chels Smith</u>		Date: <u>05/20/08</u>
UNITS			
Length	Feet		
Time	Minutes		
Well Data	Final Stickup = 3.65' From G.S.		
Static Water Level	4.73' feet From TOC		
Total Well Depth	28.0' 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 4/29/08 exp 4/29/14 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-7214BG	NA	OW-7214R
Start Time	10:33:19		10:42:03
End Time	10:34:46		10:42:56
Notes			

Rev 0

OW-721 U RISING HEAD 5-20-08PROJECT INFORMATION

Company: Turkey Point
 Client: BECHTEL
 Project: 6468-07-1950
 Location: Turkey Point
 Test Well: OW-721 U
 Test Date: 5-20-08

AQUIFER DATASaturated Thickness: 24.37 ftAnisotropy Ratio (Kz/Kr): 1.WELL DATA (OW-721 U)Initial Displacement: 10.88 ftStatic Water Column Height: 24.37 ftTotal Well Penetration Depth: 26. ftScreen Length: 16.1 ftCasing Radius: 0.083 ftWell Radius: 0.25 ftSOLUTIONAquifer Model: UnconfinedSolution Method: Springer-GelharK = 24.39 ft/dayLe = 0.1 ft

OW-721 U RISING HEAD 5-20-08PROJECT 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: 10.88 ft
Total Well Penetration Depth: 26. ft
Casing Radius: 0.083 ft

Static Water Column Height: 24.37 ft
Screen Length: 16.1 ft
Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
 $K_r = 32.47 \text{ ft/day}$
 $K_z/K_r = 1.$

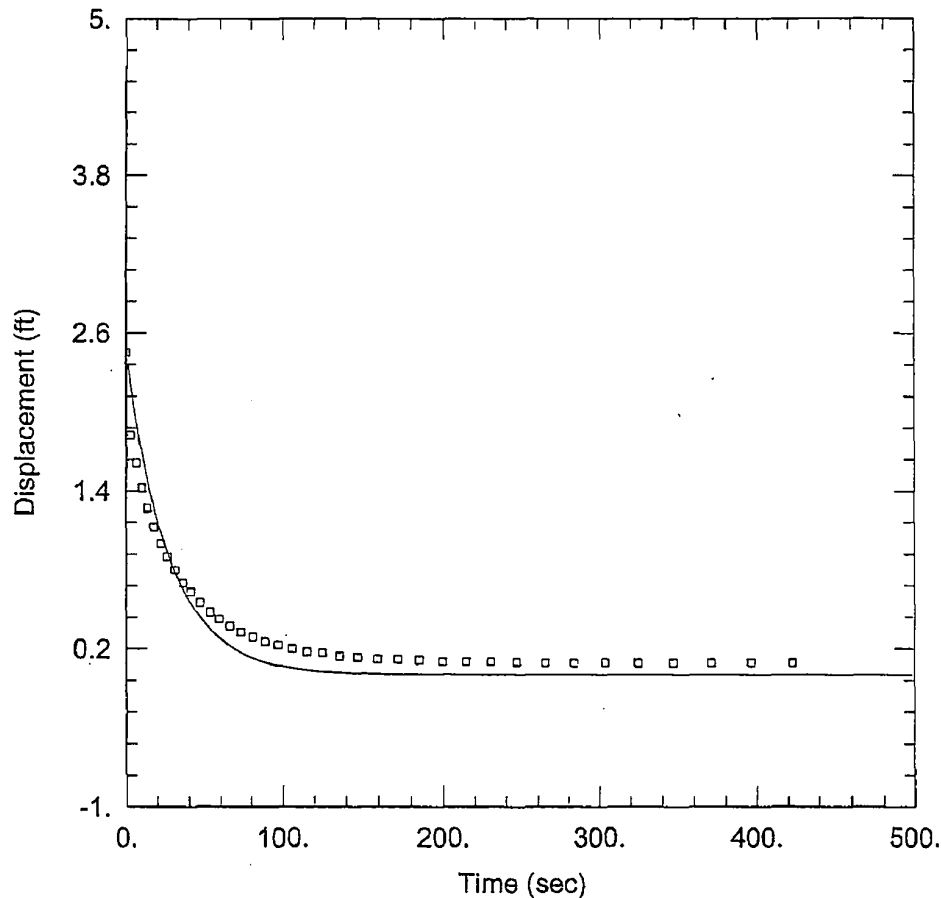
Solution Method: KGS Model
 $S_s = 2.056\text{E-}6 \text{ ft}^{-1}$

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-721L</u>	MACTEC Rep: <u>Kin Chao 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	2.17' feet from TOC		
Total Well Depth	107.62' feet from TOC		
Static Water Column Height (H)	102.43' 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)	10.0' 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		
	Mini Trail Transducer calibrated 4/29/08, EQ. 4/29/09		
Probe Serial Number			
	Sn. 103345		
Slug Data	Slug #2		
Length	65.438 inches		
Weight	8.811 lbs.		
Diameter	1.662 inches		
Slug Test File	Background	Falling	Rising
File Name	OW-721L BG	OW-721L F	OW-721L R
Start Time	15:48:53.52	16:02:43	16:21:32
End Time	16:00:33	16:18:56	16:37:20
Notes	Extended TOC to 5' above g.s. 5.63' by 5/15/08. to run slug test.		
Rev 0			

Prepared by: C. HB 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

Anisotropy Ratio (Kz/Kr): 1

WELL DATA (OW-721 L)

Initial Displacement: 2.451 ft
 Total Well Penetration Depth: 109 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 110 ft
 Screen Length: 17 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined

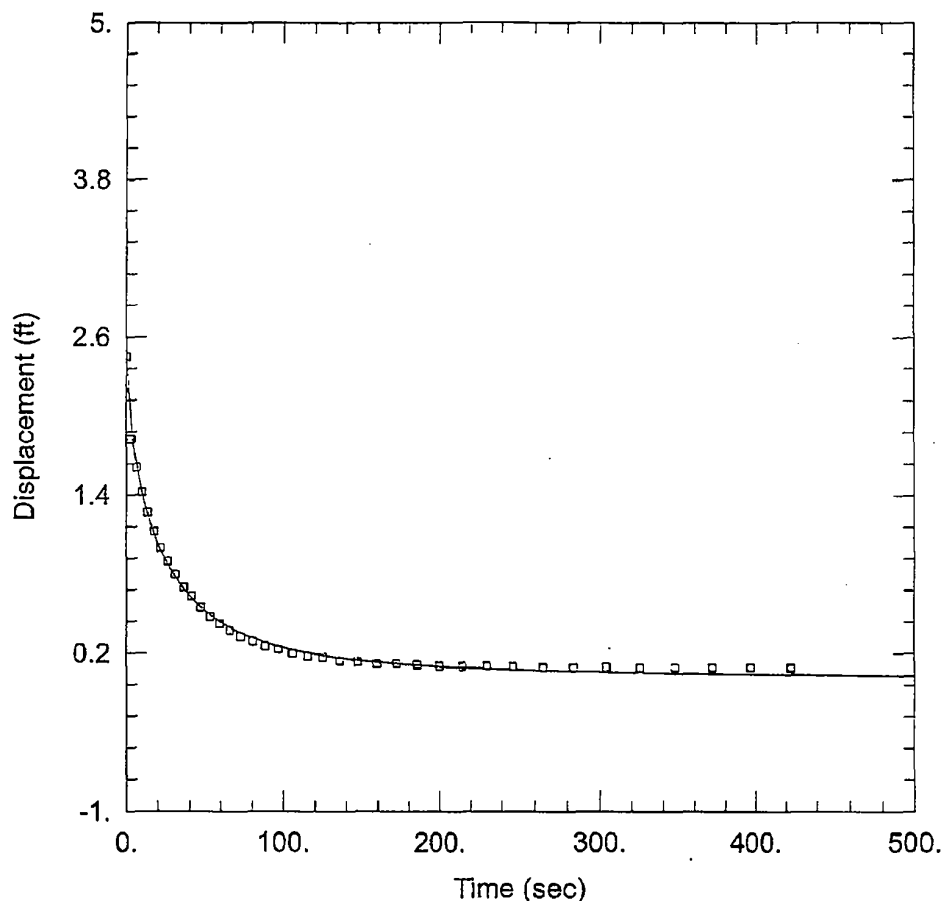
Solution Method: Butler

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

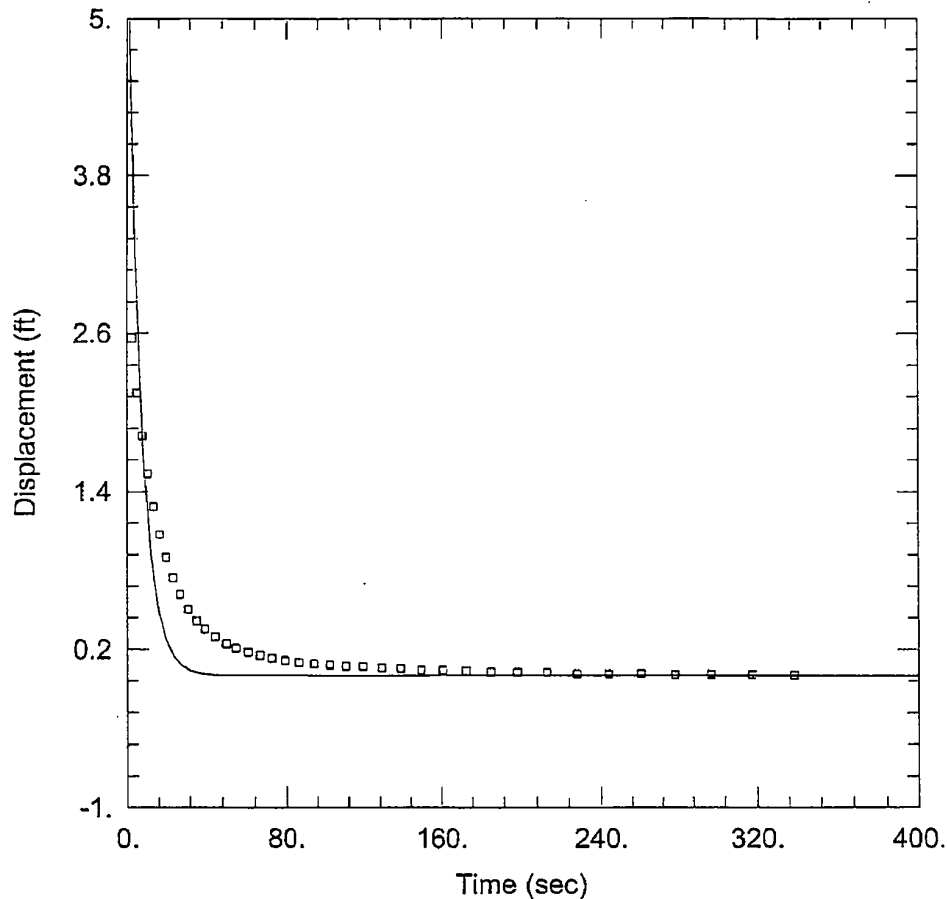
Saturated Thickness: 90. ft

WELL DATA (OW-721 L)

Initial Displacement: <u>2.451 ft</u>	Static Water Column Height: <u>110. ft</u>
Total Well Penetration Depth: <u>109. 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>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>1.13 ft/day</u>	Ss = <u>0.0002728 ft⁻¹</u>
Kz/Kr = <u>1.</u>	



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 (K_z/K_r): 1.

WELL DATA (OW-721 L)

Initial Displacement: 5.904 ft
 Total Well Penetration Depth: 109. ft
 Casing Radius: 0.083 ft

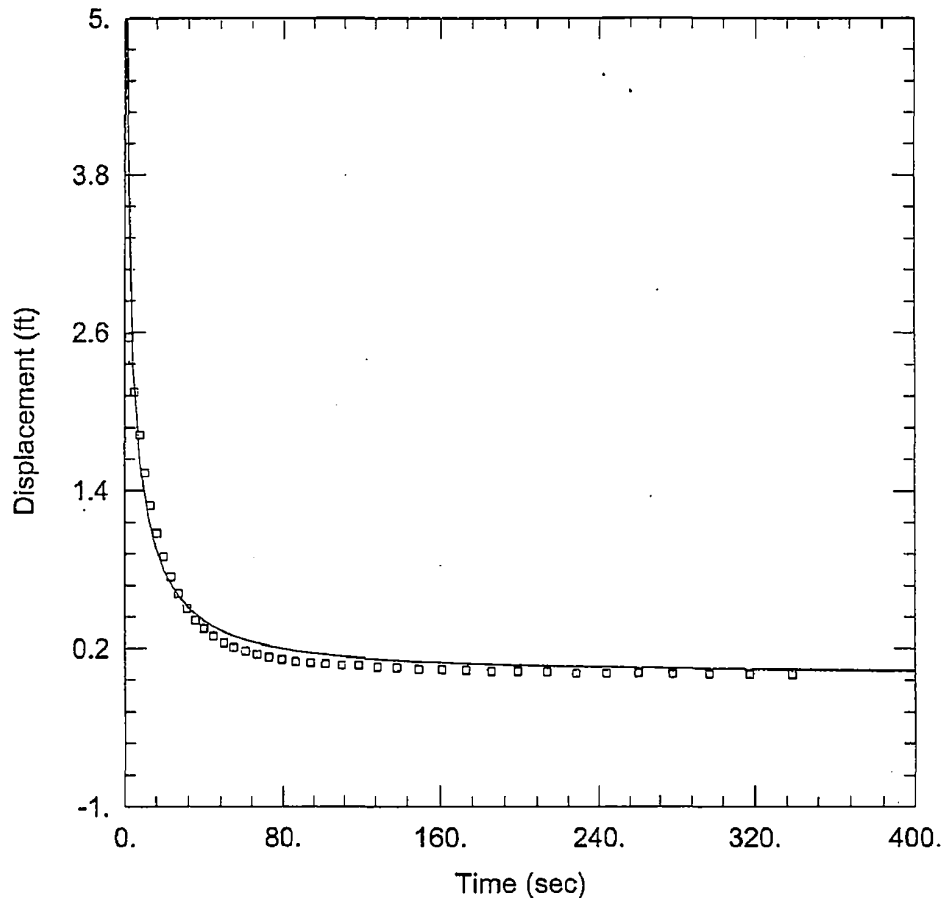
Static Water Column Height: 110. ft
 Screen Length: 17. ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined
 $K = 11.59$ ft/day

Solution Method: Butler
 $Le = 0.1$ 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

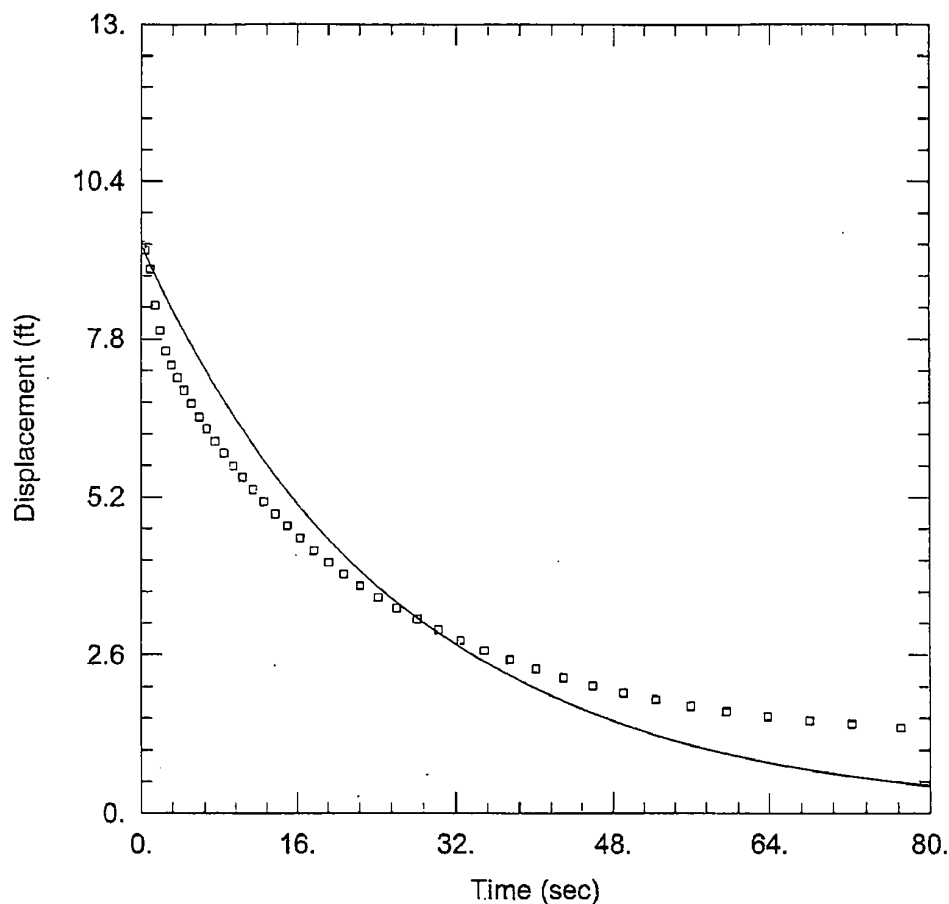
Aquifer Model: Confined Solution Method: KGS Model
 $K_r = \underline{2.91}$ ft/day $S_s = \underline{0.001921}$ ft⁻¹
 $K_z/K_r = \underline{1}$



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>Bichtel</u>	Contractor: <u>MACTEC</u>		
Location: <u>OW-721L</u>	MACTEC Rep: <u>Kim Chels Smith</u>		Date: <u>05/20/08</u>
UNITS			
Length	Feet		
Time	Minutes		
Well Data	Final Static = 3.68' from g.s.		
Static Water Level	1.97' feet From TOC		
Total Well Depth	107.62' 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 4/29/08/exp 4/29/09 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-721L BG	NA	OW-721LR
Start Time	10:56:02		11:08:52
End Time	11:04:43		11:10:18
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)

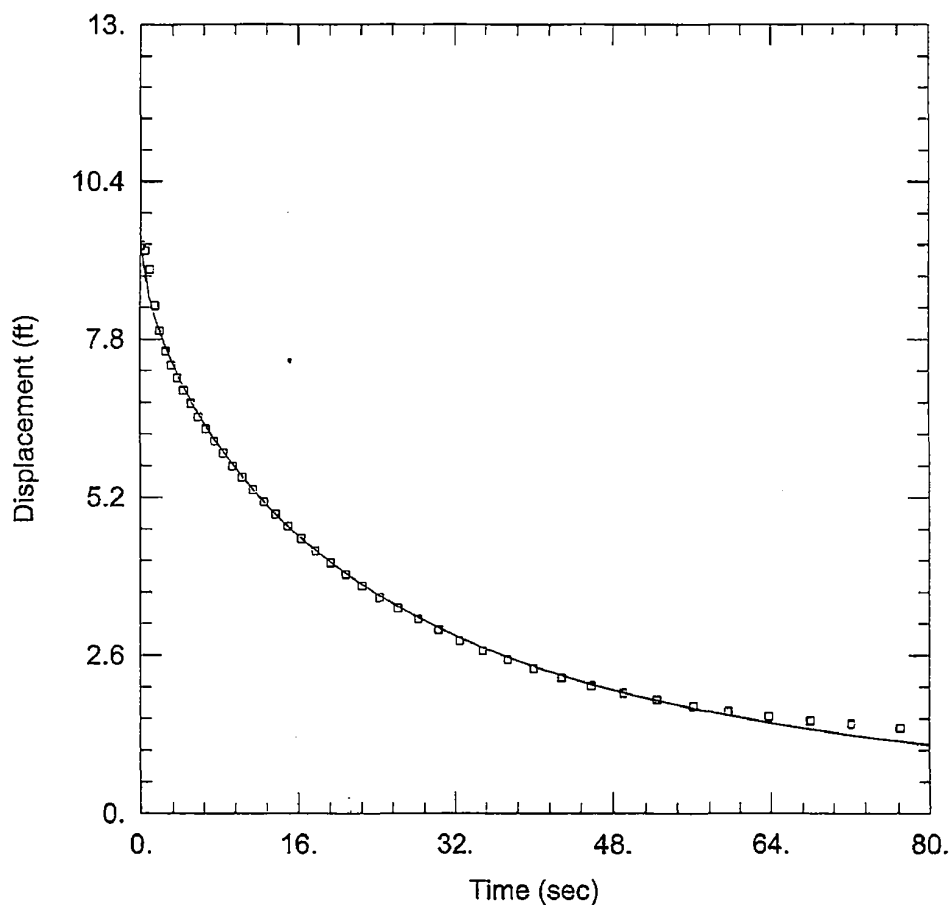
Initial Displacement: 9.341 ft Static Water Column Height: 110.2 ft
 Total Well Penetration Depth: 109. ft Screen Length: 17. ft
 Casing Radius: 0.083 ft Well Radius: 0.25 ft

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

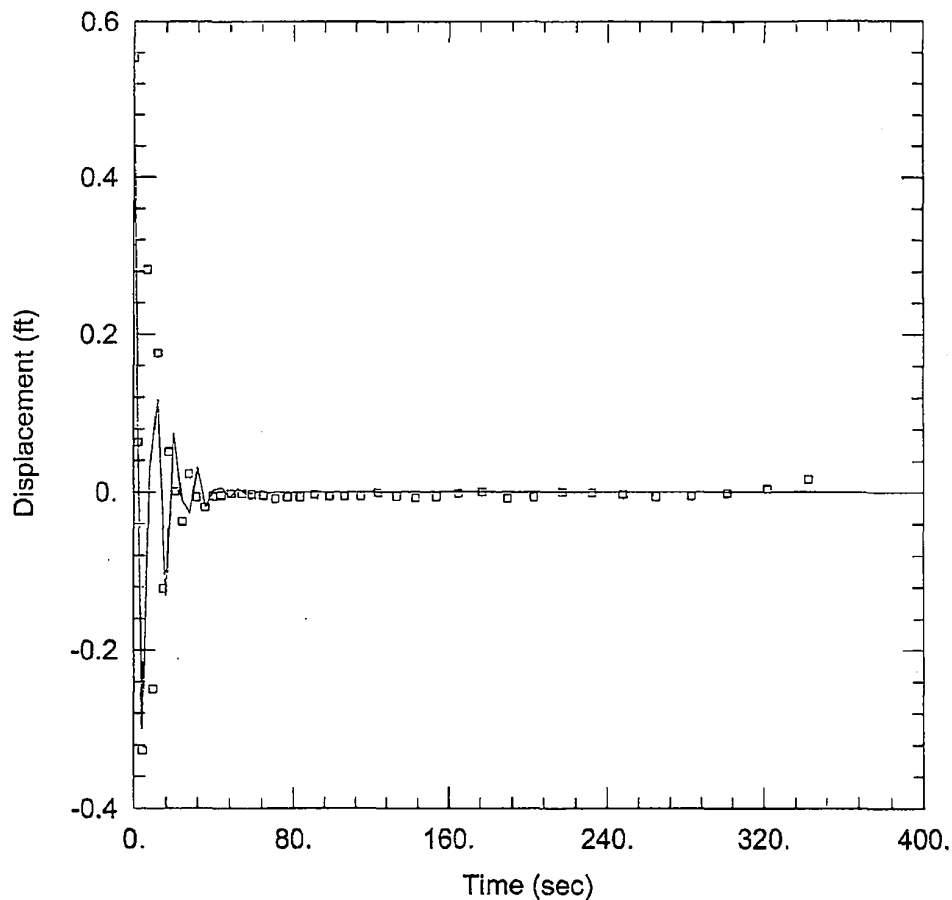
Ss = 0.0001285 ft⁻¹

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		<u>Stickup = 3.27'</u>			
Static Water Level		<u>4.85'</u> feet <u>From TC</u>			
Total Well Depth		<u>30.19'</u> feet <u>From TC</u>			
Static Water Column Height (H)		<u>28.34'</u> <u>25.34'</u> feet <u>5/15/08</u>			
		Background	Falling Head	Rising Head	
Observed Initial Displacement (H ₀)		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			
		<u>Mini Trail Transducer probe calibrated 4/29/08. 4/29/09.</u>			
Probe Serial Number:					
<u>SN: 103345</u>					
Slug Data <u>#2</u>					
Length		<u>65.438 inch</u>			
Weight		<u>8.811 lbs.</u>			
Diameter		<u>1.662 inch</u>			
Slug Test File		Background	Falling	Rising	
File Name		<u>ow-73SUB.G</u>	<u>ow-73SUB.F</u>	<u>ow-73SUB.B</u>	
Start Time		<u>10:16:12</u>	<u>09:16:41</u>	<u>09:26:56</u>	
End Time		<u>10:25:07</u>	<u>10:29:28</u>	<u>10:51:30</u>	
Notes		<u>Added probe extension to top of casing total</u> <u>stickup = 5.28'</u>			
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 (K_z/K_r): 1.

WELL DATA (OW-735 U)

Initial Displacement: 0.553 ft
 Total Well Penetration Depth: 28. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 26.45 ft
 Screen Length: 16. ft
 Well Radius: 0.25 ft

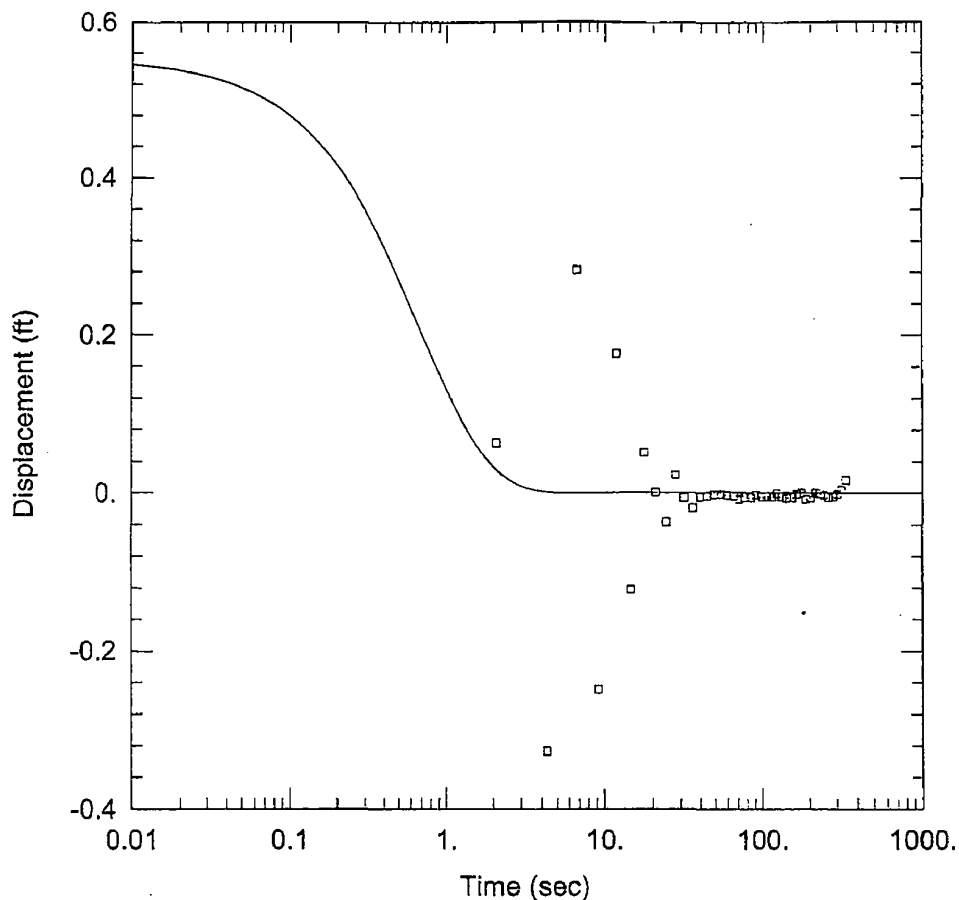
SOLUTION

Aquifer Model: Unconfined

Solution Method: Springer-Gelhar

$K = 319.2$ ft/day

$L_e = 33.28$ ft



Prepared by: CHB Date: 6-20-08

Checked by: WSE 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
 Total Well Penetration Depth: 28. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 26.45 ft
 Screen Length: 16. ft
 Well Radius: 0.25 ft

SOLUTION

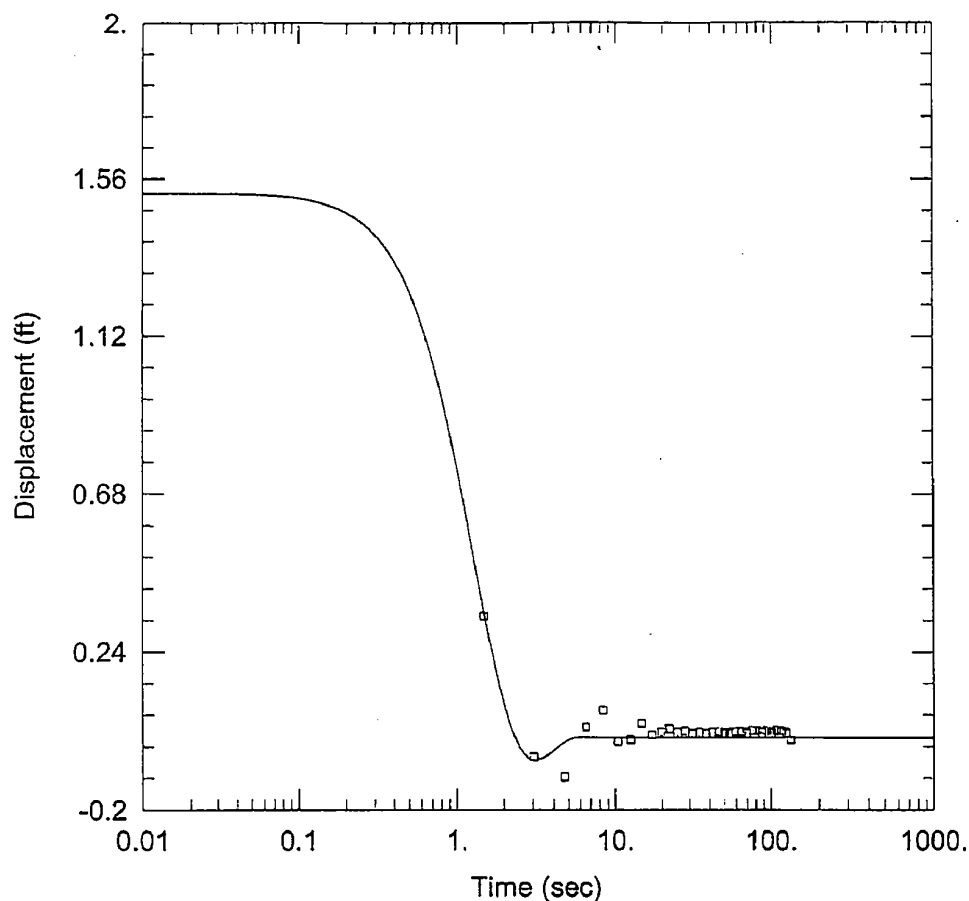
Aquifer Model: Unconfined

Solution Method: KGS Model

Kr = 109.5 ft/day

Ss = 3.846E-12 ft⁻¹

Kz/Kr = 1.



Prepared by: CLB 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 (K_z/K_r): 1.

WELL DATA (OW-735 U)

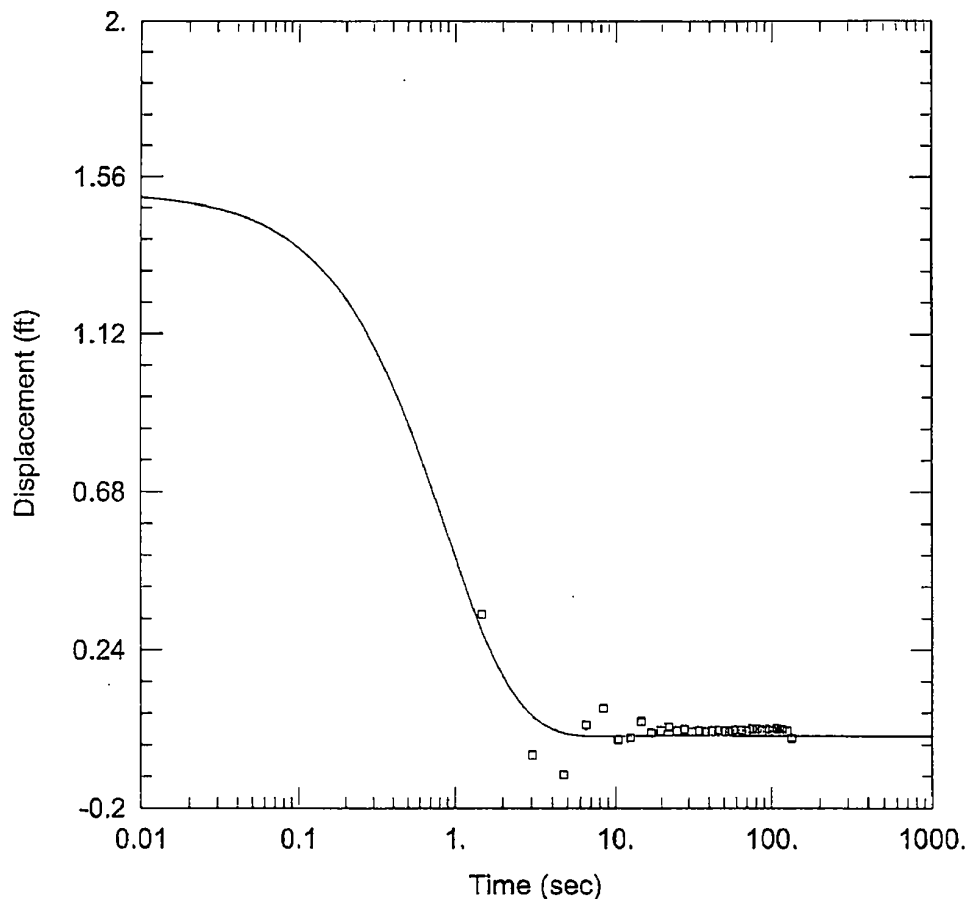
Initial Displacement: 1.519 ft
 Total Well Penetration Depth: 28. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 26.45 ft
 Screen Length: 16. ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
 $K =$ 58.21 ft/day

Solution Method: Springer-Gelhar
 $L_e =$ 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
 Total Well Penetration Depth: 28 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 26.45 ft
 Screen Length: 16 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined

Solution Method: KGS Model

Kr = 84.68 ft/day

Ss = 3.846E-12 ft⁻¹

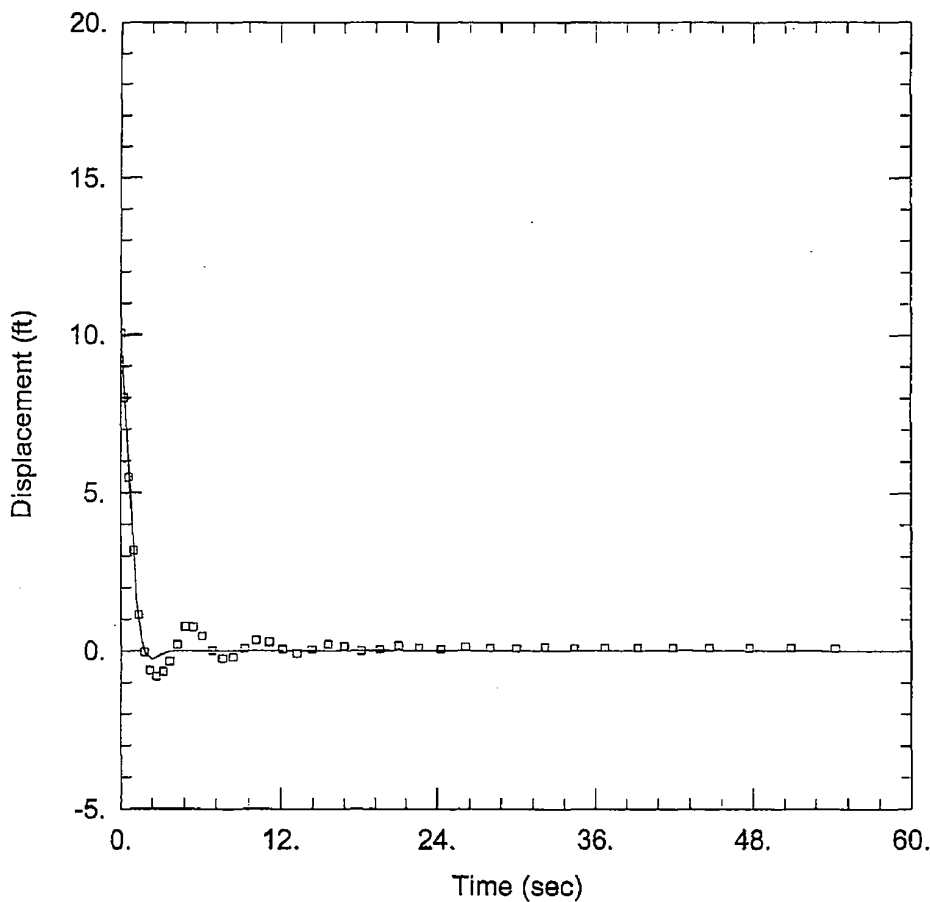
Kz/Kr = 1



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>TPCOL OW-F3SU</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 (H)	feet		
	Background	Falling Head	Rising Head
Observed Initial Displacement (H ₀)	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	OW-F3SUBG	NA	OW-F3SUR
Start Time	08:32:51		08:44:59
End Time	08:37:09		08:49:27
Notes	OW-F3SUR OW-F3SUR OW-F3SUR 08:53:57 08:59:20 09:03:23 08:57:33 09:00:15 09:04:20		

Rev 0



Prepared by: CLKB Date: 5-20-08
 Checked by: ltf 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

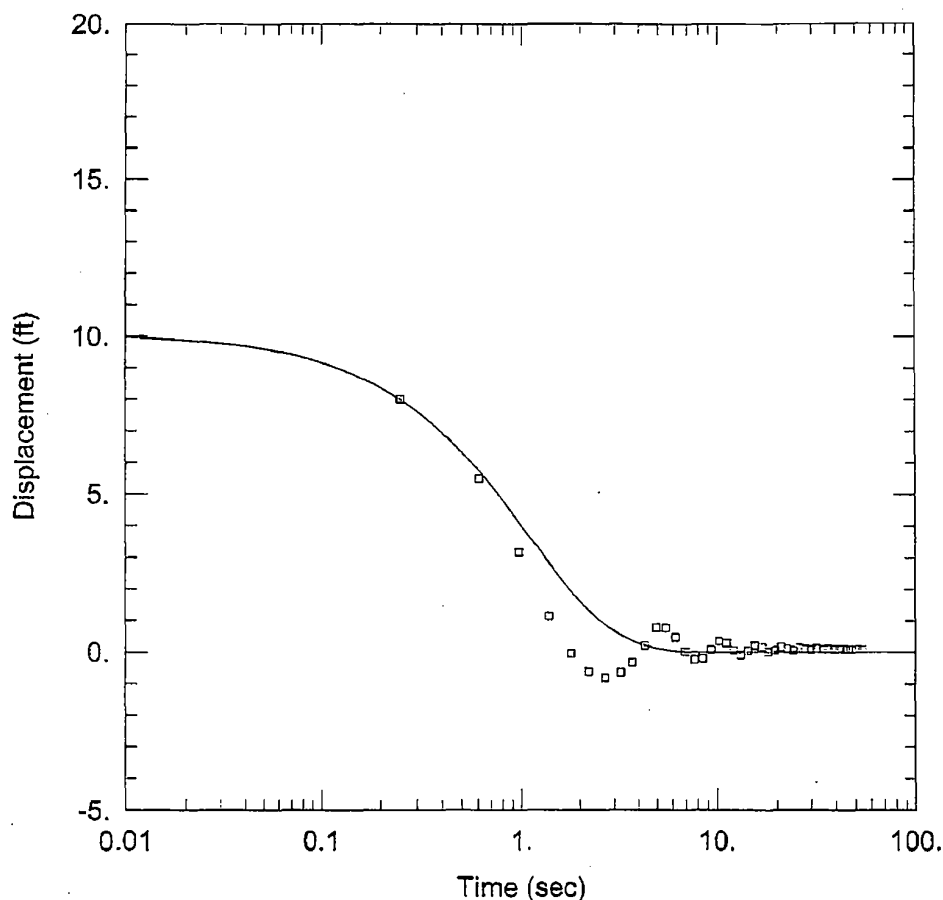
Saturated Thickness: 26.35 ft Anisotropy Ratio (Kz/Kr): 1.

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
 Total Well Penetration Depth: 28 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 26.35 ft
 Screen Length: 16 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined

Solution Method: KGS Model

Kr = 70.7 ft/day

Ss = 2.291E-10 ft⁻¹

Kz/Kr = 1



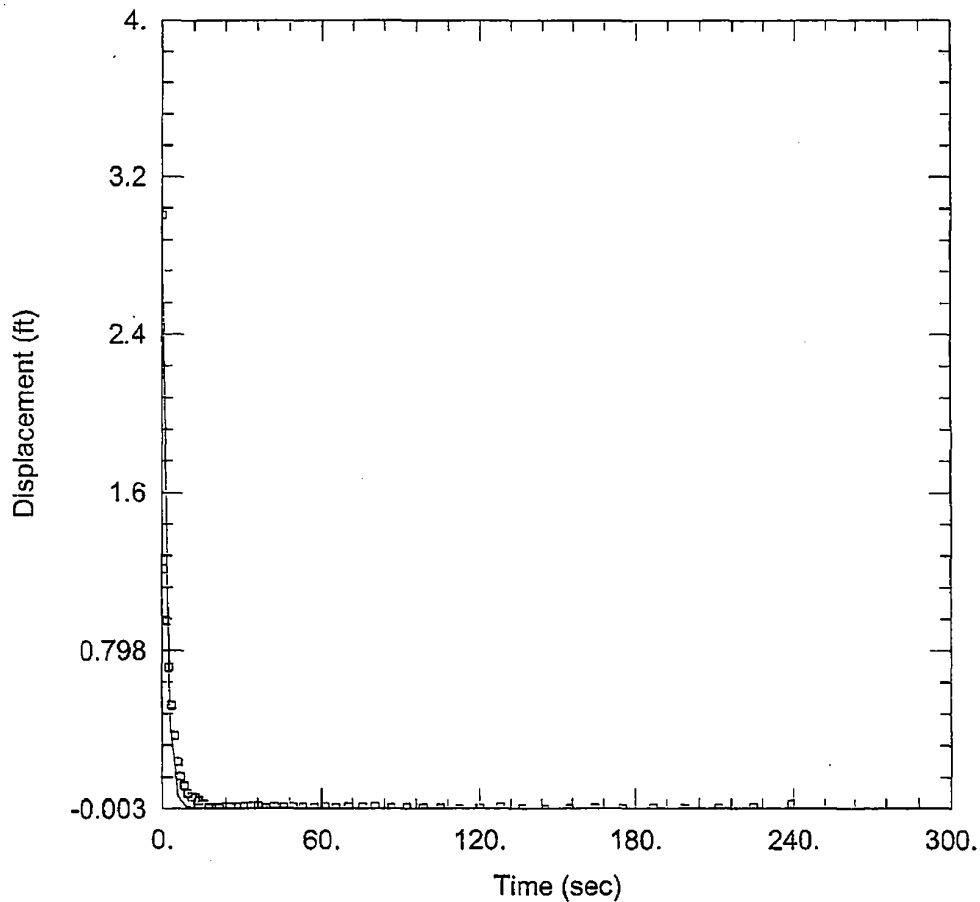
SLUG TEST REPORT

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 TGC	
Total Well Depth	<u>111.68</u> feet from G.S. TGC	
Static Water Column Height (H)	<u>108.71</u> feet <u>K/S</u> 5-13-08	
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)	<u>96.9</u> 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)		
Radius of Boring (rsk)-Skin Effect	0.083 feet	
Probe Serial Number	<u>Sn: 103345</u> mini Troll Transducer Probe calibrated 4/29/08 Exp. 4/29/09	
Slug Data #2		
Length	<u>65.438</u> inches	
Weight	<u>8.811</u> lbs.	
Diameter	<u>1.662</u> inches	
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 G.S. to</u> <u>Run on 735L-15 K/S 5/13/08.</u>	

Rev 0

Prepared by: CHB Date: 5-20-08

Checked by: LSL Date: 5-10-08



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

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-735 L)

Initial Displacement: 3.004 ft
 Total Well Penetration Depth: 110. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 110.4 ft
 Screen Length: 17.7 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined

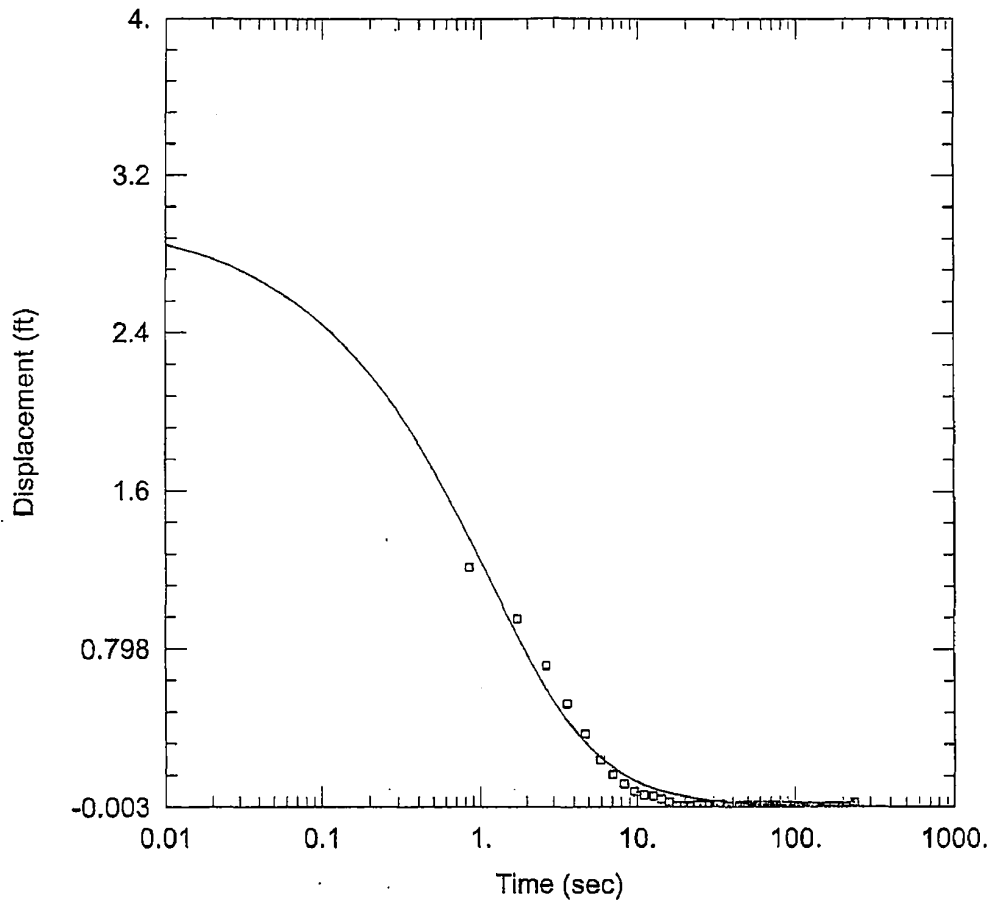
Solution Method: Butler

K = 49.09 ft/day

Le = 0.1 ft

Prepared by: CAB Date: 6-20-08

Checked by: LWS Date: 6-10-08



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
 Total Well Penetration Depth: 110. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 110.4 ft
 Screen Length: 17.7 ft
 Well Radius: 0.25 ft

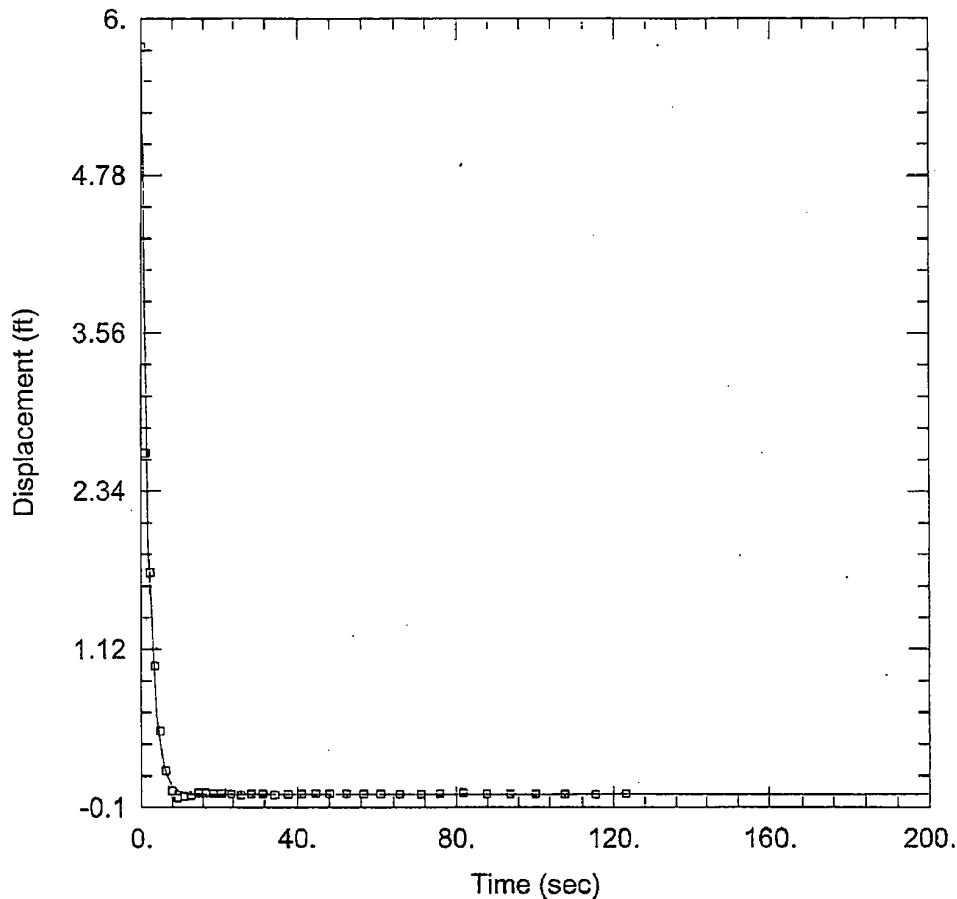
SOLUTION

Aquifer Model: Confined
 $K_r = 20.57 \text{ ft/day}$
 $K_z/K_r = 1.$

Solution Method: KGS Model
 $S_s = 0.0003506 \text{ ft}^{-1}$

Prepared by: CHB Date: 6-20-08

Checked by: WV Date: 6-20-08



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
 Total Well Penetration Depth: 110. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 110.4 ft
 Screen Length: 17.7 ft
 Well Radius: 0.25 ft

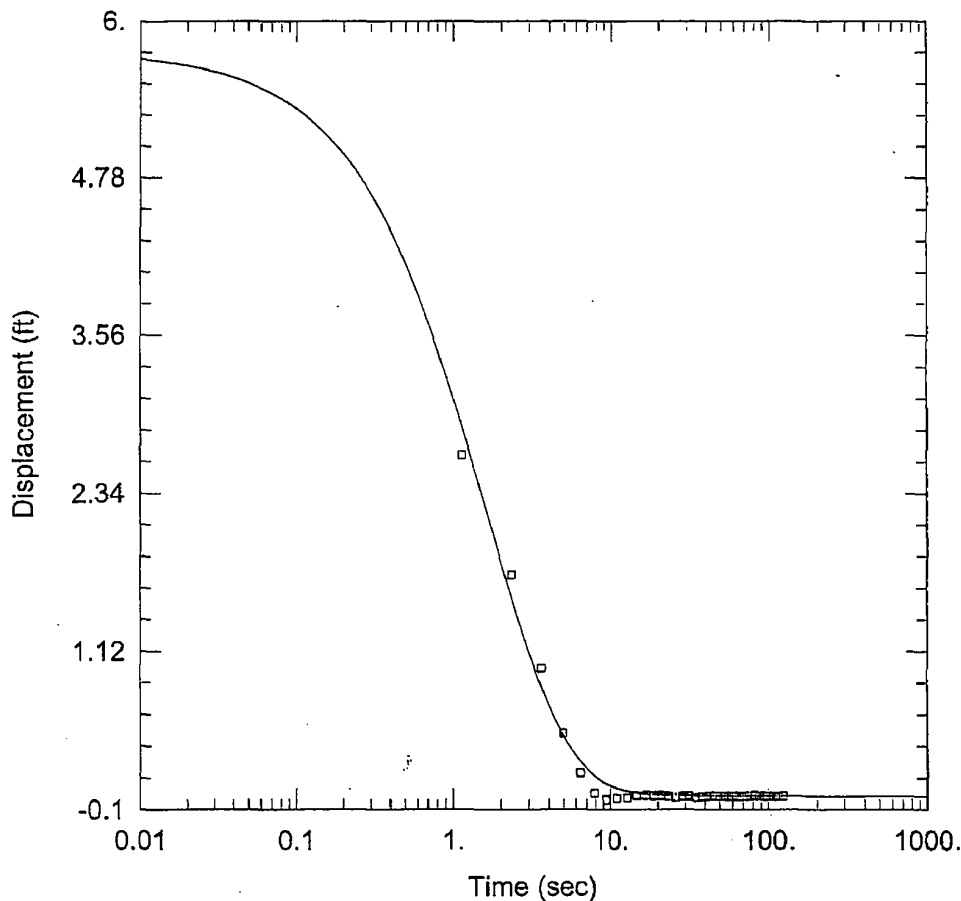
SOLUTION

Aquifer Model: Confined
 K = 42.01 ft/day

Solution Method: Butler
 Le = 0.1 ft

Prepared by: CHB Date: 6-20-08

Checked by: LSK Date: 6-20-08



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
 Total Well Penetration Depth: 110. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 110.4 ft
 Screen Length: 17.7 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined

Solution Method: KGS Model

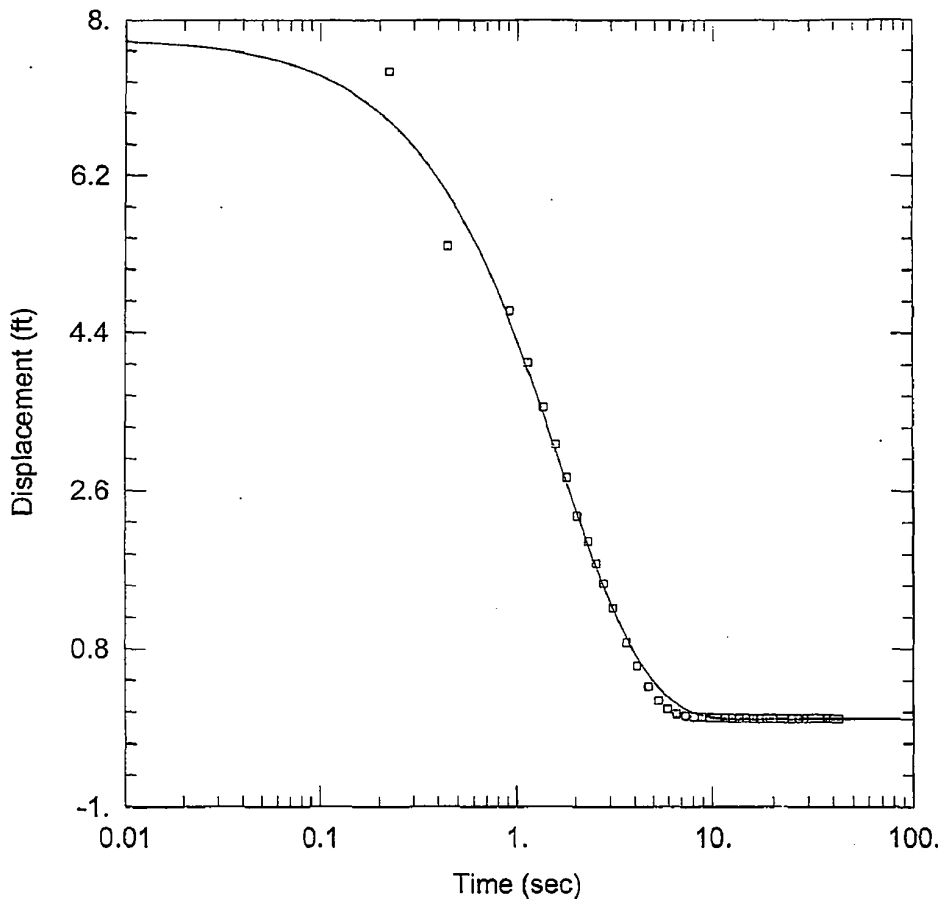
Kr = 32.05 ft/day
 Kz/Kr = 1.

Ss = 2.446E-6 ft⁻¹



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>Beeh Tel</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	Final stickup from g.s. = 3.53'		
Static Water Level	4.60' feet From TOC		
Total Well Depth	29.11' 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 4/29/08 Expires 4/29/09. Level troll @ 700 SN: 112478 winsite:		
Slug Data	Used pneumatic slug to perform test.		
Length			
Weight			
Diameter			
Slug Test File	Background	Falling	Rising
File Name	OW-802UBG	NA	OW-802UR
Start Time	16:31:44		16:36:39
End Time	16:33:16.18		16:37:26
Notes	Key 5-20-08		



Prepared by: 048 Date: 6-20-08
 Checked by: LSH 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: 7.799 ft
 Total Well Penetration Depth: 27. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 25.8 ft
 Screen Length: 17. ft
 Well Radius: 0.25 ft

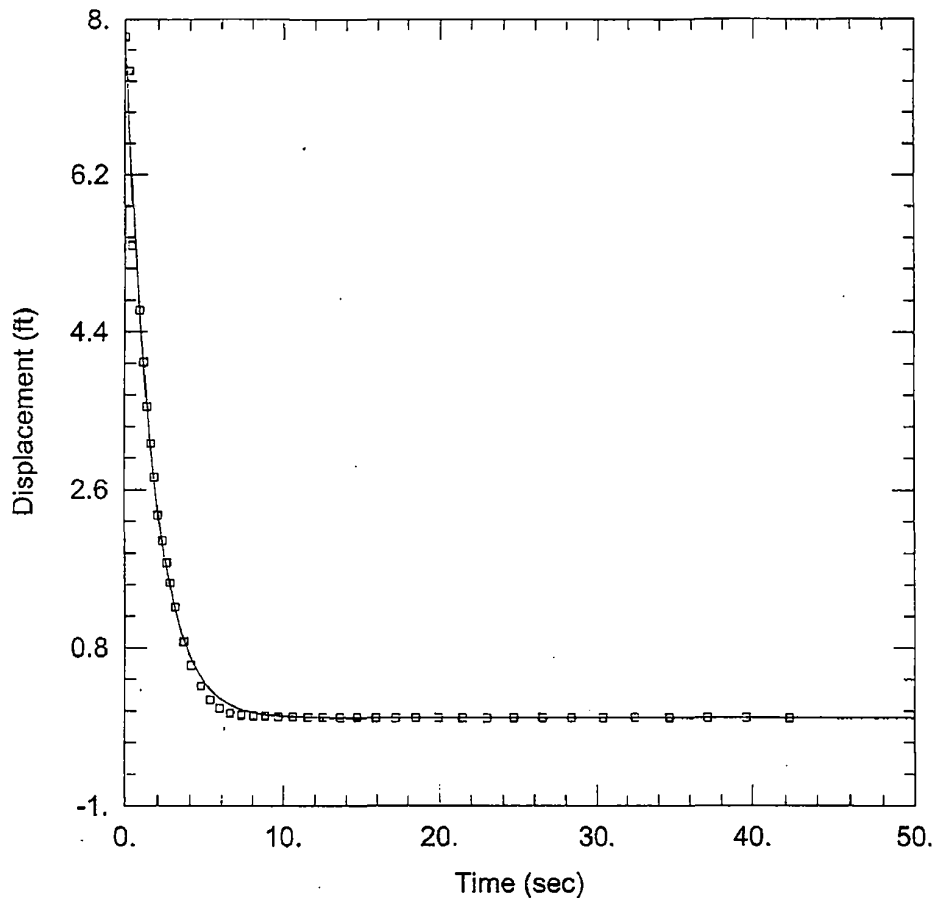
SOLUTION

Aquifer Model: Unconfined

Solution Method: KGS Model

Kr = 41.06 ft/day
 Kz/Kr = 1.

Ss = 3.704E-12 ft⁻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

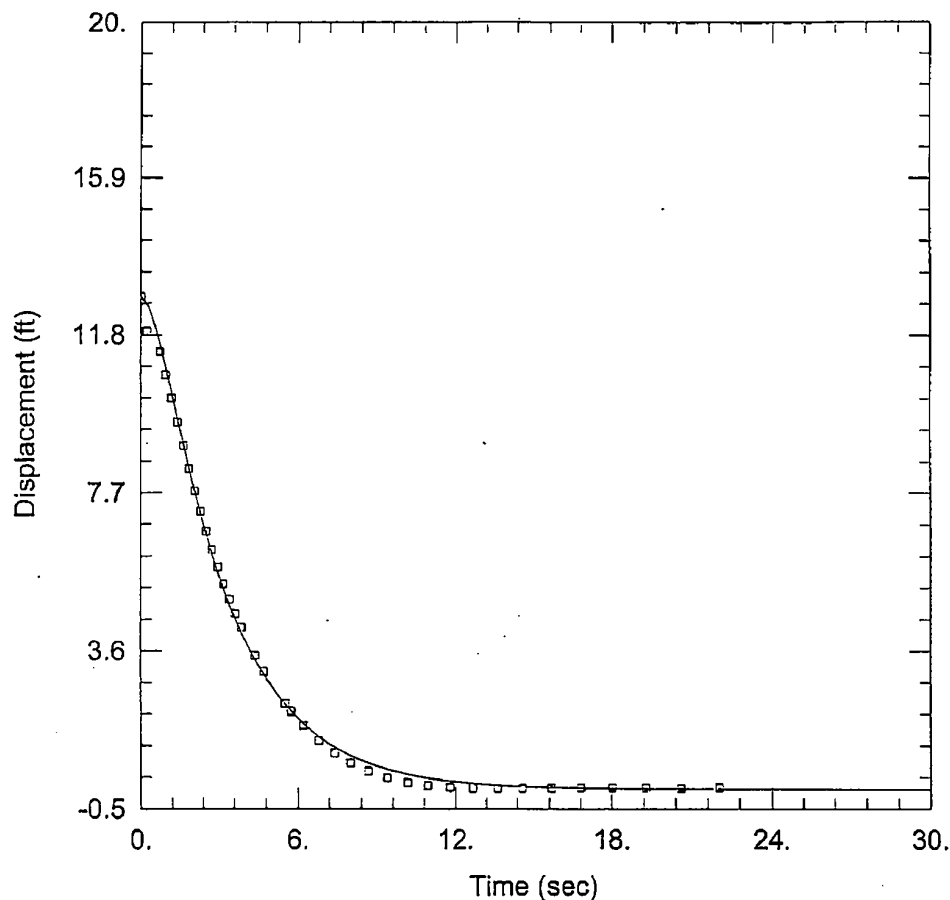
SOLUTION

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 Charles 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>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-802L BG</u>	<u>NA</u>	<u>OW-802LR</u>
Start Time	<u>17:15:19</u>		
End Time			<u>17:15:45</u>
Notes			



Prepared by: CHB Date: 6-20-08

Checked by: hbr 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

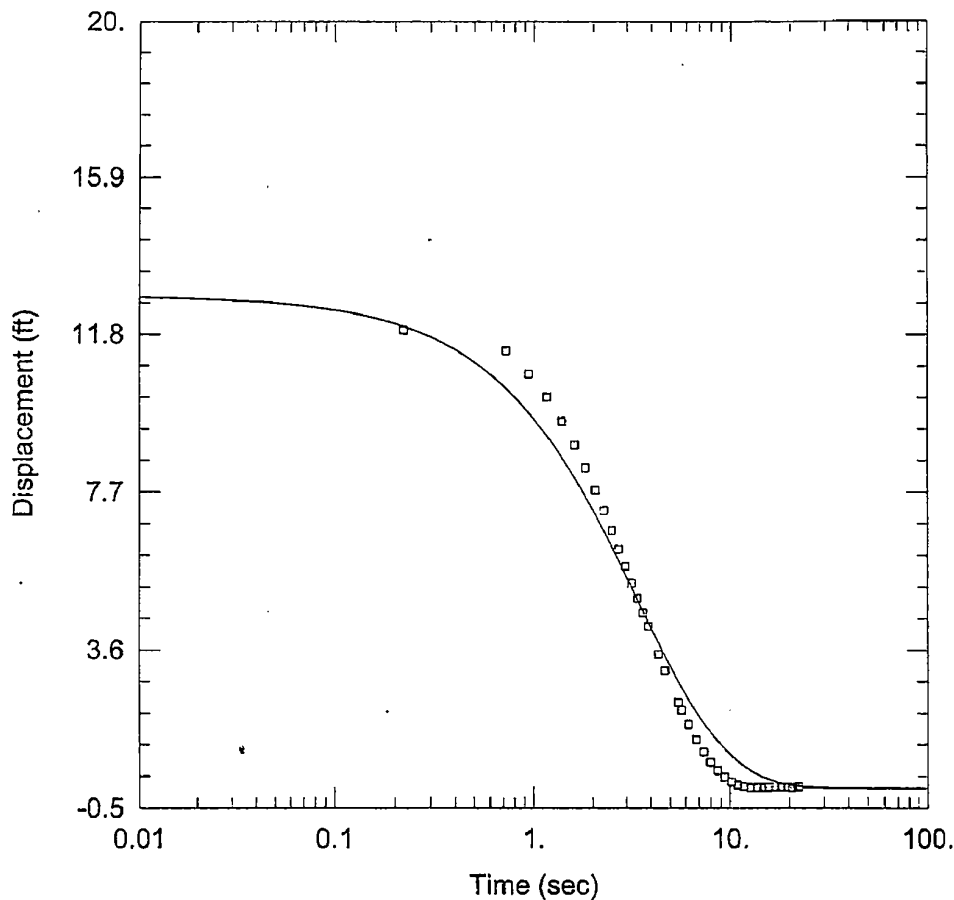
Saturated Thickness: 88. ft Anisotropy Ratio (Kz/Kr): 1.

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: LLB 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: <u>12.8</u> ft	Static Water Column Height: <u>110.2</u> ft
Total Well Penetration Depth: <u>110</u> ft	Screen Length: <u>17</u> ft
Casing Radius: <u>0.083</u> ft	Well Radius: <u>0.21</u> ft

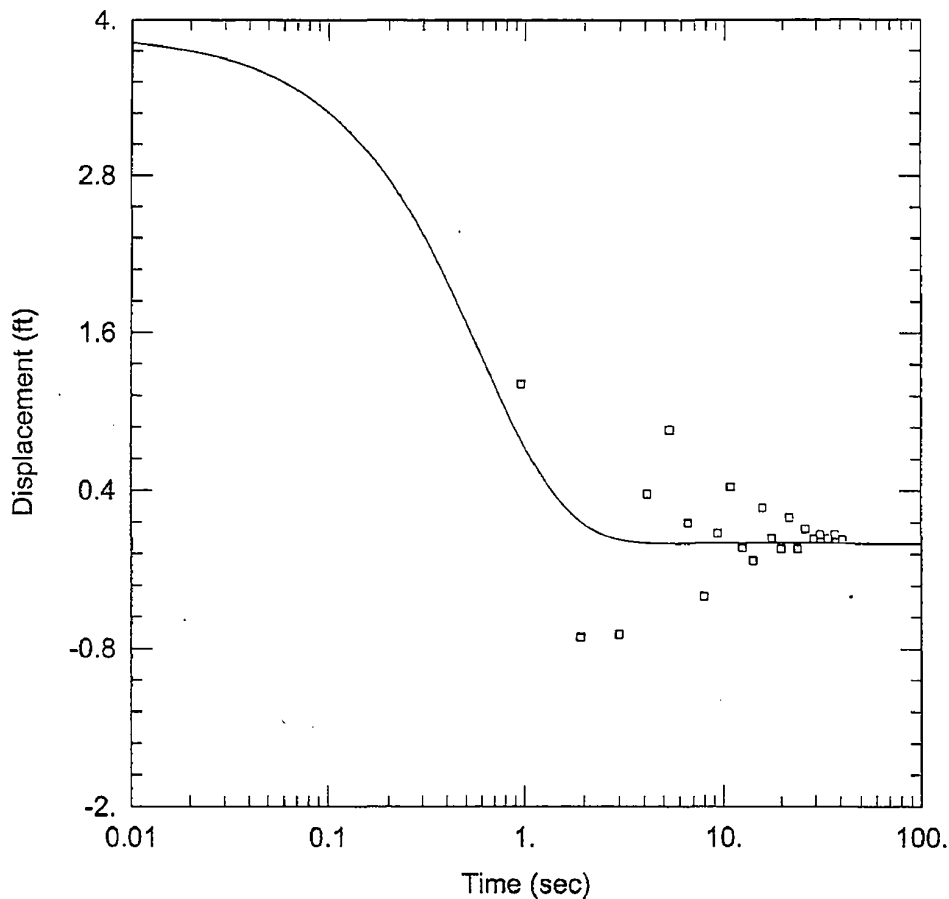
SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>30.99</u> ft/day	Ss = <u>1.26E-20</u> ft ⁻¹
Kz/Kr = <u>1</u>	



SLUG TEST REPORT

Project Name: Tukey Point COL	6468071950	Page 1 of 1
Client: Bechtel	Contractor: MACTEC	OW-805U
Location: Homestead, FL	MACTEC Rep: Kim Chaff-Smith	Date: 06.06.08
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 Initial Displacement (H ₀)	Background	Falling Head
	NA	
Saturated Thickness (b)	feet 15-28 screen	
Conductivity Anisotropy (Kv/Kh)	Assume 1 to 1 13 Top screen	
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-805UBG	NA
Start Time	03:35:15	03:40:34
End Time	03:37:21	03:50:05
Notes	2nd Rising test OW-805UR 03:54:32 03:55:29 6-6-08	
Rev 0		



Prepared by: CHP Date: 6-20-08
 Checked by: WJ 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

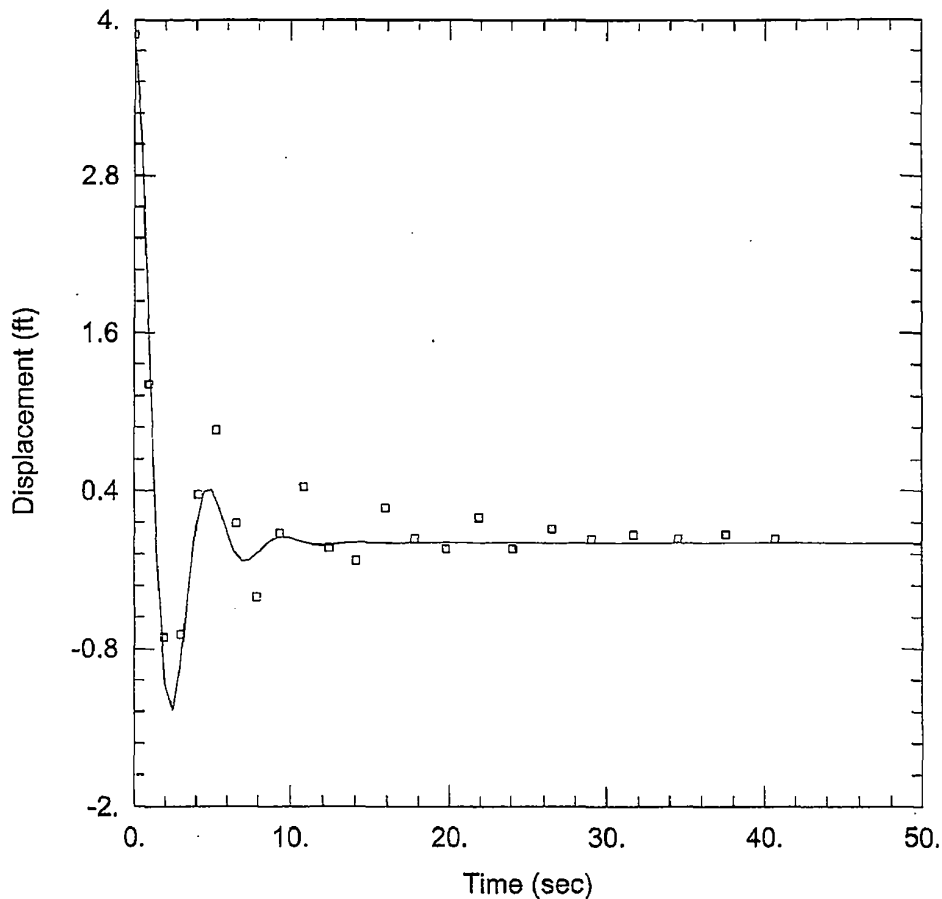
Saturated Thickness: 32.3 ft

WELL DATA (OW-805 U)

Initial Displacement: <u>3.886 ft</u>	Static Water Column Height: <u>29.8 ft</u>
Total Well Penetration Depth: <u>30. 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>
Kr = <u>101.7 ft/day</u>	Ss = <u>3.077E-12 ft⁻¹</u>
Kz/Kr = <u>1.</u>	



Prepared by: CHS Date: 6-20-08
 Checked by: LSR 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

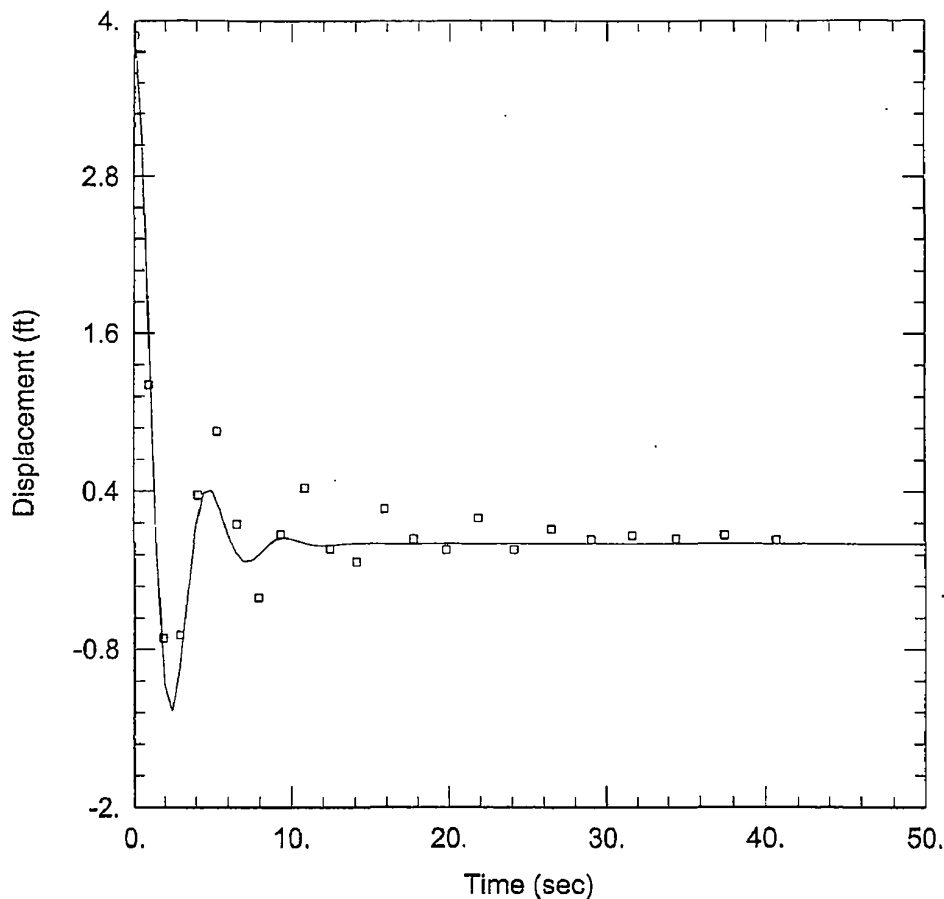
Saturated Thickness: 32.3 ft Anisotropy Ratio (Kz/Kr): 1.

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: WSE 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 (K_z/K_r): 1.

WELL DATA (OW-805 U)

Initial Displacement: 3.886 ft
 Total Well Penetration Depth: 30. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 29.8 ft
 Screen Length: 17. ft
 Well Radius: 0.25 ft

SOLUTION

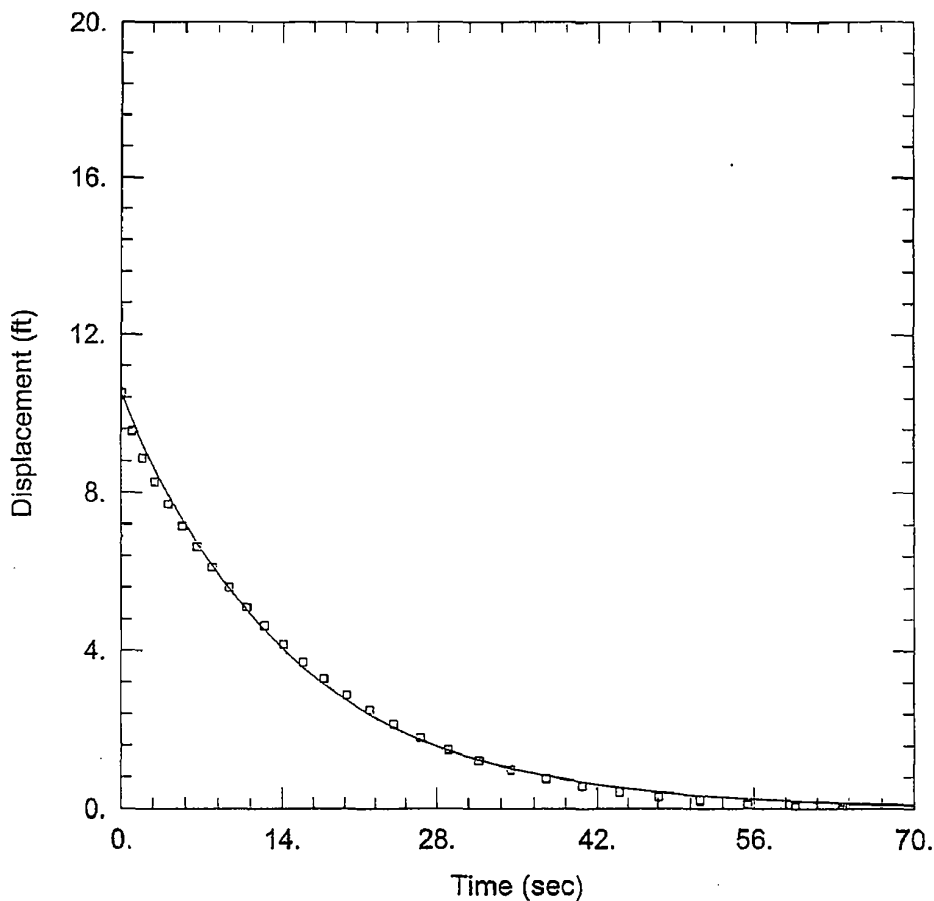
Aquifer Model: Unconfined
 $K =$ 107.1 ft/day

Solution Method: Springer-Gelhar
 $Le =$ 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: Kim Charles Smith		Date: 06/06/08	
UNITS					
Length		Feet			
Time		Minutes			
Well Data		Stick = 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	Rising Head	
		NA			
Saturated Thickness (b)		feet Sand 80 - 92.9			
Conductivity Anisotropy (Kv/Kh)		Assume 1 to 1 8.5 - 9.5			
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	Rising	
File Name		OW-805L-6-6-08	NA	OW-805L-6-6-08	
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-805L-R 04:24:09 04:25:29			
Rev 0					



Prepared by: CHB 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 (K_z/K_r): 1.

WELL DATA (OW-805 L)

Initial Displacement: 10.51 ft
 Total Well Penetration Depth: 97. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 97.51 ft
 Screen Length: 17. ft
 Well Radius: 0.21 ft

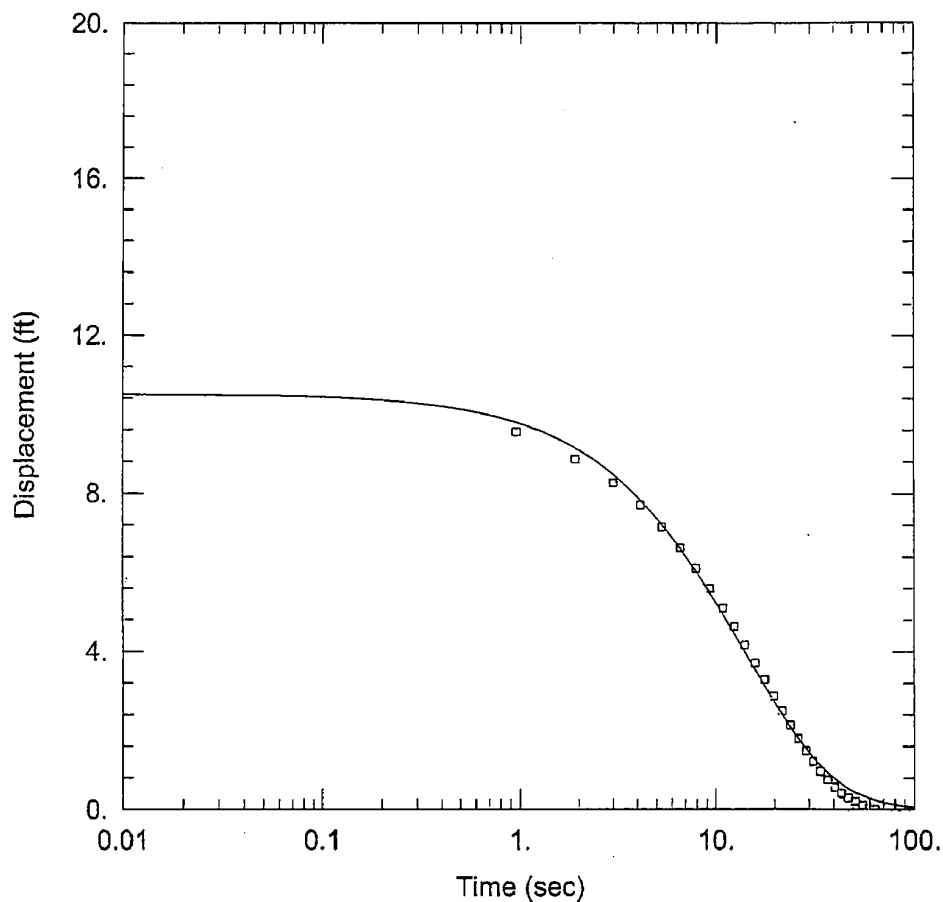
SOLUTION

Aquifer Model: Confined

Solution Method: Butler

$K = 5.269$ ft/day

$Le = 0.1$ ft



Prepared by: CHS Date: 6-20-08
 Checked by: WSE 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
 Total Well Penetration Depth: 97. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 97.51 ft
 Screen Length: 17. 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

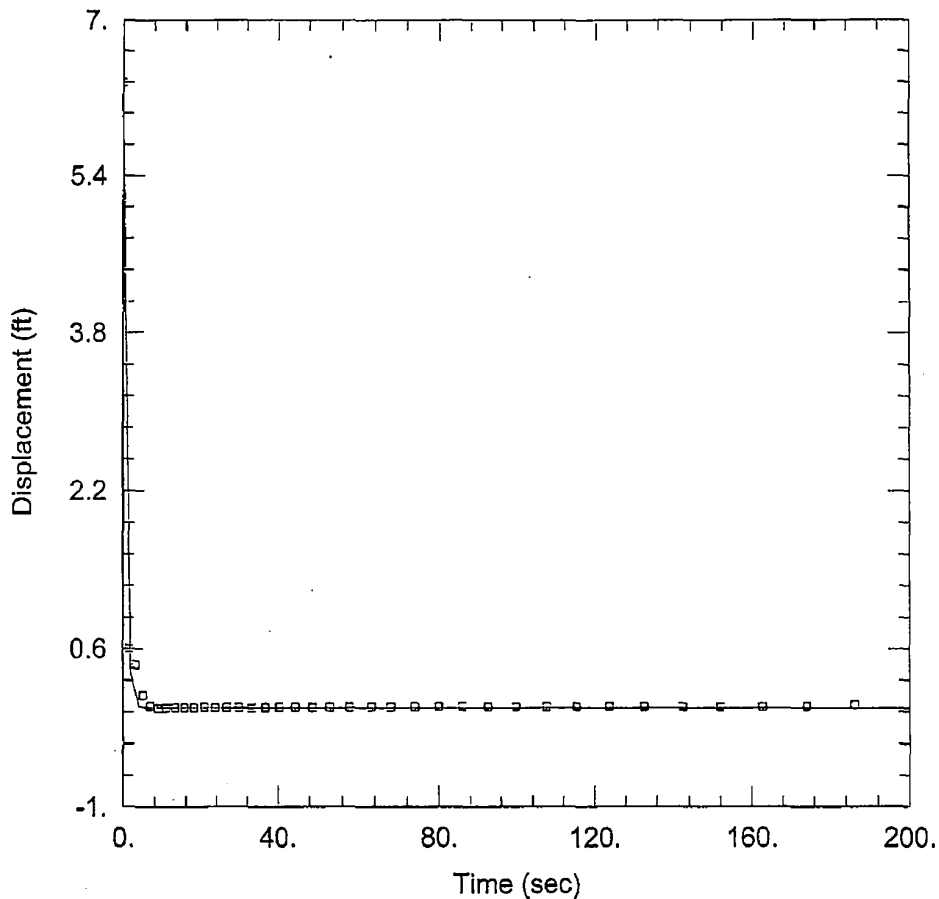
Kz/Kr = 1.



SLUG TEST REPORT

Project Name: <u>TP COL</u>		Project Number:		Page <u>1</u> of <u>1</u>
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 Stickup = 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		
		Mini Trill transducer calibrated 4/29/08, Exp 4/29/09.		
Probe Serial Number				
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>	<u>OW-809UR</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 extra used on TOC</u> <u>Regr. OW-809UF @ 14:13:16 hrs.</u>			

Rev 0



Prepared by: CHB Date: 6-20-08
 Checked by: WSE Date: 6-20-08

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

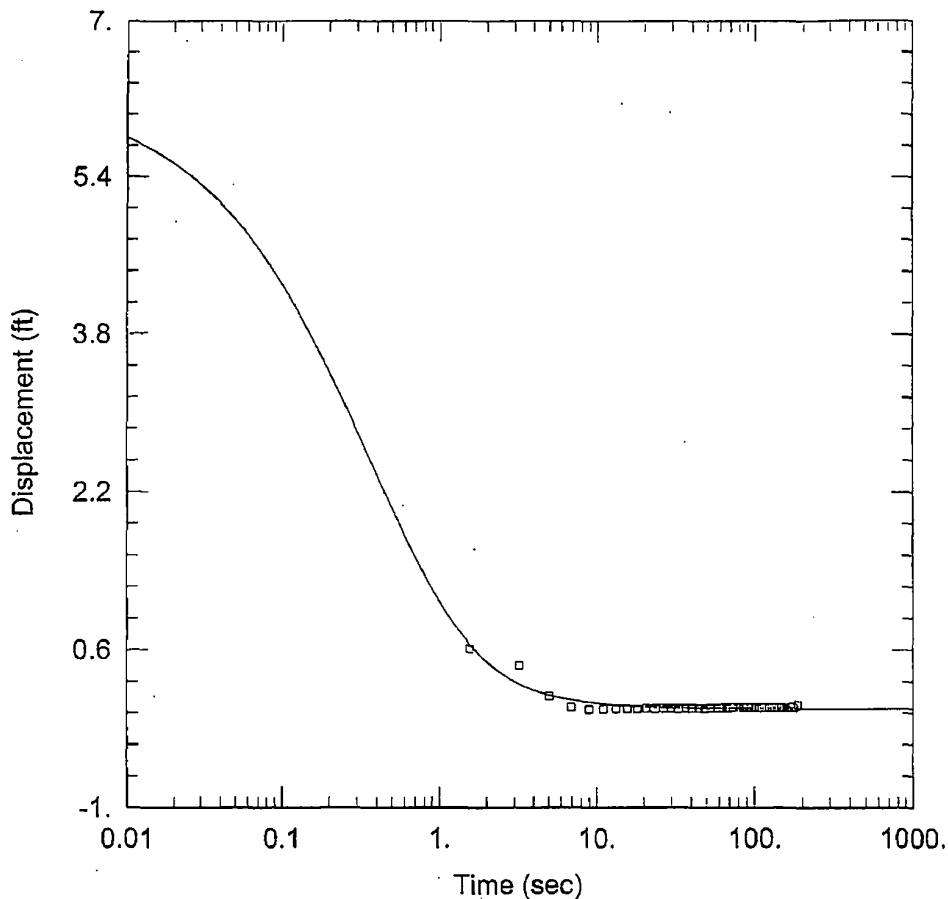
Saturated Thickness: 25.52 ft Anisotropy Ratio (Kz/Kr): 1.

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: Springer-Gelhar
 $K = 91.2 \text{ ft/day}$ $Le = 0.1 \text{ ft}$



Prepared by: CHB Date: 6-20-08

Checked by: WV Date: 6-20-08

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
 Total Well Penetration Depth: 27. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 25.52 ft
 Screen Length: 14.4 ft
 Well Radius: 0.25 ft

SOLUTION

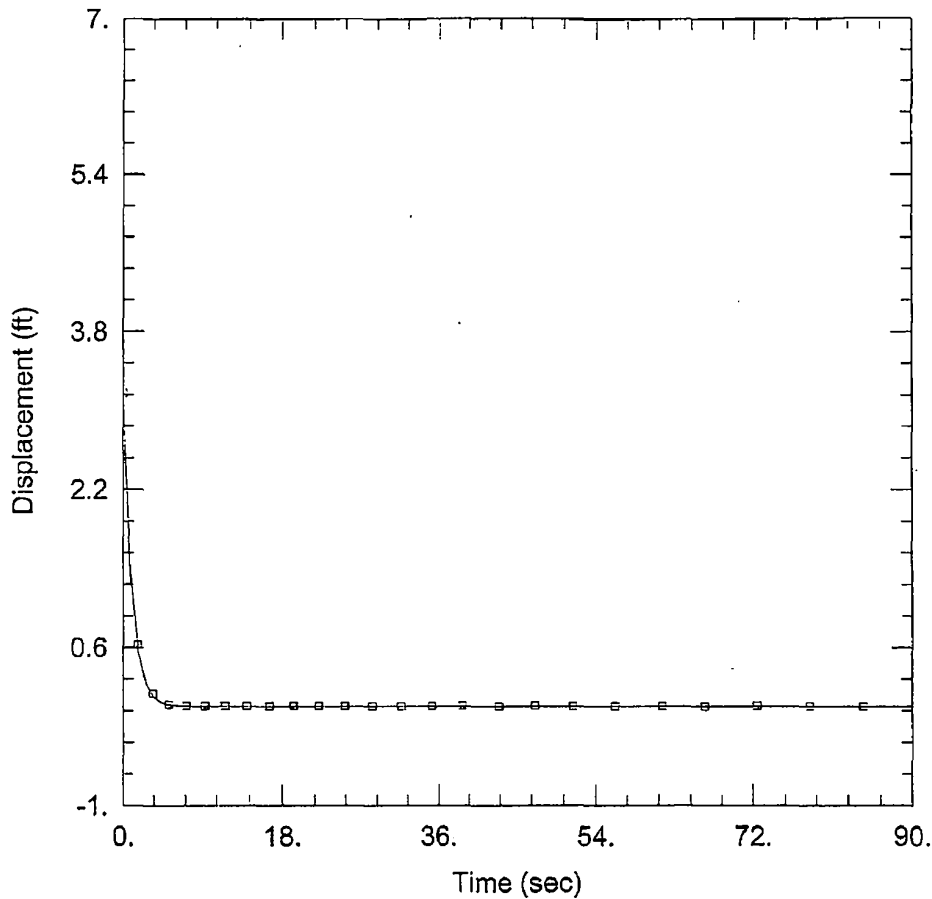
Aquifer Model: Unconfined

Solution Method: KGS Model

Kr = 102.9 ft/day

Ss = 0.0003374 ft⁻¹

Kz/Kr = 1.



Prepared by: CHB Date: 6-20-08
 Checked by: us 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

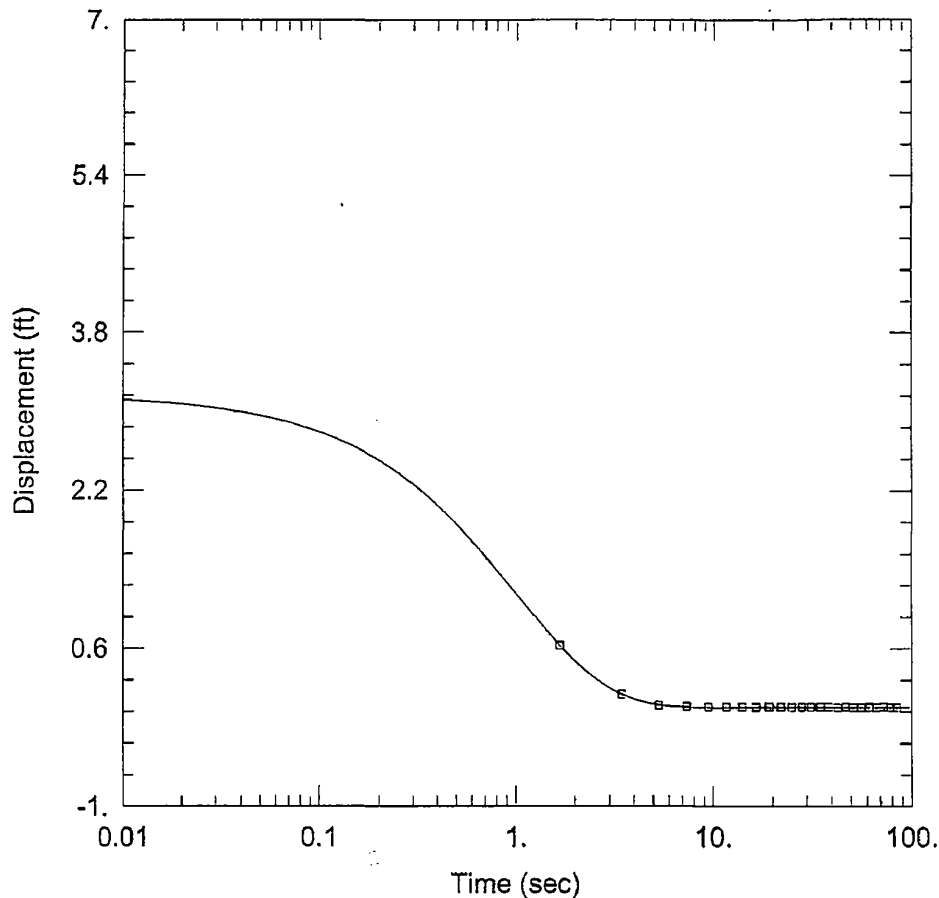
Saturated Thickness: 25.52 ft Anisotropy Ratio (Kz/Kr): 1.

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: CH Date: 6-20-08
 Checked by: JS 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

WELL DATA (OW-809 U)

Initial Displacement: 3.175 ft
 Total Well Penetration Depth: 27 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 25.52 ft
 Screen Length: 14.4 ft
 Well Radius: 0.25 ft

SOLUTION

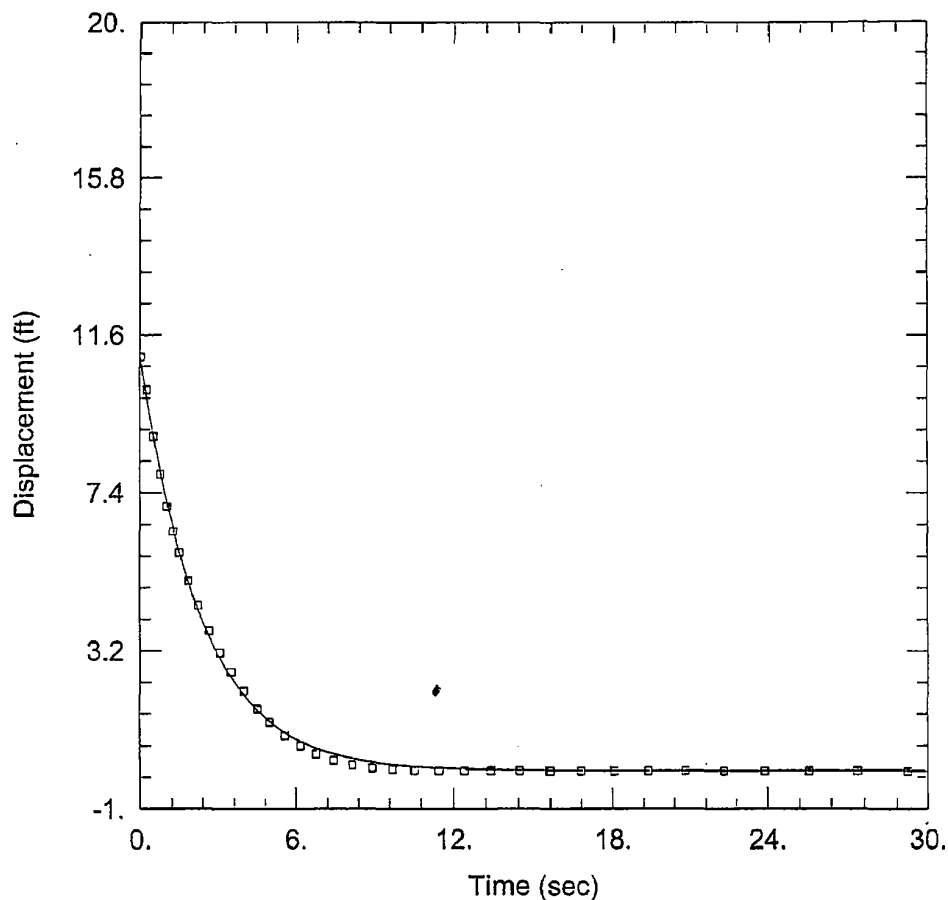
Aquifer Model: Unconfined

Solution Method: KGS Model

Kr = 82.32 ft/day

Ss = 2.789E-6 ft⁻¹

Kz/Kr = 1



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

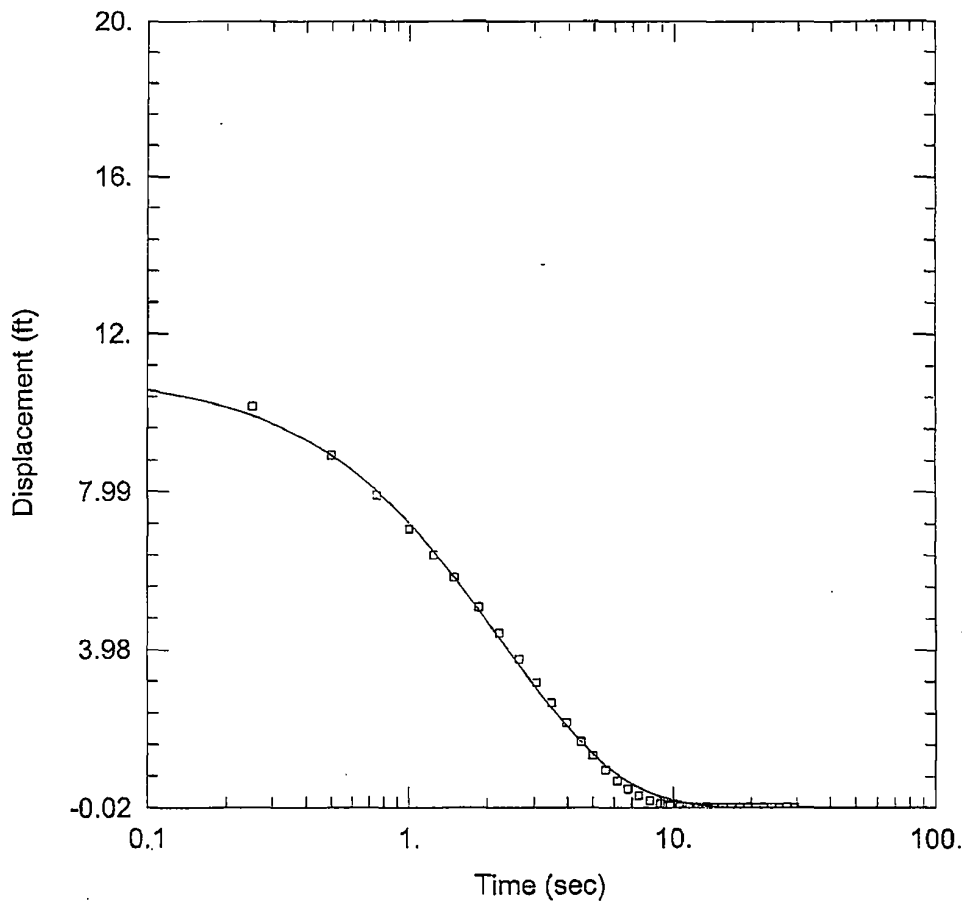
Saturated Thickness: 25.48 ft Anisotropy Ratio (Kz/Kr): 1.

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: C.H.S. Date: 6-20-08
 Checked by: W.S. Date: 6-16-08

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: <u>11.02 ft</u>	Static Water Column Height: <u>25.48 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

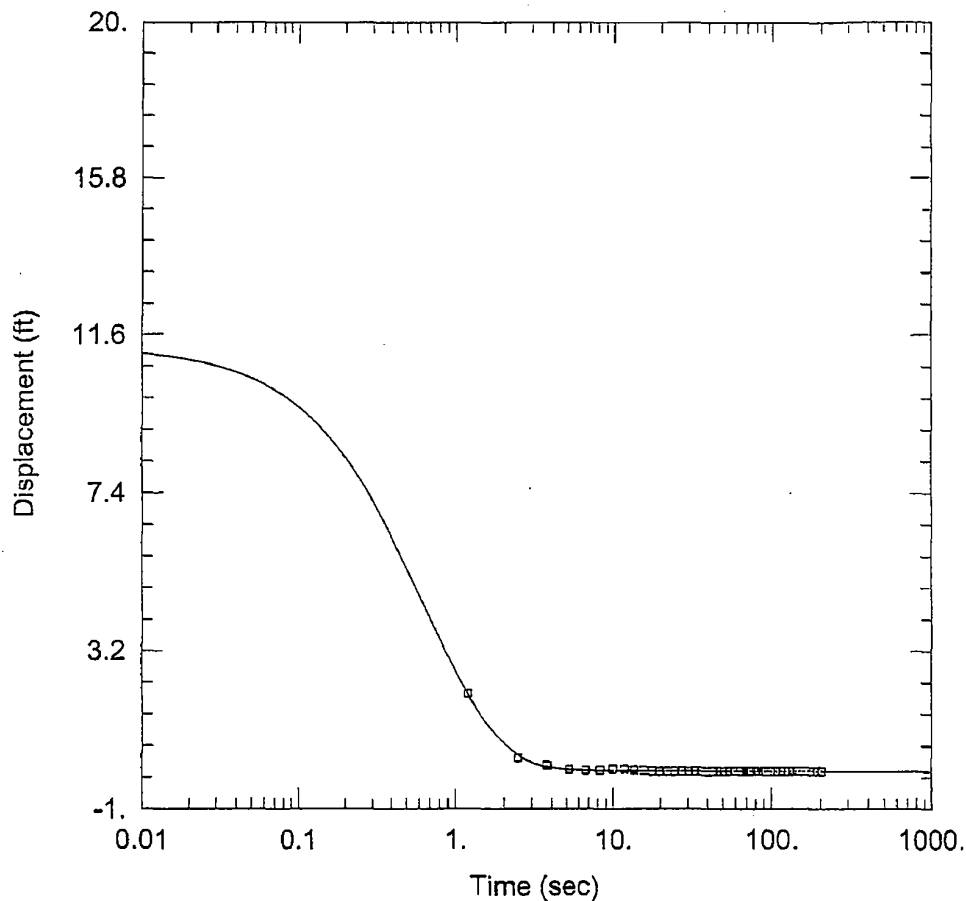
Aquifer Model: <u>Unconfined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>35.94 ft/day</u>	Ss = <u>4.032E-19 ft⁻¹</u>
Kz/Kr = <u>1.</u>	



SLUG TEST REPORT

Project Name: <u>TPCOL</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:	Final Static = 3.75'		
Static Water Level	3.26 feet From TOC		
Total Well Depth	109.92 feet From TOC		
Static Water Column Height (H)	106.66 feet From G.S.		
	Background	Falling Head	Rising Head
Observed Initial Displacement (H ₀)	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 Probe Calibrated 4/29/08. Exp. 4/29/09 Transducer		
Slug Data	Slug #2		
Length	65.438 inches		
Weight	8.811 lbs.		
Diameter	1.662 inches		
Slug Test File	Background	Falling	Rising
File Name	OW-809LBG	OW-809LF	OW-809LR
Start Time	12:36:37	12:46:05	12:59:45
End Time	12:42:56	12:56:41	13:13:03
Notes	Extended TO TO 5.81' above G.S.		

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

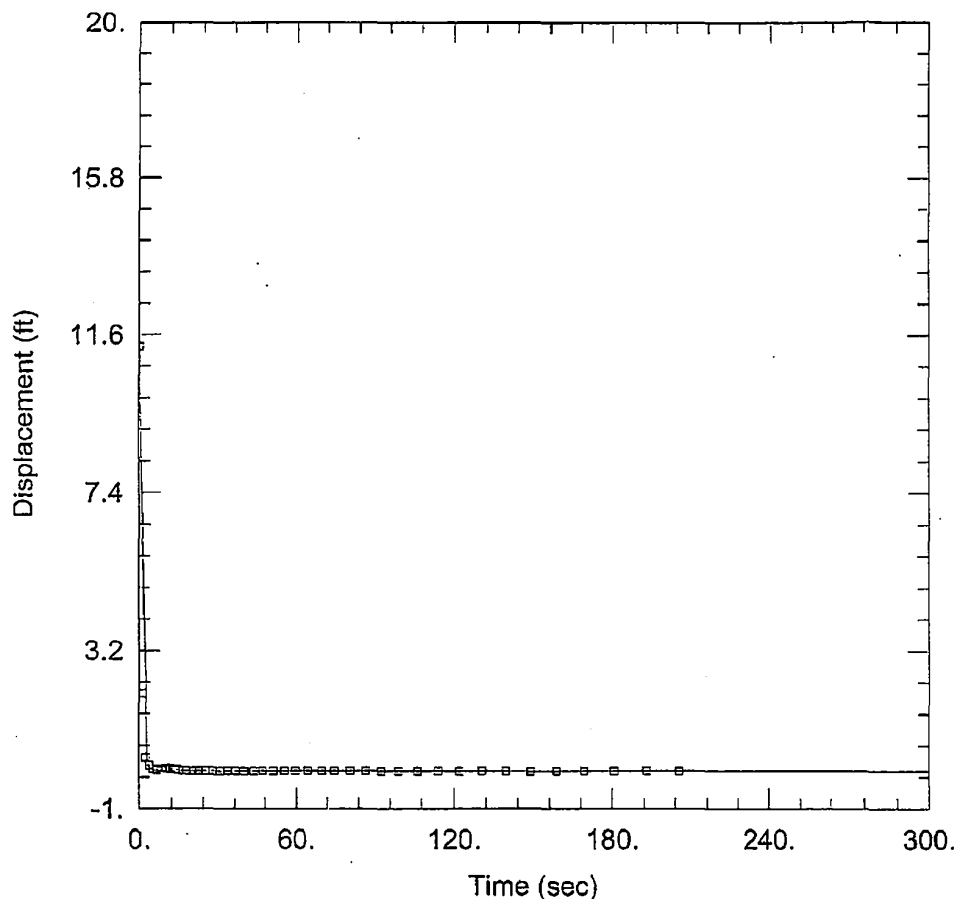
Saturated Thickness: 88. ft

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
 $K_r = 108.6 \text{ ft/day}$ $S_s = 4.263\text{E-}12 \text{ ft}^{-1}$
 $K_z/K_r = 1.$



Prepared by: C HB Date: 6-20-08

Checked by: WXB 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 (K_z/K_r): 1.

WELL DATA (OW-809 L)

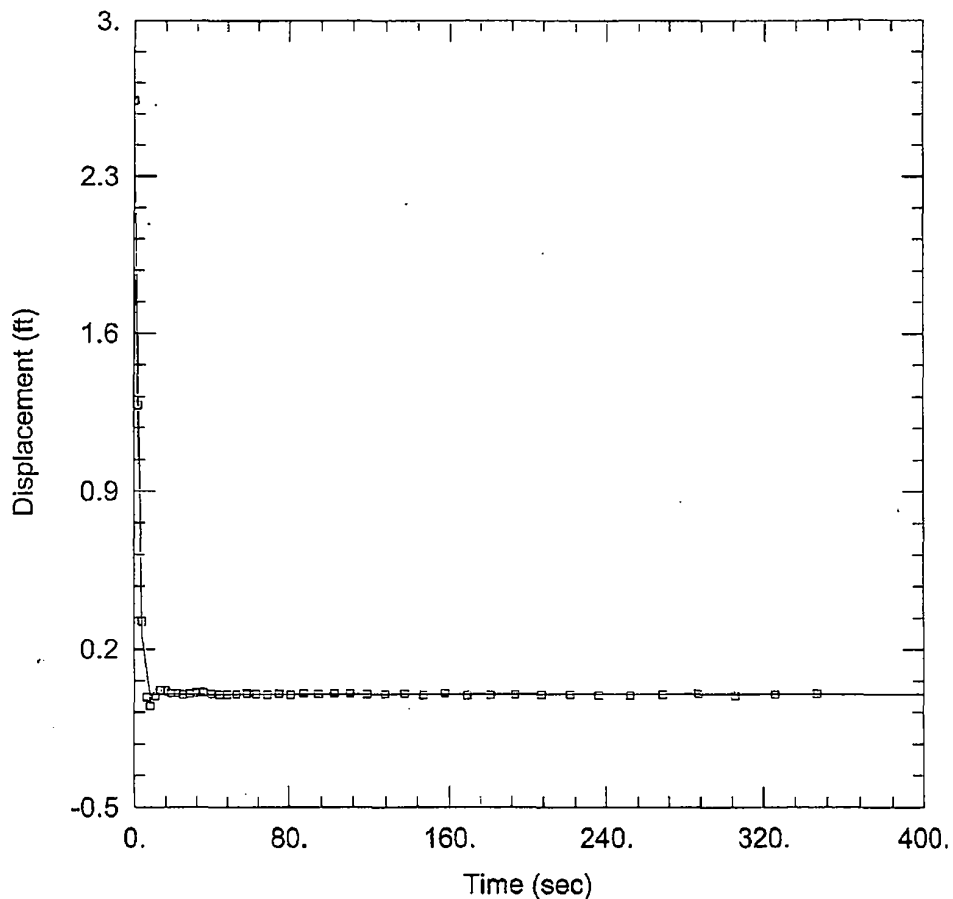
Initial Displacement: 11.29 ft
 Total Well Penetration Depth: 110. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 110. ft
 Screen Length: 19. ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined
 $K = 103.7$ ft/day

Solution Method: Butler
 $L_e = 0.1$ ft



Prepared by: CHT 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

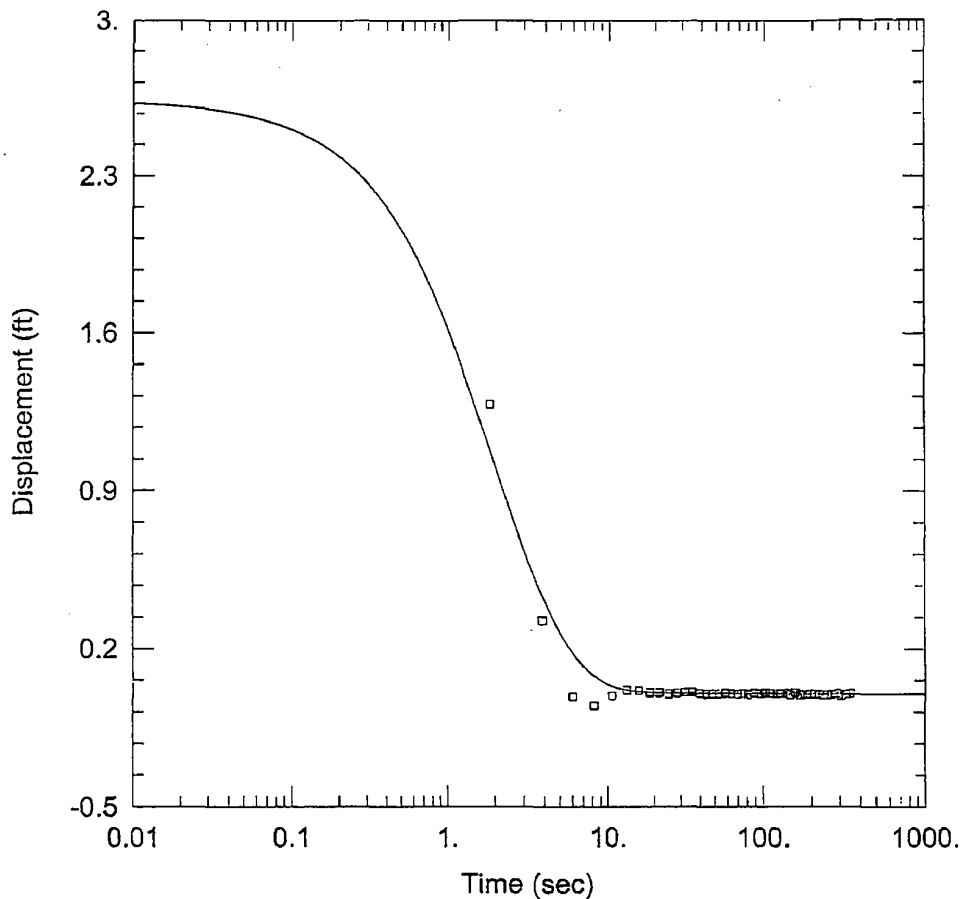
Saturated Thickness: 88. ft Anisotropy Ratio (Kz/Kr): 1.

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: WSL 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

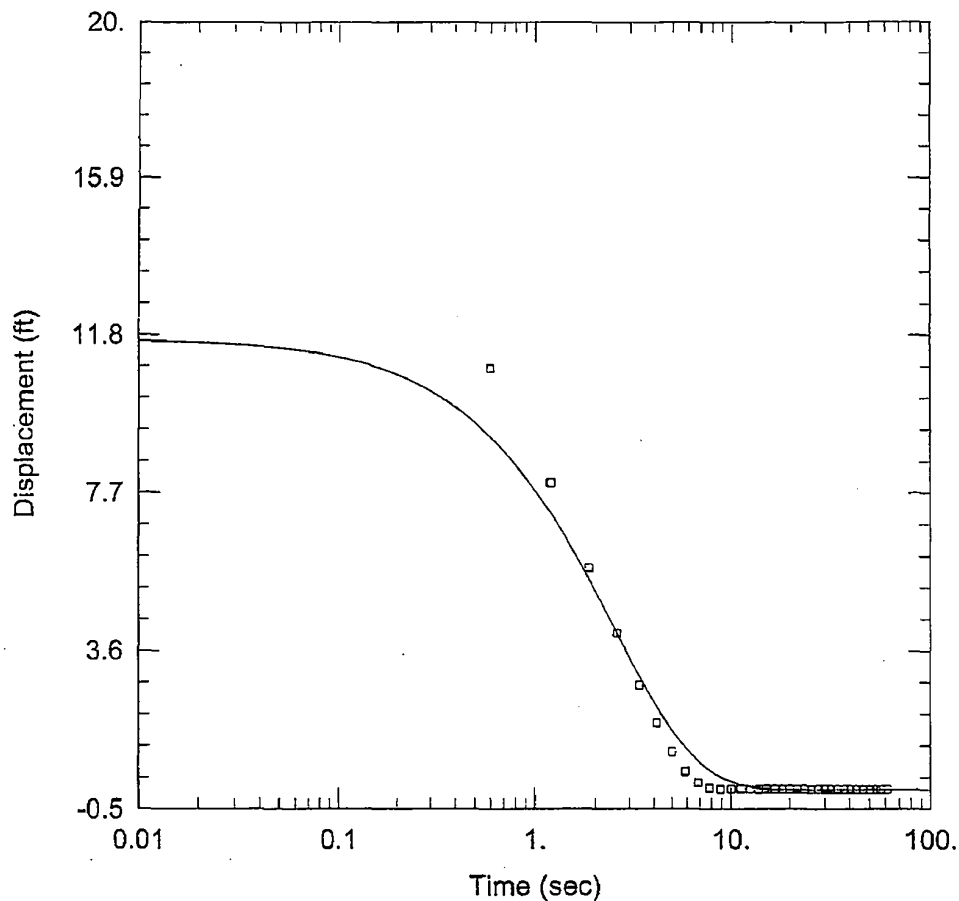
WELL DATA (OW-809 L)

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
 $K_r = 36.57 \text{ ft/day}$ $S_s = 1.136\text{E-}12 \text{ ft}^{-1}$
 $K_z/K_r = 1.$

Project Name: TPCOL	Project Number: 6403-07-150		Page	of
Client: Bechtel	Contractor: MACTEC			
Location: OW-812U	MACTEC Rep: Kim Charo-Smith		Date: 05/20/08	
UNITS				
Length	Feet			
Time	Minutes			
Well Data	Final Static = 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-tall transducer probe calibrated 4/29/08, 4/29/09 SN: 118478 level Trans @ 700 Winsitu			
Slug Data	Used pneumatic slug to perform test.			
Length				
Weight				
Diameter				
Slug Test File	Background	Falling		Rising
File Name	OW-812UBG	NA		OW-812UR
Start Time	16:05:53			16:13:19
End Time	16:08:21			16:14:31
Notes				



Prepared by: CAB Date: 6-20-08

Checked by: mw Date: 6-26-08

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

WELL DATA (OW-812 U)

Initial Displacement: 11.68 ft
 Total Well Penetration Depth: 27. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 25.45 ft
 Screen Length: 16. ft
 Well Radius: 0.25 ft

SOLUTION

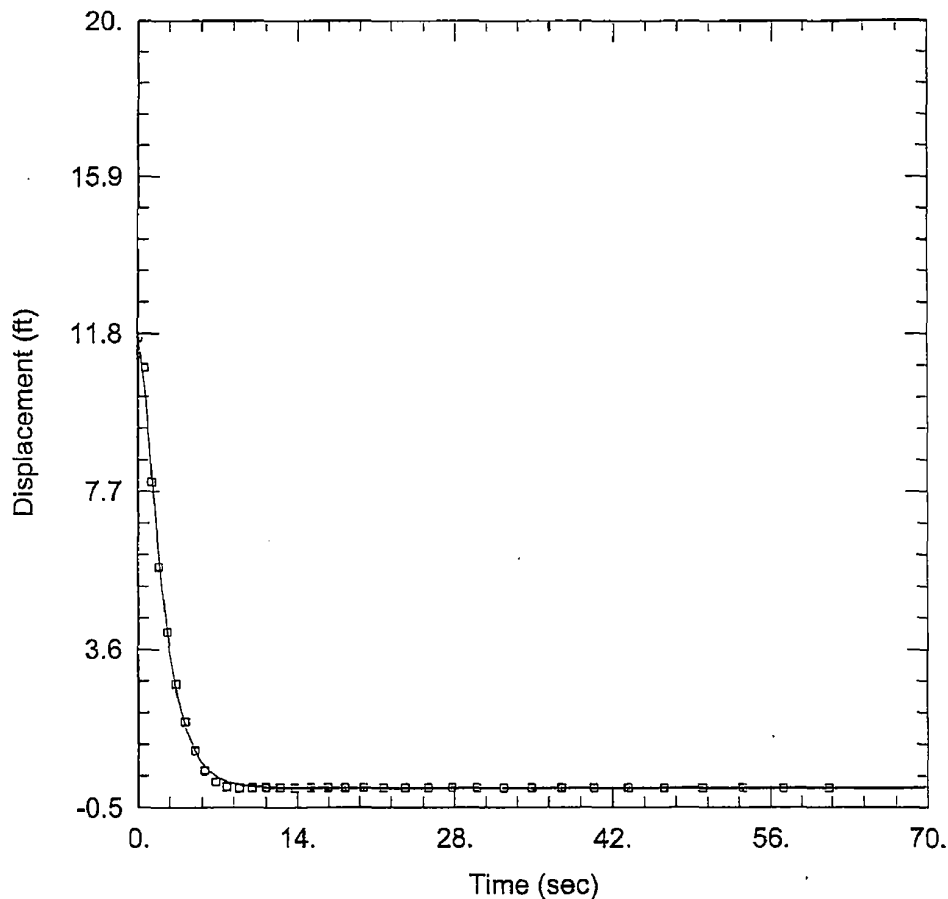
Aquifer Model: Unconfined

Solution Method: KGS Model

Kr = 31.24 ft/day

Ss = 3.704E-20 ft⁻¹

Kz/Kr = 1.



Prepared by: CHB Date: 6-20-08
 Checked by: WSE 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

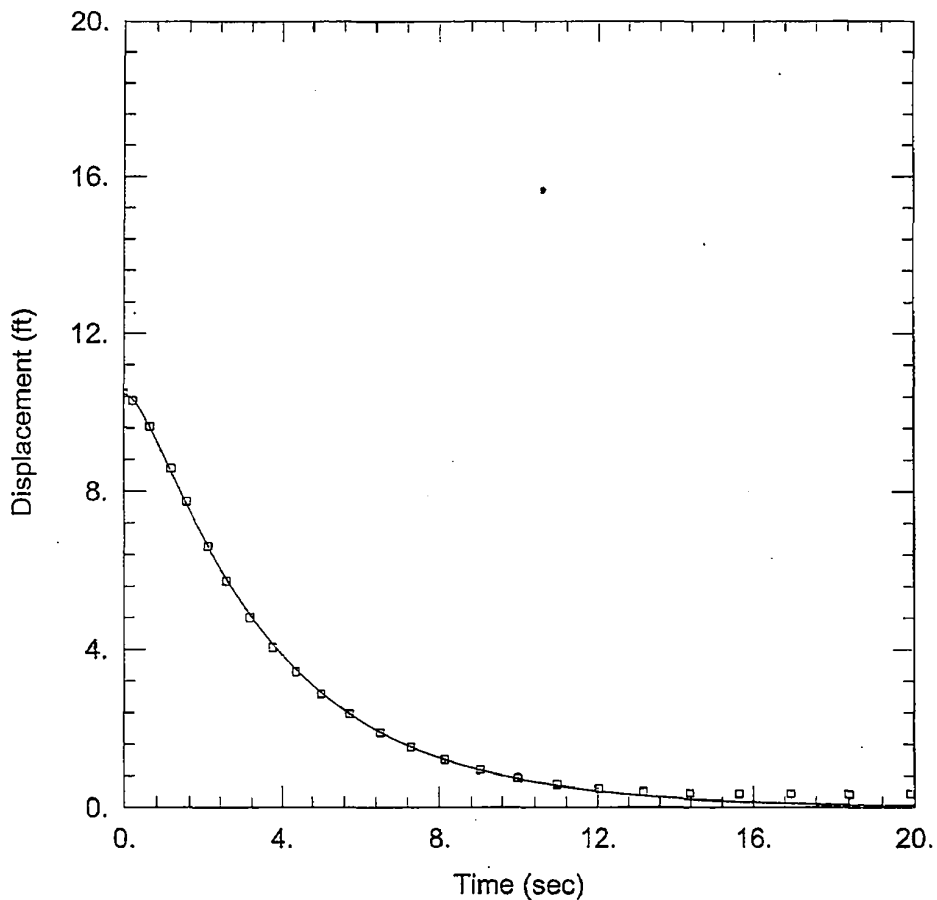
SOLUTION

Aquifer Model: Unconfined Solution Method: Springer-Gelhar
 K = 24.49 ft/day Le = 36.28 ft



SLUG TEST REPORT

Project Name: <u>TPCOL</u>	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-812L</u>	MACTEC Rep: <u>Kim Charles Smith</u>		Date: <u>05/20/08</u>
UNITS			
Length	Feet		
Time	Minutes		
Well Data	<u>Kim Stickup 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 4/29/08, 24/4/09</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
File Name	<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			



Prepared by: CHB Date: 6-20-08
 Checked by: lsc 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

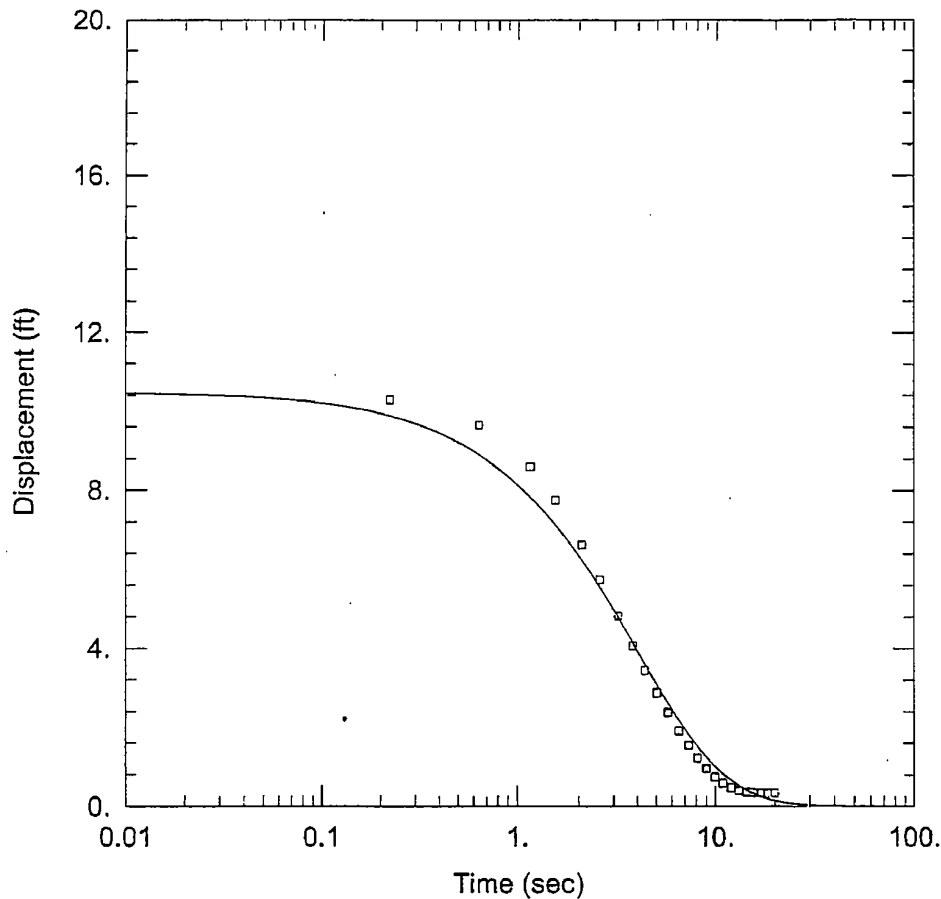
Saturated Thickness: 86. ft Anisotropy Ratio (Kz/Kr): 1.

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: LSB Date: 6-26-08

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: <u>10.48 ft</u>	Static Water Column Height: <u>109.3 ft</u>
Total Well Penetration Depth: <u>109. ft</u>	Screen Length: <u>15. ft</u>
Casing Radius: <u>0.083 ft</u>	Well Radius: <u>0.25 ft</u>

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>21.2 ft/day</u>	Ss = <u>1.163E-12 ft⁻¹</u>
Kz/Kr = <u>1.</u>	