

## Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/3/2010
Weather:	80°F, Sun

Well ID: MW - 1D  
Sample ID:  
Permit Number:  
Well Condition: Good

### PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	60 - 72'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	12.3

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	7.42
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	60.0
Total Depth* (feet):	70.5
Water Column (feet):	63.08
Casing Volume (gal):	11.49
DTW After Pump Installed:	

## PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/3/2010 14:20
End Purge Date/Time:	6/3/2010 16:20
Total Volume Purged (gal):	16 gal
Depth to Water After Purge* (feet):	

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Slow to pump

Where depth to water after purge was not available, used initial depth to water to calculate water column.



## Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/3/2010
Weather:	

Well ID: MW - 1I

Sample ID:

Permit Number:

Well Condition: Good

### PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	30 - 42'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	42.0

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	6.27
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	30.0
Total Depth* (feet):	43.2
Water Column (feet):	13.7
Casing Volume (gal):	7.04
DTW After Pump Installed:	

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/3/2010 12:43
End Purge Date/Time:	6/3/2010 13:26
Total Colume Purged (gal):	16 gal
Depth to Water After Purge* (feet):	29.5

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

No odor

Where depth to water after purge was not available, used initial depth to water to calculate water column.



## Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/3/2010
Weather:	80°F, Sun

Well ID: MW - 1S

Sample ID:

Permit Number:

Well Condition: Good

### PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	3 - 15'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	98.5

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	3.45
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	3.0
Total Depth* (feet):	14.5
Water Column (feet):	11.05
Casing Volume (gal):	2.36
DTW After Pump Installed:	

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/3/2010 11:00
End Purge Date/Time:	6/3/2010 13:00
Total Colume Purged (gal):	12 gal
Depth to Water After Purge* (feet):	

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Well keeps going dry. 10 gal so far but turbidity still >1000. Note: dual-Phase pump is dead. Ordering a new one.

Well still turbid >1200. The well went dry 6 times.

Where depth to water after purge was not available, used initial depth to water to calculate water column



## Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/2/2010
Weather:	85°F, Sun

Well ID: MW - 2D

Sample ID:

Permit Number:

Well Condition: Good

### PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	60 - 72'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	3.0

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	7.17
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	60
Total Depth* (feet):	71.5
Water Column (feet):	62.3
Casing Volume (gal):	11.65
DTW After Pump Installed:	

## PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/2/2010 7:35
End Purge Date/Time:	6/2/2010 8:22
Total Colume Purged (gal):	40 gal
Depth to Water After Purge* (feet):	9.2

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

No sheen or odor.

Where depth to water after purge was not available, used initial depth to water to calculate water column.



# Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/2/2010
Weather:	85°F, Sun

Well ID:	MW - 3I
Sample ID:	
Permit Number:	
Well Condition:	Good

## PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	25 - 52'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	31.2

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	3.99
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	25.0
Total Depth* (feet):	50.8
Water Column (feet):	43.9
Casing Volume (gal):	8.28
DTW After Pump Installed:	

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/2/2010 14:50
End Purge Date/Time:	6/2/2010 15:37
Total Colume Purged (gal):	40 gal
Depth to Water After Purge* (feet):	6.9

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

MGP-like odor on tubing when pulling out of well

Sheen blebs on H<sub>2</sub>O

Where depth to water after purge was not available, used initial depth to water to calculate water column.



## Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/2/2010
Weather:	85°F, Sun

Well ID: MW - 3S  
Sample ID:  
Permit Number:  
Well Condition: Good

## PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	3 - 15'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	69.4

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	2.49
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	3.0
Total Depth* (feet):	14.5
Water Column (feet):	12
Casing Volume (gal):	2.36
DTW After Pump Installed:	

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/2/2010 13:05
End Purge Date/Time:	6/2/2010 13:35
Total Colume Purged (gal):	12 gal
Depth to Water After Purge* (feet):	2.5

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Few small sheen blebs.

Slight MGP-like odor.

Where depth to water after purge was not available, used initial depth to water to calculate water column.



**AECOM****Well/Piezometer Development Record**

Well/Piez. ID:

HW-401

Client: National GridSite Location: MetroProject No: \_\_\_\_\_ Date: 4/29/11Developer: Bost**WELL/PIEZOMETER DATA**Well ☒ Piezometer ☐ Diameter 2" Material PVC

Measuring Point Description \_\_\_\_\_

Geology at Screen Interval  
(if known) \_\_\_\_\_Depth to Top of Screen (ft.) 11.5Depth to Bottom of Screen (ft.) 12.0Time of Water Level Measurement 0830Total Well Depth (ft.) 12.0 (11.5, 3') SoftCalculate Purge Volume (gal.) 19 gal = 1 well volDepth to Static Water Level (ft.) 3.2'Disposal Method DrumWellhead PID/FID 0.3Original Well Development ☒Redevelopment ☐Date of Original Development 4/29/11**DEVELOPMENT METHOD**water pump**PURGE METHOD**Surge block

Field Testing Equipment Used:

Make \_\_\_\_\_ Model \_\_\_\_\_ Serial Number \_\_\_\_\_

HORIBA U22Lamotte 2020

Field Testing Calibration Documentation Found in Field Notebook # \_\_\_\_\_ Page # \_\_\_\_\_

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1100	25	19.8	7.41	2.68	114.0	6.66	11 Brown	NA	Silky
1110	45	17.52	7.5	35.4	55.9	2.14	clear	NA	NA
1120	<del>45</del> 65	17.0	7.33	36.9	24.0	2.19	clear	NA	NA
- wait for purge 95 gallons									
1145	End Purge @			100 gal					

**ACCEPTANCE CRITERIA (from workplan)**

Min. Purge Volume ( \_\_\_\_\_ well volumes) \_\_\_\_\_ gallons

Maximum Turbidity Allowed \_\_\_\_\_ NTUs

Stabilization of parameters \_\_\_\_\_ %

Has required volume been removed

Has required turbidity been reached

Have parameters stabilized

If no or N/A explain below:

Yes No N/A

☐ ☐ ☐☐ ☐ ☐☐ ☐ ☐Signature Rich PaganoDate: 4/29/11

105a Begin Purge

final DTB 119.82



Client: National GridSite Location: MesaProject No: \_\_\_\_\_ Date: 4/29/11Developer: Boart

## WELL/PIEZOMETER DATA

Well ☒Piezometer ☐Diameter 2"Material PVC

Measuring Point Description \_\_\_\_\_

Geology at Screen Interval  
(if known) \_\_\_\_\_Depth to Top of Screen (ft.) 142Depth to Bottom of Screen (ft.) 147Time of Water Level Measurement 832Total Well Depth (ft.) 147 - 143.1 when measuredCalculate Purge Volume (gal.)  
At least Pump out 5:10 well  
vol~ 230 galDepth to Static Water Level (ft.) 3.2'Disposal Method DrumWellhead PID/FID 0.4 ppmOriginal Well Development ☒Redevelopment ☐

Date of Original Development \_\_\_\_\_

## DEVELOPMENT METHOD

Water Pump

## PURGE METHOD \_\_\_\_\_

Field Testing Equipment Used:

Make

Model

Serial Number

Hoshiba 422Lamotte 2020

Field Testing Calibration Documentation Found in Field Notebook # \_\_\_\_\_ Page # \_\_\_\_\_

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
0850	start Purge								
0910	35	16.74	6.32	1.65	910.9	2.60	Brown	NO	no sheen etc
0920	36	16.00	7.49	1.70	1066	1.22	light brown	"	"
0930	450	16.19	7.37	1.70	492	1.27	light brown	"	"
0940	75	16.22	7.79	1.78	176	2.30	light brown	"	"
0950	110	16.5	7.9	1.80	90.5	5.0	opaque white	"	"
1000	130	16.49	7.8	1.82	81.9	4.78	light	"	"
1010	150	16.47	7.78	1.79	52.0	4.7	clear	"	"
1015	455	16.41	7.76	1.87	50.0	4.39	clear	"	"
1020	160	16.30	7.80	1.83	43.8	4.30	clear	"	"

## ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume ( 10 well volumes) 230 gallons

Maximum Turbidity Allowed \_\_\_\_\_ NTUs

Stabilization of parameters \_\_\_\_\_ %

Has required volume been removed

Has required turbidity been reached

Have parameters stabilized

If no or N/A explain below:

Yes No N/A

☐ ☐ ☐☐ ☐ ☐☐ ☐ ☐Signature John PapageorgisDate: 4/29/11



# Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/2/2010
Weather:	85°F, Sun

Well ID:	MW - 4I
Sample ID:	
Permit Number:	
Well Condition:	Good

## PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	25 - 37'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	0.0

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	3.95
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	25.0
Total Depth* (feet):	37.6
Water Column (feet):	31.38
Casing Volume (gal):	6.13
DTW After Pump Installed:	

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/2/2010 7:45
End Purge Date/Time:	6/2/2010 8:13
Total Colume Purged (gal):	21 gal
Depth to Water After Purge* (feet):	6.22

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Small sheen blebs on purge water.

Where depth to water after purge was not available, used initial depth to water to calculate water column.



# Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/1/2010
Weather:	89°F, T- Storms

Well ID: MW - 4S

Sample ID:

Permit Number:

Well Condition: Good

## PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	3 - 15'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	0.0

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	4.94
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	3.0
Total Depth* (feet):	14.8
Water Column (feet):	10.02
Casing Volume (gal):	2.41
DTW After Pump Installed:	

## PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/1/2010 15:25
End Purge Date/Time:	6/1/2010 16:10
Total Colume Purged (gal):	~9 gal
Depth to Water After Purge* (feet):	4.78 (after ~5 min of recharge)

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Well keeps running dry so we let it recharge for 5 min. Recharge is very fast.

Where depth to water after purge was not available, used initial depth to water to calculate water column.



# Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/1/2010
Weather:	89°F, T-Storms

Well ID:	MW - 5D
Sample ID:	
Permit Number:	
Well Condition:	Good

## PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	60 - 72'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	0.4

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	7.01
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	60.0
Total Depth* (feet):	71.7
Water Column (feet):	64.69
Casing Volume (gal):	11.69
DTW After Pump Installed:	

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/1/2010 14:15
End Purge Date/Time:	6/1/2010 14:41
Total Colume Purged (gal):	-25 gal
Depth to Water After Purge* (feet):	

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Where depth to water after purge was not available, used initial depth to water to calculate water column.



# Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/1/2010
Weather:	89°F, T- Storms

Well ID:	MW - 5I
Sample ID:	
Permit Number:	
Well Condition:	Good

## PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	38 - 50'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	2.5

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	7.09
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	38.0
Total Depth* (feet):	49.1
Water Column (feet):	42.01
Casing Volume (gal):	8.00
DTW After Pump Installed:	

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/1/2010 13:25
End Purge Date/Time:	6/1/2010 13:50
Total Colume Purged (gal):	22 gal
Depth to Water After Purge* (feet):	

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Where depth to water after purge was not available, used initial depth to water to calculate water column.



## Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/1/2010
Weather:	89°F, T-Storms

Well ID:	MW - 5S
Sample ID:	
Permit Number:	
Well Condition:	Good

### PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	3 - 15'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	2.1

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	7.43
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	3.0
Total Depth* (feet):	15.5
Water Column (feet):	8.07
Casing Volume (gal):	2.53
DTW After Pump Installed:	

## PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/1/2010 12:28
End Purge Date/Time:	6/1/2010 12:55
Total Colume Purged (gal):	19 gal
Depth to Water After Purge* (feet):	

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Where depth to water after purge was not available, used initial depth to water to calculate water column.



# Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/2/2010
Weather:	85°F, Sun

Well ID:	MW - 6I
Sample ID:	
Permit Number:	
Well Condition:	Good

## PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	30 - 42'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	2.1

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	6.72
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	30.0
Total Depth* (feet):	42.31
Water Column (feet):	34.51
Casing Volume (gal):	6.90
DTW After Pump Installed:	

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/2/2010 9:40
End Purge Date/Time:	6/2/2010 10:02
Total Colume Purged (gal):	20 gal
Depth to Water After Purge* (feet):	7.8

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

No sheen or odor detected. Bottom is soft

Where depth to water after purge was not available, used initial depth to water to calculate water column.



## Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/2/2010
Weather:	85°F, Sun

Well ID: MW - 6S

Sample ID:

Permit Number:

Well Condition: Good

### PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	3 - 15'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	11.9

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	5.62
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	3.0
Total Depth* (feet):	15.1
Water Column (feet):	0.7
Casing Volume (gal):	2.46
DTW After Pump Installed:	

## PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/2/2010 8:55
End Purge Date/Time:	6/2/2010 9:29
Total Volume Purged (gal):	10 gal
Depth to Water After Purge* (feet):	14.4

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Where depth to water after purge was not available, used initial depth to water to calculate water column.

Where depth to water after purge was not available, used initial depth to water to calculate water column.



# Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/2/2010
Weather:	85°F, Sun

Well ID:	MW - 71
Sample ID:	
Permit Number:	
Well Condition:	Good

## PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	30 - 42'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	10.2

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	6.98
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	30.0
Total Depth* (feet):	41.4
Water Column (feet):	24.2
Casing Volume (gal):	6.75
DTW After Pump Installed:	

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/2/2010 11:15
End Purge Date/Time:	6/2/2010 12:00
Total Colume Purged (gal):	18 gal
Depth to Water After Purge* (feet):	17.2

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Where depth to water after purge was not available, used initial depth to water to calculate water column.

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# Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/2/2010
Weather:	85°F, Sun

Well ID: MW - 7S  
Sample ID:  
Permit Number:  
Well Condition: Good

## PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	3 - 15'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	54.7

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	5.39
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	3.0
Total Depth* (feet):	15.0
Water Column (feet):	6.3
Casing Volume (gal):	2.4
DTW After Pump Installed:	

## PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/2/2010 10:35
End Purge Date/Time:	6/2/2010 10:52
Total Colume Purged (gal):	12 gal
Depth to Water After Purge* (feet):	8.7

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Water was very clear, slight coal-like odor

Where depth to water after purge was not available, used initial depth to water to calculate water column.



# Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/3/2010
Weather:	80°F, Sun

Well ID:	MW - 8I
Sample ID:	
Permit Number:	
Well Condition:	Good

## PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	30 - 42'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	0.0

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	4.51
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	30.0
Total Depth* (feet):	42.3
Water Column (feet):	35.1
Casing Volume (gal):	6.89
DTW After Pump Installed:	

## PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/3/2010 8:57
End Purge Date/Time:	6/3/2010 9:36
Total Colume Purged (gal):	25 gal
Depth to Water After Purge* (feet):	7.2

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Turbidity meter didn't read (possibly too turbid as it read the 10 NTU blank fine)

Small sheen blebs on H<sub>2</sub>O

Where depth to water after purge was not available, used initial depth to water to calculate water column.



# Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	6/2/2010
Weather:	85°F, Sun

Well ID:	MW - 8S
Sample ID:	
Permit Number:	
Well Condition:	Good

## PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	3 - 15'
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	0.0

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	3.08
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	3.0
Total Depth* (feet):	17.1
Water Column (feet):	14.02
Casing Volume (gal):	2.79
DTW After Pump Installed:	

## PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	6/2/2010 16:50
End Purge Date/Time:	6/3/2010 10:40
Total Colume Purged (gal):	3 gal
Depth to Water After Purge* (feet):	

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: \_\_\_\_\_

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Pumped additional 2 gal from MW - 8S, went dry again. Note: appears the dual phase pump may have burned out. Not sure why (it was at ~70" when it quit). Will see if we can get it back running.

Where depth to water after purge was not available, used initial depth to water to calculate water column.



# Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	9/21/2010
Weather:	70°F, Sun

Well ID:	MW - 9I
Sample ID:	
Permit Number:	
Well Condition:	Good

### PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	30-45
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	1.7

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	6.59
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	30.0
Total Depth* (feet):	46.5
Water Column (feet):	39.91
Casing Volume (gal):	7.58
DTW After Pump Installed:	N/M

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	9/21/2010 12:05
End Purge Date/Time:	9/21/10 16:30 (offsite)
Total Colume Purged (gal):	36
Depth to Water After Purge* (feet):	not documented

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: J. Pfeiffer, J. Ehlen

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Good recharge rate during development. Water quality meter was not working, no water quality measurements collected, only turbidity. Turbidity was < 50 NTU.



## Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	9/21/2010
Weather:	70°F, Sun

Well ID:	MW - 9D
Sample ID:	
Permit Number:	
Well Condition:	Good

### PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	60-70
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	1.6

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	6.61
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	60.0
Total Depth* (feet):	71.69
Water Column (feet):	65.08
Casing Volume (gal):	11.69
DTW After Pump Installed:	N/M

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	9/21/2010 12:05
End Purge Date/Time:	9/21/10 16:30 (offsite)
Total Colume Purged (gal):	76
Depth to Water After Purge* (feet):	not documented

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: J. Pfeiffer, J. Ehlen

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):

Good recharge rate during development. Water quality meter was not working, no water quality measurements collected, only turbidity. Turbidity was < 50 NTU.



## Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	11/20/2011
Weather:	40°F, mostly cloudy, slight breeze

Well ID: MW - 19S

Sample ID:

Permit Number:

Well Condition: Good

### PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	N/M
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	2.0

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	12.6
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	N/M
Total Depth* (feet):	15.69
Water Column (feet):	3.09
Casing Volume (gal):	2.56
DTW After Pump Installed:	

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	not documented
End Purge Date/Time:	not documented
Total Volume Purged (gal):	not documented
Depth to Water After Purge* (feet):	not documented

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: J. Pfeiffer, B. Maye

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):  
notes provided above from field log book. No water quality measurements documented.

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## Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	11/20/2011
Weather:	40°F, mostly cloudy, slight breeze

Well ID:	MW - 191
Sample ID:	
Permit Number:	
Well Condition:	Good

## PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	33.19
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	2.0

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	9.49
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	N/M
Total Depth* (feet):	33.8
Water Column (feet):	24.31
Casing Volume (gal):	5.51
DTW After Pump Installed:	

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	not documented
End Purge Date/Time:	not documented
Total Colume Purged (gal):	not documented
Depth to Water After Purge* (feet):	not documented

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: J. Pfeiffer, B. Maye

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):  
notes provided above from field log book. No water quality measurements documented.

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## Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	11/20/2011
Weather:	40°F, mostly cloudy, slight breeze

Well ID: MW - 20S  
Sample ID:  
Permit Number:  
Well Condition: Good

### PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	N/M
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	156.0

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	8.32
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	N/M
Total Depth* (feet):	15.48
Water Column (feet):	7.16
Casing Volume (gal):	2.52
DTW After Pump Installed:	

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	not documented
End Purge Date/Time:	not documented
Total Colume Purged (gal):	not documented
Depth to Water After Purge* (feet):	not documented

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: J. Pfeiffer, B. Maye

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):  
notes provided above from field log book. No water quality measurements documented.



# Well Development Record

Project Number:	60137361
Project Name:	Metropolitan Former MGP Site
Date:	11/20/2011
Weather:	40°F, mostly cloudy, slight breeze

Well ID:	MW - 20I
Sample ID:	
Permit Number:	
Well Condition:	Good

### PRE-PURGE INFORMATION

Protective Casing Diameter (inch):	Manhole 8"
Inner Casing Diameter (inch):	2"
Inner Casing Material:	PVC sch. 40
Purge/Sample Method:	Surge/whale pump
Pump Intake Setting* (feet):	N/M
PID/FID Reading of Well Headspace (ppm)	
Before Cap Removal:	
After Cap Removal:	0.6

Depth to Product* (feet)	N/M
Initial Depth to Water* (feet):	6.99
Product Thickness (feet):	N/M
Depth to Top of Screen* (feet):	N/M
Total Depth* (feet):	39.8
Water Column (feet):	32.81
Casing Volume (gal):	6.49
DTW After Pump Installed:	

### PURGING/SAMPLING INFORMATION

[illegible]

Start Purge Date/Time:	not documented
End Purge Date/Time:	not documented
Total Volume Purged (gal):	not documented
Depth to Water After Purge* (feet):	not documented

Pre-Sample Depth to Water\* (feet): \_\_\_\_\_  
 Start Sample Date/Time: \_\_\_\_\_  
 End Sample Date/Time: \_\_\_\_\_  
 Sampler Names: J. Pfeiffer, B. Maye

Observations During Sampling (e.g. slow recharge, turbidity, odor, sheen, PID/FID readings):  
notes provided above from field log book. No water quality measurements documented.



①

AECOM

# Well/Piezometer Development Record

Well/Piez. ID: MW21

## ENVIRONMENT

Client: National Grid  
Project No: 60137362 Date: 11/10/11

Site Location: Lowes  
Developer: Bmanj

## WELL/PIEZOMETER DATA

Well ☒ AS Point ☐ SVE Point ☐ Piezometer ☐

Diameter 2" Material PVC

Measuring Point Description top of PVC

Geology at Screen Interval (if known) \_\_\_\_\_

Depth to Top of Screen (ft.) 60

Depth to Bottom of Screen (ft.) 70

Time of Water Level Measurement 8:08

Total Well Depth (ft.) 72.32

Calculate Purge Volume (gal.)  $65.67 \times 0.163 = 10.7 (1 \text{ WV})$   
 $= 107 (10 \text{ WV})$

Depth to Static Water Level (ft.) 6.65

Disposal Method 55 gal drum

Wellhead PID/FID \_\_\_\_\_

Original Well Development ☒ Redevelopment ☐

Date of Original Development 11/10/11

DEVELOPMENT METHOD whale pump

PURGE METHOD 5 min purge

Field Testing Equipment Used:

Make 75L Model 560 Serial Number 04015740  
remette 2020 242

Field Testing Calibration Documentation Found in Field Notebook # \_\_\_\_\_

Page # \_\_\_\_\_

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (µS/cm)	Turbidity (NTUs)	DO	Color	Odor	Other
8:14	5	14.76	8.88	14.77	overrange	9.8	grey	slight	naphtha
8:25	10	14.68	8.08	22.79	overrange	3.05	grey	"	"
8:32	15	14.94	8.04	10.81	1.291	1.15	light grey	"	"
8:45	20	15.13	7.83	25.31	13.87	1.09	light	"	"
8:55	25	14.95	7.82	17.15	6.27	1.06	light grey	"	"
9:05	30	14.87	7.80	22.29	7.20	2.60	"	"	"
9:10	35	14.89	7.68	29.63	3.8	1.88	"clear"	"	"

## ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume ( 10 well volumes ) 107 gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 % - 3%

Has required volume been removed

Has required turbidity been reached

Have parameters stabilized

If no or N/A explain below:

Yes ☐ No ☒ N/A ☐  
3 well volumes  
All, but DO.

1 WV = one well volume

10 WV = ten well volumes

Signature

Bmanj

Date:

11/10/11

OTD after development 72.32



## Well/Piezometer Development Record

Well/Piez. ID: MW-22D

## ENVIRONMENT

Client: National Grid  
 Project No: 60137362 Date: 11/10/11

Site Location: Lower parking lot - (SB-22, MW-2211)  
 Developer: Brunn

## WELL/PIEZOMETER DATA

Well ☒ AS Point ☐ SVE Point ☐ Piezometer ☐

Diameter 2" Material PVC

Measuring Point Description top of pvc

Geology at Screen Interval (if known) \_\_\_\_\_

Depth to Top of Screen (ft.) 60

Depth to Bottom of Screen (ft.) 70

Time of Water Level Measurement 10:29

Total Well Depth (ft.) 71.56

Calculate Purge Volume (gal.)  $67.04 \times 0.163 = 10.9$  (1WV)  
 $= 109$  (10WV)

Depth to Static Water Level (ft.) 4.62

Disposal Method 55 gal drum

Wellhead PID/FID \_\_\_\_\_

Original Well Development ☒ Redevelopment ☐

Date of Original Development 11/10/11

DEVELOPMENT METHOD Whale pump

PURGE METHOD Whale pump

Field Testing Equipment Used: YSI Make 560

Model 8mg + purge  
 Serial Number 0401157A0  
240

Field Testing Calibration Documentation Found in Field Notebook # \_\_\_\_\_

Page # \_\_\_\_\_

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (µS/cm)	Turbidity (NTUs)	DO	Color	Odor	Other
10:58	5	15.75	7.28	2628	off scale	1.69	Brown	Brown	none
11:11	15	15.17	7.16	2735	off scale	2.53	Brown	none	
11:21	40	15.47	7.26	2735	2.25	2.85	Brown	none	
11:29	55	15.02	7.25	1306	1.25	1.96	clear	none	
11:37	60	15.26	7.30	2700	3.11	2.75	clear	none	

switched drink  
 Don't

## ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume ( 10 well volumes) 109 gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters 10 % -3%

Has required volume been removed

Has required turbidity been reached

Have parameters stabilized

If no, or N/A explain below:

Yes No N/A  
☐ ☒ ☐ 6 well volumes.  
☒ ☐ ☐  
☐ ☒ ☐ All, but DO

atb after development 71.66' btoe.

1 WV = one well volume

10 WV = ten well volumes

Signature Brunn

Date: 11/10/11



AECOM

## Well/Piezometer Development Record

Well/Piez. ID: MW001

## ENVIRONMENT

Client: National GridSite Location: LowesProject No: \_\_\_\_\_ Date: 11/10/11Developer: Bruno

## WELL/PIEZOMETER DATA

Well ☒ AS Point ☐ SVE Point ☐ Piezometer ☐Diameter 2" Material PVCMeasuring Point Description Top PVC

Geology at Screen Interval (if known) \_\_\_\_\_

Depth to Top of Screen (ft.) \_\_\_\_\_

Depth to Bottom of Screen (ft.) \_\_\_\_\_

Time of Water Level Measurement 12:00Total Well Depth (ft.) 37.54

Calculate Purge Volume (gal.) \_\_\_\_\_

Depth to Static Water Level (ft.) 4.57

Disposal Method \_\_\_\_\_

Original Well Development ☒ Redevelopment ☐

Wellhead PID/FID \_\_\_\_\_

Date of Original Development \_\_\_\_\_

DEVELOPMENT METHOD Whale pump

PURGE METHOD \_\_\_\_\_

Field Testing Equipment Used:

Make	Model	Serial Number
<u>45I</u>	<u>660</u>	<u>0401157116</u>
<u>LeMotte 72</u>		<u>747</u>

Field Testing Calibration Documentation Found in Field Notebook # \_\_\_\_\_

Page # \_\_\_\_\_

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (µS/cm)	Turbidity (NTUs)	DO	Color	Odor	Other
12:11	5	18.74	6.80	6077	off scale	1.39	Brown	none	
12:17	15	16.41	6.79	5849	off scale	2.46	Brown	none	
12:30	25	16.41	6.77	5818	256	1.74	light Brown		
12:48	35	16.96	6.78	6049	27	2.84	clear		
1:00	45	16.97	6.78	5973	20.1				

## ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (\_\_\_\_ well volumes) \_\_\_\_\_ gallons

Maximum Turbidity Allowed \_\_\_\_\_ NTUs

Stabilization of parameters \_\_\_\_\_ %

Has required volume been removed

Has required turbidity been reached

Have parameters stabilized

If no or N/A explain below:

Yes No N/A

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

no odorsSignature BrunoDate: 11/10/11

after development 37.60 DTB



Date: 11/18/11



Well/Piez. ID: MW-23

**AECOM**

# Well/Piezometer Development Record

Client: National Grid Site Location: Metropolitan  
 Project No: 60137361 Date: 12/19/11 Developer: J. Ehlen / K. Barbour

## WELL/PIEZOMETER DATA



Piezometer ☐

Diameter 2"

Material PVC

Geology at Screen Interval  
(if known)

2.31'  
dtb 71.51' bloc  
69.2' of water

Time of Water Level Measurement 952

Calculate Purge Volume (gal.) 11.29 gal

Disposal Method 55 gal drum

Wellhead PID/FID 0.6



Redevelopment ☐

Date of Original Development

## PURGE METHOD

double while pump

Make

Model

Serial Number

<u>Honda</u>	<u>0-52</u>	<u>18776</u>
<u>Hach</u>	<u>2100P</u>	<u>012357</u>

1140 Am dtw 2.20' bloc

time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	circum Other
1145	2.5	15.51	7.09	6.68	353	1.45	cloudy brown	none	2.23
1150	6	15.62	7.20	6.76	220	1.16	white cloudy	none	2.25
1155	8.5	15.61	7.22	7.03	27	1.01	clear	none	2.21
1200	11	15.59	7.22	7.14	20	0.92	clear	none	2.20
1205	14	15.64	7.23	7.17	21	0.87	clear	none	2.18
1210	16.5	15.64	7.22	7.18	19	0.82	clear	none	2.15
1211	stop pumping MW-23								

} incoming tide

## ACCEPTANCE CRITERIA (from workplan)

Maximum Turbidity Allowed 50 NTUs

Has required volume been removed  
 Has required turbidity been reached  
 Have parameters stabilized  
 If no or N/A explain below:

Yes	No	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

no sheen / odor on purge water  
~38 gal of water removed.

Date: 12/19/11

dtw after pumping = 2.13' bloc  
dtb after pumping =



## ENVIRONMENT

Client: National GridSite Location: LowesProject No: \_\_\_\_\_ Date: 11/10/11Developer: B. May

## WELL/PIEZOMETER DATA

Well ☒ AS Point ☐ SVE Point ☐ Piezometer ☐Diameter 2" Material PVCMeasuring Point Description top of PVCGeology at Screen Interval  
(if known) \_\_\_\_\_

Depth to Top of Screen (ft.) \_\_\_\_\_

Depth to Bottom of Screen (ft.) \_\_\_\_\_

Time of Water Level Measurement 3:00Total Well Depth (ft.) 45.00

Calculate Purge Volume (gal.) \_\_\_\_\_

Depth to Static Water Level (ft.) 3.28

Disposal Method \_\_\_\_\_

Wellhead PID/FID \_\_\_\_\_

Original Well Development ☒ Redevelopment ☐

Date of Original Development \_\_\_\_\_

DEVELOPMENT METHOD whale pump

PURGE METHOD \_\_\_\_\_

Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSE</u>	<u>560</u>	<u>0481157AK</u>
<u>Lenette</u>		<u>242</u>

Field Testing Calibration Documentation Found in Field Notebook # \_\_\_\_\_

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Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (µS/cm)	Turbidity (NTUs)	DO	Color	Odor	Other
3:10	5	16.81	6.76	3197	895	1.51	grey/clear		none
3:16	10	15.89	6.72	3257	1854	1.87	grey		1' 4"
3:21	25	15.64	6.71	3253	1683	2.24	grey		
3:28	30	15.33	6.70	3233	19	1.41	clear		1' 1" 11"

## ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (\_\_\_\_ well volumes) \_\_\_\_\_ gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters \_\_\_\_\_%

Has required volume been removed

Has required turbidity been reached

Have parameters stabilized

If no or N/A explain below:

Yes	No	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature B. MayDate: 11/10/11



## Well/Piezometer Development Record

Well/Piez. ID: Q MW 25 S

## ENVIRONMENT

Client: National GridSite Location: 10wesProject No: \_\_\_\_\_ Date: 11/10/11Developer: B Mayr

## WELL/PIEZOMETER DATA

Well ☒ AS Point ☐ SVE Point ☐ Piezometer ☐Diameter 2" Material pvcMeasuring Point Description top of pvcGeology at Screen Interval (if known) 3:30

Depth to Top of Screen (ft.) \_\_\_\_\_

Time of Water Level Measurement 3:30

Depth to Bottom of Screen (ft.) \_\_\_\_\_

Calculate Purge Volume (gal.) \_\_\_\_\_

Total Well Depth (ft.) 29.72

Disposal Method \_\_\_\_\_

Depth to Static Water Level (ft.) 3.12

Wellhead PID/FID \_\_\_\_\_

Original Well Development ☒ Redevelopment ☐

Date of Original Development \_\_\_\_\_

DEVELOPMENT METHOD Whale pump

PURGE METHOD \_\_\_\_\_

Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>		
<u>Remote</u>	<u>22</u>	

Field Testing Calibration Documentation Found in Field Notebook # \_\_\_\_\_

Page # \_\_\_\_\_

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (µS/cm)	Turbidity (NTUs)	DO	Color	Odor	Other
3:37	<del>15</del> 5	16.37	6.91	2358	DEE 6000	1.42	Grey	none	
3:41	18	16.31	6.78	2423	4650	1.91	clear/grey		
3:52	30	16.37	6.77	2954	44.6	.30	clear	none	

## ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (\_\_\_\_ well volumes) \_\_\_\_\_ gallons

Maximum Turbidity Allowed 50 NTUs

Stabilization of parameters \_\_\_\_\_%

Has required volume been removed

Has required turbidity been reached

Have parameters stabilized

If no or N/A explain below:

Yes	No	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature \_\_\_\_\_

Date: 11/10/11

29.79 After development