



February 21, 2013

Mr. Forest Arnold
Maryland Department of the Environment
Oil Control Program
1800 Washington Blvd.
Baltimore, MD 21230

**Re: Well Installation Report
Former Shell Service Station #137675
15541 New Hampshire Avenue, Silver Spring, MD
MDE Case #03-0695-MO1**

Dear Mr. Arnold:

On behalf of Motiva Enterprises LLC (Motiva), URS Corporation (URS) is pleased to submit this Well Installation Report for the above referenced Site. This report summarizes the well installation activities initially proposed via email correspondence with the Maryland Department of the Environment (MDE) on December 3, 2012 and approved by MDE on December 10, 2012. The well reinstatement was completed as an attempt to increase groundwater recovery to the offsite groundwater pump and treat (GWP&T) system.

Well Installation

On January 14-17, 2013, offsite recovery well RW-19 (**Figure 1**) was re-installed by over-drilling the previous 6-inch diameter casing using hollow stem auger drilling technology. Prior to drilling, subsurface utilities were located and marked by Line Locators Inc, of Leesburg, VA on November 28, 2012. The location was then cleared of utilities to a depth of 5 feet below ground surface (bgs) by Drill Tech Caribbean, Inc. (DTCI) of Jarrettsville, MD utilizing an airknife.

Recovery well RW-19 was reconstructed using an 8-inch inner diameter, 0.02 slot, schedule 40 polyvinyl chloride (PVC) screen and an 8-inch inner diameter, schedule 40 PVC riser. The recovery well was installed with an 18-inch auger to a depth of 49.5 feet below ground surface (bgs) and screened from 9.5 – 49.5 feet bgs. The annular space between the recovery well and boring wall was filled with #2 Silica sand to approximately 2.5 feet above the screen and sealed to a depth of approximately 5 feet bgs with bentonite pellets. The bentonite was hydrated to provide an effective seal against surface water infiltration. The remaining annular space above the well seal was filled with Portland cement grout that was tremied into the borehole. A well construction diagram showing the new construction of recovery well RW-19A is included as **Appendix A**.

On January 22, 2013, the reinstalled recovery well RW-19A was gauged and redeveloped using a submersible pump by DTCL. Groundwater was purged from the recovery well until the groundwater reached an acceptable turbidity as determined by the onsite URS field geologist. Soil cuttings generated during the well installations and groundwater generated during well development were placed in 55-gallon steel drums. The drums were contracted to EQ Northeast, Incorporated for transport from the Site to an MDE approved disposal facility on January 25, 2013.

The reinstalled recovery well, RW-19A, was completed with a 2-foot by 2-foot by 2-foot vault by Crawford Environmental Services, Inc. (Crawford). The vault has a single hinged aluminum door rated for H-20 loading. The door is lockable within a covered, recessed box. The vault bottom was constructed to have 6 inches of gravel covering the geomembrane sloped away from the well, and was installed flush with the

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existing surface. Soil samples were not collected during the over-drilling process because a split-spoon could not be utilized and therefore a boring log for RW-19A was not created. On February 7, 2013, Crawford connected RW-19A to the existing offsite GWP&T remediation system.

If you have any questions regarding this Well Installation Report or require additional information, please do not hesitate to contact Mr. Doug Weimer, Motiva at 703.272.7097 or the undersigned at 301.820.3000.

Sincerely,
URS CORPORATION

Jenna Anthony

Jenna Anthony
Site Manager

Adriane Rogers

Adriane Rogers
Project Manager

Attachments

Figure 1 – Site Map

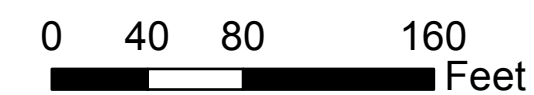
Appendix A – Well Construction Diagram

cc: Doug Weimer – Motiva Enterprises, LLC
Forest Arnold - MDE (2 additional copies w/CD)
George Rudy – Owner
Philip Mitchell – Mitchell Companies
Reference Librarian – Fairland Regional Library

Legend

- ◆ Monitoring Well
- ✚ Recovery Well
- Tank Field Well
- ▭ Station Building
- ▭ Canopy
- ▨ Above Ground Storage Tank
- Off-site Building/Structure
- Water Body
- Property Boundary
- Curb

Note: In January 2013, recovery well RW-19 was reinstalled as recovery well RW-19A.



1 inch = 80 feet

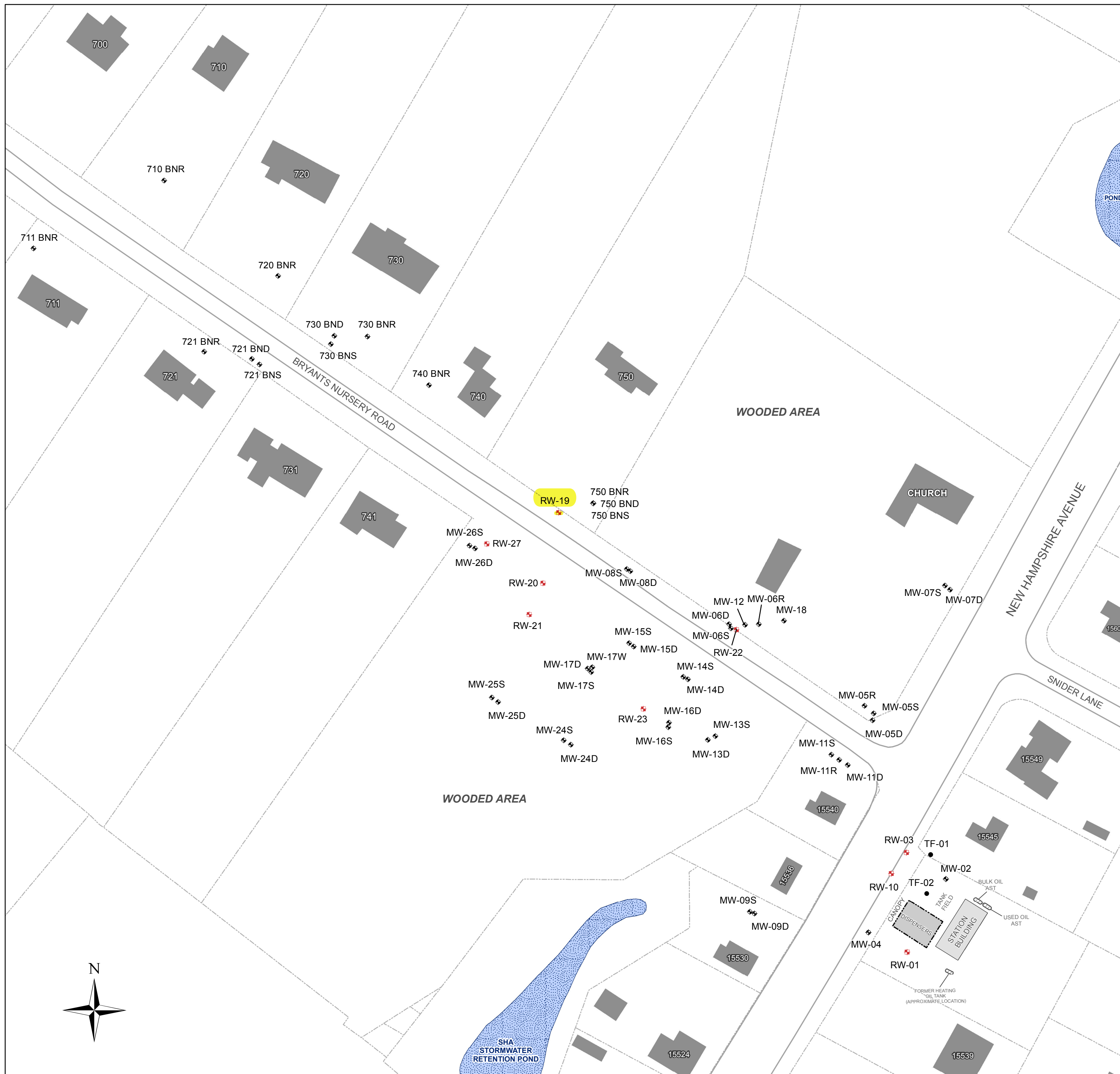
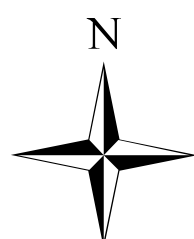
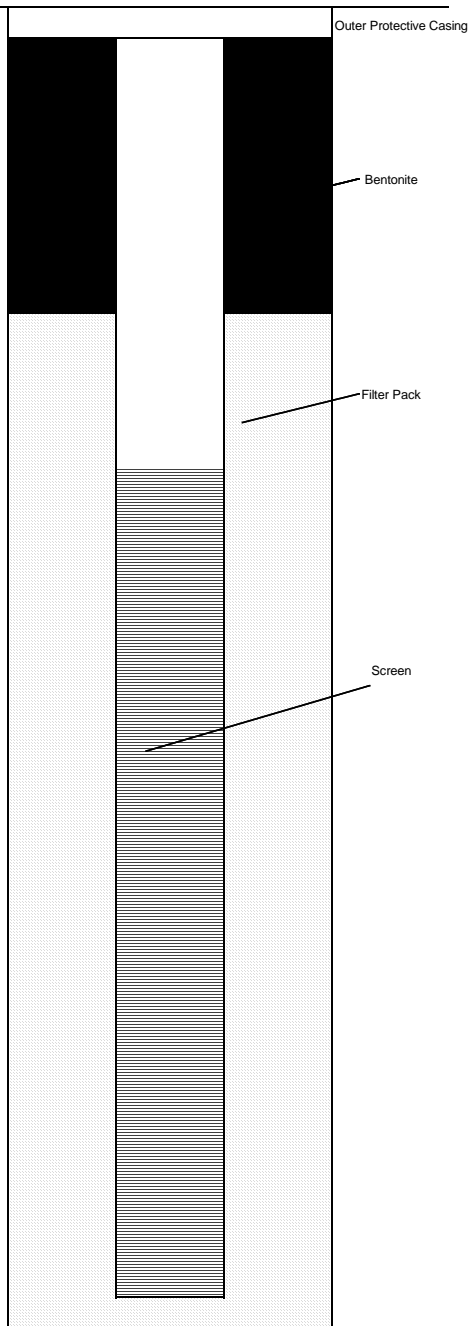


Figure 1
Site Map
Shell Station #137675
15541 New Hampshire Avenue
Silver Spring, MD

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: RW-19A	LOCATION: Shell #137675	DRILLER: DTCI
PROJECT: Recovery Well Reinstallation	15541 New Hampshire Ave	DRILLING METHOD: Hollow Stem Auger
DATE WELL COMPLETED: 1/22/13	INSPECTOR: Robert Burns	DEPTH TO GROUNDWATER: 26.5'

Ground Surface



TOP OF RISER PIPE TO GROUND SURFACE:	<u>6.00</u> inches
TYPE OF SURFACE SEAL:	<u>Concrete</u>
DEPTH OF SEAL:	<u>3.00</u> feet
I.D. OF SURFACE CASING:	<u>24.00</u> inches
TYPE OF SURFACE CASING:	<u>Steel</u>
I.D. OF RISER PIPE:	<u>8.00</u> inches
TYPE OF RISER PIPE:	<u>PVC</u>
TYPE OF GROUT:	<u>Bentonite Grout</u>
DEPTH TO TOP OF SEAL:	<u>5.00</u> feet
TYPE OF SEAL:	<u>Bentonite Pellet</u>
DEPTH TO TOP OF FILTER PACK:	<u>7.00</u> feet
TYPE OF FILTER PACK:	<u>#2 Filter Sand</u>
DEPTH TO TOP OF SCREEN:	<u>9.50</u> feet
TYPE OF SCREEN:	<u>PVC</u>
SLOT SIZE AND LENGTH:	<u>0.02</u>
I.D. OF SCREEN:	<u>8.00</u> inches
DEPTH TO BOTTOM OF SCREEN:	<u>49.50</u> feet
BOREHOLE DIAMETER:	<u>18.00</u> inches
BOTTOM OF HOLE:	<u>49.50</u> inches

Project:
Recovery Well Reinstallation

HOLE NO.:
RW-19A