

R&M Environmental and Infrastructure Engineering, Inc.

N00217.004085
HUNTERS POINT
SSIC NO. 5090.3

November 6, 2002

Ms. Laura Chapman
Department of the Navy
Southwest Division
Naval Facilities Engineering Command
1230 Columbia Street, 8th Floor
San Diego, CA 92101

Subject: Contract No. N68711-02-C8211, Hunters Point GDGI Phase III Groundwater Sampling Project Submittals

Dear Ms. Chapman:

The enclosed compact disk (CD) contains the electronic files of the following submittals:

1. Our final project status report (No. 16), covering the period of October 12 through November 1, 2002. This is a Microsoft Word file and contains a .PDF file of a wastewater discharge permit as an attachment.
2. A Technical Memorandum on well repairs that we completed at Hunters Point (a Microsoft Word file), with the following provided as attachments:
 - (a) A Microsoft PowerPoint file containing photographs of some 200 of the repaired wells.
 - (b) An Excel spreadsheet documentation of repairs performed for incorporation in the basewide groundwater monitoring well database at Hunters Point.
3. One hard copy each of Items 1, 2, and 2(a) above

We have enjoyed working with you, Mr. Chon Son, and Mr. Patrick Brooks and want to thank you for your support and for giving the opportunity to be of service. Please contact me if you have questions regarding these submittals.

Sincerely,

R&M Environmental and Infrastructure Engineering, Inc.


Masood Ghassem, P.E., Ph.D.
Principal

Enclosures

Cc: Patrick Brooks, R.G.



Memo

To: Laura Chapman
From: Masood Ghassemi
CC: Patrick Brooks, R.G., GDGI Project Distribution
Date: November 6, 2002
Re: Status Report No. 16 for Hunters Point GDGI Phase III Groundwater Sampling Project (Contract No. N68711-02-C8211)

This status report covers the period of October 12, 2002 through November 1, 2002. It is the final status report being prepared for this contract.

1.0 SUMMARY

Under a wastewater batch discharge permit, secured from the San Francisco Public Utility Commission, discharged the IDW in the Baker tank into sanitary sewer. The tank was cleaned and removed from the site. Completed the task of monitoring well inspection and repair. The documentation of inspection results and repairs performed on a total of 248 monitoring wells at Hunters Point are included in this submittal.

2.0 ACCOMPLISHMENTS

2.1 IDW DISPOSAL

The analytical results for the water samples collected on October 3, 2002, from the Baker tank containing the investigation-derived wastewater (IDW) from the just-completed GDGI Phase III groundwater monitoring well sampling at Hunters were submitted to the San Francisco Public Utility Commission in support of a permit application for batch discharge into the sanitary sewer. The application was approved per the letter that is herein enclosed as Attachment No. 1. The water was discharged into the sanitary sewer on October 30, 2002. The tank was rinsed with clean water and was removed from the site on November 1, 2002.

While the water discharge into sanitary sewer was in progress, Mr. Steve Tayahla of the Navy Construction Office at Hunters Point stopped by at the site and asked a few questions about the work being performed; the questions that he asked and the answers that was given to him by Mr. Rick Erdman of R&M who was supervising the work are as follows:

- Where are we discharging the tank content? (Rick Erdman: in the sanitary sewer)

- Can I see the discharge permit? (Rick Erdman: yes, here it is)
- What is the size of the tank? (Rick Erdman: 4,500 gallons) [Note: the tank was only less than 1/3 full and the permit was for discharge of 1,500 gallons of IDW]
- Who does the shorter tank standing next to the tank being drained belong to? (Rick Erdman: TtEMI)
- What is the size of this TtEMI Tank? (Rick: probably 2,900 gallons, although not sure)

Mr. Tayahla seemed to be satisfied with what he saw and the answers to his questions and left the site.

2.2 MONITORING WELL INSPECTION AND MINOR REPAIR

R&M has now completed the task of monitoring well inspection and repair. A total of 248 wells were inspected and repaired as appropriate. The results are presented in Table 1.

Task 3 of Contract No. N68711-02-C8211 for the GDGI Phase III program at Hunters Point calls for certain specific activities and deliverables for the well inspection and repair work. These activities and deliverables and how R&M has complied with them are as follows:

- (a) *Update the monitoring well summary table with the latest information on conditions of repaired wells*

The following submittals meet this requirement:

- Table 1 (Microsoft Word) lists 248 wells that were inspected, the type of repair performed on each well, and the date(s) when the indicated repairs were performed. This Table is included in this memorandum as well as in a compact disk that is included in this submittal; Item (d) below
- An Excel spreadsheet documentation of repairs performed for incorporation in the basewide groundwater monitoring well database at Hunters Point.
- A Microsoft PowerPoint file containing photographs of some 200 of the repaired wells.

- (b) *Prepare an abbreviated technical memorandum outlining the completed well repairs and future recommendations*

- A technical memorandum summarizing and discussing the results of well inspection and repair presented in Table 1 and presenting recommendations for actions that help maintain the wells in functioning conditions in a cost-effective manner. A Microsoft Word file of this memorandum is included as Attachment to this Status Report and is also included in the CD cited as Item (d) below

- (c) *Transmit electronically to TtEMI, which manages the well database for Hunters Point, the updated summary table for linking it to well logs that show geologic well logs and well construction details*

- One copy of the CD cited as Item (d) below is being submitted to TtEMI

(d) Submit electronic file of the well summary table to the Navy (on a CD; 50 copies of CD will be submitted)

- The CD that is herein being submitted contains the following files:
 - This final project status report, with cited attachments
 - The Excel spreadsheet of well repair information
 - The PowerPoint file containing photographic documentation of repairs performed and condition of wells after completion of repairs

- At this time only one copy of the CD is being submitted. Following review and approval of the content by the Navy, R&M will submit the required 50 copies of the CD

3.0 PLANNED ACTIVITIES

R&M has completed field activities. As discussed above, pending receipt of comments on this transmittal, R&M will prepare and submit to the Navy the required number of compact disks containing the well inspection and repair information.

TABLE 1 – DATABASE FOR WELL INSPECTION AND MINOR REPAIR UNDER THE GDGI PHASE III GROUNDWATER MONITORING PROGRAM AT HUNTERS POINT ⁽¹⁾

Parcel	IR Site	Well Identification Number	Repairs Performed Date ⁽²⁾	Repairs Performed						Bolt Size (diameter only)	Comments On Additional Repairs Performed or Additional Repair Needs Identified or Recommended
				Standard Maintenance ⁽³⁾	Flanges Re-tapped	Rubber Seal Replaced	Lock Replaced	Cap Replaced	External ID Refreshed		
E	IR02	IR02MW179A	07/17/2002	√			√		√		Painted stovepipe
E	IR02	IR02MW299A	07/17/2002	√			√		√		Painted stovepipe
E	IR02	IR02MW300A	07/17/2002	√			√		√		Painted stovepipe
C	IR28	IR28MW126A	07/17/2002	√					√		Replaced washers, needs flange re-tapped (9/16")
			08/13/2002		√					√	Re-tapped 2 flanges and provided 2 bolts
C	IR28	IR28MW171A	07/17/2002	√	√	√			√	√	Replaced 2 washers
C	IR28	IR28MW271A	07/17/2002	√			√				Need steel lid and surface grout
			10/01/2002		√	√				√	Replaced steel lid, 3 bolts and washers, and rubber seal; touched up surface concrete
C	IR28	IR28MW308A	07/17/2002	√	√	√			√	√	Extracted 2 broken bolts, replaced 3 washers; does not appear to require cutting of TOC as had been previously indicated
C	IR28	IR28MW314B	07/17/2002	√			√		√		Does not need vault replacement as had been previously indicated
			10/03/2002		√				√	√	5/16 Drilled out 3 broken bolts, tapped flanges, replaced bolts and washers
C	IR28	IR28MW400B	07/17/2002	√	√		√	√	√	√	Replaced 2 washers
C	IR28	IR28MW916A	07/17/2002	√							Included in SVE system, standard maintenance only
			10/17/2002		√					√	Replaced 3 washers and 3 bolts and re-tapped 3 flanges; this well was previously used as a component of an SVE system,
C	IR28	IR28MW919A	07/17/2002	√					√		Included in SVE system, standard maintenance only

			10/17/2002		√				√		Replaced 3 washers and 3 bolts and re-tapped 3 flanges. This well was previously used as a component of an SVE system
C	IR28	IR28MW920A	07/17/2002	√				√			Included in SVE system, standard maintenance only
			10/17/2002		√				√		Replaced 3 washers and 3 bolts and re-tapped 3 flanges
C	IR28	IR28MW921A	07/17/2002	√				√			Included in SVE system, standard maintenance only
			10/17/2002		√				√		Replaced 3 washers and 3 bolts and re-tapped 3 flanges. This well was previously used as a component of an SVE system,
B	IR24	PA24MW03A	07/17/2002	√			√	√	√		
B	IR24	IR06MW44A	07/18/2002	√				√	√		Needs vault replaced, possibly re-develop
C	IR25	IR25MW11A	07/18/2002	√	√		√	√	√	√	Replaced 2 washers; does not need vault replacement,
B	IR24	IR25MW17A	07/18/2002	√			√		√		Needs vault replaced
			08/14/2002								Confirmed vault replacement requirement
B	IR24	IR25MW42B	07/18/2002	√			√		√		Needs vault replacement
C	IR28	IR28MW128A	07/18/2002	√				√	√		
C	IR28	IR28MW255F	07/18/2002	√					√		Replaced washers; needs flanges re-tapped (3/4")
			08/13/2002		√					√	Re-tapped flanges and replaced 2 bolts and washers
C	IR28	IR28MW324A	07/18/2002	√			√	√	√		Does not require cutting TOC as had been previously indicated
			10/01/2002								Repaired broken part of TOC
C	IR28	IR28MW333A	07/18/2002	√			√	√	√		Does not require cutting TOC as had been previously indicated
			10/18/2002								Recommend vault replacement
C	IR28	IR28MW335A	07/18/2002	√			√	√	√		Does not require cutting TOC as had been previously indicated
C	IR28	IR28MW336A	07/18/2002	√			√	√	√		Does not require cutting TOC as had been previously indicated
C	IR28	IR28MW339A	07/18/2002	√			√	√	√		Does not require cutting TOC as had been previously indicated
C	IR28	IR28MW340A	07/18/2002	√			√	√	√		Does not require cutting TOC as had been previously indicated
C	IR28	IR28MW401B	07/18/2002	√	√		√		√	√	Replaced 2 washers
C	IR28	PA28P04A	07/18/2002	√			√	√	√		Needs vault replacement
			10/01/2002		√					√	Reset loose vault lid, raised vault grade, touched up surface concrete, and replaced 2 washers
B	IR50	PA50MW02A	07/18/2002	√			√		√		
			10/02/2002								Touched up surface concrete
C	IR25	IR06MW41A	07/19/2002	√			√		√		
B	IR06	IR06MW46A	07/19/2002	√	√		√		√	√	Replaced 2 washers

B	IR10	IR10MW13A2	07/19/2002	√				√			Repaired cap, needs 2 bolts (1/2") and flanges re-tapped
			08/14/2002		√				√		Re-tapped flange and provided 2 bolts and washers
B	IR10	IR10P13A	07/19/2002	√			√		√		
B	IR10	IR10P13AA	07/19/2002	√			√		√		Needs flange re-tapped (3/4")
			08/13/2002		√				√		Re-tapped flange and replaced 2 bolts and washers
			10/01/2002								Cleaned out protective casing and moved away from flanges
C	IR25	IR25MW19A	07/19/2002	√			√	√	√		
C	IR25	IR25MW20A	07/19/2002	√			√	√	√		
B	IR10	IR25MW37A	07/19/2002	√	√		√		√	√	Replaced 2 washers
B	IR10	IR25MW37B	07/19/2002	√			√		√		
C	IR25	IR25MW39A	07/19/2002	√			√		√		
C	IR25	IR25MW39B	07/19/2002	√			√		√		
C	IR25	IR25MW41A	07/19/2002	√			√		√		This well is scheduled for vault and protective cover replacement
C	IR25	IR25MW902B	07/19/2002	√					√		Repaired broken PVC TOC with 4" repair clamp and 1/8" gasket
C	IR28	IR28MW398A	07/19/2002	√			√		√		
C	IR28	IR28MW398B	07/19/2002	√	√		√		√	√	Replaced 2 washers
B	IR06	IR06MW57F	07/22/2002	√	√				√	√	Replaced 2 washers
B	IR07	IR07MW93A	07/22/2002	√	√				√	√	Replaced 3 washers
B	IR07	IR07MW94A	07/22/2002	√				√	√		Needs vault replacement
			10/01/2002								Marinship has replaced vault
B	IR07	IR07MW95A	07/22/2002	√			√		√		Painted stovepipe
B	IR07	IR07MWS-2	07/22/2002	√			√		√		Painted stovepipe
B	IR18	IR18MW100B	07/22/2002	√	√			√	√	√	Replaced 2 washers
B	IR18	IR18MW101B	07/22/2002	√	√				√	√	Replaced 2 washers
C	IR28	IR28P155AB	07/22/2002	√		√	√		√		Replaced 3 washers
C	IR29	IR29MW72F	07/22/2002	√	√				√	√	Replaced 2 washers
C	IR28	PA28P03A	07/22/2002	√					√		Replaced 2 washers
C	IR28	IR28MW190F	07/24/2002	√			√	√	√		Leveled TOC (cap fits snug), no re-surveying deemed necessary
C	IR28	IR28MW211F	07/24/2002	√			√		√		Needs vault lid (2 bolt, 9/16")
			08/14/2002								Installed vault lid
			10/01/2002		√					√	Re-tapped 2 flanges, replaced 2 bolts and washers
C	IR28	IR28MW290A	07/24/2002	√							Appears to have been backfilled with grout, dug out to bottom of vault

			08/14/2002									Confirmed absence of well; may have been decommissioned
			10/28/2002									Appears as if well has been decommissioned, do not have confirmation, but well should be properly abandoned
C	IR28	IR28MW300F	07/24/2002	√	√				√	√		Replaced 3 washers, touched up surface concrete
C	IR28	IR28MW313F	07/24/2002	√					√			Stovepipe and PVC casing bent @ -3.8' BTOC, must replace both
			08/14/2002									Confirmed need for replacement of casing and stovepipe
C	IR28	IR28MW341F	07/24/2002	√	√	√	√		√	√		Replaced 3 washers
C	IR28	IR28MW342F	07/24/2002	√	√	√	√	√	√	√		3/8" poly tubing in well, replaced 3 washers
C	IR28	IR28MW394A	07/24/2002	√	√		√		√	√		Replaced 2 washers
C	IR28	IR28MW394B	07/24/2002	√					√			Check TD ~55.08, very soft TD
C	IR28	IR28MW396A	07/24/2002	√			√	√	√			Does not need stovepipe replacement
C	IR28	IR28MW396B	07/24/2002	√			√		√			Needs vault replaced, Not a stovepipe as had been indicated
C	IR28	IR28MW397B	07/24/2002	√			√		√			Washed orange paint off casing TOC
B	IR46	IR46MW37A	07/24/2002	√				√	√			Needs vault replacement
C	IR28	IR58MW31A	07/24/2002	√			√		√	√	9/16	Replaced 1 washer, 1 broken flange. Recommend Vault Replacement
C	IR28	IR58MW32B	07/24/2002	√			√		√			Both flanges broken, vault needs to be replaced
E	IR13	IR13MW12A	07/25/2002	√		√	√		√			Needs flanges re-tapped (1/2")
			08/13/2002		√					√		Re-tapped flange and provided two bolts
			10/02/2002									Extracted last broken bolt, replaced bolt and washer
E	IR13	IR13P12AA	07/25/2002	√			√		√			Pumped out water
E	IR13	IR13P12AB	07/25/2002	√			√		√			Cleared weeds
E	IR15	IR15MW07A	07/25/2002	√			√		√			Painted stovepipe
E	IR15	IR15MW08A	07/25/2002	√					√			
E	IR15	IR15P08AA	07/25/2002	√			√		√			Evidence of product in well noted
E	IR15	IR15P08AB	07/25/2002	√			√		√			
E	IR15	IR15P08B	07/25/2002	√			√		√			
D	IR17	IR17MW11A	07/25/2002	√	√			√	√	√		Replaced 2 washers
C	IR28	IR28MW293A	07/25/2002	√			√		√			Needs vault replacement
			10/18/2002									Marinship has replaced vault
C	IR28	IR28MW297A	07/25/2002	√			√		√			Needs flanges re-tapped and touch-up on concrete
			08/14/2002		√					√		Re-tapped flange, provided three bolts, touched up concrete
D	IR50	PA50MW05A	07/25/2002	√		√	√	√	√	√		Pumped out H2O, needs flanges re-tapped (9/16")

			08/14/2002								Attempted thread tap; needs larger size tap; will revisit
			10/01/2002		√				√		Tapped flanges, replaced 2 bolts and washers
E	IR36	IR36MW120B	07/26/2002	√			√		√		Needs vault replacement
E	IR36	IR36MW121A	07/26/2002	√			√		√		Flanges broken, needs vault replaced
E	IR36	PA36MW02A	07/26/2002	√			√		√	3/4	Needs vault replaced
E	IR36	PA36MW04A	07/26/2002	√	√		√		√	3/4	Replaced 2 washers
E	IR36	PA36MW06A	07/26/2002	√			√		√		Was buried - dug out and flagged, needs a new vault
			08/14/2002								Needs new vault
E	IR36	PA36MW07A	07/26/2002	√	√				√	√	Replaced 2 washers
E	IR36	PA36P04AA	07/26/2002	√	√		√		√	1/2	Replaced 3 washers
E	IR36	PA36P04AB	07/26/2002	√	√		√		√	1/2	Replaced 3 washers
E	IR01	IR01MW62A	07/29/2002	√			√	√	√		Painted stovepipe
E	IR01	IR01MW63A	07/29/2002	√			√	√	√		Painted stovepipe
E	IR01	IR01MWI-2	07/29/2002	√				√	√		
E	IR01	IR01MWI-3	07/29/2002	√				√	√		
E	IR01	IR01MWI-6	07/29/2002	√			√	√	√		Painted stovepipe
E	IR01	IR01MWI-8	07/29/2002	√			√	√	√		
E	IR01	IR01MWI-9	07/29/2002	√				√	√		Painted stovepipe
E	IR01	IR01P03A	07/29/2002	√			√	√	√		Has been damaged and replaced by a contractor (ITSI) since minor repairs were completed
E	IR01	IR01P03AB	07/29/2002	√			√	√	√		
D	IR08	IR08MW38A	08/06/2002	√	√	√		√	√	9/16	Replaced 2 washers
D	IR09	IR09MW45F	08/06/2002	√		√			√		Replaced 2 washers, pumped water from vault
D	IR09	IR09MW51F	08/06/2002	√	√	√			√	1/2	Replaced 3 washers, pumped water from vault
D	IR22	IR22MW08A	08/06/2002	√	√	√		√	√	3/4	Replaced 2 washers
D	IR71	IR71MW03A	08/06/2002	√	√				√	1/2	Re-tapped 1 (1/2") flange (2 broken). Recommend vault replacement
D	IR50	PA50MW06A	08/06/2002	√		√		√	√	3/4	Pumped water from vault
E	IR50	PA50MW09A	08/06/2002	√			√		√		Pumped water from vault, cleaned out surface run-in
E	IR05	IR05MW73A	08/07/2002	√	√				√	5/16	Replaced 2 washers, Cleared brush
E	IR05	IR05MW74A	08/07/2002	√	√				√	5/16	Replaced 2 washers
E	IR05	IR05MW77A	08/07/2002	√					√		Painted stovepipe, cleared brush
E	IR05	IR05MW85A	08/07/2002	√			√		√		Painted stovepipe, cleared brush

E	IR05	IR05P77AA	08/07/2002	√			√		√			Repaired stovepipe lid, painted stovepipe, cleared brush
E	IR05	IR05P77AB	08/07/2002	√					√			Painted stovepipe, cleared brush
D	IR09	IR09P041A	08/07/2002	√	√	√	√		√	√	3/4	Replaced 2 washers
D	IR09	IR09P042A	08/07/2002	√	√	√	√		√			Replaced 2 washers
D	IR09	IR09P043A	08/07/2002	√	√	√	√	√	√	√	3/4	Replaced 3 washers
E	IR39	IR39MW35A	08/07/2002	√		√			√	√	1/2	Replaced 3 washers, pumped water from vault, cleared brush and soil
E	IR36	PA36MW03A	08/07/2002	√			√		√			Painted stovepipe, cleared brush
E	IR02	IR02MW93A	08/08/2002	√					√			
E	IR02	IR02P93AA	08/08/2002	√			√		√			
E	IR05	IR05MW76A	08/08/2002	√	√		√	√	√	√	5/16	Was buried, located, cleared out brush and soil, pumped out water, replaced 2 washers
D	IR08	IR08P39A	08/08/2002	√					√			Cleared brush
E	IR12	IR12MW14A	08/08/2002	√					√			Cleared brush, repaired flanges, does not need new vault as had been suggested
			10/02/2002		√					√		Tapped 2 flanges, replaced 2 bolts and washers
E	IR12	IR12P14AA	08/08/2002	√			√		√			Cleared brush, pumped out water, clean TOC
E	IR12	IR12P14AB	08/08/2002	√					√			Cleared brush, painted stovepipe needs stovepipe lid
E	IR13	IR13MWB5A-W	08/08/2002	√	√	√	√	√	√	*	*	Cut TOC level, cleaned inside of casing, pumped water from vault. Needs 7/16 (2) bolts
			10/02/2002							√	7/16	Replaced 2 washers
E	IR01	IR01MW09B	09/12/2002	√	√		√	√	√	√	3/4	Pumped out water, graded away from vault to divert drainage, cleared brush
E	IR02	IR02MW89A	09/12/2002	√			√		√			Replaced stovepipe lid, painted stovepipe
E	IR02	IR02MW97A	09/12/2002	√					√			
E	IR02	IR02MWB-2	09/12/2002	√			√		√			Cleared brush, painted stovepipe
E	IR02	IR02MWB-3	09/12/2002	√			√	√	√			Replaced stovepipe lid, cleared brush, painted stovepipe
E	IR02	IR02MWB-5	09/12/2002	√			√		√			Stovepipe and stainless steel casing damaged, stovepipe needs replacement, stainless steel casing bent at 1.3' below TOC, needs replacement
E	IR02	IR02P97AA	09/12/2002	√			√	√	√			Cleared brush away from well, shoveled soil away also, painted stovepipe (does not need stovepipe)
E	IR03	IR03MWO-3	09/12/2002	√			√		√			

E	IR12	IR12MW12A	09/12/2002	√				√			Vault damaged, should be replaced with stovepipe to improve visibility
E	IR12	IR12P12AB	09/12/2002	√			√	√	√		Stovepipe damaged, needs replacement
E	IR36	IR36MW135A	09/12/2002	√	√		√		√	√	1/2 Replaced 3 washers
E	IR04	IR04MW09A	09/16/2002	√	√	√	√	√	√	√	9/16 Pumped water from vault, cleaned debris from vault, cleaned TOC, replaced 2 washers
E	IR04	IR04MW13A	09/16/2002	√			√		√		Cleared away weeds, painted stovepipe
E	IR04	IR04MW38A	09/16/2002	√	√		√		√	√	9/16 Shoveled away soil, replaced 2 washers
E	IR04	IR04P31AA	09/16/2002	√			√		√		Cleared away weeds, painted stovepipe
E	IR04	IR04P38A	09/16/2002	√					√		Buried under gravel pile
			10/02/2002								Buried, cleaned out vault, pumped out water
D	IR08	IR08MWW-6	09/16/2002	√	√		√		√	√	7/16 Removed debris/brush from outside vault, also cleaned out debris and soil from inside vault, cleaned PVC TOC
D	IR09	IR09MW54B	09/16/2002	√	√	√	√		√		Cleaned paint from inside TOC
D	IR09	IR09PPY1	09/16/2002	√	√	√	√		√	√	7/16 Replaced lock on gate, cleared brush, pumped out water, cleaned out vault, replaced 2 washers
C	IR28	IR28P50AA	09/16/2002	√	√		√		√	√	7/16 Located under debris pile, shoveled clear, pumped out water, cleaned out vault, and PVC casing/TOC, replaced 3 washers
E	IR74	IR74MW01A	09/16/2002	√	√				√	√	9/16 PVC leak due to loose casing thread 2" below TOC, cleaned threads and tightened PVC, cleaned vault lid to make clean seal and reset concrete
E	IR12	IR12MW11A	09/17/2002	√			√		√		Cleared weeds, painted stovepipe
E	IR12	IR12MW13A	09/17/2002	√			√		√		Cleared weeds, painted stovepipe
E	IR12	IR12MW15A	09/17/2002	√	√	√			√	√	7/16 Replaced 2 washers
E	IR12	IR12MW16A	09/17/2002	√	√	√	√		√	√	7/16 Re-graded soil away from vault, replaced 2 washers
E	IR12	IR12MW17A	09/17/2002	√			√		√		Cleared away brush, painted stovepipe
E	IR12	IR12MW18A	09/17/2002	√			√		√		Cleared away brush, painted stovepipe
E	IR12	IR12MW19A	09/17/2002	√							This was originally a stovepipe, with the stickup section broken; the below-grade well appears secure, measured broken off (old stovepipe/casing) at 2.83'
E	IR12	IR12MW21A	09/17/2002	√					√		Painted stovepipe, 4" casing has a 2" interphase conduit that is suspended from stovepipe tabs and it is used for sampling. This is a product well
E	IR13	IR13MW10A	09/17/2002	√	√	√	√	√	√	√	7/16 Located under fence, pumped out water, cleared away brush, debris, replaced 2 washers
E	IR56	IR56MW39A	09/17/2002	√	√	√	√	√	√	√	3/4 Graded soil away from vault, cleaned vault and PVC casing, replaced 2

												washers
E	IR13	IR13MW11A	09/18/2002	√	√				√	√		Located under fence, pumped water, cleared away brush, replaced 2 washer
D	IR37	IR37MW26B	09/18/2002	√		√	√		√			Cleaned debris from vault, cleaned TOC and inside of casing
D	IR38	IR38MW03A	09/18/2002	√	√		√		√	√	15/16	Cleared away brush, pumped out vault, replaced 2 washers
E	IR39	IR39MW22A	09/18/2002	√	√				√			Cleared away debris, weeds, replaced vault lid, touched up concrete surface
E	IR39	IR39MW33A	09/18/2002	√	√	√	√		√	√	9/16	Cleaned out vault and PVC TOC/ casing
D	IR44	IR44MW08A	09/18/2002	√	√	√	√	√	√	√	9/16	Cleaned out bentonite from annulus, touched up concrete around vault
D	IR39	PA39MW01A	09/18/2002	√	√	√	√		√	√	¾	Cleaned out vault, protective casing, PVC casing, TOC and inside casing
E	IR39	PA39MW03A	09/18/2002	√			√		√			Cleared away brush, painted stovepipe
E	IR36	IR36MW09A	09/19/2002	√	√		√		√	√	15/16	Well secure, no vault replacement required
E	IR36	IR36MW126A	09/19/2002	√		√	√		√			Cleaned out vault
E	IR36	IR36MW127A	09/19/2002	√	*		√		√			Both flanges missing, needs vault replacement
E	IR36	IR36MW14A	09/19/2002	√	√	√	√		√	√	¾	
			10/14/2002									Revisited and re-cleaned vault
E	IR39	IR39MW23A	09/19/2002									Dug out the badly damaged well, cleaned out around PVC casing, shoveled away soil, needs vault replacement
E	IR39	IR39MW24A	09/19/2002	√	√				√	√	15/16	Cleaned out vault and PVC TOC/ casing
E	IR39	IR39MW36A	09/19/2002	√	√				√	√	9/16	Cleaned out vault and PVC TOC casing, replaced 2 washers
			10/03/2002		√					√		Extracted broken bolts, tapped and replaced bolt and washer
D	IR35	PA35P01A	09/19/2002	√	*		√	√	√			Missing both flanges, cleaned out vault, located in heavy traffic need to replace vault
D	IR09	IR09MW31A	10/02/2002									Cannot access, behind a gate; will arrange for access
			10/15/2002	√	*	*	√	√	√	*		Vault is smashed, cleaned out vault, leveled TOC to stop leak into well, needs vault replacement
E	IR36	IR36MW17A	10/02/2002									Cannot access, behind a gate; will arrange for access
			10/14/2002	√	√	√	√		√	√		Pumped water from vault, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
E	IR72	IR72MW32A	10/02/2002	√					√			Touched up concrete
E	IR72	IR72MW33A	10/02/2002		√	√				√	5/16	Replaced 3 washers, pumped out water
E	IR72	IR72P33AA	10/02/2002		√					√	5/16	Replaced 3 washers

C	IR28	IR28IW901A	10/03/2002	√			√	√	√			Adapted SVE piping to 2" locking cap diameter, installed new cap and lock
C	IR28	IR28MW150A	10/03/2002	√	√				√	√		Buried under brush, located, dug out, cleaned up, tapped flanges, replaced bolts and washers
C	IR28	IR28IW903A	10/04/2002	√			√	√	√			Adapted SVE piping to 2" locking cap diameter, installed new cap and lock
C	IR28	IR28MW122A	10/04/2002	√	√				√	√	1/2	Tapped flange, replaced bolt, washer
C	IR28	IR28MW189F	10/04/2002	√	√	√			√	√	1/2	Replaced seal, tapped flanges, replaced 2 bolts, washers
C	IR28	IR28MW270A	10/04/2002	√	√				√	√	5/16	Replaced 3 washers
C	IR28	IR28MW299B	10/04/2002	√	√	√			√	√	5/16	Tapped flanges, replaced 3 bolts, washers
C	IR28	IR28MW286A	10/04/2002	√	√	√			√	√	5/16	Replaced rubber seal, tapped 3 flanges, replaced 3 bolts and washers, Recommend resetting concrete or replacing vault
C	IR58	IR58MW26A	10/04/2002	√	√	√			√			Tapped flange, replaced seal
C	IR50	PA50MW03A	10/04/2002	√	√	√	√	√	√	√	1/2	Tapped flanges, replaced 2 bolts, washers, seal, lock and cap
C	IR28	IR28MW312F	10/07/2002	√	√	√			√	√	5/16	Extracted 3 broken bolts, tapped 3 flanges, replaced 3 bolts and washers, replaced rubber seal
			10/16/2002									Returned to extract broken bolt, but thread broke in hole, vault is secure
B	IR07	IR07MW19A	10/07/2002	√	√				√	√	5/16	Tapped 2 flanges, replaced 2 bolts and washers
B	IR07	IR07MW20A1	10/07/2002									Marinship has replaced this well
B	IR10	IR10MW12A	10/07/2002	√	√				√	√	5/16	Tapped 2 flanges, replaced 2 bolts and washers
B	IR10	IR10MW13A1	10/07/2002	√	√				√	√	5/16	Tapped 2 flanges, replaced 2 bolts and washers
B	IR10	IR10MW28A	10/07/2002	√	√				√	√	½	Tapped 2 flanges, replaced 2 bolts and washers
B	IR10	IR10MW31A1	10/07/2002	√	√				√	√	½	Tapped 2 flanges, replaced 2 bolts and washers
B	IR26	IR26MW43A	10/08/2002	√	√				√	√	½	Tapped 2 flanges, replaced 2 bolts and washers
B	IR46	IR46MW39A	10/08/2002	√					√			
B	IR46	IR46MW39A2	10/08/2002	√					√			
B	IR46	IR46MW39A3	10/08/2002	√					√			

B	IR20	IR20MW17A	10/08/2002	√	√				√	√	½	Tapped 2 flanges, replaced 2 bolts and washers
B	IR26	IR26MW41A	10/08/2002	√	√				√	√	5/16	Tapped 2 flanges, replaced 2 bolts and washers
B	IR26	IR26MW44A	10/08/2002	√	√				√	√	5/16	Extracted broken bolt, tapped 3 flanges, replaced 3 bolts and washers
B	IR46	IR46MW41A	10/08/2002	√	√				√	√	5/16	Tapped 2 flanges, replaced 2 bolts and washers
B	IR46	IR46MW43A	10/08/2002	√	√				√	√	½	Tapped 2 flanges, replaced 2 bolts and washers
B	IR46	IR46MW46A	10/08/2002	√	√				√	√	5/16	Cleared brush, shoveled soil away to allow for drainage, tapped 3 flanges, replaced 3 bolts and washers
B	IR46	IR46MW47A	10/08/2002	√	√				√	√	½	Cleared brush, pumped water from vault, tapped 2 flanges, replaced 2 bolts and washers
B	IR50	PA50MW01A	10/08/2002	√	√				√	√	½	Tapped 2 flanges, replaced 2 bolts and washers
B	IR62	IR62MW08A	10/08/2002	√	√				√	√	5/16	Tapped 3 flanges, replaced 3 bolts and washers
B	IR18	IR18MW21A	10/09/2002	√	√				√	√	3/8	Shoveled soil away from vault, leveled TOC for secure cap fit, tapped 2 flanges, replaced 2 bolts and washers
B	IR24	PA24MW01A	10/09/2002	√	√				√	√	½	Located under a debris pile, cleared away brush and soil, tapped 2 flanges, replaced 2 bolts and washers
C	IR28	IR28MW200A	10/09/2002	√	√				√	√	½	Tapped 2 flanges, replaced 2 bolts and washers
C	IR28	IR28MW201F	10/09/2002	√	√				√	√	½	Tapped 2 flanges, replaced 2 bolts and washers
D	IR16	PA16MW17A	10/09/2002	√	√	√			√	√	3/8	Cleared brush away from vault, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
E	IR02	IR02MW175A	10/09/2002	√	√				√	√	½	Tapped 2 flanges, replaced 2 bolts and washers
E	IR02	IR02MW196A	10/09/2002	√	√	√			√	√	¼	Cleared away brush, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
E	IR02	IR02P126AA	10/09/2002	√				√	√			Cleared brush away from stovepipe, painted stovepipe, replaced cap
E	IR02	IR02P126AB	10/09/2002	√			√	√	√			Cleared brush away from stovepipe, painted stovepipe, replaced cap and lock
E	IR02	IR02MW126A	10/09/2002	√					√			Cleared brush away from stovepipe, painted stovepipe (note not on list, located next to well IR02P126AB)
E	IR02	IR02P93AB	10/09/2002	√			√		√			Pumped water from vault, cut rusted combination lock, replaced lock

E	IR50	PA50MW08A	10/09/2002	√	√	√		√	√	5/8	Shoveled soil away from vault, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
D	IR09	IR09MW36A	10/10/2002	√	√	√		√	√	5/16	Tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
D	IR09	IR09MW44A	10/10/2002	√	√	√		√	√	½	Pumped water from vault, tapped 3 flanges, replaced 3 bolts and washers, replaced rubber seal
D	IR22	IR22MW20A	10/10/2002	√	√	√		√	√	½	Tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
D	IR33	IR33MW62A	10/10/2002	√	√			√	√	5/8	Pumped water from vault, tapped 2 flanges, replaced 2 bolts and washers
D	IR33	IR33MW63A	10/10/2002	√	√			√	√	½	Pumped water from vault, tapped 2 flanges, replaced 2 bolts and washers
D	IR33	IR33MW116A	10/10/2002	√	√			√	√	5/16	Extracted broken 3 bolts, tapped flanges, replaced 3 bolts and washers
D	IR50	PA50MW07A	10/10/2002	√	√	√		√	√	½	Tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
D	IR55	IR55MW02A	10/10/2002	√	√	√		√	√	½	Repaired protective casing lid, replaced rubber seal, tapped 2 flanges, replaced 2 bolts and washers
D	IR70	IR70MW12A	10/10/2002	√	√			√	√	5/16	Extracted 3 broken bolts, tapped 3 flanges, replaced 3 bolts and washers
D	IR33	PA33MW37A	10/11/2002	√	*			√			Both flanges broken, could not tap, replaced steel lid on protective casing. Suggest consideration for vault replacement
D	IR33	IR33MW120B	10/11/2002	√				√			Cleared brush away from vault (located next to well PA33MW37A)
D	IR34	IR34MW01A	10/11/2002	√	√			√	√	5/8	Pumped water from vault, tapped 2 flanges, replaced 2 bolts and washers
D	IR34	IR34MW35A	10/11/2002	√	√	√		√	√	3/8	Pumped water from vault, cleaned TOC, Extracted 3 broken bolts, tapped 3 flanges, replaced 3 bolts and washers, replaced rubber seal
D	IR37	IR37MW01A	10/11/2002	√	√	√		√	√	5/8	Pumped water from vault, cleaned TOC, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
E	IR36	IR36MW129B	10/11/2002	√	√	√		√	√	5/16	Tapped 3 flanges, replaced 3 bolts and washers, replaced rubber seal
E	IR36	IR36MW12A	10/14/2002	√			√	√			Vault recently damaged, flanges broken, cleared debris and pumped out water from vault, recommend vault replacement
E	IR36	IR36MW122A	10/14/2002	√	√	√		√	√	5/16	Tapped 3 flanges, replaced 3 bolts and washers, replaced rubber seal
E	IR36	IR36MW123B	10/14/2002	√	√	√		√	√	3/8	Extracted 3 broken bolts, tapped 3 flanges, replaced 3 bolts and washers
E	IR36	IR36MW125A	10/14/2002	√	√	√		√	√	3/5	Tapped 3 flanges, replaced 3 bolts and washers, replaced rubber seal

E	IR50	PA50MW10A	10/14/2002	√	√	√	√		√	√	5/8	Cleared debris from inside vault, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal, replaced lock
B	IR62	UT02MW17A	10/15/2002									Well development was listed as the needed "Minor Repair". Well development was outside the scope of the current work
D	IR36	IR36MW16A	10/15/2002	√	√	√			√	√	5/8	Tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
E	IR04	IR04MW37A	10/15/2002	√	√	√			√	√	¼	Pumped water from vault, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
E	IR04	IR04MW40A	10/15/2002	√	√		√		√	√	¼	Cleared debris, tapped 2 flanges, replaced 2 bolts and washers, replaced lock
E	IR04	IR04MW36A	10/15/2002	√	√	√			√	√	¼	Scheduled for vault replacement by Marinship; cleared debris, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
B	IR07	IR07P20A	10/16/2002									Vault was replaced by Marinship
D	IR09	IR09MW35A	10/25/2002	√	√	√	√	√	√	√	5/16	Pumped water from vault, tapped 3 flanges, replaced 3 bolts and washers, replaced rubber seal, replaced lock, replaced cap, leveled TOC, cleaned inside and top of PVC casing, removed broken surface grout and replaced with concrete
E	IR72	IR72P33AB	10/25/2002	√			√	√	√			Removed damaged vault, replaced vault and new surface concrete, replaced lock and cap
A	IR06	IR06P54FA	10/28/2002									Vault was replaced by Marinship on 10/25/2002
E	IR01	IR01MW402A	10/28/2002				√	√	√			Dug out buried well head, removed temporary cover and much debris, regarded drainage away from well, cleaned inside casing, leveled TOC, Replaced vault with a bolting vault, replaced cap and lock, well is an offsite well that needed to be secured, placed concrete around vault.

- (1) A separate PowerPoint file contains photographs for 200 of the repaired wells
- (2) In certain cases more than one visit was made to a well (on different dates) for inspection and repair purposes
- (3) Standard maintenance consisted of general cleaning of various components such as the vault, bolt threads, cap, TOC, locks, etc. and highlighting internal and external I.D.s

Technical Memorandum

To: Laura Chapman
From: Masood Ghassemi
CC: Patrick Brooks, R.G., GDGI Project Distribution
Date: November 6, 2002
Re: Inspection and Minor Repair of Groundwater Monitoring Wells at Hunters Point Shipyard [Contract No. N68711-02-C-8211; GDGI Phase III Groundwater Sampling Project]

Task 3 of Contract No. N68711-02-C-8211 calls for preparation of an abbreviated technical memorandum summarizing the completed well inspection and repair work and presenting recommendations for future work as appropriate. This technical memorandum presents the well inspection findings, repairs performed, and recommendations for actions that would help maintain the wells in functioning condition in a cost-effective manner.

1.0 SUMMARY OF FINDINGS AND WORK PERFORMED

Table 1 presents the results of well inspection and the repairs that were performed on each well based on field assessment of the needed repairs. The date(s) that repair was performed on each well is also indicated. The information presented in Table 1 has been further summarized in the summary table on Page 2.

2.0 RECOMMENDATIONS

Based on our firsthand observation of the condition of groundwater monitoring wells at Hunters Point and our experience with the use of the existing monitoring well database, we offer the following recommendations for prioritization of repair work, expanding the scope of inspection and repair work, improving the accuracy and usefulness of the existing monitoring well database, care and maintenance of monitoring wells, and assignment of single contractor/point of contact for coordination of well-related maintenance and support activities.

2.1 PRIORITIZATION OF REPAIR WORK

R&M used a list of wells (Table 4-2 of the FSP/QAPP) that it was given as requiring minor repair. Not knowing how this list was generated, given the fact that previous inspections had identified a significantly larger number of wells requiring repairs, R&M would like to assume that certain criteria, such as wells located in high traffic areas or most frequently used wells, which would have a greater susceptibility to "wear and tear", or wells serving critical programs where generation of data of highest quality is of paramount importance, etc., had been used in selecting the wells designated for repair. Thus, confirming the reasonableness of the rationale used in developing the list used by R&M in this

WELL INSPECTION AND REPAIR SUMMARY TABLE

Total number of wells inspected	248
Total number of wells receiving one or more of the following types of repairs: <ul style="list-style-type: none"> ➤ - Standard maintenance (general cleaning of various components such as the vault, bolt threads, cap, TOC, locks, etc. and highlighting internal and external I.D.s) ➤ Re-tapping of flange ➤ Rubber seal replacement ➤ Lock replacement ➤ Cap replacement ➤ Bolt replacement ➤ Painting stovepipe 	239 293 Flanges 58 129 56 295 Bolts 32
Wells that had been previously identified as requiring vault/stovepipe replacement, but upon inspection it was judged that vault replacement was not necessary and only minor repair was required, which was performed	IR28MW314B IR25MW11A PA50MW09A IR12MW12A IR12MW14A IR36MW09A IR39MW24A IR72MW32A IR02P97AA
Wells that had been previously identified as not requiring major repair but upon inspection were determined to require major repair such as vault replacement, surface concrete reset, vault lid replacement and such repairs were performed for reasons of convenience as well as any required minor repair	PA28P04A, PA50MW02A IR28MW211F IR28MW271A IR28MW300F IR28MW297A PA36MW06A IR09MW31A IR55MW01A IR09MW35A IR72P33AB IR01MW402A
Wells that had been previously identified as not requiring major repair but upon inspection were determined to require major repair such as vault replacement, surface concrete reset, vault lid replacement, protective casing cover lid replacement and such, which must be performed in the future. (Minor repairs were performed on these wells as appropriate)	IR25MW17A PA33MW37A IR36MW12A IR71MW03A
Wells the status of which is in questions, such as may have been decommissioned, listed as decommissioned but appear to be functioning, etc.	IR28MW290A PA24MW03A
Wells that had been previously identified as requiring major repair, such as vault replacement, surface grout/concrete reset, vault/stovepipe lid replacement, and such repairs were performed for reasons of convenience.	IR05P77AA IR02MW89A IR02MWB-3 IR74MW01A IR39MW22A IR44MW08A IR28MW286A
Wells that were replaced due to ID labeling issues, such as labeled wrong, no label, or such	IR07MW20A1

program and lists that will be used in future inspection and repair programs is recommended as a means of ensuring that R&M or other future repair contractors are not only “doing the things correctly, but are also doing the correct things”.

2.2 EXPANDING THE SCOPE OF WELL INSPECTION AND REPAIR PROGRAM

The current round of inspection did not include any of the following activities/measurements that should be included in a comprehensive well inspection program which is necessary to for proper planning of groundwater monitoring programs and collection of reliable water quality data:

- Measurements of the total well depth to assess silt accumulation.
- Use of a well sounder to detect presence of obstructions or tilt in the well
- Examination of the sediment accumulated in the bottom to detect damaged screens that may have resulted in the loss of screen packing material
- Observation for presence and depth of light or dense non-aqueous phase liquids (LNAPL and DNPL)

It is recommended that future well inspection and repair programs be expanded to include the above-listed measurements and activities.

2.3 IMPROVING THE ACCURACY AND USEFULNESS OF GROUNDWATER MONITORING WELL DATABASE

Our work with the existing groundwater monitoring database, of which Table 4-2 of the FSP/QAPP that was used for monitoring well repair work is a subset, suggests a need for keeping this database up to date and accurate. In several instances we discovered wells that were in the database but appeared to have been decommissioned (e.g., IR28MW290A or PA24MW03A) or were being used temporarily (or perhaps permanently) for other purposes, such as soil vapor extraction. The fact that some of the wells were being used for soil vapor extraction, and hence were inaccessible for inspection and repair, was not documented in the database and this required unnecessary multiple trips to some of the wells to check on their availability for inspection and repair (examples: IR28MW916A, IR28MW919A, IR28MW920A, IR28MW921A that were initially unavailable, but became available later when they were inspected and repaired.).

As noted previously, we know that certain previous inspections were more comprehensive covering some 500 plus monitoring wells; not all the previously inspected wells and results from such inspections were included in FSP/QAPP Table 4-2 that was being used by R&M as basis for the current round of inspection and repair. Thus, it is necessary to update the current database and setup a protocol for maintaining the database up to date and for prioritizing the repair work. The protocol should include a system for tracking work of various contractors at Hunters Point with potential impact on monitoring wells and for reporting damages, repairs, changes in use, or structural modifications to wells.

2.4 ADDITIONAL NEEDED REPAIRS

Our work identified a number of wells that require major repairs, such a vault or stovepipe replacement. These wells are identified in Table 1 as well as in the above summary table. It is recommended that these wells be included in the pool of wells considered for future repair.

2.5 CARE AND MAINTENANCE OF WELLS

Various contractors use some of the monitoring wells at Hunters Point for the purpose of water level measurement, sampling, soil vapor extraction, etc. Some of the monitoring wells are located in work areas used or occupied by tenants or other contractors who do not exercise the level of care that is necessary to protect the monitoring well surface structures. As a result, some of the wells that were only recently repaired have again fallen in disrepair (IR01P03A). To prevent future damage to currently fully functional wells, we recommend that the Navy require all contractors working at Hunters Point or accessing wells for the purpose of sampling or water level measurement to exercise necessary care to avoid damage to the wells, to return wells to original conditions after use (e.g., properly securing the well vaults, tightening the bolts, etc.), and to report any damage that may occur as result of use or is noted when the well is accessed. We believe that if all contractors working at or near the monitoring wells exercise diligence, the wells that have been repaired in the current or will be repaired in future programs should remain functional for many years to come. Care and maintenance of repaired wells should also include periodic follow up inspections and standard maintenance to include clearing brush from around well vault to enhance visibility; removing water and debris from inside the vault; general cleaning of various components such as the vault, bolt threads, cap, TOC, locks, etc.; and highlighting internal and external well marking.

2.6 SINGLE POINT OF CONTACT/RESPONSIBILITY FOR WELL-RELATED ISSUES

The above discussion points to a need for improving the communication and coordination between various contractors that install, use, decommission, maintain, or monitor groundwater monitoring wells at Hunters Point. This can be achieved in a number of ways, including assigning the function to a single well maintenance support contractor or to a person/organization within the Navy whose responsibility would include the following:

- (a) Preparing an inventory of all existing wells at Hunters Point and reviewing their current and planned use(s) to determine wells that are no longer needed and have to be decommissioned and removed from the inventory.
- (b) Ensuring that all wells are accurately labeled in the field, on location maps used by contractors, and properly catalogued in the database.
- (c) Based on the updated well inventory, develop a comprehensive monitoring well database that will be kept up to date by tracking activities at Hunters point that impact well condition and repair needs
- (d) Act as a clearinghouse of accurate and up to date information on well design, construction, and water quality data for the Navy and all its contractors working at Hunters Point

- (e) Develop criteria for determining repair needs (e.g., for vault replacement) and for scheduling of such work
- (f) Establishing specifications for repair work (e.g., for vault/stovepipe replacement) to ensure consistency and adequacy of work performed.
- (g) Identify well repair requirements and implement them in a timely fashion to ensure that wells remain in good functioning condition at all times.

TABLE 1 – DATABASE FOR WELL INSPECTION AND MINOR REPAIR UNDER THE GDGI PHASE III GROUNDWATER MONITORING PROGRAM AT HUNTERS POINT

Parcel	IR Site	Well Identification Number	Repairs Performed Date ⁽²⁾	Repairs Performed						Bolt Size (diameter only)	Comments On Additional Repairs Performed or Additional Repair Needs Identified or Recommended
				Standard Maintenance ⁽³⁾	Flanges Re-tapped	Rubber Seal Replaced	Lock Replaced	Cap Replaced	External ID Refreshed		
E	IR02	IR02MW179A	07/17/2002	√			√		√		Painted stovepipe
E	IR02	IR02MW299A	07/17/2002	√			√		√		Painted stovepipe
E	IR02	IR02MW300A	07/17/2002	√			√		√		Painted stovepipe
C	IR28	IR28MW126A	07/17/2002	√					√		Replaced washers, needs flange re-tapped (9/16")
			08/13/2002		√					√	Re-tapped 2 flanges and provided 2 bolts
C	IR28	IR28MW171A	07/17/2002	√	√	√			√	√	Replaced 2 washers
C	IR28	IR28MW271A	07/17/2002	√			√				Need steel lid and surface grout
			10/01/2002		√	√				√	Replaced steel lid, 3 bolts and washers, and rubber seal; touched up surface concrete
C	IR28	IR28MW308A	07/17/2002	√	√	√			√	√	Extracted 2 broken bolts, replaced 3 washers; does not appear to require cutting of TOC as had been previously indicated
C	IR28	IR28MW314B	07/17/2002	√			√		√		Does not need vault replacement as had been previously indicated
			10/03/2002		√				√	√	5/16 Drilled out 3 broken bolts, tapped flanges, replaced bolts and washers
C	IR28	IR28MW400B	07/17/2002	√	√		√	√	√	√	Replaced 2 washers
C	IR28	IR28MW916A	07/17/2002	√							Included in SVE system, standard maintenance only
			10/17/2002		√					√	Replaced 3 washers and 3 bolts and re-tapped 3 flanges; this well was previously used as a component of an SVE system,
C	IR28	IR28MW919A	07/17/2002	√					√		Included in SVE system, standard maintenance only

			10/17/2002		√					√		Replaced 3 washers and 3 bolts and re-tapped 3 flanges. This well was previously used as a component of an SVE system
C	IR28	IR28MW920A	07/17/2002	√					√			Included in SVE system, standard maintenance only
			10/17/2002		√					√		Replaced 3 washers and 3 bolts and re-tapped 3 flanges
C	IR28	IR28MW921A	07/17/2002	√					√			Included in SVE system, standard maintenance only
			10/17/2002		√					√		Replaced 3 washers and 3 bolts and re-tapped 3 flanges. This well was previously used as a component of an SVE system,
B	IR24	PA24MW03A	07/17/2002	√			√	√	√			
B	IR24	IR06MW44A	07/18/2002	√				√	√			Needs vault replaced, possibly re-develop
C	IR25	IR25MW11A	07/18/2002	√	√		√	√	√	√		Replaced 2 washers; does not need vault replacement,
B	IR24	IR25MW17A	07/18/2002	√			√		√			Needs vault replaced
			08/14/2002									Confirmed vault replacement requirement
B	IR24	IR25MW42B	07/18/2002	√			√		√			Needs vault replacement
C	IR28	IR28MW128A	07/18/2002	√				√	√			
C	IR28	IR28MW255F	07/18/2002	√					√			Replaced washers; needs flanges re-tapped (3/4")
			08/13/2002		√					√		Re-tapped flanges and replaced 2 bolts and washers
C	IR28	IR28MW324A	07/18/2002	√			√	√	√			Does not require cutting TOC as had been previously indicated
			10/01/2002									Repaired broken part of TOC
C	IR28	IR28MW333A	07/18/2002	√			√	√	√			Does not require cutting TOC as had been previously indicated
			10/18/2002									Recommend vault replacement
C	IR28	IR28MW335A	07/18/2002	√			√	√	√			Does not require cutting TOC as had been previously indicated
C	IR28	IR28MW336A	07/18/2002	√			√	√	√			Does not require cutting TOC as had been previously indicated
C	IR28	IR28MW339A	07/18/2002	√			√	√	√			Does not require cutting TOC as had been previously indicated
C	IR28	IR28MW340A	07/18/2002	√			√	√	√			Does not require cutting TOC as had been previously indicated
C	IR28	IR28MW401B	07/18/2002	√	√		√		√	√		Replaced 2 washers
C	IR28	PA28P04A	07/18/2002	√			√	√	√			Needs vault replacement
			10/01/2002		√					√		Reset loose vault lid, raised vault grade, touched up surface concrete, and replaced 2 washers
B	IR50	PA50MW02A	07/18/2002	√			√		√			
			10/02/2002									Touched up surface concrete
C	IR25	IR06MW41A	07/19/2002	√			√		√			
B	IR06	IR06MW46A	07/19/2002	√	√		√		√	√		Replaced 2 washers

B	IR10	IR10MW13A2	07/19/2002	√				√		Repaired cap, needs 2 bolts (1/2") and flanges re-tapped
			08/14/2002		√				√	Re-tapped flange and provided 2 bolts and washers
B	IR10	IR10P13A	07/19/2002	√		√		√		
B	IR10	IR10P13AA	07/19/2002	√		√		√		Needs flange re-tapped (3/4")
			08/13/2002		√				√	Re-tapped flange and replaced 2 bolts and washers
			10/01/2002							Cleaned out protective casing and moved away from flanges
C	IR25	IR25MW19A	07/19/2002	√		√	√	√		
C	IR25	IR25MW20A	07/19/2002	√		√	√	√		
B	IR10	IR25MW37A	07/19/2002	√	√	√		√	√	Replaced 2 washers
B	IR10	IR25MW37B	07/19/2002	√		√		√		
C	IR25	IR25MW39A	07/19/2002	√		√		√		
C	IR25	IR25MW39B	07/19/2002	√		√		√		
C	IR25	IR25MW41A	07/19/2002	√		√		√		This well is scheduled for vault and protective cover replacement
C	IR25	IR25MW902B	07/19/2002	√				√		Repaired broken PVC TOC with 4" repair clamp and 1/8" gasket
C	IR28	IR28MW398A	07/19/2002	√		√		√		
C	IR28	IR28MW398B	07/19/2002	√	√	√		√	√	Replaced 2 washers
B	IR06	IR06MW57F	07/22/2002	√	√			√	√	Replaced 2 washers
B	IR07	IR07MW93A	07/22/2002	√	√			√	√	Replaced 3 washers
B	IR07	IR07MW94A	07/22/2002	√				√	√	Needs vault replacement
			10/01/2002							Marinship has replaced vault
B	IR07	IR07MW95A	07/22/2002	√		√		√		Painted stovepipe
B	IR07	IR07MWS-2	07/22/2002	√		√		√		Painted stovepipe
B	IR18	IR18MW100B	07/22/2002	√	√			√	√	Replaced 2 washers
B	IR18	IR18MW101B	07/22/2002	√	√			√	√	Replaced 2 washers
C	IR28	IR28P155AB	07/22/2002	√		√	√	√		Replaced 3 washers
C	IR29	IR29MW72F	07/22/2002	√	√			√	√	Replaced 2 washers
C	IR28	PA28P03A	07/22/2002	√				√		Replaced 2 washers
C	IR28	IR28MW190F	07/24/2002	√		√	√	√		Leveled TOC (cap fits snug), no re-surveying deemed necessary
C	IR28	IR28MW211F	07/24/2002	√		√		√		Needs vault lid (2 bolt, 9/16")
			08/14/2002							Installed vault lid
			10/01/2002		√				√	Re-tapped 2 flanges, replaced 2 bolts and washers
C	IR28	IR28MW290A	07/24/2002	√						Appears to have been backfilled with grout, dug out to bottom of vault

			08/14/2002												Confirmed absence of well; may have been decommissioned
			10/28/2002												Appears as if well has been decommissioned, do not have confirmation, but well should be properly abandoned
C	IR28	IR28MW300F	07/24/2002	√	√					√	√				Replaced 3 washers, touched up surface concrete
C	IR28	IR28MW313F	07/24/2002	√						√					Stovepipe and PVC casing bent @ -3.8' BTOC, must replace both
			08/14/2002												Confirmed need for replacement of casing and stovepipe
C	IR28	IR28MW341F	07/24/2002	√	√	√	√			√	√				Replaced 3 washers
C	IR28	IR28MW342F	07/24/2002	√	√	√	√	√	√	√	√				3/8" poly tubing in well, replaced 3 washers
C	IR28	IR28MW394A	07/24/2002	√	√		√			√	√				Replaced 2 washers
C	IR28	IR28MW394B	07/24/2002	√						√					Check TD ~55.08, very soft TD
C	IR28	IR28MW396A	07/24/2002	√			√	√	√						Does not need stovepipe replacement
C	IR28	IR28MW396B	07/24/2002	√			√			√					Needs vault replaced, Not a stovepipe as had been indicated
C	IR28	IR28MW397B	07/24/2002	√			√			√					Washed orange paint off casing TOC
B	IR46	IR46MW37A	07/24/2002	√					√	√					Needs vault replacement
C	IR28	IR58MW31A	07/24/2002	√			√			√	√	9/16			Replaced 1 washer, 1 broken flange. Recommend Vault Replacement
C	IR28	IR58MW32B	07/24/2002	√			√			√					Both flanges broken, vault needs to be replaced
E	IR13	IR13MW12A	07/25/2002	√		√	√			√					Needs flanges re-tapped (1/2")
			08/13/2002		√							√			Re-tapped flange and provided two bolts
			10/02/2002												Extracted last broken bolt, replaced bolt and washer
E	IR13	IR13P12AA	07/25/2002	√			√			√					Pumped out water
E	IR13	IR13P12AB	07/25/2002	√			√			√					Cleared weeds
E	IR15	IR15MW07A	07/25/2002	√			√			√					Painted stovepipe
E	IR15	IR15MW08A	07/25/2002	√						√					
E	IR15	IR15P08AA	07/25/2002	√			√			√					Evidence of product in well noted
E	IR15	IR15P08AB	07/25/2002	√			√			√					
E	IR15	IR15P08B	07/25/2002	√			√			√					
D	IR17	IR17MW11A	07/25/2002	√	√				√	√	√				Replaced 2 washers
C	IR28	IR28MW293A	07/25/2002	√			√			√					Needs vault replacement
			10/18/2002												Marinship has replaced vault
C	IR28	IR28MW297A	07/25/2002	√			√			√					Needs flanges re-tapped and touch-up on concrete
			08/14/2002		√							√			Re-tapped flange, provided three bolts, touched up concrete
D	IR50	PA50MW05A	07/25/2002	√		√	√	√	√	√					Pumped out H2O, needs flanges re-tapped (9/16")

			08/14/2002								Attempted thread tap; needs larger size tap; will revisit
			10/01/2002		√				√		Tapped flanges, replaced 2 bolts and washers
E	IR36	IR36MW120B	07/26/2002	√			√		√		Needs vault replacement
E	IR36	IR36MW121A	07/26/2002	√			√		√		Flanges broken, needs vault replaced
E	IR36	PA36MW02A	07/26/2002	√			√		√	√	3/4 Needs vault replaced
E	IR36	PA36MW04A	07/26/2002	√	√		√		√	√	3/4 Replaced 2 washers
E	IR36	PA36MW06A	07/26/2002	√			√		√		Was buried - dug out and flagged, needs a new vault
			08/14/2002								Needs new vault
E	IR36	PA36MW07A	07/26/2002	√	√				√	√	Replaced 2 washers
E	IR36	PA36P04AA	07/26/2002	√	√		√		√	√	1/2 Replaced 3 washers
E	IR36	PA36P04AB	07/26/2002	√	√		√		√	√	1/2 Replaced 3 washers
E	IR01	IR01MW62A	07/29/2002	√			√	√	√		Painted stovepipe
E	IR01	IR01MW63A	07/29/2002	√			√	√	√		Painted stovepipe
E	IR01	IR01MWI-2	07/29/2002	√				√	√		
E	IR01	IR01MWI-3	07/29/2002	√				√	√		
E	IR01	IR01MWI-6	07/29/2002	√			√	√	√		Painted stovepipe
E	IR01	IR01MWI-8	07/29/2002	√			√	√	√		
E	IR01	IR01MWI-9	07/29/2002	√				√	√		Painted stovepipe
E	IR01	IR01P03A	07/29/2002	√			√	√	√		Has been damaged and replaced by a contractor (ITSI) since minor repairs were completed
E	IR01	IR01P03AB	07/29/2002	√			√	√	√		
D	IR08	IR08MW38A	08/06/2002	√	√	√		√	√	√	9/16 Replaced 2 washers
D	IR09	IR09MW45F	08/06/2002	√		√			√		Replaced 2 washers, pumped water from vault
D	IR09	IR09MW51F	08/06/2002	√	√	√			√	√	1/2 Replaced 3 washers, pumped water from vault
D	IR22	IR22MW08A	08/06/2002	√	√	√		√	√	√	3/4 Replaced 2 washers
D	IR71	IR71MW03A	08/06/2002	√	√				√	√	1/2 Re-tapped 1 (1/2") flange (2 broken). Recommend vault replacement
D	IR50	PA50MW06A	08/06/2002	√		√		√	√	√	3/4 Pumped water from vault
E	IR50	PA50MW09A	08/06/2002	√			√		√		Pumped water from vault, cleaned out surface run-in
E	IR05	IR05MW73A	08/07/2002	√	√				√	√	5/16 Replaced 2 washers, Cleared brush
E	IR05	IR05MW74A	08/07/2002	√	√				√	√	5/16 Replaced 2 washers
E	IR05	IR05MW77A	08/07/2002	√					√		Painted stovepipe, cleared brush
E	IR05	IR05MW85A	08/07/2002	√			√		√		Painted stovepipe, cleared brush

E	IR05	IR05P77AA	08/07/2002	√			√		√			Repaired stovepipe lid, painted stovepipe, cleared brush
E	IR05	IR05P77AB	08/07/2002	√					√			Painted stovepipe, cleared brush
D	IR09	IR09P041A	08/07/2002	√	√	√	√		√	√	3/4	Replaced 2 washers
D	IR09	IR09P042A	08/07/2002	√	√	√	√		√			Replaced 2 washers
D	IR09	IR09P043A	08/07/2002	√	√	√	√	√	√	√	3/4	Replaced 3 washers
E	IR39	IR39MW35A	08/07/2002	√		√			√	√	1/2	Replaced 3 washers, pumped water from vault, cleared brush and soil
E	IR36	PA36MW03A	08/07/2002	√			√		√			Painted stovepipe, cleared brush
E	IR02	IR02MW93A	08/08/2002	√					√			
E	IR02	IR02P93AA	08/08/2002	√			√		√			
E	IR05	IR05MW76A	08/08/2002	√	√		√	√	√	√	5/16	Was buried, located, cleared out brush and soil, pumped out water, replaced 2 washers
D	IR08	IR08P39A	08/08/2002	√					√			Cleared brush
E	IR12	IR12MW14A	08/08/2002	√					√			Cleared brush, repaired flanges, does not need new vault as had been suggested
			10/02/2002		√					√		Tapped 2 flanges, replaced 2 bolts and washers
E	IR12	IR12P14AA	08/08/2002	√			√		√			Cleared brush, pumped out water, clean TOC
E	IR12	IR12P14AB	08/08/2002	√					√			Cleared brush, painted stovepipe needs stovepipe lid
E	IR13	IR13MWB5A-W	08/08/2002	√	√	√	√	√	√	*	*	Cut TOC level, cleaned inside of casing, pumped water from vault. Needs 7/16 (2) bolts
			10/02/2002							√	7/16	Replaced 2 washers
E	IR01	IR01MW09B	09/12/2002	√	√		√	√	√	√	3/4	Pumped out water, graded away from vault to divert drainage, cleared brush
E	IR02	IR02MW89A	09/12/2002	√			√		√			Replaced stovepipe lid, painted stovepipe
E	IR02	IR02MW97A	09/12/2002	√					√			
E	IR02	IR02MWB-2	09/12/2002	√			√		√			Cleared brush, painted stovepipe
E	IR02	IR02MWB-3	09/12/2002	√			√	√	√			Replaced stovepipe lid, cleared brush, painted stovepipe
E	IR02	IR02MWB-5	09/12/2002	√			√		√			Stovepipe and stainless steel casing damaged, stovepipe needs replacement, stainless steel casing bent at 1.3' below TOC, needs replacement
E	IR02	IR02P97AA	09/12/2002	√			√	√	√			Cleared brush away from well, shoveled soil away also, painted stovepipe (does not need stovepipe)
E	IR03	IR03MWO-3	09/12/2002	√			√		√			

E	IR12	IR12MW12A	09/12/2002	√				√			Vault damaged, should be replaced with stovepipe to improve visibility
E	IR12	IR12P12AB	09/12/2002	√			√	√	√		Stovepipe damaged, needs replacement
E	IR36	IR36MW135A	09/12/2002	√	√		√		√	1/2	Replaced 3 washers
E	IR04	IR04MW09A	09/16/2002	√	√	√	√	√	√	9/16	Pumped water from vault, cleaned debris from vault, cleaned TOC, replaced 2 washers
E	IR04	IR04MW13A	09/16/2002	√			√		√		Cleared away weeds, painted stovepipe
E	IR04	IR04MW38A	09/16/2002	√	√		√		√	9/16	Shoveled away soil, replaced 2 washers
E	IR04	IR04P31AA	09/16/2002	√			√		√		Cleared away weeds, painted stovepipe
E	IR04	IR04P38A	09/16/2002	√					√		Buried under gravel pile
			10/02/2002								Buried, cleaned out vault, pumped out water
D	IR08	IR08MWW-6	09/16/2002	√	√		√		√	7/16	Removed debris/brush from outside vault, also cleaned out debris and. soil from inside vault, cleaned PVC TOC
D	IR09	IR09MW54B	09/16/2002	√	√	√	√		√		Cleaned paint from inside TOC
D	IR09	IR09PPY1	09/16/2002	√	√	√	√		√	7/16	Replaced lock on gate, cleared brush, pumped out water, cleaned out vault, replaced 2 washers
C	IR28	IR28P50AA	09/16/2002	√	√		√		√	7/16	Located under debris pile, shoveled clear, pumped out water, cleaned out vault, and PVC casing/TOC, replaced 3 washers
E	IR74	IR74MW01A	09/16/2002	√	√				√	9/16	PVC leak due to loose casing thread 2" below TOC, cleaned threads and tightened PVC, cleaned vault lid to make clean seal and reset concrete
E	IR12	IR12MW11A	09/17/2002	√			√		√		Cleared weeds, painted stovepipe
E	IR12	IR12MW13A	09/17/2002	√			√		√		Cleared weeds, painted stovepipe
E	IR12	IR12MW15A	09/17/2002	√	√	√			√	7/16	Replaced 2 washers
E	IR12	IR12MW16A	09/17/2002	√	√	√	√		√	7/16	Re-graded soil away from vault, replaced 2 washers
E	IR12	IR12MW17A	09/17/2002	√			√		√		Cleared away brush, painted stovepipe
E	IR12	IR12MW18A	09/17/2002	√			√		√		Cleared away brush, painted stovepipe
E	IR12	IR12MW19A	09/17/2002	√							This was originally a stovepipe, with the stickup section broken; the below-grade well appears secure, measured broken off (old stovepipe/casing) at 2.83'
E	IR12	IR12MW21A	09/17/2002	√					√		Painted stovepipe, 4" casing has a 2" interphase conduit that is suspended from stovepipe tabs and it is used for sampling. This is a product well
E	IR13	IR13MW10A	09/17/2002	√	√	√	√	√	√	7/16	Located under fence, pumped out water, cleared away brush, debris, replaced 2 washers
E	IR56	IR56MW39A	09/17/2002	√	√	√	√	√	√	3/4	Graded soil away from vault, cleaned vault and PVC casing, replaced 2

												washers
E	IR13	IR13MW11A	09/18/2002	√	√				√	√		Located under fence, pumped water, cleared away brush, replaced 2 washer
D	IR37	IR37MW26B	09/18/2002	√		√	√		√			Cleaned debris from vault, cleaned TOC and inside of casing
D	IR38	IR38MW03A	09/18/2002	√	√		√		√	√	15/16	Cleared away brush, pumped out vault, replaced 2 washers
E	IR39	IR39MW22A	09/18/2002	√	√				√			Cleared away debris, weeds, replaced vault lid, touched up concrete surface
E	IR39	IR39MW33A	09/18/2002	√	√	√	√		√	√	9/16	Cleaned out vault and PVC TOC/ casing
D	IR44	IR44MW08A	09/18/2002	√	√	√	√	√	√	√	9/16	Cleaned out bentonite from annulus, touched up concrete around vault
D	IR39	PA39MW01A	09/18/2002	√	√	√	√		√	√	¾	Cleaned out vault, protective casing, PVC casing, TOC and inside casing
E	IR39	PA39MW03A	09/18/2002	√			√		√			Cleared away brush, painted stovepipe
E	IR36	IR36MW09A	09/19/2002	√	√		√		√	√	15/16	Well secure, no vault replacement required
E	IR36	IR36MW126A	09/19/2002	√		√	√		√			Cleaned out vault
E	IR36	IR36MW127A	09/19/2002	√	*		√		√			Both flanges missing, needs vault replacement
E	IR36	IR36MW14A	09/19/2002	√	√	√	√		√	√	¾	
			10/14/2002									Revisited and re-cleaned vault
E	IR39	IR39MW23A	09/19/2002									Dug out the badly damaged well, cleaned out around PVC casing, shoveled away soil, needs vault replacement
E	IR39	IR39MW24A	09/19/2002	√	√				√	√	15/16	Cleaned out vault and PVC TOC/ casing
E	IR39	IR39MW36A	09/19/2002	√	√				√	√	9/16	Cleaned out vault and PVC TOC casing, replaced 2 washers
			10/03/2002		√					√		Extracted broken bolts, tapped and replaced bolt and washer
D	IR35	PA35P01A	09/19/2002	√	*		√	√	√			Missing both flanges, cleaned out vault, located in heavy traffic need to replace vault
D	IR09	IR09MW31A	10/02/2002									Cannot access, behind a gate; will arrange for access
			10/15/2002	√	*	*	√	√	√	*		Vault is smashed, cleaned out vault, leveled TOC to stop leak into well, needs vault replacement
E	IR36	IR36MW17A	10/02/2002									Cannot access, behind a gate; will arrange for access
			10/14/2002	√	√	√	√		√	√		Pumped water from vault, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
E	IR72	IR72MW32A	10/02/2002	√					√			Touched up concrete
E	IR72	IR72MW33A	10/02/2002		√	√				√	5/16	Replaced 3 washers, pumped out water
E	IR72	IR72P33AA	10/02/2002		√					√	5/16	Replaced 3 washers

C	IR28	IR28IW901A	10/03/2002	√			√	√	√			Adapted SVE piping to 2" locking cap diameter, installed new cap and lock
C	IR28	IR28MW150A	10/03/2002	√	√				√	√		Buried under brush, located, dug out, cleaned up, tapped flanges, replaced bolts and washers
C	IR28	IR28IW903A	10/04/2002	√			√	√	√			Adapted SVE piping to 2" locking cap diameter, installed new cap and lock
C	IR28	IR28MW122A	10/04/2002	√	√				√	√	1/2	Tapped flange, replaced bolt, washer
C	IR28	IR28MW189F	10/04/2002	√	√	√			√	√	1/2	Replaced seal, tapped flanges, replaced 2 bolts, washers
C	IR28	IR28MW270A	10/04/2002	√	√				√	√	5/16	Replaced 3 washers
C	IR28	IR28MW299B	10/04/2002	√	√	√			√	√	5/16	Tapped flanges, replaced 3 bolts, washers
C	IR28	IR28MW286A	10/04/2002	√	√	√			√	√	5/16	Replaced rubber seal, tapped 3 flanges, replaced 3 bolts and washers, Recommend resetting concrete or replacing vault
C	IR58	IR58MW26A	10/04/2002	√	√	√			√			Tapped flange, replaced seal
C	IR50	PA50MW03A	10/04/2002	√	√	√	√	√	√	√	1/2	Tapped flanges, replaced 2 bolts, washers, seal, lock and cap
C	IR28	IR28MW312F	10/07/2002	√	√	√			√	√	5/16	Extracted 3 broken bolts, tapped 3 flanges, replaced 3 bolts and washers, replaced rubber seal
			10/16/2002									Returned to extract broken bolt, but thread broke in hole, vault is secure
B	IR07	IR07MW19A	10/07/2002	√	√				√	√	5/16	Tapped 2 flanges, replaced 2 bolts and washers
B	IR07	IR07MW20A1	10/07/2002									Marinship has replaced this well
B	IR10	IR10MW12A	10/07/2002	√	√				√	√	5/16	Tapped 2 flanges, replaced 2 bolts and washers
B	IR10	IR10MW13A1	10/07/2002	√	√				√	√	5/16	Tapped 2 flanges, replaced 2 bolts and washers
B	IR10	IR10MW28A	10/07/2002	√	√				√	√	½	Tapped 2 flanges, replaced 2 bolts and washers
B	IR10	IR10MW31A1	10/07/2002	√	√				√	√	½	Tapped 2 flanges, replaced 2 bolts and washers
B	IR26	IR26MW43A	10/08/2002	√	√				√	√	½	Tapped 2 flanges, replaced 2 bolts and washers
B	IR46	IR46MW39A	10/08/2002	√					√			
B	IR46	IR46MW39A2	10/08/2002	√					√			
B	IR46	IR46MW39A3	10/08/2002	√					√			

B	IR20	IR20MW17A	10/08/2002	√	√				√	√	1/2	Tapped 2 flanges, replaced 2 bolts and washers
B	IR26	IR26MW41A	10/08/2002	√	√				√	√	5/16	Tapped 2 flanges, replaced 2 bolts and washers
B	IR26	IR26MW44A	10/08/2002	√	√				√	√	5/16	Extracted broken bolt, tapped 3 flanges, replaced 3 bolts and washers
B	IR46	IR46MW41A	10/08/2002	√	√				√	√	5/16	Tapped 2 flanges, replaced 2 bolts and washers
B	IR46	IR46MW43A	10/08/2002	√	√				√	√	1/2	Tapped 2 flanges, replaced 2 bolts and washers
B	IR46	IR46MW46A	10/08/2002	√	√				√	√	5/16	Cleared brush, shoveled soil away to allow for drainage, tapped 3 flanges, replaced 3 bolts and washers
B	IR46	IR46MW47A	10/08/2002	√	√				√	√	1/2	Cleared brush, pumped water from vault, tapped 2 flanges, replaced 2 bolts and washers
B	IR50	PA50MW01A	10/08/2002	√	√				√	√	1/2	Tapped 2 flanges, replaced 2 bolts and washers
B	IR62	IR62MW08A	10/08/2002	√	√				√	√	5/16	Tapped 3 flanges, replaced 3 bolts and washers
B	IR18	IR18MW21A	10/09/2002	√	√				√	√	3/8	Shoveled soil away from vault, leveled TOC for secure cap fit, tapped 2 flanges, replaced 2 bolts and washers
B	IR24	PA24MW01A	10/09/2002	√	√				√	√	1/2	Located under a debris pile, cleared away brush and soil, tapped 2 flanges, replaced 2 bolts and washers
C	IR28	IR28MW200A	10/09/2002	√	√				√	√	1/2	Tapped 2 flanges, replaced 2 bolts and washers
C	IR28	IR28MW201F	10/09/2002	√	√				√	√	1/2	Tapped 2 flanges, replaced 2 bolts and washers
D	IR16	PA16MW17A	10/09/2002	√	√	√			√	√	3/8	Cleared brush away from vault, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
E	IR02	IR02MW175A	10/09/2002	√	√				√	√	1/2	Tapped 2 flanges, replaced 2 bolts and washers
E	IR02	IR02MW196A	10/09/2002	√	√	√			√	√	1/4	Cleared away brush, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
E	IR02	IR02P126AA	10/09/2002	√				√	√			Cleared brush away from stovepipe, painted stovepipe, replaced cap
E	IR02	IR02P126AB	10/09/2002	√			√	√	√			Cleared brush away from stovepipe, painted stovepipe, replaced cap and lock
E	IR02	IR02MW126A	10/09/2002	√					√			Cleared brush away from stovepipe, painted stovepipe (note not on list, located next to well IR02P126AB)
E	IR02	IR02P93AB	10/09/2002	√			√		√			Pumped water from vault, cut rusted combination lock, replaced lock

E	IR50	PA50MW08A	10/09/2002	√	√	√		√	√	5/8	Shoveled soil away from vault, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
D	IR09	IR09MW36A	10/10/2002	√	√	√		√	√	5/16	Tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
D	IR09	IR09MW44A	10/10/2002	√	√	√		√	√	½	Pumped water from vault, tapped 3 flanges, replaced 3 bolts and washers, replaced rubber seal
D	IR22	IR22MW20A	10/10/2002	√	√	√		√	√	½	Tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
D	IR33	IR33MW62A	10/10/2002	√	√			√	√	5/8	Pumped water from vault, tapped 2 flanges, replaced 2 bolts and washers
D	IR33	IR33MW63A	10/10/2002	√	√			√	√	½	Pumped water from vault, tapped 2 flanges, replaced 2 bolts and washers
D	IR33	IR33MW116A	10/10/2002	√	√			√	√	5/16	Extracted broken 3 bolts, tapped flanges, replaced 3 bolts and washers
D	IR50	PA50MW07A	10/10/2002	√	√	√		√	√	½	Tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
D	IR55	IR55MW02A	10/10/2002	√	√	√		√	√	½	Repaired protective casing lid, replaced rubber seal, tapped 2 flanges, replaced 2 bolts and washers
D	IR70	IR70MW12A	10/10/2002	√	√			√	√	5/16	Extracted 3 broken bolts, tapped 3 flanges, replaced 3 bolts and washers
D	IR33	PA33MW37A	10/11/2002	√	*			√			Both flanges broken, could not tap, replaced steel lid on protective casing. Suggest consideration for vault replacement
D	IR33	IR33MW120B	10/11/2002	√				√			Cleared brush away from vault (located next to well PA33MW37A)
D	IR34	IR34MW01A	10/11/2002	√	√			√	√	5/8	Pumped water from vault, tapped 2 flanges, replaced 2 bolts and washers
D	IR34	IR34MW35A	10/11/2002	√	√	√		√	√	3/8	Pumped water from vault, cleaned TOC, Extracted 3 broken bolts, tapped 3 flanges, replaced 3 bolts and washers, replaced rubber seal
D	IR37	IR37MW01A	10/11/2002	√	√	√		√	√	5/8	Pumped water from vault, cleaned TOC, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
E	IR36	IR36MW129B	10/11/2002	√	√	√		√	√	5/16	Tapped 3 flanges, replaced 3 bolts and washers, replaced rubber seal
E	IR36	IR36MW12A	10/14/2002	√			√	√			Vault recently damaged, flanges broken, cleared debris and pumped out water from vault, recommend vault replacement
E	IR36	IR36MW122A	10/14/2002	√	√	√		√	√	5/16	Tapped 3 flanges, replaced 3 bolts and washers, replaced rubber seal
E	IR36	IR36MW123B	10/14/2002	√	√	√		√	√	3/8	Extracted 3 broken bolts, tapped 3 flanges, replaced 3 bolts and washers
E	IR36	IR36MW125A	10/14/2002	√	√	√		√	√	3/5	Tapped 3 flanges, replaced 3 bolts and washers, replaced rubber seal

E	IR50	PA50MW10A	10/14/2002	√	√	√	√		√	√	5/8	Cleared debris from inside vault, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal, replaced lock
B	IR62	UT02MW17A	10/15/2002									Well development was listed as the needed "Minor Repair". Well development was outside the scope of the current work
D	IR36	IR36MW16A	10/15/2002	√	√	√			√	√	5/8	Tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
E	IR04	IR04MW37A	10/15/2002	√	√	√			√	√	1/4	Pumped water from vault, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
E	IR04	IR04MW40A	10/15/2002	√	√		√		√	√	1/4	Cleared debris, tapped 2 flanges, replaced 2 bolts and washers, replaced lock
E	IR04	IR04MW36A	10/15/2002	√	√	√			√	√	1/4	Scheduled for vault replacement by Marinship; cleared debris, tapped 2 flanges, replaced 2 bolts and washers, replaced rubber seal
B	IR07	IR07P20A	10/16/2002									Vault was replaced by Marinship
D	IR09	IR09MW35A	10/25/2002	√	√	√	√	√	√	√	5/16	Pumped water from vault, tapped 3 flanges, replaced 3 bolts and washers, replaced rubber seal, replaced lock, replaced cap, leveled TOC, cleaned inside and top of PVC casing, removed broken surface grout and replaced with concrete
E	IR72	IR72P33AB	10/25/2002	√			√	√	√			Removed damaged vault, replaced vault and new surface concrete, replaced lock and cap
A	IR06	IR06P54FA	10/28/2002									Vault was replaced by Marinship on 10/25/2002
E	IR01	IR01MW402A	10/28/2002				√	√	√			Dug out buried well head, removed temporary cover and much debris, regarded drainage away from well, cleaned inside casing, leveled TOC, Replaced vault with a bolting vault, replaced cap and lock, well is an offsite well that needed to be secured, placed concrete around vault.

- (1) A separate PowerPoint file contains photographs for 200 of the repaired wells
- (2) In certain cases more than one visit was made to a well (on different dates) for inspection and repair purposes
- (3) Standard maintenance consisted of general cleaning of various components such as the vault, bolt threads, cap, TOC, locks, etc. and highlighting internal and external I.D.s



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**WILLIE L. BROWN, JR.
MAYOR**

**ANN MOLLER GAEN
PRESIDENT
E. DENNIS NORMANDY
ASHOK KUMAR BHATT
JEFFREY CHEN**

**PATRICIA E. MARTEL
GENERAL MANAGER**

SAN FRANCISCO PUBLIC UTILITIES COMMISSION
BERM - 3801 Third Street, Suite 600, San Francisco, CA 94124 • Tel. (415) 695-7310 • Fax (415) 695-7388



October 28, 2002

**Mr. Rick Erdman
R & M Environmental
7996 Capwell Drive
Oakland, CA 94121**

**Re: Batch Discharge Permit
Discharge point – Hunter's Point Shipyard, San Francisco**

Dear Mr. Erdman:

In reply to your request of October 24, 2002 and pursuant to Chapter X (Public Works Code) of Part II of the San Francisco Municipal Code, Article 4.1, permission, revocable by the General Manager of the Public Utilities Commission, is granted to R & M Environmental (Permittee) to properly discharge approximately 1,500 gallons of purged ground water into the sanitary sewerage system at the above referenced site.

The Permittee shall:

- 1.) Be in compliance with:
 - A. The requirements of Article 4.1, Chapter X, Part II, San Francisco Municipal Code, and amendments thereto;
 - B. Any additional discharge standards subsequently adopted by the City;
 - C. The United States Environmental Protection Agency's regulations contained in 40 CFR Parts 403, and
 - D. Any other applicable provisions of Federal or State laws or regulations.

The Permittee, by acceptance of this permit, agrees to indemnify and hold harmless City and County of San Francisco (City) from any and all costs, claims, damages, fines, remediation costs, losses and other expenses arising from the discharge into the sewerage system.

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The Permittee by acceptance of this permit agrees to compensate the City in full for all damage to City or public property under its jurisdiction from operation under this permit, regardless of the negligence of the City.

This permit shall expire 30 days from the above date of issuance.

Should you have any questions, please contact Gary Ong at (415) 695-7365.

WILLIE L. BROWN, JR.
MAYOR

ANN MOLLER CAEN
PRESIDENT
E. DENNIS MORMANDY
ASHOK KUMAR BHATT
JEFFREY CHEN

PATRICIA E. MARTEL
GENERAL MANAGER

Very truly yours,

Tommy Lee, Division Engineer
Bureau of Environmental Regulation
and Management

Department of the Navy, Southwest Division
Naval Facilities Engineering Command
San Diego, CA 92101

Contract No. N68711-02-C-8211

**Groundwater Data Gaps Investigation Phase III
Hunters Point Shipyard, San Francisco, CA
Task 3 – Well Inspection and Repair**

Prepared by:



**R&M Environmental
and Infrastructure Engineering, Inc.**

November 6, 2002

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424

Explanatory Notes

- Standard maintenance service performed on all wells consisted of general cleaning of various components such as the vault, bolt threads, cap, TOC, locks, etc. and highlighting internal and external I.D.s
- Wells for which the maintenance service included “Leveled TOC” do not require re-surveying. The tops of casing, TOC(s) were leveled in a way to ensure proper seal of cap without affecting the surveyor’s mark.
- See the following companion document for additional information on the maintenance performed and recommendations for care and maintenance of monitoring wells at Hunters Point: “Technical Memorandum, Inspection and Minor Repair of Groundwater Monitoring Wells at Hunters Point Shipyard [Contract No. N68711-02-C-8211; GDGI Phase III Groundwater Sampling Project], November 6, 2002”

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR01MW62A

Repair Date: 07/29/2002

**Repairs Performed: Standard Maintenance, Replaced Lock, Replaced Cap,
Refreshed External ID, Painted Stovepipe**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424

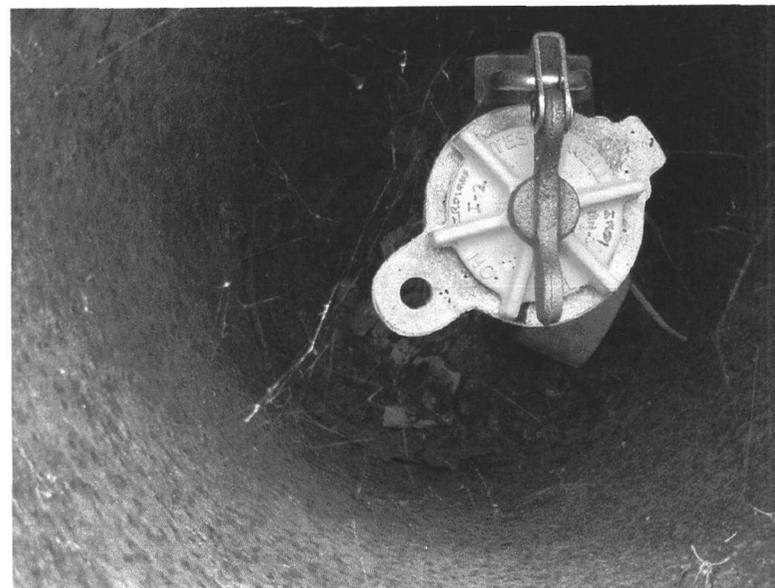
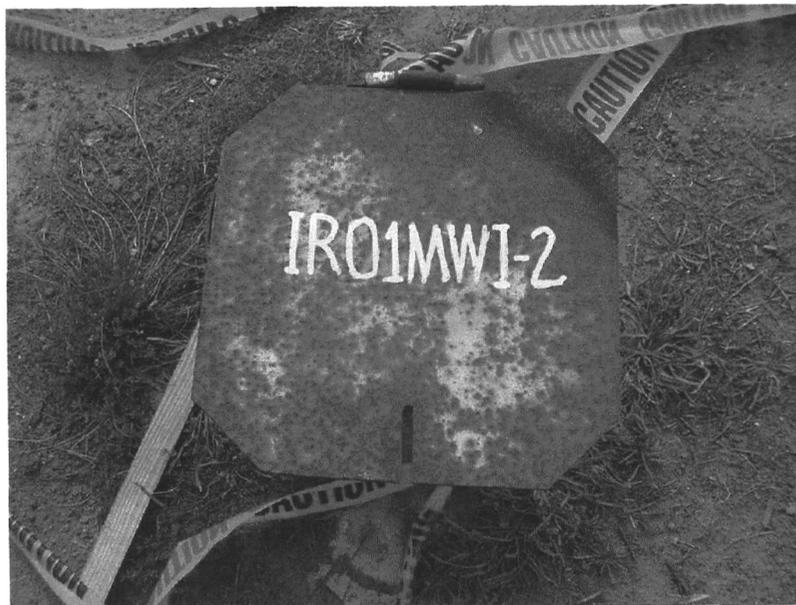


Well ID: IR01MW63A

Repair Date: 07/29/2002

**Repairs Performed: Standard Maintenance, Replaced Lock, Replaced Cap,
Refreshed External ID, Painted Stovepipe**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
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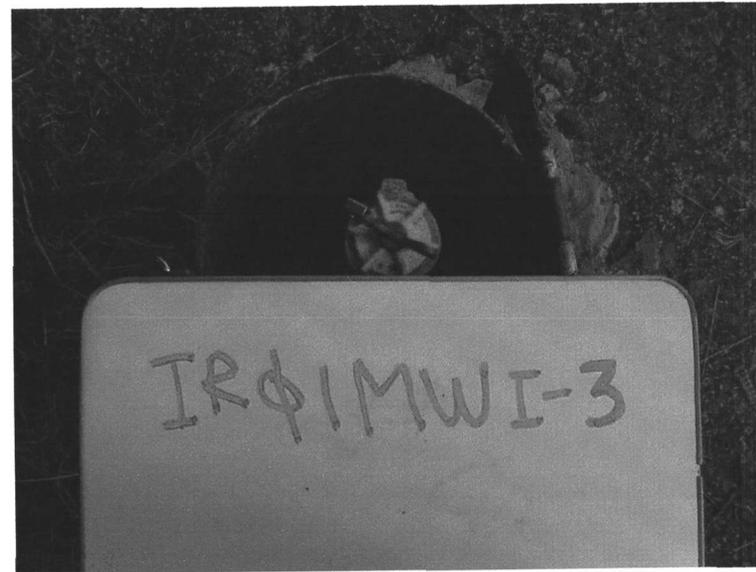


Well ID: IR01MWI-2

Repair Date: 07/29/2002

**Repairs Performed: Standard Maintenance, Replaced Cap, Refreshed
External ID**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 – Well Inspection and Repair
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Well ID: IR01MWI-3

Repair Date: 07/29/2002

**Repairs Performed: Standard Maintenance, Replaced Cap, Refreshed
External ID**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
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R&M Environmental Project No. 1424

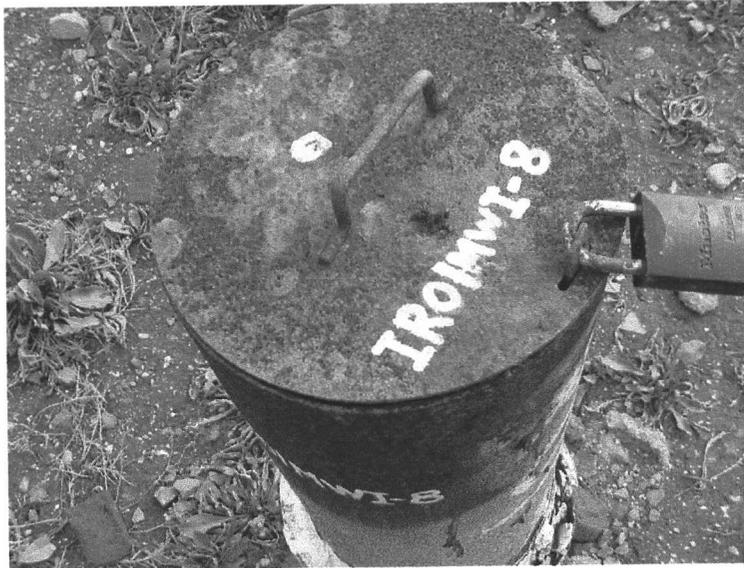


Well ID: IR01MWI-6

Repair Date: 07/29/2002

**Repairs Performed: Standard Maintenance, Replaced Lock, Replaced Cap,
Refreshed External ID, Painted Stovepipe**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
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R&M Environmental Project No. 1424

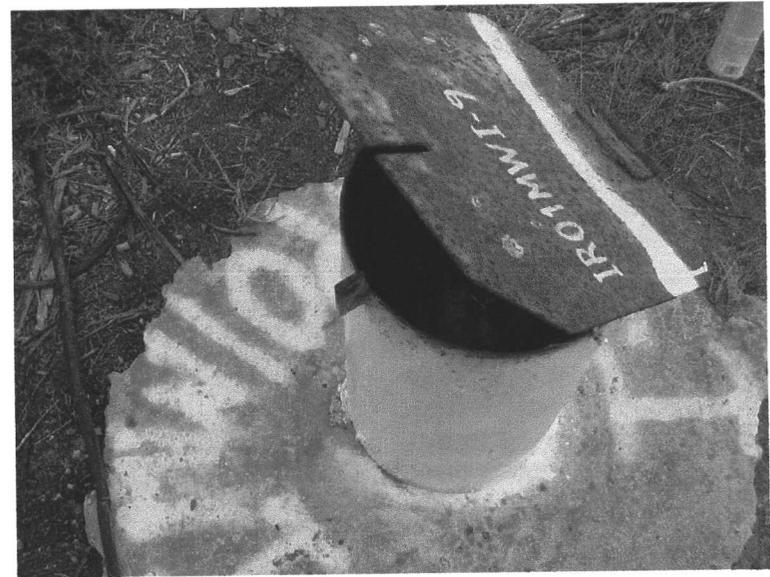
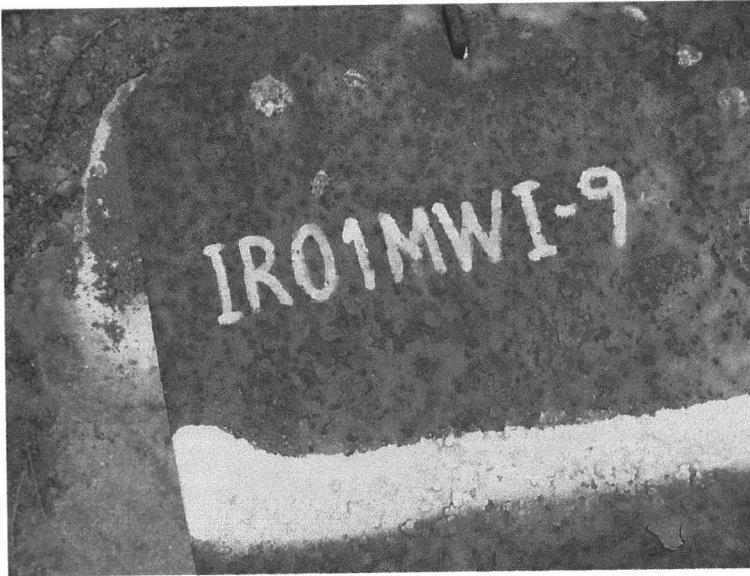


Well ID: IR01MWI-8

Repair Date: 07/29/2002

**Repairs Performed: Standard Maintenance, Replaced Lock, Replaced Cap,
Refreshed External ID**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
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R&M Environmental Project No. 1424

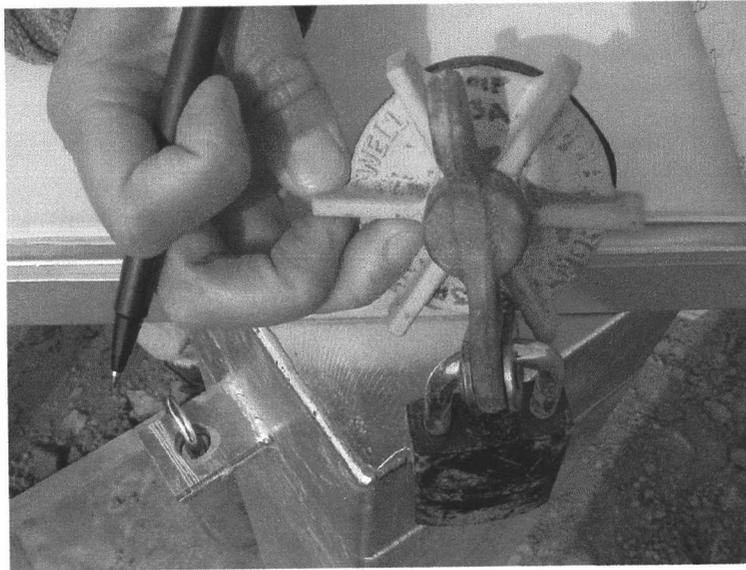


Well ID: IR01MWI-9

Repair Date: 07/29/2002

**Repairs Performed: Standard Maintenance, Replaced Cap, Refreshed
External ID, Painted Stovepipe**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
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R&M Environmental Project No. 1424

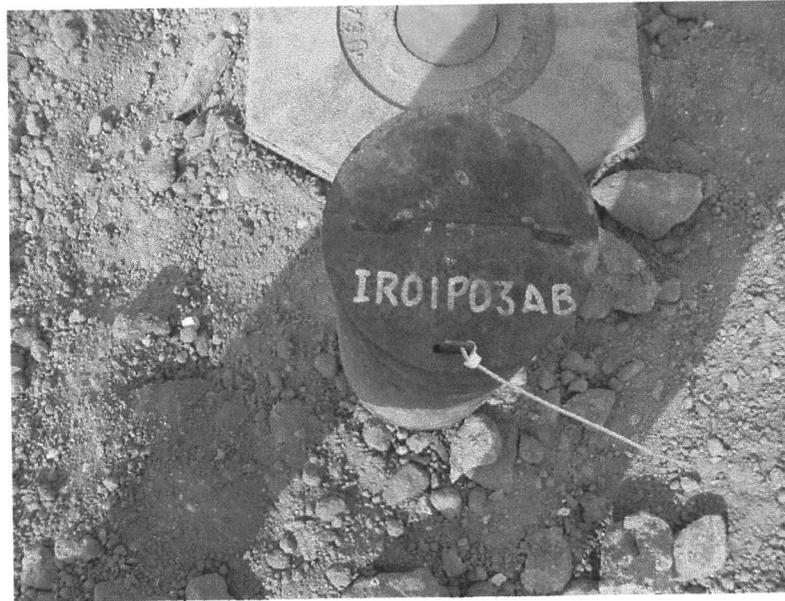


Well ID: IR01P03A

Repair Date: 07/29/2002

**Repairs Performed: Standard Maintenance, Replaced Lock, Replaced Cap,
Refreshed External ID (Note: After the repair was performed, a
contractor damaged and replaced this stovepipe)**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
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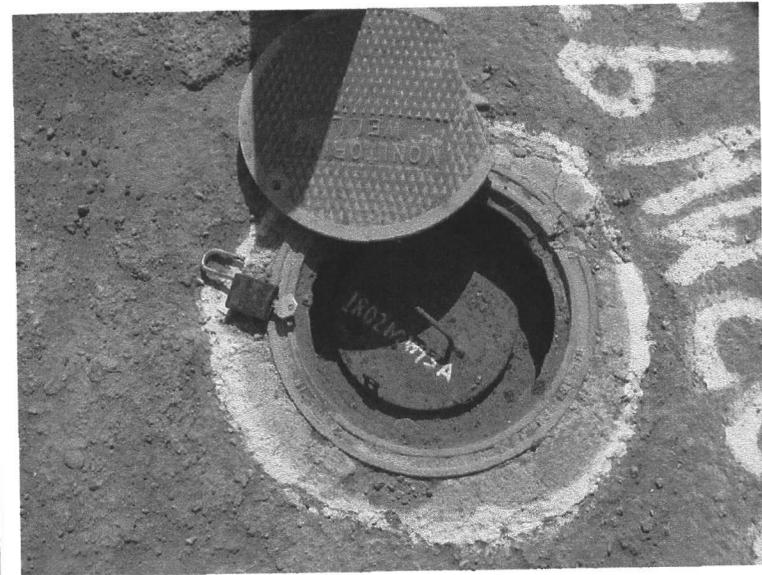
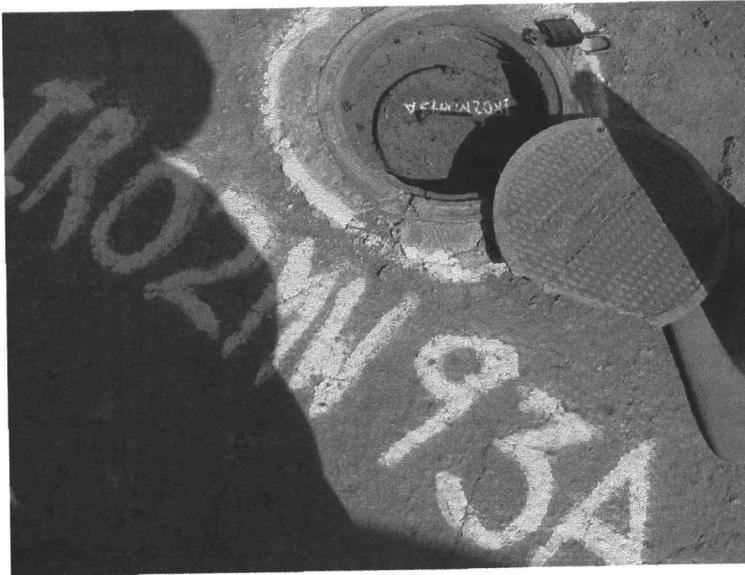


Well ID: IR01P03AB

Repair Date: 07/29/2002

**Repairs Performed: Standard Maintenance, Replaced Lock, Replaced Cap,
Refreshed External ID**

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R&M Environmental Project No. 1424

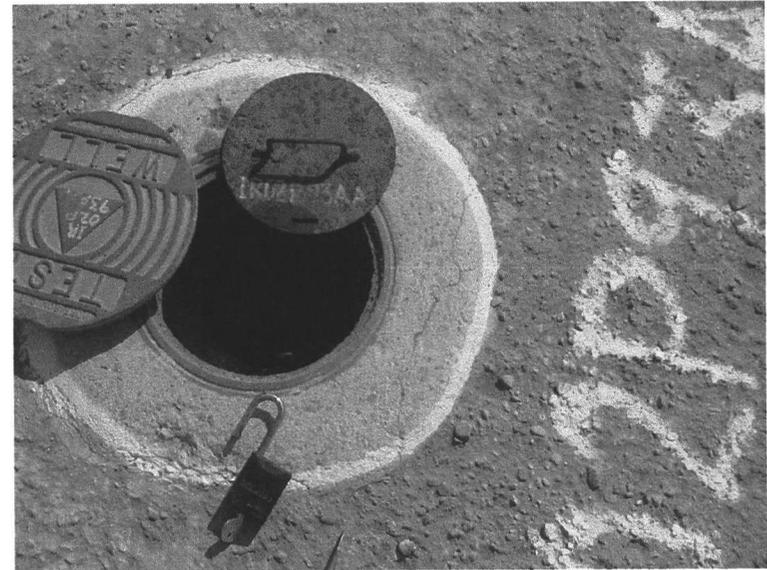


Well ID: IR02MW93A

Repair Date: 08/08/2002

Repairs Performed: Standard Maintenance, Refreshed External ID

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR02P93AA

Repair Date: 08/08/2002

**Repairs Performed: Standard Maintenance, Replaced Lock, Refreshed
External ID**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
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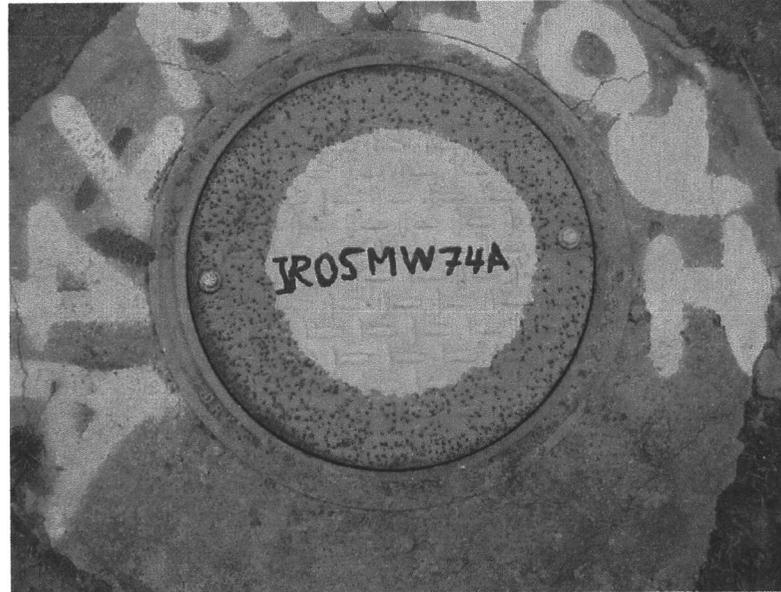


Well ID: IR05MW73A

Repair Date: 08/07/2002

**Repairs Performed: Standard Maintenance, Re-Tapped 2 Flanges,
Replaced 2 Bolts (5/16 X 1 1/4), Replaced 2 Washers, Refreshed
External ID, Cleared Brush From Around Vault**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR05MW74A

Repair Date: 08/07/2002

**Repairs Performed: Standard Maintenance, Re-Tapped 2 Flanges,
Replaced 2 Bolts (5/16 X 1 1/4), Replaced 2 Washers, Refreshed External
ID, Cleared Brush From Around Vault**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 – Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR05MW76A

Repair Date: 08/08/2002

Repairs Performed: Standard Maintenance, Replaced Lock, Replaced Cap, Re-Tapped 2 Flanges, Replaced 2 Bolts (5/16 X 1 1/4), Replaced 2 Washers, Refreshed External ID, Uncovered Well that Was Buried, Cleared Out Brush, Pumped Water From Vault

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR05MW77A

Repair Date: 08/07/2002

**Repairs Performed: Standard Maintenance, Refreshed External ID,
Painted Stovepipe, Cleared Brush**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR05P77AA

Repair Date: 08/07/2002

**Repairs Performed: Standard Maintenance, Replaced Lock, Refreshed
External ID, Painted Stovepipe, Cleared Brush**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR05MW85A

Repair Date: 08/07/2002

**Repairs Performed: Standard Maintenance, Replaced Lock, Refreshed
External ID, Painted Stovepipe, Cleared Brush**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424

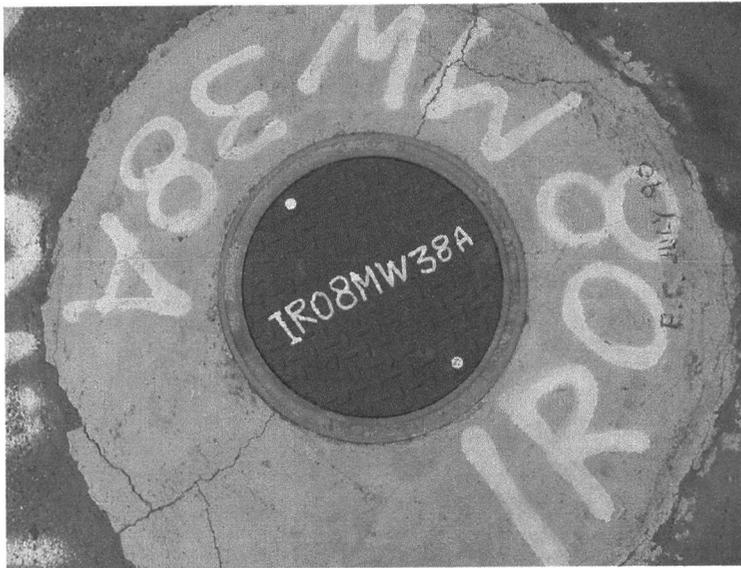


Well ID: IR05P77AB

Repair Date: 08/07/2002

**Repairs Performed: Standard Maintenance, Refreshed External ID,
Painted Stovepipe, Cleared Brush**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 – Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR08MW38A

Repair Date: 08/06/2002

**Repairs Performed: Standard Maintenance, Replaced Rubber Seal,
Replaced Cap, Re-Tapped 2 Flanges, Replaced 2 Bolts (3/8 X 1 1/2),
Refreshed External ID**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 – Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR09MW45F

Repair Date: 08/06/2002

**Repairs Performed: Standard Maintenance, Replaced Rubber Seal,
Refreshed External ID, Replaced 2 Washers, Pumped Water From
Vault**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR09MW51F

Repair Date: 08/06/2002

Repairs Performed: Standard Maintenance, Replaced Rubber Seal, Re-Tapped 3 Flanges, Replaced 3 Bolts (3/8 X 1 1/2), Replaced 3 Washers, Refreshed External ID, Pumped Water From Vault

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424

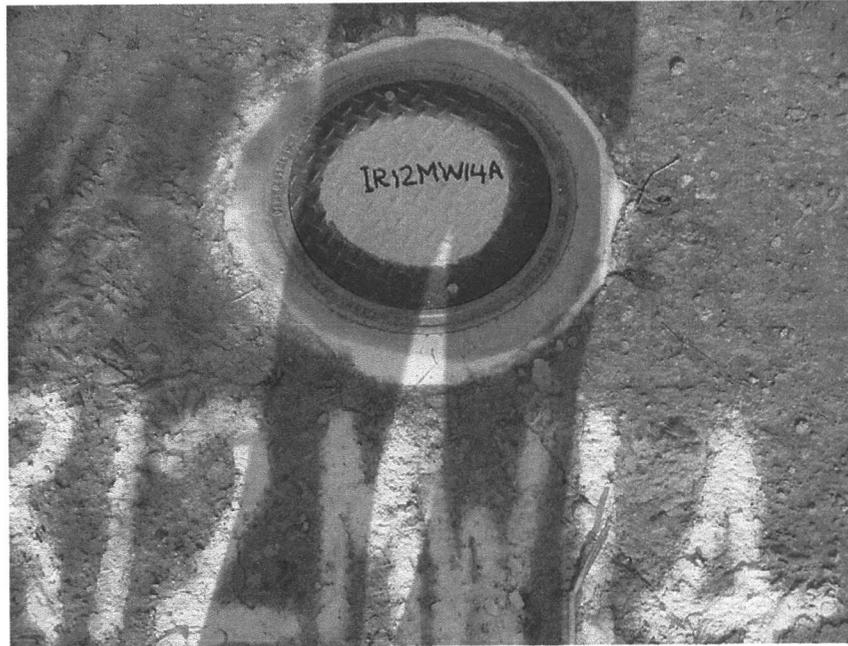


Well ID: IR09P041A

Repair Date: 08/07/2002

Repairs Performed: Standard Maintenance, Replaced Rubber Seal, Re-Tapped 2 Flanges, Replaced Lock, Replaced 2 Bolts (1/2 X 2), Replaced 2 Washers, Refreshed External ID

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR12MW14A

Repair Date: 08/08/2002

Repairs Performed: Standard Maintenance, Repaired Flanges, Replaced 2 Bolts (3/8 X 1 1/2), Replaced 2 Washers, Cleared Brush, Refreshed External ID (Note: This well had been designated as requiring vault replacement; Our inspection indicates that vault replacement is not required)

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424

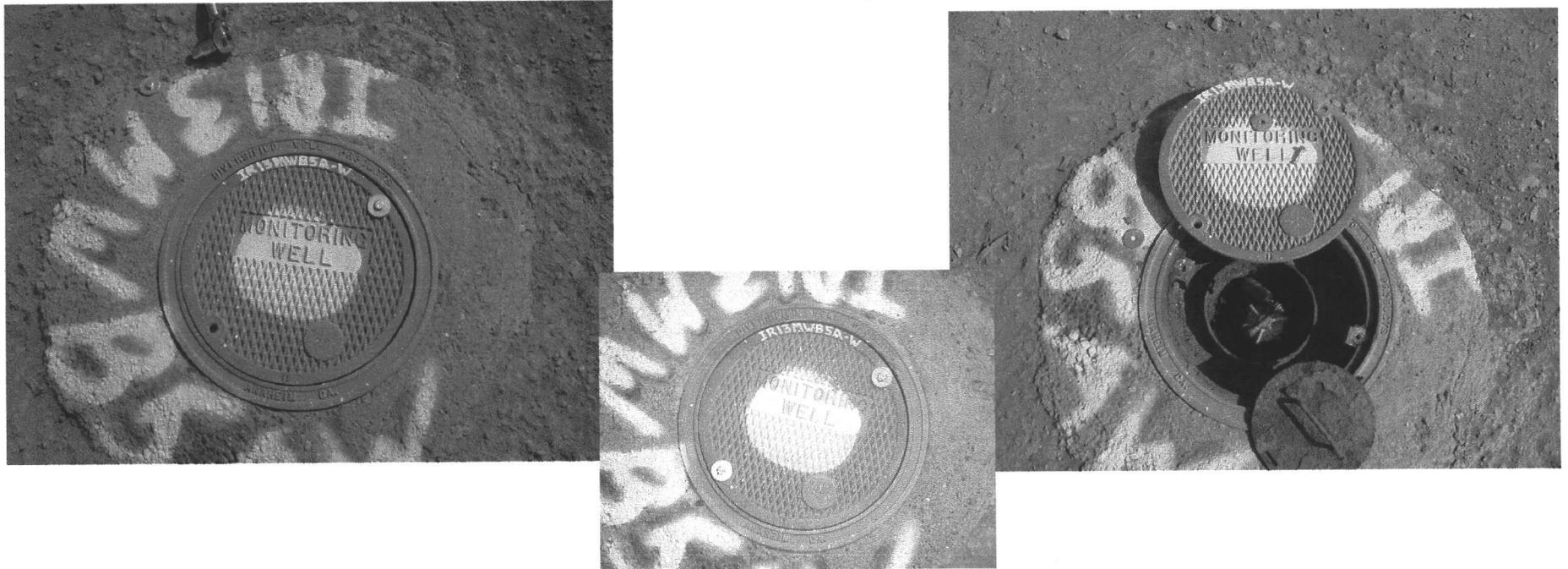


Well ID: IR12P14AB

Repair Date: 08/08/2002

**Repairs Performed: Standard Maintenance, Refreshed External ID,
Cleared Brush, Painted Stovepipe (Note: the stovepipe needs a new steel
lid; also, the surface grout/concrete at base of stovepipe needs to be
replaced)**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 – Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR13MWB5A-W

Repair Date: 08/08/2002

**Repairs Performed: Standard Maintenance, Replaced Rubber Seal,
Replaced Lock, Replaced Cap, Extracted 2 Broken Bolts, Re-Tapped 2
Flanges, Refreshed External ID, Cut TOC Level, Cleaned Inside of
Casing, Pumped Water From Vault, Replaced 2 Bolts (5/16 X 1 1/4),
Replaced 2 Washers**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 – Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR13P12AB

Repair Date: 07/25/2002

**Repairs Performed: Standard Maintenance, Replaced Lock, Refreshed
External ID, Cleared Brush**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR15MW07A

Repair Date: 07/25/2002

**Repairs Performed: Standard Maintenance, Replaced Lock, Refreshed
External ID, Painted Stovepipe**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 – Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR15MW08A

Repair Date: 07/25/2002

Repairs Performed: Standard Maintenance, Refreshed External ID

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR15P08AA

Repair Date: 07/25/2002

**Repairs Performed: Standard Maintenance, Replaced Lock, Refreshed
External ID (Note: there was evidence for presence of product in this
well)**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424

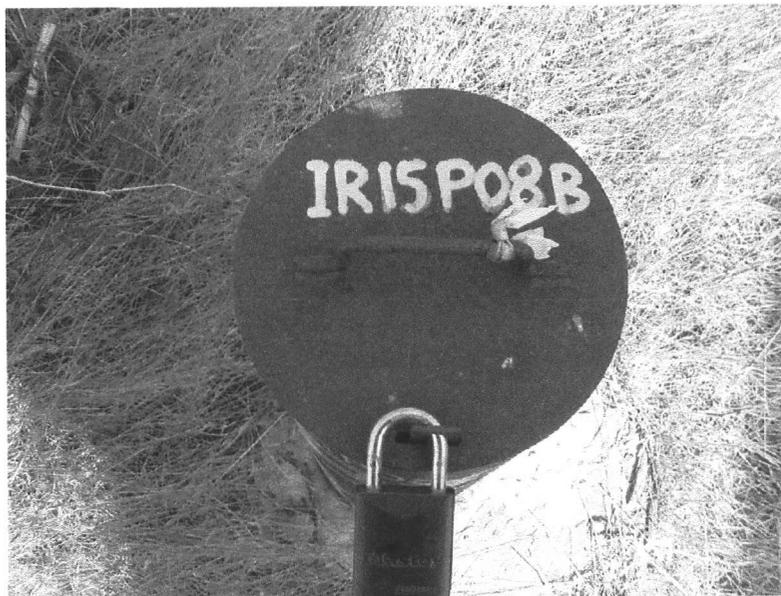


Well ID: IR15P08AB

Repair Date: 07/25/2002

**Repairs Performed: Standard Maintenance, Replaced Lock, Refreshed
External ID**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR15P08B

Repair Date: 07/25/2002

**Repairs Performed: Standard Maintenance, Replaced Lock, Refreshed
External ID**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 –Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR17MW11A

Repair Date: 07/25/2002

**Repairs Performed: Standard Maintenance, Replaced Cap, Refreshed
External ID, Re-Tapped 2 Flanges, Replaced 2 Bolts (3/8 X 1 1/2),
Replaced 2 Washers**

Contract No. N68711-02-C-8211, Groundwater Data Gaps Investigation Phase III,
Hunter Point Shipyard, San Francisco, CA
Task 3 – Well Inspection and Repair
R&M Environmental Project No. 1424



Well ID: IR22MW08A

Repair Date: 08/06/2002

**Repairs Performed: Standard Maintenance, Replaced Rubber Seal,
Replaced Lock, Replaced Cap, Re-Tapped 2 Flanges, Replaced 2 Bolts
(1/2 X 2), Replaced 2 Washers, Refreshed External ID**