



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, Ca. 94105

June 27, 1991

Richard Powell (Code 1811)
NAVFACENGCOM, Western Division
PO Box 787
San Bruno, CA 94066-0720

Dear Mr. ~~Powell~~ Powell:

Earlier this year, EPA had Bechtel Environmental conduct an oversight review of field work at Hunters Point Annex to evaluate conformance to approved sampling plans and the Quality Assurance Project Plan for the RI/FS. Enclosed is a copy of a summary report and checklist completed by the Bechtel team.

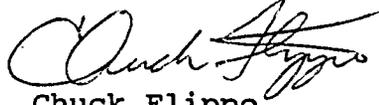
I am pleased to note that the report concludes that field work at Hunters Point is proceeding generally in accordance with the approved plans. Deviations from the plans appear to be justified, based on conditions actually encountered in the field.

There are two minor items we would like to note. First, while we agree with the rationale for delaying the surveying in of the monitoring wells, we would like to know when the surveying will be done.

Second, we note that custody seals are not being placed on coolers, presumably because the courier service signs, and becomes a part of, the chain-of-custody. This can be an acceptable procedure. Generally, however, we believe it preferable to seal the coolers and to minimize the number of persons involved in the chain-of-custody. The Navy may wish to review the current procedures at Hunters Point.

We appreciate the cooperation the Navy, Harding-Lawson, and PRC gave us in this evaluation. If you have any questions, please call me at (415) 744-2388.

Sincerely,

A handwritten signature in cursive script, appearing to read "Chuck Flippo".

Chuck Flippo
Remedial Project Manager

cc: Bill Brown, DHS
Tom Gandesbery, RWQCB
Cathie Gardinier, Bechtel

Bechtel

50 Beale Street
San Francisco, CA 94105-1895
Mailing address: P.O. Box 193965
San Francisco, CA 94119-3965

May 2, 1991

Chuck Flippo
U. S. EPA Region IX
75 Hawthorne Street
San Francisco, California 94105

Subject: Hunters Point Annex Project #60-05-9PP3
Technical Support to RI/FS Oversight Activities
Oversight Field Trip #1

Dear Mr. Flippo:

On April 9, 10, and 11, 1991, Bechtel representative Curtis Obi (Geologist) visited the Hunters Point Annex Site for Field Oversight Activities. Curtis Obi observed the PRP's drilling, subsurface soil sampling, well installation, and well development activities being conducted by PRC and Harding Lawson Associates (HLA), and documented compliance with the PRP's Field Sampling Plan procedures. Curtis Obi used checklists prepared prior to the oversight activities to document compliance with the Field Sampling Plan (FSP) during activities listed above. The completed checklists are attached to this letter. As previously decided, split subsurface soil samples were not collected because of insufficient sample volumes.

The following is a chronology of events for April 9, 10, and 11, 1991:

April 9, 1991

Curtis Obi met David Martinez (PRC Toxicologist) at the HPA front gate at 7:00 am, then visited the PRC/HLA field office before going to the IR-1 Industrial Landfill where preparations were being made to begin drilling IR1-MW053B. The driller was Don Gardiner of Weeks Drilling & Pump Co., Sebastopol, California (C57-177681), and was assisted by three crewmen on a Failing CF-15 mud rotary rig. The HLA geologists were Bill Feller and Rob Nelson.

The drilling of IR1-MW053B began at 11:00 am. As planned, the Bechtel representative did not enter the exclusion zone, but the drilling operations were readily observable from the perimeter. Detectable concentrations of a volatile organic compound (believed to be methane, draeger tubes did not indicate vinyl chloride) were measured with an OVA flame ionization detector above the borehole as the boring penetrated the landfill. Concentrations did not exceed the work limit of 5 ppm for the



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FOR ADDITIONAL INFORMATION, CONTACT:

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1220 PACIFIC HIGHWAY
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- (QAPP, 6.5.2): Centralizers were not used on the conductor casing because of the shallow depth and the tight and irregular fit in the landfill.
- (QAPP, 6.5.2): The grouted conductor casing for IR1-MW053B was not allowed to set for 12 hours before being flushed with fresh water. The HLA geologists, on approval from their office, instructed the drillers to flush conductor casing within hours of grouting. This allowed the drill rig to proceed to decontamination where it could be prepared for drilling on the following day (to advance the boring below the conductor casing). At least half a work day was saved and no leakage of the grout was observed.
- (QAPP, 6.5.2): Only one centralizer was placed on the well casing (at top of screen, none at bottom of screen).
- (QAPP, 6.5.2): The sand pack was placed to one foot (not two feet) above the well screen.
- (QAPP, 10.0): Drill cuttings and fluids were properly contained but will be analyzed at a later date.
- (QAPP, 11.2): Custody seals were not used on the sample cooler. However, the courier service signs, and becomes part of, the chain-of-custody.
- (QAPP, 11.3): Boring/well numbers were not listed on the sample labels. Instead, an HLA numbering system was used that is cross referenced in the drill logs and daily reports.

Overall, the PRP's consultant, PRC/HLA, conducted drilling, subsurface soil sampling, monitoring well installation, and monitoring well development operations in accordance with the procedures provided in the FSP. PRC/HLA provided full cooperation during our oversight activities.

Very truly yours,



Cathie L. Gardinier
Project Manager
(415) 768-2766

Attachments

cc: M. Mitguard w/o attachments

4/9/91

Drilling for conductor casing

**FIELD CHECKLIST FOR
 SAMPLING SUB-SURFACE SOILS**

IRL-MW053B

This field checklist is designed to evaluate sub-surface soil sampling activities as part of the Primary Remedial Investigation at the Hunters Point Annex Site located in San Francisco, California. Procedures described below are taken directly from the HPA Quality Assurance Project Plan or Field Sampling Plans.

Site Number IRL-MW053B

Date 4/9/91

HPA Sampling Round _____

**HORIZONTAL AND VERTICAL CONTROL
 MEASUREMENTS, (QAPP, 5.1)**

YES NO NA

Prior to Sampling:

- Sampling locations are referenced from/to known benchmarks/landmarks, which are in turn referenced to the California Coordinate System. ___ ✓ ___
- Vertical control measurements are referenced to topographic maps. ___ ✓ ___
- Vertical and horizontal control measurements are performed by a qualified HLA field personnel or a California-licensed land surveyor. ___ ✓ ___

At the time of Sampling (QAPP 11.3):

- Sampling locations are recorded in Field Investigation Daily Report. ✓ ___ ___
- Sampling locations are recorded on Sample Labels. ✓ ___ ___

(HLA is using their own sample numbering codes to avoid using the boring/well number on the sample label. The sample numbering codes are cross-referenced to the boring/well number on the drill log and daily report.)

If NO is checked, provide explanatory note if appropriate:

Borehole/well locations will be surveyed at a later date because prior experience indicates a likelihood of refusal in the landfill, which could cause repeated relocations and drilling attempts.

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4/9/91

Drilling for conductor casing
 IR-1-MW053B

FIELD CHECKLIST
 FOR
 SAMPLING SUB-SURFACE SOILS

SAMPLING PROCEDURES FOR SUBSURFACE SOILS
 (Continued)

	YES	NO	NA
• The split-barrel and/or thin-walled sampler is used where precise lithologic documentation is necessary.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Samples for lithologic logging from the rotary circulation systems are collected directly out of the borehole using a hand-held, fine-mesh screen.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Containers holding samples for chemical analysis by EPA Method 8010 are capped and immediately cooled to 4 degrees C.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DECONTAMINATING SAMPLING EQUIPMENT (QAPP, 10.0)

	YES	NO	NA
• All equipment that may have contacted contaminated material is decontaminated before and after use.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Soils and fluids produced during the installation, development of monitoring wells and borings are sampled and analyzed for selected chemicals (a subset of the target analytes of the analytical methods listed in Table 2 of the QAPP). <i>Decon Co. will handle, analyze, and dispose of cuttings & fluids.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Handling and disposal is in accordance with applicable regulations of the DHS, RWQCB, and other state and local agencies.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Materials are temporarily stored in bins, tanks, or 55-gallon drums until an acceptable means of disposal is determined. These containers are clearly labelled and stored in a secure location.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If NO is checked, provide explanatory note if appropriate:

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4/9/91

**FIELD CHECKLIST
FOR
SAMPLING SUB-SURFACE SOILS**

Drilling for conductor casing
IR2-MW/053 TS

SAMPLE TRANSFER AND SHIPMENT, (QAPP, 11.2):

YES NO NA

- Samples are accompanied by a chain of custody record.
- Samples are properly packaged for shipment.
- Custody seals are used when samples are shipped by a courier service. (Courier signs chain-of-custody)
- The method of shipment, courier name(s), and other pertinent information are entered in the chain of custody record. (Courier signs chain-of-custody)

Field Check by (Signature):

Curtis M. Obi

Date

4/9/91

Curtis M. Obi

If NO is checked, provide explanatory note if appropriate:

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4/10/91

Well Developing
 I R 03-MW227B

**FIELD CHECKLIST FOR
 INSTALLING MONITORING WELLS**

<u>DRILLING METHODS, (QAPP, 6.1):</u>	YES	NO	NA
• The hollow stem auger method is used to drill test borings, and shallow monitoring wells that are less than 45 feet deep	---	---	✓
• In areas of limited access, portable hydraulic drill rigs are used to extend borings to depths of less than 20 feet.	---	---	✓
• The conventional mud-rotary method is used:			
to drill test borings and monitoring wells that require a larger diameter	---	---	✓
OR			
to drill test borings and monitoring wells to greater depths greater than 45 feet	---	---	✓
AND			
to drill test boring and monitoring wells which are to be geophysically logged.	---	---	✓
• The reverse-circulation method is used for large diameter (greater than 18 inches) wells when the drilling area is accessible for large equipment and a constant, high-volume source of clean water is readily available.	---	---	✓
• The dual-reverse circulation method is used in cases where direct rotary drilling is preferred, but when the use of drilling muds is not desirable and when geophysical logs are not needed.	---	---	✓
• Group I and III Sites: During drilling, ground-water samples are collected from specific test borings to screen for chemical constituents (Work Plans, Volumes 2A, and 2C).	---	---	✓

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Well Developing
 IRO3-227 B

**FIELD CHECKLIST FOR
 INSTALLING MONITORING WELLS**

BOREHOLE GEOPHYSICS, (cont'd):

- | | <u>YES</u> | <u>NO</u> | <u>NA</u> |
|---|------------|-----------|-----------|
| • The analog chart recorder is calibrated to read full scale (100 millivolts) before the start of the logging operations. | ----- | ----- | ----- ✓ |
| • An extra combination probe is available in the event of a probe malfunction. | ----- | ----- | ----- ✓ |

WELL INSTALLATION (QAPP, 6.5)

- | | <u>YES</u> | <u>NO</u> | <u>NA</u> |
|---|------------|-----------|-----------|
| • Well specifications are reviewed by the HLA project manager before drilling and installing wells. | ----- | ----- | ----- ✓ |
| • Permits and access agreements are obtained before well installation. | ----- | ----- | ----- ✓ |
| • Local agencies are notified as required by local regulations. | ----- | ----- | ----- ✓ |
| • A geologist, engineer, or hydrogeologist -- under the supervision of a registered civil engineer, registered geologist, or certified engineering geologist -- supervises well installation. | ----- | ----- | ----- ✓ |
| • Wells are constructed as shown on the plates in the Illustrations section of the QAPP: | | | |
| - Above-grade single casing well: Plate 6. | ----- | ----- | ----- ✓ |
| - Below-grade single casing well: Plate 7. | ----- | ----- | ----- ✓ |
| - Above-grade double casing well: Plate 8. | ----- | ----- | ----- ✓ |
| - Below-grade double casing well: Plate 9. | ----- | ----- | ----- ✓ |
| • Well construction details for each installed well are entered on a field well construction form. (A sample of this form is included in Appendix C of the QAPP.) | ----- | ----- | ----- ✓ |

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4/10/91
 Well Developing
 IRO3-MW/227B

**FIELD CHECKLIST FOR
 INSTALLING MONITORING WELLS**

SINGLE CASING WELLS, (QAPP 6.5.1)

YES NO NA

- Wells that fully penetrate an aquifer are drilled a minimum of one foot into the aquitard below the aquifer. -----
- Well casings and screen (factory slotted) are constructed using 4-inch diameter SDR 21 or Schedule 40 flush-threaded PVC pipe. -----
- Slot size is determined for each well. -----
- Centralizers are placed at the top and bottom of the screens. -----
- Screen lengths for wells at Group I, II, III, and IV Sites: The following is a direct quotation from the QAPP "Screen lengths are equal to the thickness of, and are placed adjacent to, the aquifer material or from 1 foot above the anticipated highest level of the water table to the first aquitard below the aquifer." This quote is assumed to mean "Screen lengths are equal to either the aquifer thickness or the distance from the top of the aquitard underlying the aquifer to one foot above the highest water level in the aquifer." -----
- Screen length for wells at Group V Sites (Work Plan, Volume 2F): - Screens extend from a maximum of 5 feet above the water table either to 10 feet below the water table or to the bottom of the fill materials, whichever is less. -----
- Water-washed sand (sandpack) is placed around the screen and above the top of the screen at least 2 feet. -----

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4/10/71

Well Developing
 IRO3-MW227B

**FIELD CHECKLIST FOR
 INSTALLING MONITORING WELLS**

SINGLE CASING WELLS (cont'd):

	YES	NO	NA
• Grout is pumped through a tremie tube into the annulus around the well. The discharge end of the tremie tube is initially placed immediately above the bentonite seal.	_____	_____	_____/_____ ✓
• For grout seals above the static water level, materials are thoroughly mixed at the surface and carefully poured into the annulus above the bentonite pellet seal to the top of the annular space (ground surface).	_____	_____	_____/_____ ✓
• The well is examined for grout shrinkage after at least 24 hours have elapsed.	_____	_____	_____/_____ ✓

DOUBLE CASING WELLS, (QAPP 6.5.2)

	YES	NO	NA
• A geologist, engineer, or hydrogeologist has supervised well installation and prepared a lithologic log of the boring using the ASTM system.	-----	-----	----- ✓
• Wells are drilled using the direct- to reverse- rotary methods.	-----	-----	----- ✓
• Bentonite/water drilling fluid is used during direct- rotary drilling.	-----	-----	----- ✓
• Tap water with no additives is used during reverse- rotary drilling.	-----	-----	----- ✓
[Not addressed by QAPP: Tap water used for drilling is pre-analyzed or another acceptable source of water is used.]	-----	-----	----- ✓

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9/2/91
 Well Developing
 IRO3-MW227B

**FIELD CHECKLIST FOR
 INSTALLING MONITORING WELLS**

DOUBLE CASING WELLS (cont'd)

	YES	NO	NA
• Centralizers are placed at the top and bottom of the screen.	---	---	✓
• Water-washed sand (sandpack) is placed around the screen and above the top of the screen at least 2 feet.	---	---	✓
• A minimum 3-foot bentonite pellet or slurry seal is placed above the sand pack.	---	---	✓
• Sand and bentonite levels are confirmed during construction by sounding with a weighted tape.	---	---	✓
• The annular space above the bentonite seal is sealed by pumping grout from the bottom of the annular space to the ground surface through a tremie pipe.	---	---	✓
• The grout is mixed with water.	---	---	✓
• Grout in the well seal is allowed to set for 12 hours before developing the well begins.	---	---	✓

WELL DEVELOPMENT [QAPP, 6.6]

	YES	NO	NA
• Wells are developed by surging, bailing and/or pumping.	✓	---	---
• Wells are developed until the discharge water is visibly clear and free of sediment. <i>Did not verify this but this was Rob Nelson's (HLA) goal.</i>	✓	---	---
[Not addressed by QAPP: Turbidity measurements are taken to determine complete well development.	✓	---	---
• Adequacy of well development is determined by the geologist, engineer, or hydrogeologist.	✓	---	---

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Well Development
 IR03-MW227B

**FIELD CHECKLIST FOR
 INSTALLING MONITORING WELLS**

DECONTAMINATING SAMPLING EQUIPMENT (cont'd)

YES NO NA

- Soils and fluids produced during the installation, development of monitoring wells and borings are sampled and analyzed for selected chemicals (a subset of the target analytes of the analytical methods listed in Table 2 of the QAPP). *(This will be performed later by Decan Co.)*
- Handling and disposal is in accordance with applicable regulations of the DHS, RWQCB, and other state and local agencies.
- Materials are temporarily stored in bins, tanks, or 55-gallon drums until an acceptable means of disposal is determined. These containers are clearly labelled and stored in a secure location.

_____	✓ _____	_____
✓ _____	_____	_____
✓ _____	_____	_____

Field Check by (Signature):

Curtis M. Obi

Curtis M. Obi

Date

4/10/91

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Well Installation
 IR1-MW053B

**FIELD CHECKLIST FOR
 INSTALLING MONITORING WELLS**

DRILLING METHODS, (QAPP, 6.1):	YES	NO	NA
• The hollow stem auger method is used to drill test borings, and shallow monitoring wells that are less than 45 feet deep	-----	-----	----- ✓
• In areas of limited access, portable hydraulic drill rigs are used to extend borings to depths of less than 20 feet.	-----	-----	----- ✓
• The conventional mud-rotary method is used:			
to drill test borings and monitoring wells that require a larger diameter	----- ✓	-----	-----
OR			
to drill test borings and monitoring wells to greater depths greater than 45 feet	-----	-----	----- ✓
AND			
to drill test boring and monitoring wells which are to be geophysically logged.	-----	-----	----- ✓
• The reverse-circulation method is used for large diameter (greater than 18 inches) wells when the drilling area is accessible for large equipment and a constant, high-volume source of clean water is readily available.	-----	-----	----- ✓
• The dual-reverse circulation method is used in cases where direct rotary drilling is preferred, but when the use of drilling muds is not desirable and when geophysical logs are not needed.	-----	-----	----- ✓
• Group I and III Sites: During drilling, ground-water samples are collected from specific test borings to screen for chemical constituents (Work Plans, Volumes 2A, and 2C).	-----	-----	----- ✓

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9/11/91
 Well Installation
 IR1-MW053B

**FIELD CHECKLIST FOR
 INSTALLING MONITORING WELLS**

BOREHOLE GEOPHYSICS, (cont'd):

- | | YES | NO | NA |
|---|------------|-----------|-----------|
| • The analog chart recorder is calibrated to read full scale (100 millivolts) before the start of the logging operations. | ----- | ----- | ----- ✓ |
| • An extra combination probe is available in the event of a probe malfunction. | ----- | ----- | ----- ✓ |

WELL INSTALLATION (QAPP, 6.5)

- | | YES | NO | NA |
|---|------------|-----------|-----------|
| • Well specifications are reviewed by the HLA project manager before drilling and installing wells. | ----- ✓ | ----- | ----- |
| • Permits and access agreements are obtained before well installation. (Bill Feller (HLA) says this has been done.) | ----- ✓ | ----- | ----- |
| • Local agencies are notified as required by local regulations (Bill Feller (HLA) says this has been done.) | ----- ✓ | ----- | ----- |
| • A geologist, engineer, or hydrogeologist -- under the supervision of a registered civil engineer, registered geologist, or certified engineering geologist -- supervises well installation. | ----- ✓ | ----- | ----- |
| • Wells are constructed as shown on the plates in the Illustrations section of the QAPP: | | | |
| - Above-grade single casing well: Plate 6. | ----- | ----- | ----- ✓ |
| - Below-grade single casing well: Plate 7. | ----- | ----- | ----- ✓ |
| - Above-grade double casing well: Plate 8. | ----- 0 | ----- | ----- |
| - Below-grade double casing well: Plate 9. | ----- | ----- | ----- ✓ |
| • Well construction details for each installed well are entered on a field well construction form. (A sample of this form is included in Appendix C of the QAPP.) | ----- 0 | ----- | ----- |

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4/11/91
 Well Installation
 IRI-HW053B

**FIELD CHECKLIST FOR
 INSTALLING MONITORING WELLS**

SINGLE CASING WELLS, (QAPP 6.5.1)

	YES	NO	NA
• Wells that fully penetrate an aquifer are drilled a minimum of one foot into the aquitard below the aquifer.	-----	-----	----- ✓
• Well casings and screen (factory slotted) are constructed using 4-inch diameter SDR 21 or Schedule 40 flush-threaded PVC pipe.	-----	-----	----- ✓
• Slot size is determined for each well.	-----	-----	----- ✓
• Centralizers are placed at the top and bottom of the screens.	-----	-----	----- ✓
• Screen lengths for wells at Group I, II, III, and IV Sites: The following is a direct quotation from the QAPP "Screen lengths are equal to the thickness of, and are placed adjacent to, the aquifer material or from 1 foot above the anticipated highest level of the water table to the first aquitard below the aquifer." This quote is assumed to mean "Screen lengths are equal to either the aquifer thickness or the distance from the top of the aquitard underlying the aquifer to one foot above the highest water level in the aquifer."	-----	-----	----- ✓
• Screen length for wells at Group V Sites (Work Plan, Volume 2F): - Screens extend from a maximum of 5 feet above the water table either to 10 feet below the water table or to the bottom of the fill materials, whichever is less.	-----	-----	----- ✓
• Water-washed sand (sandpack) is placed around the screen and above the top of the screen at least 2 feet.	-----	-----	----- ✓

If NO is checked, provide explanatory note if appropriate:

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FOR ADDITIONAL INFORMATION, CONTACT:

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 Well Installation
 IRI-MW053B

**FIELD CHECKLIST FOR
 INSTALLING MONITORING WELLS**

SINGLE CASING WELLS (cont'd):

- | | YES | NO | NA |
|---|------------|-----------|------------------|
| • Grout is pumped through a tremie tube into the annulus around the well. The discharge end of the tremie tube is initially placed immediately above the bentonite seal. | _____ | _____ | _____/_____
✓ |
| • For grout seals above the static water level, materials are thoroughly mixed at the surface and carefully poured into the annulus above the bentonite pellet seal to the top of the annular space (ground surface). | _____ | _____ | _____/_____
✓ |
| • The well is examined for grout shrinkage after at least 24 hours have elapsed. | _____ | _____ | _____/_____
✓ |

DOUBLE CASING WELLS, (QAPP 6.5.2)

- | | YES | NO | NA |
|--|------------------|-----------|------------------|
| • A geologist, engineer, or hydrogeologist has supervised well installation and prepared a lithologic log of the boring using the ASTM system. | _____/_____
✓ | ----- | ----- |
| • Wells are drilled using the direct- to reverse- rotary methods. | _____/_____
✓ | ----- | ----- |
| • Bentonite/water drilling fluid is used during direct- rotary drilling. | _____/_____
✓ | ----- | ----- |
| • Tap water with no additives is used during reverse- rotary drilling. | ----- | ----- | _____/_____
✓ |
| [Not addressed by QAPP: Tap water used for drilling is pre-analyzed or another acceptable source of water is used.] | _____/_____
✓ | ----- | ----- |

(Bill Failer (HLA) says this has been done several times)

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9/11/91
 Well Installation
 IR1-MW053B

**FIELD CHECKLIST FOR
 INSTALLING MONITORING WELLS**

DOUBLE CASING WELLS (cont'd)

	YES	NO	NA
• Centralizers are placed at the top and bottom of the screen. only	✓	---	---
• Water-washed sand (sandpack) is placed around the screen and above the top of the screen at least 2 feet. 1 foot	✓	---	---
• A minimum 3-foot bentonite pellet or slurry seal is placed above the sand pack.	✓	---	---
• Sand and bentonite levels are confirmed during construction by sounding with a weighted tape.	✓	---	---
• The annular space above the bentonite seal is sealed by pumping grout from the bottom of the annular space to the ground surface through a tremie pipe.	✓	---	---
• The grout is mixed with water.	✓	---	---
• Grout in the well seal is allowed to set for 12 hours before developing the well begins.	✓	---	---

WELL DEVELOPMENT, [QAPP, 6.6]

	YES	NO	NA
• Wells are developed by surging, bailing and/or pumping.	---	---	✓
• Wells are developed until the discharge water is visibly clear and free of sediment.	---	---	✓
[Not addressed by QAPP: Turbidity measurements are taken to determine complete well development.	---	---	✓
• Adequacy of well development is determined by the geologist, engineer, or hydrogeologist.	---	---	✓

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Well Installation
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**FIELD CHECKLIST FOR
INSTALLING MONITORING WELLS**

DECONTAMINATING SAMPLING EQUIPMENT (cont'd)

YES NO NA

- Soils and fluids produced during the installation, development of monitoring wells and borings are sampled and analyzed for selected chemicals (a subset of the target analytes of the analytical methods listed in Table 2 of the QAPP). *(This will be done at a later date by Decon. Co.)*
- Handling and disposal is in accordance with applicable regulations of the DHS, RWQCB, and other state and local agencies.
- Materials are temporarily stored in bins, tanks, or 55-gallon drums until an acceptable means of disposal is determined. These containers are clearly labelled and stored in a secure location.

Field Check by (Signature):

Date

Curtis M. Obi
Curtis M. Obi

4/11/91

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