

March 8, 2006

Ms. Jocelyn Habal  
Senior Environmental Health Specialist  
Contra Costa County Health Services Department  
Environmental Health Division  
2120 Diamond Boulevard, Suite 200  
Concord, CA 94520

Ms. Lynn Nakashima  
California Department of Toxic Substances Control  
700 Heinz Street, Suite 100  
Berkeley, California 94710-2721

Subject: Well Closure Documentation Report  
University of California Berkeley – Richmond Field Station  
1301 S. 46<sup>th</sup> Street, Richmond, California

Dear Ms. Habal:

## **INTRODUCTION AND BACKGROUND**

On behalf of the property owner, University of California – Berkeley (UC Berkeley), Stellar Environmental Solutions, Inc. (SES) is submitting this technical documentation report discussing the permanent destruction (decommissioning) of 27 wells (including 3 shallow piezometers) at the referenced site. One additional well was found to be previously closed. The work was initiated at the request of the Contra Costa County Health Services Department – Well Section (CCCHSD), as the wells serve no current or anticipated research function.

Technical specifications for the well closures (Stellar Environmental Solutions, 2005a) were submitted to CCCHSD and to the California Department of Toxic Substances Control (DTSC), who requested some technical revisions to the well closure methodology. Revised technical specifications incorporating DTSC's comments and were subsequently re-submitted to CCCHSD and DTSC (Stellar Environmental Solutions, 2005b). Field conditions dictated obtaining from CCCHSD variances from the final technical specifications, as discussed below.

The main wellfield was installed in the early 1950s by UC Berkeley as part of a State of California-funded research project on deep well injection and contaminant transport (Final Report on Laboratory and Field Investigations of the Travel of Pollution From Direct Recharge into Underground Formations, University of California, Berkeley, December 31, 1954). Information on well installation, usage, and construction was obtained from the 1954 report (which was included in our 2005 Technical Specifications package).

The three shallow piezometers were installed in September 2002 as temporary groundwater monitoring points to determine groundwater flow direction, as part of ongoing site contaminant investigations. These piezometers are not related to the 1950s research wellfield, and UC Berkeley has determined that these piezometers are no longer needed.

The Richmond Field Station site is located immediately southwest of Interstate 580 (I-580) in western Richmond, California. Figure 1 is a site location map. The 1950s wellfield is located in the central portion of the site (near San Francisco Bay); most of the wells are within the grassy undeveloped field immediately to the north of Crow Drive. Figure 2 is a site plan showing the area of the 1950s wellfield, and the location of the piezometers. Figure 3 is a detail map showing the 1950s wellfield. The 1950s wellfield dimensions are approximately 600 feet long (north to south) by 150 feet wide (east to west, at its widest point). The piezometers are located farther to the south and southeast of the 1950s well field.

### **1950'S WELL INSTALLATION AND USAGE**

The main wellfield was installed in the early 1950's as part of a research project funded by the California Regional Water Quality Control Board (Water Board). The project evaluated the feasibility of subsurface injection (recharge) of sewage waste effluent. Two types of wells were installed: recharge (injection) wells (2), and observation wells (23).

Following completion of the 1953 study, some or all of the wells were used in subsequent (1960s) studies involving groundwater transport. These studies used radiological isotope tracers: tritium (H3); two isotopes of strontium (Sr89 & Sr90); cesium (Cs137); and yttrium (Y90). Most recently, the "Final Recharge Well" was utilized for localized onsite irrigation.

As shown in Table 1, three wells documented in the 1954 report could not be located, either by visual inspection of the area or a metal detector survey. These wells were either previously closed, paved over or built over.



### SITE LOCATION ON U.S.G.S. TOPOGRAPHIC MAP

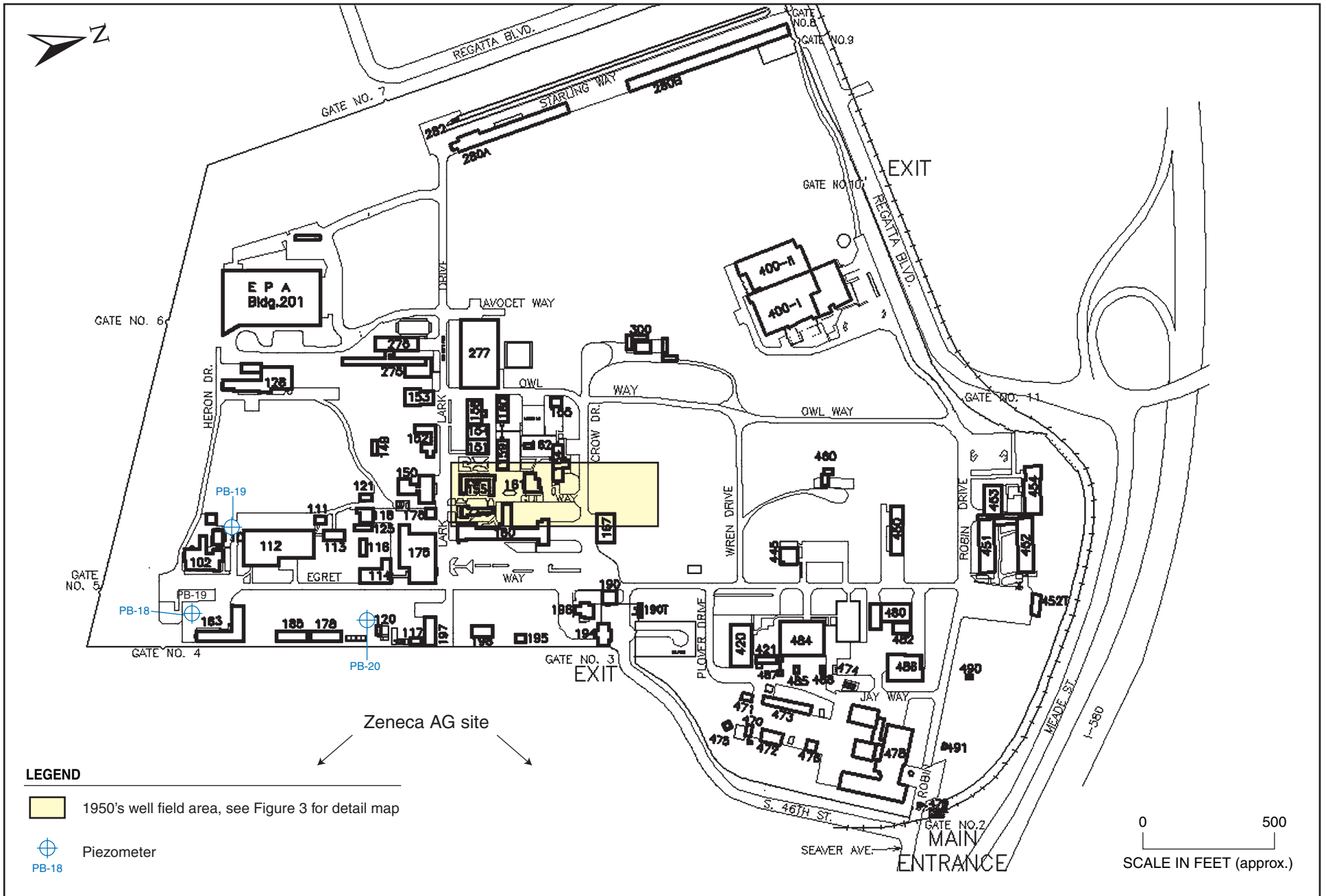
UC Berkeley/Richmond Field Station  
Richmond, CA

By: MJC

MARCH 2005

Figure 1

**Stellar Environmental Solutions, Inc.**  
Geoscience & Engineering Consulting





0 50  
SCALE IN FEET (approx.)

LEGEND	
⊕	Observation well
⊕ F	"Final" recharge well
⊕ O	"Original" recharge well
*	Well could not be located

★ **Stellar Environmental Solutions, Inc.**  
Geoscience & Engineering Consulting

**WELLFIELD LAYOUT**  
**UC Berkeley — Richmond Field Station**

**Figure 3**

by: MJC

MARCH 2006

**Table 1**  
**Groundwater Well and Piezometer Construction and Grouting Data**  
**UC Berkeley – Richmond Field Station, Richmond, California**

Well / Piezometer	Well Depth - Installed <sup>(a)</sup>	Well Depth - 2006 <sup>(b)</sup>	Screened Interval	Anticipated Grout Volume (gals) <sup>(c)</sup>	Emplaced Grout Volume (gals)
<b>Recharge Wells (12-inch steel casing)</b>					
“Original” Recharge Well	112	94	102 – 112 (10’)	536	~530
“Final” Recharge Well	102	100	90 – 100 (10’)	580	~600
<b>Observation Wells (6-inch steel casing)</b>					
10-East	105	98	94 – 101 (7’)	147	~150
25-East	103	100	92 – 99 (7’)	150	~150
50-East	102	110	92 – 99 (7’)	165	~160
100-East	102	100	94 – 101 (7’)	150	~150
New 13-East	103	100	94 – 102’ (8’)	150	~150
New 50-East	101	97	89 – 97 (8’)	146	~150
10-North	102	100	91 – 98 (7’)	150	~150
25-North	105	106	94 – 101 (7’)	159	~155
50-North	103	93	92 – 99 (7’)	140	~140
100-North	103	not located	92 – 99 (7’)		
10-West	105	97	95 – 102 (7’)	146	~150
25-West	105	65	94 – 101 (7’)	98	~90
50-West	102	64	91 – 98 (7’)	96	~90
New 13-West	101	94	91 – 99 (8’) <sup>(c)</sup>	141	~140
New 50-West	104	96	94 – 103 (7’)	144	~140
10-South	105	not located	95 – 102 (7’)		
25-South	105	100	94 – 101 (7’)	150	~150

**Table 1 (continued)**

Well / Piezometer	Well Depth - Installed <sup>(a)</sup>	Well Depth - 2006 <sup>(b)</sup>	Screened Interval	Anticipated Grout Volume (gals) <sup>(c)</sup>	Emplaced Grout Volume (gals)
50-South	105	97	94 – 101 (7')	146	~140
100-South	110	98	100 – 107 (7')	147	~140
New 100-South	101	(e)	92 – 99 (7')		
225-South	100	100	92 – 99 (7')	150	~150
500-South	104	not located	96 – 103 (7')		
224-Southeast	100	98	92 – 99 (7')	147	~150
<b>Additional Site Wells Not Documented in 1954 Report (6-inch steel casing)</b>					
U-1	not documented	102	not documented	153	~150
U-2	not documented	101	not documented	152	~150
U-3	not documented	92	not documented	138	~135
<b>Piezometers (1/2-inch PVC, pre-packed well screens and casing, overdrilled with 8-inch augers)</b>					
PB-18	16	12	6 -16	42	40
PB-19	16	13	6 -16	42	40
PB-20	16	12	6 -16	42	40

Notes:

- <sup>(a)</sup> Depth documented in 1954 well installation report
- <sup>(b)</sup> Depth to which 3/4-inch tremie pipe could be delivered during 2006 well closures.
- <sup>(c)</sup> Calculated as 1.5 gallons/foot casing (6-inch wells) and 5.8 gallons/foot casing (12-inch wells) x 2006 probed depth.
- <sup>(d)</sup> Calculated as 2.6 gallons/foot casing (8-inch diameter augered-borehole x drill depth.
- <sup>(e)</sup> The well appears to be previously closed - filled with rock and soil to at least 6 feet below ground surface.

All depths are in feet below ground surface.

Our recent inspections identified an additional three wells, in the main wellfield area, that were not documented in the 1954 study report (named the “U” wells for this project). The “U” wells are of similar construction and depth to the 1950s wells, and we presume they were installed within that time period. No documentation was available regarding those additional wells.

A detailed discussion of the well construction specification and water quality sampling was presented in the December 8, 2005 well closure workplan (SES, 2005b). The 1950s wells were completed (screened) solely in the water-bearing zone present between approximately 90 and 100 feet below grade, and were sealed off from the overlying water-bearing zones. Equilibrated water levels measured in the 1950s wells in April 2005 were approximately 3 to 4 feet below grade, indicating confining conditions. The direction of local groundwater flow is inferred to be to the south (toward San Francisco Bay).

The piezometers are screened from 6 to 16 feet. In the one piezometer with a borehole geologic log (PB-19), lithology encountered was a dry, stiff clay (0 to 10 feet) underlain by wet gravelly sand (11 to 12 feet) underlain by a wet sand (12 to 14 feet) underlain by a wet stiff clay (14 feet to bottom of borehole). Groundwater in these piezometers is from the uppermost water-bearing zone, and is not connected to the underlying water-bearing zone in which the 1950s wells are screened.

## **WELL CONSTRUCTION SPECIFICATIONS**

This section discusses key well and piezometer construction specifications (as defined in the 1954 study report), which are summarized in Table 1.

### **Original Recharge Well**

- Cable-tool installed with steel casing driven to completion depth
- 6-inch-diameter steel slotted casing (7 feet long), with 28 slots each measuring 1/8-inch wide by 6 inches long
- 6-inch-diameter steel riser casing to surface
- No annular space, filter pack material, or annular pollution seal



### **Documented 1953 Observation Wells**

- Cable-tool installed with steel casing driven to completion depth
- 6-inch-diameter steel slotted casing (7 feet long), with 28 slots each measuring 1/8-inch wide by 6 inches long
- 6-inch-diameter steel riser casing to surface
- No annular space, filter pack material, or annular pollution seal

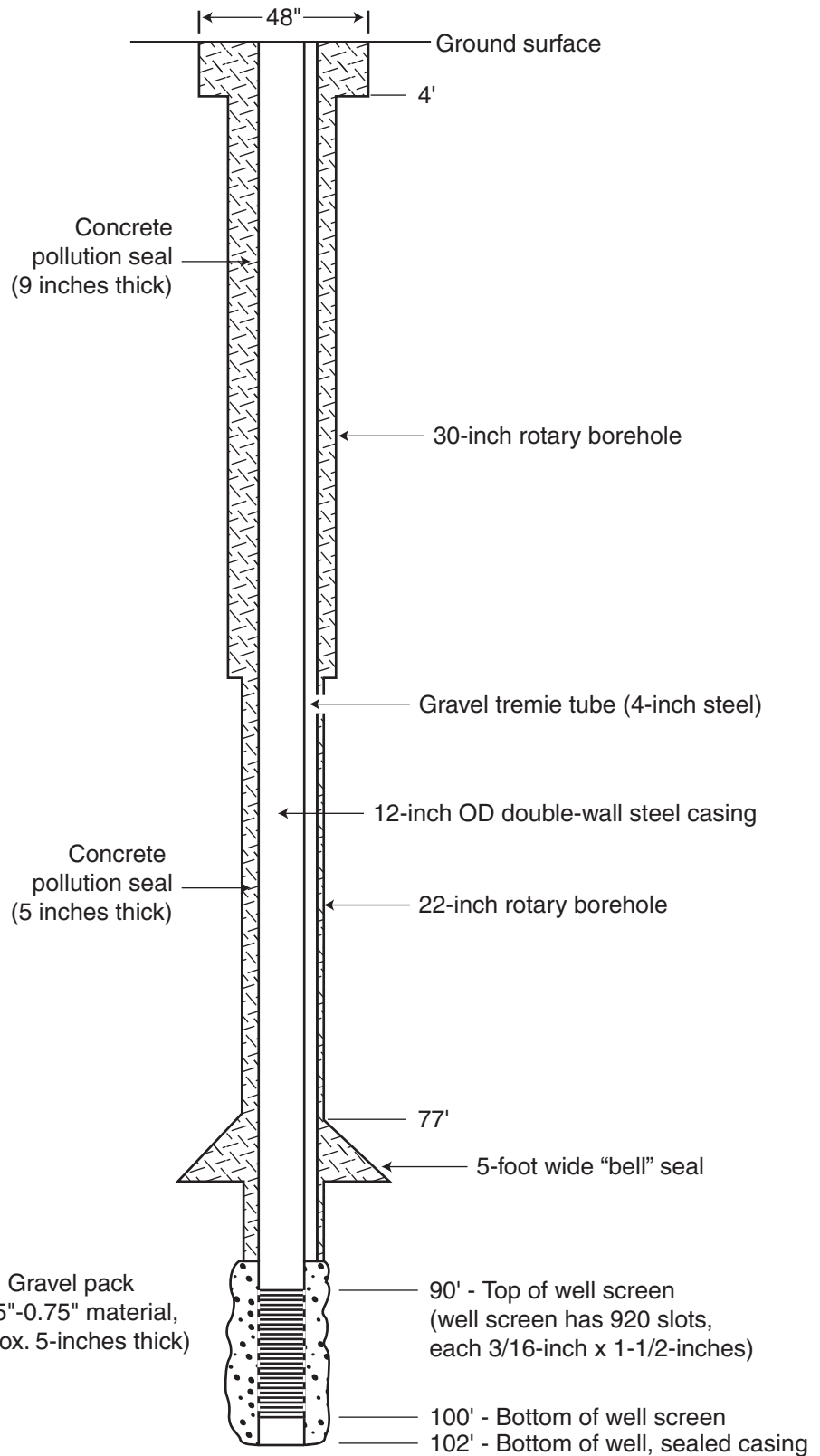
### **Final Recharge Well**

Figure 4 is a construction detail of the final recharge well.

- Rotary-drilled with temporary 36-inch and 24-inch casings (pulled during completion)
- 22-inch final borehole diameter at screened interval
- 12-inch steel (double-walled) casing, screened across the aquifer, with gravel-pack (annular material) across the screen.
- Steel screen (3/16-inch by 1.5-inch) from 90' to 100', across the aquifer with gravel annular pack
- 4-inch steel tremie tube in annulus, open at the base (for adding annular pack material after development) (this tube was left in place and was encapsulated by the annular seal).
- Tremie-grouted concrete as annular pollution seal from approximately 88 feet bgs to surface.

### **Piezometers**

The three piezometers were all constructed of 1/2-inch-diameter Schedule 40 PVC, and were pre-packed (sand enclosed around well screen by fine wire mesh). The installed depths of the piezometers were 16 feet and were screened from 6 to 16 feet. Sounded depths (July 2005) ranged from approximately 12 to 13.5 feet (with soft bottoms), indicating that the lower several feet of each piezometer had infilled with sediment.



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**"FINAL RECHARGE WELL" CONSTRUCTION SCHEMATIC**

UC Berkeley-Richmond  
Field Station

By: MJC

MARCH 2005

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**FIGURE 4**

2005-21-04

### **Additional, Undocumented Observation Wells**

In surveying the wellfield, we identified three wells not documented in the 1953 study, which we have identified as U-1, U-2, and U-3. These wells have similar construction specifications and depths as the observation wells, and we infer that they are of the same type. Based on their locations, we have determined that these wells are not wells 500-South, 10-South, and 100-North (the three documented observation wells that could not be located in our initial survey — see previous section).

### **WELL CLOSURE PERMITTING AND REGULATORY AGENCY LIAISON**

On behalf of UCB, SES prepared and submitted to CCCHSD well closure permit applications for all the wells being closed. Copies of the approved permits, and subsequent CCCHSD variance approvals, are included as Attachment A. Notifications of project schedule and activities were made to CCCHSD. California Department of Water Resources (DWR) Well Completion Forms (for well destructions) were completed and submitted to DWR. Copies of the completed forms are included in Attachment A. Ms. Jocelyn Habal of CCCHSD provided onsite inspections of well closure activities.

### **WELL CLOSURE ACTIVITIES**

The ultimate objective of proper well destruction is to minimize the potential for cross-contamination between water-bearing zones that might occur due to the former well. The closure methods implemented are in substantive accordance with Chapter 414-4 of the Ordinance Code of Contra Costa County Ordinance, verbal discussions with Mr. Sherman Quinlan of CCCHSD, and the DTSC comments in its letter of September 29, 2005.

Well closures were conducted by Water Development Company (Zamora, California; C-57 license no. 283326), under direct supervision of Stellar Environmental Solutions, Inc.

The following discusses the well closure activities. Attachment B contains photodocumentation of key activities.

### **VIDEO CAMERA SURVEY**

Pre-closure well probing indicated an obstruction in “Original Recharge Well” at a depth of 97 feet. At the request of DTSC, a downhole video camera survey was conducted (by Welenco,

under SES supervision) on January 30, 2006. Still photographs at key depths are included in Attachment B. The survey allowed side-scan and downward views. The survey showed the following:

- Full visibility was available from surface to 90 feet bgs, and showed the casing to be intact, but with significant scaling, with no screen or perforations.
- Soft sediment was encountered from 90 feet bgs to 97 feet bgs, with no visibility deeper than 92 feet bgs.
- The camera could not be delivered below 97 feet bgs.

### **WELL OBSTRUCTION PROBING**

Pre-closure well probing indicated obstructions above the well screen in three wells: 25-West (65 feet bgs) and 50-West (64 feet bgs) and 50-North (70 feet bgs). Prior to well closures, obstruction probing was conducted in an attempt to clear the obstructions (to allow for grouting the screened intervals and perforating from as deep as possible). In each well, a 180 lb. steel hammer was delivered on wireline to the top of the obstruction. The hammer was then raised and allowed to free-fall onto the obstruction. In wells 25-West and 50-West, the obstructions were initially driven down to depths between 80 and 85 feet, however by the next day the obstructions were again encountered at the original depths (approximately 65 feet). In well 50-North, the obstruction was driven down to and stayed at 93 feet bgs.

It is likely that the obstructions are debris that entered the wellhead and/or sediment that entered failed portions of the casing.

### **SURFACE EQUIPMENT REMOVAL**

Surface equipment associated with the wellfield was dismantled (by UCB) as construction debris, including: "Final Recharge Well" treatment vessel; aboveground piping; and the small concrete pad on which the treatment vessel was located. We understand that UCB will be disposing of those materials in the near future.

### **WELL CLOSURE PROCEDURES COMPLETED**

#### Grouting Screened Intervals

The initial step of the well closures was tremie-grouting the base of the wells, to seal off the screened interval (for those wells that tremie-pipe could be delivered to at least the top of the screen). Approximately 18 gallons of grout was emplaced in the 6-inch wells, and

approximately 80 gallons in the 12-inch wells. This corresponds to a grout interval of approximately 12 feet, which was designed to cover the screened intervals plus several feet. This grouting was conducted on January 31 and February 1, 2006. Screened interval grouting was not conducted in wells 25-West or 50-West because the tremie pipe could not be delivered to the screened interval due to obstructions.

Grout was mixed onsite to the specification in CCCHSD's "Annular Seal and Well Destruction Sealing Materials" guidance (94 lbs Portland cement to approximately 5 gallons of water). The original Technical Specifications proposed using potable water for the grout mix. The CCCHSD verbally approved, and we implemented, using water from the wells to mix the grout. This method was advantageous in that supplied water was not needed, and no wastewater management or disposal was needed.

The grouting was conducted by hand-lowering ¾-inch PVC non-screened pipe (10' long threaded sections) to the base of the well (or top of obstruction), and pumping the grout through the pipe as the tremie-pipe was removed from the well. After the grout had set, we measured the new depth of the well (top of the set grout) in each well. In all wells but one, the top of the grout was above the screened interval following the initial grouting phase. In "Final Recharge Well" the top of the grout was 2 feet below the top of the screened interval (likely due to grout entering the gravel pack around the screened interval).

### Well Perforating

The original Technical Specifications proposed perforating accessible portions of the well casings (with a mills knife), per CCCHSD requirements. On February 3, 2006 the perforating equipment was setup at the first well (50-West). The perforating tool (which by necessity is only slightly narrower diameter than the inner diameter of the casing) would not pass below approximately 6 feet. This was attempted at two additional wells, with the same result. Visual observation of that portion of the well casings indicates that the well casings have corroded, likely due to rusting, allowing long-term entry of water and sediment. The result is that the integrity of the casing has been compromised such that the casing diameter has been reduced by formation pressure, metal flaking, and/or built-up corrosion. The CCCHSD verbally approved not perforating the wells, and proceeding directly with tremie-grouting to surface.

### Final Grouting

Between February 3 and February 9, 2006 the remaining portions of all the wells were tremie-grouted to surface (per the methods discussed previously). Table 1 summarizes the volume of

grout delivered to each well. The emplaced grout volumes were in good agreement with the pre-grouting calculated volumes, indicating that the casing interiors were fully grouted to either installed depth or to the depth where obstructions were encountered. Grout was brought to depths between ground surface and approximately 1 foot bgs.

### Well 100-S

This well was initially determined to have dirt and gravel inside the casing from the surface down to at least 2 feet bgs. In accordance with the Technical Specifications, on February 1, 2006 we drilled out the interior of the casing (with 4-inch diameter hollow-stem augers) to a depth of 6 feet. Upon retrieving the augers the upper 5 feet of the well casing was also pulled from the ground. The bottom of this casing was highly corroded. There was no evidence that the well was open beyond the 6' depth. The resultant borehole was grouted.

### Wellhead Removals

We understand that UCB will in the near future be removing and disposing of the steel wellheads, to allow for mowing and possible site redevelopment. They have indicated that the wellheads will be cut off at a depth of approximately 0.5 to 1 foot bgs, and that the wellheads will be disposed as scrap metal. The CCCHSD verbally approved this method in lieu of the originally-proposed (in the Technical Specifications) internally cutting and removal of the upper 6 feet of the well casings.

### Piezometers

In addition to the closure of the former deep research wells described above, UCB applied to have three shallow (depths of 16 feet) piezometers closed using the procedure augering and grouting. On February 9, 2006, the three piezometers were overdrilled with 8-inch-diameter hollow-stem augers to total well depth, and well construction materials (pre-packed PVC casings) were removed. The resultant boreholes were then tremie-grouted to surface. The drill cuttings and well construction waste were containerized in 4 labeled 55-gallon drums and transferred to the paved pad behind Building 102. The soil from those drums will be disposed of at a later date by UCB.

## SUMMARY

On Behalf of UCB, SES oversaw the decommissioning of 25 wells and three piezometers that were permitted for closure through CCCHSD. This document provides the documentation of the well closures. We trust that this submittal meets your agency's needs. Please contact the undersigned at 510-644-3123 if you have any questions.

Sincerely,



Bruce M. Rucker, R.G., R.E.A.  
Principal Geologist



Richard S. Makdisi, R.G., R.E.A.  
Principal and Project Manager

cc: Mr. Karl Hans – University of California, Berkeley

### Attachments

Attachment A: Well Closure Permit Documentation

Attachment B: Well Investigation and Closure Photodocumentation

## **REFERENCES**

California Department of Water Resources, 2005. Letter to UC Berkeley regarding review of SES' July 29, 2005 Technical Specifications for Well Destructutions. September 29.

Stellar Environmental Solutions, Inc., 2005a. Technical Specifications for Well Destructutions, University of California – Richmond Field Station, 1301 S. 46th Street, Richmond, California. July 29.

Stellar Environmental Solutions, Inc., 2005b. Revised Specifications for Well Destructutions, University of California – Richmond Field Station, 1301 S. 46th Street, Richmond, California. December 8.



## **ATTACHMENT A**

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### **Well Closure Permits and DWR Forms**

INITIAL APPROVED \_\_\_\_\_  
 CONDITIONS

Attn: **Bruce Rucker**

Well System



CONTRA COSTA  
HEALTH SERVICES

**COPY**

CONTRA COSTA  
ENVIRONMENTAL HEALTH DIVISION OCEH  
2120 DIAMOND BOULEVARD, SUITE 200  
CONCORD, CA 94520  
(925) 646-5225  
www.cocoeh.org

JAN 24 2006

REC'D

Original Release

**WELL PERMIT APPLICATION**

**Types of Work:**

- New Well (69)
- Repair (69)
- Abandonment (68)
- CPT / Inclinator (01)

- Soil Boring (01)
- Piezometer w/ casing (67)
- Piezometer w/o casing (66)
- Flow Test (99)

**Proposed Use:**

- Domestic
- Public / Small Water System
- Agricultural

- Industrial
- Monitoring
- Other

**Sewage Disposal (off-site):**

- Septic System
- Sewer System

(ATTACH PLOT PLAN - For instructions see "The Well Permit Process" handout)

PLEASE PRINT CLEARLY. \*REQUIRED FIELDS MUST BE COMPLETED.

*Legal Owner's Name <u>University of California - Berkeley</u>			
*Owner Address <u>317 University Hall # 1150</u>			
*City/State/Zip <u>Berkeley CA 94720</u>	Country <u>USA</u>	Owner Telephone <u>510/643-9574</u>	
*Owner Billing Address (if different from above) <u>Same</u>			
*Site Name (if different from owner address) <u>Richmond Field Station</u>	*Assessor's Parcel # <u>560060008</u>	Subdivision/Minor Subdivision # <u>not applicable</u>	
*Site Address (if different from owner address) <u>1301 S. 46th St. Richmond CA 94804</u>			Lot/Parcel # <u>not applicable</u>
*Contractor's Name <u>WDC Exploration</u>	*License # <u>283326</u>	*Site Telephone <u>not applicable</u>	
*Contractor's Mailing Address <u>P.O. Box 141 Zamora CA 95698</u>			*Contact Person's Telephone <u>530/662-2824</u>
*Consultant/Mailing Address <u>Stellar Environmental Solutions 2178 Sixth St #201 Berkeley CA 94710</u>			*Consultant's Telephone <u>510/674-3123</u>

**\*Construction/Destruction Specifications**

Diameter of well casing 12-inch Casing Material Steel Gauge unknown Annular seal depth (50 feet minimum) none  
 # of Soil Borings \_\_\_\_\_ Borehole Diameter 12-inch Boring Depth (b.g.s.) 110 ft  
 Gravel/Sand packed  Yes  No Conductor casing  Yes  No Depth \_\_\_\_\_ Diameter \_\_\_\_\_  
 Type of material for annular seal/destruction (specify mix or product):  Bentonite  Concrete  Cement  
 Method of drilling/destruction/Other: freemix grout entire well

Variance  Yes  No (Required for water well seals less than 50 feet b.g.s./monitoring well seals less than 10 feet b.g.s.)  
\*b.g.s. = below ground surface

**Performance Bond Requirement.** (Contra Costa County Ordinance, Title 4 Health and Safety, Article 414-4.10; Section 414-4.1023 (a))

Prior to the issuance of a permit, the applicant shall post with the health officer a cash deposit or bond guaranteeing compliance with the terms of this chapter and the applicable permit, such bond to be in an amount deemed necessary by the health officer to remedy improper work but not in excess of five thousand dollars.

I hereby certify that the above information and submitted plans are true and correct and that the proposed work will comply with all permit conditions and applicable laws and regulations. I agree to obtain all required inspections, maintain a copy of the approved permit and plans at the job site until final approval, and obtain written authorization prior to deviating from the approved permit or plans, or placing the well in service. The issuance of this permit by Contra Costa Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well system.

[Signature]  
Signature of Contractor (C-57 Licensee)

12-13-2005  
Date 06M-1000

**FOR OFFICE USE ONLY**

Facility ID#: <u>13059</u>	PR#: _____	PER: <u>43 lbb</u>	Census Tract: <u>3800.00</u>	REHS: <u>JH</u>
Amount Due: \$ <u>110-</u>	Amount Paid: \$ <u>3080-</u>	Receipt #: <u>XR788</u>	Received By: <u>@</u>	
Check #: <u>5135</u>	CASH / Credit Card: <input type="checkbox"/> MC <input type="checkbox"/> VISA	Date Received: <u>1/24/2006</u>	Supervisor: <u>SG</u>	



**CONTRA COSTA  
ENVIRONMENTAL HEALTH DIVISION**  
2120 DIAMOND BOULEVARD, SUITE 200  
CONCORD, CA 94520  
(925) 646-5225  
www.cocoeoh.org



**Well Permit**

WP0005612

PR Number: 25300 PE Number: 4368  
Date Received: 24 JAN 06 Permit Number: 06M-1000  
Permit Approved/Issued by: Joseph H. Habel Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	( ) SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (ORIG/RECHARGE)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

**PROJECT SITE INFORMATION**

Site Address: 1301 S 48<sup>TH</sup> ST, RICHMOND  
APN: 560-060-008 Lot/Parcel #:  
Subdivision #: Minor Subdivision #:

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person:  
Phone #: 530-668-7540 FAX#: 530-662-1592  
Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
Owner Address: 317 UNIVERSITY HALL, #1150  
City/State/Zip: BERKELEY, CA 94720  
Phone #: 510-643-9574 Alternate Phone #:

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voicemail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

**WELL PERMIT CONDITIONS:**

1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



**CONTRA COSTA ENVIRONMENTAL HEALTH DIVISION**  
 2120 DIAMOND BOULEVARD, SUITE 200  
 CONCORD, CA 94520  
 (925) 646-5225  
 www.cocoeh.org



**Well Permit**  
**WP0005613**

PR Number: 25301 PE Number: 4368  
 Date Received: 24 JAN 06 Permit Number: 06M-1001  
 Permit Approved/Issued by: Jonathan Haisel Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	( ) SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (FIN/RECHARGE)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

**PROJECT SITE INFORMATION**

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND  
 APN: 560-060-008 Lot/Parcel #: \_\_\_\_\_  
 Subdivision #: \_\_\_\_\_ Minor Subdivision #: \_\_\_\_\_

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person: \_\_\_\_\_  
 Phone #: 530-868-7540 FAX#: 530-662-1592  
 Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
 Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
 Owner Address: 317 UNIVERSITY HALL, #1150  
 City/State/Zip: BERKELEY, CA 94720  
 Phone #: 510-643-9574 Alternate Phone #: \_\_\_\_\_

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

**WELL PERMIT CONDITIONS:**

1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



CONTRA COSTA ENVIRONMENTAL HEALTH DIVISION 2120 DIAMOND BOULEVARD, SUITE 200 CONCORD, CA 94520 (925) 646-5225 www.cccoeh.org



Well Permit WP0005614

PR Number: 25302 PE Number: 4368 Date Received: 24 JAN 06 Permit Number: 06M-1002 Date Issued: 1/26/06 Permit Approved/Issued by: [Signature] Environmental Health Specialist

NEW WELL ( ) SOIL BORINGS [X] WELL ABANDONMENT (TAP) REPAIR

The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

PROJECT SITE INFORMATION

Site Address: 1301 S 46TH ST, RICHMOND APN: 560-080-008 Subdivision #: Lot/Parcel #: Minor Subdivision #:

DRILLER / CONSULTANT INFORMATION

Driller: WDC EXPLORATION Contact Person: Phone #: 530-668-7540 FAX#: 530-662-1592 Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER Phone #: 510-644-3123 FAX#: 510-644-3859

LEGAL OWNER INFORMATION

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY Owner Address: 317 UNIVERSITY HALL, #1150 City/State/Zip: BERKELEY, CA 94720 Phone #: 510-643-9574 Alternate Phone #:

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. Voice mail messages are not acceptable. The appointment desk sends confirmation via telephone or fax. Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

WELL PERMIT CONDITIONS:

- 1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other:

Final Approval by: Date:



**CONTRA COSTA  
ENVIRONMENTAL HEALTH DIVISION**  
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CONCORD, CA 94520  
(925) 646-5225  
www.ccoeh.org



## Well Permit

WP0005615

PR Number: 25303 PE Number: 4368  
Date Received: 24 JAN 06 Permit Number: 06M-1003  
Permit Approved/Issued by: Josephine Habel Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	( ) SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (25-C)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

### PROJECT SITE INFORMATION

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND  
APN: 560-060-008 Lot/Parcel #:  
Subdivision #: Minor Subdivision #:

### DRILLER / CONSULTANT INFORMATION

Driller: WDC EXPLORATION Contact Person:  
Phone #: 530-668-7540 FAX#: 530-662-1592  
Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
Phone #: 510-644-3123 FAX#: 510-644-3859

### LEGAL OWNER INFORMATION

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
Owner Address: 317 UNIVERSITY HALL, #1150  
City/State/Zip: BERKELEY, CA 94720  
Phone #: 510-643-9574 Alternate Phone #:

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

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#### WELL PERMIT CONDITIONS:

1. Proper annular seats and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



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2120 DIAMOND BOULEVARD, SUITE 200  
CONCORD, CA 94520  
(925) 646-5225  
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## Well Permit

WP0005616

PR Number: 25304 PE Number: 4368  
Date Received: 24 JAN 06 Permit Number: 06M-1004  
Permit Approved/Issued by: Jocelyn Habal Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	<input type="checkbox"/> SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (50'E)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

### PROJECT SITE INFORMATION

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND  
APN: 560-060-008 Lot/Parcel #: \_\_\_\_\_  
Subdivision #: \_\_\_\_\_ Minor Subdivision #: \_\_\_\_\_

### DRILLER / CONSULTANT INFORMATION

Driller: WDC EXPLORATION Contact Person: \_\_\_\_\_  
Phone #: 530-668-7540 FAX#: 530-662-1592  
Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
Phone #: 510-644-3123 FAX#: 510-644-3859

### LEGAL OWNER INFORMATION

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
Owner Address: 317 UNIVERSITY HALL, #1150  
City/State/Zip: BERKELEY, CA 94720  
Phone #: 510-643-9574 Alternate Phone #: \_\_\_\_\_

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voicemail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

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#### WELL PERMIT CONDITIONS:

1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



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 (925) 646-5225  
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**Well Permit**  
**WP0005618**

PR Number: 25306 PE Number: 4366  
 Date Received: 24 JAN 06 Permit Number: 06M-1006

Permit Approved/Issued by: Keelyn Habel Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	( ) SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (NEW USE)	REPAIR
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**PROJECT SITE INFORMATION**

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND  
 APN: 560-060-008 Lot/Parcel #:  
 Subdivision #: Minor Subdivision #:

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person:  
 Phone #: 530-668-7540 FAX#: 530-662-1592  
 Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
 Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
 Owner Address: 317 UNIVERSITY HALL, #1150  
 City/State/Zip: BERKELEY, CA 94720  
 Phone #: 510-643-9574 Alternate Phone #:

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

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**WELL PERMIT CONDITIONS:**

1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_





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**Well Permit**  
**WP0005619**

PR Number: 25307 PE Number: 4368  
 Date Received: 24 JAN 06 Permit Number: 06M-1007  
 Permit Approved/Issued by: Jocelyn Habel Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	( ) SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT/NEW SOLE	REPAIR
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**PROJECT SITE INFORMATION**

Site Address: 1301 S 46TH ST, RICHMOND  
 APN: 560-060-008 Lot/Parcel #:  
 Subdivision #: Minor Subdivision #:

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person:  
 Phone #: 530-668-7540 FAX#: 530-662-1592  
 Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
 Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
 Owner Address: 317 UNIVERSITY HALL, #1150  
 City/State/Zip: BERKELEY, CA 94720  
 Phone #: 510-843-9574 Alternate Phone #:

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

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**WELL PERMIT CONDITIONS:**

1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_

WILLIAM B. WALKER, M.D.  
HEALTH SERVICES DIRECTOR  
KENNETH C. STUART,  
MSEH, REHS  
ENVIRONMENTAL HEALTH DIRECTOR



CCEH

CONTRA COSTA  
ENVIRONMENTAL  
HEALTH

CONTRA COSTA JAN 26 2006  
HEALTH SERVICES REC'D  
REQUEST FOR VARIANCE

12120 Diamond Blvd., Suite 200  
Concord, California  
94520  
Ph (925) 646-5225  
Fax (925) 646-5168  
www.ccoeh.org

Please print or type

Form must be filled out completely

ASSESSOR'S PARCEL NUMBER

560060008

SITE LOCATION

University of California - Berkeley - Richmond Field Station 1301 S. 46th St. Richmond, CA

REQUESTING PARTY

Stellas Environmental Solutions, Inc.

DAYTIME PHONE

570-644-3033

MAILING ADDRESS

2198 Sixth St. #201

OWNER(S)

University of California - Berkeley

DAYTIME PHONE

510-643-9574

MAILING ADDRESS

317 University Hall # 1150 Berkeley CA 94720

VARIANCE REQUEST

Close a well by grouting, with no perforating. Grout will be delivered (with a hose) from well bottom upward. (well 100-East).

REASON FOR REQUEST

Overhead electrical line precludes masting up with a derrick, which is required for perforating.

SUPPORTING DOCUMENTATION (Attach additional sheet if necessary)

Figure showing well 100-East.  
check for \$158 (variance fee)

Submitted by: Bruce Rucker Bruce M. Rubin CA. R.G. #6814 Date: 1/25/06

DO NOT WRITE BELOW THIS LINE - FOR OFFICE USE ONLY

Reviewed by: Carolyn Hatal Date: 01/30/06  
Registered Environmental Health Specialist

Recommendations: approve variance due to safety hazard from electrical line.

APPROVED  
 DENIED

By: [Signature] Date: 1/30/06  
Supervising Environmental Health Specialist



• Contra Costa Community Substance Abuse Services • Contra Costa Emergency Medical Services • Contra Costa Environmental Health • Contra Costa Health Plan •  
• Contra Costa Hazardous Materials Program • Contra Costa Mental Health • Contra Costa Public Health • Contra Costa Regional Medical Center • Contra Costa Health Centers •

FA 13059 Pr 25346 In 52211 \$158 OK# 5136 XR8



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 CONCORD, CA 94520  
 (925) 646-5225  
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**Well Permit**  
 WP0005617

PR Number: 25305 PE Number: 4368  
 Date Received: 24 JAN 06 Permit Number: 06M-1005  
 Permit Approved/Issued by: Becky Habal Environmental Health Specialist Date Issued: 1/30/06

NEW WELL	( ) SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (180-E)	REPAIR
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**PROJECT SITE INFORMATION**

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND  
 APN: 560-060-008 Lot/Parcel #: \_\_\_\_\_  
 Subdivision #: \_\_\_\_\_ Minor Subdivision #: \_\_\_\_\_

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person: \_\_\_\_\_  
 Phone #: 530-668-7540 FAX#: 530-662-1592  
 Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
 Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
 Owner Address: 317 UNIVERSITY HALL, #1150  
 City/State/Zip: BERKELEY, CA 94720  
 Phone #: 510-643-9574 Alternate Phone #: \_\_\_\_\_

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

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**WELL PERMIT CONDITIONS:**

- Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
- Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
- Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



**CONTRA COSTA  
ENVIRONMENTAL HEALTH DIVISION**  
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CONCORD, CA 94520  
(925) 846-5225  
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**Well Permit**

WP0005620

PR Number: 25308 PE Number: 4368  
Date Received: 24 JAN 06 Permit Number: 06M-1008

Permit Approved/Issued by: Jesslyn Habal Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	( ) SOIL BORINGS	<del>WELL ABANDONMENT (10-A)</del>	REPAIR
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**PROJECT SITE INFORMATION**

Site Address: 1301 S 46TH ST, RICHMOND  
APN: 560-060-008 Lot/Parcel #: \_\_\_\_\_  
Subdivision #: \_\_\_\_\_ Minor Subdivision #: \_\_\_\_\_

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person: \_\_\_\_\_  
Phone #: 530-868-7540 FAX#: 530-662-1592  
Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
Owner Address: 317 UNIVERSITY HALL, #1150  
City/State/Zip: BERKELEY, CA 94720  
Phone #: 510-643-9574 Alternate Phone #: \_\_\_\_\_

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**WELL PERMIT CONDITIONS:**

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2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



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CONCORD, CA 94520  
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## Well Permit

WP0005621

PR Number: 25309

PE Number: 4368

Date Received: 24 JAN 06

Permit Number: 06M-1009

Permit Approved/Issued by: Jessilyn Habal  
Environmental Health Specialist

Date Issued: 1/26/06

NEW WELL	( ) SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (25-N)	REPAIR
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### PROJECT SITE INFORMATION

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND

APN: 560-060-008

Lot/Parcel #:

Subdivision #:

Minor Subdivision #:

### DRILLER / CONSULTANT INFORMATION

Driller: WDC EXPLORATION

Contact Person:

Phone #: 530-668-7540

FAX#: 530-662-1592

Consultant: STELLAR ENVIRONMENTAL

Contact Person: BRUCE RUCKER

Phone #: 510-644-3123

FAX#: 510-644-3859

### LEGAL OWNER INFORMATION

Legal Owner Name: UNIVERSITY OF CALIFORNIA; BERKELEY

Owner Address: 317 UNIVERSITY HALL, #1150

City/State/Zip: BERKELEY, CA 94720

Phone #: 510-643-9574

Alternate Phone #:

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#### WELL PERMIT CONDITIONS:

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2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_

Date: \_\_\_\_\_



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 CONCORD, CA 94520  
 (925) 646-5225  
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**Well Permit**

WP0005622

PR Number: 25310 PE Number: 4368  
 Date Received: 24 JAN 06 Permit Number: 06M-1010  
 Permit Approved/Issued by: Jeannine Habel Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	( ) SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (SD-N)	REPAIR
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**PROJECT SITE INFORMATION**

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND  
 APN: 560-060-008 Lot/Parcel #: \_\_\_\_\_  
 Subdivision #: \_\_\_\_\_ Minor Subdivision #: \_\_\_\_\_

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person: \_\_\_\_\_  
 Phone #: 530-668-7540 FAX#: 530-662-1592  
 Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
 Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
 Owner Address: 317 UNIVERSITY HALL, #1150  
 City/State/Zip: BERKELEY, CA 94720  
 Phone #: 510-643-9574 Alternate Phone #: \_\_\_\_\_

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**WELL PERMIT CONDITIONS:**

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2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



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www.cocoeoh.org



## Well Permit WP0005623

PR Number: 25311 PE Number: 4368  
Date Received: 24 JAN 06 Permit Number: 06M-1011  
Permit Approved/Issued by: Jocelyn Habal Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	( ) SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (D-W)	REPAIR
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### PROJECT SITE INFORMATION

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND  
APN: 560-060-008 Lot/Parcel #: \_\_\_\_\_  
Subdivision #: \_\_\_\_\_ Minor Subdivision #: \_\_\_\_\_

### DRILLER / CONSULTANT INFORMATION

Driller: WDC EXPLORATION Contact Person: \_\_\_\_\_  
Phone #: 530-668-7540 FAX#: 530-662-1592  
Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
Phone #: 510-644-3123 FAX#: 510-644-3859

### LEGAL OWNER INFORMATION

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
Owner Address: 317 UNIVERSITY HALL, #1150  
City/State/Zip: BERKELEY, CA 94720  
Phone #: 510-643-9574 Alternate Phone #: \_\_\_\_\_

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#### WELL PERMIT CONDITIONS:

- Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
- Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
- Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



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 CONCORD, CA 94520  
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 www.cocoeoh.org



**Well Permit**  
**WP0005624**

PR Number: 25312      PE Number: 4368  
 Date Received: 24 JAN 06      Permit Number: 06M-1012  
 Permit Approved/Issued by: Christyn Haisel      Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	<input type="checkbox"/> SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (25-11)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

**PROJECT SITE INFORMATION**

Site Address: 1301 S 46TH ST, RICHMOND  
 APN: 560-060-008      Lot/Parcel #:  
 Subdivision #:      Minor Subdivision #:

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION      Contact Person:  
 Phone #: 530-888-7540      FAX#: 530-882-1592  
 Consultant: STELLAR ENVIRONMENTAL      Contact Person: BRUCE RUCKER  
 Phone #: 510-644-3123      FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
 Owner Address: 317 UNIVERSITY HALL, #1150  
 City/State/Zip: BERKELEY, CA 94720  
 Phone #: 510-643-9574      Alternate Phone #:

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

**WELL PERMIT CONDITIONS:**

1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_





**CONTRA COSTA ENVIRONMENTAL HEALTH DIVISION**  
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 CONCORD, CA 94520  
 (925) 646-6225  
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**Well Permit**  
**WP0005625**

PR Number: 25313 PE Number: 4368  
 Date Received: 24 JAN 06 Permit Number: 06M-1013  
 Permit Approved/Issued by: Jocelyn Habal Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	( ) SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (50-W)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

**PROJECT SITE INFORMATION**

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND  
 APN: 560-060-008 Lot/Parcel #: \_\_\_\_\_  
 Subdivision #: \_\_\_\_\_ Minor Subdivision #: \_\_\_\_\_

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person: \_\_\_\_\_  
 Phone #: 530-668-7540 FAX#: 530-662-1592  
 Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
 Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
 Owner Address: 317 UNIVERSITY HALL, #1150  
 City/State/Zip: BERKELEY, CA 94720  
 Phone #: 510-843-9574 Alternate Phone #: \_\_\_\_\_

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

**WELL PERMIT CONDITIONS:**

- Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
- Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
- Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



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ENVIRONMENTAL HEALTH DIVISION**  
2120 DIAMOND BOULEVARD, SUITE 200  
CONCORD, CA 94520  
(925) 646-5225  
www.ccoeh.org



**Well Permit  
WP0005626**

PR Number: 25314 PE Number: 4368

Date Received: 24 JAN 06 Permit Number: 06M-1014

Permit Approved/Issued by: Jocelyn Haisel Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	( ) SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (NEW LAW)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

**PROJECT SITE INFORMATION**

Site Address: 1301 S 46TH ST, RICHMOND  
APN: 560-060-008 Lot/Parcel #:  
Subdivision #: Minor Subdivision #:

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person:  
Phone #: 530-668-7540 FAX#: 530-662-1592  
Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
Owner Address: 317 UNIVERSITY HALL, #1150  
City/State/Zip: BERKELEY, CA 94720  
Phone #: 510-643-9574 Alternate Phone #:

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

**WELL PERMIT CONDITIONS:**

1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



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CONCORD, CA 94520  
(925) 646-5225  
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**Well Permit**  
**WP0005627**

PR Number: 25315 PE Number: 4368  
Date Received: 24 JAN 06 Permit Number: 06M-1015  
Permit Approved/Issued by: Jocelyn Halsal Environmental Health Specialist Date Issued: 1/26/06

NEW WELL	( ) SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (NEW 50' W)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

**PROJECT SITE INFORMATION**

Site Address: 1301 S 48<sup>TH</sup> ST, RICHMOND  
APN: 560-060-008 Lot/Parcel #: \_\_\_\_\_  
Subdivision #: \_\_\_\_\_ Minor Subdivision #: \_\_\_\_\_

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person: \_\_\_\_\_  
Phone #: 530-668-7540 FAX#: 530-662-1592  
Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
Owner Address: 317 UNIVERSITY HALL, #1150  
City/State/Zip: BERKELEY, CA 94720  
Phone #: 510-643-9574 Alternate Phone #: \_\_\_\_\_

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

**WELL PERMIT CONDITIONS:**

1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



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(925) 646-5225
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Well Permit
WP0005628

PR Number: 25316 PE Number: 4368
Date Received: 24 JAN 06 Permit Number: 06M-1016
Permit Approved/Issued by: Jocelyn Habal Date Issued: 1/26/06
Environmental Health Specialist

Form with checkboxes: NEW WELL, ( ) SOIL BORINGS, WELL ABANDONMENT (29-S), REPAIR

The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

PROJECT SITE INFORMATION

Site Address: 1301 S 46TH ST, RICHMOND
APN: 560-060-008 Lot/Parcel #:
Subdivision #: Minor Subdivision #:

DRILLER / CONSULTANT INFORMATION

Driller: WDC EXPLORATION Contact Person:
Phone #: 530-868-7540 FAX#: 530-662-1592
Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER
Phone #: 510-644-3123 FAX#: 510-644-3859

LEGAL OWNER INFORMATION

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY
Owner Address: 317 UNIVERSITY HALL, #1150
City/State/Zip: BERKELEY, CA 94720
Phone #: 510-643-9574 Alternate Phone #:

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. Voice mail messages are not acceptable. The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

WELL PERMIT CONDITIONS:

- 1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other:

Final Approval by: Date:



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Well Permit

WP0005629

PR Number: 25317 PE Number: 4368 Date Received: 24 JAN 06 Permit Number: 06M-1017 Permit Approved/Issued by: [Signature] Date Issued: 1/26/06 Environmental Health Specialist

NEW WELL ( ) SOIL BORINGS [X] WELL ABANDONMENT (X) REPAIR

The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

PROJECT SITE INFORMATION

Site Address: 1301 S 48TH ST, RICHMOND APN: 560-060-008 Lot/Parcel #: Subdivision #: Minor Subdivision #:

DRILLER / CONSULTANT INFORMATION

Driller: WDC EXPLORATION Contact Person: Phone #: 530-868-7540 FAX#: 530-862-1592 Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER Phone #: 510-644-3123 FAX#: 510-644-3859

LEGAL OWNER INFORMATION

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY Owner Address: 317 UNIVERSITY HALL, #1150 City/State/Zip: BERKELEY, CA 94720 Phone #: 510-643-9574 Alternate Phone #:

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. Voice mail messages are not acceptable. The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

WELL PERMIT CONDITIONS:

- 1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other:

Final Approval by: Date:



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**Well Permit**  
**WP0005630**

PR Number: 25318 PE Number: 4368  
 Date Received: 24 JAN 06 Permit Number: 06M-1018  
 Permit Approved/Issued by: Jacquelyn Haisel Environmental Health Specialist Date Issued: 1/26/06

NEW WELL	( ) SOIL BORINGS	<b>WELL ABANDONMENT (THIS)</b>	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

**PROJECT SITE INFORMATION**

Site Address: 1301 S 46TH ST, RICHMOND  
 APN: 560-060-008 Lot/Parcel #: \_\_\_\_\_  
 Subdivision #: \_\_\_\_\_ Minor Subdivision #: \_\_\_\_\_

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person: \_\_\_\_\_  
 Phone #: 530-868-7540 FAX#: 530-662-1592  
 Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
 Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
 Owner Address: 317 UNIVERSITY HALL, #1150  
 City/State/Zip: BERKELEY, CA 94720  
 Phone #: 510-643-9574 Alternate Phone #: \_\_\_\_\_

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

**WELL PERMIT CONDITIONS:**

1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



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 CONCORD, CA 94520  
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# Well Permit

WP0005631

PR Number: 25319      PE Number: 4368  
 Date Received: 24 JAN 06      Permit Number: 06M-1019  
 Permit Approved/Issued by: Jessica H. H. H.      Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	<input type="checkbox"/> SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (NEW 100'S)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

### PROJECT SITE INFORMATION

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND  
 APN: 560-060-008      Lot/Parcel #:  
 Subdivision #:      Minor Subdivision #:

### DRILLER / CONSULTANT INFORMATION

Driller: WDC EXPLORATION      Contact Person:  
 Phone #: 530-668-7540      FAX#: 530-662-1592  
 Consultant: STELLAR ENVIRONMENTAL      Contact Person: BRUCE RUCKER  
 Phone #: 510-644-3123      FAX#: 510-644-3858

### LEGAL OWNER INFORMATION

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
 Owner Address: 317 UNIVERSITY HALL, #1150  
 City/State/Zip: BERKELEY, CA 94720  
 Phone #: 510-643-9574      Alternate Phone #:

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

#### WELL PERMIT CONDITIONS:

1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



**CONTRA COSTA  
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CONCORD, CA 94520  
(925) 646-5225  
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**Well Permit  
WP0005632**

PR Number: 25320 PE Number: 4388  
Date Received: 24 JAN 06 Permit Number: 06M-1020  
Permit Approved/Issued by: Jacques Halabal Environmental Health Specialist Date Issued: 1/26/06

NEW WELL	<input type="checkbox"/> SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (225/S)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

**PROJECT SITE INFORMATION**

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND  
APN: 560-080-008 Lot/Parcel #: \_\_\_\_\_  
Subdivision #: \_\_\_\_\_ Minor Subdivision #: \_\_\_\_\_

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person: \_\_\_\_\_  
Phone #: 530-668-7540 FAX#: 530-662-1592  
Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
Owner Address: 317 UNIVERSITY HALL, #1150  
City/State/Zip: BERKELEY, CA 94720  
Phone #: 510-643-9574 Alternate Phone #: \_\_\_\_\_

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

**WELL PERMIT CONDITIONS:**

- Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
- Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
- Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_





**CONTRA COSTA  
ENVIRONMENTAL HEALTH DIVISION**  
2120 DIAMOND BOULEVARD, SUITE 200  
CONCORD, CA 94520  
(925) 646-5225  
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**Well Permit  
WP0005633**

PR Number: 25321 PE Number: 4368  
Date Received: 24 JAN 06 Permit Number: 06M-1021  
Permit Approved/Issued by: Jocelyn Habal Date Issued: 1/24/06  
Environmental Health Specialist

NEW WELL	( ) SOIL BORINGS	<b>WELL ABANDONMENT (224-SE)</b>	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

**PROJECT SITE INFORMATION**

Site Address: 1301 S 48<sup>TH</sup> ST, RICHMOND  
APN: 560-060-008 Lot/Parcel #: \_\_\_\_\_  
Subdivision #: \_\_\_\_\_ Minor Subdivision #: \_\_\_\_\_

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person: \_\_\_\_\_  
Phone #: 530-668-7540 FAX#: 530-662-1592  
Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
Owner Address: 317 UNIVERSITY HALL, #1150  
City/State/Zip: BERKELEY, CA 94720  
Phone #: 510-643-9574 Alternate Phone #: \_\_\_\_\_

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

**WELL PERMIT CONDITIONS:**

1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



CONTRA COSTA ENVIRONMENTAL HEALTH DIVISION 2120 DIAMOND BOULEVARD, SUITE 200 CONCORD, CA 94520 (925) 646-5225 www.cocoeh.org



Well Permit WP0005634

PR Number: 25322 PE Number: 4368 Date Received: 24 JAN 06 Permit Number: 08M-1022 Date Issued: 1/26/06 Permit Approved/Issued by: Jocelyn Habel Environmental Health Specialist

Form with checkboxes: NEW WELL, ( ) SOIL BORINGS, [X] WELL ABANDONMENT (U-1), REPAIR

The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

PROJECT SITE INFORMATION

Site Address: 1301 S 48TH ST, RICHMOND Lot/Parcel #: APN: 560-060-008 Minor Subdivision #: Subdivision #:

DRILLER / CONSULTANT INFORMATION

Driller: WDC EXPLORATION Contact Person: Phone #: 530-668-7540 FAX#: 530-662-1592 Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER Phone #: 510-644-3123 FAX#: 510-644-3859

LEGAL OWNER INFORMATION

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY Owner Address: 317 UNIVERSITY HALL, #1150 City/State/Zip: BERKELEY, CA 94720 Phone #: 510-643-9574 Alternate Phone #:

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. Voice mail messages are not acceptable. The appointment desk sends confirmation via telephone or fax. Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

WELL PERMIT CONDITIONS:

- 1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other:

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



**CONTRA COSTA ENVIRONMENTAL HEALTH DIVISION**  
2120 DIAMOND BOULEVARD, SUITE 200  
CONCORD, CA 94520  
(925) 646-5225  
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# Well Permit

WP0005635

PR Number: 25323 PE Number: 4368  
Date Received: 24 JAN 06 Permit Number: 06M-1023  
Permit Approved/Issued by: Jacques Habaal Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	<input type="checkbox"/> SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (0-2)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

### PROJECT SITE INFORMATION

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND  
APN: 560-060-008 Lot/Parcel #: \_\_\_\_\_  
Subdivision #: \_\_\_\_\_ Minor Subdivision #: \_\_\_\_\_

### DRILLER / CONSULTANT INFORMATION

Driller: WDC EXPLORATION Contact Person: \_\_\_\_\_  
Phone #: 530-668-7540 FAX#: 530-662-1592  
Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
Phone #: 510-644-3123 FAX#: 510-644-3859

### LEGAL OWNER INFORMATION

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
Owner Address: 317 UNIVERSITY HALL, #1150  
City/State/Zip: BERKELEY, CA 94720  
Phone #: 510-843-9574 Alternate Phone #: \_\_\_\_\_

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voicemail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

#### WELL PERMIT CONDITIONS:

- Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
- Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
- Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



**CONTRA COSTA  
ENVIRONMENTAL HEALTH DIVISION**  
2120 DIAMOND BOULEVARD, SUITE 200  
CONCORD, CA 94520  
(925) 646-5225  
www.cocoeh.org



**Well Permit  
WP0005636**

PR Number: 25324 PE Number: 4368  
Date Received: 24 JAN 06 Permit Number: 06M-1024  
Permit Approved/Issued by: Jacob Lynn Habal Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	( ) SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (U-3)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

**PROJECT SITE INFORMATION**

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND  
APN: 560-060-008 Lot/Parcel #:  
Subdivision #: Minor Subdivision #:

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person:  
Phone #: 530-668-7540 FAX#: 530-662-1592  
Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
Owner Address: 317 UNIVERSITY HALL, #1150  
City/State/Zip: BERKELEY, CA 94720  
Phone #: 510-643-9574 Alternate Phone #:

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

**WELL PERMIT CONDITIONS:**

1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



**CONTRA COSTA  
ENVIRONMENTAL HEALTH DIVISION**  
2120 DIAMOND BOULEVARD, SUITE 200  
CONCORD, CA 94520  
(925) 646-5225  
www.cccoeoh.org



## Well Permit

WP0005637

PR Number: 25325

PE Number: 4368

Date Received: 24 JAN 06

Permit Number: 06M-1025

Permit Approved/Issued by: \_\_\_\_\_

*Jocelyn Halvax*  
Environmental Health Specialist

Date Issued: 1/26/06

NEW WELL	<input type="checkbox"/> SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (P/TB)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

### PROJECT SITE INFORMATION

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND

APN: 560-060-008

Lot/Parcel #:

Subdivision #:

Minor Subdivision #:

### DRILLER / CONSULTANT INFORMATION

Driller: WDC EXPLORATION

Contact Person:

Phone #: 530-888-7540

FAX#: 530-662-1592

Consultant: STELLAR ENVIRONMENTAL

Contact Person: BRUCE RUCKER

Phone #: 510-644-3123

FAX#: 510-644-3859

### LEGAL OWNER INFORMATION

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY

Owner Address: 317 UNIVERSITY HALL, #1150

City/State/Zip: BERKELEY, CA 94720

Phone #: 510-643-9574

Alternate Phone #:

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

#### WELL PERMIT CONDITIONS:

- Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
- Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
- Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_

Date: \_\_\_\_\_



**CONTRA COSTA ENVIRONMENTAL HEALTH DIVISION**  
 2120 DIAMOND BOULEVARD, SUITE 200  
 CONCORD, CA 94520  
 (925) 646-5225  
 www.cocoeh.org



**Well Permit**  
**WP0005638**

PR Number: 25326 PE Number: 4368  
 Date Received: 24 JAN 06 Permit Number: 06M-1026  
 Permit Approved/Issued by: Jaclyn Habel Date Issued: 1/26/06  
 Environmental Health Specialist

NEW WELL	<input type="checkbox"/> SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (F-19)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

**PROJECT SITE INFORMATION**

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND  
 APN: 560-030-008 Lot/Parcel #: \_\_\_\_\_  
 Subdivision #: \_\_\_\_\_ Minor Subdivision #: \_\_\_\_\_

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person: \_\_\_\_\_  
 Phone #: 530-668-7540 FAX#: 530-662-1592  
 Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
 Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
 Owner Address: 317 UNIVERSITY HALL, #1150  
 City/State/Zip: BERKELEY, CA 94720  
 Phone #: 510-643-9574 Alternate Phone #: \_\_\_\_\_

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

**WELL PERMIT CONDITIONS:**

1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_



**CONTRA COSTA  
ENVIRONMENTAL HEALTH DIVISION**  
2120 DIAMOND BOULEVARD, SUITE 200  
CONCORD, CA 94520  
(925) 646-5225  
www.cocoeh.org



**Well Permit  
WP0005639**

PR Number: 25327 PE Number: 4368  
Date Received: 24 JAN 06 Permit Number: 06M-1027  
Permit Approved/Issued by: Saeleyn Halsal Date Issued: 1/26/06  
Environmental Health Specialist

NEW WELL	<input type="checkbox"/> SOIL BORINGS	<input checked="" type="checkbox"/> WELL ABANDONMENT (IP 20)	REPAIR
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The issuance of this permit by Contra Costa County Environmental Health Division does not guarantee a satisfactory and an indefinite operation of any well. Permit expires in 180 calendar days from date of approval. Permits are non-transferable, and can be suspended or revoked. If more time is required for the project, a time extension may be granted if reasons warrant it in writing.

**PROJECT SITE INFORMATION**

Site Address: 1301 S 46<sup>TH</sup> ST, RICHMOND  
APN: 560-060-008 Lot/Parcel #: \_\_\_\_\_  
Subdivision #: \_\_\_\_\_ Minor Subdivision #: \_\_\_\_\_

**DRILLER / CONSULTANT INFORMATION**

Driller: WDC EXPLORATION Contact Person: \_\_\_\_\_  
Phone #: 530-668-7540 FAX#: 530-662-1592  
Consultant: STELLAR ENVIRONMENTAL Contact Person: BRUCE RUCKER  
Phone #: 510-644-3123 FAX#: 510-644-3859

**LEGAL OWNER INFORMATION**

Legal Owner Name: UNIVERSITY OF CALIFORNIA: BERKELEY  
Owner Address: 317 UNIVERSITY HALL, #1150  
City/State/Zip: BERKELEY, CA 94720  
Phone #: 510-643-9574 Alternate Phone #: \_\_\_\_\_

Contact the Contra Costa County Environmental Health Division appointment desk and obtain a confirmed appointment time and date prior to any drilling construction or destruction of a well. **Voice mail messages are not acceptable.** The appointment desk sends confirmation via telephone or fax.

Well drillers must possess a valid C-57 license and must have on file a performance bond of \$5,000.00 with Contra Costa County before commencing with any well construction, destruction or repairs.

**WELL PERMIT CONDITIONS:**

1. Proper annular seals and surface construction features are to be installed and required water analyses completed within 30 days of commencing drilling.
2. Monitoring well/soil boring shall be destroyed pursuant to County regulations within 30 days of completing monitoring activities.
3. Other: \_\_\_\_\_

Final Approval by: \_\_\_\_\_ Date: \_\_\_\_\_















File Original with DWR

State of California

# Well Completion Report

Refer to Instruction Pamphlet

No. **e036135**

DWR Use Only - Do Not Fill In											
State Well Number/Site Number											
Latitude						Longitude					
APN/TRS/Other											

Page 1 of 3

Owner's Well Number New 13 - East

Date Work Began 01/31/2006 Date Work Ended 2/9/2006

Local Permit Agency Contra Costa County Environmental Health Division

Permit Number WP0005618 Permit Date 1/26/06

Geologic Log				
Orientation	Vertical	Horizontal	Angle	Specify
Drilling Method		Drilling Fluid		
Depth from Surface		Description		
Feet	to Feet	Describe material, grain size, color, etc		
		Well was destroyed by tremie grouting with a slurry of neat Portland cement.		
Total Depth of Boring		<u>103</u>	Feet	
Total Depth of Completed Well		<u>103</u>	Feet	

Well Owner			
Name <u>University of California - Berkeley</u>			
Mailing Address <u>317 University Hall # 1150</u>			
City <u>Berkeley</u>	State <u>CA</u>	Zip <u>94720</u>	
Well Location			
Address <u>1301 South 46th Street</u>			
City <u>Richmond</u>	County <u>Contra Costa</u>		
Latitude		Longitude	
Datum		Decimal Lat.	Decimal Long.
APN Book <u>560</u>	Page <u>060</u>	Parcel <u>008</u>	
Township		Range	Section

Location Sketch	
(Sketch must be drawn by hand after form is printed.)	
North	
West	East
Please See Attached Site Plan	
South	
Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.	

Activity	
<input type="radio"/> New Well	
<input type="radio"/> Modification/Repair	
<input type="radio"/> Deepen	
<input type="radio"/> Other	
<input checked="" type="radio"/> Destroy	Describe procedures and materials under "GEOLOGIC LOG"
Planned Uses	
<input type="radio"/> Water Supply	
<input type="checkbox"/> Domestic	<input type="checkbox"/> Public
<input type="checkbox"/> Irrigation	<input type="checkbox"/> Industrial
<input type="radio"/> Cathodic Protection	
<input type="radio"/> Dewatering	
<input type="radio"/> Heat Exchange	
<input type="radio"/> Injection	
<input type="radio"/> Monitoring	
<input type="radio"/> Remediation	
<input type="radio"/> Sparging	
<input type="radio"/> Test Well	
<input type="radio"/> Vapor Extraction	
<input type="radio"/> Other	

Water Level and Yield of Completed Well			
Depth to first water _____ (Feet below surface)			
Depth to Static _____			
Water Level <u>5</u>	(Feet)	Date Measured	<u>01/31/2006</u>
Estimated Yield * _____ (GPM)		Test Type	_____
Test Length _____ (Hours)		Total Drawdown _____ (Feet)	
*May not be representative of a well's long term yield.			

Casings								
Depth from Surface Feet to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)	
0	94	6	Blank	steel	6			
94	102	6	Screen	steel	6	Milled Slots	0.125	
102	103	6	Blank	steel	6			

Annular Material		
Depth from Surface Feet to Feet	Fill	Description

Attachments
<input checked="" type="checkbox"/> Geologic Log
<input type="checkbox"/> Well Construction Diagram
<input type="checkbox"/> Geophysical Log(s)
<input type="checkbox"/> Soil/Water Chemical Analyses
<input checked="" type="checkbox"/> Other <u>Site Plan</u>
Attach additional information, if it exists.

Certification Statement			
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief			
Name <u>Water Development Corporation</u>			
Person, Firm or Corporation			
P.O. Box <u>141</u>		Zamora	
Address		City	CA <u>95698</u>
Signed <u>[Signature]</u>		Date Signed	State <u>CA</u> Zip <u>95698</u>
<u>[Signature]</u>		283326	
C-57 Licensed Water Well Contractor			









File Original with DWR

State of California

**Well Completion Report**

Refer to Instruction Pamphlet

No. e036139

DWR Use Only – Do Not Fill In

State Well Number/Site Number									
Latitude				N	Longitude				W
APN/TRS/Other									

Page 1 of 3

Owner's Well Number 50 - North

Date Work Began 01/31/2006 Date Work Ended 2/9/2006

Local Permit Agency Contra Costa County Environmental Health Division

Permit Number WP0005622 Permit Date 1/26/06

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method _____ Drilling Fluid _____		
Depth from Surface	Description	
Feet to Feet	Describe material, grain size, color, etc	
	Well was destroyed by tremie grouting with a slurry of neat Portland cement.	
Total Depth of Boring <u>103</u> Feet		
Total Depth of Completed Well <u>103</u> Feet		

Well Owner		
Name <u>University of California - Berkeley</u>		
Mailing Address <u>317 University Hall # 1150</u>		
City <u>Berkeley</u>	State <u>CA</u>	Zip <u>94720</u>

Well Location		
Address <u>1301 South 46th Street</u>		
City <u>Richmond</u>	County <u>Contra Costa</u>	
Latitude _____	N	Longitude _____ W
Dec. Min. Sec.		Dec. Min. Sec.
Datum _____ Decimal Lat. _____		Decimal Long. _____
APN Book <u>560</u>	Page <u>060</u>	Parcel <u>008</u>
Township _____	Range _____	Section _____

Location Sketch	
(Sketch must be drawn by hand after form is printed.)	
North	
West	East
Please See Attached Site Plan	
South	
<small>Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.</small>	

Activity
<input type="radio"/> New Well
<input type="radio"/> Modification/Repair
<input type="radio"/> Deepen
<input type="radio"/> Other _____
<input checked="" type="radio"/> Destroy <small>Describe procedures and materials under "GEOLOGIC LOG"</small>

Planned Uses
<input type="radio"/> Water Supply
<input type="checkbox"/> Domestic <input type="checkbox"/> Public
<input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial
<input type="radio"/> Cathodic Protection
<input type="radio"/> Dewatering
<input type="radio"/> Heat Exchange
<input type="radio"/> Injection
<input type="radio"/> Monitoring
<input type="radio"/> Remediation
<input type="radio"/> Sparging
<input type="radio"/> Test Well
<input type="radio"/> Vapor Extraction
<input type="radio"/> Other _____

Water Level and Yield of Completed Well	
Depth to first water _____	(Feet below surface)
Depth to Static _____	
Water Level <u>5</u>	(Feet) Date Measured <u>01/31/2006</u>
Estimated Yield * _____	(GPM) Test Type _____
Test Length _____	(Hours) Total Drawdown _____ (Feet)
*May not be representative of a well's long term yield.	

Casings							
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)
0	92	6	Blank	steel			
92	99	6	Screen	steel	6	Milled Slots	0.125
99	103	6	Blank	steel	6		

Annular Material		
Depth from Surface	Fill	Description
Feet to Feet		

Attachments
<input checked="" type="checkbox"/> Geologic Log
<input type="checkbox"/> Well Construction Diagram
<input type="checkbox"/> Geophysical Log(s)
<input type="checkbox"/> Soil/Water Chemical Analyses
<input checked="" type="checkbox"/> Other <u>Site Plan</u>
<small>Attach additional information, if it exists.</small>

Certification Statement			
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief			
Name <u>Water Development Corporation</u>			
<small>Person, Firm or Corporation</small>			
P.O. Box <u>141</u>	<u>Zamora</u>	CA	<u>95698</u>
	Address	City	State Zip
Signed _____	Date Signed <u>02/20/2006</u>	283326	Zip
<small>C-57 Licensed Water Well Contractor</small>		Date Signed	C-57 License Number





File Original with DWR

State of California  
**Well Completion Report**

Refer to Instruction Pamphlet  
No. **036142**

**DWR Use Only - Do Not Fill In**  
State Well Number/Site Number  
Latitude Longitude  
APN/TRS/Other

Page 1 of 3

Owner's Well Number 50 - West

Date Work Began 01/31/2006

Date Work Ended 2/9/2006

Local Permit Agency Contra Costa County Environmental Health Division

Permit Number WP0005625 Permit Date 1/26/06

**Geologic Log**

Orientation  Vertical  Horizontal  Angle Specify \_\_\_\_\_

Drilling Method \_\_\_\_\_ Drilling Fluid \_\_\_\_\_

**Depth from Surface**

**Description**

Feet to Feet Describe material, grain size, color, etc

Well was destroyed by tremie grouting with a slurry of neat Portland cement.

Total Depth of Boring 102 Feet

Total Depth of Completed Well 102 Feet

**Well Owner**

Name University of California - Berkeley

Mailing Address 317 University Hall # 1150

City Berkeley State CA Zip 94720

**Well Location**

Address 1301 South 46th Street

City Richmond County Contra Costa

Latitude \_\_\_\_\_ N Longitude \_\_\_\_\_ W

Dec. Min. Sec. Dec. Min. Sec.

Datum \_\_\_\_\_ Decimal Lat. \_\_\_\_\_ Decimal Long. \_\_\_\_\_

APN Book 560 Page 060 Parcel 008

Township \_\_\_\_\_ Range \_\_\_\_\_ Section \_\_\_\_\_

**Location Sketch**

(Sketch must be drawn by hand after form is printed.)

North

West

Please See Attached Site Plan

East

South

Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.

**Activity**

- New Well
- Modification/Repair
  - Deepen
  - Other \_\_\_\_\_
- Destroy  
Describe procedures and materials under "GEOLOGIC LOG"

**Planned Uses**

- Water Supply
  - Domestic  Public
  - Irrigation  Industrial
- Cathodic Protection
- Dewatering
- Heat Exchange
- Injection
- Monitoring
- Remediation
- Sparging
- Test Well
- Vapor Extraction
- Other \_\_\_\_\_

**Water Level and Yield of Completed Well**

Depth to first water \_\_\_\_\_ (Feet below surface)

Depth to Static \_\_\_\_\_

Water Level 5 (Feet) Date Measured 01/31/2006

Estimated Yield \* \_\_\_\_\_ (GPM) Test Type \_\_\_\_\_

Test Length \_\_\_\_\_ (Hours) Total Drawdown \_\_\_\_\_ (Feet)

\*May not be representative of a well's long term yield.

**Casings**

Depth from Surface Feet to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)
0	91	6	Blank	steel			
91	98	6	Screen	steel		Milled Slots	0.125
98	102	6	Blank	steel			

**Annular Material**

Depth from Surface Feet to Feet	Fill	Description
------------------------------------	------	-------------

**Attachments**

- Geologic Log
- Well Construction Diagram
- Geophysical Log(s)
- Soil/Water Chemical Analyses
- Other Site Plan

Attach additional information, if it exists.

**Certification Statement**

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief  
Name Water Development Corporation

Person, Firm or Corporation  
P.O. Box 141 Zamora CA 95698

Address City State Zip  
[Signature] City 02/20/2006 State 283326

Signed \_\_\_\_\_ Date Signed \_\_\_\_\_ C-57 License Number \_\_\_\_\_  
C-57 Licensed Water Well Contractor

File Original with DWR

Page 1 of 3

Owner's Well Number New 13 - West

Date Work Began 01/31/2006 Date Work Ended 2/9/2006

Local Permit Agency Contra Costa County Environmental Health Division

Permit Number WP0005626 Permit Date 1/26/06

State of California

## Well Completion Report

Refer to Instruction Pamphlet

No. e036143

DWR Use Only - Do Not Fill In	
State Well Number/Site Number	
Latitude	Longitude
APN/TRS/Other	

Geologic Log	
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____	
Drilling Method _____ Drilling Fluid _____	
Depth from Surface	Description
Feet to Feet	Describe material, grain size, color, etc
	Well was destroyed by tremie grouting with a slurry of neat Portland cement.
Total Depth of Boring	<u>101</u> Feet
Total Depth of Completed Well	<u>101</u> Feet

Well Owner	
Name <u>University of California - Berkeley</u>	
Mailing Address <u>317 University Hall # 1150</u>	
City <u>Berkeley</u>	State <u>CA</u> Zip <u>94720</u>
Well Location	
Address <u>1301 South 46th Street</u>	
City <u>Richmond</u>	County <u>Contra Costa</u>
Latitude _____ N	Longitude _____ W
Dec. _____ Min. _____ Sec. _____	Dec. _____ Min. _____ Sec. _____
Datum _____ Decimal Lat. _____ Decimal Long. _____	
APN Book <u>560</u>	Page <u>060</u> Parcel <u>008</u>
Township _____ Range _____	Section _____

Location Sketch	
(Sketch must be drawn by hand after form is printed.)	
North	
West	East
Please See Attached Site Plan	
South	
Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.	
Activity	
<input type="radio"/> New Well <input type="radio"/> Modification/Repair <input type="radio"/> Deepen <input type="radio"/> Other _____ <input checked="" type="radio"/> Destroy <small>Describe procedures and materials under "GEOLOGIC LOG"</small>	
Planned Uses	
<input type="radio"/> Water Supply <input type="checkbox"/> Domestic <input type="checkbox"/> Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial <input type="radio"/> Cathodic Protection <input type="radio"/> Dewatering <input type="radio"/> Heat Exchange <input type="radio"/> Injection <input type="radio"/> Monitoring <input type="radio"/> Remediation <input type="radio"/> Sparging <input type="radio"/> Test Well <input type="radio"/> Vapor Extraction <input type="radio"/> Other _____	

Water Level and Yield of Completed Well	
Depth to first water _____	(Feet below surface)
Depth to Static _____	
Water Level <u>5</u>	(Feet) Date Measured <u>01/31/2006</u>
Estimated Yield * _____	(GPM) Test Type _____
Test Length _____	(Hours) Total Drawdown _____ (Feet)
*May not be representative of a well's long term yield.	

Casings								
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any	
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)	
0	91	6	Blank	steel				
91	99	6	Screen	steel		Milled Slots	0.125	
99	101	6	Blank	steel				

Annular Material		
Depth from Surface	Fill	Description
Feet to Feet		

Attachments
<input checked="" type="checkbox"/> Geologic Log <input type="checkbox"/> Well Construction Diagram <input type="checkbox"/> Geophysical Log(s) <input type="checkbox"/> Soil/Water Chemical Analyses <input checked="" type="checkbox"/> Other <u>Site Plan</u>
Attach additional information, if it exists.

Certification Statement	
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief	
Name <u>Water Development Corporation</u>	
<small>Person, Firm or Corporation</small>	
<u>P.O. Box 141</u>	<u>Zamora</u> CA <u>95698</u>
Address _____	City _____ State _____ Zip _____
Signed <u>[Signature]</u>	Date Signed <u>02/20/2006</u>
<small>C-57 Licensed Water Well Contractor</small>	283326 <small>C-57 License Number</small>

















File Original with DWR

Page 1 of 2

Owner's Well Number U-2

Date Work Began 01/31/2006 Date Work Ended 2/9/2006

Local Permit Agency Contra Costa County Environmental Health Division

Permit Number WP0005635 Permit Date 1/26/06

# State of California Well Completion Report

Refer to Instruction Pamphlet

No. e036151

DWR Use Only - Do Not Fill In											
State Well Number/Site Number											
Latitude						Longitude					
APN/TRS/Other											

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method _____ Drilling Fluid _____		
Depth from Surface	Feet to Feet	Description
		Describe material, grain size, color, etc
		Well was destroyed by tremie grouting with a slurry of neat Portland cement.
Total Depth of Boring <u>101</u> Feet		
Total Depth of Completed Well <u>101</u> Feet		

Well Owner	
Name <u>University of California - Berkeley</u>	
Mailing Address <u>317 University Hall # 1150</u>	
City <u>Berkeley</u>	State <u>CA</u> Zip <u>94720</u>

Well Location	
Address <u>1301 South 46th Street</u>	
City <u>Richmond</u>	County <u>Contra Costa</u>
Latitude _____ N	Longitude _____ W
Datum _____ Decimal Lat. _____ Decimal Long. _____	
APN Book <u>560</u> Page <u>060</u>	Parcel <u>008</u>
Township _____ Range _____	Section _____

Location Sketch	Activity
(Sketch must be drawn by hand after form is printed.)	<input type="radio"/> New Well <input type="radio"/> Modification/Repair <input type="radio"/> Deepen <input type="radio"/> Other _____ <input checked="" type="radio"/> Destroy <small>Describe procedures and materials under "GEOLOGIC LOG"</small>
North	<b>Planned Uses</b> <input type="radio"/> Water Supply <input type="checkbox"/> Domestic <input type="checkbox"/> Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial <input type="radio"/> Cathodic Protection <input type="radio"/> Dewatering <input type="radio"/> Heat Exchange <input type="radio"/> Injection <input type="radio"/> Monitoring <input type="radio"/> Remediation <input type="radio"/> Sparging <input type="radio"/> Test Well <input type="radio"/> Vapor Extraction <input type="radio"/> Other _____
South	
West <span style="margin-left: 200px;">East</span>	
Please See Attached Site Plan	
Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.	

Water Level and Yield of Completed Well	
Depth to first water _____ (Feet below surface)	
Depth to Static _____	
Water Level <u>5</u> (Feet) Date Measured <u>01/31/2006</u>	
Estimated Yield * _____ (GPM) Test Type _____	
Test Length _____ (Hours) Total Drawdown _____ (Feet)	
*May not be representative of a well's long term yield.	

Casings							
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)
0	<u>?</u>	Blank	steel		6		
<u>?</u>	<u>?</u>	Screen	steel		6	Milled Slots	0.125
<u>?</u>	102	Blank	steel		6		

Annular Material		
Depth from Surface	Fill	Description
Feet to Feet		

Attachments
<input type="checkbox"/> Geologic Log <input type="checkbox"/> Well Construction Diagram <input type="checkbox"/> Geophysical Log(s) <input type="checkbox"/> Soil/Water Chemical Analyses <input checked="" type="checkbox"/> Other <u>Site Plan</u>
Attach additional information, if it exists.

Certification Statement	
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief	
Name <u>Water Development Corporation</u>	
Person, Firm or Corporation	
P.O. Box <u>141</u>	<u>Zamora</u> City CA <u>95698</u>
Address State Zip	
Signed	Date Signed <u>02/20/2006</u>
C-57 Licensed Water Well Contractor	C-57 License Number <u>283326</u>







File Original with DWR

State of California

# Well Completion Report

Refer to Instruction Pamphlet  
No. e036156

Page 1 of 2

Owner's Well Number PB-19

Date Work Began 02/09/2006

Date Work Ended 2/9/2006

Local Permit Agency Contra Costa County Environmental Health Division

Permit Number WP0005638

Permit Date 1/26/06

DWR Use Only - Do Not Fill In									
State Well Number/Site Number									
Latitude					Longitude				
APN/TRS/Other									

Geologic Log		
Orientation		
<input checked="" type="radio"/>	Vertical	
<input type="radio"/>	Horizontal	
<input type="radio"/>	Angle	Specify _____
Drilling Method _____		Drilling Fluid _____
Depth from Surface	Description	
Feet to Feet	Describe material, grain size, color, etc	
	Well was destroyed by over drilling (9-inch diameter hollow-stem augers) to full piezometer depth, then tremie grouting resultant borehole with a slurry of neat Portland cement.	
Total Depth of Boring	<u>16</u>	Feet
Total Depth of Completed Well	<u>16</u>	Feet

Well Owner		
Name	<u>University of California - Berkeley</u>	
Mailing Address	<u>317 University Hall # 1150</u>	
City	<u>Berkeley</u>	State <u>CA</u> Zip <u>94720</u>

Well Location		
Address	<u>1301 South 46th Street</u>	
City	<u>Richmond</u>	County <u>Contra Costa</u>
Latitude	Dec. Min. Sec. N Longitude Dec. Min. Sec. W	
Datum	Decimal Lat. _____	Decimal Long. _____
APN Book	<u>560</u>	Page <u>060</u> Parcel <u>008</u>
Township	Range _____	Section _____

Location Sketch	
(Sketch must be drawn by hand after form is printed.)	
North	
Please See Attached Site Plan	
West	East
South	
Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.	

Activity
<input type="radio"/> New Well
<input type="radio"/> Modification/Repair
<input type="radio"/> Deepen
<input type="radio"/> Other _____
<input checked="" type="radio"/> Destroy
<small>Describe procedures and materials under "GEOLOGIC LOG"</small>
Planned Uses
<input type="radio"/> Water Supply
<input type="checkbox"/> Domestic <input type="checkbox"/> Public
<input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial
<input type="radio"/> Cathodic Protection
<input type="radio"/> Dewatering
<input type="radio"/> Heat Exchange
<input type="radio"/> Injection
<input type="radio"/> Monitoring
<input type="radio"/> Remediation
<input type="radio"/> Sparging
<input type="radio"/> Test Well
<input type="radio"/> Vapor Extraction
<input type="radio"/> Other _____

Water Level and Yield of Completed Well		
Depth to first water	_____	(Feet below surface)
Depth to Static	_____	
Water Level	<u>5</u>	(Feet) Date Measured <u>01/31/2006</u>
Estimated Yield *	_____	(GPM) Test Type _____
Test Length	_____	(Hours) Total Drawdown _____ (Feet)
*May not be representative of a well's long term yield.		

Casings							
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)
0	6	2	Blank	PVC Sch. 40	0.75		
6	16	2	Screen	PVC Sch. 40	0.75	slotted	?

Annular Material		
Depth from Surface	Fill	Description
Feet to Feet		

Attachments
<input type="checkbox"/> Geologic Log
<input type="checkbox"/> Well Construction Diagram
<input type="checkbox"/> Geophysical Log(s)
<input type="checkbox"/> Soil/Water Chemical Analyses
<input checked="" type="checkbox"/> Other <u>Site Plan</u>
Attach additional information, if it exists.

Certification Statement			
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief			
Name <u>Water Development Corporation</u>			
Person, Firm or Corporation			
<u>P.O. Box 141</u>	<u>Zamora</u>	<u>CA</u>	<u>95698</u>
Address		City	State Zip
Signed _____	<u>02/20/2006</u>	<u>283326</u>	
C-57 Licensed Water Well Contractor	Date Signed	C-57 License Number	

File Original with DWR

State of California  
**Well Completion Report**

Refer to Instruction Pamphlet  
No. e036159

**DWR Use Only - Do Not Fill In**

State Well Number/Site Number	
Latitude	Longitude
APN/TRS/Other	

Page 1 of 2  
 Owner's Well Number PB-20  
 Date Work Began 02/09/2006 Date Work Ended 2/9/2006  
 Local Permit Agency Contra Costa County Environmental Health Division  
 Permit Number WP0005639 Permit Date 1/26/06

**Geologic Log**

Orientation  Vertical  Horizontal  Angle Specify \_\_\_\_\_  
 Drilling Method \_\_\_\_\_ Drilling Fluid \_\_\_\_\_

Depth from Surface	Description
Feet to Feet	Describe material, grain size, color, etc
	Well was destroyed by over drilling (9-inch diameter hollow-stem augers) to full piezometer depth, then tremie grouting resultant borehole with a slurry of neat Portland cement.

Total Depth of Boring 16 Feet  
 Total Depth of Completed Well 16 Feet

**Well Owner**

Name University of California - Berkeley  
 Mailing Address 317 University Hall # 1150  
 City Berkeley State CA Zip 94720

**Well Location**

Address 1301 South 46th Street  
 City Richmond County Contra Costa  
 Latitude \_\_\_\_\_ N Longitude \_\_\_\_\_ W  
 Datum \_\_\_\_\_ Decimal Lat. \_\_\_\_\_ Decimal Long. \_\_\_\_\_  
 APN Book 560 Page 060 Parcel 008  
 Township \_\_\_\_\_ Range \_\_\_\_\_ Section \_\_\_\_\_

**Location Sketch**  
 (Sketch must be drawn by hand after form is printed.)

North

West
East

Please See Attached Site Plan

South

Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. **Please be accurate and complete.**

**Activity**

New Well  
 Modification/Repair  
 Deepen  
 Other \_\_\_\_\_  
 Destroy  
Describe procedures and materials under "GEOLOGIC LOG"

**Planned Uses**

Water Supply  
 Domestic  Public  
 Irrigation  Industrial  
 Cathodic Protection  
 Dewatering  
 Heat Exchange  
 Injection  
 Monitoring  
 Remediation  
 Sparging  
 Test Well  
 Vapor Extraction  
 Other \_\_\_\_\_

**Water Level and Yield of Completed Well**

Depth to first water \_\_\_\_\_ (Feet below surface)  
 Depth to Static \_\_\_\_\_  
 Water Level 5 (Feet) Date Measured 01/31/2006  
 Estimated Yield \* \_\_\_\_\_ (GPM) Test Type \_\_\_\_\_  
 Test Length \_\_\_\_\_ (Hours) Total Drawdown \_\_\_\_\_ (Feet)  
 \*May not be representative of a well's long term yield.

**Casings**

Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)
0 to 6	2	Blank	PVC Sch. 40		0.75		
6 to 16	2	Screen	PVC Sch. 40		0.75	slotted	?

**Annular Material**

Depth from Surface	Fill	Description
Feet to Feet		

**Attachments**

Geologic Log  
 Well Construction Diagram  
 Geophysical Log(s)  
 Soil/Water Chemical Analyses  
 Other Site Plan

Attach additional information, if it exists.

**Certification Statement**

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief  
 Name Water Development Corporation  
Person, Firm or Corporation  
P.O. Box 141 Zamora CA 95698  
Address City State Zip  
 Signed [Signature] Date Signed 02/20/2006  
C-57 Licensed Water Well Contractor C-57 License Number

## **ATTACHMENT B**

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### **Well Investigation and Closure Photodocumentation**



Subject: Removing submersible pump and pipe riser piping from Final Recharge Well.

Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: May 27, 2005

Project No.: SES2005-21

Photographer: Bruce Rucker

Photo No.: 01



Subject: Downhole video camera survey at “Original Recharge Well” – side view at 4’ depth showing well casing/water interface.

Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: January 30, 2006

Project No.: SES2005-21

Photographer: Welenco (Bakersfield, CA)

Photo No.: 02



Subject: Downhole video camera survey at "Original Recharge Well" – side view at 39' depth, showing scale on casing wall.

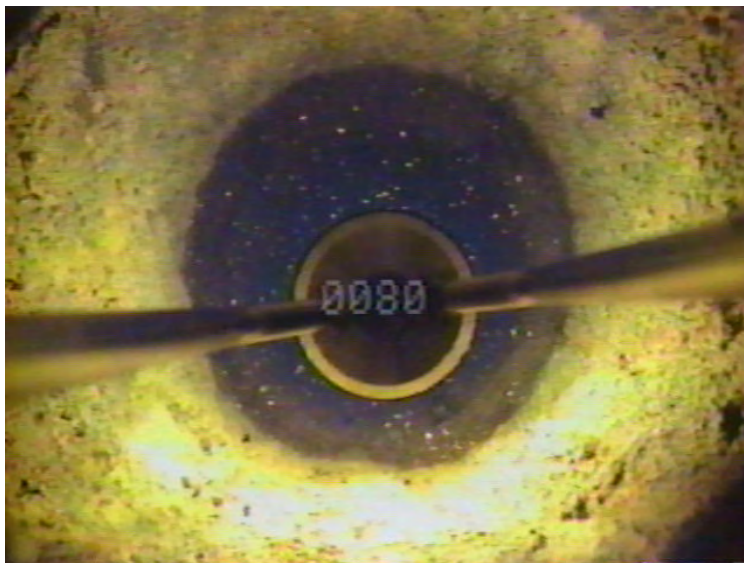
Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: January 30, 2006

Project No.: SES2005-21

Photographer: Welenco (Bakersfield, California)

Photo No.: 03



Subject: Downhole video camera survey at "Original Recharge Well" – downward view at 80' depth, showing casing walls.

Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: January 30, 2006

Project No.: SES2005-21

Photographer: Welenco (Bakersfield, California)

Photo No.: 04



Subject: Downhole video camera survey at "Original Recharge Well" – downward view at 89' depth, showing sediment beginning.

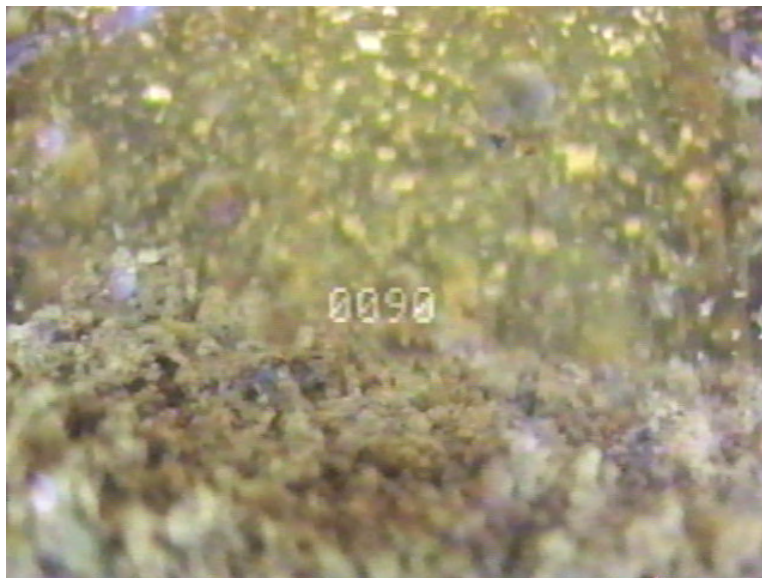
Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: January 30, 2006

Project No.: SES2005-21

Photographer: Welenco (Bakersfield, California)

Photo No.: 05



Subject: Downhole video survey at "Original Recharge Well" – side view at 90' depth, showing top of settled sediment column.

Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: January 30, 2006

Project No.: SES2005-21

Photographer: Welenco (Bakersfield, California)

Photo No.: 06



Subject: Well-related surface equipment at Final Recharge Well, before demolition.

Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: January 31, 2006

Project No.: SES2005-21

Photographer: Bruce Rucker

Photo No.: 07



Subject: Tremie-grouting at well New 50 East, showing installed tremie pipe and fitting/hose for grout pumping from rig.

Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: January 31, 2006

Project No.: SES2005-21

Photographer: Bruce Rucker

Photo No.: 08



Subject: Area of former well-related surface equipment at Final Recharge Well, after demolition.

Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: January 31, 2006

Project No.: SES2005-21

Photographer: Bruce Rucker

Photo No.: 09



Subject: Overdrilling well New 100 South, showing upper 5' of casing that was pulled from the hole by the augers.

Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: February 1, 2006

Project No.: SES2005-21

Photographer: Joe Dinan

Photo No.: 10





Subject: Perforating tool (“mills knife”), rigged up at well 50 West.

Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: February 3, 2006

Project No.: SES2005-21

Photographer: Bruce Rucker

Photo No.: 11



Subject: Test perforation at well 50 West.

Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: February 3, 2006

Project No.: SES2005-21

Photographer: Bruce Rucker

Photo No.: 12



Subject: Delivering tremie pipe at well New 50-E.

Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: January 31, 2006

Project No.: SES2005-21

Photographer: Bruce Rucker

Photo No.: 13



Subject: Overdrilling piezometer PB-20.

Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: February 9, 2006

Project No.: SES2005-21

Photographer: Joe Dinan

Photo No.: 14



Subject: Drilling out piezometer PB-18.

Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: February 9, 2006

Project No.: SES2005-21

Photographer: Joe Dinan

Photo No.: 15



Subject: Drilling out piezometer PB-19.

Site: UC Berkeley – Richmond Field Station, Richmond, California

Date Taken: February 9, 2006

Project No.: SES2005-21

Photographer: Joe Dinan

Photo No.: 16