

**2013 Annual Land-Use Covenant  
Inspection Report for DOE Areas  
at the Laboratory for Energy-  
Related Health Research/Old  
Campus Landfill Superfund Site  
University of California, Davis**

January 2014



U.S. DEPARTMENT OF  
**ENERGY**

Legacy  
Management

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LMS/LEH/S11325

**2013 Annual Land-Use Covenant Inspection Report  
for DOE Areas at the Laboratory for Energy-Related Health  
Research/Old Campus Landfill Superfund Site  
University of California, Davis**

**January 2014**

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# Contents

Abbreviations .....	vi
1.0 Introduction .....	1
1.1 Reporting Requirement .....	1
1.2 Period Covered .....	2
1.3 Activities Conducted During Reporting Period .....	2
2.0 Inspections .....	5
2.1 Inspections of DOE Areas Subject to Land-Use Controls .....	5
2.2 Inspections of DOE Areas for Compliance with Requirements of the Soil Management Plan .....	5
2.2.1 Soil Management Compliance Interview .....	5
2.2.2 Inspections of Soil-Disturbing Activities .....	5
2.3 Inspections of Groundwater Monitoring Wells .....	5
3.0 Soil Management Plan Implementation .....	7
3.1 Training .....	7
3.2 Soil-Disturbing Activities .....	7
3.3 Soil Disposal .....	7
3.4 Soil Management Plan Changes .....	7
4.0 Certification .....	9
5.0 References .....	11

## Figures

Figure 1. Location of the LEHR Superfund Site, UC Davis, Solano County, California .....	3
Figure 2. Areas of the LEHR Superfund Site Subject to Land-Use Controls .....	4

## Appendixes

Appendix A	Inspection and Maintenance Checklists
Appendix B	Photographs of Monuments at Permanent Reference Points for Areas Subject to Land-Use Controls
Appendix C	Photographs of DOE Areas Subject to Land-Use Controls
Appendix D	Photographs of Groundwater Monitoring Wells
Appendix E	Photographs of Well Maintenance

## Abbreviations

DOE	U.S. Department of Energy
EH&S	Environmental Health and Safety
LEHR	Laboratory for Energy-Related Health Research
ROD	Record of Decision
SMP	Soil Management Plan
UC Davis	University of California, Davis
Weiss	Weiss Associates

## 1.0 Introduction

This report documents inspection of land-use controls implemented by the U.S. Department of Energy (DOE) to control exposure to residual soil contaminants at the Laboratory for Energy-Related Health Research/Old Campus Landfill Superfund Site (LEHR site)<sup>1</sup> located at the University of California, Davis (UC Davis) (Figure 1). By controlling land use at the LEHR site, DOE meets the requirement of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund) to protect human health and the environment from any potential effects of contamination remaining at the DOE areas at the LEHR site. The selection of land-use controls for eight subareas at LEHR is documented in the *Record of Decision for DOE Areas at the Laboratory for Energy-Related Health Research, University of California, Davis* (ROD) (DOE 2009). Implementation details are provided in the *Remedial Design/Remedial Action Work Plan for the Former Laboratory for Energy-Related Health Research Federal Facility, University of California, Davis* (DOE 2010).

The following land-use restrictions apply to the DOE areas shown in Figure 2:

- Prohibition against residential and agricultural use of the Domestic Septic System 4 area.
- Implementation of the Soil Management Plan (SMP) in areas identified in Figure 2. (For more information about the SMP, see the Remedial Design/Remedial Action Work Plan [DOE 2010]).
- Prohibition against interference with the groundwater monitoring system.

The land-use restrictions allow access to areas identified in Figure 2 for the purpose of collecting samples and maintaining groundwater monitoring wells. These controls shall be maintained until the concentrations of contaminants in the soil are at or below cleanup levels specified in the ROD.

### 1.1 Reporting Requirement

In accordance with Section 2.4 of the Remedial Design/Remedial Action Work Plan, DOE agreed to prepare a written land-use covenant inspection report annually. The report is to include the following information:

- Annual land-use covenant inspection results and results of inspections conducted to comply with the requirements of the SMP.
- Certification attesting to the compliance of the terms and conditions of the land-use covenant.
- A discussion of soil-disturbing activities and final disposal of any wastes generated, any violations of the land-use covenant, and any action taken to ensure compliance with the land-use covenant.

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<sup>1</sup> The DOE Office of Legacy Management will refer to the LEHR site as the Davis California Site after December 2013.

The report is to be submitted annually to the U.S. Environmental Protection Agency Region 9, the California Regional Water Quality Control Board Central Valley Region, the California Department of Toxic Substances Control, and the California Department of Public Health, Radiologic Health Branch within 30 days of the anniversary date of the ROD signature (December 10, 2009).

## **1.2 Period Covered**

This is the second land-use covenant report prepared by DOE. It covers the period of December 10, 2012, to December 9, 2013.

## **1.3 Activities Conducted During Reporting Period**

Inspections of groundwater monitoring wells, land survey monuments, and DOE areas subject to land-use controls were conducted. The UC Davis Environmental Health and Safety (EH&S) Unit conducted annual training to communicate soil management requirements to appropriate units performing or contracting work. Preparation of a land-use covenant continued in 2013 and is expected to be recorded by Solano County by mid-2014.

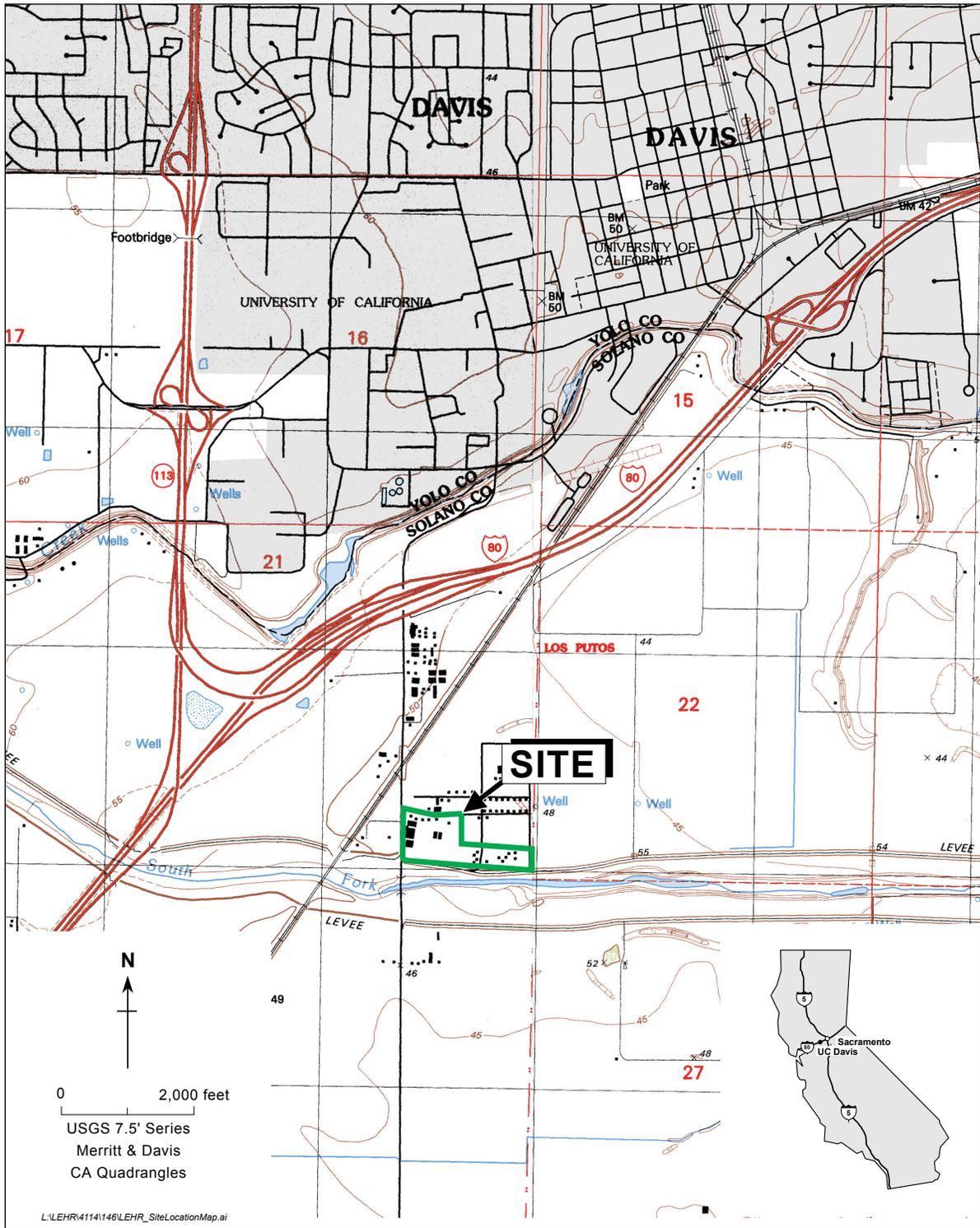


Figure 1. Location of the LEHR Superfund Site, UC Davis, Solano County, California

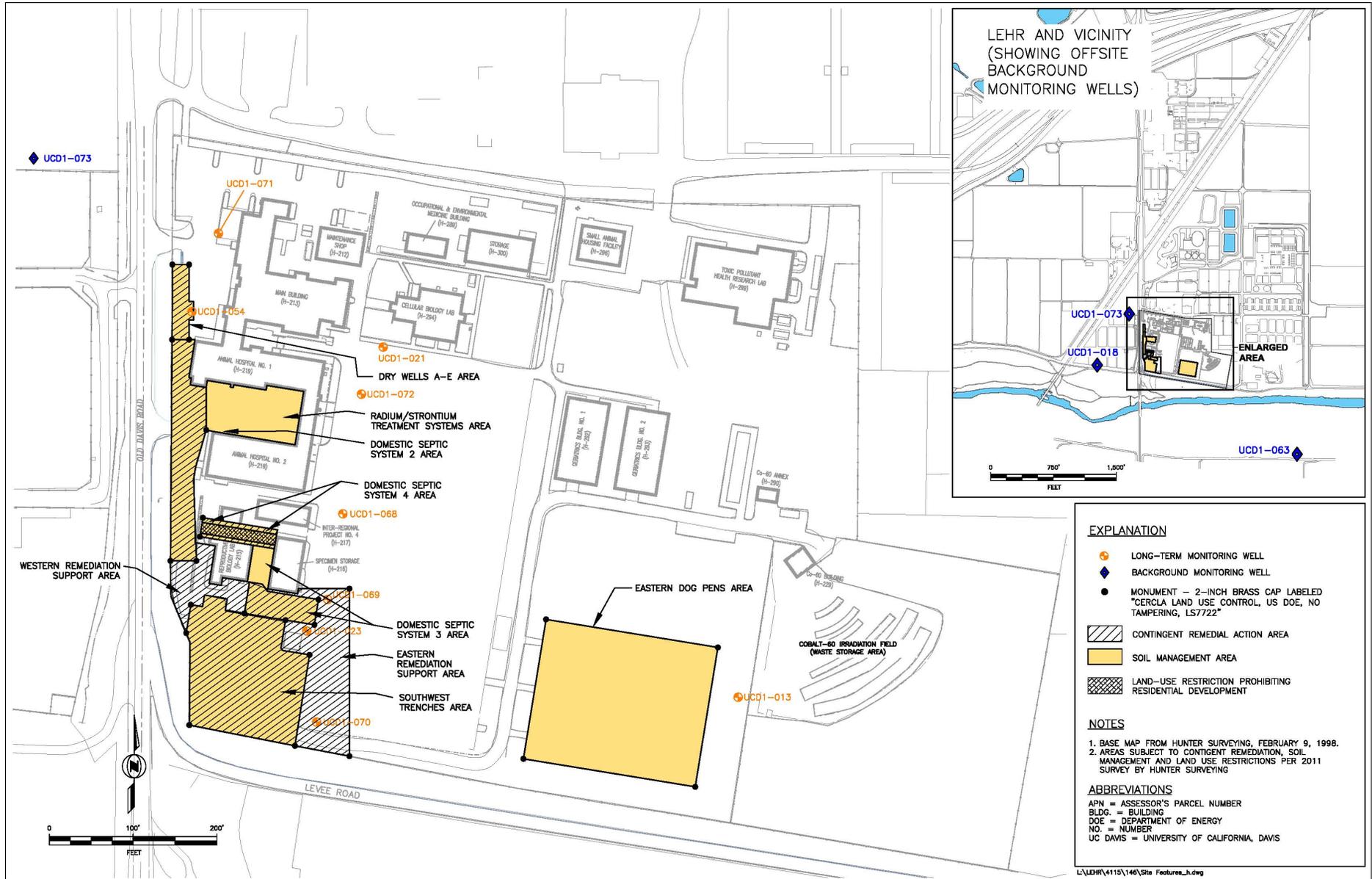


Figure 2. Areas of the LEHR Superfund Site Subject to Land-Use Controls

## **2.0 Inspections**

Inspections of the DOE areas subject to land-use controls were conducted on June 13, 2013, using a newly developed inspection and maintenance checklist (Appendix A). Only minor maintenance items for groundwater monitoring wells were identified during these inspections. The well maintenance items were corrected on November 22, 2013.

### **2.1 Inspections of DOE Areas Subject to Land-Use Controls**

On June 13, 2013, a Weiss Associates (Weiss) representative performed a walkthrough inspection of corner-point monuments that define the areas subject to land-use controls. All 24 monuments were in good condition, and no maintenance issues were identified. Appendix A provides the completed inspection checklist; Appendix B provides photographs of the monuments.

### **2.2 Inspections of DOE Areas for Compliance with Requirements of the Soil Management Plan**

On June 13, 2013, Weiss performed a walkthrough inspection of DOE areas subject to land-use controls to look for signs of soil disturbance. The inspection was observed by Jim Aborn, UC Davis; Cliff Carpenter, DOE; and Mike Butherus, S.M. Stoller Corporation. No indication of soil disturbance was found. Appendix A provides the inspection checklist, and Appendix C provides photographs documenting the area inspections.

#### **2.2.1 Soil Management Compliance Interview**

On June 13, 2013, Weiss interviewed Jim Aborn of the UC Davis EH&S Unit to determine if EH&S was aware of any soil-disturbing activities within the DOE areas subject to land-use controls. Mr. Aborn reported that no soil-disturbing activities occurred within the DOE areas subject to land-use controls during the reporting period. Appendix A provides copies of the interview checklists.

#### **2.2.2 Inspections of Soil-Disturbing Activities**

During this reporting period, no soil-disturbing activities occurred within the DOE areas subject to land-use controls; therefore, no inspections were necessary to comply with the requirements of the SMP (DOE 2010).

### **2.3 Inspections of Groundwater Monitoring Wells**

On June 13, 2013, Weiss performed a walkthrough inspection of groundwater monitoring wells UCD1-013, -018, -021, -023, -054, -063, and wells UCD1-068 through -073 (Figure 2). All the well completions were structurally sound, and the wells were in good condition. Wells with standpipe completions (UCD1-013, -018, -063, -070, and -073) were secured with padlocks. Wells with surface completions (UCD1-021, -023, -054, -068, -069, -071 and -072) were secured with bolts.

The cement pads around wells UCD1-021 and UCD1-023 have surficial cracks and chips due to traffic, but the underlying structural cement around both well vaults is sound. Cement pads in the remainder of the DOE areas and at the background wells were structurally sound with no surface damage.

Some minor well maintenance issues were noted during the June 13, 2013, inspection:

- Locks on wells UCD1-018 and UCD1-070 were difficult to close.
- Plaques located inside the vaults at wells UCD1-021 and UCD1-023 were not anchored to the well casing caps.
- Vault lid bolts did not fit the anchorage threads at well UCD1-054.
- One vault lid bolt was difficult to fasten to the anchorage threads at well UCD1-072.

Appendix D provides photographs of the wells, and Appendix A provides a copy of the inspection checklist.

On November 22, 2013, Weiss performed the following well maintenance tasks:

- Locks on wells UCD1-018 and UCD1-070 were lubricated and verified to operate smoothly.
- Plaques located inside the vaults at wells UCD1-021 and UCD1-023 were anchored to the well casing caps.
- Anchorage threads at well UCD1-054 were repaired; new vault lid bolts were installed and secured.
- Anchorage threads at well UCD1-072 were cleaned and lubricated; vault lid bolts were replaced and the lid was secured.

Appendix E provides photographs of the well repairs, and Appendix A provides a copy of the maintenance checklist.

## **3.0 Soil Management Plan Implementation**

In accordance with an agreement with DOE, the EH&S Unit at UC Davis is responsible for implementation of the SMP (DOE 2010).

### **3.1 Training**

The EH&S Unit conducted annual training to communicate soil management requirements to applicable units that may perform, manage, or contract for work at and near the project site. Additionally, personnel working in departments located on the project site or near it received annual training.

The training provided information on the following topics:

- Roles and responsibilities
- Areas and contaminants subject to soil management requirements
- Soil management during excavation or construction
- Permits for soil-disturbing activities
- Plans and documentation
- Soil management during emergency work
- Waste management
- Waste characterization and disposal
- Inspections

### **3.2 Soil-Disturbing Activities**

Based on site inspections and the interview documented in this report, no soil-disturbing activities (routine or emergency) occurred in any of the DOE areas subject to the requirements of the SMP during this reporting period. Consequently, no permits for soil disturbance were issued.

The pending soil-disturbing activities planned by Pacific Gas and Electric were relocated to the west side of Old Davis Road, away from the DOE areas subject to land-use controls. The EH&S Unit is providing ongoing training and guidance to university staff to avoid unnecessary soil-disturbing activities in the areas subject to the SMP.

### **3.3 Soil Disposal**

Based on site inspections and the interview documented in this report, no soil from the DOE areas subject to the requirements of the SMP was disposed of during this reporting period.

### **3.4 Soil Management Plan Changes**

There are no suggested changes to the SMP as of this report.

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## 4.0 Certification

The U.S. Department of Energy hereby certifies to the best of its knowledge that the information contained in this inspection report is true and accurate, and no exceptions to the land-use covenant terms and conditions occurred during this reporting period.

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

\_\_\_\_\_  
Cliff Carpenter  
Federal Project Director  
U. S. Department of Energy Office of Legacy Management  
99 Research Park Road  
Morgantown, WV 26505

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## 5.0 References

DOE (U.S. Department of Energy), 2009. *Record of Decision for DOE Areas at the Laboratory for Energy-Related Health Research, University of California, Davis*, LMS/LEH/S05069, Office of Legacy Management, Grand Junction, Colorado, September.

DOE (U.S. Department of Energy), 2010. *Remedial Design/Remedial Action Work Plan for the Former Laboratory for Energy-Related Health Research Federal Facility, University of California, Davis*, LMS/LEH/S05822, Office of Legacy Management, Grand Junction Colorado, November.

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## **Appendix A**

### **Inspection and Maintenance Checklists**

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## LAND USE CONTROL INSPECTION CHECKLIST

Inspector Tim Utterback

Inspection Date 6-13-13

DOE Area: Southwest Trenches

Inspection Period December 10, 2012 – December 9, 2013

Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance observed during walk-thru inspection? If yes, explain. <sup>1,2</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
Were any soil disturbance permits issued by the EH&S Unit for this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
Were permitted soil disturbing activities conducted in this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
If permitted soil disturbing activities were conducted in this DOE Area since December 10, 2012, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EH&S person contacted: _____
If waste was generated due to soil disturbing activities since December 10, 2012, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EH&S person contacted: _____
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>

**Notes:**

<sup>1</sup> Soil disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface.

<sup>2</sup> Does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

## LAND USE CONTROL INSPECTION CHECKLIST

Inspector Tim Unterback Inspection Date 6-13-13

DOE Area: Southwest Trenches Inspection Period December 10, 2012 – December 9, 2013

Photograph Description	Photo No.	Comments
View southeast over Southwest Trenches Area. Well UCD1-070 and north levee in background.	1571 1572	
View east over Southwest Trenches Area. Storage shed to left; north levee to right; Western Dog Pens Area and UC Davis Southern Trenches Area in background.	1573 1574	
View northeast over northern portion of Southwest Trenches Area. <del>Domestic Septic System 3 Area and Building H-216 in background.</del> <sup>TRU 6-14-13</sup> <i>North northwest corner</i>	1575	
View south over Southwest Trenches Area. North levee in background; shoulder of Old Davis Road to right.	1608	
View southeast over Southwest Trenches Area.	1609	
View west over Southwest Trenches Area. <del>UC Davis Southern Trenches area in foreground;</del> <sup>TRU 6-14-13</sup> South perimeter fence to left; Shoulder of Old Davis Road in background.	1583	
View northwest over Southwest Trenches Area.	1584	
View north over Southwest Trenches Area <del>from north levee.</del> <sup>TRU 6-14-13</sup>	1585	
<i>View North from center of SWT Area</i>	1586	
<i>" West " "</i>	1587	
<i>" South " "</i>	1588	
<i>" East " "</i>	1589	

## LAND USE CONTROL INSPECTION CHECKLIST

Inspector Tim Utterback

Inspection Date 6-13-13

DOE Area: Domestic Septic System 3

Inspection Period December 10, 2012 – December 9, 2013

Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance observed during walk-thru inspection? If yes, explain. <sup>1,2</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
Were any soil disturbance permits issued by the EH&S Unit for this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
Were permitted soil disturbing activities conducted in this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
If permitted soil disturbing activities were conducted in this DOE Area since December 10, 2012, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EH&S person contacted: _____
If waste was generated due to soil disturbing activities since December 10, 2012, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EH&S person contacted: _____
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>

**Notes:**

<sup>1</sup> Soil disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface.

<sup>2</sup> Does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

## LAND USE CONTROL INSPECTION CHECKLIST

Inspector Tim Utterback Inspection Date 6-13-13

DOE Area: Domestic Septic System 3 Inspection Period December 10, 2012 – December 9, 2013

Photograph Description	Photo No.	Comments
View east over former leach field part of Domestic Septic System 3 Area. Buildings H-215 and H-216 to left; storage unit and Western Dog Pens Area in background. <i>TRM 6-14-13</i>	1607	
View east over eastern half of Domestic Septic System 3 Area. Western Dog Pens Area in background.	1610 1611	
View west over former leach field part of Domestic Septic System 3 Area. Buildings H-215 and H-216 to right; Southwest Trenches Area to left; Shoulder of Old Davis Road in background.	1612	
View south over septic tank part of Domestic Septic System 3 Area. Building H-216 to left; Building H-215 to right; Southwest Trenches Area in background.	1636	
View north over septic tank part of Domestic Septic System 3 Area. Building H-215 to left; Building H-216 to right; Domestic Septic System 4 Area in background.	1634 1635	
<i>View south over east end of DSS3 Leach Field</i>	1613	<i>trailer in background</i>
<i>View east, Bldg H-216 in BG-D, <sup>North</sup> of tree</i>	1637	
<i>View east, Bldg H-216 in BG-D, South/right of tree</i>	1638	

## LAND USE CONTROL INSPECTION CHECKLIST

Inspector Tim Utterback

Inspection Date 6-13-13

DOE Area: Domestic Septic System 4

Inspection Period December 10, 2012 – December 9, 2013

Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance observed during walk-thru inspection? If yes, explain. <sup>1,2</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
Were any soil disturbance permits issued by the EH&S Unit for this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
Were permitted soil disturbing activities conducted in this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
If permitted soil disturbing activities were conducted in this DOE Area since December 10, 2012, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EH&S person contacted: _____
If waste was generated due to soil disturbing activities since December 10, 2012, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EH&S person contacted: _____
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>

**Notes:**

<sup>1</sup> Soil disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface.

<sup>2</sup> Does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.



## LAND USE CONTROL INSPECTION CHECKLIST

Inspector Tim Uterback

Inspection Date 6-13-13

DOE Area: Radium/Strontium Treatment Systems Area

Inspection Period December 10, 2012 – December 9, 2013

Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance observed during walk-thru inspection? If yes, explain. <sup>1,2</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
Were any soil disturbance permits issued by the EH&S Unit for this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
Were permitted soil disturbing activities conducted in this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
If permitted soil disturbing activities were conducted in this DOE Area since December 10, 2012, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EH&S person contacted: _____
If waste was generated due to soil disturbing activities since December 10, 2012, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EH&S person contacted: _____
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>

**Notes:**

<sup>1</sup> Soil disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface.

<sup>2</sup> Does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

## LAND USE CONTROL INSPECTION CHECKLIST

Inspector Tim Utterback

Inspection Date 6-13-13

DOE Area: Radium/Strontium Treatment Systems Area

Inspection Period December 10, 2012 – December 9, 2013

Photograph Description	Photo No.	Comments
View north over southern portion of Radium/Strontium Treatment Systems Area. Building H-215 to right; Building H-218 back/right. <sup>TRU 6-14-13</sup> <del>and H-219</del>	1653	west perimeter fence to left
View north over middle portion of Radium/Strontium Treatment Systems Area. Building H-218 to right; Building H-219 back/right.	1654	
View south over southern portion of Radium/Strontium Treatment Systems Area. Building H-215 to left.	1655	
View north over northern portion of Radium/Strontium Treatment Systems Area. Building H-219 to right.	1656	
View south over middle/south portion of Radium/Strontium Treatment Systems Area. Building H-218 to left; Building H-215 back/left. <sup>TRU 6-14-13</sup>	1657	old Davis Rd to right
View east over middle portion of Radium/Strontium Treatment Systems Area. Building H-218 to right; Building H-219 to left.	1658, 1659 1660	— closer shot over fence
View west over middle-west portion of Radium/Strontium Treatment Systems Area, west perimeter fence, and Old Davis Road.	1661	
Roof-level view west over middle portion of Radium/Strontium Treatment Systems Area. Building H-219 to right; Building H-218 to left; Old Davis Road in background.	1666	
View south over northern portion of Radium/Strontium Treatment Systems Area. Building H-219 to left. <i>old Davis Rd to right</i>	1669	
<i>View southwest from roof</i>	1667	Bldg H-218 in BGD
<i>View northwest from roof</i>	1668	Bldg H-219 in BGD

## LAND USE CONTROL INSPECTION CHECKLIST

Inspector Tim Utterback

Inspection Date 6-13-13

DOE Area: Dry Wells A – E Area

Inspection Period December 10, 2012 – December 9, 2013

Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance observed during walk-thru inspection? If yes, explain. <sup>1,2</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Tim Aborn</u>
Were any soil disturbance permits issued by the EH&S Unit for this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Tim Aborn</u>
Were permitted soil disturbing activities conducted in this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Tim Aborn</u>
If permitted soil disturbing activities were conducted in this DOE Area since December 10, 2012, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EH&S person contacted: _____
If waste was generated due to soil disturbing activities since December 10, 2012, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EH&S person contacted: _____
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Tim Aborn</u>

**Notes:**

<sup>1</sup> Soil disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface.

<sup>2</sup> Does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.



## LAND USE CONTROL INSPECTION CHECKLIST

Inspector Tim Utterback

Inspection Date 6-13-13

DOE Area: Eastern Dog Pens Area

Inspection Period December 10, 2012 – December 9, 2013

Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance observed during walk-thru inspection? If yes, explain. <sup>1,2</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
Were any soil disturbance permits issued by the EH&S Unit for this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
Were permitted soil disturbing activities conducted in this DOE Area since December 10, 2012?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>
If permitted soil disturbing activities were conducted in this DOE Area since December 10, 2012, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EH&S person contacted: _____
If waste was generated due to soil disturbing activities since December 10, 2012, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EH&S person contacted: _____
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH&S person contacted: <u>Jim Aborn</u>

**Notes:**

<sup>1</sup> Soil disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface.

<sup>2</sup> Does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

## LAND USE CONTROL INSPECTION CHECKLIST

Inspector Tim Utterback

Inspection Date 6-13-13

DOE Area: Eastern Dog Pens Area

Inspection Period December 10, 2012 – December 9, 2013

Photograph Description	Photo No.	Comments
View northeast over Eastern Dog Pens Area from southwest corner.	1729	
View east over Eastern Dog Pens Area.	1730	
View southeast over Eastern Dog Pens Area from northwest corner.	1731	
View south over Eastern Dog Pens Area.	1724	
View southwest over Eastern Dog Pens Area from northeast corner.	1722, 1723	
View west over Eastern Dog Pens Area.	1725	
View northwest over Eastern Dog Pens Area from southeast corner.	1726	
View north over Eastern Dog Pens Area from north levee.	1734	

## LAND USE CONTROL INSPECTION CHECKLIST

Inspector Tim Utterback

Inspection Date 6-13-13

DOE Areas Monitoring Wells

Inspection Period December 10, 2012 – December 9, 2013

Well ID	Photographs				Vault and Seal Structurally Sound? (Y/N) If N, explain	Evidence of tampering? (Y/N) If Y, explain	Comments
	Wellhead / tag <sup>1</sup>		Vault / tag <sup>2</sup>				
UCD1-013	1715 1716 1717	1718	1720	1719	Y	N	
UCD1-018	1697	1696	1699	1698	Y	N	Lock was difficult to close opened OK
UCD1-021 <sup>7334</sup> <sub>6-13-13</sub> 073	1691 1692	1693	1695	1694	Y	N	
UCD1-023	1710 1711	1712	1714	1713 <sup>a</sup>	Y	N	cleared weeds growing around concrete Pad... Vault tag not securely attached to cap
UCD1-054	1683	1682	1685	1684	Y	N	'Bolts don't fit threads - Bolts are too small
UCD1-063	1700 1701	1702	1704 1705	1703	Y	N	
UCD1-068	1624 1625	1623	1627	1626	Y	N	
UCD1-069	1617	1616	1619	1618	Y	N	

## LAND USE CONTROL INSPECTION CHECKLIST

Inspector Tim Uterback

Inspection Date 6-13-13

DOE Areas Monitoring Wells

Inspection Period December 10, 2012 – December 9, 2013

Well ID	Photographs				Vault and Seal Structurally Sound? (Y/N) If N, explain	Evidence of tampering? (Y/N) If Y, explain	Comments
	Wellhead / tag <sup>1</sup>		Vault / tag <sup>2</sup>				
UCD1-070	1579 1580	1578	1582	1581	Y	N	Lock was stiff to close opened OK
UCD1-071	1688	1686 1687	1690	1689	Y	N	
UCD1-072	<del>1630</del> 1631	<del>1628</del> 1629	1633	1632	Y	N	1 bolt mount may need repair
<sup>TRU 6-13-13</sup> <del>UCD1-073</del> 021	1706	1707	1709	<sup>a</sup> 1708	Y	N	<sup>a</sup> Vault tag not securely attached to cap

Notes:

<sup>1</sup> Take photograph inclusive of wellhead features. Take zoom photograph of wellhead identification plaque (tag). Record photograph numbers.

<sup>2</sup> Open well vault and take photograph inclusive of vault inner features. Take zoom photograph of identification plaque (tag) stored in vault. Record photograph numbers.

## LAND USE CONTROL INSPECTION CHECKLIST

Inspector Tim Ytterback

Inspection Date 6-13-13

Survey Monuments

Inspection Period December 10, 2012 – December 9, 2013

Monument No.	Close-up Photo <sup>1</sup>	Setting Photo <sup>2</sup>	Damaged or missing? (Y/N) If Y, explain	Comments
1	1677	1676	N	Looking Northwest Entrance sign in BGD
2	1674	1675	N	Looking Northwest Entrance in BGD
3/4	1678	1679	N	Main: H213 left background Bldg H219 in rt foreground
4/3	1681	1680	N	Old Davis Rd. and horse pen entrance in BGD
5	<del>1646</del> 1647	1648	<del>16</del> N	Bldg 215 in BGD
6	1662	1663	N	Bldg H-218 in BGD
7	1644	1645	N	Bldg 215 in BGD
8	1651	1652	N	Old Davis Rd in BGD
9	1650	1649	N	Bldg 215 in BGD
10	1615	1614	N	Bldg 216 in BGD
11	1620	1621 1622	N	Bldg 216 in BGD
12	1606	1605	N	Bldg H215 in BGD
13	1603	1604	N	Bldg's H215 left H216 rt
14	1598	1599	N	Bldg H216 in BGD
15	<del>1597</del> 1596	1596	N	Trailer in BGD

+ RV  
6-13-13  
TRV  
6-13-13

## LAND USE CONTROL INSPECTION CHECKLIST

Inspector Tim Ueberback

Inspection Date 6-15-13

Survey Monuments

Inspection Period December 10, 2012 – December 9, 2013

Monument No.	Close-up Photo <sup>1</sup>	Setting Photo <sup>2</sup>	Damaged or missing? (Y/N) If Y, explain	Comments
16	1593	1592	N	View South, Southwest corner of SWTPs
17	1591	1590	N	View South, North Levee in BGD
18	1594	1595	N	View South, North Levee in BGD
19	<del>1732</del> TRU 6-15-13 1733	1731	N	View southeast over EDPs
20	1721	1722 1723	N	View southwest over EDPs
21	1728	1729	N	View North east over EDPs
22	1727	1726	N	View Northwest to EDPs
23	1576	1577	N	View <sup>West TRU 11-21-13</sup> East, Old Davis Rd above/BGD
24	1602	1601	N	Trailer in BGD

Notes:

<sup>1</sup> Take zoom photograph of monument. Record photograph number.

<sup>2</sup> Place orange ring marker around monument and step back to take photo of monument location with recognizable site features (ex. buildings, fence, road, etc) in view. Record photograph number.

## LAND USE CONTROL MAINTENANCE/REPAIR CHECKLIST

Inspector JMP

Inspection Date 11/22/13

DOE Areas Monitoring Wells

Inspection Period December 10, 2012 – December 9, 2013

Well ID	Photographs				Maintenance/Repair Request	Successful Repair? (Y/N) If N, explain	Comments/Explanations
	Before Repair		After Repair				
UCD1-018			✓		Lubricate or replace stiff lock	Y	
UCD1-021	✓		✓		Attach interior well vault identification tag to casing cap (see photo)	Y	TAG ATTACHED TO INNER SOLONIST CAP
UCD1-023	✓		✓		Attach interior well vault identification tag to casing cap (see photo)	Y	TAG ATTACHED TO INNER SOLONIST TAG
UCD1-054	✓		✓		Install vault lid bolts that fit	Y	REMOVE TABS. REPLACE BOLTS.
UCD1-070	✓		✓		Lubricate or replace stiff lock	Y	WOLFO ON LOCK
UCD1-072	✓	✓	✓	✓	Clean vault lid bolt mount; re-install bolt	Y	ANTI SEIZE USED ON BOLTS NEW BOLTS (LONGER)

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## **Appendix B**

### **Photographs of Monuments at Permanent Reference Points for Areas Subject to Land-Use Controls**

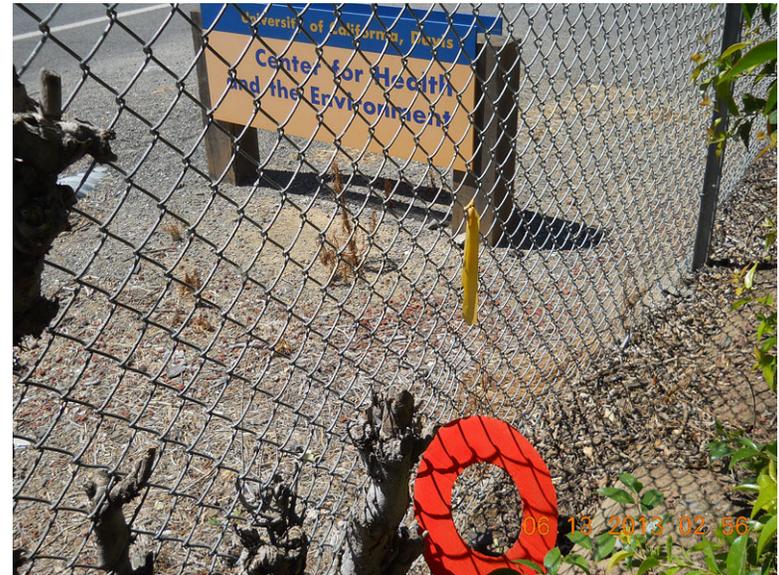
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Monument 1, northwest corner of Dry Wells A–E Area.



Monument 2, northeast corner of Dry Wells A–E Area.



View northwest; Monument 1 within orange ring in foreground; entrance sign in background.



View northwest; Monument 2 within orange ring in foreground; facility entrance in background.



Monument 3, southwest corner of Dry Wells A-E Area.



View northwest; Monument 3 within orange ring in foreground; Old Davis Road in background.



Monument 4, southeast corner of Dry Wells A-E Area.



View east; Monument 4 within orange ring; Building H219 behind.



Monument 5, northwest corner of Domestic Septic System 4.



View east; Monument 5 within orange ring;  
Building H215 in background.



Monument 6, adjacent to northwest corner of Building H-218;  
Radium/Strontium Treatment Systems Area.



View southeast; Monument 6 within orange ring in foreground;  
Building H218 behind.



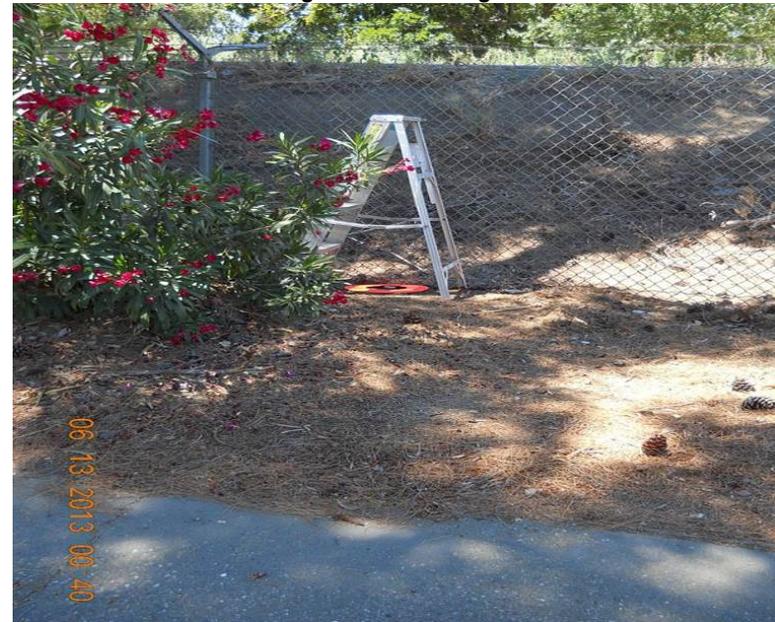
Monument 7, southwest corner of Domestic Septic System 4.



View east; Monument 7 within orange ring;  
Building H215 in background.



Monument 8, southwest corner of radium-226 leach trench;  
Radium/Strontium Treatment Systems Area.



View west; Monument 8 within orange ring;  
Old Davis Road above.



Monument 9, southeast corner of radium-226 leach trench;  
Radium/Strontium Treatment Systems Area.



View east; Monument 9 within orange ring;  
Building H215 in background.



Monument 10, northeast corner of former leach field in  
Domestic Septic System 3 Area.



View west; Monument 10 within orange ring in foreground;  
Building H216 in background.



Monument 11, northeast corner of Eastern Remediation Support Area.



View west; Monument 11 within orange ring in foreground; Building H216 in background; staked to help locate monument within Former Western Dog Pens Area.



Monument 12, northwest corner of Southwest Trenches Area.



View north; Monument 12 within orange ring in foreground; Building H215 in background.



*Monument 13, southwest corner of Domestic Septic System 3, at northern perimeter of Southwest Trenches Area.*



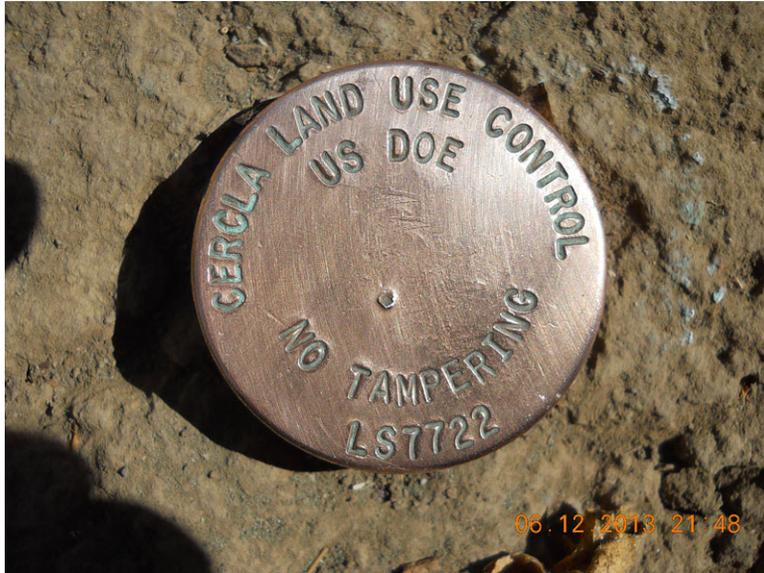
*Monument 14, southeast corner of Domestic Septic System 3.*



*View north; Monument 13 within orange ring in foreground; Buildings H215 and H216 in background.*



*View northwest; Monument 14 within orange ring in foreground; Building H216 in background.*



Monument 15, eastern corner of Southwest Trenches Area.



View northwest; Monument 15 within orange ring in foreground; trailer shed in background.



Monument 16, southwest corner of Southwest Trenches Area.



View south; Monument 16 within orange ring; Old Davis Road above right.



Monument 17, southeast corner of Southwest Trenches Area.



View south; Monument 17 within orange ring;  
North Levee in background.



Monument 18, southeast corner of Eastern Remediation  
Support Area.



View south; Monument 18 within orange ring;  
North Levee in background.



Monument 19, northwest corner of Eastern Dog Pens Area.



View southeast; Monument 19 within orange ring;  
Eastern Dog Pens Area in background.



Monument 20, northeast corner of Eastern Dog Pens Area.



View southwest; Monument 20 within orange ring;  
Eastern Dog Pens Area in background.



Monument 21, southwest corner of Eastern Dog Pens Area.



View northeast; Monument 21 within orange ring;  
Eastern Dog Pens Area in background.



Monument 22, southeast corner of Eastern Dog Pens Area.



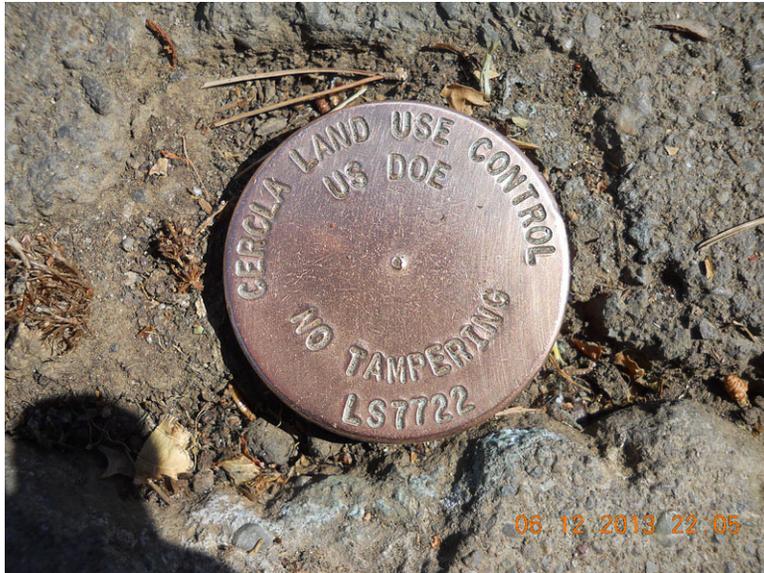
View northwest; Monument 22 within orange ring;  
Eastern Dog Pens Area trees behind.



Monument 23, western perimeter point of Southwest Trenches Area.



View west; Monument 23 within orange ring;  
Old Davis Road above/behind.



Monument 24, northeast corner of Southwest Trenches Area,  
at southern perimeter of Domestic Septic System 3.



View south; Monument 24 within orange ring. Trailer shed behind;  
Southwest Trenches Area and North Levee in background right.

## **Appendix C**

### **Photographs of DOE Areas Subject to Land-Use Controls**

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*View southeast over Southwest Trenches Area; North Levee in background.*



*View east over Southwest Trenches Area; storage shed to left; North Levee to right; Western Dog Pens Area and UC Davis Southern Trenches Area in background.*



*View north over northwest corner of Southwest Trenches Area.*



*View south over Southwest Trenches Area; North Levee in background; shoulder of Old Davis Road to right.*



*View southeast over Southwest Trenches Area.*



*View west over Southwest Trenches Area; shoulder of Old Davis Road in background.*



*View northwest over Southwest Trenches Area.*



*View north over Southwest Trenches Area.*



*View north from center of Southwest Trenches Area.*



*View west from center of Southwest Trenches Area.*



*View south from center of Southwest Trenches Area.*



*View east from center of Southwest Trenches Area.*



*View east over former leach field part of Domestic Septic System 3 Area; Building H-216 to left; storage unit to right; Western Dog Pens Area in background.*



*View east over eastern half of Domestic Septic System 3 Area.*



*View west over former leach field part of Domestic Septic System 3 Area; Buildings H-215 and H-216 to right; Southwest Trenches Area to left; shoulder of Old Davis Road in background.*



*View south over septic tank part of Domestic Septic System 3 Area; Building H-216 to left; Building H-215 to right.*



*View north over septic tank part of Domestic Septic System 3 Area; Building H-215 to left, Building H-216 to right; Domestic Septic System 4 Area in background.*



*View east; Building H-216 in background, standing north/left of tree.*



*View south over east end of Domestic Septic System 3 leach field; trailer in background.*



*View east; Building H-216 in background, standing south/right of tree.*



*View north over Domestic Septic System 4 septic tank location and east end of leach field; Building H-215 to left, Building H-216 to right; Building H-217 in background.*



*View west over east end of Domestic Septic System 4 leach field; Building H-215 in background.*



*View east over Domestic Septic System 4 septic tank location; Building H-216 in background.*



*View east over western portion of Domestic Septic System 4 Area; Building H-215 in background.*



*View north over southern portion of Radium/Strontium Treatment Systems Area; Buildings H-218 and H-219 back/right; west perimeter fence to left.*



*View north over middle portion of Radium/Strontium Treatment Systems Area; Building H-218 to right, Building H-219 back/right.*



*View south over southern portion of Radium/Strontium Treatment Systems Area. Building H-215 to left.*



*View north over northern portion of Radium/Strontium Treatment Systems Area; Building H-219 to right.*



*View south over middle/south portion of Radium/Strontium Treatment Systems Area; Building H-218 to left; Old Davis Road to right.*



*View east over middle portion of Radium/Strontium Treatment Systems Area; Building H-218 to right; Building H-219 to left.*



*View west over middle-west portion of Radium/Strontium Treatment Systems Area, west perimeter fence, and Old Davis Road.*



*Roof-level view west over middle portion of Radium/Strontium Treatment Systems Area; Building H-219 to right, Building H-218 to left.*



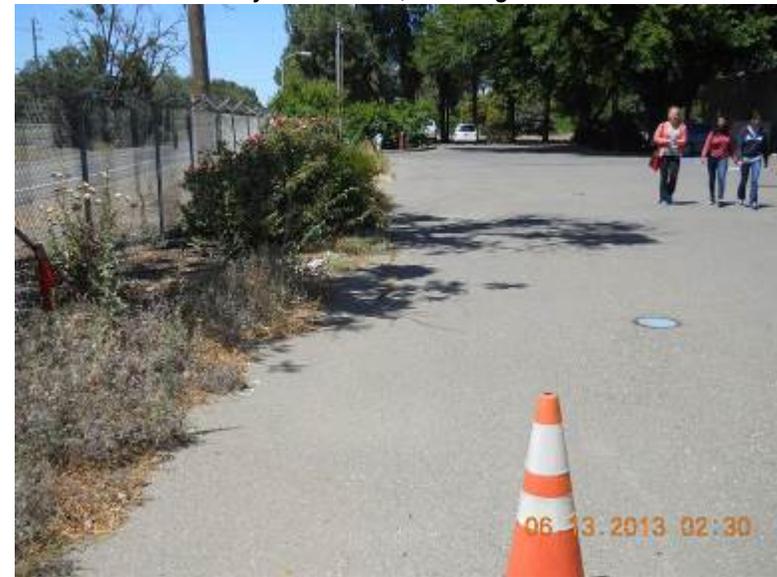
*Roof-level view southwest over middle portion of Radium/Strontium Treatment Systems Area; Building H-218 behind.*



*Roof-level view northwest over middle portion of Radium/ Strontium Treatment Systems Area; Building H-219 behind.*



*View south over northern portion of Radium/Strontium Treatment Systems Area.*



*View north over Dry Wells A through E Area; Old Davis Road to left.*



*View south over Dry Wells A through E Area; Building H-219 in background/left; facility entrance gate in foreground/right.*



*View west over Dry Wells A through E Area; site entrance gate to right; Old Davis Road behind.*



*View southwest over Dry Wells A through E Area; Old Davis Road behind.*



*View northeast over Eastern Dog Pens Area from southwest corner.*



*View east over Eastern Dog Pens Area.*



*View southeast over Eastern Dog Pens Area from northwest corner.*



*View south over Eastern Dog Pens Area.*



*View southwest over Eastern Dog Pens Area from northeast corner.*



*View west over Eastern Dog Pens Area.*



*View northwest into Eastern Dog Pens Area from southeast corner; obscured by trees.*



*View north over Eastern Dog Pens Area from North Levee.*

## **Appendix D**

### **Photographs of Groundwater Monitoring Wells**

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*UCD1-013 Wellhead*



*UCD1-013 Wellhead Plaque*



*UCD1-013 Interior*



*UCD1-013 Interior Plaque*



*UCD1-018 Wellhead*



*UCD1-018 Wellhead Plaque*



*UCD1-018 Interior*



*UCD1-018 Interior Plaque*



*UCD1-021 Wellhead*



*UCD1-021 Wellhead Plaque*



*UCD1-021 Interior*



*UCD1-021 Interior Plaque*



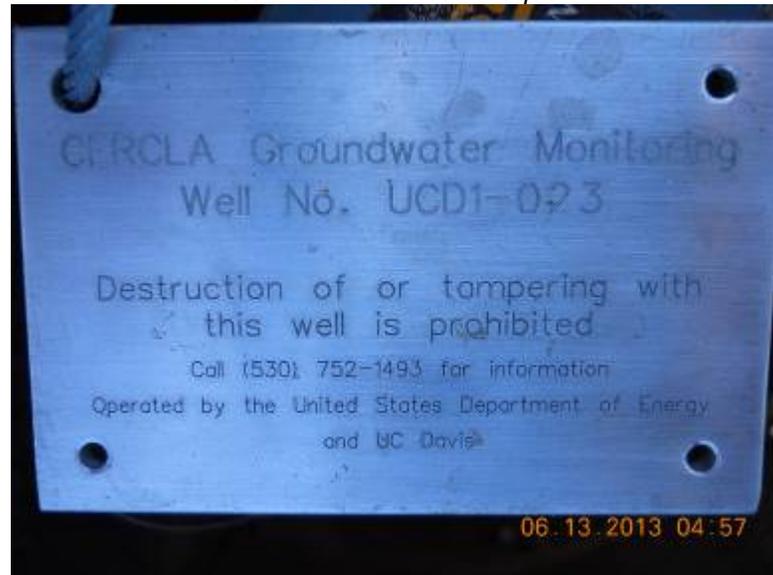
*UCD1-023 Wellhead*



*UCD1-023 Wellhead Plaque*



*UCD1-023 Interior*



*UCD1-023 Interior Plaque*



*UCD1-054 Wellhead*



*UCD1-054 Wellhead Plaque*



*UCD1-054 Interior*



*UCD1-054 Interior Plaque*



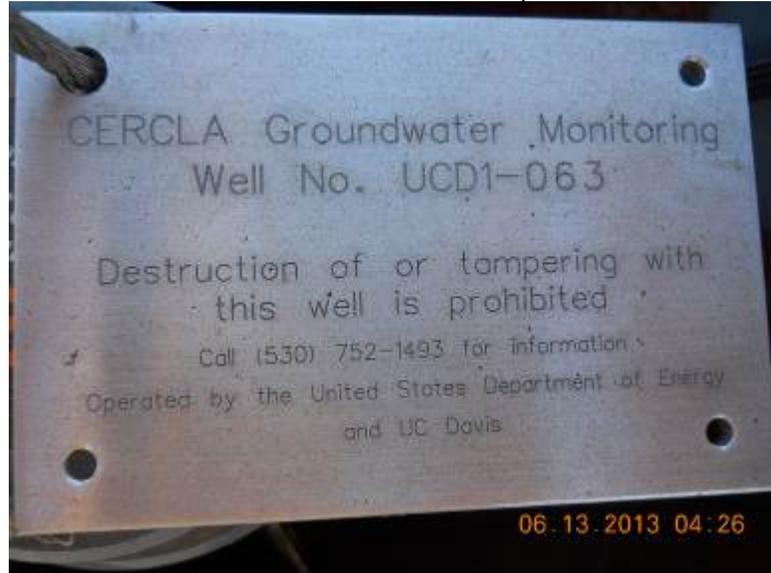
*UCD1-063 Wellhead*



*UCD1-063 Interior*



*UCD1-063 Wellhead Plaque*



*UCD1-063 Interior Plaque*



*UCD1-068 Wellhead*



*UCD1-068 Wellhead Plaque*



*UCD1-068 Interior*



*UCD1-068 Interior Plaque*



*UCD1-069 Wellhead*



*UCD1-069 Wellhead Plaque*



*UCD1-069 Interior*



*UCD1-069 Interior Plaque*



*UCD1-070 Wellhead*



*UCD1-070 Wellhead Plaque*



*UCD1-070 Interior*



*UCD1-070 Interior Plaque*



*UCD1-071 Wellhead*



*UCD1-071 Wellhead Plaque*



*UCD1-071 Interior*



*UCD1-071 Interior Plaque*



UCD1-072 Wellhead



UCD1-072 Wellhead Plaque



UCD1-072 Interior



UCD1-072 Interior Plaque



*UCD1-073 Wellhead*



*UCD1-073 Wellhead Plaque*



*UCD1-073 Interior*



*UCD1-073 Interior Plaque*

## **Appendix E**

### **Photographs of Well Maintenance**

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*UCD1-021 Improved Plaque Attachment*



*UCD1-023 Improved Plaque Attachment*



*UCD1-054 Bolt Thread Repairs*



*UCD1-054 Lid Secured with New Bolts*



*UCD1-072 Threads Cleaned, Bolts Replaced, and Lid Secured*