

**2021 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 2022



U.S. DEPARTMENT OF
ENERGY

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Abbreviations

DOE	U.S. Department of Energy
DSS	Domestic Septic System
DTSC	California Department of Toxic Substances Control
EDPs Area	Eastern Dog Pens Area
EH&S	Environmental Health and Safety
EPA	U.S. Environmental Protection Agency
LEHR	Laboratory for Energy-Related Health Research
Ra/Sr Treatment Systems Area	Radium/Strontium Treatment Systems Area
RD/RAWP	Remedial Design/Remedial Action Work Plan
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SMP	Soil Management Plan
SWT Area	Southwest Trenches Area
UC Davis	University of California–Davis
Weiss	Weiss Associates

1.0 Introduction

This report documents the November 3 and 4, 2021, annual inspection of land-use controls implemented by the U.S. Department of Energy (DOE) to control exposure to residual soil contaminants at DOE Areas of the Laboratory for Energy-Related Health Research/Old Campus Landfill Superfund Site (LEHR site) at the University of California–Davis (UC Davis) (Figure 1). This inspection and report fulfill the requirements of the Covenant to Restrict Use of Property, Environmental Restriction (Covenant) recorded by Solano County on July 11, 2014 (DTSC 2014).

The requirements for land-use controls at the site's DOE Areas are documented in the Record of Decision (ROD) (DOE 2009) and in the Covenant. The implementation procedures for land-use controls are documented in the Remedial Design/Remedial Action Work Plan (RD/RAWP) (DOE 2010) and the Soil Management Plan (SMP) (DOE 2019).

The DOE Areas subject to land-use controls (Figure 2) are the Radium/Strontium Treatment Systems Area (Ra/Sr Treatment Systems Area), Domestic Septic System (DSS) 3 and DSS 4 Areas, Dry Wells A–E Area, Eastern Dog Pens (EDPs) Area, and Southwest Trenches (SWT) Area. The DSS 2 Area is within the Ra/Sr Treatment Systems Area. The DSS 4 Area contains a portion that is subject to a prohibition on residential use.

The Western Remediation Support Area and Eastern Remediation Support Area shown in Figure 2 do not contain residual contamination but are required to be accessible for the staging of equipment and supplies if contingent remedial actions were to be implemented at the Ra/Sr Treatment Systems Area, DSS 3 and DSS 4 Areas, Dry Wells A–E Area, EDPs Area, or SWT Area.

The Covenant states that the following conditions must be maintained until the concentrations of contaminants in the soil are at or below cleanup levels specified in the ROD:

- Residential use, use for day care for children, and cultivation of crops for human consumption are prohibited in the DSS 4 Area (Figure 2)
- Soil-disturbing activities at the Ra/Sr Treatment Systems Area, DSS 3 and DSS 4 Areas, Dry Wells A–E Area, EDPs Area, and SWT Area must be implemented in accordance with the SMP
- Interference, tampering with, or destruction of the groundwater monitoring system is prohibited
- The California Department of Toxic Substances Control (DTSC) and U.S. Environmental Protection Agency (EPA) Region 9 shall have reasonable right-of-entry and access to the site for periodic inspections to ensure compliance with land-use controls
- Access must be granted to DOE to conduct operation and maintenance activities
- An inspection verifying compliance with the Covenant must be conducted annually and a report of the inspection provided to DTSC and EPA by January 15

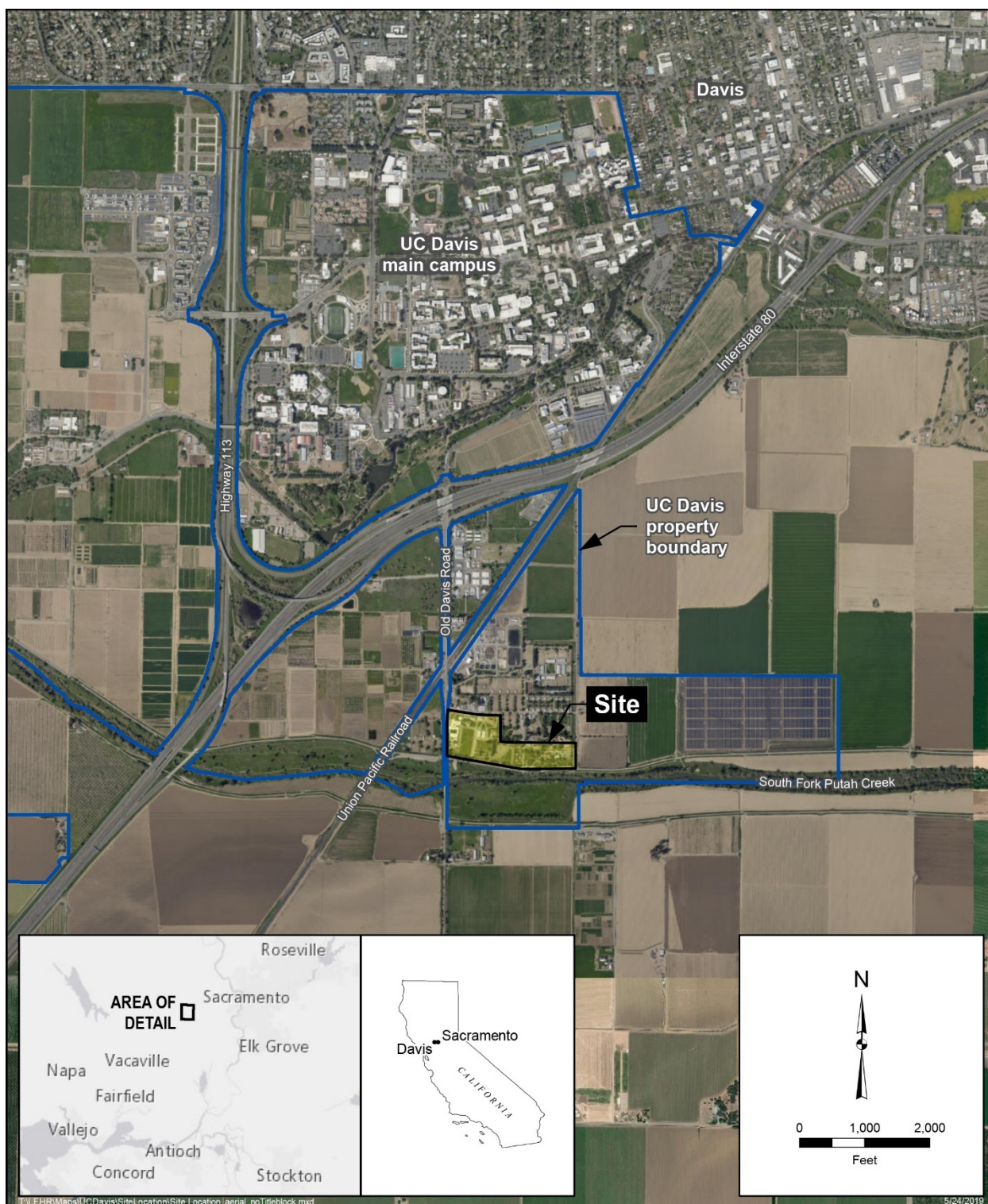


Figure 1. Location of the LEHR Superfund Site, UC Davis, Solano County, California

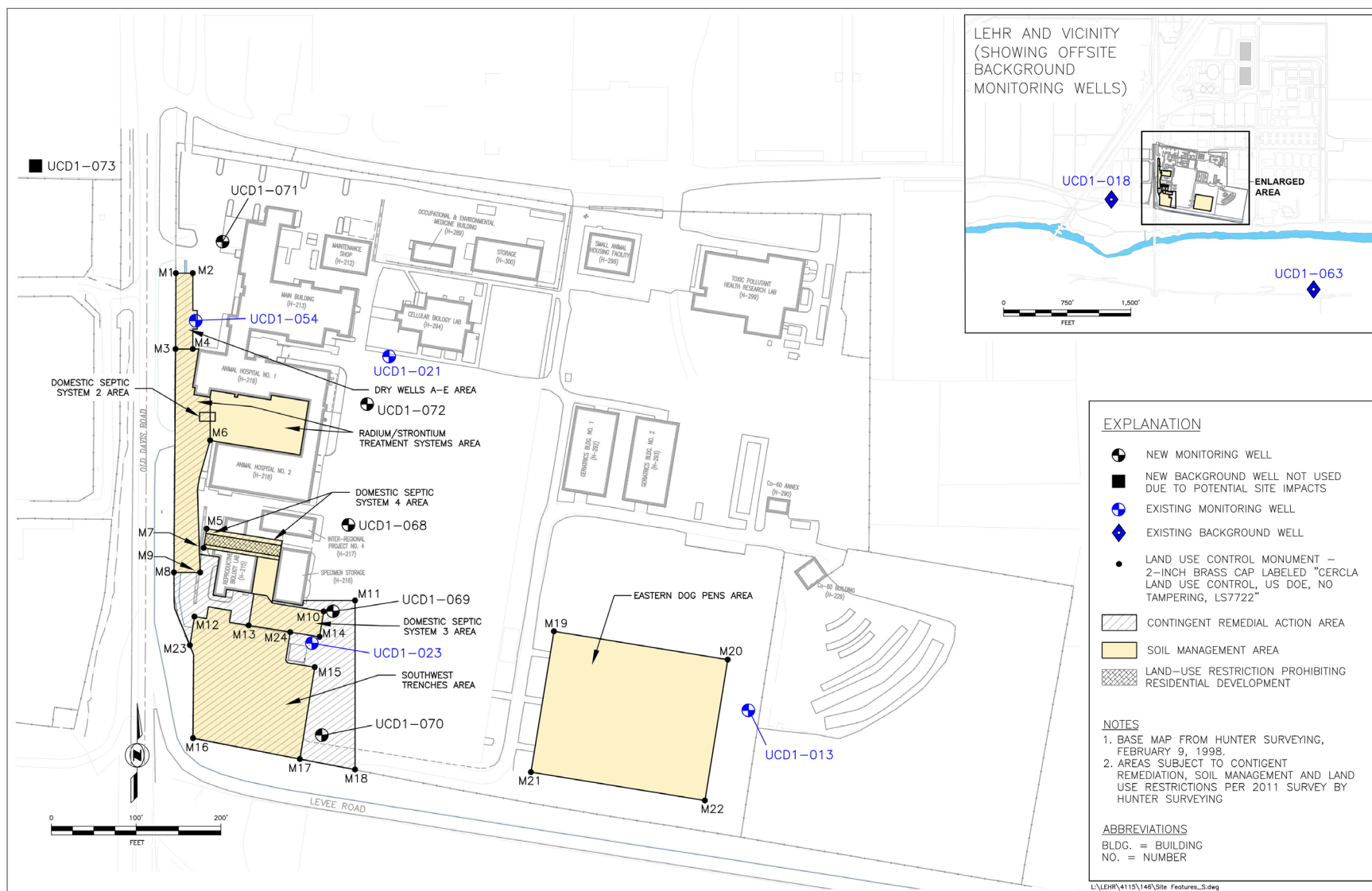


Figure 2. DOE Areas of the LEHR Federal Facility Subject to Land-Use Controls and Locations of DOE Groundwater Monitoring Wells and Survey Monuments

1.1 Inspection and Reporting Requirements

This section contains the inspection and reporting requirements specified in the Covenant, Section 4.06, which includes verification of permits obtained for soil-disturbing activities, a review of soil-disturbing activities for compliance with the SMP, a review of disposal practices for waste generated during soil-disturbing activities, and suggested changes to the SMP.

In accordance with the Covenant, Section 4.06, it is required that the inspection report contains:

- The dates and times of inspection, and the names of people who conducted the inspection and reviewed the report.
- An explanation of how the observations, which were the basis for the statements and conclusions, were performed (e.g., drive-by, flyover, walkthrough).
- The annual inspection results.
- A review of compliance with the requirements of the SMP.
- A certification of compliance with the Covenant.
- A description of any soil-disturbing activities and wastes generated.

If violations are noted, the annual inspection report must detail the steps taken to restore compliance. The inspection report is due to DTSC and EPA on or before January 15 each year.

1.2 Reporting Period

This report covers the period from December 10, 2020–December 9, 2021.

1.3 Activities Conducted During the Reporting Period

1.3.1 Field Activities

DOE performed limited field activities during the reporting period including groundwater sample collection, water-level monitoring, and monitoring well maintenance. DOE performed no soil sampling or other soil-disturbing activities during the reporting period.

On March 24, 2021, DOE collected samples of fallen limbs from two Aleppo pine trees in the SWT Area (specimens 16219 and 16220), one Aleppo pine tree in the EDPs Area (specimen 16236), and one Elderberry shrub in the EDPs Area (specimen 16233) (see Appendix E2 for locations), which had fallen during a wind event that occurred on January 26 and 27, 2021 (UC Davis 2021a). On September 2, 2021, DOE collected additional samples of fallen limbs from the Elderberry shrub in the EDPs Area (specimen 16233). On November 3, 2021, DOE collected an additional sample of the fallen limb from the Aleppo pine tree in the EDPs Area (specimen 16236). DOE submitted the samples for laboratory analysis according to SMP requirements and the results, and disposal or recycling options are currently being evaluated by DOE. The fallen limbs have been posted as “Potential Radioactive Material – Analysis Pending” and are being stored on site until a disposal or reuse plan is approved by DOE, EPA, DTSC and Regional Water Quality Control Board (RWQCB). On December 17, 2020, DOE performed maintenance on monitoring well UCD1-054 as documented in Table F-1 in Appendix F.

1.3.2 SMP Revision

A revised version of the SMP, which includes general project updates (e.g., completion of the Second Five-Year Review), editorial changes, and the addition of an Aleppo pine sapling in the SWT Area to the tree and shrub catalog, was submitted to EPA, DTSC, and the RWQCB for review on August 6, 2021. Based on a comment by UC Davis on the Second Five-Year Review report, DOE is developing a new methodology in the SMP for the evaluation of potential residual contamination in vegetation removed from DOE Areas so that any waste or reused material is properly managed. Since the new vegetation management methodology may not be included in the SMP until 2023, the current draft SMP under review will be modified to require that any landscape and vegetation that might contain residual contamination from affected DOE Areas will be managed by DOE onsite or specifically cleared for release on a case-by-case basis in coordination with EPA, DTSC and RWQCB until the new procedures are developed and approved.

2.0 Inspections

Tim Utterback, a California Professional Engineer, of Weiss Associates (Weiss) performed walkthrough inspections of the DOE Areas from 10 a.m. to 5 p.m. on November 3, 2021, and from 10 a.m. to 2 p.m. on November 4, 2021, as discussed below. The inspection checklists are included in Appendix A, and photographs documenting the inspection are included in Appendixes B, C, and D.

2.1 Inspection of Survey Monuments

All 24 survey monuments (Figure 2) were found in good condition on November 3, 2021, as documented in the checklists and photographs in Appendixes A and B, respectively.

2.2 Inspection of DSS 4 Area for Prohibited Land Uses

No evidence of residential use, use for day care for children, cultivation of crops for human consumption, or indications of a change in land use were observed in the DSS 4 Area (Figure 2) during the inspection on November 3, 2021, as documented in the checklists and photographs in Appendixes A and C, respectively.

2.3 Inspection of DOE Areas for Evidence of Soil-Disturbing Activities and Tree or Shrub Removal

No evidence of soil-disturbing activities was observed in the DOE Areas during the site inspection on November 3 and 4, 2021. Walkthrough observations of the DOE Areas indicated no topographic changes such as excavations, areas of subsidence, soil piles, or deep vehicle tire ruts. No equipment or materials that could cause soil disturbance or obscure the ability to identify soil disturbance was identified. As reported by Rachel Lauesen environmental specialist of the Environmental Health and Safety (EH&S) Unit at UC Davis, no permit-required soil-disturbing or tree or shrub removal activities were performed during the reporting period (see Section 3.2). No soil was disposed of offsite.

On November 4, 2021, Mr. Utterback performed a walkthrough inspection of trees and shrubs identified in the modified baseline vegetation inventory table and map from the SMP (DOE 2019) included in Appendix E. Brass tags with embossed numbers are attached to each listed tree or shrub at a height of approximately 5 feet to facilitate inspections.

All trees and shrubs in the inventory table were located, and all but four were found to be undisturbed since the 2020 inspection. The basis for this determination was that the trees and shrubs were still standing and there was no evidence of saw cuts or torn branches or other serious physical trauma to the trees and shrubs except as noted below. Key observations made during the vegetation inspection were:

- One limb from tree 16219 had fallen to the ground.
- Two limbs from tree 16220 had fallen to the ground.
- Two limbs from shrub 16233 had fallen to the ground.
- Two large limbs from tree 16236 had fallen to the ground.
- The tag previously attached to tree 16210 was missing.
- A pine tree at the northeast boundary of the SWT Area was identified as not included in the catalog of trees in or near DOE Areas.

Trees 16219, 16220, 16236, and shrub 16233 were alive at the time of the inspection. As presented in Section 1.3, the fallen limbs associated with these trees and shrub were initially identified on February 9, 2021, and are suspected to have fallen during a wind event in early 2021. As mentioned in Section 1.3, samples were collected from the fallen limbs. The tag issue for tree 16210 is addressed in Appendix F. The recently identified SWT Area Aleppo pine sapling has been added to the tree and shrub catalog and figure in Appendix E. An identification tag will be prepared and applied to this tree in 2022 (Appendix F).

2.4 Inspections of Groundwater Monitoring Wells

On November 3–4, 2021, Mr. Utterback inspected monitoring wells UCD1-013, UCD1-018, UCD1-021, UCD1-023, UCD1-054, UCD1-063, and UCD1-068 through UCD1-073 (Figure 2). Monitoring wells with standpipe completions (UCD1-013, UCD1-018, UCD1-063, UCD1-070, and UCD1-073) were observed to be in good condition and secured with functioning padlocks, and there was no evidence of tampering such as pry marks or indentations on the standpipes or locks. The concrete pads at the foot of the standpipe wells were observed to be undamaged and in sturdy condition. Monitoring wells UCD1-021, UCD1-023, UCD1-054, UCD1-069, UCD1-071, and UCD1-072 have surface completions, with lids secured by bolts or a screw-on lid (UCD1-023). The vaults, lids, and bolts on the surface completion wells were observed to be in good condition with no evidence of tampering such as pry marks or indentations, except the threads are worn off (stripped) on one of the bolt holes used to secure the lid to well UCD1-072. All components inside the wells, including well casings, pump ports, suspension hardware, port plugs, and caps, were found in good condition, except port plugs were broken or missing in wells UCD1-013, UCD1-018, UCD1-023, UCD1-063, UCD1-070, and UCD1-072. DOE plans to repair the bolt hole and replace the missing or damaged port plugs in early 2022 during the annual groundwater monitoring event (see Appendix F). Identification plates were present and in acceptable condition on all wells. Appendix D includes photographs of the groundwater monitoring wells and well boxes.

On November 3–4, 2021, Mr. Utterback attempted to test the pumps in the wells to determine whether they were functioning properly for groundwater sample collection. Measurable depths to water in wells UCD1-013, UCD1-018, UCD1-021, UCD1-023, and UCD1-063 ranged from 60.02 feet to 64.23 feet at the time of the tests. Water level measurements were not possible in wells UCD1-068, UCD1-069, UCD1-070, UCD1-071, UCD1-072, and UCD1-073 because water levels were below the tops of the pumps, which blocked the water level probe. Because the pump intakes were above or only slightly below the water level in these wells, only the pump in well UCD1-054 produced water within the target flow rate range of 0.1 to 0.5 liter per minute, as specified in the RD/RAWP (DOE 2010). Tests in wells UCD1-013, UCD1-018, UCD1-021, UCD1-023, UCD1-063, UCD1-068, UCD1-069, UCD1-070, UCD1-071, UCD1-072, and UCD1-073 were either inconclusive or were not conducted due to low water levels.

3.0 Soil Management Plan Implementation

DOE is responsible for implementing the SMP. DOE has agreed with the Regents of the University of California that the EH&S Unit at UC Davis will implement selected requirements of the SMP. DOE retains ultimate accountability for compliance with the requirements of the ROD executed by this SMP.

3.1 Training

Personnel at the EH&S Unit at UC Davis conducted annual training to communicate soil management and tree or shrub removal requirements to applicable units that may perform, manage, or contract for work at and near the site. Additionally, personnel working in departments on or near the site also received annual training.

Information was provided on the following topics:

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

3.2 Soil-Disturbing and Tree or Shrub Removal Activities

On the basis of site inspections and information provided by Rachel Lauesen of the EH&S Unit at UC Davis and relayed to Bob Devany of Weiss on November 17, 2021, no soil disturbance and tree or shrub removal permits were issued and no observations of soil-disturbing or tree or shrub removal activities were recorded by the EH&S Unit during the reporting period (Appendix A).

Ms. Lauesen noted the observation of the downed tree limbs described in Section 2.0 following a wind event on January 26 and 27, 2021, which was reported to DOE on February 9, 2021 (UC Davis 2021a).

3.3 Waste Disposal

On the basis of site inspections and the interview documented in this report, no soil or tree or shrub waste from the DOE Areas was disposed of during the 2021 reporting period.

4.0 Certification

DOE 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 Covenant terms and conditions occurred during this reporting period.



Digitally signed by
KATHLEEN WHYSNER
Date: 2022.01.05
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Date: _____

Kathleen Whysner
U.S. Department of Energy
Office of Legacy Management
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Grand Junction, CO 81503

The University of California 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 Covenant terms and conditions occurred during this reporting period.



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ou=Environmental Manager,
email=cvwright@ucdavi.edu,
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Date: 01/04/2022

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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, 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, November.

DOE (U.S. Department of Energy), 2019. *Soil Management Plan, Former Laboratory for Energy-Related Health Research Federal Facility, University of California, Davis*, LMS/LEH/S24029, Office of Legacy Management, August.

DTSC (California Department of Toxic Substances Control), 2014. *Covenant to Restrict Use of Property, Environmental Restriction, (Re: Portions of County of Solano Assessor's Parcel No. 110-05-04 UC Davis Laboratory for Energy-Related Health Research/Old Campus Landfill (LEHR/OCL) Superfund Site, Site Code 100424)*, Solano County Recorder's Office Document Number 201400051822, July 11.

UC Davis (University of California–Davis), 2021a. Chris Wright, environmental manager, UC Davis Environmental Health and Safety Unit, email communication (“Downed Branches in DOE Areas”) to Michael Butherus, U.S. Department of Energy, February 9.

UC Davis (University of California–Davis), 2021b. Rachel Lauesen, UC Davis Environmental Health and Safety Unit, email communication (“DOE SMP Implementation in 2021”) to Bob Devany, Weiss Associates, November 17.

Appendix A

Inspection Checklists

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LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 3, 2021

Area Inspected: Monuments

Reporting Period: December 10, 2020 – December 9, 2021

Monument No.	Close-up Photo ¹	Setting Photo ²	Damaged or missing? (Y/N) If Y, explain	Comments
1	4409	4410	N	
2	4407	4408	N	
3	4405	4406	N	
4	4403	4404	N	
5	4427	4428	N	
6	4423	4426	N	
7	4429	4430	N	
8	4434	4435	N	
9	4432	4433	N	
10	4446	4447	N	
11	4448	4451	N	
12	4436	4437	N	
13	4438	4439	N	

Certification:

I certify that the inspection information presented above is true and accurate.

By:



Date: November 10, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 3, 2021

Area Inspected: Monuments

Reporting Period: December 10, 2020 – December 9, 2021

Monument No.	Close-up Photo ¹	Setting Photo ²	Damaged or missing? (Y/N) If Y, explain	Comments
14	4444	4445	N	
15	4442	4443	N	
16	4481	4482	N	
17	4483	4485	N	
18	4486	4487	N	
19	4493	4494	N	
20	4497	4498	N	
21	4489	4490	N	
22	4503	4504	N	
23	4479	4480	N	
24	4440	4441	N	

Notes:

¹ Take zoom photograph of monument. Record photograph number.

² 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.

Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 10, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 3, 2021

Area Inspected: Southwest Trenches

Reporting Period: December 10, 2020 – December 9, 2021


Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. ¹	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2020, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See note 2
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2020, 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"/>	See note 2
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Suggested Soil Management Plan changes provided in Section 1.3.2; See note 2


Notes:

¹ 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. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. 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.

² Information provided by email from Rachel Lauesen of the UC Davis EH&S Unit to Robert Devany of Weiss dated November 17, 2021 (UC Davis 2021b).

Certification:

I certify that the inspection information presented above is true and accurate. By:  Date: November 10, 2021

I certify that the interview information presented above is true and accurate. By:  Date: November 17, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 3, 2021

Area Inspected: Southwest Trenches

Reporting Period: December 10, 2020 – December 9, 2021

<	Photograph Description	Photo No.	Comments
1	View southeast of Southwest Trenches Area: North Levee of the South Fork of Putah Creek in background	4464	
2	View south of Southwest Trenches Area: North Levee of the South Fork of Putah Creek in background	4465	
3	View southeast of Southwest Trenches Area	4466	
4	View west of Southwest Trenches Area: Shoulder of Old Davis Road in background	4467	
5	View northwest of Southwest Trenches Area	4468	
6	View north of Southwest Trenches Area	4471	
7	View north from center of Southwest Trenches Area	4472	
8	View west from center of Southwest Trenches Area	4473	Tree 16220 fallen limbs behind stanchion and rope in upper left of photo
9	View south from center of Southwest Trenches Area	4474	
10	View east from center of Southwest Trenches Area	4475	
11	View north of northwest corner of Southwest Trenches Area	4477	Tree 16219 fallen limb behind cone on left side of photo
12	View east of Southwest Trenches Area: Western Dog Pens Area and UC Davis Southern Trenches Area in background	4476	
13	View north of Aleppo pine sapling in northeast corner of Southwest Trenches Area	4591	

Certification:

I certify that the inspection information presented above is true and accurate. By:



Date: November 10, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 3, 2021

Area Inspected: Domestic Septic System 3

Reporting Period: December 10, 2020 – December 9, 2021


Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. ¹	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2020, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See note 2
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2020, 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"/>	See note 2
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Suggested Soil Management Plan changes provided in Section 1.3.2; See note 2


Notes:

¹ 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. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. 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.

² Information provided by email from Rachel Lauesen of the UC Davis EH&S Unit to Robert Devany of Weiss dated November 17, 2021 (UC Davis 2021b).

Certification:

I certify that the inspection information presented above is true and accurate. By:  Date: November 10, 2021

I certify that the interview information presented above is true and accurate. By:  Date: November 17, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 3, 2021

Area Inspected: Domestic Septic System 3

Reporting Period: December 10, 2020 – December 9, 2021

<	Photograph Description	Photo No.	Comments
1	View east over former leach field part of Domestic Septic System 3 Area: Building H 216 to left; Western Dog Pens Area in background.	4452	
2	View east of eastern half of Domestic Septic System 3 Area.	4453	
3	View west of former leach field part of Domestic Septic System 3: Buildings H-215 and H-216 to right; Old Davis Road obscured by trees in background.	4454	
4	View south of septic tank part of Domestic Septic System 3 Area: Building H-216 to left; Building H-215 to right.	4455	
5	View north of portions of Domestic Septic System 3 and 4 Areas: Building H-215 to left; Building H-216 to right; Domestic Septic System 4 Area in background.	4456	
6	View south of east end of Domestic Septic System 3 Area leach field: Former washdown pad in background.	4457	
7	View east of Domestic Septic System 3 Area: Building H-216 in background, standing north/left of tree.	4458	
8	View east of Domestic Septic System 3 Area: Building H-216 in background, standing south/right of tree.	4459	

Certification:

I certify that the inspection information presented above is true and accurate. By:



Date: November 10, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 3, 2021

Area Inspected: Domestic Septic System 4

Reporting Period: December 10, 2020 – December 9, 2021

Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance observed during walkthrough inspection? If yes, explain. ¹	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any indications of a residence, growing plants for human consumption, or a day care center for children observed during walkthrough inspection? If yes, explain.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Did UC Davis Environmental Health and Safety (EH&S) Unit observe or receive report of any indications of a residence, growing plants for human consumption, or a day care center for children in this DOE Area since December 10, 2020.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
Were any indications of a change in land use observed during walkthrough inspection? If yes, explain. ¹	<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, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
Were any soil disturbance permits issued by the EH&S Unit for this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2

Notes:

¹ 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. The DSS 4 area does not contain trees or shrubs. 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.

² Information provided by email from Rachel Lauesen of the UC Davis EH&S Unit to Robert Devany of Weiss dated November 17, 2021 (UC Davis 2021b).

Certification:

I certify that the inspection information presented above is true and accurate.

By:



Date: November 10, 2021

I certify that the interview information presented above is true and accurate.

By:



Date: November 17, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 3, 2021


Area Inspected: Domestic Septic System 4


Reporting Period: December 10, 2020 – December 9, 2021

Inspection Item	Y	N	NA	Comments
Were permitted soil disturbing activities conducted in this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
If permitted soil disturbing activities were conducted in this DOE Area since December 10, 2020, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See note 2
If waste was generated due to soil disturbing activities since December 10, 2020, 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"/>	See note 2
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Suggested Soil Management Plan changes provided in Section 1.3.2; See note 2

<	Photograph Description	Photo No.	Comments
1	View north of Domestic Septic System 4 Area septic tank location and east end of leach field: Building H-215 to left; Building H-216 to right; Building H-217 in background.	4460	
2	View west of east end of Domestic Septic System 4 Area leach field; Building H-215 in background.	4461	
3	View east of Domestic Septic System 4 Area septic tank location: Building H-216 in background.	4462	
4	View east of western portion of Domestic Septic System 4 Area: Building H-215 in background.	4463	

Certification:

I certify that the inspection information presented above is true and accurate. By:  Date: November 10, 2021

I certify that the interview information presented above is true and accurate. By:  Date: November 17, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 3, 2021

Area Inspected: Radium/Strontium Treatment Systems Area
Inclusive of Domestic Septic System 2

Reporting Period: December 10, 2020 – December 9, 2021

Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. ¹	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2020, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See note 2
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2020, 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"/>	See note 2
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Suggested Soil Management Plan changes provided in Section 1.3.2; See note 2

Notes:

¹ 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. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. 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.

² Information provided by email from Rachel Lauesen of the UC Davis EH&S Unit to Robert Devany of Weiss dated November 17, 2021 (UC Davis 2021b).

Certification:

I certify that the inspection information presented above is true and accurate. By:



Date: November 10, 2021

I certify that the interview information presented above is true and accurate. By:



Date: November 17, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 3, 2021

Area Inspected: Radium/Strontium Treatment Systems Area
Inclusive of Domestic Septic System 2

Reporting Period: December 10, 2020 – December 9, 2021

<	Photograph Description	Photo No.	Comments
1	View north over southern portion of Radium/Strontium Treatment Systems Area (Ra/Sr Area). Building H-215 to right; Buildings H-218 and H-219 in background.	4419	
2	View north of middle portion of Radium/Strontium Treatment Systems Area: building cooling unit and Building H-218 northwest corner in upper right portion of photo; Building H-219 in background	4420	
3	View south over southern portion of Ra/Sr Area. Building H-215 to left.	4421	
4	View north over northern portion of Ra/Sr Area. Building H-219 in upper right portion of photo.	4422	
5	View south over middle-south portion of Ra/Sr Area. Building H-218 to left; west perimeter gate and fence to right.	4413	
6	View east over central portion of Ra/Sr Area. Building H-218 to right; Building H-219 to left.	4414	
7	View west over Domestic Septic System 2 area within middle-west portion of Ra/Sr Area.	4415	
8	Roof-level view west over middle portion of Ra/Sr Area. Building H-219 to right; Building H-218 to left.	4416	
9	Roof-level view southwest over central portion of Ra/Sr Area; Building H-218 in background.	4417	
10	Roof-level view northwest over central portion of Radium/ Strontium Treatment Systems Area; Building H-219 in background.	4418	
11	View south over northern portion of Ra/Sr Area: Building H-219 to left; west perimeter fence and Old Davis Road to right.	4412	

Certification:

I certify that the inspection information presented above is true and accurate. By:



Date: November 10, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 3, 2021

Area Inspected: Dry Wells A–E Area

Reporting Period: December 10, 2020 – December 9, 2021


Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. ¹	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2020, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See note 2
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2020, was the soil or vegetation managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See note 2
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Suggested Soil Management Plan changes provided in Section 1.3.2; See note 2


Notes:

¹ 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. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. 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.

² Information provided by email from Rachel Lauesen of the UC Davis EH&S Unit to Robert Devany of Weiss dated November 17, 2021 (UC Davis 2021b).

Certification:

I certify that the inspection information presented above is true and accurate. By:  Date: November 10, 2021

I certify that the interview information presented above is true and accurate. By:  Date: November 17, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 3, 2021

Area Inspected: Dry Wells A–E Area

Reporting Period: December 10, 2020 – December 9, 2021

<	Photograph Description	Photo No.	Comments
1	View north of Dry Wells A–E Area: Old Davis Road to left.	4402	
2	View south of Dry Wells A–E Area: Building H-219 in Background/left.	4399	
3	View west of Dry Wells A–E Area and main gate; Old Davis Road in background.	4400	
4	View southwest of Dry Wells A–E Area.	4401	

Certification:

I certify that the inspection information presented above is true and accurate.

By:



Date: November 10, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 3, 2021

Area Inspected: Eastern Dog Pens Area

Reporting Period: December 10, 2020 – December 9, 2021


Inspection Item	Y	N	NA	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. ¹	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2020?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note 2
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2020, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See note 2
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2020, 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"/>	See note 2
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Suggested Soil Management Plan changes provided in Section 1.3.2; See note 2


Notes:

¹ 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. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. 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.

² Information provided by email from Rachel Lauesen of the UC Davis EH&S Unit to Robert Devany of Weiss dated November 17, 2021 (UC Davis 2021b).

Certification:

I certify that the inspection information presented above is true and accurate. By:  Date: November 10, 2021

I certify that the interview information presented above is true and accurate. By:  Date: November 17, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 3, 2021

Area Inspected: Eastern Dog Pens Area

Reporting Period: December 10, 2020 – December 9, 2021

<	Photograph Description	Photo No.	Comments
1	View northeast over Eastern Dog Pens Area from southwest corner showing southwest corner monument location.	4488	
2	View east over central Eastern Dog Pens Area.	4491	Tree 16236 fallen limbs in center of photo, behind stanchions and rope
3	View southeast over Eastern Dog Pens Area from northwest corner showing northwest corner monument location.	4492	
4	View south over central Eastern Dog Pens Area.	4495	Shrub 16233 and fallen limbs in center of photo
5	View southwest over Eastern Dog Pens Area from northeast corner showing location of northeast corner monument.	4496	
6	View west over central Eastern Dog Pens Area.	4499	
7	View northwest into Eastern Dog Pens Area from southeast corner showing location of southeast corner monument.	4502	
8	View north over Eastern Dog Pens Area from North Levee of the South Fork of Putah Creek.	4505	

Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 10, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 4, 2021

Area Inspected: Trees and Shrubs

Reporting Period: December 10, 2020 – December 9, 2021

Tree ID	Tag number	Tag Photo ¹	Damaged or missing tag? If Y, explain	Tree/shrub changed since last inspection? If Y, explain	Comments
16196	096	4562	N	N	
16197	097	4563	N	N	
16198	098	4564	N	N	
16199	099	4565	N	N	
16200	100	4569	N	N	
16201	001	4570	N	N	
16202	002	4571	N	N	
16203	003	4572	N	N	
16204	004	4573	N	N	
16205	005	4574	N	N	
16206	006	4575	N	N	
16207	007	4576	N	N	
16208	008	4577	N	N	
16209	009	4578	N	N	
16210	010	4582	Y	N	Tag not found. Tag replacement planned in early 2022.
16211	011	4581	N	N	
16212	012	4580	N	N	
16213	013	4592	N	N	
16214	014	4602	N	N	
16215	015	4603	N	N	
16216	016	4586	N	N	
16217	017	4588	N	N	
16218	018	4589	N	N	
16219	019	4583	N	Y	Fallen limb
16220	020	4584	N	Y	Fallen limbs
16221	021	4585	N	N	
16223	023	4593	N	N	
16224	024	4594	N	N	
16225	025	4596	N	N	
16226	026	4598	N	N	
16227	027	4599	N	N	
16228	028	4609	N	N	
16229	029	4600	N	N	

Certification:

I certify that the inspection information presented above is true and accurate.

By: 
Date: November 10, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: November 4, 2021

Area Inspected: Trees and Shrubs

Reporting Period: December 10, 2020 – December 9, 2021

Tree ID	Tag number	Tag Photo ¹	Damaged or missing tag? If Y, explain	Tree/shrub changed since last inspection? If Y, explain	Comments
16230	030	4611	N	N	
16231	031	4612	N	N	
16232	032	4610	N	N	
16233	033	4608	N	Y	Fallen limbs
16234	034	4607	N	N	
16235	035	4605	N	N	
16236	036	4601	N	Y	Fallen limbs
16237	037	4604	N	N	
16238	038	4614	N	N	
16239	039	4613	N	N	
16240	040	4615	N	N	
16241	041	4616	N	N	
16242	042	4617	N	N	
16243	043	4618	N	N	
16244	044	4621	N	N	
16245	045	4620	N	N	
16246	046	4622	N	N	
16247	047	4623	N	N	
16248	048	4629	N	N	
16249	049	4627	N	N	
16250	050	4624	N	N	
16251	051	4628	N	N	
16252	052	4579	N	N	
16253	053	4568	N	N	
16254	054	4567	N	N	
16255	055	4566	N	N	
NA	NA	NA	Y	Y	New pine sapling >6 feet tall, add to inventory, prepare and install tag

Notes:

¹ Take zoom photograph of tag. Record photograph number.

Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 10, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Dates: November 3 and 4, 2021

Area Inspected: Monitoring Wells

Reporting Period: December 10, 2020 – December 9, 2021

Well ID and Completion Type	Photographs		Evidence of tampering? (Y/N) If Y, explain	Locks/ Bolts Secure? ³ (Y/N) If N, explain	ID Plates OK? ⁴ (Y/N) If N, explain	Vault and Seal Sound? ⁵ (Y/N) If N, explain	Pump OK? ⁶ (Y/N) If N, explain	Maintenance Needed? (Y/N) If Y, explain	Comments
	Wellhead / tag ¹	Vault / tag ²							
UCD1-013 standpipe	4530 4531	4533 4534	N	Y	Y	Y	not tested ⁷	Y	Water level too low to test pump. Needs water level port plug.
UCD1-018 standpipe	4551 4553	4554 4556	N	Y	Y	Y	inconclusive ⁷	Y	Test attempted - pump did not produce water. Needs water level and pump port plugs.
UCD1-021 flush	4524 4525	4526 4527	N	Y	Y	Y	not tested ⁷	N	Water level too low to test pump
UCD1-023 flush	4535 4536	4537 4538	N	Y	Y	Y	inconclusive ⁷	Y	Test attempted - pump produced 150 milliliters and stopped. Needs pump port plugs.
UCD1-054 flush	4539 4540	4541 4542	N	Y	Y	Y	Y	N	
UCD1-063 standpipe	4558 4559	4560 4561	N	Y	Y	Y	inconclusive ⁷	Y	Test attempted - pump produced 100 milliliters and stopped. Needs water level and pump port plugs.

Certification:

I certify that the inspection information presented above is true and accurate.

By:



Date: November 10, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Dates: November 3 and 4, 2021

Area Inspected: Monitoring Wells

Reporting Period: December 10, 2020 – December 9, 2021

Well ID and Completion Type	Photographs		Evidence of tampering? (Y/N) If Y, explain	Locks/Bolts Secure? ³ (Y/N) If N, explain	ID Plates OK? ⁴ (Y/N) If N, explain	Vault and Seal Sound? ⁵ (Y/N) If N, explain	Pump OK? ⁶ (Y/N) If N, explain	Maintenance Needed? (Y/N) If Y, explain	Comments
	Wellhead / tag ¹	Vault / tag ²							
UCD1-068 flush	4516 4517	4518 4519	N	Y	Y	Y	not tested ⁷	N	Water level too low to test pump
UCD1-069 flush	4512 4513	4514 4515	N	Y	Y	Y	not tested ⁷	N	Water level too low to test pump
UCD1-070 standpipe	4508 4509	4510 4511	N	Y	Y	Y	not tested ⁷	Y	Water level too low to test pump. Needs water level and pump port plugs.
UCD1-071 flush	4543 4544	4547 4546	N	Y	Y	Y	not tested ⁷	N	Water level too low to test pump
UCD1-072 flush	4520 4521	4522 4523	N	N	Y	Y	not tested ⁷	Y	Water level too low to test pump. One bolt stripped. Needs water level and pump port plugs.
UCD1-073 standpipe	4630 4631	4632 4633	N	Y	Y	Y	not tested ⁷	N	Water level too low to test pump

Certification:

I certify that the inspection information presented above is true and accurate.

By:



Date: November 10, 2021

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Dates: November 3 and 4, 2021

Area Inspected: Monitoring Wells

Reporting Period: December 10, 2020 – December 9, 2021

Notes:

¹ Take photograph inclusive of wellhead features including concrete pad. Take zoom photograph of wellhead identification plaque (tag). Record photograph numbers. Photo date stamp shows specific date and time of inspection.

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

³ Verify that standpipe well locks are present, in good condition, and secured with the lock at the time of inspection. Verify that flush mount well bolts are present, in good condition, and properly secured at the time of inspection. Document any issues.

⁴ Verify that well identification plates are fixed to the outside of the well and stored inside the well are legible and in good condition (two plates per well). Document any issues.

⁵ Verify that concrete pads are structurally sound. Document any issues.

⁶ Connect pump to controller and discharge approximately 300 milliliters of water to bucket. Document any issues.

⁷ Measurable depths to water in wells UCD1-013, UCD1-018, UCD1-021, UCD1-023, and UCD1-063 ranged from 60.02 feet to 64.23 feet and were too low to reliably test the pumps. Water level measurements were not possible in wells UCD1-068, UCD1-069, UCD1-070, UCD1-071, UCD1-072, and UCD1-073 because the pumps blocked the water level probe (dry to top of pump).

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Appendix B

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

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*Survey Monument 1: Northwest Corner of Dry Wells A–E Area
(Photo No. 4409)*



*View Northwest: Survey Monument 1, Within Orange Ring
(outside diameter is 14 inches); West Perimeter Fence
in Background (Photo No. 4410)*



*Survey Monument 2: Northeast Corner of Dry Wells A–E Area
(Photo No. 4407)*



*View West: Survey Monument 2, Within Orange Ring; Foot of
Retracted Entrance Gate in Background (Photo No. 4408)*



Survey Monument 3: Southwest Corner of Dry Wells A–E Area
(Photo No. 4405)



View Southwest: Survey Monument 3, Within Orange Ring; West
Perimeter Fence Behind Survey Monument; Orange Delineator
Left of Survey Monument (Photo No. 4406)



Survey Monument 4: Southeast Corner of Dry Wells A–E Area
(Photo No. 4403)



View East: Survey Monument 4, Within Orange Ring;
Building H-219 in Background (Photo No. 4404)



Survey Monument 5: Northwest Corner of Domestic Septic System 4 Area (Photo No. 4427)



Survey Monument 6: Adjacent to Northwest Corner of Building H-218; Radium/Strontium Treatment Systems Area (Photo No. 4423)



View East: Survey Monument 5, Within Orange Ring; Building H-215 in Background (Photo No. 4428)



View East: Survey Monument 6, Within Orange Ring; Corner of Building H-218 in Background (Photo No. 4426)



Survey Monument 7: Southwest Corner of Domestic Septic System 4 Area (Photo No. 4429)



Survey Monument 8: Southwest Corner of Radium-226 Leach Trench; Radium/Strontium Treatment Systems Area (Photo No. 4434)



View East: Survey Monument 7, Within Orange Ring; Building H-215 in Background (Photo No. 4430)



View Southwest: Survey Monument 8, Within Orange Ring; West Perimeter Fence Above Right of Survey Monument; Orange Delineator Left of Survey Monument (Photo No. 4435)



*Survey Monument 9: Southeast Corner of Radium-226 Leach Trench;
Radium/Strontium Treatment Systems Area (Photo No. 4432)*



*Survey Monument 10: Northeast Corner of Former Leach Field in
Domestic Septic System 3 Area (Photo No. 4446)*



*View East: Survey Monument 9, Within Orange Ring; Planter at
Foot of Building H-215 in Background (Photo No. 4433)*



*View East: Survey Monument 10, Within Orange Ring in Foreground;
Delineator Behind Survey Monument (Photo No. 4447)*



Survey Monument 11: Northeast Corner of Eastern Remediation Support Area (Photo No. 4448)



Survey Monument 12: Northwest Corner of Southwest Trenches Area (Photo No. 4436)



View North: Survey Monument 11, Within Orange Ring; Delineator Right of Survey Monument (Photo No. 4451)



View South: Survey Monument 12, Within Orange Ring in Foreground; Water Hydrant in Background (Photo No. 4437)



Survey Monument 13: Southwest Corner of Domestic Septic System 3 Area, at Northern Perimeter of Southwest Trenches Area (Photo No. 4438)



View South: Survey Monument 13, Within Orange Ring at Edge of Concrete Swale (Photo No. 4439)



Survey Monument 14: Southeast Corner of Domestic Septic System 3 Area (Photo No. 4444)



View East: Survey Monument 14, Within Orange Ring; Delineator Behind Survey Monument (Photo No. 4445)



*Survey Monument 15: Eastern Corner of Southwest Trenches Area
(Photo No. 4442)*



*Survey Monument 16: Southwest Corner of Southwest Trenches Area
(Photo No. 4481)*



*View East: Survey Monument 15, Within Orange Ring;
Delineator Behind Survey Monument (Photo No. 4443)*



*View Southwest: Survey Monument 16, Within Orange Ring;
Delineator Left of Survey Monument; Southwest Corner Post of
Perimeter Fence Behind Survey Monument (Photo No. 4482)*



*Survey Monument 17: Southeast Corner of Southwest Trenches Area
(Photo No. 4483)*



*View Southeast: Survey Monument 17, Within Orange Ring; Delineator
Left of Survey Monument; South Perimeter Fence Behind Survey
Monument; Foot of North Levee in Background (Photo No. 4485)*



Survey Monument 18: Southeast Corner of Eastern Remediation Support Area (Photo No. 4486)



Survey Monument 19: Northwest Corner of Eastern Dog Pens Area (Photo No. 4493)



View South: Survey Monument 18, Within Orange Ring; Delineator Left of Survey Monument; South Perimeter Fence Behind Survey Monument; Foot of North Levee in Background (Photo No. 4487)



View Southeast: Survey Monument 19, Within Orange Ring; Delineator Right of Survey Monument (Photo No. 4494)



*Survey Monument 20: Northeast Corner of Eastern Dog Pens Area
(Photo No. 4497)*



*View Southwest: Survey Monument 20, Within Orange Ring;
Delineator Right of Survey Monument; Eastern Dog Pens Area in
Background (Photo No. 4498)*



*Survey Monument 21: Southwest Corner of Eastern Dog Pens Area
(Photo No. 4489)*



*Survey Monument 22: Southeast Corner of Eastern Dog Pens Area
(Photo No. 4503)*



*View Northeast: Survey Monument 21, Within Orange Ring;
Delineator Left of Survey Monument; Eastern Dog Pens Area in
Background (Photo No. 4490)*



*View West: Survey Monument 22, Within Orange Ring;
Delineator Left of Survey Monument; Eastern Dog Pens Area
in Background Right (Photo No. 4504)*



Survey Monument 23: Western Perimeter Point of Southwest Trenches Area (Photo No. 4479)



View West: Survey Monument 23, Within Orange Ring; Delineator Left of Survey Monument; West Perimeter Fence Behind Survey Monument (Photo No. 4480)



*Survey Monument 24: Northeast Corner of Southwest Trenches Area,
at Southern Perimeter of Domestic Septic System 3 Area
(Photo No. 4440)*



*View South: Survey Monument 24, Within Orange Ring on Edge of
Concrete Swale (Photo No. 4441)*

Appendix C

Photographs of DOE Areas Subject to Land-Use Controls

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View Southeast of Southwest Trenches Area: North Levee of the South Fork of Putah Creek in Background (Photo No. 4464)



*View Southeast of Southwest Trenches Area
(Photo No. 4466)*



View South of Southwest Trenches Area: North Levee of the South Fork of Putah Creek in Background (Photo No. 4465)



View West of Southwest Trenches Area: Shoulder of Old Davis Road in Background (Photo No. 4467)



*View Northwest of Southwest Trenches Area
(Photo No. 4468)*



*View North of Southwest Trenches Area
(Photo No. 4471)*



*View North from Center of Southwest Trenches Area
(Photo No. 4472)*



*View West from Center of Southwest Trenches Area;
Tree 16220 Fallen Limbs Behind Stanchion and Rope
in Upper Left of Photo (Photo No. 4473)*



*View South from Center of Southwest Trenches Area
(Photo No. 4474)*



*View East from Center of Southwest Trenches Area
(Photo No. 4475)*



*View North of Northwest Corner of Southwest Trenches Area;
Tree 16219 Fallen Limb Behind Cone in Left of Photo
(Photo No. 4477)*



*View East of Southwest Trenches Area: Western Dog Pens Area
and UC Davis Southern Trenches Area in Background
(Photo No. 4476)*



View North of Aleppo Pine Sapling in Northeast Corner of Southwest Trenches Area (Photo No. 4591)



View East Over Former Leach Field Part of Domestic Septic System 3 Area: Building H-216 to Left; Western Dog Pens Area in Background (Photo No. 4452)



View East of Eastern Half of Domestic Septic System 3 Area (Photo No. 4453)



*View West of Former Leach Field Part of Domestic Septic System 3:
Buildings H-215 and H-216 to Right; Old Davis Road Obscured by
Trees in Background (Photo No. 4454)*



*View South of Septic Tank Part of Domestic Septic System 3 Area:
Building H-216 to Left; Building H-215 to Right (Photo No. 4455)*



*View North of Portions of Domestic Septic System 3 and 4 Areas:
Building H-215 to Left; Building H-216 to Right; Domestic
Septic System 4 Area in Background (Photo No. 4456)*



*View South of East End of Domestic Septic System 3 Area Leach
Field: Former Washdown Pad in Background (Photo No. 4457)*



View East of Domestic Septic System 3 Area: Building H-216 in Background, Standing North and Left of Tree (Photo No. 4458)



View East of Domestic Septic System 3 Area: Building H-216 in Background, Standing South and Right of Tree (Photo No. 4459)



View North of Domestic Septic System 4 Area Septic Tank Location and East End of Leach Field: Building H-215 to Left; Building H-216 to Right; Building H-217 in Background (Photo No. 4460)



View West of East End of Domestic Septic System 4 Area Leach Field; Building H-215 in Background (Photo No. 4461)



*View East of Domestic Septic System 4 Area Septic Tank Location:
Building H-216 in Background (Photo No. 4462)*



*View East of Western Portion of Domestic Septic System 4 Area:
Building H-215 in Background (Photo No. 4463)*



*View North of Southern Portion of Radium/Strontium Treatment
Systems Area: Building H-215 to Right; Buildings H-218 and H-219
in Background (Photo No. 4419)*



*View North of Middle Portion of Radium/Strontium Treatment
Systems Area: Building Cooling Unit and Building H-218 Corner in
Right Top Portion of Photo; Building H-219 in Background
(Photo No. 4420)*



View South of Southern Portion of Radium/Strontium Treatment Systems Area: Building H-215 to Left (Photo No. 4421)



View North of Northern Portion of Radium/Strontium Treatment Systems Area: Building H-219 to Right (Photo No. 4422)



View South of Middle-South Portion of Radium/Strontium Treatment Systems Area: Building H-218 to Left; West Perimeter Gate and Fence to Right (Photo No. 4413)



View East of Central Portion of Radium/Strontium Treatment Systems Area: Building H-218 to Right; Building H-219 to Left (Photo No. 4414)



View West of Domestic Septic System 2 Area Within Middle-West Portion of Radium/Strontium Treatment Systems Area (Photo No. 4415)



Roof-Level View Southwest of Central Portion of Radium/Strontium Treatment Systems Area: Building H-218 in Background (Photo No. 4417)



Roof-Level View West of Central Portion of Radium/Strontium Treatment Systems Area: Building H-219 to Right; Building H-218 to Left (Photo No. 4416)



Roof-Level View Northwest of Central Portion of Radium/Strontium Treatment Systems Area: Building H-219 in Background (Photo No. 4418)



View South over Northern Portion of Radium/Strontium Treatment Systems Area: Building H-219 to Left; West Perimeter Fence and Old Davis Road to Right (Photo No. 4412)



View North of Dry Wells A-E Area: Old Davis Road to Left (Photo No. 4402)



View South of Dry Wells A-E Area: Building H-219 in Background and Left (Photo No. 4399)



*View West of Dry Wells A–E Area and Main Gate;
Old Davis Road in Background (Photo No. 4400)*



View Southwest of Dry Wells A–E Area (Photo No. 4401)



View Northeast of Eastern Dog Pens Area from Southwest Corner with Orange Delineator Showing Southwest Corner Monument Location (Photo No. 4488)



View East of Eastern Dog Pens Area; Tree 16236 Fallen Limb in Center, Behind Stanchions and Rope (Photo No. 4491)



View Southeast of Eastern Dog Pens Area from Northwest Corner Showing Northwest Corner Monument Location (Photo No. 4492)



View Southwest of Eastern Dog Pens Area from Northeast Corner Showing Location of Northeast Corner Monument (Photo No. 4496)



View South of Eastern Dog Pens Area; Shrub 16233 with Small Fallen Limbs in Center of Photo (Photo No. 4495)



View West of Eastern Dog Pens Area (Photo No. 4499)



View Northwest into Eastern Dog Pens Area from Southeast Corner Showing Location of Southeast Corner Monument (Photo No. 4502)



View North over Eastern Dog Pens Area from North Levee of the South Fork of Putah Creek; Beehives in Middle Ground (Photo No. 4505)

Appendix D

Photographs of Groundwater Monitoring Wells

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UCD1-013 Wellhead (Photo No. 4530)



UCD1-013 Wellhead ID Plate (Photo No. 4531)



UCD1-013 Interior (Photo No. 4533)



UCD1-013 Interior ID Plate (Photo No. 4534)



UCD1-018 Wellhead (Photo No. 4551)



UCD1-018 Wellhead ID Plate (Photo No. 4553)



UCD1-018 Interior (Photo No. 4554)



UCD1-018 Interior ID Plate (Photo No. 4556)



UCD1-021 Wellhead (Photo No. 4524)



UCD1-021 Wellhead ID Plate (Photo No. 4525)



UCD1-021 Interior (Photo No. 4526)



UCD1-021 Interior ID Plate (Photo No. 4527)



UCD1-023 Wellhead (Photo No. 4535)



UCD1-023 Wellhead ID Plate (Photo No. 4536)



UCD1-023 Interior (Photo No. 4537)



UCD1-023 Interior ID Plate (Photo No. 4538)



UCD1-054 Wellhead (Photo No. 4539)



UCD1-054 Wellhead ID Plate (Photo No. 4540)



UCD1-054 Interior (Photo No. 4541)



UCD1-054 Interior ID Plate (Photo No. 4542)



UCD1-063 Wellhead (Photo No. 4558)



UCD1-063 Wellhead ID Plate (Photo No. 4559)



UCD1-063 Interior (Photo No. 4560)



UCD1-063 Interior ID Plate (Photo No. 4561)



UCD1-068 Wellhead (Photo No. 4516)



UCD1-068 Wellhead ID Plate (Photo No. 4517)



UCD1-068 Interior (Photo No. 4518)



UCD1-068 Interior ID Plate (Photo No. 4519)



UCD1-069 Wellhead (Photo No. 4512)



UCD1-069 Wellhead ID Plate (Photo No. 4513)



UCD1-069 Interior (Photo No. 4514)



UCD1-069 Interior ID Plate (Photo No. 4515)



UCD1-070 Wellhead (Photo No. 4508)



UCD1-070 Wellhead ID Plate (Photo No. 4509)



UCD1-070 Interior (Photo No. 4510)



UCD1-070 Interior ID Plate (Photo No. 4511)



UCD1-071 Wellhead (Photo No. 4543)



UCD1-071 Wellhead ID Plate (Photo No. 4544)



UCD1-071 Interior (Photo No. 4547)



UCD1-071 Interior ID Plate (Photo No. 4546)



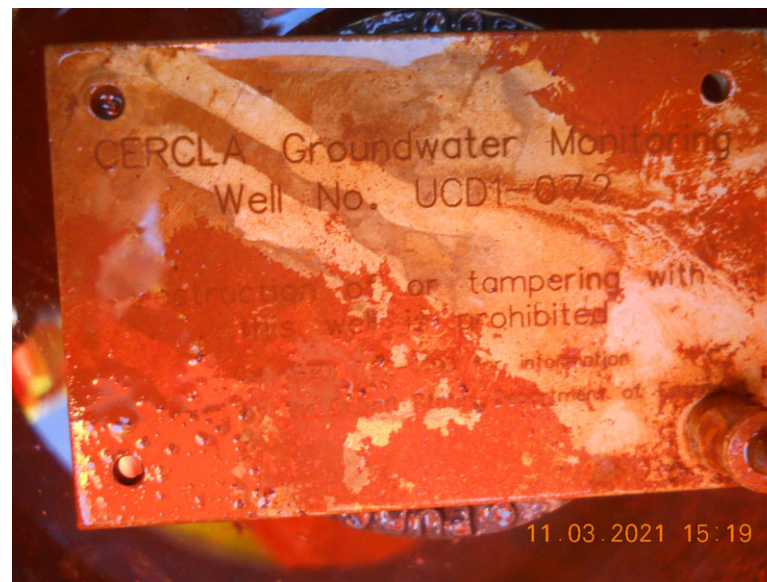
UCD1-072 Wellhead (Photo No. 4520)



UCD1-072 Wellhead ID Plate (Photo No. 4521)



UCD1-072 Interior (Photo No. 4522)



UCD1-072 Interior ID Plate (Photo No. 4523)



UCD1-073 Wellhead (Photo No. 4630)



UCD1-073 Wellhead ID Plate (Photo No. 4631)



UCD1-073 Interior (Photo No. 4632)



UCD1-073 Interior ID Plate (Photo No. 4633)

Appendix E

Vegetation Management Documentation

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Appendix E1

Table Showing DOE Areas Trees and Shrubs December 2021

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Table E1. Catalog of Trees and Shrubs In or Near DOE Areas of Laboratory for Energy-Related Health Research/Old Campus Landfill Superfund Site

Tag #	Tree ID	Assessment Date	Genus	Species	Common Name	DBH (cm)	Height (m)	# of Stems	Condition (Notes)
NA	16192	11/4/2016 ^a	Juglans	bindsi	California Black Walnut	67	5-10	4	Poor (dead tree). Removed in 2017
NA	16193	11/4/2016 ^a	Juglans	bindsi	California Black Walnut	64	5-10	4	Poor (tree canopy is 95% dead with severe mistletoe). Removed in 2017
NA	16194	11/4/2016 ^a	Juglans	ninosii	California Black Walnut	57	5-10	4	Poor (dead tree). Removed in 2017
NA	16195	11/4/2016 ^a	Morus	alba	White Mulberry	126	16-20	4	Fair (vigorous growth; history of branch failure; moderate branch decay; excessive canopy weight). Not adjacent to DOE Area
096	16196	11/4/2016	Olea	europaea	Olive	13	5-10	2	Good (minor dead branches; structurally sound, but needs corrective pruning to improve branching structure)
097	16197	11/4/2016	Olea	europaea	Olive	13	5-10	2	Good (structurally sound, but needs corrective pruning to improve branching structure)
098	16198	11/4/2016	Celtis	sinensis	Chinese Hackberry	22	11-15	1	Good (vigorous growth; structurally sound; infested with Hackberry Woolly Aphid)
099	16199	11/4/2016	Olea	europaea	Olive	9	<5	4	Good (structurally sound, but needs corrective pruning to improve branching structure)
100	16200	11/4/2016	Celtis	sinensis	Chinese Hackberry	30	11-15	1	Good (vigorous growth; 5-degree lean towards street; infested with Hackberry Woolly Aphid)
001	16201	11/4/2016	Celtis	sinensis	Chinese Hackberry	24	11-15	2	Fair (vigorous growth; multi-trunked with included bark; minor dead branches; infested with Hackberry Woolly Aphid)
002	16202	11/4/2016	Nerium	oleander	Oleander	4	<5	11	Good (vigorous growth)
003	16203	11/4/2016	Nerium	oleander	Oleander	2	<5	11	Good (vigorous growth)
004	16204	11/4/2016	Pinus	halepensis	Aleppo Pine	70	16-20	1	Fair (vigorous growth; 15-degree lean towards building; history of large branch failure)
005	16205	11/4/2016	Pinus	halepensis	Aleppo Pine	79	16-20	1	Fair (vigorous growth; 15-degree lean towards street; excessive canopy weight)
006	16206	11/4/2016	Pinus	halepensis	Aleppo Pine	48	11-15	1	Fair (vigorous growth; 30-degree lean towards street; minor decay at root crown)
007	16207	11/4/2016	Pinus	halepensis	Aleppo Pine	66	16-20	1	Fair (vigorous growth; 10-degree lean southward; excessive canopy weight)
008	16208	11/4/2016	Pinus	halepensis	Aleppo Pine	68	16-20	1	Fair (vigorous growth; 10-degree lean towards street; excessive canopy weight; conflict with fence and light post)
009	16209	11/4/2016	Nerium	oleander	Oleander	2	<5	11	Good (vigorous growth)
010	16210	11/4/2016	Pinus	halepensis	Aleppo Pine	7	<5	1	Good (vigorous growth)
011	16211	11/4/2016	Morus	alba	White Mulberry	107	16-20	1	Fair (vigorous growth; risk of branch failure due to excessive canopy weight)
012	16212	11/4/2016	Nerium	oleander	Oleander	2	<5	11	Good (vigorous growth)
013	16213	11/4/2016	Prunus	dulcis	Almond	30	5-10	1	Fair (minor dead branches; poor branching structure)
014	16214	11/4/2016	Sambucus	nigra	Elderberry	20	<5	11	Poor (tree 75% dead; severe trunk decay; major dead branches)
015	16215	11/4/2016	Sambucus	nigra	Elderberry	22	<5	11	Poor (tree 60% dead; major branch failure)
016	16216	11/5/2016	Pinus	halepensis	Aleppo Pine	55	5-10	1	Fair (vigorous growth; 45-degree lean east; excessive canopy weight)
017	16217	11/5/2016	Pinus	halepensis	Aleppo Pine	96	16-20	1	Good (vigorous growth; excessive canopy weight)
018	16218	11/5/2016	Pinus	halepensis	Aleppo Pine	92	16-20	1	Good (vigorous growth)
019	16219	11/5/2016	Pinus	halepensis	Aleppo Pine	68	16-20	1	Good (vigorous growth)
020	16220	11/5/2016	Pinus	halepensis	Aleppo Pine	61	16-20	1	Fair (vigorous growth; 10-degree lean; history of branch failure; excessive canopy weight)
021	16221	11/5/2016	Pinus	halepensis	Aleppo Pine	89	16-20	1	Fair (vigorous growth; co-dominant trunks with included bark; excessive branch weight)
NA	16222	11/5/2016 ^b	Sambucus	nigra	Elderberry	3	<5	11	Poor (dead tree). Tree dead and fallen as of November 2019
023	16223	11/5/2016	Fraxinus	sp.	Ash species	7	<5	3	Good (vigorous growth)
024	16224	11/5/2016	Pinus	halepensis	Aleppo Pine	60	11-15	1	Good (vigorous growth; co-dominant leaders; excessive branch weight)
025	16225	11/5/2016	Pinus	halepensis	Aleppo Pine	47	11-15	2	Fair (vigorous growth; 5-degree lean; excessive branch weight; 2 trunks girdling each other; fluxing on trunk)
026	16226	11/5/2016	Pinus	canariensis	Canary Island Pine	28	11-15	1	Good (vigorous growth; co-dominant leaders)
027	16227	11/5/2016	Pinus	halepensis	Aleppo Pine	21	5-10	1	Fair (vigorous growth; poor branching structure; excessive branch weight)
028	16228	11/4/2016	Prunus	dulcis	Almond	25	<5	11	Poor (tree has toppled due to severe trunk rot; mix of dead branches and new growth)
029	16229	11/5/2016	Pinus	halepensis	Aleppo Pine	28	<5	1	Fair (vigorous growth; 30-degree; excessive branch weight; fluxing from trunk)

Table E1. Catalogue of Trees located in or Near DOE Areas of Laboratory for Energy-Related Health Research/Old Campus Landfill Superfund Site (continued)

Tag #	Tree ID	Assessment Date	Genus	Species	Common Name	DBH (cm)	Height (m)	# of Stems	Condition (Notes)
030	16230	11/5/2016	Pinus	canariensis	Canary Island Pine	20	5-10	1	Good (vigorous growth)
031	16231	11/5/2016	Celtis	sinensis	Chinese Hackberry	44	5-10	2	Fair (vigorous growth; co-dominant trunks with included bark; minor dead branches)
032	16232	11/4/2016	Prunus	dulcis	Almond	9	<5	2	Fair (co-dominant trunks with included bark)
033	16233	11/5/2016	Sambucus	nigra	Elderberry	10	<5	11	Poor (severe trunk decay; major dead branches)
034	16234	11/5/2016	Pinus	halepensis	Aleppo Pine	2	<5	1	Good (vigorous growth; co-dominant leaders)
035	16235	11/5/2016	Pinus	halepensis	Aleppo Pine	53	11-15	1	Good (vigorous growth; 5-degree lean)
036	16236	11/5/2016	Pinus	halepensis	Aleppo Pine	52	11-15	1	Fair (vigorous growth; co-dominant trunks)
037	16237	11/5/2016	Sambucus	nigra	Elderberry	4	<5	5	Good (growing vigorously; minor dead branches)
038	16238	11/5/2016	Sambucus	nigra	Elderberry	10	<5	11	Fair (vigorous growth; 15-degree lean; minor dead branches)
039	16239	11/5/2016	Sambucus	nigra	Elderberry	20	<5	11	Fair (severe trunk decay; major dead branches; new growth at branch tips)
040	16240	11/5/2016	Pinus	canariensis	Canary Island Pine	51	16-20	1	Good (vigorous growth; 5-degree lean)
041	16241	11/5/2016	Pinus	canariensis	Canary Island Pine	64	16-20	1	Fair (vigorous growth; co-dominant trunks with included bark)
042	16242	11/5/2016	Pinus	canariensis	Canary Island Pine	14	5-10	1	Good (vigorous growth)
043	16243	11/5/2016	Pinus	canariensis	Canary Island Pine	51	16-20	1	Good (vigorous growth; excessive branch weight)
044	16244	11/5/2016	Pinus	canariensis	Canary Island Pine	57	16-20	1	Good (vigorous growth; excessive branch weight)
045	16245	11/5/2016	Prunus	dulcis	Almond	10	<5	2	Fair (co-dominant trunks; 10-degree lean; minor dead branches)
046	16246	11/5/2016	Pinus	canariensis	Canary Island Pine	19	5-10	1	Good (vigorous growth; scaffold branch with included bark)
047	16247	11/5/2016	Pinus	canariensis	Canary Island Pine	35	11-15	1	Good (vigorous growth)
048	16248	11/5/2016	Pinus	canariensis	Canary Island Pine	46	16-20	1	Good (vigorous growth; co-dominant leaders)
049	16249	11/5/2016	Pinus	canariensis	Canary Island Pine	18	<5	1	Fair (vigorous growth; leader has 90-degree bend)
050	16250	11/5/2016	Pinus	canariensis	Canary Island Pine	42	11-15	1	Good (vigorous growth)
051	16251	11/5/2016	Pinus	canariensis	Canary Island Pine	53	16-20	1	Good (vigorous growth; 5-degree lean)
052	16252	11/5/2016	Nerium	oleander	Oleander	2	<5	11	Good (vigorous growth)
053	16253	11/4/2016	Celtis	sinensis	Chinese Hackberry	12	5-10	1	Fair (co-dominant trunks with included bark; minor dead branches; infested with Hackberry Woolly Aphid)
054	16254	11/4/2016	Celtis	sinensis	Chinese Hackberry	45	11-15	1	Good (vigorous growth; minor dead branches; infested with Hackberry Woolly Aphid)
055	16255	11/4/2016	Nerium	oleander	Oleander	3	<5	11	Good (vigorous growth)
056	NA ^c	5/6/2021	Pinus	halepensis	Aleppo pine	20	<5	1	Good (vigorous growth)

Notes:

Strikeouts represent changes from University of California–Davis baseline survey of trees and shrubs (UC Davis 2016)

^a Trees documented as removed (DOE 2019)

^b Tree documented as dead and fallen (DOE 2020)

^c Not identified in UC Davis Campus Tree Database (see <https://www.arcgis.com/apps/webappviewer/index.html?id=4bbcb1fb3b7f43fd830d3d2894612eca>); tagged by DOE in 2021

Abbreviations:

number
ID identification
DBH diameter of the trunk at breast height
cm centimeters
m meters

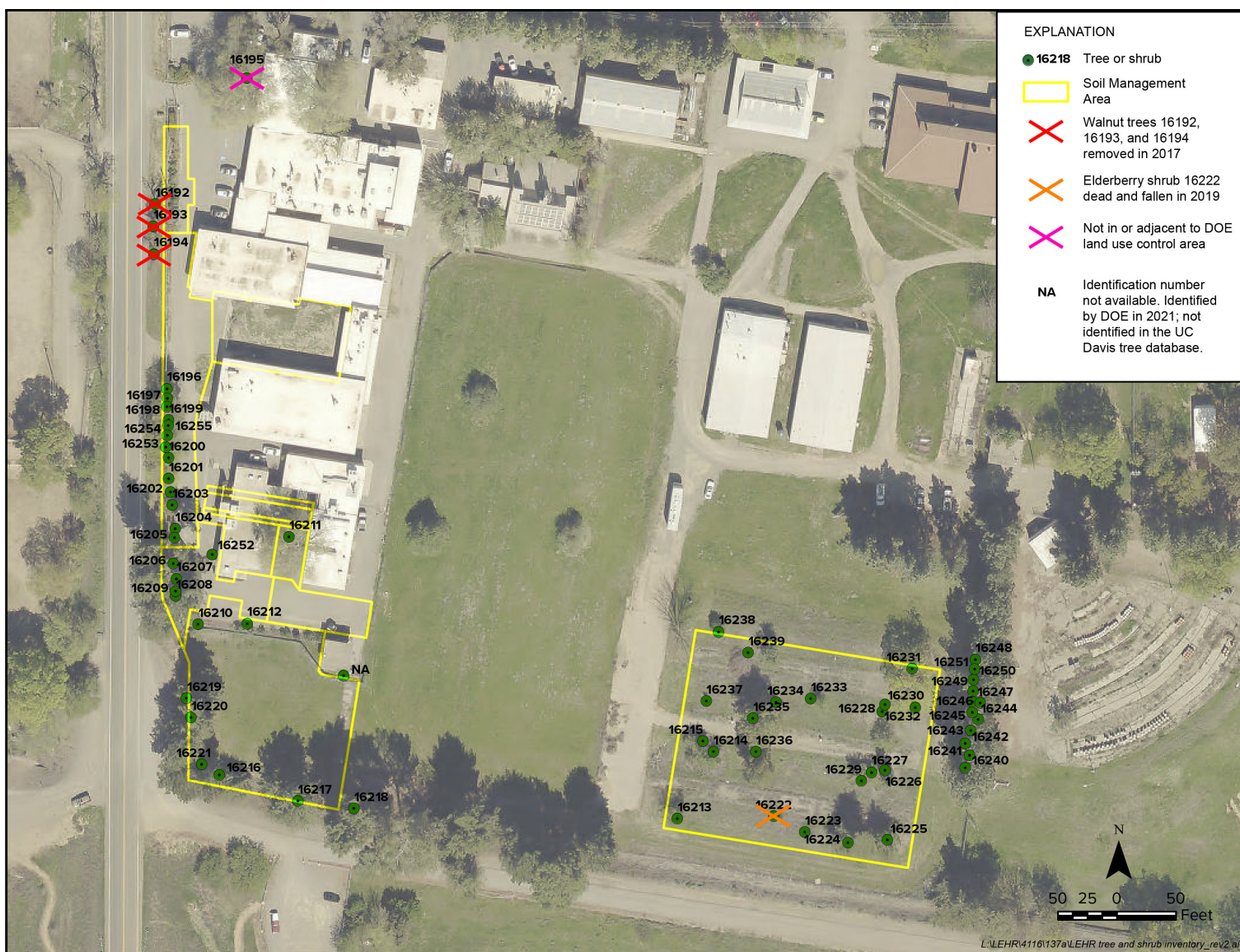
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DOE (U.S. Department of Energy), 2019. *Soil Management Plan*, Former Laboratory for Energy-Related Health Research Federal Facility, University of California–Davis, LMS/LEH/S24029, Office of Legacy Management, August.
DOE (U.S. Department of Energy), 2020. *2019 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*, LMS/LEH/S28507, Office of Legacy Management, January.

Appendix E2

**Map Showing DOE Areas Trees and Shrubs
December 2021**

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*Trees and Shrubs with Canopies Within DOE Areas
(modified from version provided by UC Davis Facilities Management to focus on DOE areas and to show the current trees and shrubs)*

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Appendix F

Maintenance Issue Documentation

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Land Use Covenant (Covenant) maintenance items identified in 2020 and 2021 are documented in Table F1, followed by a photograph of the repair completed in calendar year 2020, during the 2021 reporting period. The outstanding maintenance items are planned for completion in early 2022, during the annual water monitoring event. Covenant maintenance items identified before 2020 were completed before this reporting period.

Table F1. Maintenance Log (2020-2021)

Maintenance Item	Date Identified	Description of Completed or Planned Repair	Date Completed	Completion Photo No.
Well UCD1-054 – Vault lid bolt threads worn off (stripped)	11/5/2020	Repair Completed - Installed new bolts	12/17/2020	4539
Sapling in Southwest Trenches Area – No tag	11/4/2021	New tag will be prepared and installed	TBD	NA
Tree 16210 – Missing tag	11/4/2021	Repair Planned – Install new tag	TBD	NA
Well UCD1-072 – Vault lid bolt hole threads worn off	11/3/2021	Repair Planned – Re-tap threads; install new bolt if necessary	TBD	NA
Well UCD1-013 – Water level port plug missing	11/3/2021	Repair Planned – Install new plug	TBD	NA
Well UCD1-018 – Water level and pump port plugs missing	11/4/2021	Repair Planned – Install new plugs	TBD	NA
Well UCD1-023 – Pump port plugs missing	11/3/2021	Repair Planned – Install new plugs	TBD	NA
Well UCD1-063 – Water level and pump port plugs missing	11/4/2021	Repair Planned – Install new plugs	TBD	NA
Well UCD1-070 – Water level and pump port plugs missing	11/3/2021	Repair Planned – Install new plugs	TBD	NA
Well UCD1-072 – Water level and pump port plugs missing	11/3/2021	Repair Planned – Install new plugs	TBD	NA

Abbreviations:

NA = not applicable

TBD = Repair completion date to be determined



Well UCD1-054 – New bolts Installed in Vault Lid (Photo No. 4539)

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