Semiannual Update on the Status of Los Alamos National Laboratory Environmental Surveillance Activities
Environmental Monitoring Programs Governed by State/Federal Permits

Environmental Monitoring Program	DOE/LASO POC LANL POC	Governing Document Containing Scope of Environmental Surveillance Activities	LANL Web Location of Governing Document	Updates to Program during 10/01/10–03/30/11	Stakeholder Concerns, Data Trends, and/or Assessment Results. Required Program Changes	Summary of Upcoming Monitoring Activities
Radionuclide NESHAP (stack emissions monitoring)	DOE/LASO POC: Steve Fong LANL POC: David Fuehne, ENV-ES	ENV-ES-RN R6, 01/27/11, QAPP for the Rad-NESHAP Compliance Team	http://int.lanl.gov/training/env-courses/56169/env-es-rn.pdf	1. TA-54-231 waste repackaging line emissions monitoring installed, tested, & operational 09/28/10. 2. Elevated emissions measured at TA-21 MDA-B; communications with project, LASO, & EPA Region 6 followed. 3. Performed flow characterization of TA-55 PF-4 exhaust ducts to prepare for upgrading sample systems. 4. Preparing for 2010 annual emissions report to EPA; due 06/30/11. Source-term calculations from monitored stacks and calculations of emissions from non-monitored stacks are currently ongoing.	1. Off-site dose to maximally exposed individual member of the public from 2010 operations should be less than 1 mrem; final report to EPA due 06/30/11. 2. Elevated emissions from MDA-B noted at enclosure 2, where mobile enclosure leaves open pit behind it; ENV worked with project to take steps to keep excavation pit covered. 3. Received EPA approval for limited-scope open-air excavation after primary excavation is done under enclosure; open-air work limited to 0.1 mrem anticipated dose. 4. Working with LASO facility representatives to address concerns about completeness of emissions point source reporting at TA-50-69 WCRR Facility and maintenance of TA-55 PF-4 sample systems.	1. Existing routine monitoring is ongoing at 28 radionuclide stacks and 1 beryllium stack. 2. Further air monitoring planned for additional TA-54 sources as they come online in late CY11 (Dome 375). 3. Preliminary testing of TA-55 sampler upgrades is complete; moving into final design & documentation for new systems. 4. Planning for expansion of uranium processing operations from TA-03-102 into TA-03-141, and installing radionuclide stack monitoring at TA-03-141.
AIRNET (environmental monitoring for radioactive air contaminants)	DOE/LASO POC: Cassandra Begay LANL POC: Andrew Green, WES-EDA	EP-WES-SOP 5140, R1, 03/10/11, AIRNET - Quality Assurance Project Plan for the Radiological Air Sampling Network	http://int.lanl.gov/training/v-courses/56614/SOP-5140.pdf	Gamma analysis suite modified to include only Be-7, Co-60, Cs-134 and Cs-137, and K-40 (01/11).	Ambient monitoring for VOCs and dioxin is being done at TA-36 firing sites to support the RCRA open detonation permit.	1. Ongoing operation of 21 compliance stations, 4 background stations, and 16 surveillance stations 2. Fifteen stations monitor MDA B D&D. Three stations monitor TA-21 D&D. 3. No additional stations planned at present.
NPDES Industrial Point Source Monitoring	DOE/LASO POC: Gene Turner LANL POC: Marc Bailey, ENV-RCRA	1. Locations, analytes, frequencies: LANL NPDES Outfall Permit No. NM 0028355, 08/01/07 2. QA/QC samples: ENV-RCRA-QAPP-NPDES IPSP, R4 (03/04/08),QAPP for the NPDES Industrial Point Source Permit (IPSP) Self-Monitoring Program	1. http://int.lanl.gov/environment/h2o/docs/NM0028355_NPDESPermitMod_070717.pdf 2. http://int.lanl.gov/orgs/env/rcra/docs/qa/ENV-RCRA-QAPP-NPDES_IPSP-R4.pdf	SERF/PCB sampling (see Group 1/SERF expansion in next column).	1. Whole effluent toxicity test failures at TA-50 RLWTF. 2. PCB mitigation plan approved by EPA Region 6 on 06/29/10. 3. Exceedences of current NPDES permit limits 09/08/10–03/14/11: • TRC at the LANSCE cooling tower outfall 09/10. • Arsenic (monthly average exceedence) at the LANSCE cooling tower outfall 12/10. 4. A Notice of Planned Change was submitted to EPA and NMED regarding the addition of hardness to treated effluent to address toxicity 02/11. RLWTF is currently evaporating all effluent. 5. Compliance schedules for metals, temperature, and PCBs in NPDES permit. The NPDES outfall reduction program has been divided into five standalone projects (groups to address the compliance issues). All corrective actions have been complete except Group 1. The compliance status for each group is summarized below.	1. TRE ongoing at RLWTF. Final report on TRE activities submitted to EPA 03/10. 2. Existing routine weekly, monthly, quarterly, and yearly sampling of 15 permitted NPDES outfalls continues. 3. DCG monthly monitoring sampling continues.

Environmental Monitoring Program	DOE/LASO POC LANL POC	Governing Document Containing Scope of Environmental Surveillance Activities	LANL Web Location of Governing Document	Updates to Program during 10/01/10–03/30/11	Stakeholder Concerns, Data Trends, and/or Assessment Results. Required Program Changes.	Summary of Upcoming Monitoring Activities
NPDES Industrial Point Source Monitoring (continued)					**Group 1** **SERF Expansion** • NEPA Environmental Assessment (EA) Finding of No Significant Impact (FONSI) has been issued. • The SERF Project Design Basis and Performance Spec Review are complete, comments have been incorporated, and the 100% package is complete. • SERF Project Execution Plans (PEPs) were revised 09/10. • The SERF and the evaporator ponds are currently part of the DP for the TA-46 SWWS Facility. The Laboratory has recently completed the Public Notice portion of the DP re-issuance (12/07/10). • SERF expansion pre-bid meeting was held 03/08/11 with potential bidders. • An interim measure for PCB mitigation is in development in the event that the SERF Expansion Project does not complete and become operational before the 07/31/12 compliance date. • Split samples at Outfall 001 have been collected for perchlorate by the Laboratory and the NMED DOE-OB. There is no NPDES limit for perchlorate in effluents, but several samples were elevated above the Consent Order 4 µg/L level. Further samples have been collected and the investigation continues to determine the source of the elevated perchlorate. **TA-03 Power Plant** • The boiler blowdown (+ or –5 gpm) replumbing to the SWWS is complete. • Facility reps working on PCB corrective actions to reduce PCBs within Power Plant Facility (cleaning environmental tanks and sumps). **SCC/LDCC** • SCC/LDCC: Cooling tower operational controls and processes are now linked to the automated building system control and alarm system. A change in water chemistry has been developed to be more compatible with operation on both future SERF-E product water and LA County supplied potable water interchangeably. All NPDES standards are currently in effect now with pH and chlorine being the most notable potential contaminants of concern.	

Environmental Monitoring Program	DOE/LASO POC LANL POC	Governing Document Containing Scope of Environmental Surveillance Activities	LANL Web Location of Governing Document	Updates to Program during 10/01/10–03/30/11	Stakeholder Concerns, Data Trends, and/or Assessment Results. Required Program Changes.	Summary of Upcoming Monitoring Activities
NPDES Industrial Point Source Monitoring (continued)					**Group 2** **TA-35 Cooling Towers** • The metals interim measure (IM) is complete. **TA-50 RLWTF Process Upgrades** • New treatment media have proven effective in meeting the new effluent limits that became effective 08/01/10. • A natural gas-fired effluent evaporator was installed at the RLWTF and started operation 01/03/11. **TA-55 Cooling Towers** • There are no immediate compliance issues requiring interim measures. • Design work to tie in the cooling tower effluent to the SWWS to SERF cross-country line continues. **Group 3 – LANSCE** • The As analyzer is operational. The IM for metals compliance is complete. • An alternatives analysis for a final remedy solution to eliminate discharges at LANSCE has been prepared and submitted for funding consideration. **Group 4** **CMR Air Washers** • Air washer removal from wings 5 and 7 is complete. SWWS has accepted any potential emergency discharges from remaining air washers. Rerouting of the water lines is complete. NMED-Oversight Bureau has inspected the reconfiguration. • This serves as the final remedy for the CMR. NMED-Oversight Bureau has inspected the reconfiguration and permit modification is pending. **SIGMA/BTF Cooling Towers** • All construction activities are complete and the system is treating water. The metals IM is considered complete. **Group 5 – DARHT Cooling Tower and Septic Tank** • Excavation is complete and all piping is in place and backfilled; storm water compliance inspections have been conducted and hydroseeding is under way. • This serves as the final remedy for the DARHT Facility. Permit modification to remove the outfall is pending after inspection by NMED-OB.	

Environmental Monitoring Program	DOE/LASO POC LANL POC	Governing Document Containing Scope of Environmental Surveillance Activities	LANL Web Location of Governing Document	Updates to Program during 10/01/10–03/30/11	Stakeholder Concerns, Data Trends, and/or Assessment Results. Required Program Changes.	Summary of Upcoming Monitoring Activities
NPDES Industrial Point Source Monitoring (continued)					**<u>Group 6</u> – Misc. Other Outfalls** **TA-11** • Project completed 04/30/10. • Permit modification to remove the outfall from the NPDES permit is pending after inspection by NMED-OB **Program Management** • Continued periodic update with LASO permits manager and/or landlord team leader to brief progress of the program. • Full-scale testing of bio enhancement of the SWWS is under way; it is expected that this will allow SWWS to relax their WAC and greatly simplify final remedies for several facilities, resulting in a significant total program cost savings. 6. In 12/09, the Laboratory (LANS and NNSA) presented expert testimony to the NM Water Quality Control Commission on updates to New Mexico water quality standards. The team submitted a number of proposals, including the following. • Revised standards for zinc and cadmium, which incorporate consideration of the water's hardness. These will be helpful in meeting water quality standards with discharges from the Lab's industrial outfalls and storm water permits. • The biotic ligand method for assessing the toxicity of copper and other EPA-approved alternative methods for assessing toxicity. • Methods for determining natural background levels of nonanthropogenic contaminants to be used in setting site-specific standards. This could be very helpful in demonstrating compliance with appropriate standards for facilities around the state of New Mexico. The Laboratory's proposals were approved by the WQCC 07/14/10. The rad monitoring standards for Buckman passed the WQCC.	

Environmental Monitoring Program	DOE/LASO POC LANL POC	Governing Document Containing Scope of Environmental Surveillance Activities	LANL Web Location of Governing Document	Updates to Program during 10/01/10–03/30/11	Stakeholder Concerns, Data Trends, and/or Assessment Results. Required Program Changes.	Summary of Upcoming Monitoring Activities
Groundwater, Surface water	DOE/LASO POC: Hai Shen Gene Turner LANL POC: Steve Paris, PMFS-DO	1. Locations, analytes, frequencies, QA/QC samples, and monitoring strategies: 2010 Interim Facility-Wide Groundwater Monitoring Plan, (LA-UR-10-1777, 06/10)	2010 Interim Monitoring Plan is posted at: http://int.lanl.gov/environment/h2o/docs/LA-UR-10-1777.pdf	1. Special sampling activities were conducted at four TA-54 monitoring wells to address NMED concerns regarding representativeness of samples from the wells. Activities included conducting extended purges and collecting time-series samples for major ion chemistry and organic constituents. Data will be used to determine whether additional corrective action such as redevelopment or more extended purging is necessary for each well. 2. NMED approved discontinuation of sampling in nine Westbay screens that continue to show residual impacts of drilling fluids. Sampling of these well screens will not be required under the 2011 Interim Facility-Wide Groundwater Monitoring Plan. 3. The Westbay Reliability Assessment study is gradually gaining momentum. The study will assess the reliability of water-quality data generated from multi-screened Westbay wells sampled using “no purge” methods to determine whether they are capable of producing representative samples. Following the study, the three Westbay wells assessed will be converted to single-screen or dual-screen wells.	The Groundwater Background Investigation Report, Revision 4 was submitted to NMED 08/31/10. Preliminary comments were provided to the Laboratory by NMED 12/02/10, which included a request for a meeting. The meeting was held 12/16/10 when comments were discussed. NMED requested an updated Table D-1, Listing of Purge Volumes, which was provided 03/03/11. Additional revisions to the document are pending formal NMED comments. Groundwater sampling results at well R-50 demonstrate chromium concentrations above the NM groundwater standard. Values are at this level in four sampling events since 03/10. This is a newly installed well on the border of San Ildefonso Pueblo. Groundwater sampling results at well R-20 demonstrate TCE in the regional aquifer above ½ the EPA MCL. Detected since 12/08—decreasing since12/09. Other VOC compounds have followed the same pattern. R-20 is next to water supply well PM-2 in Pajarito Canyon; the source could be TA-54, TA-03, or TA-18. TCE was also detected in two of three 2010 sample events at nearby R-40 in intermediate groundwater just above the regional aquifer. The use of road salt on Laboratory roads appears to be the source of wintertime chloride concentrations above standards since 2007 in Mortandad, Sandia, Pajarito, and Pueblo Canyon alluvial groundwater and runoff. High chloride values are also found in some intermediate groundwater. During 2010, the extent of high chloride concentrations increased in Mortandad and Pajarito Canyons.	1. Groundwater and surface water monitoring is conducted in accordance with the 2010 Interim Facility-Wide Groundwater Monitoring Plan. 2. Monitoring wells installed since 03/31/10 include • TW2-AR – Replacement well for TW-2A; monitors perched intermediate groundwater in lower Pueblo Canyon. Completed 03/04/10. • R-3 – Regional monitoring well installed as a key monitoring location for Los Alamos County water-supply well Otowi-1 in lower Pueblo Canyon. Completed 06/21/10. • R-52 (two screens) – Regional monitoring well installed north-northeast of MDAs H and J, on mesa south of Cañada del Buey. Monitors for potential releases of contaminants from MDAs H and J. Completed 03/31/10. • R-55 (two screens) - Regional monitoring well planned downgradient from MDA G. Will monitor for potential contaminant releases from MDA G and other sources in Pajarito Canyon. Completed 08/25/10. • CdV-16-4ip – Hydrologic test well installed to characterize the hydrogeologic properties of deep perched groundwater in the vicinity of the 260 Outfall. Completed 08/23/10 All new wells are monitored for a minimum of 1 yr with full-suite analyses.

Environmental Monitoring Programs Governed by State/Federal Permits (continued)

Environmental Monitoring Program	DOE/LASO POC LANL POC	Governing Document Containing Scope of Environmental Surveillance Activities	LANL Web Location of Governing Document	Updates to Program during 10/01/10–03/30/11	Stakeholder Concerns, Data Trends, and/or Assessment Results. Required Program Changes.	Summary of Upcoming Monitoring Activities
NPDES Storm Water Discharges from SWMUs and AOCs	DOE/LASO POC: Gene Turner LANL POC: Steve Veenis, PMFS	1. LANL NPDES Permit No. NM 0030759, "Individual Permit (IP)" Monitoring locations: Appendix A Analytes: Appendix B 2. Site Discharge Pollution Prevention Plan (SDPPP): Volume 1, Los Alamos/Pueblo watershed Volume 2, Sandia/Mortandad watershed Volume 3, Pajarito watershed Volume 4, Water/Canon de Valle watershed Volume 5, Ancho/Chaquehui watershed	ftp://ftp.nmenv.state.nm.us/www/swqb/NPDES/Permits/NM0030759-LANLStormwater.pdf	The IP was issued 09/30/10. • Primary activity this fall/winter was installing and certifying (with LASO) "baseline" control measures as required by the IP. • The SDPPP has been reviewed by LASO and will be submitted to EPA 04/27/11. • The new IP website will be available to the public at the end of April.	1. The program has completed sampling for a PCB background study in response to NMED DOE-OB and stakeholder concerns over PCB contamination. Monitoring was successful in the summer of 2010. 2. The annual report for the period of 01/01/10 –12/31/10 was submitted to EPA and NMED 03/01/11. 3. The Citizen's Group lawsuit was settled.	The program will collect confirmation samples within 1 yr of the effective date (11/01/10) for sites at "baseline" when the permit was issued and for all other sites within 18 mo of the effective date.
Storm water Flow Measurements	DOE/LASO POC: Gene Turner LANL POC: Steve Veenis, PMFS	Locations, frequencies: surface water data at LANL 2010 Water Year	The SOP, "Operation and Maintenance of Stream Gaging Stations," is in place and will be revised to address concerns as necessary. http://www.lanl.gov/environment/all/docs/qa/wqh/ENV-WQH-SOP-009_R3.pdf	A performance report, "Stormwater Performance Monitoring Report in the LA/Pueblo Watershed During 2010" was delivered to NMED 02/28/11. The revised monitoring report for Los Alamos and Pueblo Canyons, "2011 Monitoring Plan for Los Alamos and Pueblo Canyons Sediment Transport Mitigation Project" is scheduled to be submitted to NMED on 03/31/11. Revised the MOU between DOE and Buckman Direct Diversion (BDD) Project.	Annual technical support meetings are held with BDD to update the MOU, as needed. Repairs to the gage at E109.9 due to the large 08/10 storms in Los Alamos and Pueblo Canyons were completed 11/05/10. A damage assessment report, "Interim Assessment to Report Storm Damage to Sediment Control Structures and Monitoring Stations in Los Alamos and Pueblo Canyons," LA-UR-10-7281, EP2010-0484 was delivered to NMED 11/01/10.	A new SOP, "Managing Electronic Discharge Data for Storm Water Projects" is being written to address validation and verification of discharge data. Storm monitoring for the FY11 Environmental Surveillance program is scheduled for startup 04/01/11. The FY11 Los Alamos/Pueblo watershed monitoring to measure performance of the sediment control structures is scheduled for startup 04/01/11.

Environmental Monitoring Program	DOE/LASO POC LANL POC	Governing Document Containing Scope of Environmental Surveillance Activities	LANL Web Location of Governing Document	Updates to Program during 10/01/10–03/30/11	Stakeholder Concerns, Data Trends, and/or Assessment Results. Required Program Changes.	Summary of Upcoming Monitoring Activities
Groundwater Discharge Monitoring	DOE/LASO POC: Gene Turner Albas Gaona LANL POC: Bob Beers, ENV-RCRA	1. Locations, frequencies, analytes: • Discharge Plan DP-857 for the TA-46 SWWS Plant (expired 01/03 but administratively continued by NMED). Discharge Plan	1. Previously provided to LASO 07/08	On 07/02/10, at the NMED's request, LANL & NNSA submitted a discharge permit renewal application (DP-857) for the TA-46 SWWS Plant. The application was deemed administratively complete by the NMED on 08/11/10. On 12/06/10, LANL completed the public notice requirements.	• On 09/09/10, NMED Groundwater Quality Bureau staff conducted an inspection of the TA-46 SWWS Plant, TA-03 SERF, Sigma Mesa SERF Evaporation Basins, and TA-03 outfalls. The inspection report (12/03/10) identified two issues potentially requiring corrective actions: (1) Remove cattails from the SERF basins (completed), and (2) Replace the damaged wind screen that is attached to the perimeter fence surrounding the SERF basins. With public notice complete, the next step for the NMED is to complete a draft discharge permit and then determine if there is sufficient public concern to hold a public hearing. The pending renewal discharge permit for the TA-46 SWWS Plant (DP-857) may contain new groundwater monitoring requirements in Sandia Canyon. The construction of a new groundwater monitoring well(s) in upper Sandia Canyon may be required because there are none currently. The pending renewal discharge permit for the TA-46 SWWS Plant (DP-857) may contain new effluent-monitoring requirements for users of SWWS plant effluent or SERF treated water.	Effluent and groundwater monitoring will continue per current permit requirements and voluntary commitments.
		• DP-1132 for the RLWTF Facility at TA-50 (NMED approval pending). Voluntary monitoring by LANL since 1999.		None	• The pending discharge permit for the TA-50 RLWTF DP-1132 may contain a more rigorous SAP than the current voluntary monitoring program.	
		• Discharge Plan for domestic wastewater septic tank/leach field systems (DP-1589). No monitoring conducted.		On 06/25/10, at the request of the NMED, LANL & NNSA resubmitted a discharge permit application (DP-1589) for the 15 septic tank/leach field systems in service. The application was deemed administratively complete by the NMED 08/11/10. On 10/30/10, LANL completed the public notice requirements of 20.6.2.3108 NMAC.	• On 09/23–24/10, NMED Groundwater Quality Bureau staff conducted an inspection of the Laboratory's 15 active sanitary septic tank/leach field systems. The inspection report (12/03/10) identified six issues potentially requiring corrective actions: (1) Inclusion in discharge permit of two U.S. Forest Service septic tanks at TA-49, (2) Replacement of the seepage pit at TA-66-0003, (3) Location and pumping of TA-16-0178, (4) Replacement of the seepage pit at TA-33-0031, (5) Wastewater testing and possible monitoring well at TA-33-0161, and (6) Maintenance of the evaporation bed at TA-49-0119.	
		2. QA/QC samples: ENV-RCRA-QAPP-WQCC, R4 (12/10/07): QAPP for the NMWQCC Program	2. http://int.lanl.gov/orgs/env/rcra/docs/qa/ENV-RCRA-QAPP-WQCC-R4.pdf		With public notification complete, the next step for the NMED is to complete a draft discharge permit and then determine if there is sufficient public concern to hold a public hearing. The pending discharge permit for LANL's septic systems may require one-time and/or ongoing monitoring. Currently no monitoring is conducted.	

Environmental Monitoring Program	DOE/LASO POC LANL POC	Governing Document Containing Scope of Environmental Surveillance Activities	LANL Web Location of Governing Document	Updates to Program during 10/01/10–03/30/11	Stakeholder Concerns, Data Trends, and/or Assessment Results. Required Program Changes.	Summary of Upcoming Monitoring Activities
Groundwater Discharge Monitoring (continued)		3. NOI Decision Tree for the land application of drilling, development, rehabilitation, and sampling purge water		On 03/12/10, the NMED Groundwater Quality Bureau issued a revised decision tree (Note: "NOI" was dropped from the title) for the land application of drilling, development, rehabilitation, and sampling purge water. The LANL 2010 Decision Tree annual report will be submitted to NMED 03/11.	The revised decision tree incorporates, by reference, the Interim Facility-Wide Groundwater Monitoring Plan. This addition resulted in a strategic reduction in the monitoring required to demonstrate compliance for land application.	
Beryllium NESHAP (Stack Emissions Monitoring)	DOE/LASO POC: Albas Gaona Steve Fong LANL POC: Steve Story, ENV-ES	EAQ-BTF: QAPP for the Air Quality Compliance Beryllium Stack Monitoring at TA-03-141, R2, 12/10/08	http://int.lanl.gov/orgs/env/eaq/docs/qa/EAQ-BTF-R2.pdf	None	None	The Beryllium Technology Facility (TA-03-141) suspended operations from 10/10–01/11. Monitoring of TA-03-141 stack is ongoing.
Non-Rad Stack Emissions	DOE/LASO POC: Albas Gaona Steve Fong LANL POC: Steve Story, ENV-ES	ENV-EAQ-OP: QAPP for the Title V Operating Permit, R3, 01/07/10	http://int.lanl.gov/orgs/env/eaq/docs/qa/EAQ-OP-R3.pdf	None	Operating Permit renewal P100R1 was issued to LANL 08/07/09. On 10/06/10, LANL submitted an application to modify the Operating Permit to add the CMRR Facility. NMED has 18 months to issue a revised permit.	1. Monitoring of larger sources is ongoing. 2. Routine updates to sources require emissions tracking (e.g., generators).
Greenhouse Gases	DOE/LASO POC: Albas Gaona Steve Fong LANL POC: Steve Story, ENV-ES	ENV-EAQ-GHG: QAPP for Greenhouse Gas Emissions Reporting, R0, 03/25/10	http://int.lanl.gov/orgs/env/es/docs/qa/EAQ-GHG-R0.pdf	EPA has issued modifications to the Greenhouse Gas (GHG) mandatory reporting rules in 40 CFR 98, and NMED has issued new reporting rules effective CY11. In addition, DOE reporting of GHG's continues to evolve.	QAPP developed to address new Federal and State GHG reporting rules. QAPP meets EPA requirement under 40 CFR 98, Mandatory Reporting of Greenhouse Gases, to have a written GHG Monitoring Plan.	QAPP undergoing extensive revisions to include new requirements in DOE's Strategic Sustainability Performance Plan (09/10), EPA's changes to 40 CFR 98, and NMED's new GHG reporting rules. EPA's first reporting deadline of 03/31/11 has been indefinitely delayed due to problems with EPA's electronic reporting tool (eGRIT).
Land Conveyance and Transfer	DOE/LASO POC: Vicki Loucks LANL POC: Jennifer Nisengard and John Issacson, ENV-ES	Quality Assurance Project Plan for the Land Conveyance and Transfer Project Refer to specific media for governing sampling documents	http://int.lanl.gov/orgs/env/es/docs/qa/ENV-RRO-LCT-R1.pdf	Tract C-1 (State Route 4 in White Rock) was conveyed to Los Alamos County LANL LC&T project staff supports LASO in monthly meetings with Los Alamos County regarding this project. The LC&T project is working with WES to develop appropriate DQOs for the Real Property Release process.	Sampling for environmental restoration decisions may not provide sufficient detail to support Land Conveyance and Transfer data quality objectives. Currently a procedure for determining residual dose following cleanup activities is being developed.	Specific recommendations for sampling to support Land Conveyance and Transfer at TA-74 (Tract A-18A) and TA-21 MDA B (Tract A-8) are being developed.

Environmental Monitoring Program	DOE/LASO POC LANL POC	Governing Document Containing Scope of Environmental Surveillance Activities	LANL Web Location of Governing Document	Updates to Program during 10/01/10–03/30/11	Stakeholder Concerns, Data Trends, and/or Assessment Results. Required Program Changes.	Summary of Upcoming Monitoring Activities
Soil Gases	DOE/LASO POC: Suzy Schulman (MDA L and MDA H); Ed Worth (MDA G). LANL POC: Jarrett Rice, PMFS (TA-54, MDA H, L, G)	ER-ERSS-SOP-5074, R1, Sampling Subsurface Vapor	http://int.lanl.gov/environment/all/docs/qa/ep_qa/EP-ERSS-SOP-5074.pdf	**MDA L** Letter from NMED dated 01/24/11, stated that the Permittees must continue the quarterly sampling schedule in all designated ports in all wells until a final remedy is selected. **MDA H** Letter from NMED dated 12/08/10 stated that the Permittees must continue to collect quarterly subsurface vapor samples until otherwise directed by NMED.	Stakeholder concerns: None **MDA G** Data Trends: Sampling data show concentrations of VOCs and tritium activities are consistent over the past few years. **MDA L** Data Trends: Sampling data show VOC concentrations and tritium activities are consistent for each sampling event. Review of previous 3 yr of data suggests the monitoring program can be optimized by a reduction in sampling. **MDA H** Data Trends: Sampling data shows concentrations of VOCs and tritium activities are consistent over the past few years. VOC concentrations are very low and no samples have exceeded screening values over the past four quarterly sampling events. Review of previous 3 yr of data suggests the monitoring program can be optimized by a reduction in sampling.	Annual field screening and sampling of subsurface vapors for VOCs and tritium in 22 vapor-monitoring wells at TA-54 MDA G. Quarterly field screening and sampling of subsurface vapors for VOCs and tritium in 27 vapor-monitoring wells at TA-54 MDA L. Quarterly field screening and sampling of subsurface vapors for VOCs and tritium in four vapor-monitoring wells at TA-54 MDA H.
Soil Gases (continued)	DOE/LASO POC: Ed Worth for MDA T; Woody Woodworth for MDA V LANL POC: Bruce Wedgeworth, PMFS (TA-21: MDAs T, V)	ER-ERSS-SOP-5074, R2, Sampling Subsurface Vapor	http://int.lanl.gov/environment/all/docs/qa/ep_qa/EP-ERSS-SOP-5074.pdf	**MDA T** Letters from NMED dated 01/24/11 and 02/22/11 stated that Permittees must continue the quarterly monitoring schedule for all ports in all wells until a final remedy is selected. **MDA V** LASO Contracting Officer (CO) letter dated 02/01/11 directed LANS to resume vapor monitoring and sample collection in FY11 and FY12. Letter to NMED dated 02/15/11 stated that LANS had resumed vapor sampling in the first quarter of 2011.	**MDA T** Stakeholder concerns: None Data Trends: VOC and tritium vs. depth plots indicate that subsurface conditions are steady-state and trends are unchanging over time. Review of previous 3 yr of data suggests the monitoring program can be reduced. **MDA V** Stakeholder concerns: None Data Trends: Tritium vs. depth plots indicates that subsurface conditions are steady-state and trends are unchanging over time. Review of previous 3 yr of data suggests the monitoring program can be reduced.	Quarterly sampling of subsurface vapors for VOCs and tritium in five vapor-monitoring wells at TA-21 MDA T. Quarterly sampling of subsurface vapors for tritium only in one vapor-monitoring well at TA-21 MDA V.

Semiannual Update on the Status of Los Alamos National Laboratory Environmental Surveillance Activities
Environmental Monitoring Programs Required by DOE Order

Environmental Monitoring Program	DOE/LASO POC LANL POC	Governing Document Containing Scope of Environmental Surveillance Activities	LANL Web Location of Governing Document	Updates to Program during 10/01/10–03/30/11	Stakeholder Concerns, Data Trends, and/or Assessment Results. Required Program Changes.	Summary of Upcoming Monitoring Activities
Direct Penetrating Radiation Monitoring Network (DPRNET)	DOE/LASO POC: Steve Fong Albas Gaona LANL POC: Mike McNaughton, WES-EDA	ENV-MAQ-DPRNET, R5 (04/04/02): QAPP for the Direct Penetrating Radiation Network	http://int.lanl.gov/environment/all/docs/qa_wes/RRES-MAQ-DPRNET_R5.pdf	QAPP was reviewed and no updates were required.	None	The ongoing direct-penetrating radiation measurements program will continue. Monitoring is done at 50 AIRNET stations and at an additional 33 stations at the TA-54 area.
Soils, Foodstuffs, Non-foodstuffs Biota	DOE/LASO POC: Cassandra Begay LANL POC: Phil Fresquez, WES-EDA	QAPP-0001: QAPP for the Soil, Foodstuffs, and Nonfoodstuffs Biota Monitoring Project	http://int.lanl.gov/environment/all/docs/qa_wes/QAPP-0001.pdf	The addition of crayfish and benthic macroinvertebrate sampling will be added to the “Rio Grande-related samples” in the summer of 2011.	In general, the results of 2010 sampling showed that all farming products were within the normal range of regional background values. The addition of crayfish and benthic macroinvertebrate sampling on the Rio Grande below Los Alamos Canyon will be added to the SFB QAPP.	1. Based on the triennial sampling program for foodstuffs, soils, and biota, fish, crayfish, and benthic macroinvertebrate sampling will be collected during the 2011 summer sampling season. 2. Based on the success of the two pilot studies, macroinvertebrate and crayfish in 2010, these media will be added to upcoming 2011 sampling events to gain a more statistically valid database.
Dose Assessment	DOE/LASO POC: Cassandra Begay George Henckel LANL POC: Bill Eisele, WES-EDA	1. Locations, analytes, frequencies: RRES-MAQ-DOSE, R0, QAPP for Environmental Dose Assessment, 12/19/03 2. QA/QC samples are specified in the individual monitoring plans (e.g., soils/foodstuffs/ nonfoodstuffs biota)	http://www.lanl.gov/environment/all/docs/qa_wes/RRES-MAQ-DOSE_R0.pdf	QAPP was reviewed and no substantive updates were required. Minor updates are required specific to organizational changes and implementation of a comprehensive environmental ALARA program (refer to PD-410, LANL environmental ALARA program). These updates will be performed during the next scheduled review cycle.	1. The CY09 airborne pathway dose to the hypothetical MEI was approximately 0.55 mrem/yr at East Gate (compared with 0.55 mrem/yr at East Gate for CY08, i.e., no change). The CY09 all-pathways dose to a hypothetical individual was approximately 1 mrem/yr at the boundary of TA-54, Area G, and the Pueblo de San Ildefonso Sacred Area, primarily from direct radiation. During CY09, the population within 80 km of LANL received a collective dose of approximately 0.57 person-rem. 2. No specific stakeholder concerns, data trends, or required program changes were noted for the review period.	In 2011, the routine dose assessment program will assess the inhalation, ingestion, and direct radiation exposure pathways dose for CY10 for the Environmental Surveillance Report.
Biota Dose Assessment	DOE/LASO POC: Cassandra Begay George Henkel LANL POC: Mike McNaughton, WES-EDA	1. Locations, analytes, frequencies: QAPP for Biota Dose Assessment, 04/29/09 2. QA/QC samples are specified in the individual monitoring plans (e.g., soils/foodstuffs/nonfood-stuffs biota)	http://int.lanl.gov/environment/all/docs/qa_wes/QAPP-05.pdf	None	In 2010, the routine biota dose assessment program assessed the ingestion and direct radiation exposure pathways for 2009. All doses to biota were below DOE guidelines.	In 2011, the routine biota dose assessment program will assess the ingestion and direct radiation exposure pathways for 2010. LANL anticipates that all doses to biota will be below DOE guidelines.

Environmental Monitoring Program	DOE/LASO POC LANL POC	Governing Document Containing Scope of Environmental Surveillance Activities	LANL Web Location of Governing Document	Updates to Program during 10/01/10–03/30/11	Stakeholder Concerns, Data Trends, and/or Assessment Results. Required Program Changes.	Summary of Upcoming Monitoring Activities
Meteorology	DOE/LASO POC: Cassandra Begay LANL POC: Scot Johnson, WES-EDA	1. Locations, frequencies, parameters: Meteorological Monitoring at Los Alamos, (LA-UR-08-3032, 05/08) 2. QA/QC activities: EP-ERSS QAPP-05, R0: QAPP for Meteorological Monitoring	1. http://weather.lanl.gov/downloads/LA-UR-08-3032_webcopy.pdf 2 http://int.lanl.gov/environment/all/docs/qa_wes/EP-ERSS-QAPP-05.pdf	None	None	Ongoing meteorological measurement program continues at tower sites TA-05, TA-06, TA-41, TA-49, TA-53, and TA-54. Pajarito Mountain station relocation away from Verizon cellular tower is complete.
Non-RADNET (Environmental Monitoring for Nonradioactive Air Contaminants)	DOE/LASO POC: Albas Gaona Steve Fong LANL POC: Andrew Green, WES-EDA	MAQ-NonRadNET: QAPP for the Non-Radiological Air Sampling Network, R0, 09/10/02	http://int.lanl.gov/environment/all/docs/qa_wes/RRES-MAQ-NonRadNet_R0.pdf	None	None	Particulate monitoring for particles less than 2.5-µm and less than 10-µm diameter continues at the Los Alamos hospital and the White Rock fire station.
Sediment	DOE/LASO POC: Cassandra Begay LANL POC: Steve Reneau, EES-16	1. Locations, analytes, frequencies: Los Alamos National Laboratory Environmental Surveillance Program Sampling and Analysis Plan (SAP) for Sediment, 2011 (plan submitted to DOE 03/31/11) 2. QA/QC: QAPP for the Environmental Surveillance Program Sediment Sampling Project (approved 06/11/09)	1. Submitted to DOE/LASO 03/31/11 2. http://int.lanl.gov/environment/all/docs/qa/ep_qa/QAPP-04.pdf	1. The annual Environmental Surveillance Program sediment sampling was completed in November and December 2010, and validated analytical data were received 01/11 and 02/11. Review of these data and other new sediment data were used to prepare the 2011 SAP.	1. No new stakeholder concerns have arisen since preparation of the 2010 sediment SAP. Some adjustments have been made to the 2011 SAP based on review of the 2010 surveillance sediment data and extensive sediment sampling during 2010 as part of implementation of the "South Canyons Investigation Work Plan." These adjustments include reducing analytical suites at some stations, adding analytes at others, and eliminating sampling in Indio Canyon, which is shown to be uncontaminated based on recent data.	Ongoing annual surveillance sediment sampling in watersheds draining LANL and along the Rio Grande will be conducted following the 2011 monsoon season. The details of the sampling are presented in the 2011 SAP.
Drinking Water Supply Wells and Rio Grande	DOE/LASO POC: Hai Shen LANL POC: Bob Beers, ENV-RCRA	1. Locations, analytes, frequencies: • Annual letter agreement between LANL/LAC • Annual letter agreement between LANL/City of SF 2. QA/QC samples: Interim Facility-Wide Groundwater Monitoring Plan	1. Letter to Los Alamos County, 03/23/10, EP2010-0150 Letter to City of Santa Fe, 04/22/10, EP2010-0192 2. http://int.lanl.gov/environment/h2o/docs/LA-UR-10-1777.pdf	Annual letter agreements for 2011 are in discussion with the city and counties. The letters document the frequency of sampling, analytes, and protocols for data review and release to the public.	1. LAC: no changes. 2. City of SF (Buckman drinking water wells): no changes. 3. City of SF (Rio Grande sampling): Bimonthly sampling at Otowi Bridge and Buckman was terminated with the completion of the 07/13/10 event. Future monitoring of the Rio Grande at Otowi Bridge will be conducted under the 2010 Interim Plan. Frequency and analytes are still to be determined.	Surveillance sampling of LAC and the City of SF will continue on a quarterly and semiannual basis.

Environmental Monitoring Program	DOE/LASO POC LANL POC	Governing Document Containing Scope of Environmental Surveillance Activities	LANL Web Location of Governing Document	Updates to Program during 10/01/10–03/30/11	Stakeholder Concerns, Data Trends, and/or Assessment Results. Required Program Changes.	Summary of Upcoming Monitoring Activities
Monitoring at San Ildefonso Pueblo	DOE/LASO POC: Cassandra Begay LANL POC: Terry Morgan, WES-EDA	1. Locations, analytes, frequencies: Appendix A of DOE/BIA MOU 2. QA/QC samples: In governing documents of specific sampling programs	MOU will be sent to San Ildefonso by DOE/LASO around 03/17/11.	2011 MOU will be finalized in late 03/11, following the meeting with San Ildefonso scheduled for 03/24/11.	The 2011 MOU will be finalized at the end of 03/11 after meeting with San Ildefonso 03/24/11. Most sampling is similar with a few reductions in frequency for some groundwater samples.	Groundwater, surface water, soils, sediments, biota monitoring similar to past years. Update to Appendix A for 2012 will start in 02/12.