

**Los Alamos**  
NATIONAL LABORATORY  
**memorandum**

Environmental Restoration Project  
EM/ER, M992

Date: January 24, 1995  
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From/MS: Dave McInroy, M992  
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**SUBJECT: MINUTES OF DECEMBER 13-14, 1994, MEETING WITH BARBARA DRISCOLL, ENVIRONMENTAL PROTECTION AGENCY (EPA), REGION 6**

Tuesday, December 13, 1994, 1:15 p.m.

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Dave McInroy opened the meeting by making introductions.

Firing Site Discussions:

Bruce Swanton of New Mexico Environmental Department-Agreement in Principle (NMED-AIP) was first on the agenda to discuss common approaches by the Environmental Restoration (ER) Project in investigating firing sites.

Bruce Swanton said that AIP had reviewed the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) work plans and apologized for bringing up questions now. However, AIP's concern is that we are not investigating firing sites consistently across the Project. Bruce had three questions. First, because of the abundance of material can homogeneity over a large area be assumed? Second, what will the data mean and what can we get from it? Third, will it be clear that there has been a release? Mary Perkins is the AIP point-of-contact for firing sites. She is trying to understand the sampling and analysis plans and the various field screening approaches.

Merlin Wheeler discussed two types of firing site releases; a very fine particulate that is uniformly distributed and large chunks distributed randomly over a broad area. Therefore, homogeneity cannot be assumed.

Gene Gould, who has worked in the Dynamic Testing Division for ten years, said usually the high explosive is found short distances from the mound and there is not much there. The metals go a farther distance but are discrete. Mary asked how the discrete pieces are found. Gene said that they are usually found visually on the surface and that geophysical surveys are also helpful.

There was discussion on the objective of site assessments and the different approaches necessary for Phase I and II. Barbara Driscoll asked if an evaluation has been done to compare how Department of Defense (DoD) sites conduct sampling and remediation. Tracy Glatzmaier said most of our studies in this area have been conducted at army facilities. Tracy said information is being compiled from these sites that can be applied to the Los Alamos National Laboratory (the Laboratory) operations.

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Barbara Driscoll wondered if the Laboratory's firing site types could be categorized based on the various operations after receiving results from some of the Phase I sampling. Tracy said this was a good idea but there may not be enough data in yet.

A discussion was also held on what defines an active site and what do we need to do, in particular, in investigating active firing sites. Barbara indicated that we need to understand if there is a current environmental impact at the active sites, and if so, is it serious enough to have to address now. We need to do enough sampling at the active firing sites to be able to determine if any contamination is leaving the site. We should concentrate on any drainages from the sites for migration pathways. If the process has changed at the site, more extensive sampling needs to be conducted to investigate the previous potential contaminants of concern.

Jorg Jansen asked for a summary of what had been agreed upon in the current discussions. Dave McInroy concluded that Phase I sampling for inactive sites would consist of point sampling to determine whether a release had occurred and for planning potential future investigations. Phase II sampling would determine the extent of a release. Active sites will be investigated for evidence of contamination remaining from previous activities and will be done in the hazard circle and in drainages leaving the site. This sampling should be biased in the drainages both inside and outside the hazard circle with a minimum amount of sampling. This will be done to determine if there is an imminent hazard which needs to be stabilized. Bruce Swanton stated that AIP understood the objectives much better after this discussion and that the data Tracy gathers will be helpful. He said firing sites had been on the front burner because of the many questions, they may pull them back after this meeting.

#### Action Items:

- 1) Tracy Glatzmaier will begin gathering data on firing sites as it comes in and attempt to categorize sites.

#### Sampling and Analysis Plans:

The next topic was sampling and analysis plans (SAPs) in the RFI reports for Phase II investigations. Bruce Swanton would like to see SAPs that are generic but require specific actions that provide value. Barbara Driscoll said EPA is working towards a standard format and that Bruce's ideas fall in line with EPA's RCRA Corrective Action Plan (CAP). Barbara wants to see better plans that are third party executable. Third party includes reviewers as well as field personnel. Tracy said that it would be beneficial to have a specific format so that everyone knows what is expected and required.

The SAP would provide a site description which would discuss size, what it is, what it looks like, vertical and horizontal information, why investigations would go further and the desired performance criteria. A standardized format is needed that provides the same type of sampling tables, data tables, and figures. The table would include previous information such as sample identification, depth, concentration of hit or non-

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detect. The table would also include a comparison to background and screening action levels (SALs) for metals and practical quantification levels (PQLs) for organics. Method limits would also be included. SALs would be at  $10^{-6}$  risk level. Alison Dorries said SAL tables are updated for each RFI report and for the Project every 6 months. A coded map should be available with all sample points showing hits (above background for metals and above the PQL for organics) and non-detects by using a different symbol for each.

There was some discussion between the Laboratory and AIP about flagging sample points in the field well before sampling occurs. Points which are flagged too far ahead of the sampling event may get disturbed. It was concluded that sampling points would be on the maps included with the SAP for those previously identified and that AIP could come out as other points are flagged before the sampling event.

Sampling objectives were discussed. Barbara Driscoll said that multiple use of data should be maximized. Rate, extent, waste management and other parameters should be realized. If taking a few extra samples will prevent another sampling event, the extra samples should be taken (this applies to both Phase I and Phase II investigations). Each plan should include the number of samples being taken and the location of each sample. The sampling plans need to be decision based. The question of, "what are we looking for?" needs to be answered before hand. For example, the potential need for a risk assessment should be considered during SAP preparation.

Sampling and screening techniques were discussed. The point that field screening techniques must be third party executable was stressed several times. The standard operating procedure (SOP) should indicate how to perform the task in a consistent manner. Most of the general information should be found in the SOP. Only specific procedures particular to the site should be in the SAP. Tracy stated that if the SOPs are not adequate, they should be corrected programmatically. She is open to any comments on the current SOPs.

The selection of the Target Analyte List (TAL) was discussed next. Bruce stated that what was known as knowledge of process (KOP) is now refined and called acceptable knowledge. NMED has accepted Appendix VIII and EPA has accepted Appendix IX. Joan Fisk discussed problems associated with Appendix VIII. She also mentioned that SW846 methods were not always the best method, and that some analytical labs did not perform them. She said different methods are used depending on the particular analyte. Data quality objectives need to be defined and met. A guidance document is being made on this issue. Several people stated that x-ray fluorescence (XRF) can be used in Phase II for a narrow suite of analytes and that it is also useful for indicating where additional sampling should be done. Barbara stated that an explanation and justification must be provided for the methods used.

Quantitative analysis to find the plume for field decisions was discussed. Bruce said that for radioactive constituents more screening of gross alpha and beta should be done with a subset sent to the lab for verification.

Tracy asked Bruce to update his guidance on the format for SAPs and the Project Consistency Team will look at it and the CAP and modify it, if necessary.

Action Items:

- 1) Bruce Swanton will finish his strawman for the SAPs format and provide it to the Project Consistency Team.
- 2) Jorg Jansen and Ted Taylor have agreed that guidance that is of high quality and is cost efficient will come out.
- 3) The Project Consistency Team will finalize the format for the SAPs and issue policy on how to implement.

Carl Newton's Discussion on Potential Release Sites (PRs) 0-032 (whole site) and 0-031(b) (underground storage tank)

Carl Newton had questions related to PRs 0-032 and 0-31(b). First he said the Underground Storage Tank (UST) Bureau at NMED has no further concerns for chlorinated solvents and acetone found in the samples. The quantities were well below treatable requirements. The waste was sent based on F3, ignitable, characteristics. Carl wondered if EPA wanted an RFI report since the UST will be proposed for no further action (NFA). Barbara requested that Carl write up this issue and then she would evaluate it.

Carl also discussed the Notice of Deficiency (NOD) response concerning the dry cleaners tanks in the community center. Barbara Driscoll would like photo ionization detector sampling to be done at the bottom 6 inches after every five feet. For level three, if several holes are not clean, all holes must go ten feet below. Dave suggested that if the problem area was bound on a couple of sides and data on the other sides indicate diminishing concentrations, one might be able to evaluate the data at that time rather than proceeding with another sampling event. Barbara agreed but stated that it would be on a site by site basis and each data set would have to be evaluated. Five ppb is the practical quantification limit. Four holes bounding the residential unit should be done. If nothing is found sampling will be complete. Four more should be taken to check the extent of contamination if first four detect contamination.

Action Items:

- 1) Carl Newton should write up the status of the UST.
- 2) Carl should provide a schedule to Barbara on field work.
- 3) Carl should call Barbara if moderate readings continue to be detected at up to 120 feet.

**Wednesday, December 14, 1994, 8 a.m.**

Quality Assurance Project Plan (QAPP)

Larry Souza spoke on revising the QAPP in order to complete our work more effectively by using data quality objectives (DQOs) as part of the planning process for SAPs. The kind of analysis method, sampling methods, depths, quality control (QC) samples and data quality objectives (DQOs) are all areas that should be considered. The QAPP would be a guidebook to field units and contains generic information which summarizes the objectives. The details particular to each field unit will be in each site specific QAPP. Larry will be looking at all site specific QAPPs. The benefits of an improved QAPP would be to reduce costs and time spent on sampling and to become more efficient. Barbara mentioned a QAPP generated by a computer program that EPA has used and she will get the Laboratory a copy.

Jorg Jansen asked where the requirements come from for the QAPP. Larry said some items are required to maintain consistency and obtain defensible results and the HSWA Permit determines the minimum requirements. Jorg was concerned about those who have started work without the benefit of the new QAPP. It was stated that changes should only be made if value is added or costs are saved. Barbara would need to review any modifications to any previously approved work plans.

Discussion arose concerning the DQO process. Some people do not understand it. Tracy said DQOs are common sense and people need to be trained on how to implement them. All Barbara is looking for is what is the objective and how is it going to be achieved.

Action Items:

- 1) Barbara Driscoll will get the EPA's computer based QAPP to Larry Souza to review.
- 2) Generic statements of objectives will be provided to the Project Consistency Team.
- 3) Larry will get the revised QAPP out for review by the first of January, and to Barbara by the end of January.
- 4) Larry Souza and Jorg Jansen will talk to Kathy Armstrong concerning training for the QAPP and DQOs.
- 5) Ted Taylor and Joan Fisk will bring US Department of Energy (DOE) personnel in for QAPP review.

RFI Reports:

-Handling rad vs non-rad samples

Tracy led the discussion on how to address rad vs. non-rad sample results in RFI reports. HSWA-listed Solid Waste Management Units (SWMUs) can be proposed for NFA, based on no contamination of concern for non-rad constituents, before the rad analyses are back in order to remove the SWMUs from the permit (only if there will not be a risk assessment that would include the non-rad constituents). Because obtaining results for rad analysis has been very slow and in order to create the RFI report in a timely manner, it is necessary to write the report after non-rad analysis, data validation and assessment have been completed. As rad results come in, an addendum would be created. All the site-specific information would be in the original report and would not need to be repeated. The tables in the RFI report would be separate for rad. If rad is present and the PRS has been removed from the permit, it will be addressed under DOE orders consistent with the Comprehensive Environmental Response, Compensation, and Liability Act.

It was brought up that the State did not want sites removed from the permit even if they had only rad contamination. Although Barbara does not believe the State has authority to do this, she wanted to warn the Laboratory. Tracy said the State would review the original reports and any addenda.

-Land use

Alison Dorries discussed land use issues. An NFA proposal would require stakeholder input if action levels for residential use are exceeded. Common sense must be used to apply land use scenarios, e.g., canyon walls are not appropriate to be used for residential. If data supporting residential land use scenarios are not available, and Phase II is planned, land use needs to be determined before Phase II plans are written. This land use scenario should be recommended in the RFI report. A matrix can be used to present the available data based on various land use scenarios. The options can then be presented based on the data in the matrix. Clean up levels should be based on actual land use. Ted Taylor said the Laboratory and DOE land use planners are speaking in general terms that are not specific enough for the ER project. Obtaining Lab management and public buy-off is a critical step.

Action Items:

- 1) Alison will provide needed information so we can go forward.
- 2) Ted and Jorg will assign proposed land use to our PRSs and seek the Laboratory and DOE management buy-off for the proposals.

-Assessment issues

Alison led the discussion on assessments. The technical approach is to move away from the IWP and have more interactive reports with DOE and EPA concurrence, each report having different technical issues. Alison would like to see a more direct approach by using direct interaction through Field Project Leaders and by Alison and the

Assessments Council writing position papers. Barbara agreed that a direct approach is good and she will ensure EPA assessments personnel work directly with Alison, as their time allows.

SAL values should be in Facility for Information Management and Display (FIMAD) as a data set not as tables in books. FIMAD can provide footnotes providing the dates they have been changed.

Action Items:

- 1) Ted Taylor would like a hard copy of the SALs and the position paper made available at the ER Reading Room.
- 2) Barbara Driscoll would also like to have any relevant research papers provided with each position paper.
- 3) Alison Dorries will have the position paper on polychlorinated biphenyls (PCBs) completed in early January.
- 4) Alison will have the position paper on poly-aromatic hydrocarbons (PAHs) completed by late January.
- 5) Alison will have the position paper on total petroleum hydrocarbons completed by late January.
- 6) Barbara will comment and provide approval letters for position papers as the papers are approved.
- 7) Barbara will find a contact at EPA to interface with Alison on risk assessments.
- 8) Ted Taylor wants to send an issue paper containing questions to EPA. Barbara will give a written response.
- 9) Barbara will find information on PAH at bases that are closing and send to Alison.
- 10) Bruce Swanton will look for an AIP risk assessment person to work with EPA and the Laboratory so that the state will be up to speed when it becomes authorized.

Ecological Risk

Roger Ferenbaugh led the discussion on ecological risk. He stated that ecotoxicological screening action levels are similar to human health based risk levels but are much more complicated. He uses a two phase approach; sites that may have a problem are identified; if a problem is identified, a baseline risk assessment will be done. Barbara expressed concern that the Laboratory may be doing too much. EPA wants investigation of sites indicating sensitive ecosystems, not necessarily at all of the sites.

Action Items:

- 1) Barbara only wants information sent to her on areas where an ecological risk assessment is going to be done.
- 2) In early January, Roger Ferenbaugh will send Barbara a statement of our approach.

-Examples of reports in preparation: TAs- 32, 33, and 50

Beverly Martin presented a draft of the TA-32 RFI report which used the new outline suggested by EPA. Concern was expressed by many on how to write reports if land use has not been determined. Barbara said to use common sense. If EPA wants Phase II, it will ask for it. Ted Taylor said that DOE will be giving land to the county, but it should not be for residential use because the land is supposed to supply revenue to the county.

Don Hickmott presented a draft of the TA-33 RFI report. Barbara liked the level of detail in the tables. Dorothy Hoard pointed out that all the information contained in the table was in an accessible format which has been useful to the entire Field Unit team. Dave suggested that if this is the format that EPA liked, guidance would be issued to Project personnel. Barbara wanted to review all reports she had drafts of before guidance was issued.

Cheryl Rofer discussed the TA-50 RFI report for Phase I field activities done the summer of 1993. There are four SWMUs which will be proposed to be removed from the permit which have some rad concerns. Atmospheric releases occurred from the radioactive liquid waste treatment plant, the controlled air incinerator, and the repackaging facility. A canyon outfall will be proposed for NFA from the permit but it also has rad concerns. Additional sampling will occur in Ten Site Canyon. She has an appendix about background comparisons which could be used as a position paper.

Action Items:

- 1) Barbara would like to review the draft RFI reports to see if the approaches are correct, and which one(s) she likes the most.
- 2) Barbara wants a table in each report for every sampling point with specific values when it is above background.
- 3) The maps should also designate sampling points which had levels above background.
- 4) Barbara would like the Phase II schedule for TA-32 (this would be true for all Phase II plans) if it is determined that Phase II will be conducted.
- 5) Barbara would like a list of PRSs that will have reports written soon with the proposed land use.

### Luncheon Discussion

The main topic was how to conduct business under the new Action Plan. DOE has developed performance measures so RFIs, expedited cleanups (ECs), etc. will be in the baseline. A true teaming relationship needs to be set up to provide early reviews, planning, and technical consistency. Tracy, Dave, and Court should work closely together.

Everyone in the ER project will be given a handbook which will contain a statement of purpose, proper procedures for coordinating projects, and the proper ways to communicate with EPA. This is being worked on and it will be out hopefully before Christmas.

Telecons will be used to document conversations with the regulators and all appropriate people will be copied. Ted Taylor said that even after a \$15 million cut, Grumbly's approach is that the same services are still expected. Efficiency must be stressed, and involvement of the appropriate people at the right time is also important. Points of contact and back-up phone numbers need to be provided. Processes should be defined and encouraged for contact between Laboratory/DOE/EPA. Either Court Fesmire or Dave McInroy could work with EPA as long as the other is informed. For site specific questions, the Field Project Leaders should have the authority to call EPA. General programmatic and risk assessment issues should be done through Court, Dave or Tracy. Barbara stressed that she did not want people under the Field Project Leaders calling her. As agreements arise, Final programmatic guidance will be issued through the Project Consistency Team.

The meeting resumed at 1:30 p.m.

### Background Issues:

Pat Longmire spoke about background investigations which are being conducted to establish Lab-wide background for soils and the Bandelier Tuff. A data base has been established starting with the 240 soil samples that have been taken. Soil has basically three horizons or horizontal layers. The B horizon is geochemically reactive and is where specific elements may be concentrated. Arsenic and beryllium and other elements are enriched in well-developed soils with B horizons. An iron layer is often found in the B horizon. Mesa top soils are physically and chemically different from soils formed in canyons. For clean up purposes it is important to know what horizon soil samples are taken from.

Pat uses nitric acid digestion techniques because they are closest to the hydrochloric acid found in humans. The same digestion should be done Project-wide. Pat discussed the use of EPA statistical means. Barbara wants to be sure everyone uses the same statistical approach.

Action Items:

- 1) Data reported in RFI reports should include which horizon samples were taken from.
- 2) Pat Longmire will provide his report to Barbara Driscoll by the end of January.
- 3) Pat Longmire will provide another report to Barbara in the fall of 1995 which will cover the remaining soil samples and the Bandelier Tuff.

Miscellaneous Issues:

-Finalize NFA Criteria

Tracy distributed the latest draft of the NFA criteria. This version was modified to include Barbara Driscoll's latest comments. The introduction, and the first three criteria were accepted by all. There was some concern with the wording on criterion four which was later reworded and approved by Barbara.

Action Item:

- 1) Because the state may have concerns with criterion three, Bruce Swanton will resolve and clarify the issue concerning removal of NFAs that are approved under RCRA but have contaminants that will be addressed under another program.

-Discussion of IWP status

Tracy discussed the draft outline for the new Installation Work Plan (IWP). The IWP will now only have seven chapters and three to four appendices. The descriptions of technical areas was left in as Appendix A. Appendix B will include the PRS data base and Appendix C may contain a condensed version of the technical assumptions document. It is possible that the risk assessment methodologies may not be included but would become Laboratory documents. Appendix D will contain a projected schedule.

Action Items:

- 1) The IWP will be delivered to Barbara by February 28, 1995.
- 2) AIP will review the draft at the same time as DOE.

-Discussion of quarterly and monthly reports

Tracy led the discussion on condensing and improving deliverable reports. Barbara, Ted Taylor and Bruce Swanton like to receive summary reports on progress. There was quite a bit of discussion on how to streamline reporting and still provide regulators with what they want.

Action Items:

- 1) Include data tables only in RFI reports, not in quarterly reports.
- 2) The Project Tracking System (PTS) which is submitted monthly to DOE Headquarters will be modified to include a technical narrative and summary updates.
- 3) The Project Control System (PCS) which is submitted monthly to DOE-Albuquerque will be submitted quarterly instead.
- 4) Discussions of what the quarterly report will look like or how to just use the monthly PTS and/or quarterly PCS report will continue between the Laboratory, DOE and EPA.

-Bounding the Area of Contamination

Carl Newton had questions on determining the extent of a plume. Barbara said that the area of contamination needs to be bound. Every core should go ten feet and beyond to bound the area of contamination. Because it is unknown where the base of contamination is, a sample should be taken below to be sure the vertical depth has been bounded. Lateral bounding is more difficult - take a couple of extra samples to avoid going back if you have the equipment on site. Barbara would prefer no detects to define the boundary of a unit, but would entertain decreasing concentration limits as another method of defining the extent.

-Finalize the expedited cleanup process

Dave McInroy led the discussion on the EC process. He said work is being done with EPA to replace the voluntary corrective action process. The EC is sent to reviewers, the state and EPA with a description of the process and at the same time it will be going through the permit modification. The process is more onerous but it eliminates the risk of the public and regulators not buying in. By the end of January forty sites will be addressed so that approvals will be ready as funding becomes available. Some of the ECs are already included in the baseline and will be cleaned up no matter what the budget is. Specific criteria must be met to be an EC.

Action Items:

- 1) Dave McInroy will send Barbara a draft.
- 2) Dave will send Bruce Swanton (MS J993) a draft before Christmas.

-Discussion of the corrective action management unit (CAMU) proposal

Court Fesmire led the discussion on CAMUs. A proposal for a CAMU at TAs-15 and -16 has been submitted to EPA. TA-15 has a potential of mixed waste and cannot be a CAMU under the Federal Facilities Compliance Act. A CAMU at Hanford has been withdrawn. If TA-15 has mixed waste the treatment, a permit would required if any

remediation causes mixed waste. They are proceeding with TA-16 since there is no rad. TA-15 characterization is proceeding.

Action Items:

- 1) A permit mod to remove 90 SWMUs from the permit will be out in January. Public Notice will also occur in January.

Field Unit Specific Issues:

-Canyons work plans

Al Pratt discussed the series of RFI work plans for the canyons (old Operable Unit 1049). He said that most SWMUs in canyons are addressed in other work plans. The sediment traps in Mortendad Canyon is the only SWMU not already addressed. He views canyons as affected systems not as SWMUs and is looking at transport mechanisms and off-site migration. He is constructing a one time core document that will generically discuss the technical approach to the canyons. Each canyon will be then be addressed specifically. Terry Davis was concerned with the approach. Al and his team are working with Steve Ray and Mike Alexander to study ground water and storm water. He will be sure any wells that are drilled will provide needed information and will be coordinated with the water surveillance group. The individual canyons have been prioritized based on highest risk to human health.

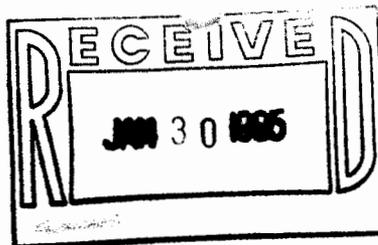
Action Items:

- 1) In May 1995, the work plan for Los Alamos Canyon and Pueblo Canyon will be submitted. (This work plan was already being written prior to the decision to write a core work plan.)
- 2) In October 1995, the core work plan will be submitted.
- 3) In November 1995, Mortendad Canyon will be submitted dependent on funding.
- 4) Al Pratt and his team should work closely with Terry Davis.

-Changes for the drilling plan for Material Disposal Area (MDA) C

Cheryl Rofer discussed a modification of the drilling plan for MDA C at TA-50. She is concerned that they will not obtain good core recovery with the current plan. The alternate plan will use two angled holes from the canyon area which will be at a 10 to 20 degree angle based on research of the trenches. They do not want to intercept the trench bottoms. Magnetometry has already been done and one hot spot was found. Someone said that a core from a reactor was buried there but Cheryl did not think that it was likely based on other information. The sampling interval will not change. This sampling event will occur in the Spring or Summer of 1995.

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Action Items:

- 1) Cheryl needs to describe the modification in a written letter to Barbara for approval.

Off-site waste brought on-site:

Pat Shanley briefly mentioned the issue of off-site waste being brought on-site. She is working on a permit mod with the state which will allow this to happen.

The meeting adjourned at 5:15 p.m.

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E. Springer, EES-15, MS J495  
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