



Bob Holden, Governor • Stephen M. Mahfood, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.state.mo.us

December 3, 2003

Ms. Pamela Thompson, Project Manager
U. S. Department of Energy
Grand Junction Office
Weldon Spring Site Remedial Action Project Office
7295 Highway 94 South
St. Charles, MO 63304

RE: Annual Inspection-Weldon Spring Site

Dear Ms. Thompson;

Thank you for the opportunity to participate in the annual inspection of the Weldon Spring Site. While several activities remain before *construction complete* can be achieved for the site; including the Record of Decision (ROD) of the Groundwater Operable Unit, the implementation of the ROD, and finalization of the Long Term Surveillance and Maintenance Plan (LTS&M); performing a meaningful inspection allows the regulators, impacted agencies, and citizens to see what can be expected for this safe-guard of the site's cleanup. As pointed out in the inspection kick-off meeting, this first event serves as a baseline for future reference. Because we were working with a checklist that has not been finalized, improvements or enhancements that are noted from this baseline should be implemented in all future inspections.

For the record, I have attached my observations of the October 28-29, 2003, inspection and a copy of the photographs I took to include with the final report. Mr. Dick Johnson, of Stoeller, stated that their inspection report would be prepared, reviewed by the Department of Energy (DOE), finalized, and then issued to the public for comment. According to information at the inspection, a public meeting to present the findings and an opportunity for comment is targeted for early 2004. The DOE is to be commended for envisioning this plan. I trust the DOE will take comments, and more importantly, incorporate suggested improvements that may be offered, into future inspections.

The fact that the DOE conducted this inspection is a success, however, the following points are key areas where the inspection checklist needs improvement or revisions added to ensure a comprehensive inspection as well as a product worth using. The Weldon Spring site remains



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a prime example where the DOE is leaving both hazardous and radioactive waste onsite, entombed in a waste disposal cell. Additional residual contamination remains in the soils, along with sediments and contaminated groundwater both on and offsite. Areas of concern include:

- ❖ Qualified Personnel. It was unclear who from the DOE or its contractors will be the Professional Engineer sealing and attesting to the inspection of the disposal cell. Since the Missouri Resource Conservation and Recovery Act (RCRA) provisions are Applicable or Relevant and Appropriate Requirement (ARAR's), it requires a properly licensed and competent professional engineer to perform this aspect.
- ❖ Inspection equipment. The DOE did not have radiation monitoring equipment as part of the inspection. Because the Southeast Drainage area remediation levels allowed for a much higher concentration level of radiological constituents and the fact that this area is an area of erosion and deposition, contaminants are expected to migrate over time. Similarly, the criteria concentration levels at the Chemical Plant area and vicinity properties have concentrations set for the upper 15 centimeters (6 inches) and a higher level for soils below 15 centimeters. Erosional effects of rain and wind may cause the higher concentration levels areas to become surface areas. Monitoring to ensure the protectiveness of the cleanup is a reasonable and responsible activity in any areas that have higher than background residuals remaining. The department continues to request this type of map presentation and monitoring.
- ❖ Stakeholder Notification. Several of the checklists' stakeholder contacts (i.e. St. Charles Recorder of Deeds, St. Charles Planning and Zoning Department, Missouri Department of Natural Resources-Parks Division, Francis Howell School District, etc.) were apparently not made. Information given was that a letter was sent to the Weldon Spring Citizen Commission and telephone contact was made with the Department of Army. Other organizations and citizens have actively participated in previous RODs and public meetings on the Stewardship plan (now termed LTS&M), however there was no indication that contact with those organizations or citizens were attempted.
- ❖ Land Use Change. I twice asked specific questions about any land use change that has occurred, with a response that nothing has changed. This is completely contrary to email notification and verbal discussion with the DOE regarding the recent finalization of an agreement with Lindenwood College for use of the Administration Building. **According to the DOE Office of Environmental Policy and Assistance, bulletin (EH-413-9808 (April 1998)), DOE orders 4300.1C and 430.1, and Section 120(h)(1, 3, 4 and 5) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), The DOE must notify and secure determinations from the Environmental Protection Agency (EPA) and the State before entering into a change of use or lease. As far as I have been able to ascertain, none of these actions have been officially taken.**

While we were aware the DOE had attempted to negotiate and lease the facilities numerous times with no success, in August we were advised to vacate our offices in the DOE facility in 30 days due to new arrangements. I would appreciate knowing how and why the DOE orders were violated in regard to leases and reuse of the Federal property without formal notice to the state? This is even more critical at a site where appropriate reuse is a critical component to ensure actions taken are not inconsistent with the need to provide sufficient protection of human health and the environment and are completed in accordance with the prescribed long-term stewardship plan.

- ❖ Disposal Cell Monitoring. At the opening meeting, contour maps were presented, which depicted the recent aerial survey and the "as-built" contours by the Direct Hire Organization (DHO). It should be noted here that there was no indication that the surveys were performed by properly licensed and competent land surveyors. I requested a copy of these maps for our files and would appreciate receiving those in the near future. Having this type of information is valuable for annual inspections in order to ascertain if unexpected settlement or movement of the cell has occurred. Although I would not expect any significant cell settlement or movement at the early stages of the completion of the cell, there appears to be some indication of "sagging" in the northern part of the cell.

The visual walk-over does allow for viewing of the cells surface, but to rely totally on this for indication of cell movement is not a reasonable or accepted engineering practice.

- ❖ Leachate Collection. The leachate sampling information, charts, and discussion was very helpful and informative. Please keep this level of presentation. One issue related to this is the continued presence of leachate in the "burrito" wrap of the leachate collection system. The state has a written request for an explanation, and if necessary a plan of action, to address this. Our concern is that leakage is attributable to a pipe separation and/or that this condition will worsen over time. The DOE has not responded to this issue and is requested to do so.
- ❖ Document Review. It was undetermined if any of the inspection staff from the DOE had recently reviewed the as-built documents. While most of the staff was part of the group that worked on the actual construction and completion of the disposal cell and quarry restoration, the contract representatives from the Grand Junction Office had no personal knowledge of the activities. Observations at the two-day inspection event did not reveal any reference to or review of the as-built documents, other than the aforementioned contour maps. As time goes on, fewer and fewer of the staff that were part of the remediation will be available for the inspection, therefore, more effort is essential than making a check mark on the list that the documents are present.

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- ❖ O & M Costs. I inquired about the information for the Operation and Maintenance cost section of the checklist, with the response that the DOE says it will not be part of the review. This should be part of material accessible to the public and regulators in order to maintain the transparency the DOE has stated it would provide. Without this information, how can anyone, including the public or independent oversight, determine if costs are reasonable and if funding is being provided at a level sufficient to carry out site stewardship? The DOE's unilateral removal of this aspect is very disappointing. Please consider reinstating this information.

Many of the activities performed during this inspection were very helpful, informative and appropriate for the long-term stewardship of this site. However, there appears to be several aspects that must be added to the checklist, as well as other items being thoroughly completed if they are on the existing checklist. Having the list is a great tool! However, using and implementing it is critical to ensure protection to the health and welfare of our citizens and the environment. Our citizens and environment deserve nothing less.

Currently, the DOE has not provided the necessary support for the state to participate in the inspection work or any of the remaining tasks and document reviews at the site. Thankfully, the EPA has made available some limited funding from their already shrinking budget to allow the department to comment on this initial aspect of the inspection. We look forward to the release of the DOE's inspection report and presentation to the public. I hope that by that time, a reasonable support mechanism will be in place in order for the state to take part in that review.

Taking into account the major deficiencies of this baseline inspection, I would rate this with an "much improvement needed" grade. Please contact me at (573) 751-3907, or by writing to me at the Hazardous Waste Program, at P.O. Box 176, Jefferson City, MO 65102-0176, if you have any questions.

Sincerely,

HAZARDOUS WASTE PROGRAM



Larry V. Ericksen, P.E.

Chief-DOE Unit
Federal Facilities Section

- c: Mr. Mike Duvall, St. Charles County
Mr. Ray Plienness, DOE-GJO
Mr. Dan Wall, U.S. Environmental Protection Agency - Region VII
Weldon Spring Citizens Commission
Quarterly Report Distribution List

Observation of the DOE Annual Inspection
of the
Weldon Spring Site
October 28-29, 2003

October 28, 2003 – 8AM – Initial meeting. Attendees at this meeting included Tom Pauling, DOE; Terri Uhlmeier, Dick Johnson (GJO), Tom Welton, Sam Marutzky, Marj Oaks, and Greg Nadler, with Stoeller; John Vogel, MDC; Dan Wall, EPA; and Larry Erickson, MDNR. A brief safety meeting was conducted, along with hand out of reflective vests, water and boots for those needing them. A description of what the inspection would look at on day one and reference to the inspection checklist was given. There were two inspection teams established. Team one was assigned to view monitoring wells on-site and along Army property roads, off-site areas that require institutional controls to the north of the site, Disposal Cell buffer zone, and inspect land and shallow groundwater use on Army and DOE property. Team members included Sam Marutzky, Marj Oaks, Greg Nadler and Terri Uhlmeier. Team two's assignment was to inspect the SE drainage. Team members included Tom Pauling, Dan Wall, Tom Welton, John Vogel, and Larry Erickson.

MDNR asked if a radiation scanning meter would be used as part of the SE drainage inspection. The DOE's response (Pauling and Johnson) is that "we are looking for violations or encroachment of the institutional controls" and not concerned about meter investigations. MDNR stated that the SE drainage had not been remediated to the same level as the Chemical Plant site and that the area is constantly changing due to the depositional characteristic of a drainage area. "Why aren't meters being used for this inspection." Again, the DOE's response remained the same. Dan Wall then made a general observation that, although the contaminants in the SE Drainage are probably in the same location as when the remediation was completed, the nature of the area and depositional effects, would seem to have a need to do a radiological scan to determine contaminant location at some time in the future, perhaps five years from now. Again, DOE's response remained the same. During the inspection, I asked to see a map of the final remediation achievement that depicts where and to what level contamination was left. This was not provided.

The DOE stated that this inspection, since it is the first one in the LTS&M, is being used as a baseline for future inspections. Attention was then turned to the inspection check list (appendix H in the May 2003 draft Long Term Surveillance and Monitoring Plan).

- I. **Site Information.** Site information noted.
- II. **Interviews.** I didn't see any report from the local site manager (Pam Thompson) or Environmental Data Manager (Randy Thompson). An interview with Clark Oberlag was conducted on 10/29.

Item 4 of section II, the information I was given that none of the noted contacts was made although on 10/29 a statement was made that the alarm company would

be contacted to see if the proper contacts were listed if an alarm were sounded. Item 5 of section II, statements were made that a letter to the WSCC was sent but no response has been received. No apparent contact was attempted with Francis Howell School District. There was also no other stakeholders mentioned by DOE. [My letter to the DOE will ask to add other concerned citizens that have previously offered comments/interest in the site, Coalition for the Environment, the Greenway Network, St. Charles County Executive or the County Environmental Department (Mike Duvall) and St. Louis County Health Department.].

Item 6. Stoeller representatives did discuss having some question about legal access to some properties. Currently there is no formal access document with DOD or for Spring 6306 (Twin Island Lakes Campground).

- III. **On-Site Documents and Records Verified.** This section was covered in part on 10/29. Bruce Ballew presented a LCRS fact sheet, graph of total U in Leachate hauled to MSD, graph of CY2003 Average Daily (LCRS) Flow Rate and a spread sheet of MSD Hauled Leachate Data (L001 through L019, which provided the monitored concentrations of Waste Acceptance Criteria per the MSD permit.

Following the check list, I did not see the As-built drawings other than a DHO provided contour map of the finished cell overlain with an aerial survey taken recently. In general, the aerial matched well with the DHO map. No apparent settlement or subsidence. Other than the noted information by Bruce Ballew, I did not see any maintenance logs. Items 2-5 were presented. Item 6 was not discussed in my presence, so I do not know if this was done.

- IV. **O & M Costs.** I asked for this information and was told by Terri Uhlmeier that this will not be included. I asked why and was told it would not be included, per Pam Thompson.

- V. **Institutional Controls.** Following the checklist, in general these areas had no observed excavations, or unauthorized groundwater use. Notes were made on a few monitoring wells regarding minor repairs (i.e. repaint, well numbers need to be repainted, bullard needs repair. Some erosional areas: outfall 10 at TSA, outfall 3 and Frog Pond; were noted and had been repaired. Team 1 reported the repair looked good. Erosional areas at Hwy 94 and Hwy D culverts were noted and an indication that MoDOT would be contacted. Item 10, LCRS pipeline was reported to have been "walked" by Bruce Ballew and no reported disturbance. A note was made to get GPS information on the angle points of the pipeline.

- V-C. **Institutional Control Annual Contact Log.** According to the Stoeller representative, since there are no institutional controls in place yet, these contacts were not made, except for a verbal conversation with Jerry Stubblefield, the DOD

facility manager at the WSOW. Under the "General" heading of this section the DOE concluded there are no changes to Land Use on-site or Off-site. [I asked twice if the DOE's conclusion that there is no change to Land Use on site and both times the answer was no change. The comment letter will note the change of use from the DOE to Lindenwood College. The state has no knowledge of what the restrictions or conditions are to the use permit/contract.].

- VI. **General Site Condition.** According to the Stoeller representative, items 1-7 of this section were ok.
- VII. **Erosion.** The DOE/Stoeller representatives did not note any erosion present, but did note areas of previous erosion and advised that repairs had been made. [I noted erosion at the Quarry along the Hamburg Trail as rivlets in 5-6 places. The DOE informed me that the Trail has been turned over to MDC].
- VIII. **Chemical Plant Disposal Cell.** The disposal cell inspection consisted of looking at finished contour maps by the DHO overlain by a recent aerial survey. The two surveys appeared to match fairly well, indicating that the cell remains as it was when completed. [The visual walkover, although useful to identify gross slippage or subsidence and rip-rap degradation, is not appropriate to conclude if there is any serious problems. The only members of the team that were qualified, to my knowledge (i.e. Registered Professional Engineers in the state of Missouri) were myself and Marj Oaks.

Item 7 of section VIII, A review of the LCRS was conducted the afternoon of 10/29. Previous site visits by the department had questioned the inability of the DOE to draw down the flow in the burrito outer wrap. DOE was asked to provide an explanation or reason/corrective action to this unforeseen/unplanned occurrence. At the 10/29 meeting, the DOE/DOE contractors had no answers to why it continues to produce leachate, other than it will be monitored. No details given on what monitoring, what action levels would be, what action level would trigger or any other details.

Item 9 of section VIII, Condition of Prairie, no comments by the DOE other than it looked good. DOE mows the area twice a year. Maintenance activities need to be included in the report. I noted several areas of depression with ponded water (2" depth or less). I also asked about the LTS&M plan, which states the prairie will be burned every five years. I asked what plans the DOE had to check for contaminant uptake in the plants, which could cause a problem and/or concern to the public. Discussion followed that other sites have studied this, shouldn't be a concern, etc. My letter will note that the DOE must conduct a study on this site, to ascertain if plant uptake and subsequent burning of the plant will cause a health threat.

- IX. Groundwater Monitoring.** The only action I observed was the physical checking of the well casing. One or two well casings were opened to observe what the well pipe looked like. I did not see any test performed to determine if sampling was done in accordance to the LTS&M plan, no verification of the data quality or no review of data trends. I did ask if the County was to continue monitoring the RMW wells. I received no definite answer.
- X. Overall Observations.** The DOE concluded that everything in this section was ok. Based on information from one of the site contractors regarding a new advancement of survey techniques (use of laser data acquisition), I asked if the DOE would be looking to use this new and potentially better survey equipment in future surveys. No answer.

See attached photo log and file for reference.

Issues that I see with the inspection:

1. Inspections should include a representative radiological survey to ascertain if the level of cleanup is still in place (i.e. the general soil cleanup goal was 5pCi/g in the top 6 " and 15 pCi/g below 6"for Radium thorium and 120 pCi/g for Uranium 238. The inspection should verify if those concentrations are still present at those depths.)
2. Interviews with noted individuals must be conducted. According to the DOE/DOE representatives, there has been no check made with the Sheriff's office to determine if any unauthorized use of the areas has occurred. Since Lindenwood College is now or will be coming on site, an interview with their representative and a few of the students should be conducted.
3. On-site documents and records must be checked for completeness. Individuals conducting the inspection must have sufficient time to review the drawings, documents and other supporting information, prior to the physical inspection of the site.
4. O&M costs must be provided.
5. Check of the institutional controls have to be made each year. This includes checking with the County Planning and Zoning offices. This aspect was clearly not performed.
6. Several items on the checklist had "will be done" notations or comments. If this is given a follow-up, verification must be performed within a defined number of days (i.e. 30 days).
7. It appears that the DOE will ignore the department's question regarding leakage from the LCRS into the "burrito" wrap. This is not acceptable, as this condition was not planned for nor has a corrective action plan been submitted.

8. Land Use conditions have definitely changed since the DOE has entered into a use/lease contract with Lindenwood College. The DOE has violated it's own orders (EH-413-9808) by not informing or getting concurrence from the state.
9. A bona-fide review of data and data quality control/quality assurance was not conducted.
10. A review of new or innovative techniques that could improve performance, was not made at the time of my inspection, other than one of the contractor's noting a new survey method. The DOE gave little consideration to this, which indicates to me that very little consideration of this aspect will be given by the DOE to future innovations.
11. Lack of qualified staff to conduct a review of the disposal cell (RCRA ARAR requires certification by a professional engineer licensed and registered in the state of Missouri).
12. A visual inspection of the cell to check for subsidence or settlement is not an appropriate final determination.
13. There was no indication of what role some of the working groups (i.e. Howell's Prairie and the botanical area) have.
14. A visual and photographic record of riprap to determine degradation is not adequate.
15. There was no discussion or evaluation of land use changes that may occur to the surrounding areas.

JPG Photo's of WSSRAP Annual Inspection
October 28-29, 2003

<u>Photo #</u>	<u>Description</u>
216	Team 1, Dick Johnson (Stoeller), Tom Pauling (DOE-WSSRAP), Dan Wall (EPA), John Vogel (MDC), Tom Welton (Stoeller), Larry Erickson (MDNR). Start of the inspection of SE Drainage, at the intersection of the Hamburg Trail and SE Drainage.
217	Same as 216, looking to the SE
218	Same as 216, looking to the NW from Hamburg Trail, cell is to the right
219	Fence along the west right of way of Hwy. 94, where SE drainage passes under
220	Same as 219, looking SE
221	36 " Corrugated Steel drainage pipe (upstream end) under Hwy. 94. Head cutting and under cutting of this pipe is evident.
222	Same as 221, view to the North, Hwy 94 at the top of bank
223	36 " Corrugated Steel drainage pipe (downstream end) under Hwy. 94. A full section of pipe has pulling from the upstream joint. Erosion is evident from the top of slope (Hwy 94) to the base. Lower half of the bar screen is off the pipe end and located 20+ feet downstream.
224	Same as 223, looking to the west.
227	Flagging on the north bank of SE drainage, downstream of Hwy 94
228	Remains of former USGS flow meter station, downstream of Hwy 94, on the north (left) bank of SE Drainage.
229	Spring 5301
230	Spring 5302 on the left bank of SE Drainage
231	Spring 5303, on the left bank of SE drainage
232	Spring 5303, on the left bank of SE drainage
233	Spring 5304, on the left bank of SE drainage. The pool is approx. 40 x 20
234	Same as 233
235	Mouth of SE Drainage as it enters the Missouri River. View is looking north, the bridge is the Katy Trail
236	Missouri River mile marker at the point where SE Drainage empties to the river.
237	View is looking west and shows the Missouri River flow. Taken at the mouth of SE Drainage
238	DOE's sign at the NPDES outlet #7 discharge point at the Missouri River. #7 is for the treated water from the Chemical Plant.
239	Looking east from the Mo. River Bank, shows the "caged" NPDES #7 discharge point
240	View to the NNW at the S rim of the Quarry. "White" roadway on the left side of the picture is the Hamburg Trail in the vicinity of the former Quarry Water Treatment Plant

241 Same vantage point as 240 but looking more to the North. East rim of the Quarry is on the right.

Day 2. Team in these photo's consisted of Dick Johnson, Dan Wall, Greg Nestler, and Larry Erickson. The other team consisted of Marj Oakes, Tom Pauling, and Sam Marutzky.

242 Start of Transect 1 (see figure 1, exhibit A/DC/003/1003, dated 10/28/03). This location is at the southeastern most corner of the cell

243 Point at top of cell on transect 1. View is to the NNW.

244 Taken of transect 2, north side of the cell, looking south (uphill). This point is one of the one-meter square areas that will be judged for rip rap degradation.

245 View to the north on top of the cell at transect 2 pivot point

246 View looking NNE on the south side of the cell on transect 4

247 View to the NNE, looking downhill, start of transect 4 on the NNE side of the cell.

248 Same point as 247, except looking uphill, on transect 4

249 Top of cell, looking to the NNE. Housing, commercial and other development predominate in the background. Very little of this development was in existence in 1993.

250 Start of transect 5 at the northeast corner of the cell, looking uphill (SSW)

Cell transects were completed in the morning. The afternoon field inspection was of the LCRS area. Team members consisted of Dick Johnson, Tom Pauling, Dan Wall, Bruce Ballew (PAI), Terri Uhlmeier, Sam Marutzky, Larry Erickson

251 Inside the LCRS treatment plant building. Tanks used as part of the treatment. This treatment plant is a backup to the current leachate management which has the leachate trucked to St. Louis Metropolitan Sewer District.

253 Another view of LCRS treatment plant building

254 Another view of LCRS building

255 Piping and passive methane gas treatment system located on the south side of the LCRS treatment plant building

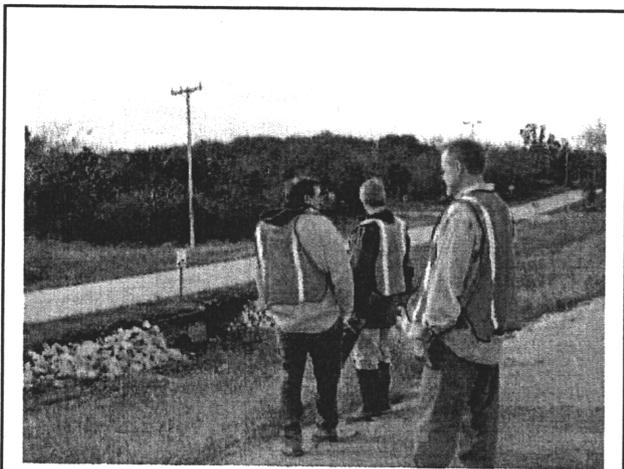


Photo 216

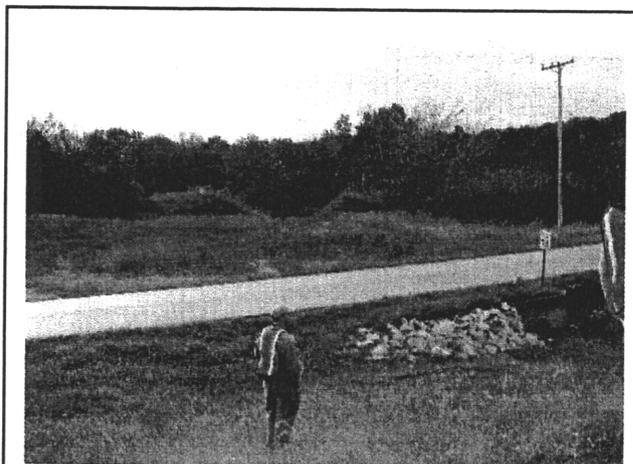


Photo 217

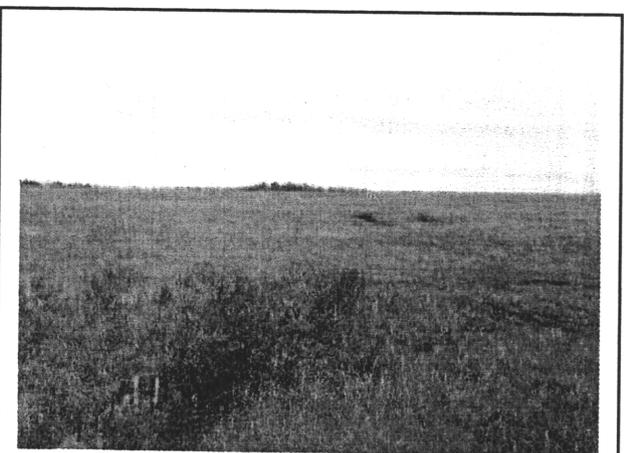


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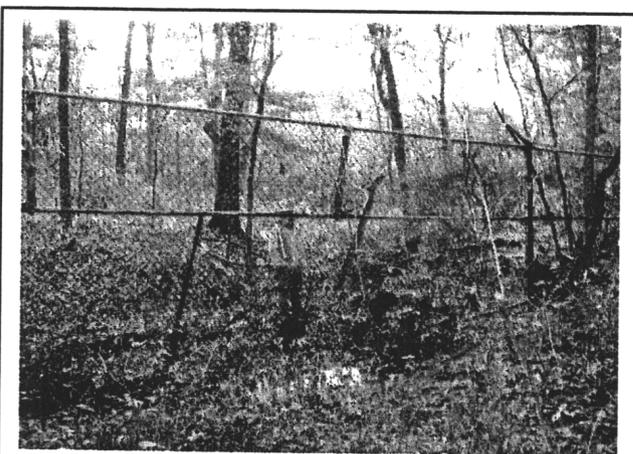


Photo 219



Photo 220



Photo 221



Photo 222

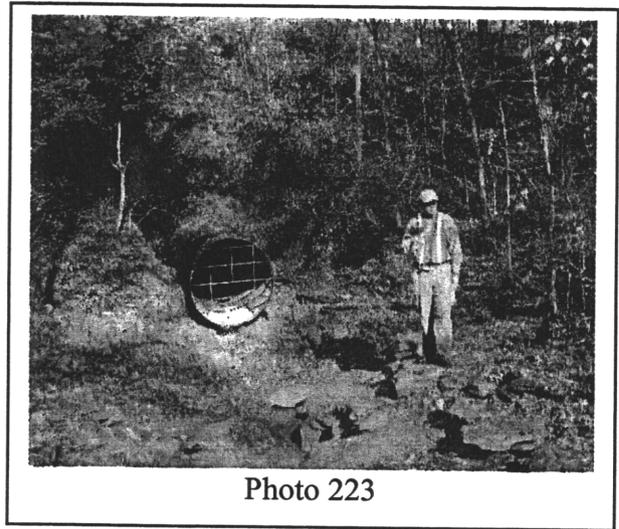


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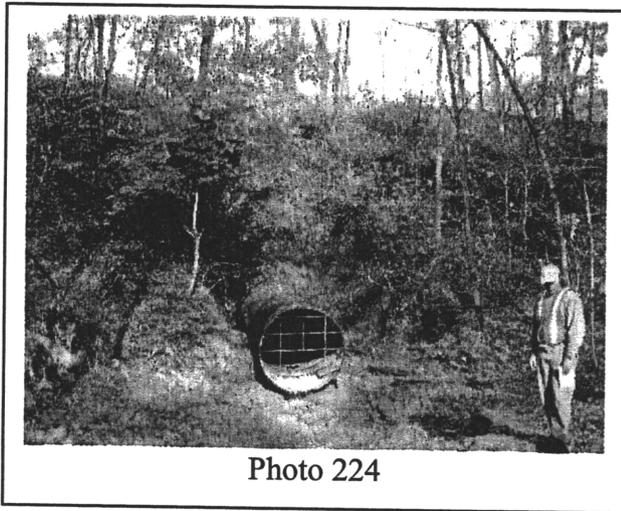


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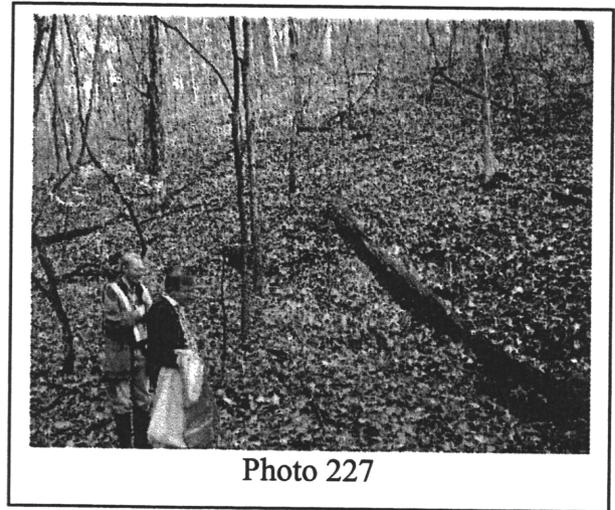


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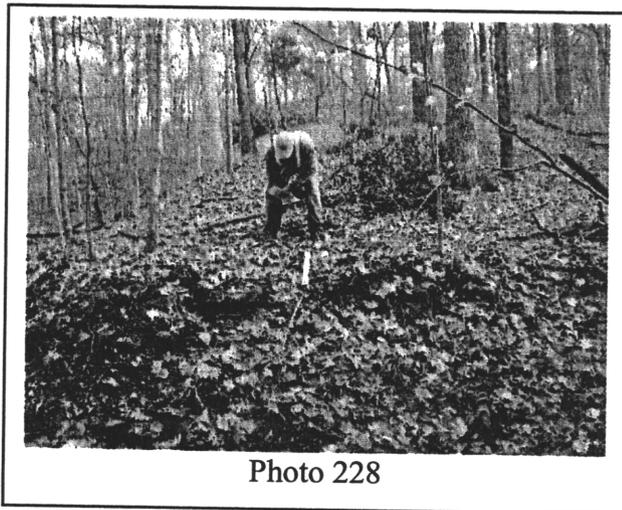


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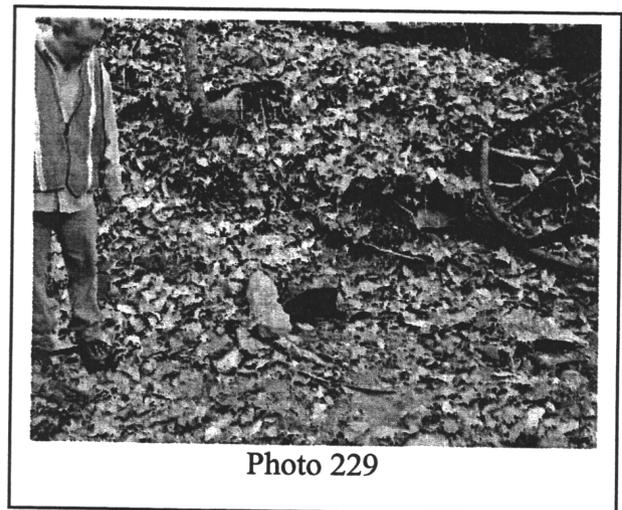


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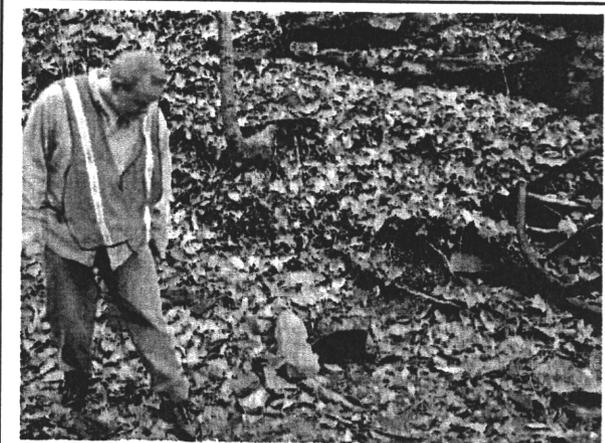


Photo 230



Photo 231



Photo 232

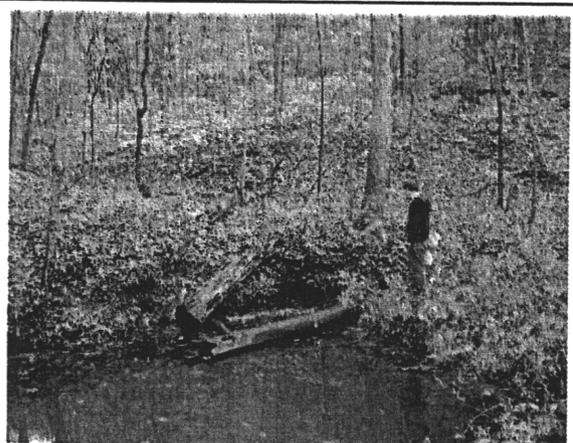


Photo 233



Photo 234



Photo 235



Photo 236

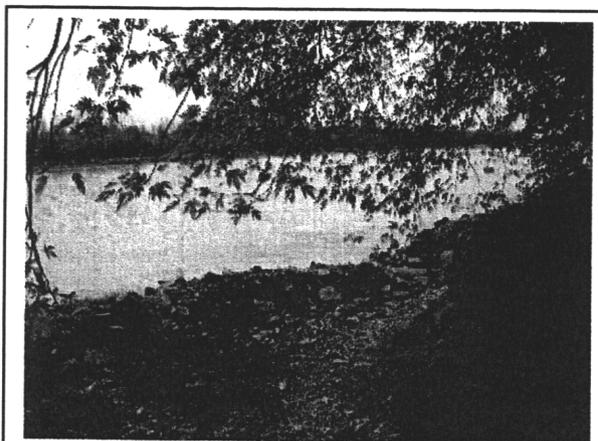


Photo 237



Photo 238

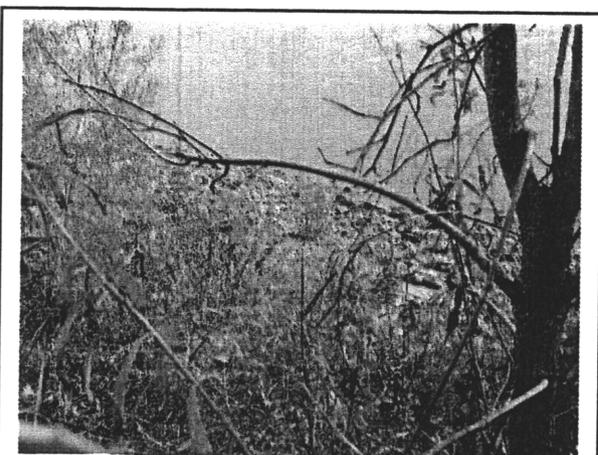


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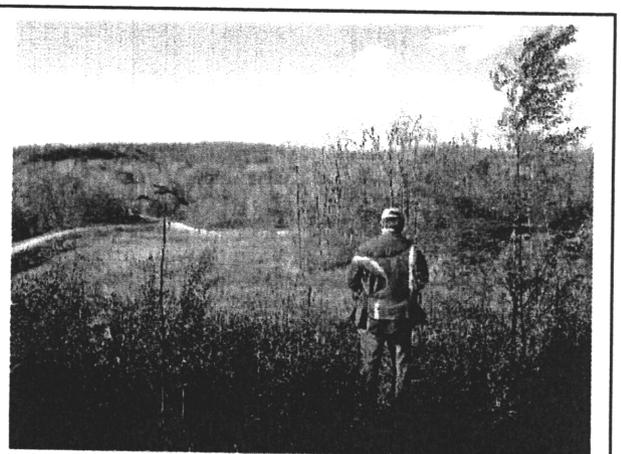


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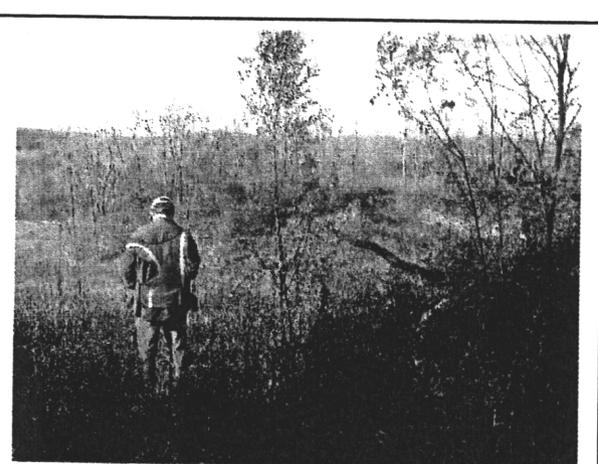


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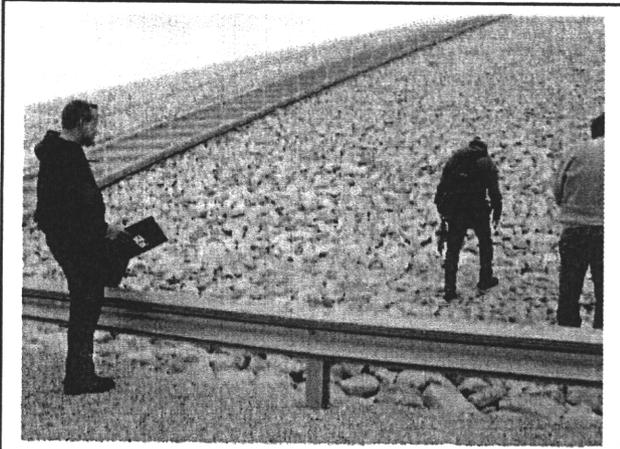


Photo 242



Photo 243

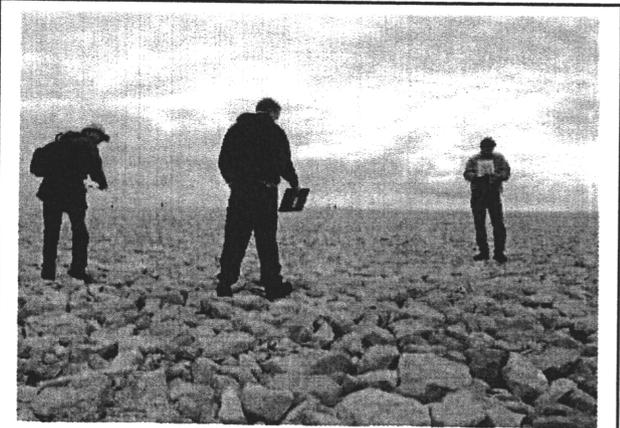


Photo 244

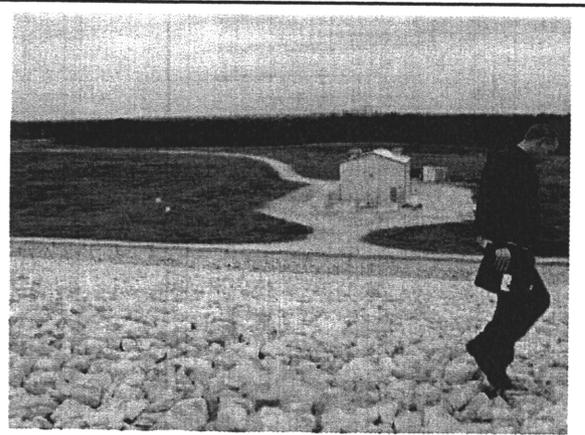


Photo 245

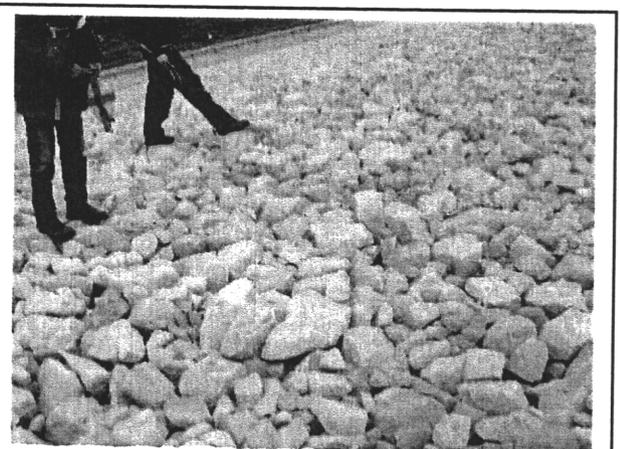


Photo 246



Photo 247

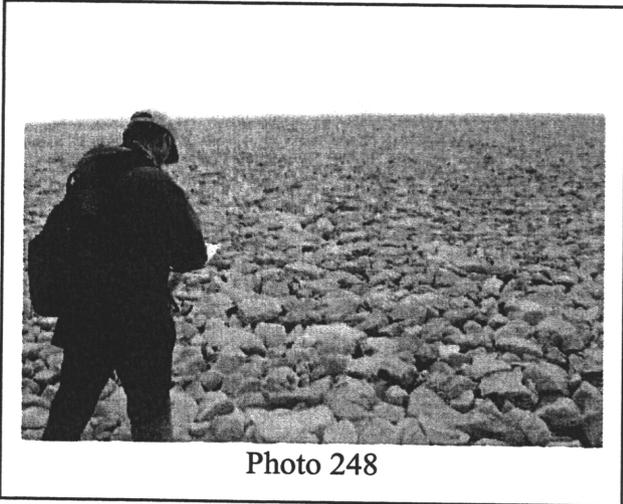


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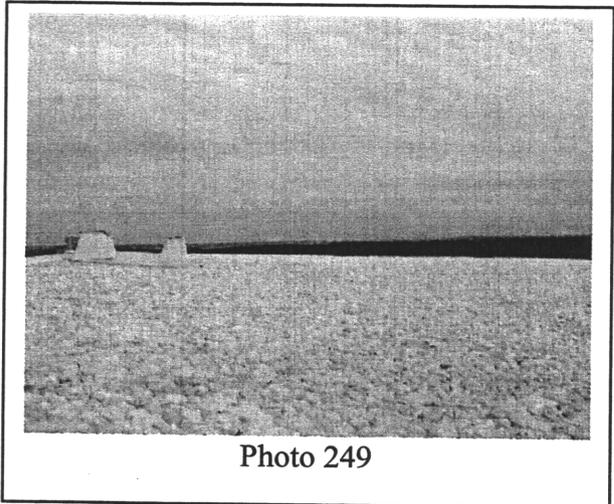


Photo 249

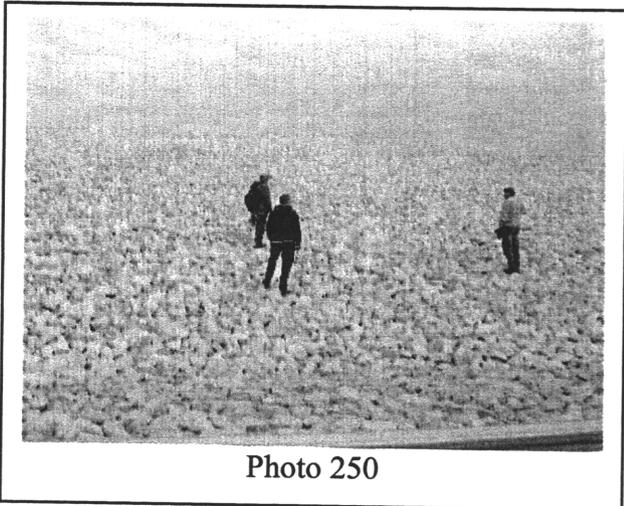


Photo 250

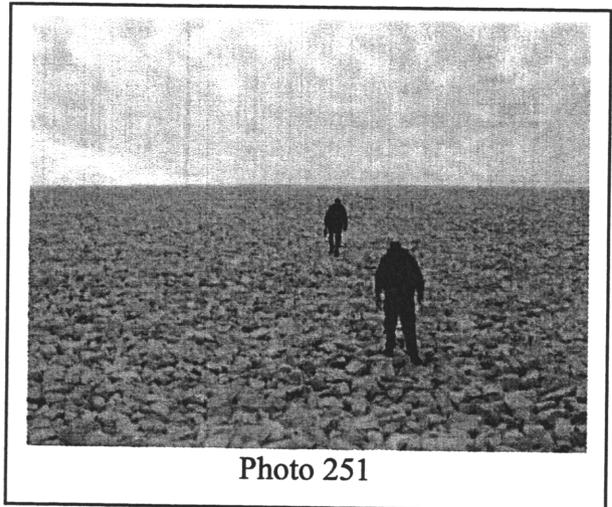


Photo 251

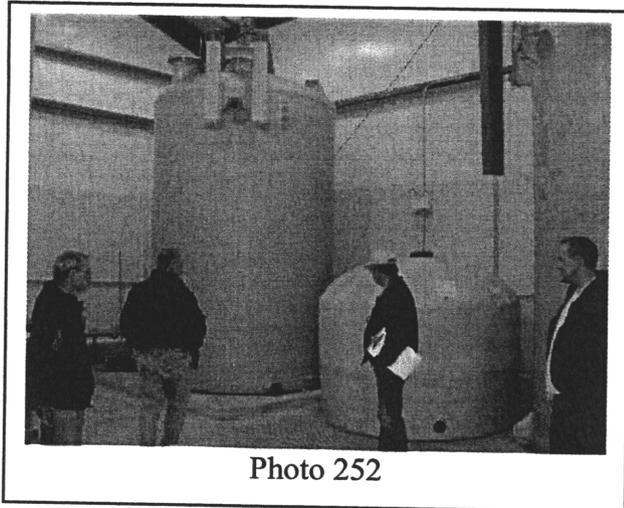


Photo 252

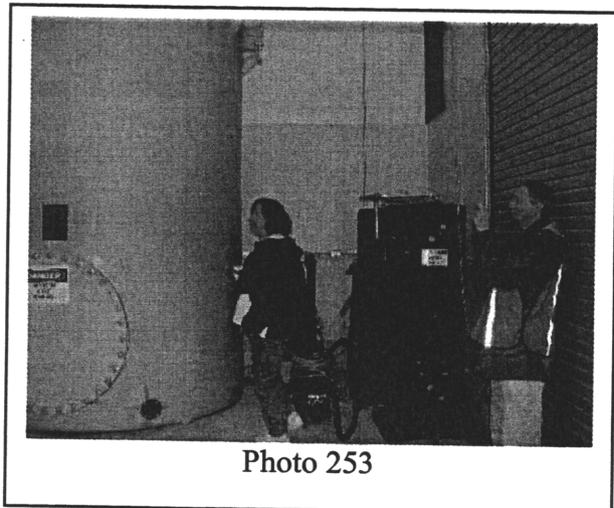


Photo 253

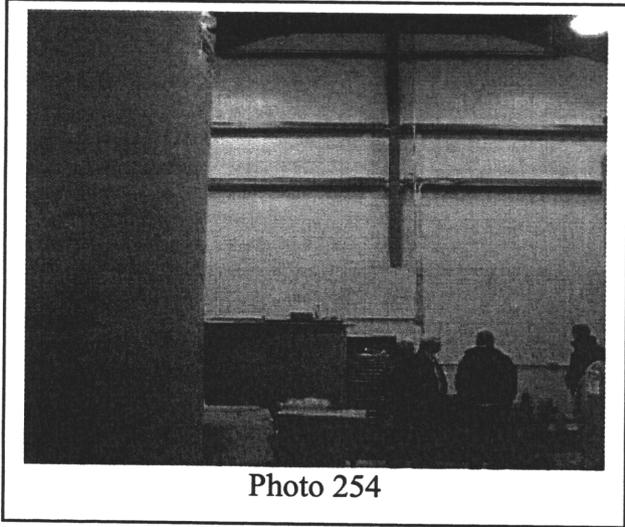


Photo 254

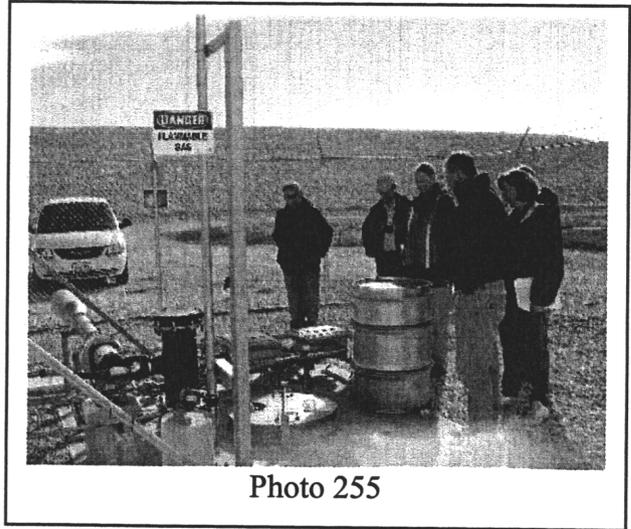


Photo 255



Department of Energy

Grand Junction Office
Weldon Spring Site
Remedial Action Project Office
7295 Highway 94 South
St. Charles, Missouri 63304

FEB 17 2004

Mr. Larry Erickson
Missouri Department of Natural Resources
Post Office Box 176
Jefferson City, MO 65102

Dear Mr. Erickson:

WELDON SPRING SITE ANNUAL SURVEILLANCE AND MAINTENANCE INSPECTION

This is in reply to your letter dated December 3, 2003, regarding the Weldon Spring Site annual surveillance and maintenance inspection that took place on October 28-29, 2003. We are issuing this response at the same time we are issuing our inspection report. The Department Of Energy (DOE) inspection followed the outline presented in the May 2003 *Draft Long-Term Surveillance and Maintenance Plan (LTS&M plan) (GJO-2002-342-TAC/GJO-LWEL 1.1-1.)* This document was the subject of considerable review and comment by the regulators, stakeholders and public in 2002 and 2003. A number of your comments seem to be directed at the adequacy of the plan rather than the inspection. We will take them under consideration as requested for future use. Other comments could have been answered directly had they been asked during the actual inspection. In accordance with the LTS&M plan, the Department commits to do these annual inspections and deliver a report to the Environmental Protection Agency (EPA) and the Missouri Department of Natural Resources (MDNR). The DOE also commits to notification of this inspection at least 30 days prior to the inspection date. The intention of this notification is to allow the regulators the opportunity to observe the inspection. The EPA and MDNR were provided the opportunity to participate in the inspection, but your observations and photographs will not be included as part of DOE's inspection report.

The first set of comments is paraphrased from the text of your letter and addresses the following areas of concern:

- **Qualified Personnel:** You inquire who from DOE or its contractors will be the Professional Engineer sealing and attesting to the inspection of the disposal cell and state that since MDNR Resource Conservation and Recovery Act (RCRA) provisions are Applicable or Relevant and Appropriate Requirements (ARARs), these regulations require a properly licensed and competent professional engineer to perform and seal the inspection.

Response: While we are not aware of a citation under the MDNR RCRA regulations, which requires a professional engineer to certify and seal an inspection, this annual LTS&M inspection is not conducted under RCRA authority and is not required to be sealed. Nonetheless, the DOE intends to utilize qualified professionals for inspections in areas of their expertise. The lead inspectors qualifications are discussed in the inspection report.

- **Inspection Equipment:** This comment concerned DOE not having radiation monitoring equipment as part of the inspection at the Southeast Drainage and at the Chemical Plant. The concern also included potential erosion in these areas.

Response: The soils and sediment within the Southeast Drainage have been evaluated and determined to be protective of the child (living on ridge top, playing in the drainage) scenario as presented in the Engineering Evaluation/Cost Analysis (EE/CA) report, dated August 1996. If concentrations similar to those identified at the drainage were to be found in eroded areas, these levels would be similarly protective based on the current land use at these locations. That is, potential exposure parameters assumed for the visitor at the Southeast Drainage amply address any potential exposure at any potential eroded areas. ~~Appropriate institutional controls will be implemented and verified as~~ identified in the *Draft LTS&M Plan*.

The comment addressing the chemical plant is addressed in a response to Issue 1, below.

- **Stakeholder Notification:** You stated that several contacts were not made as shown on the checklists.

Response: The LTS&M Plan does not require notification of other organizations and citizens prior to the inspection. It does state that these groups will be notified of the availability of the report and the public meeting.

The St. Charles Recorder of Deeds and Planning and Zoning Department are shown as a contact to verify institutional controls. It is intended to verify deed restrictions and awareness of restrictions, respectively with these agencies in the future when these restrictions are in place. As stated during the inspection these restrictions were not in place at this time. This also applies to the MDNR-Parks Division and the Institutional Control contacts listed in Section C of this checklist.

It is also planned to contact other certain specified stakeholders such as Francis Howell High School and Cottleville Fire Department as listed in the checklist during the annual inspection in the future to determine if there are any concerns or issues. As it is with DOE and contractors present at the site, any concerns or issues can be addressed throughout the year and not just on an annual basis. This contact may become more useful if or when there comes a time when there is no daily on-site DOE funded presence.

- **Land Use Change:** You indicated that you asked twice about whether any land use change had occurred, with a response that nothing has changed. You conclude that this is completely contrary to email notification and verbal discussion with the DOE regarding the recent finalization of an agreement with Lindenwood College.

The comment further states that "According to the DOE Office of Environmental Policy and Assistance, bulletin (EH-413-9808 (April 1998)), DOE Orders 4300.1C and 430.1 and Section 120(h)(1,3,4 and 5) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the DOE must notify and secure determination from the Environmental Protection Agency (EPA) and the State before entering into a change of use or lease."

Response: The response to you during the inspection that nothing has changed regarding land use is correct. The DOE does not consider the agreement with Lindenwood to use a part of the Administration Building to be a change in land use. The use of the building as an unrestricted administrative facility has not changed nor does it affect/alter the current land use.

In regards to the second part of your comment, nothing in these guidance documents, orders or the CERCLA statute states that DOE must notify the EPA and State before entering into a change of use or lease. The only related requirement regarding notification of States under the CERCLA statute is CERCLA 120(h)(5), which clearly **does not** apply, and states the following:

"Notification of States regarding leases: In the case of real property owned by the United States, on which any hazardous substance or any petroleum product or its derivatives (including aviation fuel and motor oil) was stored for one year or more, known to have been released, or disposed of, and on which the United States plan to terminate Federal Government operation the head of the department, agency, or instrumentality of the United States with jurisdiction over the property shall notify the State in which the property is located of any lease entered into by the United States that will encumber the property beyond the date of termination of operations on the property."

DOE has carefully crafted the agreement with Lindenwood as a "use permit". It is not a lease. DOE maintains ownership and environmental liability for actions occurring under Federal control. The MDNR, the EPA and all interested parties who have reviewed the many drafts of the *Draft LTS&M Plan* are aware of DOE's intentions to seek local beneficial use of the Administration Building.

- **Disposal Cell Monitoring:** You noted that there was no indication that the surveys were performed by properly licensed and competent land surveyors. You also stated that there appears to be some indication of "sagging" in the northern part of the cell. Also stated in your letter is the following, "The visual inspection does allow for viewing of the cells surface, but to rely totally on this for indications of cell movement is not a reasonable or accepted engineering practice."

Response: The Department of Energy always requires properly licensed land surveyors. The companies that the DOE utilized are licensed in the State of Missouri for the type of surveying they perform. For a complete list of the licensed surveyors utilized by the site, please submit a separate request.

As discussed during the inspection, the irregularity in the finished surface near the northwest cell ridgeline has been determined to be an as-built condition.

Regarding the visual nature of the inspection, DOE's intention has never been to rely totally on the annual walk-over for indications of cell movement. The *Draft LTS&M Plan* clearly states that an aerial survey will also be conducted every 5 years for this purpose. It would not be reasonable or typical to perform this survey more frequently.

- **Leachate Collection:** Your comment concerned the continued presence of leachate in the "burrito wrap".

Response: This issue has been raised by MDNR and addressed by DOE several times. MDNR apparently remains unsatisfied with the investigations and evaluations conducted by DOE, but the minor leakage rate of approximately 10 gal/day should be compared to the agreed-upon secondary leachate collection action leakage rate of 100 gallons/acre/day for the 26.5 acre waste footprint. The leakage is clearly very minor, is being collected and managed, and does not require a corrective action plan.

- **Document Review:** The comment stated, "It was undetermined if any of the inspection staff from the DOE had recently reviewed the as-built documents. While most of the staff was part of the group that worked on the actual construction and completion of the disposal cell and quarry restoration, the contract representatives from the Grand Junction Office had no personal knowledge of the activities. Observations at the two-day inspection event did not reveal any reference to or review of the as-built documents, other than the aforementioned contour maps."

Response: The as-builts, as pointed out during the inspection, are an appendix to the Draft (now Final) Chemical Plant Remedial Action Report (Chem Plant RA). The Grand Junction Office personnel, both federal and contractor, worked closely with Weldon Spring Site personnel to develop

the LTS&M plan and other final environmental documents, such as the Chem Plant RA for the project. This report, with the as-builts, was brought to the conference room and verified by both the GJ representative and the site representative. This document was also made available to you for review.

- **O&M Costs:** This comment concerned O&M costs.

Response: The O&M costs were not included as the site has not entered the O&M phase of the project. When the site has entered Long Term Surveillance and Maintenance, this information will be provided as outlined in the checklist.

Additional specific comments were attached to MDNR's inspection letter as issues to the observations and are addressed here:

1. **Issue:** Inspections should include a representative radiological survey to ascertain if the level of cleanup is still in place (i.e., the general soil cleanup goal was 5pCi/g in the top 6" and 15 pCi/g below 6" for Radium thorium and 120 pCi/g for Uranium 238. The inspection should verify if those concentrations are still present at those depths.

Response: DOE has conducted over 70,000 individual soil confirmation analyses, reported them to MDNR and EPA, and evaluated the post-closure risk associated with residual amounts of site contaminants. The selected remedies do not require that contaminants in soils or sediments be reevaluated unless new information would question the protectiveness of a remedy.

2. **Comment:** Interviews with noted individuals must be conducted. According to the DOE/DOE representatives, there has been no check made with the Sheriff's office to determine if any unauthorized use of the areas has occurred. Since Lindenwood College is now or will be coming on site, an interview with their representatives and a few of the students should be conducted:

Response: The checklist was developed with the very long term in mind. The listing of all possible contacts is important, as a positive determination, that contact is or isn't necessary and, if necessary, is accomplished. Since there is an established on-site presence at this time, the Sheriff's office was not contacted to support the knowledge

that unauthorized use had not occurred. This contact may become more useful **if or when** there comes a time when there is no daily on-site DOE funded presence. Interviews with Lindenwood representatives will be considered for future inspections.

3. **Comment:** On-site documents and records must be checked for completeness. Individuals conducting the inspection must have sufficient time to review the drawings, documents and other supporting information, prior to the physical inspection of the site.

Response: Document verification is meant to establish that the on-site documents and records are in place. DOE inspectors were very familiar with the site documents and their locations, and arrived at the inspection fully prepared.

4. **Comment:** O&M Costs must be provided.

Response:. The O&M costs were not included as the site has not entered the O&M phase of the project. When the site has entered Long Term Surveillance and Maintenance, this information will be provided as outlined in the checklist.

5. **Comment:** Check of the institutional controls have to be made each year. This includes checking with the County Planning and Zoning offices. This aspect was clearly not performed.

Response: Each actual future institutional control area was inspected. The County offices were not contacted, because, as stated during the inspection, the Institutional Control instruments were not in place at the time of the inspection.

6. **Comment:** Several items on the checklist have "will be done" notations or comments. If this is given a follow-up, the verification must be performed within a defined number of days (i.e. 30 days).

Response: DOE has recommended target dates for follow-up issues in the inspection report. The urgency is assessed on a case-by-case basis, with seasonal conditions taken into account.

7. **Comment:** It appears that the DOE will ignore the department's question regarding leakage from the LCRS into the "burrito" wrap. This is not acceptable, as this condition was not planned for nor has a corrective action plan been submitted.

Response: See previous response concerning Leachate Collection.

8. **Comment:** Land use conditions have definitely changed since the DOE has entered into a use/lease contract with Lindenwood College. The DOE has violated its own orders (EH-413-9808) by not informing or getting concurrence from the state.

Response: See previous response regarding Land Use.

9. **Comment:** A bona-fide review of data and data quality control/quality assurance was not conducted.

Response: As stated above, the document review during the inspection will be the verification that documents are in place. The checklist may be misleading and will be revised to indicate that the inspection process is a visual confirmation that there is documentation in place that indicates monitoring and surveillance data is being reviewed, validated and trended. It will not indicate/inspect the quality of that activity. The monitoring and surveillance data from the project is reviewed and validated on a regular basis. It is documented in monthly data validation reports. Annually, the data is evaluated, trended and put in historical perspective.

10. **Comment:** "A review of new or innovative techniques that could improve performance, was not made at the time of the inspection, other than one of the contractor's noting a new survey method. The DOE gave little consideration to this, which indicates to me that very little consideration of this aspect will be given by the DOE to future innovations."

Response: At this time the only new technology for the monitoring and surveillance of the site is a relatively new survey technology, which is not yet the standard in the industry. DOE will continue to evaluate its appropriate use and application. As to general new or innovative performance techniques, the DOE will perform those reviews as appropriate to the continued effectiveness and functioning of the remedies in place.

11. **Comment:** Lack of qualified staff to conduct a review of the disposal cell (RCRA ARAR requires certification by a professional engineer licensed and registered in the state of Missouri.)

Response: See previous response regarding Qualified Personnel.

12. **Comment:** A visual inspection of the cell to check for subsidence or settlement is not an appropriate final determination.

Response: See previous response regarding Disposal Cell Monitoring.

13. **Comment:** There was no indication of what role some of the working groups (ie., Howell's Prairie and botanical area) have.

Response: Currently the working groups have no direct role in LTS&M activities.

14. **Comment:** A visual and photographic record of riprap to determine degradation is not adequate.

Response: DOE is performing the inspection method prescribed by the *Draft LTS&M Plan*.

15. **Comment:** There was no discussion or evaluation of land use changes that may occur to the surrounding areas.

Response: DOE is regularly in contact with surrounding property owners, and/or knowledgeable employees regarding any known plans for land use changes. MDNR has been party to the on-going discussions concerning the potential need for institutional controls for future assurance of protectiveness of human health and the environment in conjunction with our remedies. We also jointly discussed that the current use of the land is protective with the surrounding landowners, the public, and the stakeholders. The use of

the land surrounding the Weldon Spring Site has been discussed many times in many forums over the last 2 years, with MDNR in attendance.

Sincerely,

A handwritten signature in cursive script that reads "Pamela Thompson".

Pamela Thompson
Project Manager
Weldon Spring Site

cc: Dan Wall, EPA
Ray Plienness, LM-40
Mike Duvall, St. Charles Co. Govt.
Weldon Spring Citizens Commission