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TL01-13-02-005-DCN743

September 15, 2014

Mr. Richard Rupert
On-Scene Coordinator
U.S. Environmental Protection Agency- Region III
1650 Arch Street
Philadelphia, PA 19103-2029

RE: [REDACTED] Files Review – *Summary of Document Review Comments*, Kiskimere Groundwater Well Investigation Site, Vandergrift, Armstrong County, Pennsylvania; Technical Direction Document No. TL01-13-02-005, EPA Contract Number EP-S3-10-04

Dear Mr. Rupert:

TechLaw, Inc. (TechLaw) has completed a review and comment on the files that were provided by [REDACTED] to EPA and is submitting the attached Comment Summary Report for your review.

This deliverable is being forwarded to you through electronic mail (via the internet) in Adobe Acrobat PDF and Microsoft Word formats. We appreciate this opportunity to assist the USEPA Region 3, and look forward to providing continued support. If you have any questions, please feel free to contact me at [REDACTED]

Sincerely,

[REDACTED]

[REDACTED]

Project Manager

Attachment

cc: TL Central Files

**SUMMARY OF DOCUMENT REVIEW COMMENTS
ON FILES PROVIDED BY [REDACTED]**

**KISKIMERE GROUNDWATER WELL INVESTIGATION SITE
VANDERGRIFT, PENNSYLVANIA**

TL01-13-02-005-DCN743

Submitted to:
Mr. Richard Rupert
U.S. Environmental Protection Agency
Region 3
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Submitted by:
TechLaw, Inc.
2208 Warwood Avenue
Wheeling, WV 26003

EPA Contract No.	: EP-S3-10-04
Task Order No.	: 001
TDD No.	: TL01-13-02-005
EPA OSC	: Richard Rupert
Telephone No.	: 215-814-2879
TL Site Leader	: [REDACTED]

SEPTEMBER 15, 2014

1.0 INTRODUCTION

Under the direction of U.S. Environmental Protection Agency (EPA) On-Scene Coordinator (OSC) Richard Rupert, TechLaw, Inc., (TechLaw) conducted a review of documents related to questionable former disposal practices associated with the local nuclear industry and the Shallow Land Disposal Area (SLDA) that borders the community of Kiskimere in Parks Township, Armstrong County, PA. The work was performed as part of the Kiskimere Groundwater Wells Investigation Site (Site) removal site evaluation in response to concerns from an informed local community activist, [REDACTED] that improper radioactive waste disposal practices were used at the Site during its years of operation as a radioactive research facility and disposal facility. The electronic copies of files assessed for relevant information and which formed the basis for this report include only those provided to the OSC by [REDACTED]. The files consist of various records of correspondence, inspections, investigations, photos and media stories among others. This report summarizes the findings of the file review which evaluated the documentation for evidence corroborating concerns expressed by [REDACTED] of industry “wrong-doing”. These activities were conducted under the Superfund Technical Assessment and Response Team (START) Contract EP-S3-10-04, Technical Direction Document (TDD) Number TL01-13-02-005.

2.0 PURPOSE

The purpose of this report is to summarize potential evidence, leads, information and/or findings provided in the numerous files that are listed in Section 3 that may substantiate or contradict claims made by [REDACTED]. Specifically, [REDACTED] asserts that radioactive waste was buried outside the 10 trenches that were dug for the purpose of waste disposal in the SLDA; that waste was buried on the Site that was not reported; that waste was buried on Site that was not approved to be on Site; and that waste was buried in the mine tunnels that run beneath much of the area of the Site. The abandoned coal mine is in the Upper Freeport coal seam which was extensively mined leaving a room and pillar network beneath the Site.

3.0 DOCUMENT REVIEW PROCESS

The documents provided for this review are listed in the references section at the end of this report. Two reviewers read the documents while adding search emphasis on key words

understood to be relevant to [REDACTED] claims. The words included: mine, pit, bury, waste, trench, and disposal. Each mention of the keywords in the documents was noted and then additionally reviewed for pertinence to the information search. After the relevance of the quotations was reviewed, this summary document was created from notes generated during the process. Grammatical errors or misspellings in any quotations from the reviewed documents are original to the documents reviewed. Some of the documents provided to EPA and START are multiple documents scanned together. The actual page number of the documents is cited where applicable; however, when multiple documents are provided as one document, the page number in Adobe Acrobat is also cited.

4.0 FINDINGS

4.1 General Observations

Many of the documents provided to the OSC (and subsequently to START) by [REDACTED] are very old, dating from the 1960s and 1970s. Generally, the documents provide information from various sources related to issues with product and/or waste management practices of the local nuclear industry (e.g. NUMEC, Apollo, PA). The documents do not often provide a complete record of the various relevant issues. Due to the sometimes lack of supporting documentation provided, it remains unclear if issues noted in some of the historical documents may have been addressed in the intervening years. It is not known by the reviewers if additional documents are available that may cover these events further.

The reviewers note that one of the documents provided by [REDACTED] “*Bureau File # 117-2564 – Atomic Energy Act; Obstruction of Justice*”, (U.S. Federal Bureau of Investigation. 1979) although unclassified, was a heavily redacted document. The document relates to interviews with former employees of NUMEC and the NRC. These interviews pertain to missing amounts of radioactive material and whether the missing materials were diverted to Israel. Much of this document did not seem to relate to [REDACTED] concerns that waste is or was buried in the mine or outside of the trenches at the site. The document did provide some insight into the workings and corresponding lack of documentation related to the workings of the Site.

The document, “Old Timeline” appears to be a summary of concerns clipped from other unidentified sources and having statements of opinion. It lacks any references to back up the stated information. The document briefly identifies health studies concerns, cover-ups, emissions, worker exposures, waste burial, and river dumping without providing supporting references. For example, “To this day much of the data on missing material and process losses are locked in the super-secret vaults of the CIA and FBI.” Phrases such as “super-secret” detract from the factual reliability of the document. The “Old Timeline” document also refers to multiple health studies on page 1 but does not list any reference information for these studies. In summary, the information could not be substantiated within the scope of this review.

In ‘Letter to [REDACTED] “Report of Overexposure to Employees (1966)”’ ([REDACTED] 1966.) is a letter from [REDACTED] (an Engineering Consultant) to his client, co-worker, or possibly supervisor, [REDACTED]. This document seems to detail [REDACTED] concerns about the increased risk with NUMEC operations following reports of potential worker overexposures and a minor explosion at the Apollo plant. Significant in the report is mention of “...loss of some 30 Kg (of uranium)...down river.” The name of the river is not mentioned; however the Kiskiminetas River would be a reasonable assumption considering the locational context of the letter. In the letter, [REDACTED] uses comments such as “I am very concerned...” (page 1, para 1), “Also I believe...” (page 1, para 8), “It may therefore be considered...” (page 1, para 9), “but I am inclined to believe...” (page 2, para 2), and “Of course I cannot but wonder...” (page 2, para 4). Qualifications like these, while not factual, express concern for the situation. Additional supporting documentation was not provided and the concerns expressed by [REDACTED] [REDACTED] could not be substantiated in the scope of this review.

4.2 [REDACTED] Concerns

[REDACTED] expressed concerns that waste material had been buried outside the original trenches, numbering 1-10. She is also concerned that material may have been buried in the mine tunnels that run underneath the SLDA site. While reviewers did not find any definitive support of these claims, they also did not find anything to definitively negate these concerns. The following is a summary of the reviewer’s findings about waste buried outside the trenches.

4.2.1 Waste Outside the Trenches

In the “Investigative Report – NRC Oversight of Decommissioning Activities at the Shallow Land Disposal Area Consistent with USACE MOU” (U.S. Office of the Inspector General. 2014.) multiple mentions are made of waste being outside the trenches. Examples are as follows:

Page 3, paragraph 3 – “The SLDA site included 10 burial trenches as well as other acreage where waste could be buried.” Mention of “other acreage” is never defined in the article and there is no mention that any areas were mapped out by the NUMEC records. Other acreage implies that waste could possibly be buried outside the 10 trenches where burial was permitted to occur.

Page 13, paragraph 5 – The document states “...although it turned out that the material exhumed was SNM Category III, the fact remained that the material discovered, which initially appeared as if it may have been a Category I item, was unexpected.” This statement does not make clear whether the type of material that was discovered was unexpected or if the material was found in a location that was not supposed to contain any buried waste, and therefore unexpected. If the location was unexpected, it is implied that the material was buried outside the trenches. However, if it was the type of material that was unexpected, it only implies that record keeping was poor during the operating time of the NUMEC facility, or that material that was not permitted may be buried on the site.

Page 28, paragraph 2 – “The NFS manager wrote that the hot spots “are in an area that is south of the existing burial trenches and is in an area that is not specified as a low-level waste burial location, nor does it meet the requirements that were in existence at the time of the original burials per 10 CFR 20.304.”” The comment cited in the Report comes from an internal BWXT memo concerning hot spots on the SLDA site. This statement implies that waste or contamination from the trenches exists in areas outside the trenches. There is no mention whether these “hot spots” were further investigated by exhumation of the areas or if these areas still exist.

In *Obstruction of Justice* (U.S. Federal Bureau of Investigation. 1979) “mines,” “2 U mines,” and “2nd mine” are mentioned in the notes. These can be found on document pages 77, 78, and 14; however, because this document appears to be multiple documents scanned together, the Adobe page numbers are 67, 68, and 94. The “mines” are not defined in the document, although it appears [REDACTED] made notes in the margins, so it is not known whether this refers to the mines below the site, or other uranium ore mines, or whether it is a slang term for the trenches, or whether it has some other meaning. One of the references to these mines states “Doug raised question of whether NUMEC will enter 2nd mine on their records. NUMEC indicates they will but what number will be bought (Adobe page 68, line 10-11).” This comment, which appears to be notes taken during a meeting, lends itself to the belief that these mines are not simply slang terms for the trenches because the trenches are known to the NRC who would be the entity reviewing the records. However, again it is not clear what “mine” actually refers to. On Adobe page 98 (page number 18 in the document), the notes from meetings continue, “Gray to Klein to Brown to Doug – No one brought up buried inventory on survey because “some one” from Oak Ridge told them not to report. Did we ever tell them this?” This statement appears to the reviewer to be notes from someone at Oak Ridge asking if, in fact, someone at Oak Ridge did indeed tell people to not report the buried material. The reviewer was not certain what “Oak Ridge” referred to aside from the likelihood it is related to the government’s nuclear complex located in Oak Ridge, TN. Several questions remain unanswered to the reviewer. If there was material buried that was not reported, what was this material? Was this material buried outside the trenches? Was the material not recorded on the burial inventory? There does not seem to be an answer to this question in this document.

In the “Old Timeline” document, there is mention of contamination outside the location of the burial trenches; however the contamination was apparently related to facility stack emissions rather than waste burial. “Surveys prepared by the AEC for accountability, claim over 2 pounds of enriched uranium a month was lost through the plants 117 stacks” and “Past off-site surveys verified this by the pounds of enriched uranium found in the off-site samplers and recent soil sampling conducted by an independent contractor confirms that releases from the plant did indeed contaminate the residential areas.” Due to the lack of back-up documentation in this article, it is difficult to know if these statements are valid. The “independent contractor” is not

identified, and the “off-site surveys” and “recent soil sampling” results are not referenced or further documented. It is not known who hired the contractor, if the results were ever published, or if the results do indeed support the statements made. It is also not documented in the file(s) when soil analyses were completed or when the samples were collected.

In “Radioactive waste – Contaminated soil found, removed at Parks Company.” (Thomas, M.A. 2001.), contaminated soil was found outside the perimeter fence surrounding the SLDA site. The contamination was found within 3 feet of the fence-line. “The possible source of the plutonium and americium 241 came from contaminated soil that was excavated for the expansion of a building at the plutonium processing plant in the 1960s, according to Bartosik (Thomas, 2001).” If the soil came from an excavation during the expansion of a building, it would lead one to believe that there was potentially waste buried outside the trenches, as the buildings on site were not built over top of the trenches. However, it is only the opinion of Rich Bartosik of BWX Technologies, and he states it is a possible source, not a definitive source of the contamination.

In “Preliminary Assessment – Shallow Land Disposal Area, Parks Township” (USACE, 2002) on page 5 it states: “Recent walkover surveys, conducted as part of NRC confirmatory surveys (September, 2000) revealed the presence of radiological contamination immediately outside the southern boundary of the site (personal communication with Rich Bartosik, Site Licensing Manager).” This interview shows that contamination has spread outside the trench area. The survey referenced in the statement was done by the NRC, and because the date of the survey was given, September 2000, the survey can be looked up and read and the results can be verified. The narrative further expands on the possible source of contamination by indicating that exhumed wastes from trenches 2, 4, and 5 may have been staged on the ground in this area. It is not stated in this report if the contamination outside the fence line was addressed and cleaned up.

In “FW: SLDA ASAP” (██████ 2012) which is an e-mail communication between ██████ and someone named ██████ that was forwarded to ██████ ██████ on March 8, 2012, ██████ states “There are materials that NOBODY else would expect to see in the trenches (or other places on site for that matter).” From the email(s) it appears that Mr. ██████ and ██████ worked at the SLDA at some time in the past. If the information can be verified, the emails provide

compelling argument that material from various (undocumented?) sources was buried at the site and the material also likely exists outside the trenches.

4.2.2 Non-NUMEC Waste

There are numerous mentions of waste being buried on the site that was not from the NUMEC sites. The permits and licenses held by NUMEC did not allow for the disposal of materials that did not originate at NUMEC. Following is a summary of reviewer's observations about the burial and disposal of materials, and the comments pertaining to the possibility of waste from off-site being disposed at the location.

In the OIG Report (U.S. Office of the Inspector General. 2014) multiple mentions are made of outside waste being disposed of at the SLDA. Examples are as follows:

Page 3, Footnote 1 – “During this investigation, OIG was told by the former NUMEC president that waste generated from sources outside of Apollo was also buried at SLDA.”

Page 29, paragraph 3 – “For example, although a September 2011 NRC trip report documenting observation of USACE activities reflected that one of the SLDA trenches contained uranium-223, neither BWXT's site characterization report nor the NRC's DEIS nor the USACE Record of Decision described the presence of this particular form of uranium.”

Page 29, paragraph 5 – “In addition, the former NUMEC scientist said there was a high volume of equipment and scrap material from the Apollo facility, and that outside entities sent some of their radioactive waste to NUMEC for burial at SLDA. For example, he recalled one large shipment of several hundred drums “from the entity conducting the Pluto Project” that was buried at the SLDA and other small shipments received from other entities, including the regional AEC Office.” [NOTE: The Pluto Project was a government project that started in 1957. The project was conducted at the Lawrence Livermore National Laboratory and was to determine if nuclear powered heat could be applied to ramjet engines. The Pluto Project was cancelled in 1964 (Herken, 1990).]

Page 30, paragraph 2 – “The founder and president of NUMEC told OIG that while he was not involved in the day-to-day operations of waste disposal or recordkeeping, he tried to ensure the company was compliant with regulations. However he recalled that the AEC asked via a special request that he store radioactive materials for the AEC and dispose of nuclear waste from other facilities. In addition, he later learned that the company’s health physicist, who was responsible for determining the amounts of materials in the drums prior to burial, was not very good and his measurements of the quantities were poor.”

Page 30, paragraph 3 – “He described the remediation efforts related to the company’s reprocessing and recycling of material and a Government contract with Westinghouse Astronuclear National Laboratory where NUMEC served as a subcontractor. The contract required uranium-processing-tank portholes to be cleaned very frequently with cloths and Kim wipes. The materials used to clean up from the recycling activities and to clean the portholes were placed in 55-gallon drums, which were buried at SLDA.”

[NOTE: This waste material may be considered to be NUMEC’s waste, as they did the work. It may also be considered to belong to Westinghouse Astronuclear National Laboratory.]

Page 30, paragraph 4 – The concerned citizen reported to OIG that the burials go beyond the 10 trenches. She said the records suggest that NUMEC buried “on every inch.” Three separate burial areas are mentioned in nomenclature: burial pits, which are the trenches; the strip mine, which is also a trench; and the “bone yard.” [NOTE: The reviewer does not know the identity of the “concerned citizen” and did not find any reference in the provided documents to any “strip mine” or “bone yard” outside the mention that trench 10 was created in an area that was once strip mined.]

Page 32, paragraph 1 – “The DEDM was not aware that the Government (may have) provided SLDA nuclear material from other facilities to dispose at SLDA. He said this would surprise him because this was not the intent of Part 20.304 and the waste buried at SLDA was supposed to come from waste generated at the facility (Apollo). He recalled hearing statements from members of the public that the Government gave material or

waste to SLDA to be buried at SLDA and recalled hearing that material from classified Government projects was in the trenches. He said that NRC treated such information as an allegation and reviewed the information to the extent that it could be reviewed, given the available records. He said NRC could only go so far to address the allegation because of the lack of records.”

In the [REDACTED] e-mails, Mr. [REDACTED] states “Then there’s the buried materials shipped in from elsewhere that we suspect a lot but know little.” ([REDACTED] 2012). The emails do not provide the identity of Mr. [REDACTED] or [REDACTED] and cannot verify the truth of the claims in the e-mail.

In summary, multiple workers stated that waste from outside sources was buried at the SLDA. This was apparently in direct violation of their permits and licenses. If the wastes were buried on the site, and were from “classified Government projects” it follows that there is a possibility that the waste material would not be documented. Also, if the waste was not documented it may be possible that the waste was not buried in the trenches to keep the “classified” project status intact. It is also possible that these statements are in error and no waste from outside the Apollo site is buried on the site. Without accurate records there is no way to determine whether there is waste from outside sources buried on the site.

4.2.3 Record Keeping

There is definite indication that record keeping at the NUMEC facility was poor during the burial operations. It is also apparent, based on the documents provided by [REDACTED] that work practices at the NUMEC facility were also poor. In Bureau File # 117-2564 – Atomic Energy Act; Obstruction of Justice (Acrobat page 98), notes from the meeting state “Told him our problem in great part due to fact you can’t follow material from one job to another internally” and “Trying to better determine what was buried in 63.” Comments such as these, which appear to be notes from an internal NUMEC meeting, show that work was not always performed to high standards. Because the employees of NUMEC were not good at their jobs, as stated by the president of NUMEC “he later learned that the company’s health physicist, who was responsible for determining the amounts of materials in the drums prior to burial, was not very good and his measurements of the quantities were poor” (U.S. Office of the Inspector General. 2014). If employees were not good at their job, which was essentially to determine what was in the drums

that were buried; the records that do exist may not be accurate. According to the Office of the Investigator General, no evidence was found to support either compliance or non-compliance with the regulations of the time. Records that do not support either compliance or non-compliance would generally lead many people to believe they were non-compliant. However, that cannot be stated as true based on the information provided to investigators, either at the OIG or to START. The words of the DWMEP in the OIG investigation may summarize this information the best,

“If records are incomplete you have one of two possibilities. Either there were burials for which there is no record, or there were no burials, and therefore a record does not exist, for some period of time...So you’re left with, either burials did not occur or burials did occur for which there is no record. And the answer is, I don’t know which (U.S. Office of the Inspector General. 2014).”

According to the documents provided, the records from the site appear to contradict each other. In a news article by Mary Ann Thomas, (Thomas, M.A. 1998b) company records declare a roof from the Apollo site is buried in Trench 10, which is one of the most concerning trenches as it is located directly over the outcrop of an abandoned coal mine in the area. However, in “Appendix III” the table lists the roof as being buried in trenches 4 and 5. It is not known to the reviewers what documents Ms. Thomas was quoting for her news story.

5.0 SUMMARY

In conclusion, many documents were reviewed to assess the claims provided by an informed and concerned citizen activist, [REDACTED]. Some of these documents are old, from the 1960s and 1970s, some are redacted, some appear to be incomplete, and some reference other documents. Having access to more complete records would assist with developing a more informed and complete review of [REDACTED] concerns.

The reviewers were unable to confirm or deny [REDACTED] claims that waste was buried in any of the mine tunnels that run under the SLDA site. A lack of records does not allow the reviewers to confirm any burials in the mine tunnels; however, the location of trench 10 on the outcrop of an abandoned coal mine presents a significant concern. Documents provided by [REDACTED] do

show that contamination was present, at times, outside the fenced perimeter of the SLDA site. It is not known, based on the documents provided by [REDACTED] whether testing was done outside the fence line on all sides of the site or if these findings were isolated incidents.

The reviewers were unable to confirm or deny [REDACTED] claims that waste from outside NUMEC was buried on the site. If waste was buried on the SLDA site that was not from NUMEC, but was in fact from classified government projects, it would lead one to believe that the waste would not be logged or be recorded on any official documents. If this waste was buried on site, it would also be believable that the waste would be buried outside the trenches. The statements by the former president of NUMEC and former employees of NUMEC that state waste from outside sources are perhaps the most convincing arguments for [REDACTED] arguments, based on the documents provided. However, even these statements do not prove [REDACTED] statements because they cannot be corroborated by any additional sources.

The reviewers determined that based on documentation provided, work practices at the NUMEC facility were not always done safely, correctly or thoroughly. It appears that record keeping was not always of utmost importance. Accurate record keeping also appears to be something that was not a high concern. However, as stated by the DWMEP, a lack of records could also mean that burials were not taking place at these times (OIG, 2014).

[REDACTED] stated to the OSC her concerns about the waste in the mines based on an article about two children who were injured while exploring the entrance to one of the mine tunnels (Williamson, J. 1997). [REDACTED] made note on the pdf version of the news article that she sent to the EPA OSC that the tunnels the children were exploring were part of the tunnels that run under the SLDA site. However, the explosion in the tunnels was most likely caused by naturally occurring methane gas in the mine, and the injuries to the children are unrelated to the SLDA site. These mine entrances should be sealed for public safety if not already addressed.

In conclusion, START was unable to confirm or disprove statements made by [REDACTED] to EPA. The documentation lacked completeness, yet provided snapshots of significant concerns that may warrant further investigation. The reviewers identified no apparent direct evidence in the documentation that confirmed or refuted the claims made by [REDACTED]

REFERENCES

(Includes the full list of files that were reviewed)

Aerial Photo Parks Nuke Site. [1967?]. Aerial photo provided by [REDACTED] [REDACTED] N.p., n.d. pdf file.

Aerial Photo. “The Situation in Parks Township”. Image (demarcated) provided by [REDACTED] [REDACTED] (Filename: VND AERIAL trench 10 outlined). n.d. image file

Aerial Photo. Provided by [REDACTED] [REDACTED] (Filename: ParksPhoto-2.JPG). N.p., n.d.

Aerial Survey. [1981?]. Map figure (pdf file) provided by [REDACTED] [REDACTED] N.p., n.d.

Appendix III. Appendix III, Table 1-1, Description of materials placed in SLDA trenches. N.d., n.p.

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NUMEC. 1960. “Feasibility Report for Fabrication of Special Capsules for Reactivity Measurement Experiments. NUMEC P-13”. *Nuclear Materials and Equipment Corporation*, Apollo, Pennsylvania. 6 July 1960.

Old Timeline. Provided by ██████████ ██████████ N.p., n.d.

Parks Photo. [1991?]. Aerial photograph of the Parks Twp. Aerial Site provided by ██████████ ██████████
(Filename: ParksPhoto-1991-5.jpg. Date is handwritten as 7-17-91.) N.d. pdf file

Parks Photo. [2001?]. Aerial photograph provided by ██████████ ██████████ N.p., n.d. jpg file.

Parks Site Photo. [1971?]. Aerial photograph provided by ██████████ ██████████ (Filename: parksSite1971pond). N.d. Image file

Sotomayor-Rivera, A., Tripp, C.S., & Shie-jeng, P. [2011?]. “Technical Support Branch – Safety Evaluation Report Nuclear Criticality Safety Assessment of Buried Waste and Contaminated Soil Remediation at the Shallow Land Disposal Area Site, Parks Township, Armstrong County, Pennsylvania”. n.d.

Sprunk, R. J. 2012. Letter response addressed to Mary Ann Thomas re: FOIA Request. Department of the Army, Office of Counsel. Pittsburgh District, Corps of Engineers. 17 September 2012.

- Thomas, M.A. 1998a. “B&W waste site cleanup snagged in government red tape.” *Archived NewsFront Story*. The Valley. Tarentum Newspaper. 3 February 1998.
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Walton, R. 1984. EPA Potential Hazardous Waste Site Identification and Preliminary Assessment. 13 July 1984.

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