



DEPARTMENT OF THE ARMY

OFFICE OF ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
U.S. ARMY FORT MONMOUTH
P.O. 148
OCEANPORT, NEW JERSEY 07757

July 26, 2012

Ms. Linda Range
New Jersey Department of Environmental Protection
Case Manager
Bureau of Southern Field Operations
401 East State Street, 5th Floor
PO Box 407
Trenton, NJ 08625

Re: Proposed Temporary Groundwater Sampling Plan for Parcel 38 Former Outdoor Pistol Range (1940-1955), Main Post, Fort Monmouth, N.J.

Attachments:

- A. Correspondence Letter from NJDEP dated July 10, 2012
- B. Figure 1: Proposed Temporary Groundwater Sampling Point Location Map
- C. Section 3.7 of Shaw's July 2008 Site Investigation Report, detailing site investigation activities conducted at Parcel 38 Former Outdoor Pistol Range

Dear Ms. Range:

In accordance with the NJDEP's July 10, 2012 correspondence letter (provided in Attachment A), the Army proposes to conduct a groundwater investigation at the Former Outdoor Pistol Range (1940-1955), located on the Main Post of Fort Monmouth, New Jersey. The groundwater investigation will be conducted in accordance with Section 7:26E-3.5 of the NJDEP's May 7, 2012 *Technical Requirements for Site Remediation*.

A scaled site map depicting seven proposed groundwater sampling locations is provided in Attachment B. Groundwater samples are proposed to be collected via Geoprobe® installation of temporary groundwater sampling points, in accordance with the NJDEP's August 2005 *Field Sampling Procedures Manual*. Collected groundwater samples will be submitted to a NJDEP-certified laboratory for lead analysis only.

The Army requests that the NJDEP issue a formal approval letter for the proposed sampling plan.

Should you have any questions or require additional information, please contact me at (732) 380-7064 or by email at wanda.s.green2.civ@mail.mil.

Sincerely,

A handwritten signature in black ink that reads "Wanda Green". The script is cursive and fluid, with the first and last names clearly distinguishable.

Wanda Green
BRAC Environmental Coordinator

Enclosures

ATTACHMENT A

Correspondence Letter from NJDEP dated July 10, 2012



State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Case Management
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BOB MARTIN
Commissioner

July 10, 2012

Wanda Green
BRAC Environmental Coordinator
OACSIM – U.S. Army Fort Monmouth
PO Box 148
Oceanport, NJ 07757

Re: March 2012 Army Response to NJDEP Correspondence Letter Dated October 28, 2008
Fort Monmouth, NJ
PI G000000032

Dear Ms. Green:

A review of the above referenced report, received March 27, 2012 and submitted in response to the Department's comments regarding the Draft Site investigation Report of July 21, 2008 by Shaw Environmental, Inc., has been completed by this office. Many of the parcel comments involved suspected USTs; in addition to that information provided in this submittal and the July 2008 SI, a review and comparison of Appendix G, Appendix O, and Figures 15 and 16 of the January 2007 ECP Report was conducted by this office in an attempt to ascertain the location and status of all tanks located within the parcels. Unless otherwise noted, comments and questions are provided only for each parcel referenced in the submittal and are generally presented by parcel.

Parcel 13 – Former Barracks (Buildings 2004-2016)

Geophysical surveys were performed, and sampling was conducted throughout that area at which USTs were known to or may have been present. No USTs were found; all soils analytical results were below cleanup criteria applicable to the site; no additional action for the parcel is necessary.

Parcel 14 – Former Buildings and Housing Area Northwest Portion of CWA

As indicated in the Department's correspondence of May 30, 2012, the geophysical surveys performed and sampling conducted throughout that area at which USTs were or may have been present were sufficient to adequately characterize the area. No USTs were found; all soils analytical results collected were below cleanup criteria applicable to the site. The parcel was re-categorized from Category 2 to Category 1.

Parcel 15 – Building 2700

Parcel 15 was issued a designation of No Further Action for soils and ground water, *exclusive of CW-1*, on May 9, 2012. Remediation efforts involving CW-1 continue.

Parcel 27 – Southwestern Corner CWA

The single outstanding issue at Parcel 27 was the USTs. As previously indicated, numerous USTs were removed from the parcel, however, additional documentation for same was required.

It is agreed fourteen (14) USTs have been removed and given NJDEP Closure Approval Letters/NFAs. Although it is understood Departmental approval may have been granted for an additional five USTs, as indicated on Page 6 of the referenced submittal and in Appendix G, please be advised this office does not have documentation confirming Closure Approval/NFA for the following USTs.

UST 2506-17	Reported NJDEP UST Closure Approval Date 7/10/98
UST 2624-34	Reported NJDEP UST Closure Approval Date 7/23/93
UST 2624-57	Reported NJDEP UST Closure Approval Date 9/21/95
UST 2624-58	Reported NJDEP UST Closure Approval Date 9/21/95
UST 2624-59	Reported NJDEP UST Closure Approval Date 9/21/95

Additionally, please provide information as to the status of the USTs noted in Appendix O at what appear to be Buildings 2566 and 2505, located just north of Building 2503?

Any sediment issues which may have resulted from parcel operations are to be addressed as part of the ongoing facility wide ecological assessment.

Parcel 28 – Former Eatontown LaboratoryUnderground Storage Tanks

Although this office is in agreement with the information submitted in regard to the majority of the USTs as noted on Parcel 28, questions remain on several, which are not considered as given a designation of NFA at this time.

As above, documentation for closure approval or NFA is not available for confirmation on the following USTs.

UST 2539-28	Reported NJDEP UST Closure Approval Date 3/31/93
UST 2539-64	Reported NJDEP UST Closure Approval Date 3/31/93
UST-2531-21	Reported NJDEP UST Closure Approval Date 8/29/00

UST 2542-29 and UST 2564-32 are reported as no release observed. A Standard Reporting Form and/or Site Assessment Compliance Statement were reported sent to us 11/22/91, however, no designation of NFA was granted, nor comments apparently generated.

Appendix O indicates three USTs within that area which underwent a geophysical survey between Building 2525 & Heliport Drive. The center UST appears to correlate to UST P28-8, which, based upon the investigation performed, warrants no further action. Although it is agreed no tanks remain in that area, please provide any record of their removal or indication as to evidence of a discharge upon removal. As previously discussed, a designation of NFA for USTs cannot be granted without sampling.

Septic Tanks & Leachfields

Leachfield East of Heliport Drive, South of Radiac Way – It is agreed the four test pits were adequate for characterization of the leachfield; no additional action is necessary for the leachfield. It does not appear, however, the suspected D-box/entirety of the septic system was investigated. Although they are not designed to hold liquids/sludges (but rather to distribute the liquids after the solids fall out into the holding tank), particularly as the structure apparently remains in place, additional information is required as to whether the structure could have been/functioned as a holding tank (field notes do reference it as a septic tank) which did contain solids or liquids which should have been sampled.

Septic System & Septic Tank A – Located off the northeast corner of Building 2525, a suspected septic tank was located via GPR scanning, as denoted as "A" on Figure 3.5-2 of the ECP Site Investigation. Sampling efforts, however, were performed only at the associated leachfield. What efforts were made to adequately characterize any holding tank contents of the actual septic tank, as required by the Tech Regulations in effect at the time of investigation (NJAC 7:26E-3.9(e)3)? As regarding the associated leachfield, a minimum of 4 samples is required. A single soil and single ground water sample is inadequate.

Septic System at Southeastern Corner of Parcel - For that septic system located in the southeastern corner of the parcel as sampled by P28-SB1, the findings/requirements noted in the above paragraph also apply.

Former Storage Areas/Possible Former Tank Pads – This area received a designation of NFA on March 29, 2012.

Parcel 34 – Building 2567/FTMM 58

Elevated levels of ground water contamination underwent treatment via a Permit-by-Rule approved in October of 2010. The Department most recently responded on March 7, 2012 approving monitoring via two rounds of seasonal high ground water analytical sampling.

As recently discussed, although piping was cleaned at the time of tank removal, it necessary to remove the piping and dispensing equipment/island.

Parcel 38 – Former Outdoor Pistol Range (1940-1955)

Although no exceedences were noted, Departmental comments indicated the surface soil sampling was not adequate due to the possibility the parcel soils had been re-worked; a ground water investigation was therefore required. The Army will be submitting the results of a ground water investigation in a future letter report to this office. If you wish to receive comments on anticipated frequency and locations of the ground water sampling points and methodology (ie low-flow), please submit the sampling plan prior to implementation.

Parcel 39 – Building 1150/Vail Hall

Previous comments indicated the soil exceedences, although permitted to remain in place with institutional controls (Deed Notice), must be compared to and delineated to the RDCSCC. The Army has agreed, in this submittal, to prepare a revised map indicating delineation boundaries to the more stringent criteria, as appropriate. A draft Deed Notice for same is to be submitted to this office for review and comment.

Any sediment issues which may have resulted from operations are to be addressed as part of the ongoing facility wide ecological assessment.

Parcel 43 – Building 1122 (Do-it-Yourself Auto Repair)

No comments based on submittal; Army acknowledges Department's March 18, 2011 comments; remedial efforts are ongoing.

Any sediment issues which may have resulted from parcel operations are to be addressed as part of the ongoing facility wide ecological assessment.

Parcel 49 – Former Squier Laboratory Complex

The Site Investigation indicated five surface soil samples contained base neutrals at concentrations above the NRDCSCC, while one sample contained PCBs above the NRDCSCC. The Department concurred with the recommendation of additional sampling for delineation purposes. The March 2012 submittal, however, specifies no sampling will be performed in regard to the BNs exceedences as they "are commonly detected in soil directly beneath asphalt pavement".

Base Neutrals (BNs)

Although it is agreed elevated levels of BN constituents related to asphalt rather than a discharge may be encountered beneath asphalt paving, it is not agreed sufficient information has been provided at this time to document each location at which BN exceedences are noted is unrelated to site operations. The previously approved proposal for additional sampling remains appropriate for each sample location at which exceedences were noted.

PCBs

Regarding PCBs, a re-sample is currently proposed in the location at which PCBs were noted to exceed the NRDCSCC, sample P49-SS8-A. As no Remedial Action Workplan for this parcel was previously approved, the Soil Remediation Standards (0.2 ppm) apply. As such, PCBs exceed the standard at three locations -- P49-SB3-A and P49-SS7-A (which also exhibits the highest levels of BN contamination), in addition to SS8-A. Delineation to the most stringent standard is required.

Arsenic

A review of the site operations and the analytical data, including the horizontal and vertical distribution of the arsenic, the lead to arsenic ratio, as well as the presence of glauconitic soils indicate the arsenic encountered in this area is representative of naturally occurring levels.

Volatile Organics

It is agreed further discussion regarding volatile organics in ground water at the M-18 Landfill is to be discussed in a forthcoming Remedial Investigation Report for the landfill.

USTs

As with the above parcels, although many tanks have received a designation of NFA, several tanks do not have sufficient documentation to be designated same. These include:

- UST-293-67 – per Appendix G, report submitted 2/26/96; no Departmental response
- UST-290-193 - per Appendix G, report submitted October 1993, no Departmental response
- UST 283-59 – per Appendix G, reported Closure Approval 2/24/00; no confirmation available
- UST 283-58 - per Appendix G, no sampling was performed
- UST 296-69 – per Appendix G, report submitted 2/26/96; no Departmental response

For those USTs which Appendix G indicates reports were previously submitted and not responded to, unfortunately, this office has no record of same and re-submittal is required for comment.

Parcel 50 – IRP Sites FTMM-54, FTMM-55 & FTMM-61

The Army acknowledges the Department's August 14, 2007 letter, the comments of which are to be addressed via Remedial Investigation Report Addendums for FTMM-54 (Site 296), FTMM-55 (Site 290) and FTMM-61 (Site 283). Submittal dates were not indicated. This office will await submittal of same.

Parcel 51 – 750 Area, 500 Area, 600 Area, 1100 Area – Former Buildings

The geophysical survey and sampling conducted at portions of the parcel were insufficient to allow for determination of NFA for the USTs previously/currently located in the parcel. Further investigation conducted north of Building 750 revealed the presence of USTs UHOT 1123B and 1123C at the two northernmost previously identified anomalies. The USTs were subsequently removed, as was affected soil. Although it is indicated all soils were removed to below 1000 ppm TPH, Table 2 at Attachment D appears to indicate soils at sample 1123B East Wall at 8.5-9' contains TPH at 9832.44 ppm. Clarification is needed.

Although it is understood the additional investigation undertaken in June of 2009 revealed the presence of the two above referenced USTs located above Semaphore Ave, it is unclear what efforts were made to investigate the nine potential USTs/anomalies noted on Figure 3.12-2 south of Echo Avenue? Are they all to be included in the Building 750 submittal?

Additional questions regarding USTs within the parcel remain. As above, documentation for closure approval or NFA is not available for confirmation on the following USTs.

No geophysical surveys, sampling or at least reports appear to have been performed or submitted for the following USTs - UST 68, 635, 637, 642, 643, 645, 647, 648, 649, 650, 651, 652, 653, 654, 656-97, 656-98, 657-90, 658-100, 660, 662, 663, 665, 667, 689-102.

Appendix O indicates USTs which do not appear to be "closed" per Appendix G which were/are also present in areas outside the geophysical survey, including those at Building 676, several along Sherrill Avenue north of Building 600, east of Brewer Ave by Buildings 545 and 554, Building 555, and several by Building 557.

Although Appendix G indicates closure reports were submitted, it also indicates no Departmental response was received for the following USTs - UST-682-106, UST 656-104, UST 659-101, UST 114-1, UST 645-78, UST 789-126.

USTs 750 – report pending

UST 501-76 – Appendix G indicates NFAed July 10, 1998, however confirmation unavailable

UST 551-80 – Appendix G indicates NFAed August 29, 2000, however, confirmation unavailable

UST 695 – Appendix indicates NFA August 24, 2000, however, confirmation unavailable

Parcel 52 – Building 699 – Army Exchange Services Gas Station

No comments based on submittal; Army acknowledges Department's March 18, 2011 comments; remedial efforts are ongoing.

Parcel 57 – Former Coal Storage & Railroad Unloading – 800 Area

Three surface soil samples contained B/Ns at concentrations above the NRDCSCC. The Department concurred with the general recommendation to conduct additional sampling, and required the submittal of a Remedial Investigation Workplan. The March 2012 submittal, however, states the exceedences were related to the asphalt pavement under which the samples were collected.

As with Parcel 49, it is agreed elevated levels of BN constituents related to asphalt rather than a discharge may be encountered beneath asphalt paving. However, information has not been submitted to document these sample results are not reflective of site operations, particularly given the nature of operations in the area. Delineation is necessary.

PCBs analyses was required due to the proximity of the railroad tracks/unloading area, as indicated in the Department's June 15, 2007 letter, rather than historical operations at Parcel 57.

As PCBs are often associated with rail road tracks and spurs, analysis for same is appropriate and remains a requirement.

Ground Water

Although the previous proposal for delineation of ground water exceedences was approved, the current submittal indicates NFA is warranted due to naturally occurring background conditions. The Department is conducting further review of the information provided.

Parcel 61 - Building 1075 – Patterson Health Clinic

Soil sampling conducted at the parcel indicated elevated levels of three base neutral compounds in a soil sample collected beneath an area of former asphalt paving at the southeastern corner of Building 1075. The Department is in agreement the PAHs are not reflective of a discharge nor of operations performed at the site. No additional action for same is necessary.

As discussed, the analyses for PCBs as indicated in the Department's October 2008 correspondence is not required, based upon a review of areas of concern located within the parcel.

UST 1076-209 – Although Appendix G indicates the closure report was being prepared, recent conversation indicates no submittal of the report is anticipated as the tank was a "clean closure." This would, of course, not allow for comment or designation of NFA for this tank. Additionally, information previously submitted indicates this tank was installed at a location at which a leaking UST was removed and remediated. It does not appear closure information for that UST was submitted.

Parcel 69 – Building 900 – Former Vehicle Repair/Motor Pool

The previous Departmental comments indicated soil sampling was inadequate for designation of NFA as analytical parameters did not include PCBs. Although it is understood your position is that PCBs are not suspected to have been disposed of in the former waste oil AST at Building 900, the Technical Requirements for Site Remediation, both those in effect at the time of sampling, as well as those currently in effect, require the inclusion of PCBs in the analytical parameters for sampling of soil when waste oil is involved.

Regarding analytical parameters for sediment sampling, that will be addressed as part of the ongoing facility wide ecological assessment.

One ground water sample previously indicated an exceedence of PCE. Per this submittal, the Army plans to resample the ground water at the location of temporary well point P69GW-1. Previous Departmental correspondence, however, stated the submittal of a ground water remedial investigation workplan was required for NJDEP review and approval. If resampling of a single location, in anticipation of a "clean" result is performed, rather than several delineation sampling points, please ensure the resultant submittal includes adequate rationale/justification to confirm the area of greatest possible contamination was sufficiently targeted.

Two USTs were previously noted as within the parcel. UST 900-142 was granted Closure Approval Letter/NFA on July 10, 1998, while documentation for closure approval or NFA is not available for confirmation on the following UST:

UST 900-141 Reported NJDEP UST Closure Approval Date 7/10/98

Parcel 70 – Building 551 – Former Photoprocessing

The October 28, 2008 Departmental correspondence concurred with the recommendation for no further action. As a note however, we do not have a copy of the Appendix G referenced 8/29/00 Closure Approval Letter for UST 551-80

Parcel 76 – 200 Area, 300 Area – Former Barracks

A geophysical survey was performed throughout Parcel 76, with suspect USTs noted in the western portion of the parcel. Although sampling conducted within that western portion of the parcel indicated no exceedences of the applicable cleanup criteria, additional investigation was required regarding the possible USTs.

Additional evaluation was documented in the June 2011 Remedial Investigation and Closure Report, which references Incident #s 09-11-04-1553-32, 10-04-28-1333-57, 10-04-13-1710-23, 09-11-19-1710-57 and 10-01-06-1342-44 and the removal of UHOTS 544, 543, 542, 541, 540, 539 and 538. Affected soils were reported removed to below the 1000 ppm contingency analytical threshold; a ground water investigation was performed via the installation of four monitor wells as ground water was encountered in the excavations.

The adequacy of the investigations/remedial actions presented in the report submittal cannot be determined, as insufficient information has been provided. No information was contained in Appendices A through E, nor were any Figures included (this information was missing in many of the Attachment D reports, some of which was obtainable through previous submittals and information, some not). No comparison could be made of UST locations against geophysical anomalies, sample locations, or monitor well locations. A review of Table 2/Summary of Laboratory Analyses as a stand-alone document (without sampling location/result maps, further association between sample ID and tank) is insufficient to allow for documentation of soils removal to below the above stated 1000 ppm contingency analytical threshold, or even the 5100 ppm EPH standard at each tank, or to determine if the ground water investigation (placement of monitor wells) was adequate.

Additionally, although it is agreed no USTs appear to remain in the eastern portion of Parcel 76, no remedial documentation was submitted for those former tank locations as noted on Appendix O and Figure 15 of the January 2007 ECP Report in the eastern portion of Parcel 76, as follows:

UST-261-45	UST-262-46	UST-263-47	UST-264-48	UST-265-49
UST-266-50	UST-267-51	UST-268-52	UST-269-53(contamination per Appendix G)	

As previously discussed, a designation of no further action for these USTs cannot be issued without an investigation in accordance with the Technical Requirements for Site Remediation.

Parcel 79 – 400 Area Former Barracks

A geophysical survey was previously performed throughout the parcel, identifying potential USTs in only that portion as noted in Figure 3.19-1. Additional evaluation of the area encountered eight USTs, noted as UHOTs 437, 440, 441, 444, 445, 448 and 450 which were subsequently removed, while contamination was noted at Building 449. A ground water investigation is to be performed based upon the presence of ground water in the excavation. Additional comments regarding same will be forthcoming pending submittal.

As with Parcel 76, above, although it is agreed no USTs appear to remain, no remedial documentation was submitted for many of those former tank locations noted on Appendix O and Figure 15 of the January 2007 ECP Report at other areas of the parcel, and/or insufficient information currently exists to allow for designation of NFA.

North of Fisher Avenue

- UST-401-26 – per Appendix G, no samples were collected, no report submitted
- UST-411-28 – per Appendix G, report submitted 02/26/96, no Departmental response noted
- UST-416-32 – per Appendix G, no samples collected, no report submitted
- UST-421-37 – per Appendix G, report submitted 7/22/98, no Departmental response noted
- UST-423-39 – per Appendix G, report submitted 2/26/96, no Departmental response noted

South of Fisher Ave, North of Leonard Ave

- UST-430-45 – per Appendix G, report submitted 10/23/97, no Departmental response noted
- UST-447 – Not referenced on Appendix G; located east of grid sampling; sampling status unclear

South of Leonard Avenue

- UST-454-51 – Reported Closure Approval date 7/10/98 – no record of same
- UST-142-73 – per Appendix G, report submitted 10/23/97, no Departmental response received
- UST-142-13 – per Appendix G, report submitted 10/23/97, no Departmental response received
- UST-29-1 – per Appendix G, report submitted 11/22/91, no Departmental response noted
- UST-490-58 – per Appendix G, no sampling; “site closed by NJDEP”; no record of same
- UST-492-59 – Reported Closure Approval date 8/29/00 – no record of same
- UST-202-a – “clean closure”, no report submitted
- UST-202-b – per Appendix G, 30 tons of soil removed, report submittal pending
- UST-202-21 – per Appendix G, TPH ND, no report submitted
- UST-202-22 – per Appendix G, TPH ND, no report submitted

Please submit documentation in accordance with the Tech Regs for each of the above to allow for comment/designation of NFA. For those which Appendix G indicates reports were previously submitted and not responded to, unfortunately, this office has no record of same and re-submittal is required.

Additionally, with the exception of the above referenced UST-454-51, and UST 475-52 (NFA 10/23/00), no documentation of sampling activities for that area shown on Appendix O extending from Tilly Avenue north to Leonard Avenue, previously shown to include approximately 22 USTs, appears to have been submitted.

Finally, please indicate what investigation, if any, has taken place at the two former and one current ASTs located north of Hazen Drive.

Parcel 80 – Former Buildings 105 & 106 - Photoprocessing

Prior to issuing a determination as to the adequacy of the soil sampling, additional information is required regarding the basis for establishment of the sample locations. Were as-builts or other plans available for the demolished buildings to assist in locating former floor drains, septic systems, discharge points, etc.?

Although the previous proposal for delineation of ground water exceedences was approved, the current submittal indicates NFA is warranted due to naturally occurring background conditions. The Department is conducting further review of the information provided.

Parcel 83 – Former Photoprocessing, Vehicle Maintenance, Coal Storage & Railroad Unloading, Maintenance Shops

The 2008 SI Report, Section 4.1.2, indicates "eight surface soil samples contained B/Ns at concentrations above the NJDEP NRDCSCC. Two surface soil samples contain lead at concentrations above the NJDEP NRDCSCC and MPBC. Further evaluation is recommended."

While the exceedences at P83-SB9C were apparently not included in that statement, nor plotted, several PAH constituents were noted above the residential and non-residential criteria at 4.5-5'. Vertical delineation appears incomplete at this location.

Although this office does not as yet agree the PAH exceedences at this parcel are due to current/former asphalt (particularly at SB9 or B5), re-collection of the samples as proposed to assist in determining same is acceptable. The further evaluation must, of course, include all exceeded contaminant categories if the intent is to prove no discharge.

Trichloroethylene is reported on Table 3.21-4 of the SI Report above criteria at sample location P83-SB9B, at 5.8 ppm, at 1.5-2', with no discussion provided. Please provide same.

Metals exceedences were noted at three locations – SB10A, SB9A and B5A; this office considers location SB-10 to be above criteria for arsenic and lead (residential criteria is 400 ppm).

As regarding arsenic in soils, although it is agreed the site soils are often associated with elevated levels of naturally occurring arsenic, the parcel specific soil analytical results, the lead to arsenic ratio, and the decrease of arsenic with depth at those locations exhibiting an elevated level, do not appear to indicate the exceedences are naturally occurring, and must be included in a remedy.

As with the above parcels, although many tanks have received a designation of NFA, several tanks do not have sufficient documentation to be designated same. These include:

UST-421-37 – Per Appendix G, report submitted 10/23/97; no Departmental response
UST-273-65 – Per Appendix G, 6000 gallon gasoline tank still in use
UST-273-66 – Per Appendix G, 10000 gallon gasoline tank still in use
UST-273-67 – Per Appendix G, 10000 gal gasoline tank still in use
UST-117-72 – Per Appendix G, remedial action report completed July '98; status unknown
UST-108-7 – Per Appendix G, report submitted 2/26/96; no Departmental response
UST-108-60 through 64 – Per Appendix G, remediation efforts ongoing
UST-161-68 – Per Appendix G, waste oil tank RAR submitted 2/26/96, no response
UST-161-14 – Per Appendix G, RAR submitted 2/26/96, no Departmental response

Appendix O also includes several former USTs on the parcel which appear to have had no documentation of closure or investigation submitted, including those at Buildings 479, 66, 276, 485, 280, 281 and 167.

Electrical Substations

The October 28, 2008 correspondence indicated the need for establishment of a Deed Notice and engineering controls due to elevated levels of PCBs above the RDCSCC of 0.49 ppm. The March 2012 proposal is for resampling of the two locations at which results were above the criteria, with a letter report to follow. This is acceptable, however, please be advised a Deed Notice will be required for any soils left in place *within these two areas*, which exhibit a result of greater than 0.2 ppm PCBs. No engineering controls are required if all results are below 1 ppm.

Miscellaneous

Attachment E of the submittal references numerous letters from the NJDEP regarding UST closure approvals/NFAs, however, the letters dated July 23, 1993 and September 21, 1995 were not included in the submittal. Submittal of those two letters would be beneficial and appreciated.

Vapor Intrusion Investigation

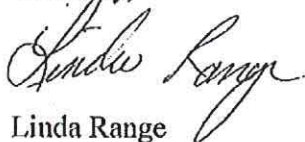
Submittal of the report is anticipated shortly.

Baseline Ecological Evaluation

Submittal of the amended report is anticipated shortly.

If you have any questions regarding this matter contact this office at (609) 984-6606.

Sincerely,

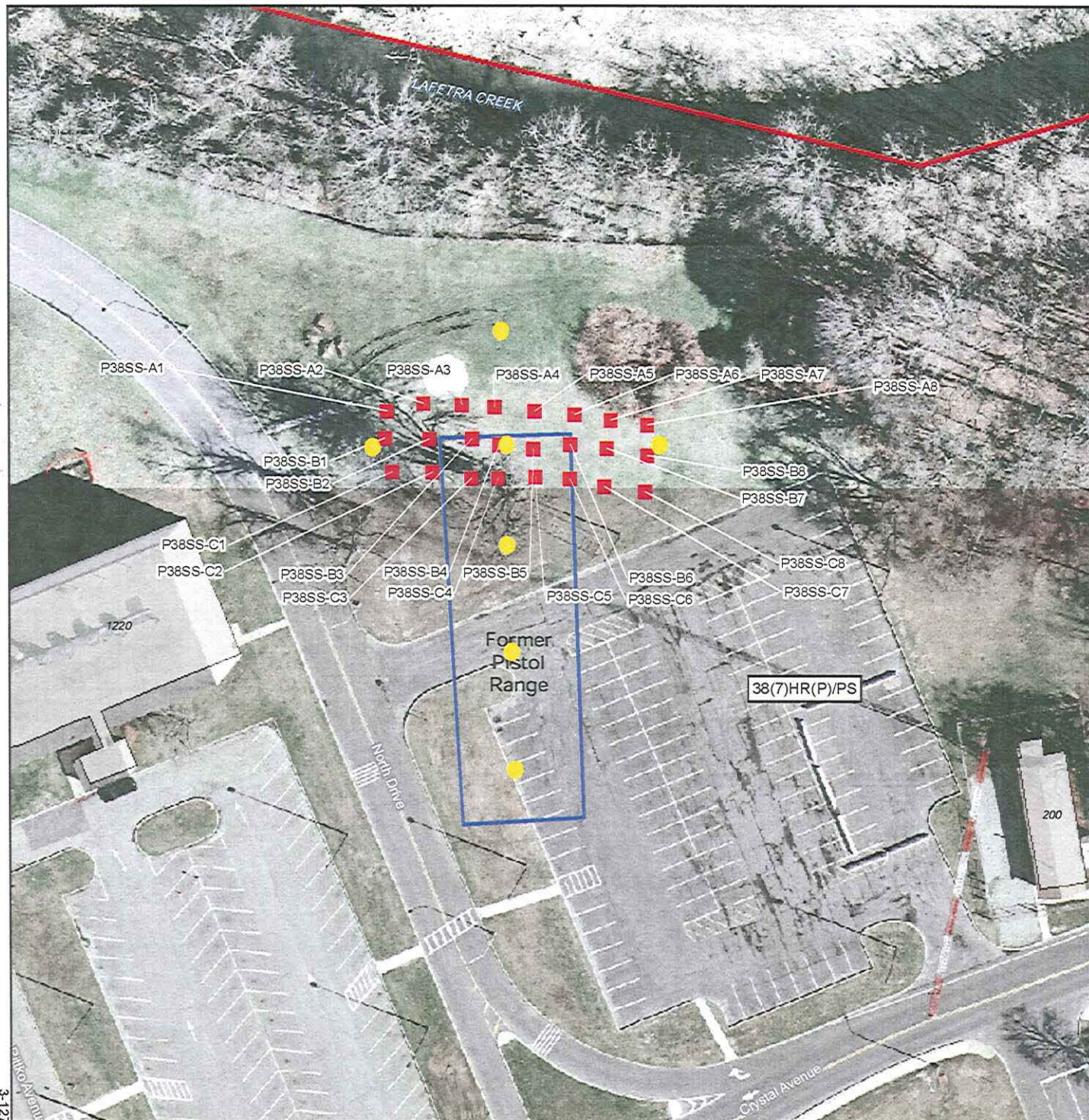


Linda Range
Bureau of Case Management

C: Joe Pearson, Calibre Systems
Rich Harrison, FMERA
Julie Carver, Matrix

ATTACHMENT B

Figure 1: Proposed Temporary Groundwater Sampling Point Location Map



LEGEND

- Surface Soil Samples Collected by Shaw During July 2008 Site Investigation
- Proposed Temporary Groundwater Sampling Point Location
- Boundary of Former Main Post Outdoor Pistol Range (1940-1955)



SCALE:
0 32.5 65 130
Feet

Figure 1
Proposed Temporary Groundwater Sampling Point Location Map
Parcel 38 Former Outdoor Pistol Range (1940-1955)
Main Post, Fort Monmouth, N.J.

ATTACHMENT C

Section 3.7 of Shaw's July 2008 Site Investigation Report

3.7 Parcel 38 – Former Outdoor Pistol Range (1940 - 1955)

3.7.1 Site Description

Parcel 38 is located in the northwestern portion of the MP, directly west of Bldg 200. The former Outdoor Firing Range was used from approximately 1940 through 1955. The small arms firing that occurred at the former Pistol Range (1935-1940 Pistol Range) directly west of Bldg 292 was relocated to this location around 1940 when the STP was constructed on the old range location. Range structures and the backstop berm at the former Outdoor Firing Range (1940-1955) have been removed/demolished. Munitions associated with the former Outdoor Firing Range are assumed to be small arms ammunition only; therefore, no MEC and limited MC are anticipated. The primary MC associated with small arms ranges is lead. Additional information pertaining to this parcel can be found in Section 4.3.4, Section 5.2.1.2, Section 5.2.2, and Section 5.10 of the Phase I ECP (1).

3.7.2 Previous Investigations

This site was originally included in the IRP as FTMM-21. Evidence of the former Outdoor Firing Range was uncovered during preparation of a preliminary assessment report. Because the location of the former range has been developed for over 40 years, the IRP recommendation was for NFA. This determination was approved by the NJDEP. An HRR was subsequently conducted at FTMM under the MMRP. Based on information discovered during the HRR, the correct location of the pistol Range was identified. Because the correct location is a manicured lawn adjacent to Bldg 1220, which may not have been heavily re-worked, the recommendation in the HRR was for further evaluation.

3.7.3 Site Investigation Sampling

The findings of the HRR (29) were reviewed to determine the location of the former berm and to establish a soil sampling grid. In order to evaluate the potential impact from previous pistol range operations in the area of the former berm, the following soil sampling was conducted at the former Outdoor Firing Range (29).

Surface Soil Investigation

Surface soil samples were collected in December 2007 in Parcel 38. A total of 25 surface soil samples (including one duplicate sample) were collected from 24 distinct hand augered borings located in the area of the former berm (**Figure 3.7-1**). Samples were taken in order to determine if any contamination exists from previous pistol range operations. Surface soil samples for non-VO analysis were collected from the 0- to 6-inch interval bgs. No visual or olfactory evidence of impacted soil was noted.

Table 3.7-1 presents a summary of all field activities, and all sample locations are provided on **Figure 3.7-1**. A summary of sampling activities, including sample IDs, collection dates, and analytical parameters, is provided in **Table 3.7-2**.

Table 3.7-1
Parcel 38 Sampling Location, Rationale and Analytical

Sample Location	Sample Media	Sample Location Rationale	Analytical Suite
38SS-A1 through 38SS-C8 (25 samples – includes 1 duplicate sample)	Surface soil	Soil samples were collected from the 0- to 6-inch bgs interval (below topsoil) from a sample grid (conducted on 15-ft centers) to investigate the former pistol range berm.	TAL Metals

3.7.4 Site Investigation Results

Surface Soil Investigation Results

Surface soil samples were analyzed for TAL metals.

As shown in **Table 3.7-3**, a total of 18 metals were detected at Parcel 38; however, no metals were detected at concentrations above the NJDEP NRDCSCC or RDCSCC. No COCs were identified in soil at Parcel 38.

3.7.5 Summary and Conclusions

No constituents were identified above applicable NJDEP criteria. NFA is recommended for Parcel 38.

**Table 3.7-2
Parcel 38 Sample and Analytical Summary**

Media	Type	Field Sample #	Sample Date	Sample Time	Begin Depth	End Depth	TPHC	VO+15	BN+15	PCBs	TAL Metals	Cyanide	Mercury	Ammonia/ Nitrate/ Nitrite	COMMENTS/VARIANCES
SOIL	HAND AUGER	P38-SS1-A	12/21/07	9:00	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS2-A	12/21/07	9:10	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS3-A	12/21/07	9:20	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS4-A	12/21/07	9:30	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS5-A	12/21/07	9:40	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS6-A	12/21/07	9:50	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS7-A	12/21/07	10:00	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS8-A	12/21/07	10:10	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS1-B	12/21/07	10:20	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS2-B	12/21/07	10:30	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS3-B	12/21/07	10:40	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS4-B	12/21/07	10:50	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS4-B DUPLICATE	12/21/07	10:50	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS5-B	12/21/07	11:00	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS6-B	12/21/07	11:10	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS7-B	12/21/07	11:20	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS8-B	12/21/07	11:30	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS1-C	12/21/07	11:40	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS2-C	12/21/07	11:50	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS3-C	12/21/07	12:00	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS4-C	12/21/07	12:10	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS5-C	12/21/07	12:20	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS6-C	12/21/07	12:30	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS7-C	12/21/07	12:40	0.0	0.5					X				
SOIL	HAND AUGER	P38-SS8-C	12/21/07	12:50	0.0	0.5					X				
BLANK	FIELD	FIELD BLANK	12/21/07	13:00	--	--					X				

X = Sample analyzed for the indicated analytical parameter suite

Table 3.7-3
Fort Monmouth Phase II Site Investigation, Parcel 38
Summary of Analytical Parameters Detected in Soil (mg/kg)

Chemical	Sample ID:		Analytical Results												
	NRDCSCC ¹	IGWSCC ²	P38SS-A1 7055601	P38SS-A2 7055602	P38SS-A3 7055603	P38SS-A4 7055604	P38SS-A5 7055605	P38SS-A6 7055606	P38SS-A7 7055607	P38SS-A8 7055608	P38SS-B1 7055609	P38SS-B2 7055610	P38SS-B3 7055611	P38SS-B4 7055612	P38SS-B4 DUP 7055625
			Date Sampled: 12/21/2007	Date Sampled: 12/21/2007	Date Sampled: 12/21/2007	Date Sampled: 12/21/2007	Date Sampled: 12/21/2007	Date Sampled: 12/21/2007	Date Sampled: 12/21/2007	Date Sampled: 12/21/2007	Date Sampled: 12/21/2007	Date Sampled: 12/21/2007	Date Sampled: 12/21/2007	Date Sampled: 12/21/2007	Date Sampled: 12/21/2007
			Depth (ft. bgs): 0.0-0.5	Depth (ft. bgs): 0.0-0.5	Depth (ft. bgs): 0.0-0.5	Depth (ft. bgs): 0.0-0.5	Depth (ft. bgs): 0.0-0.5	Depth (ft. bgs): 0.0-0.5	Depth (ft. bgs): 0.0-0.5	Depth (ft. bgs): 0.0-0.5	Depth (ft. bgs): 0.0-0.5	Depth (ft. bgs): 0.0-0.5	Depth (ft. bgs): 0.0-0.5	Depth (ft. bgs): 0.0-0.5	Depth (ft. bgs): 0.0-0.5
Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Metals															
Aluminum	NLE	NLE	13100 B	14800 B	14900 B	16300 B	12800 B	13500 B	12400 B	14300 B	19700 B	17900 B	15100 B	15800 B	16700 B
Arsenic	20	NLE	10.0	11.2	9.05	10.8	9.25	12.6	13.0	13.0	15.1	16.0	11.9	9.52	11.8
Barium	47,000	NLE	44.6 B	62.6 B	42.5 B	46.0 B	31.6 B	28.5 B	34.3 B	25.9 B	79.6 B	67.7 B	35.9 B	40.7 B	48.4 B
Beryllium	140	NLE	0.936	1.17	1.77	1.84	1.47	1.30	1.31	1.34	1.75	1.73	2.00	1.92	2.15
Cadmium	100	NLE	0.192	0.220	0.112	0.322	0.120	0.168	0.131	0.169	0.543	0.461	0.367	0.384	0.766
Calcium	NLE	NLE	417 B	602 B	1410 B	805 B	979 B	740 B	742 B	771 B	925 B	668 B	599 B	779 B	873 B
Chromium (Total)	NLE	NLE	80.8	102	141	151	124	108	103	117	175	157	160	154	171 B
Cobalt	NLE	NLE	0.525	1.83	1.24	1.76	1.40	1.58	1.69	1.35	1.83	1.19	1.29	1.32	1.71
Copper	45,000	NLE	18.2 B	23.5 B	13.2 B	12.3 B	9.78 B	8.55 B	12.2 B	12.0 B	34.0 B	23.8 B	11.6 B	12.4 B	13.2 B
Iron	NLE	NLE	31800	38000	52700 E	56500 E	46300 E	43300 E	41400	44200	63200 E	59900 E	64200 E	58200 E	62200 E
Lead	800	NLE	76.3	104	36.2	35.3	26.0	13.0	15.8	23.3	176	96.5	24.9	75.2	104
Magnesium	NLE	NLE	3380	4210	6590	6810	5390	4650	4260	4860	6860	6450	7090	7140	7780 B
Manganese	NLE	NLE	70.7 B	87.5 B	51.2 B	66.2 B	62.8 B	67.8 B	78.7 B	79.6 B	66.1 B	69.1 B	47.1 B	64.0 B	66.9 B
Mercury	270	NLE	0.32	0.62	0.116 U	0.115 U	0.114 U	0.103 U	0.113 U	0.109 U	0.137 U	0.110 U	0.101 U	0.121 U	0.104 U
Nickel (Soluble Salts)	2,400	NLE	11.4	14.8	12.1	10.7	8.67	8.57	8.56	8.17	62.4	22.7	9.97	10.7	12.4
Potassium	NLE	NLE	6170 B	7580 B	14000 B	14200 B	11500 B	9430 B	8420 B	9730 B	13100 B	12600 B	15600 B	15500 B	17200 B
Vanadium	7,100	NLE	102	129	100	98.0	77.5	71.5	69.3	73.8	715	273	109	95.9	107
Zinc	1,500	NLE	73.2 B	98.1 B	106 B	88.0 B	68.2 B	55.1 B	67.2 B	56.2 B	95.2 B	86.3 B	76.5 B	85.9 B	98.4 B

¹ NJDEP Residential Direct Contact Soil Cleanup Criteria per NJAC 7:26D, 1999. Beryllium, Copper and Lead criteria per NJAC 7:26D, 2008.

² NJDEP Non-Residential Direct Contact Soil Cleanup Criteria per NJAC 7:26D, 1999. Beryllium, Copper and Lead criteria per NJAC 7:26D, 2008.

³ NJDEP Impact to Groundwater Soil Cleanup Criteria per NJAC 7:26D, 1999.

DUP = Duplicate Sample

ft. bgs = Feet below ground surface

B = The compound was found in the associated method blank as well as in the sample

D = Sample was diluted

E = The compound's concentration exceeds the calibration range of the instrument for that specific analysis

J = Mass spec and retention time data indicate the presence of a compound however the result is less than the MDL but greater than zero

U = The compound was analyzed for but not detected

NT = Not tested

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mg/kg = milligram per kilogram

Bold = Analyte was detected

Shaded = Concentration exceeds level of concern

(Surface soil compared to NRDCSCC. Subsurface soil compared to IGWSCC when available, otherwise compared to NRDCSCC)

Table 3.7-3
Fort Monmouth Phase II Site Investigation, Parcel 38
Summary of Analytical Parameters Detected in Soil (mg/kg)

Chemical	Sample ID: Date Sampled: Depth (ft. bgs):		Analytical Results											
			P38SS-B5 7055613	P38SS-B6 7055614	P38SS-B7 7055615	P38SS-B8 7055616	P38SS-C1 7055617	P38SS-C2 7055618	P38SS-C3 7055619	P38SS-C4 7055620	P38SS-C5 7055621	P38SS-C6 7055622	P38SS-C7 7055623	P38SS-C8 7055624
			12/21/2007	12/21/2007	12/21/2007	12/21/2007	12/21/2007	12/21/2007	12/21/2007	12/21/2007	12/21/2007	12/21/2007	12/21/2007	12/21/2007
			0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
	NROSCC ¹	IGWSCC ²	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Metals														
Aluminum	NLE	NLE	13200 B	14800 B	15300 B	14200 B	10800 B	15000 B	15700 B	13100 B	9750 B	11600 B	13900 B	12700 B
Arsenic	20	NLE	10.2	11.0	11.3	12.9	8.65	9.75	9.79	9.52	9.65	8.61	11.9	12.2
Barium	47,000	NLE	32.7 B	42.5 B	52.9 B	46.9 B	42.6 B	36.1 B	48.3 B	35.5 B	24.6 B	42.2 B	30.9 B	31.9 B
Beryllium	140	NLE	1.07	1.18	1.19	1.14	1.45	1.96	2.84	1.65	0.895	0.988	1.35	1.23
Cadmium	100	NLE	0.131	0.141	0.299	0.291	0.524	0.417	0.620	0.479	0.299	0.551	0.410	0.583
Calcium	NLE	NLE	954 B	868 B	1090 B	1030 B	1620 B	422 B	829 B	764 B	899 B	1250 B	950 B	1010 B
Chromium	NLE	NLE	93.7	98.9	91.2	98.8	113 B	159 B	161 B	127 B	75.6 B	72.3 B	112 B	98.3 B
Cobalt	NLE	NLE	1.10	1.16	0.507	1.26	1.76	1.54	1.55	1.43	1.47	1.21	1.71	1.64
Copper	45,000	NLE	11.2 B	9.55 B	14.6 B	13.5 B	15.5 B	11.4 B	14.6 B	13.5 B	9.30 B	19.0 B	11.3 B	10.7 B
Iron	NLE	NLE	35700	38300	36500	36500	41500	57400 E	58100 E	49200 E	28200	29900	41900	37500
Lead	900	NLE	16.7	16.3	37.3	18.4	57.4	21.8	39.9	42.7	25.0	64.9	21.5	19.0
Magnesium	NLE	NLE	3880	4960	4050	3750	5110 B	6950 B	7340 B	6000 B	3050 B	3310 B	4780 B	4240 B
Manganese	NLE	NLE	79.0 B	87.2 B	128 B	85.4 B	63.0 B	40.1 B	59.1 B	58.0 B	64.4 B	114 B	77.4 B	73.5 B
Mercury	270	NLE	0.106 U	0.105 U	0.106 U	0.103 U	0.109 U	0.108 U	0.112 U	0.112 U	0.112 U	0.118 U	0.102 U	0.108 U
Nickel	2,400	NLE	8.53	8.66	9.47	11.6	16.8	9.33	13.5	10.8	7.67	8.62	9.54	9.22
Potassium	NLE	NLE	7980 B	8570 B	8280 B	8150 B	10600 B	15100 B	16000 B	13000 B	5980 B	6470 B	9910 B	8730 B
Vanadium	7,100	NLE	67.2	69.3	68.0	71.2	132	96.0	118	106	56.9	53.1	81.4	69.0
Zinc	1,500	NLE	57.9 B	52.6 B	76.7 B	63.0 B	91.6 B	80.5 B	103 B	75.1 B	51.3 B	93.1 B	68.7 B	72.4 B

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(Surface soil compared to NROSCC. Subsurface soil compared to IGWSCC when available, otherwise compared to NROSCC)