



United States Department of the Interior

NATIONAL PARK SERVICE

240 West 5th Avenue
Anchorage, Alaska 99501

IN REPLY REFER TO:

A7615(AKRO-EPD)

January 3rd, 2018

Gretchen Caudill
Alaska Department of Environmental Conservation
610 University Avenue
Fairbanks, AK 99709-3643

Re: Documentation of Institutional Controls at the Denali Bus Barn Site, ADEC File Number 220.38.042

Dear Ms. Caudill:

The following is documentation of the Institutional Controls recently prepared for the Bus Barn Site in Denali National Park and Preserve.

Background:

The Bus Barn in Denali National Park and Preserve is a concessionaire operated and maintained facility used primarily for fleet (bus) maintenance. The building also includes office space on the second and third floor levels. The building was constructed in 3 stages/phases: (1) 1983 original shop, south, (2) 1994 Addition including Tower and 2 bays north of the Tower, and shed addition at rear with mechanical and day-tank rooms; (3) two open bus wash bays south of the original 1983 shop. The used oil aboveground storage tank was included with the 1994 addition along with the mechanical room and day-tank room.

Based on three former drinking water wells drilled in this general vicinity, bedrock is located at a depth of 39 to 70 feet below ground surface (bgs) and groundwater is present in a confined layer. Well depths range from 246 to 404 feet bgs with static water levels 100 to 200 feet above the depth of the well screen. In 2001, at the former Denali Powerhouse located approximately 500 feet east-southeast the bus barn, a boring was drilled to 130 feet bgs; bedrock encountered at 55 feet bgs and no phreatic groundwater was encountered. Well A at the Powerhouse had a total depth of over 300 bgs (cased to approximately 200 feet bgs) and had a static water level of about 100 to 110 feet bgs. A second well at the powerhouse, Well E, was screened from 160 to 250 and also had a static water level of 100 to 110 bgs. Drinking water for this area of the park comes from an upgradient surface water source at Hotel Creek located approximately 0.4 miles to the west of the Bus Barn, as none of the aforementioned wells provided a reliable water supply and have since been abandoned. The Hotel Creek intake is approximately 145 feet higher than the Bus Barn.

In 2011, petroleum contamination was encountered in the soil during the excavation of a water line next to the Bus Barn. The suspected sources of contamination were a used oil day tank within the building, a possible previous aboveground fuel tank (AST) located outside the building and/or the associated piping. Fluids may have exited through a crack or expansion joint in the concrete slab beneath the day tank. Approximately 35 cubic yards of contaminated soil were removed from the excavation area and sent to Fairbanks for thermal remediation during the 2011 excavation work. The stockpiled soil was sampled with resulting exceedances for diesel range organics (DRO) at 4,460 milligrams per kilogram (mg/kg) and gasoline range organics (GRO) at 439 mg/kg. Due to the excavation being located directly next to the foundation of the building, not all contaminated soil was removed. Additionally, soil samples were never collected from the excavation site. Because samples were never collected from the excavation, in 2015, Melody Debenham of ADEC requested sampling of the site in order to determine the status of contamination remaining at the site.

On June 20th, 2016, an NPS crew excavated the site down to the bottom of the contamination and four soil samples and a duplicate were collected from the zone of contamination by a Qualified Sampler and analyzed for DRO, GRO, BTEX and PAH. DRO detected in three of the soil samples (and the duplicate) exceeded migration to groundwater pathway concentrations ranging from 1,200 to 10,000 mg/kg. In addition, in one sample plus a duplicate at the same location, there were exceedances for Xylene (2.61 mg/kg and 2.78 mg/kg), Naphthalene (3.0 and 1.5 mg/kg), 1-Methyl-naphthalene (14 and 4.2 mg/kg) and 2-Methyl-naphthalene (13 and 3.8 mg/kg). The concentrations of GRO, and other BTEX and PAH constituents were below cleanup concentrations and, in most cases, nondetect. All remaining contamination at the site is immediately adjacent to the foundation and under it, so further excavation is not possible without undermining the foundation. The consultant recommended pursuing closure with Institutional Controls. During the June 20th, 2016 sampling, I surveyed the site using a Trimble R8 survey grade GPS unit to establish local survey control and then surveyed the soil sampling points using a total station survey instrument, occupying this survey control. This resulted in less than 2 centimeters horizontal precision for all of the survey data.

Institutional Controls:

During the week of December 26th, the survey data collected in 2016 was digitized in ArcGIS and all relevant information was added to contaminated site features. The extent of the soil contamination plume was approximated, based on the results of field screening and sampling.

Data on the site can be found in three different types of features in the GIS database:

Contaminated Site Points are used to provide summary information for the site. These points are arbitrarily placed near the zone of contamination, so that they can be easily located. The Institutional Controls for a site are documented in the data and reports and photographs of the site can be opened in the database for these points.

Monitoring Points are used to identify monitoring wells, bore holes, soil sample locations, shovel sheen test locations and other points where point specific data about a site is collected. Contaminant concentrations, sample depth and other data for each point can be documented here.

Contamination Plumes are polygons that delineate the extent of soil or groundwater contamination (identified by the color of the shading on the polygon) for a site. Considering the fact that the number sampling points at a site is finite, the delineation of contamination plumes is always approximated.

Printscreens of the GIS data from the Bus Barn site are included in this submittal as Figures 1 through 4. Following is a description of each printscreen:

Figure 1. An overall screenshot of the Bus Barn site in GIS is provided on this figure. The colored lines that are not part of the aerial photographic image are from a drawing in Autocad Civil 3D, based on the site survey, which is more positionally accurate than the aerial photography.

Figure 2. On this figure, a black fuel pump icon is used to denote the Contaminated Site Point in the GIS database for the Bus Barn Site. The data entered for the Bus Barn Site is displayed in this printscreen. The red arrows and associated text on these printouts are not part of the database, but added to the printscreen to help clarify what is being displayed.

Figure 3. Example data for a Contaminated Site Point (in this case, soil sample DB-16-SS-04, found in the 2016 sampling report) is displayed in this figure. Locations where soil samples were collected are identified by a black and white icon that looks like a laboratory beaker in this figure. The red arrow pointing to the soil sample location is not part of the database, but identifies which soil sample location corresponds to the data shown.

Figure 4. This figure is a printscreen of the approximate extent of the contamination plume (in this case, soil contamination plume) for this site. The red arrow shown on this this screenshot is not part of the database. The plume extent shown on this figure is approximated, since there is no information on the extent of contamination under the floor slab.

I have included a zipped version of the NPS ArcGIS geodatabase on a compact disc with this submittal. This geodatabase includes the data for the subject site that I have described above. Other NPS sites are also included in this database. If your GIS Manager has any questions about this database, he/she can contact Joel Cusick in my office at (907)644-3549 or Joel_Cusick@nps.gov.

Figure 5. In addition to the GIS data, a printscreen of one page of the Environmental Screening Form from the Planning, Environment and Public Comment (PEPC) database is also included. On this page, a person planning a project of any type is prompted to determine whether contamination exists at the project site or not, so that the project can be planned to accommodate these concerns. The respondent is directed to the GIS database to determine if contamination does exist. As part of the NEPA process for any project of any type, no matter how small, all environmental screening questions must be answered prior to obtaining environmental compliance for the project. This data is stored in the PEPC database, which tracks the environmental compliance status of all projects in the National Park Service. This screening mechanism, plus the contaminated site data in the GIS database, constitute Institutional Controls for National Park Service sites in the Alaska Region.

Since this data should constitute Institutional Controls, we ask that you consider closing this site with these controls in place. If you have any questions about this submittal, please feel free to contact me by telephone at (907)644-3384 or email at bill_heubner@nps.gov.



Sincerely,

William F. Heubner, Civil Engineer

cc: Ray Moore, Facility Manager, Denali National Park and Preserve
Joel Cusick, National Park Service, Alaska Regional Office (Letter only)

Figure 1- Screen Shot of Overall Bus Barn Site in NPS GIS Database

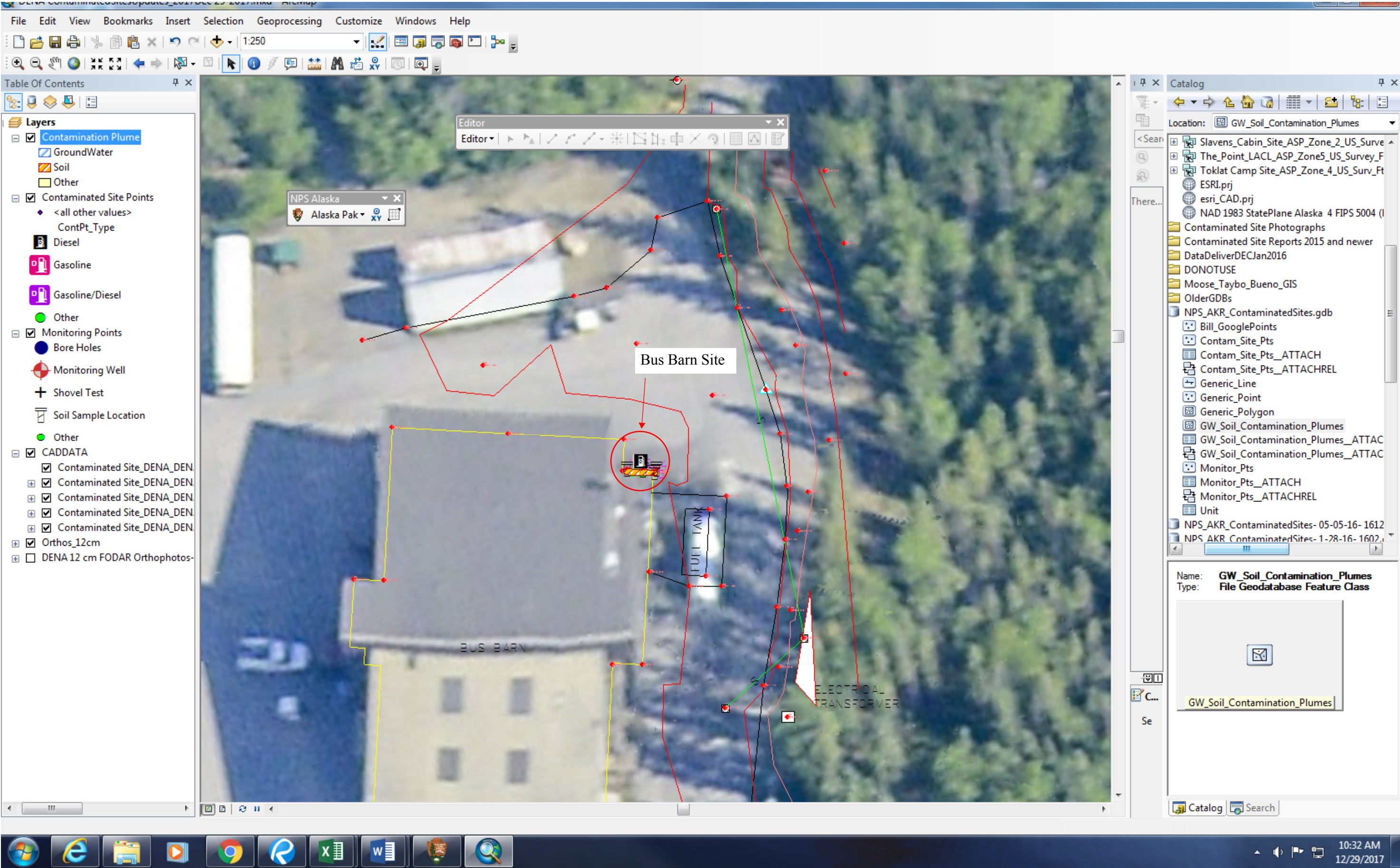
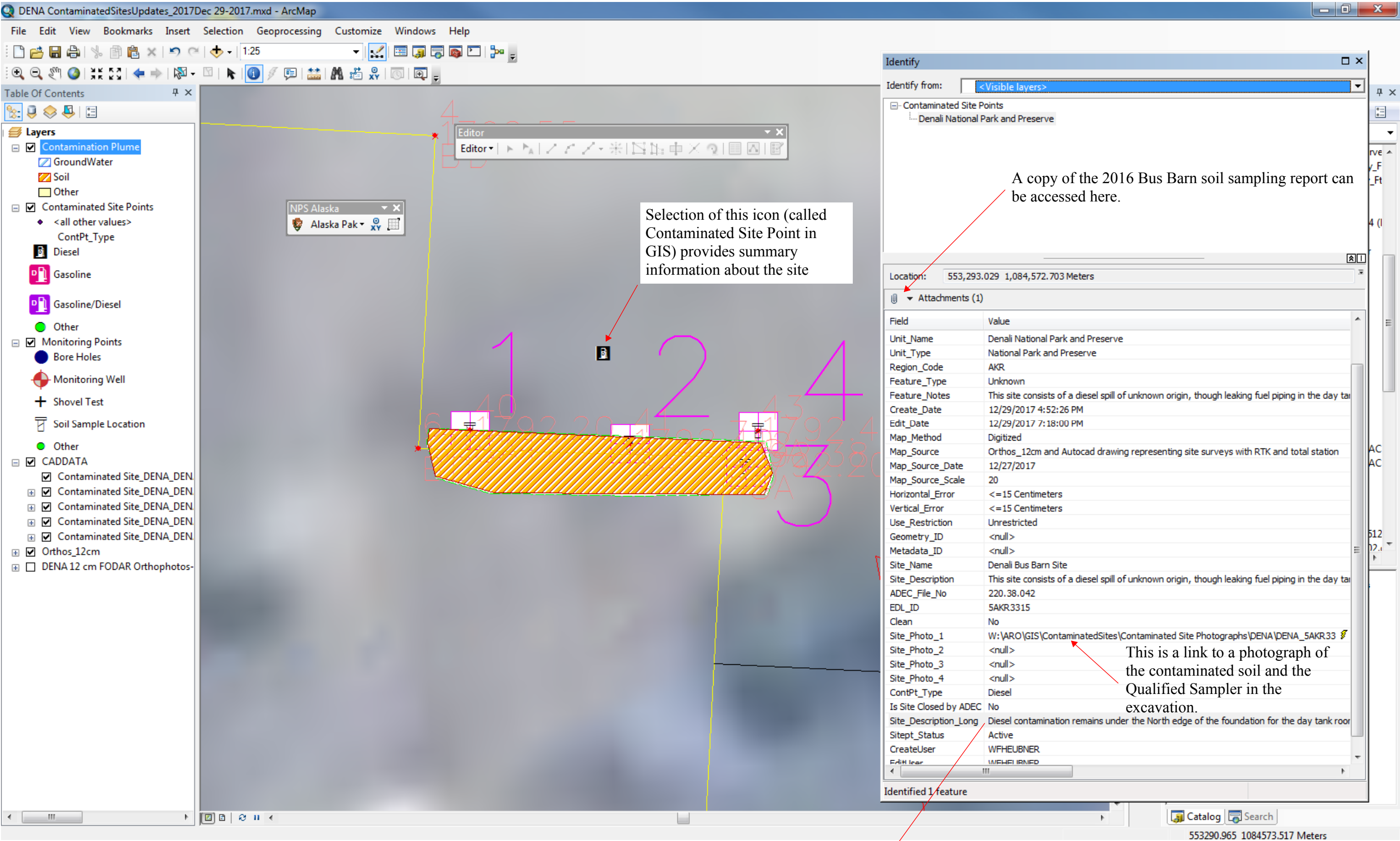


Figure 2- Screen Shot of Contaminated Site Summary Data in NPS GIS Database



Full text for Site Description-Long: “Diesel contamination remains under the North edge of the foundation for the day tank room. This soil must be removed by workers with PPE if the building is removed. No drinking water well shall be drilled in this vicinity.”

Figure 4- Screenshot of Soil Contamination Plume Data in the NPS GIS Database

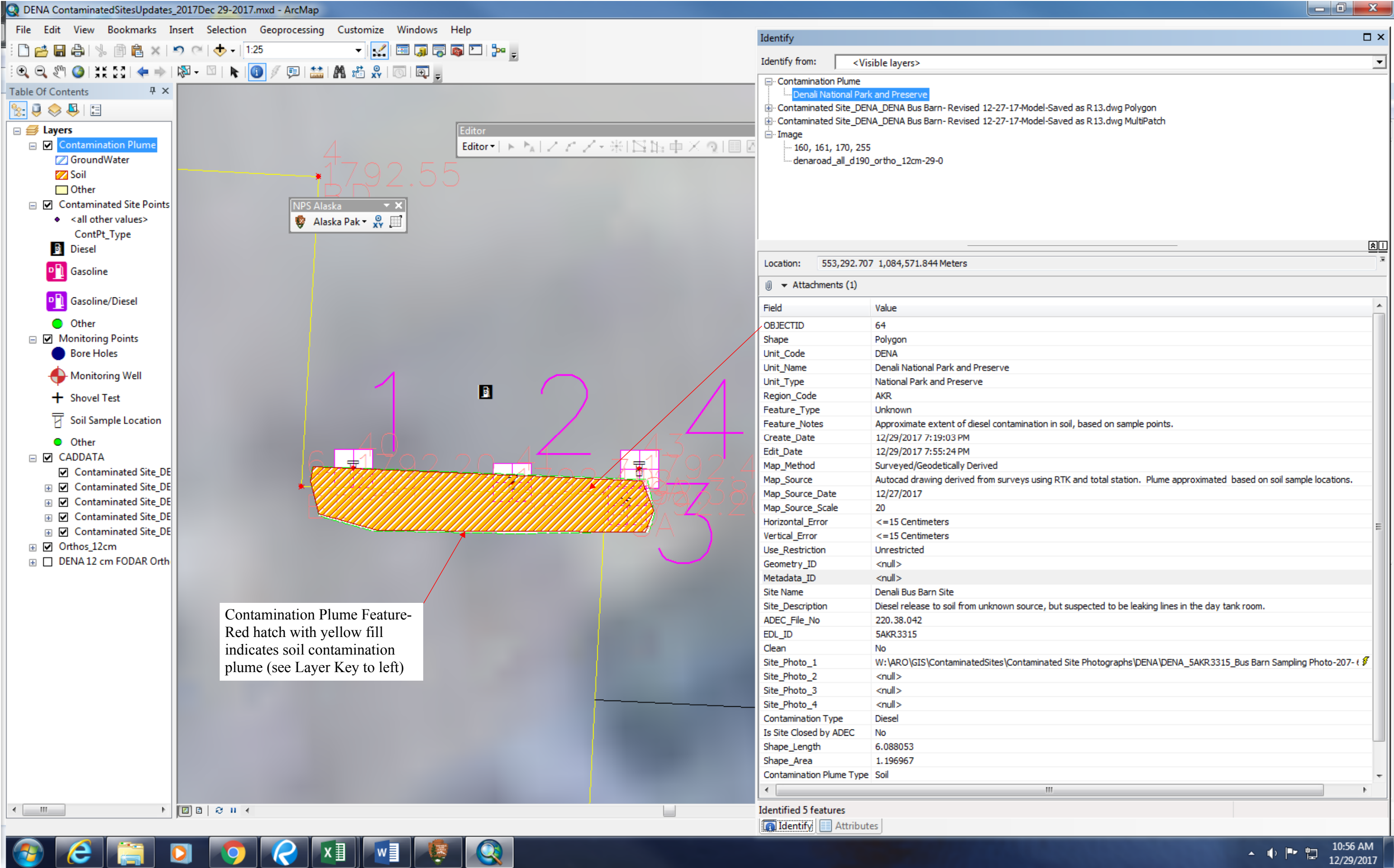


Figure 3- Screen Shot of Soil Sample Point Data (Data shown is for Sample DB-16-SS-04) in NPS GIS database

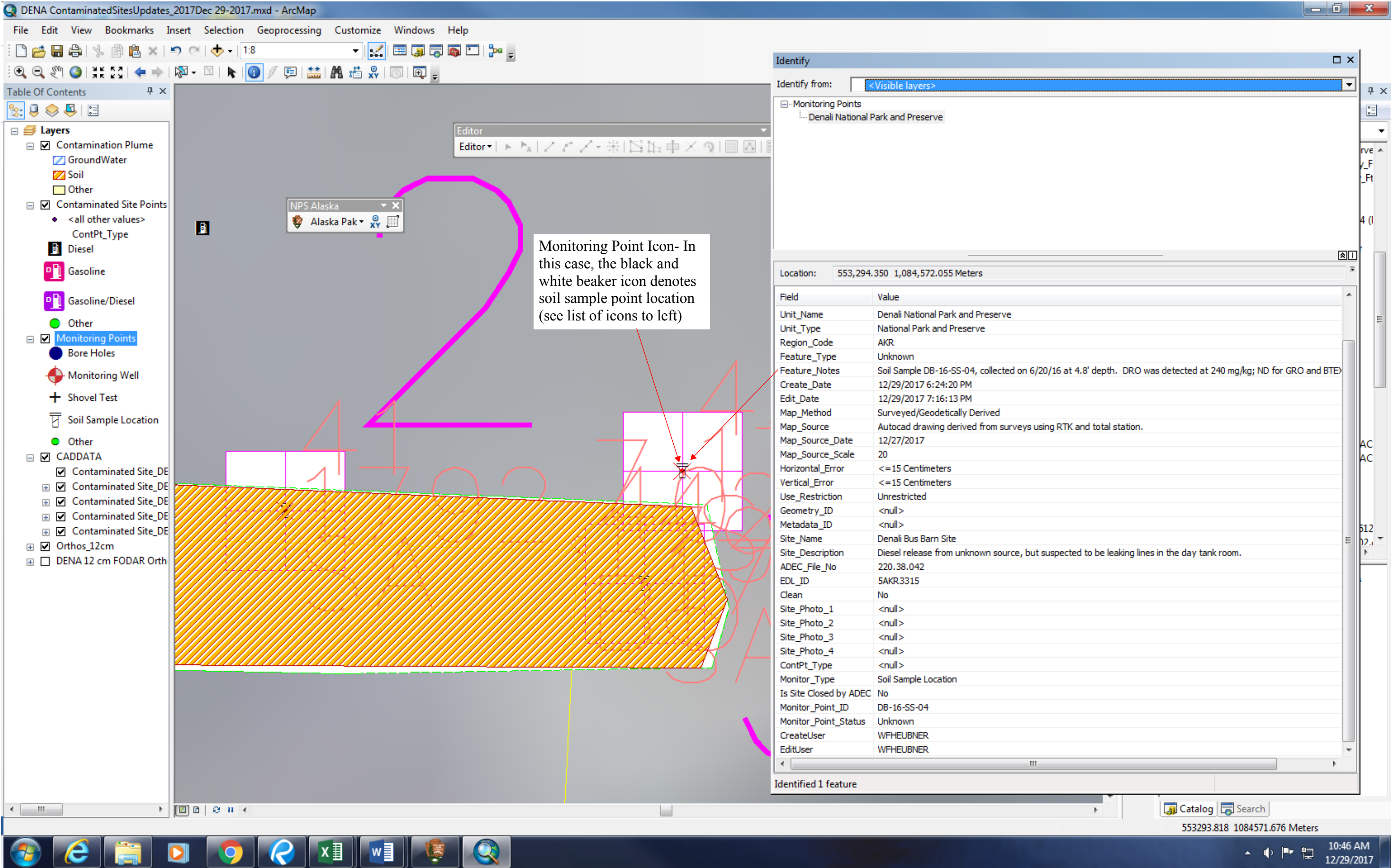


Figure 5. Environmental Screening Form Screenshot- As part of the NEPA process for any project, no matter how small, all environmental screening questions must be answered in order to obtain environmental compliance for the project. This data is stored in the Planning, Environment and Public Comment (PEPC) database, which tracks the environmental compliance status of all projects in the National Park Service.

DEPARTMENT OF THE INTERIOR | INBOX - richard_l_anderson | www.nps.gov/policy/MP20 | 'Serial' Season 2: What First | PEPC - Environmental Screening Form

https://pepc.nps.gov/est.cfm?menuLink=true&mode=edit&projectId=62703

Apps | Imported From IE | BISON CONNECT | Calendar | DOI Contacts | eMail 4fjord4@gmail... | EPC | ERTS | Facebook | Finance, NerdWallet | FOIA Tracking | Google

PEPC
Planning, Environment and Public Comment

National Park Service
U.S. Department of the Interior

Home | Parks | Project / Search | Reports | Tools | Admin | Logout

Project Home

1 Project Setup

2 Funding

3 Internal Scoping / IDT Tasks

4 Natural/Cultural Compliance

- Compliance Summary
- ESF
[View](#) | [Edit](#)
- NEPA
[View](#) | [Edit](#)
- Mitigations
- NHPA / CRM
[View](#) | [Edit](#)
- NHPA / CRM Specialist Reviews
- Other Compliance / Consultations
[View](#) | [Edit](#)
- Print Forms

5 Internal Documents / Comments

AKRO > 2016 Superintendent's Compendiums Alaska (62703) > Environmental Screening Form

Environmental Screening Form

Potentially Affected Resources | Park ESF Addendum Questions

[Save Answers](#)

Park Specific Project Screening Questions:

Question	Y	N	N/A	Notes
1. Are contaminated soils or contaminated groundwater in the project area? (Existing information should be available in GIS)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	

[Save Answers](#)