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# ENVIRONMENTAL BASELINE SURVEY

## Relinquishment of Property and Termination of Easements for Missile Alert Facility A-0, 446<sup>th</sup> Missile Squadron, Minuteman III Intercontinental Ballistic Missile System, Grand Forks Air Force Base, North Dakota

The United States Air Force (USAF) proposes to relinquish its jurisdiction over Missile Alert Facility (MAF) A-0 used for the Minuteman (MM) III Intercontinental Ballistic Missile (ICBM) system at Grand Forks Air Force Base (AFB), North Dakota. The MAF A-0 is one of 165 land components that made up the missile system. The Air Force will offer the land for sale to the public, and terminate various easements and licenses that were executed to support the MM III system. First priority of consideration is to current adjacent landowners, who must pay fair market value.

This Environmental Baseline Survey (EBS) is in support of the Air Force's proposal to relinquish MAF A-0. It accompanies an EBS on the entire 446<sup>th</sup> Missile Squadron (446 MS). The 446 MS EBS provides general information pertaining to activities and conditions that are common to all missile sites within the MS, including survey methodology, history and current use, and squadron-wide information pertaining to environmental setting, hazardous substances, and environmental investigations and sampling. The 446 MS EBS is incorporated by reference. This MAF A-0 EBS provides site-specific information regarding the legal property description, environmental conditions, sampling results (if applicable), adjacent properties, compliance issues, the category finding, and recommendations. Site-specific figures, contained in Appendix A of this EBS, include: a regional map showing topography, water and wetlands (if present), and other features (Figure A-0-1); a site map also showing relevant topographic features, along with structures and sampling locations (Figure A-0-2); and photographs taken during the site inspection (Figure A-0-3 and following).

The EBSs were prepared in accordance with Air Force Instruction (AFI) 32-7066, *Environmental Baseline Surveys in Real Estate Transactions* (April 25, 1994), American Standards for Testing Materials (ASTM) publications E 1527-00, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, and E 1528-00, *Standard Practice for Environmental Site Assessments: Transaction Screen Process*.

### 1. PURPOSE FOR THE ENVIRONMENTAL BASELINE SURVEY

The purpose of this EBS is to identify and document environmental conditions at MAF A-0, in order to make decisions in connection with a property transfer.

### 2. SURVEY METHODOLOGY

A discussion of the general survey methodology (approach, site inspections, personnel interviews, documents reviewed, and other information sources) is provided in the 446 MS EBS. Site-specific sampling results are presented within this EBS.

### 3. FINDINGS FOR SUBJECT PROPERTY

MAF A-0 is located in north-central Cavalier County, North Dakota, 7 miles west and 4 miles north of the town of Langdon and 79 air-miles northwest of Grand Forks AFB. Topographically, the site is on a flat to gently rolling glacial till plain that has approximately 20 feet of relief in the surrounding area (see Figure A-0-1). Regional drainage is poorly to moderately developed by north and northwest-trending intermittent streams. Small, undrained depressions are common throughout the

area. The site is in a gently undulating, cultivated field. Maximum relief within the site area is approximately 10 feet. Gravel pits lie one mile southwest of MAF A-0 (USGS, 1970d).

### **3.1. History and Current Use**

The history of the site is discussed in the 446 MS EBS. The site contains approximately 21.34 acres. The legal description is found in the real property records at Grand Forks AFB.

An unnamed county road borders the site on the south (see Figure A-0-2). The U.S. Air Force boundary extends to the middle of this county road (USACE, 1964). There are no Federal or State highways adjacent to MAF A-0.

There are three easements at this site for overhead power lines. These are located in Township 161 North, Range 61 West, Sections 12 and 13 (about  $\frac{3}{4}$  mile east and 2 miles south of the site). Two of the easements cover an area of 3.03 acres each, and the third covers 2.96 acres (USACE, 1971). Verification of the boundaries of these easements and their disposition, as well as a more detailed legal description, title documentation, and information on the termination of easements, will be found in the Declaration of Excess prepared by the U.S. Air Force and the U.S. Army Corps of Engineers.

### **3.2. Environmental Setting**

#### **3.2.1. Site Inspection Summary**

Figure A-0-2 shows a view of the former MAF. The site is bordered on all sides by agricultural fields. The sewage lagoon has been closed and the ground has been graded (see Figure A-0-4). Rock that bordered the closed sewage lagoon has been placed in three piles, 8 feet tall and 15 feet in diameter, adjacent to the closed lagoon. There were power poles inside and outside of the fence surrounding the MAF.

Two aboveground propane storage tanks were located near the garage at the MAF. These tanks were active until Fall 2001, maintaining heat in the launch control support building (LCSB). An inspection of the LCSB and garage found an unconnected gas furnace and a gas pump stored in the garage. The air conditioner at the LCSB was still being maintained and contained freon, which was later removed (Vetter, 2001). The diesel tank inside the LCSB had been removed. There were no signs of hazardous materials remaining in the garage or LCSB. In September 2005, Grand Forks AFB personnel verified that the sites are still clean, with no spills or dumping (Koop, 2005).

#### **3.2.2. Geology**

In 1963, prior to construction of the MAF, three boreholes were drilled at the site to collect information on stratigraphy and groundwater at the site. One hole was drilled near the location for the launch control equipment building (LCEB) to a depth of 130 feet. Another hole was drilled near the location of the launch control center (LCC) to a depth of 100 feet. The final hole was drilled near the water storage tank located under the LCSB to a depth of 80 feet. Glacial overburden at the site extends to depths of 18 to 20 feet. The material at the LCEB and water tank locations consists of slightly organic silt to two feet underlain by sandy to silty clay to 13 feet and clay with numerous shale fragments to 20 and 18 feet, respectively. At the LCC, the material consists of sandy silt to 7 feet underlain by sandy to silty clay that contains a thin sand unit from 12 to 14 feet. Bedrock encountered at depths of 18 to 20 feet is the Pierre Formation of Cretaceous age, consisting of brittle, dark gray shale to the total depth of the borings. The shale is highly to moderately fractured to a depth of 88 feet and slightly fractured and bentonitic in part below this depth (USAF, 1963).

### **3.2.3. Soil**

This site contains four United States Department of Agriculture (USDA) soil series (Cavour-Cresbard loam, Easby loam, Hamerly-Tonka loams, and Vallers-Hamerly loams) consisting of various layers of loam, clay loam, and silty clay loam. The Hamerly-Tonka and Vallers-Hamerly loams have seasonal high water tables ranging from 0.5 feet above the surface to 4.0 feet below the surface from April through July. The Easby loam, located near the southeast corner of the property, has a seasonal high water table from 4 to 6 feet from September to June. The Cavour loam has a seasonal high water table of greater than 6 feet. Permeability ranges from very slow to moderate. The rate of water movement in the soil is slow to very slow. The Tonka, Vallers, and Easby are hydric soils that experience saturation and ponding. None of these soils experience flooding (USDA, 1990).

### **3.2.4. Hydrology**

The average depth to groundwater at MAF A-0 is 6 feet (USAF, 1963). There are no intermittent lakes within 1,500 feet or perennial lakes within 2,500 feet of MAF A-0. An unnamed intermittent stream located about 20 feet southeast of the southeast corner of the MAF (see Figure A-0-2) drains into Mulberry Creek. Both streams are within the Pembina River Drainage Basin (USGS hydrologic unit catalog 09020313) (USGS, 2001).

### **3.2.5. Wetlands**

Federally delineated wetlands under the National Wetland Inventory are located 50 feet southeast and 1,240 feet southwest of MAF A-0 (USFWS, 2001). There are no delineated wetlands on Air Force property. See Figures A-0-1 and A-0-2.

## **3.3. Hazardous Substances**

Hazardous materials (including sodium chromate solution, PCBs, chromium, mercury, cadmium, and lead) were used at the MAF for operation of the facility, as well as for maintaining and cleaning the MAF. All hazardous materials have been removed from the site with the exception of liquid propane, which was stored in an aboveground tank and was used to heat the facility. The tank and contents will be left for the future property owners. MAF A-0 is listed as a Resource Conservation and Recovery Information System (RCRIS) site where hazardous waste (including battery acid, paint and solvent waste, and sodium chromate solution) was generated or temporarily stored. During the inspection in October 2000, no evidence of hazardous waste was present.

## **3.4. Installation Restoration Program**

MAF A-0 was sampled during a site investigation for the 446 MS. Three types of samples were collected and analyzed for this site: sewage lagoon sludge sample, soil sample south of the MAF, and wastewater samples from primary and secondary lagoon. The samples were analyzed for priority pollutant metals (PPM), molybdenum, phosphorus, and potassium; all analytes were below regulatory limits. Seven sludge samples were tested for fecal coliform, and were below regulatory limits (USAF, 1999b). This site is not part of the Grand Forks AFB Installation Restoration Program and no remediation is required.

## **3.5. Storage Tanks**

During a tank testing program a leaking underground storage tank (UST) was located at the MAF (see Table A-0-1), but the cleanup was completed in 1994. As part of the dismantlement process, the 7,000 gallon water tank and the 40,000-gallon demineralized water tank were left in place. The deep-buried 15,000-gallon diesel fuel tank near the LCC was closed in place in accordance with state

guidelines (cleaned and filled with sand). Soil testing was conducted adjacent to the diesel tank at the time of closure and did not detect hydrocarbons (USAF, 2000c). The two propane tanks behind the garage remain and will be left for the future owner of the property. All other tanks were removed. Sampling conducted in 1999 found no contamination (USAF, 1999b). No contamination was observed during the site inspection during October 2000.

<b>Table A-0-1 Leaking Underground Storage Tank</b>							
<b>No.</b>	<b>Facility ID</b>	<b>Location</b>	<b>Owner Name</b>	<b>Owner Address</b>	<b>Date</b>	<b>Status</b>	<b>County</b>
1	2024 GFAFB	Dresden, ND 58226, MAF A-0	GFAFB	319 CES/CEVC 525 Tuskegee Airmen Blvd Grand Forks AFB, ND 58205	10/26/94  10/27/94	Confirmed Release  Site Cleanup Completed	Grand Forks
Source: NDDH, 2002b							

### 3.6. Oil/Water Separators

There were no oil/water separators at MAF A-0.

### 3.7. Pesticides

Pesticides were used at regular intervals between the early 1960s and the late 1990s to control weed and plant growth (herbicides) and insect pests (insecticides) at MAF A-0. Modeling of pesticide degradation based on application rates of applied formulations indicated that only negligible residues would remain within one year of application (USAF, 1999a). Recent spot treatments have been used sporadically to supplement mowing for noxious weed control. Since these treatments involved smaller treatment areas and lower application rates than the previously modeled applications, they would also be predicted to result in negligible pesticide residues at MAF A-0 after one year.

### 3.8. Medical or Biohazardous Waste

Air Force personnel temporarily lived at MAF A-0 and occasionally generated medical waste. All solid waste (including medical waste) generated at the site was gathered and transported for disposal at Grand Forks AFB. There were no biohazardous wastes associated with the MAF. Consequently, there is no risk of exposure to medical or biohazardous wastes at the dismantled site.

### 3.9. Ordnance

Security forces were present at the MAFs to protect the facility and surrounding LFs. All weapons and ordnance used to protect the sites have been removed from the MAFs. There are no remaining munitions at MAF A-0.

### 3.10. Radioactive Waste

Neither radioactive waste nor mixed waste (radioactive and hazardous waste combined) was generated or stored at MAF A-0.

### **3.11. Solid Waste**

Solid waste generated at MAF A-0 was collected and returned to Grand Forks AFB for proper disposal. During dismantlement activities, any solid wastes generated (except construction rubble) were collected and disposed off-site by a government contractor. Construction rubble was placed down the elevator shaft during dismantlement. The shaft was subsequently sealed with concrete to limit access to the subsurface. Although the site may qualify as an inert solid waste landfill under *North Dakota Administrative Code* 33-20-02.01-01 and 33-20-05.01, a permit was not needed because all construction rubble placed in the elevator shaft was generated on Air Force property. All appropriate design criteria were followed for a permit-exempt inert solid waste landfill according to the *North Dakota Administrative Code* 33-20-02.01-01 and 33-20-05.01. There are no other solid waste disposal sites at MAF A-0 except for the primary and secondary wastewater lagoons (discussed in Section 3.13).

### **3.12. Groundwater**

At MAF A-0, there are deep-buried USTs that may have a PCB coating. Because of the potential to leach PCBs into shallow groundwater, no water wells can be installed at the site (PCBs are discussed in Section 3.16).

### **3.13. Wastewater Treatment, Collection, and Discharge**

At each MAF, including A-0, a system was designed to treat, collect, and discharge wastewater. Sewage was collected and pumped to a dual-celled lagoon. The lagoon cells were closed in accordance with State requirements. The sewage lagoon sludge was landfarmed by removing the sludge, setting it aside, and grading the lagoon area. The sludge was then spread over the soil and mixed in with the top six inches of soil (USAF, 1999a; Koop, 2001). At the time of sampling, the primary lagoon had been cleaned out and no sludge remained for sampling. Seven sludge samples were collected from the secondary lagoon. Only two of the seven samples detected fecal coliform, but both were well below regulatory limits. Sludge samples for PPM, molybdenum, ammonia, nitrate, nitrite, percent solids, and total nitrogen, phosphorus, and potassium were all below regulatory limits according to 40 CFR 503. Surface water samples for PPM, molybdenum, phosphorus, potassium, biochemical oxygen demand, total suspended solids, oil and grease, and pH were all below regulatory limits (USAF, 1999b).

### **3.14. Drinking Water Quality**

The potable well at MAF A-0 has been closed in accordance with North Dakota requirements (Vetter, 2001). The well had not been used for several years because of its marginal quality, and water at the MAF was provided by a rural water system and piped to the site. The external coating of the 15,000-gallon UST closed in place may contain PCBs and negligibly affect shallow groundwater.

### **3.15. Asbestos**

The diesel electric unit (DEU) exhaust systems in the LCSB and LCEB contain asbestos insulation under a metal sheet covering. MAF A-0 is assumed to contain asbestos at the elbows and joints of water pipe insulation on the heating system (asbestos sampling results indicated that molded pipe joints on the heating system contained non-friable asbestos). Additional sources of asbestos include floor tiling (at the LCSB and the LCC), and vinyl base mastic and vinyl floor tiling in a closet at the LCSB (Hustad, 1997; Rudolf, 1998). The external coating of the 15,000-gallon UST closed in place may contain asbestos.



### **3.16. Polychlorinated Biphenyls**

All equipment (e.g., electric filters, panels, and capacitors) that potentially contained PCBs was removed during the environmental safing process. Light ballasts that potentially contain PCBs at the LCSB were removed and replaced only because of failure; some remaining ballasts may contain PCBs.

Testing revealed a PCB coating on some tanks at MAFs (Eggleston, 1997). The heating oil tanks (TK-106) and generator tanks (TK-107) were removed at MAF A-0. Those tanks that were removed or replaced were tested for PCBs and all tested positive (Hustad, 1998). Soil samples taken from around the tanks found PCBs at low levels ranging from non-detect to 14 ppm (Maxim, 1995, USAF, 1994, Maxim, 1996, USPCI, 1996). These levels are below the criteria level of 100 ppm for cleanup at a low occupancy (rural) site with restricted access (40 CFR 761). The coating on the deep-buried 15,000 gallon diesel fuel UST that was closed in place at MAF A-0 might contain PCBs (Vetter, 2001). A more complete discussion of in-situ PCB disposal and sampling is included in the 446 MS EBS.

### **3.17. Radon**

The region can present a risk of exposure from naturally occurring radon. Subsurface areas are a concern for radon gas to build up if structures are inadequately ventilated. The United States Environmental Protection Agency (USEPA)-recommended action level is 4 picocuries per liter (pCi/l); on-base readings at Grand Forks AFB have ranged from about 4 to 20 pCi/l (Koop, 2001). The LCC and LCEB at MAF A-0 were hermetically sealed areas with filtration units for radioactive, biological, and chemical elements. The LCSB at the site did not contain a basement. No radon monitoring was conducted at the site because the subsurface structures were well ventilated (Rudolf, 2001).

### **3.18. Lead-based Paint**

Lead-based paint (LBP) may have been used on interior and exterior surfaces in buildings constructed prior to 1978. LBP in the LCSB was removed prior to dismantlement. The only LBP known to remain at the MAF is inaccessible underground in the former LCC (Vetter, 2001). However, the MAF buildings were constructed in the early 1960s and are assumed to contain LBP, although no testing has been conducted. Since LBP has not been used since 1978, it is almost certain that LBP in the above-ground structures has been covered by non-lead-containing paint in recent years. Future renovation (such as extensive sanding of painted surfaces, or cutting into walls) or demolition of the MAF buildings could expose workers and/or residents to lead. MAF structures do not meet the definition of target housing for LBP regulation.

Soil sampling for lead found 7.4 ppm; the sampling location is shown on Figure A-0-2. Although a standard has not been established for rural areas, these values are well below the urban residential standard of 1,200 ppm.

The paint may also have contained other heavy metals, such as cadmium, chromium and mercury. Water samples from the lagoons prior to closure did not detect cadmium, chromium, mercury, or lead (USAF, 1999b).

## **4. FINDINGS FOR ADJACENT PROPERTIES**

The site is surrounded by agricultural areas used for crop production. There are no National Priority List sites in North Dakota. No Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), treatment, storage, and/or disposal (TSD), or Emergency Response Notification System (ERNS) sites are located within search distances, as defined by

ASTM Standards (NRC, 2005; NDDH, 2002; NDDH, 2005; USEPA, 2005a; USEPA, 2005b; USEPA, 2005c; USEPA, 2005d).

## **5. APPLICABLE REGULATORY COMPLIANCE ISSUES**

Compliance issues are environmental conditions that may affect the transfer or use of the subject property. These conditions include historic property, prehistoric sites, traditional cultural resources, sensitive habitats, threatened or endangered species, wetlands, floodplains, seismic conditions, mineral resources, prime and unique farmlands or timberlands, and water rights. There are no prehistoric or traditional cultural resources at the site.

### **5.1. Historic Property**

The State Historical Society of North Dakota (SHSND) and the Advisory Council were consulted as part of the Environmental Impact Statement for the Minuteman III Dismantlement (USAF, 1999a). MAF A-0 was considered eligible for listing in the National Register of Historic Places. However, the U.S. Air Force and the SHSND have negotiated a Programmatic Agreement to retain a MAF (O-0) and LF (N-33) in the 448 MS. No restrictions for transfer of the property at MAF A-0 are required.

### **5.2. Sensitive Habitats**

MAF A-0 is not adjacent to or within any protected areas, such as national wildlife refuges, national or state wildlife management areas, or waterfowl protection areas. No disturbance to protected habitats should occur if the land is sold; therefore, no restrictions for the transfer of the property are required.

### **5.3. Threatened and Endangered Species**

No known threatened or endangered plant or animal species, or suitable habitat for such species, occur within the MAF (USAF, 1999a). No impacts to any protected species or their habitat should occur if the property is sold; therefore, no restrictions are required.

### **5.4. Wetlands**

The National Wetland Inventory has identified wetlands within 1,500 feet of the Air Force property boundary (see Section 3.5.4 and Appendix A). Although it is unlikely that a future owner of this site would disturb these wetlands, they may be subject to the *Clean Water Act*. No disturbance would result from the actual transfer of property.

### **5.5. Floodplains**

MAF A-0 is not within an area designated as a 100-year floodplain (USAF, 1999a). No impacts to any type of floodplain would occur if the property is sold; therefore, no restrictions are required.

### **5.6. Seismic Conditions**

MAF A-0 is situated in Seismic Hazard Zone 0. Seismic conditions are not a concern in the vicinity of the MAF; therefore, no restrictions are required.

### **5.7. Mineral Resources**

No economically recoverable mineral resources have been identified in the vicinity of the MAF; therefore, no restrictions are required.

## 5.8. Prime and Unique Farmlands or Timberlands

Part of this property is within prime and unique farmlands, but no timberlands have been designated in the vicinity of the LF. The Hamerly-Tonka complex is found only on the southwest corner of the property. The portion of this site designated as prime farmland is subject to the *Farmland Protection Policy Act* (Public Law 97-98).

## 5.9. Water Rights

If any water rights were acquired, they will be addressed in the Report of Excess to be prepared for each site by the U.S. Air Force and the U.S. Army Corps of Engineers (Noordam, 2001).

## 6. CONCLUSIONS

The following finding is based on a site inspection of MAF A-0 and a review of the EBS. The discussion includes property categorization factors, hazardous substances and facility disclosure factors, and the results of federal and state database searches. The MAF A-0 has been designated as:

Category 4 – Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions have been taken.

No data gaps have been identified.

## 7. RECOMMENDATIONS

The findings of this EBS indicate minimal potential for environmental contamination at MAF A-0. Therefore, it is recommended that the Air Force pursue the sale of the MAF A-0 property associated with the 446 MS of the former Minuteman III Missile System at Grand Forks AFB, ND.

Due to the presence of PCBs in coatings used on certain structures, there is a potential for low levels of PCB contamination in groundwater, and monitoring is underway. Consequently, there is a restriction on drilling to supply water, and this restriction should be disclosed to potential purchasers.

The portion of this land designated as prime farmland (discussed in Section 5.8) is subject to the *Farmland Protection Policy Act* (Public Law 97-98). Restrictions would apply to the conversion of the land to a non-agricultural use.

## 8. CERTIFICATIONS

This section summarizes the contamination issues that will result in deed restrictions upon transfer of the properties of the 446 MS. The signed certifications are found in the site-specific EBSs in Volume II of this document.

A search of Air Force files has revealed that hazardous substances, as that term is defined by the Air Force and in CERCLA, as amended, were used or stored for one year or more, known to have been released, or were disposed of on MAFs associated with the 446 Missile Squadron, Grand Forks AFB, ND, as described below. Section 8.1 addresses hazardous substances; PCBs and asbestos-containing materials (ACM) are addressed separately in Sections 8.2 and 8.3, respectively.

### 8.1. HAZARDOUS SUBSTANCES

The following notice provides the available information discovered as a result of a search of Air Force files pertaining to hazardous substances known to have been stored, released, or disposed of at the Site:

- **Petroleum Constituents.** Petroleum-containing materials were used at each MAF from approximately 1964 to 1998. The petroleum diesel USTs were closed in place in 1999 and

2000. Closure documentation was submitted to NDDH, who responded that the closure reports were satisfactory and that no further action will be required (NDDH, 2004).

- **Lead-Based Paint (LBP).** Lead-based paint was used on interior and exterior surfaces in buildings constructed or repainted prior to 1978. As noted in Section 3.16 of the 446 MS EBS, the only LBP remaining at the MAF is inaccessible below grade in the former LCC. Traces of LBP may remain around door posts and jambs within the LCSB, but would be below the contaminant regulatory level of 5.0 mg/l.
- **Priority Pollutant List Metals (PPL).** Soil samples for PPL metals (silver, arsenic, beryllium, cadmium, chromium, copper, mercury, nickel, lead, antimony, selenium, thallium, and zinc) were collected near the sewage lagoons at all MAFs. All samples detecting the presence of metals were consistent with local background concentrations and/or were less than levels requiring action by the NDDH.
- **Chromium (CAS# 7440-47-3).** An unquantified amount of chromium may have been contained in LBP used as coatings for underground structures, and if present is inaccessible below grade in the former LCC; sampling results were below action levels. A film of chromium coating was found in a filter in the LCEB air distribution system; the filters were removed and disposed off-site as hazardous waste.
- **Miscellaneous.** Limited amounts of hydraulic fluid, lead, mercury, cadmium, pesticides, solvents, coolants, paints, ordnance, and lead acid batteries may have been used and/or stored at each MAF. All materials were removed during deactivation, and no releases other than those deemed *de minimis* were identified. No concentrations of these and/or related constituents above their respective action levels were identified during environmental testing.

The Air Force has taken all remedial action necessary to protect human health and the environment with respect to any hazardous substances released, disposed of, or stored at the LFs, which are identified as excess to U.S. Air Force requirements and proposed for disposal.

## 8.2. POLYCHLORINATED BIPHENYLS (PCB)

The Real Property at MAFs associated with the former 446 MS, Grand Forks AFB, ND, is subject to restrictions due to PCBs as outlined below:

Liquid PCBs were used in equipment, such as capacitors and filters, when the missile system facilities were operational (1964 to 1998) but were removed during deactivation. No PCBs were detected in soil sampling conducted at the MAFs between 1998 and 2000.

**Non-liquid Polychlorinated Biphenyls (CAS# 1336-36-3).** Non-liquid PCBs were used in waterproofing materials during construction at the MAF beginning in 1964. Non-liquid PCBs are assumed to still be present in waterproofing materials at the MAF based on representative sampling. Testing in 1997 revealed a PCB coating on some tanks at MAFs; shallow buried tanks were removed from the site. The waterproof coating on one deep buried tank was tested for PCBs and none were detected. These tanks were closed in place. Soils adjacent to the removed tanks had PCB concentrations ranging from non-detect to 14 ppm. All TCLP-PCB concentrations were less than 10 parts per billion (ppb), and ranged from non-detect to 6 ppb. The UST was closed in place and most of the piping and conduit was disposed as *Toxic Substance Control Act*-PCB waste, and a limited amount of piping and conduit remains buried at the site. Low concentrations of total PCBs (0.05 ppm) were identified in representative samples of the HICS inner cable components, a short section of which is buried at each MAF. As a result, the following deed restriction applies:

- If HICS cabling is removed (at the landowner’s discretion and effort), the covering should not be burned because of the potential to release carbon monoxide from polysulfide components within the inner covering.

**Liquid Polychlorinated Biphenyls In Soil (CAS# 11097-69-1).** Liquid PCBs were used in equipment, such as capacitors and filters, when the missile system facilities were operational (1964 to 1998) but were removed during deactivation. The sump pump outfall soil was sampled between 1998 and 2000 to assess the potential of a liquid PCB release. Concentrations for PCBs ranged from non-detect to 4.1 ppm (well below the USEPA’s cleanup action level of 50 ppm) and no remedial action was required.

### **8.3. ASBESTOS-CONTAINING MATERIAL (ACM)**

The Real Property on LFs associated with the 446MS, Grand Forks AFB, ND, is in compliance with 40 CFR 61, Part M, as outlined below:

The Real Property on each MAF associated with the 446th Missile Squadron, Grand Forks AFB, ND, is in compliance with 40 CFR 61, Part M, as outlined below:

- At the MAFs, the DEU exhaust systems in the LCSB and LCEB contain asbestos insulation under a metal sheet covering. MAFs may also contain asbestos at the elbows and joints of water pipe insulation on the heating system (asbestos sampling indicated that molded pipe joints on the heating system contained non-friable asbestos). Additional sources of asbestos at the MAFs include floor tiling (at the LCSB and the LCC), and vinyl base mastic and vinyl floor tiling in a closet at the LCSB. The external coatings of the buried 15,000-gallon UST closed in place at the MAFs may contain asbestos. No other asbestos-containing materials (ACM) exist at or above grade at the Site.

Certified by:	<u><i>Randy McCart</i></u>	<u>October 13, 2005</u>
	Randy McCart	Date
	Project Manager	
	LABAT-ANDERSON INCORPORATED	
	Bellevue, Nebraska	

Approved by:	_____	_____
	Gary T. Maher, GS-15	Date
	Chief, Environmental Division	
	Headquarters U.S. Air Force Space Command	
	Peterson Air Force Base, Colorado	

## **APPENDIX A — MAPS AND PHOTOGRAPHS**

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- Figure A-0-1 Features Surrounding Former Missile Alert Facility A-0
- Figure A-0-2 Site Map of Former Missile Alert Facility A-0
- Figure A-0-3 View of Former Missile Alert Facility A-0 Facing East
- Figure A-0-4 View of Graded Sewage Lagoon at Former Missile Alert Facility A-0 Facing South

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