



## **Phase I Environmental Site Assessment**

Holcim (US) Inc.  
4629 North Overland Trail  
Laporte, CO 80535

22 July 2005

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Phase I Environmental Site  
Assessment

Holcim (US) Inc.  
4629 North Overland Trail  
Laporte, CO 80535

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## **Executive Summary**

ARCADIS G&M, Inc. (ARCADIS) was retained by Holcim (US), Inc. (Holcim) to conduct a Phase I Environmental Site Assessment (ESA) of 35.11 acres located at the Holcim Fort Collins, Plant, Colorado (Subject Property). The Subject Property is located at 4629 North Overland Trail in Laporte, Colorado. The location of the Holcim Fort Collins Plant and the approximate boundary of the Subject Property (35.11 acres at the Holcim Fort Collins Plant) are provided in Figure 1 and Figure 2, respectively.

The Phase I ESA was performed in accordance with the *American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E1527-00*. The Phase I ESA included a visual reconnaissance of the Subject Property, observation of adjacent properties, an environmental regulatory agency records review, review of available historical documents, review of available facility records, and interviews with knowledgeable personnel at the Plant.

Holcim, the user of this report, indicated the purpose behind conducting this assessment was to evaluate the environmental condition of the Subject Property prior to a potential property transaction. The Scope of Services for this ESA was set forth in the ARCADIS letter proposal to Holcim dated 5 July 2005. The Scope of Services in the proposal called for the ESA to be conducted in accordance with *ASTM E1527-00 Standard Practice for Environmental Site Assessments* and to comprise the following specific elements:

- Agency and historical records review;
- Interviews with knowledgeable personnel, if feasible;
- Visual site reconnaissance and observation of adjoining properties;
- Freedom of Information Act (FOIA) requests; and
- Report preparation.

The purpose of the ESA was to investigate conditions at the Subject Property and identify any Recognized Environmental Conditions. A Recognized Environmental Condition (REC) as defined in the ASTM standard is as follows:

“The presence or likely presence of any hazardous substances or petroleum products on property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substance or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. *The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment*

*and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.”*

Based on information obtained during the interviews and reconnaissance conducted on 7 July 2005 and information obtained through the database and historical review, no RECs were identified for the subject property.

## **1. Introduction**

ARCADIS G&M, Inc. (ARCADIS) was retained by Holcim (US), Inc. (Holcim) to conduct a Phase I Environmental Site Assessment (ESA) of 35.11 acres located at the Holcim Fort Collins, Plant, Colorado (Subject Property). The Subject Property is located at 4629 North Overland Trail in Laporte, Colorado. The location of the Holcim Fort Collins Plant and the approximate boundary of the Subject Property (35.11 acres at the Holcim Fort Collins Plant) are provided in Figure 1 and Figure 2, respectively.

The Phase I ESA was performed in accordance with the *American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E1527-00*. The Phase I ESA included a visual reconnaissance of the Subject Property, observation of adjacent properties, an environmental regulatory agency records review, review of available historical documents, review of available facility records, and interviews with knowledgeable personnel at the facility.

### **1.1 Purpose**

Holcim (the user of this report) indicated that purpose behind conducting this assessment was to evaluate the environmental condition of the Subject Property prior to a potential property transaction.

### **1.2 Detailed Scope of Services**

The Scope of Services for this ESA was set forth in the ARCADIS letter proposal dated 5 July 2005. The Scope of Services in that Agreement called for the ESA to be conducted in accordance with *ASTM E1527-00 Standard Practice for Environmental Site Assessments* and to comprise the following specific elements:

- Agency and historical records review;
- Interviews with knowledgeable personnel, if feasible;
- Visual site reconnaissance and observation of adjoining properties;
- Freedom of Information Act (FOIA) requests; and
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The purpose of the ESA was to investigate conditions at the Subject Property and identify any Recognized Environmental Conditions. A Recognized Environmental Condition (REC) as defined in the ASTM standard is as follows:

“The presence or likely presence of any hazardous substances or petroleum products on property under conditions that indicate an existing release, a past release, or a material

threat of a release of any hazardous substance or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. *The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.*”

Prior to conducting the inspection of the Subject Property, a review of available records was conducted. Data reviewed included:

- Environmental records available from Environmental Data Resources (EDR);
- Sanborn fire insurance maps;
- Aerial photographs; and
- Previous environmental investigation reports.

The reconnaissance included an assessment of the Subject Property with the objectives of identifying releases, past releases, or material threat of releases of hazardous substances or petroleum products, or evidence of such, at the Subject Property. This reconnaissance included, if applicable, but was not limited to, the following items:

1. Indications of spills or releases;
2. Evidence of on-site disposal practices;
3. Chemical, solid waste, and other environmental management practices;
4. Current or past usage of underground and aboveground storage tanks;
5. Adjacent land uses;
6. Identification of physiographic features;
7. Wastewater treatment;
8. Evidence of standing surface water;
9. Sources of drinking water;
10. Visual indications of equipment that may contain polychlorinated biphenyls (PCBs), if applicable; and
11. Potential sources of contamination or other environmental concerns.

The assessment did not include the collection or analysis of soil, air, water, groundwater, or material samples; nor was a title search conducted. Furthermore, no air related issues are included in this assessment.

### **1.3 Significant Assumptions**

ARCADIS has assumed that the information sources utilized for this investigation provide complete and accurate information. Evaluations presented in this report are based exclusively on information provided by Holcim or the facility representative, local agency personnel, available public records, and observations made during the visit to the site. No quantitative or qualitative field activities were conducted and no laboratory analyses were performed.

ARCADIS was provided with detailed descriptions and maps showing the limits or boundaries of the Subject Property. Therefore, ARCADIS has taken as true and accurate these representations and has not sought to independently verify the property boundaries. The limits of the Subject Property to this assessment were described by Holcim personnel and ARCADIS accepts as true their representations regarding where the Subject Property boundaries are.

### **1.4 Limitations and Exceptions**

This Phase I ESA is limited in nature and should not be construed to be a characterization of environmental regulatory compliance or of conditions above or below grade. ARCADIS performed the ESA by focusing on hazardous materials and petroleum usage, storage, and disposal areas.

The Phase I evaluations presented in this limited environmental assessment are based on information provided by Holcim personnel, available records, state file records, readily accessible historical documents, and observations made during the reconnaissance. In preparing this report, ARCADIS has accepted as true the information provided by Holcim personnel on current and historical operations of the Subject Property. ARCADIS warrants that the services performed were conducted in a competent and professional manner in accordance with sound consulting practices and procedures. ARCADIS cannot warrant the actual conditions described in this report beyond matters amenable to visual confirmation within the limits of this site assessment program. ARCADIS makes no express or implied representation or warranty that this document or the information contained herein is fit for a particular purpose, nor does ARCADIS make any representation or warranty regarding the accuracy or reliability of information or documents provided by other parties that are contained or relied on herein. This document and the information, findings, opinions, and recommendations herein have been prepared for the benefit only of Holcim, and no third party is intended as a beneficiary or intended to rely on this document or the information herein unless otherwise expressly stated in writing by ARCADIS.

### **1.5 Special Terms and Conditions**

No special terms and conditions are imposed in this ESA.

## **1.6 Reliance**

There are no third party rights or benefits conferred under this report. Use of this report is strictly limited to Holcim; the only party to whom ARCADIS intends to confer any rights. Any use of the contents of this report by any third party is at the sole risk of that party.

## **1.7 Deviations**

There are no deletions or deviations from the ASTM E1527-00 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

## **2. Site Description**

### **2.1 Location**

The Holcim Fort Collins Plant is located at 4629 North Overland Trail, La Porte, Colorado approximately five miles northwest of Fort Collins in Larimer County, Colorado (Figure 1). The legal description of the Subject Property is Section 17, Township 8 North, Range 69 West. The site entrance is approximately one eighth mile north of the intersection of County Road 21C and County Road 56, and approximately one mile north of the intersection of County Road 21C and Interstate 287. The Subject Property is approximately 35.11 acres at the Holcim Fort Collins Plant as shown on Figure 2.

### **2.2 Site Vicinity General Characteristics**

The Subject Property is located within a rural, undeveloped setting. The Holcim Fort Collins Plant (Plant) consists of the approximately 2,000-acre Boettcher Quarry (a limestone quarry) and remaining portions of a cement manufacturing plant. The quarry extends north from the Plant in an approximate one half by six mile area of property. The majority of the Plant is fenced and the surrounding properties are largely undeveloped, with the exception of light residential development to the east and south of the Plant.

#### **2.2.1 Current Use of the Subject Property**

The Plant is in shut down mode and no quarry mining operations and manufacturing of cement is currently taking place. Except for the office, buildings on the Subject Property have been vacated and are not currently in use.

### **2.3 Description of Structures**

The structures on the Subject Property include the following:

- Laboratory Building A;
- Storage Building (located south of Laboratory Building A);
- Laboratory Building B;
- Laboratory Services Building;
- Storage Building (located adjacent to the Laboratory Services Building);
- Former Test Plant Equipment and Structures;
- Plant Office; and
- Storage Dome.

#### **2.4 Current Uses of the Adjoining Properties**

The Subject Property is located at the Holcim Fort Collins Plant. Much of the Plant has been demolished and removed. Holcim continues to operate a cement distribution terminal (adjacent to the Subject Property). Structures include storage silos, a shipping station, warehouse, offices, and unloading station.

The Plant and Subject Property are in a rural area. The surrounding properties are primarily ranches, farms, and undeveloped land. The Colorado Lien lime hydration plant is located near the intersection of Highway 287 and North Overland Trail approximately one half mile south of the Subject Property.

There are no other structures surrounding the Subject Property.

### **3. User Provided Information**

#### **3.1 Title Records**

No chain-of-title was provided by Holcim, nor was one ordered by ARCADIS as per the scope of work.

#### **3.2 Environmental Liens**

No agreements with any third party or the regulatory agencies having jurisdiction of the Subject Property and concerning Holcim's environmental commitments were provided by Holcim; nor were any discovered by ARCADIS during the Phase I ESA reconnaissance activities.

### **3.3 Specialized Knowledge**

ARCADIS does not have any specialized knowledge of any consent orders or other environmental enforcement actions against Holcim at the Subject Property.

### **3.4 Owner, Property Manager, and Occupant Information**

The owner of the Plant is Holcim (US) Inc., located at 6211 Ann Arbor Road in Dundee, Michigan, 48131.

## **4. Records Review**

To obtain a historical perspective of the Subject Property and the regulatory status of the Plant and neighboring facilities, the following resources were ordered and/or reviewed:

- State and federal regulatory database records;
- Fire insurance maps; and
- Historical aerial photographs.

### **4.1 Standard Environmental Record Sources**

A regulatory database review was performed to obtain information about the use of the Plant, surrounding land use, and the potential for off-site environmental impacts to the Subject Property. The objective of the regulatory database review is to identify those sites that use, store, treat, generate, dispose of, or otherwise handle hazardous materials, or have been listed for known or suspected releases of hazardous substances.

ARCADIS retained Environmental Data Resources (EDR) to perform a database search of state and federal environmental records for search distances specified in ASTM Standard E 1527-00. The report produced by EDR is included as Appendix A.

#### **4.1.1 National Priorities List**

The National Priorities List (NPL) database identifies sites in need of remedial action. These sites are commonly referred to as “Superfund Sites.” The Plant was not listed in this database. No NPL sites were found within the one-mile search distance.

#### **4.1.2 CERCLIS/CERCLIS-NFRAP**

The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database includes sites that are either proposed to be

included on or are currently on the NPL and sites which are in the screening and assessment phase for possible inclusion on the NPL. The Subject Property was not listed in the CERCLIS database. Additionally, there was no CERCLIS site identified within the one and a half mile search distance.

#### 4.1.3 RCRA CORRACTS

The Resource Conservation Recovery Information System (RCRIS) Corrective Action database (CORRACTS) contains information pertaining to treatment, storage, and disposal (TSD) sites that have conducted or are currently conducting corrective action activities. The Subject Property was not listed in the CORRACTS database. Additionally, there was no CORRACTS site identified within the one and a half mile search distance.

#### 4.1.4 RCRA Treatment, Storage, and Disposal (TSD)

The RCRIS TSD database lists sites which treat, store, and/or dispose of hazardous waste. The Subject Property is not listed on the RCRA-TSD database. Additionally, there were no RCRA-TSD sites identified within the one-half mile search distance.

#### 4.1.5 RCRA Large Quantity Generators

The RCRIS Large Quantity Generators database lists sites that produce over 1,000 kilograms of hazardous waste per month. The Subject Property was not listed in this database. Furthermore, there were no other sites identified in this database within the three quarter mile search radius from the Subject Property.

#### 4.1.6 RCRA Small Quantity Generators

The RCRIS Small Quantity Generators (SQG) database lists sites that produce up to 1,000 kilograms of hazardous waste or one kilogram of acute hazardous waste per calendar month and do not store more than 6,000 kilograms of hazardous waste in any six-month period. The Subject Property was listed in this database; however, no violations were reported in the database report. No other SQG sites were identified in the database within the three quarter mile search distance.

#### 4.1.7 Emergency Response Notification System (ERNS)

ERNS is a national computer database that is used to store information concerning the sudden and/or accidental release of hazardous substances, including petroleum, into the environment. ERNS contains preliminary information on specific releases, including the spill location, the substance released, and the responsible party. The Subject Property was not listed in this database. Additionally, there were no ERNS sites identified in the database within the half mile search distance.

#### 4.1.8 State Hazardous Waste (SHW)

The SHW database is the State of Colorado equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds are identified along with sites where cleanup will be paid for by potentially responsible parties. The Subject Property was not listed in this database, and no SHW sites were identified within the one-mile search distance.

#### 4.1.9 State Landfill (SL)

The SL database records contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Section 2004 criteria for solid waste landfills or disposal sites. The Subject Property was not listed in this database. There were no SL sites identified within the one mile search distance.

#### 4.1.10 Underground Storage Tank (UST) Site

The UST database contains USTs registered with the State of Colorado. Under RCRA, most USTs are required to be registered.

Ideal Basic Industries (the former name of the Subject Property) located approximately one half mile south of the Subject Property is listed in the UST database. All USTs at the Subject Property are listed as “Closed.”

#### 4.1.11 LUST Sites

The State of Colorado LUST database lists inactive and active leaking underground storage tank (LUST) sites. The Subject Property appears on the LUST database with the status identified as “Closed.”

The Silica Sand Plant located approximately one half mile south and downgradient of the Subject Property is listed on the LUST database with its status as “Closed.”

#### 4.1.12 Voluntary Cleanup Program Site List (VCP)

The VCP database identifies the status of all voluntary remediation projects. The Subject Property does not appear on the VCP database. No other VCP sites were identified within the one mile search distance.

#### **4.2 Additional Environmental Records Sources**

ARCADIS reviewed federal and state environmental regulatory agency databases in addition to the ones required by the ASTM Standard E 1527-00 as provided by EDR. The report produced by EDR is included as Appendix A.

According to the EDR report, the Subject Property and surrounding properties were not listed within the applicable search distance for the following supplemental databases:

- Superfund (CERCLA) Consent Decrees (CONSENT);
- Records of Decision (ROD);
- National Priority List Deletions (Delisted NPL);
- Hazardous Materials Inventory Reporting System (HMIRS);
- Material Licensing Tracking System (MLTS);
- Mines Master Index File (MINES);
- Federal Superfund Liens (NPL Liens);
- RCRA Administrative Action Tracking System (RAATS); and
- Toxic Substances Control Act (TSCA).

The Subject Property address is listed in the following databases:

- Facility Index System/Facility Identification Initiative Program Summary Report (FINDS);
- PCB Activity Database System (PADS);
- the Toxic Chemical Release Inventory System (TRIS); and
- Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA)/TSCA Tracking System (FTTS).

No additional details are provided. The identification of the Subject Property in the above-listed databases does not warrant being identified as a REC.

An orphan site is a site that is unable to be plotted by EDR's database system because of poor or inadequate address information. The EDR report identified 19 orphan sites

located within the ASTM Search distances. The identified orphan sites do not appear to be located adjacent to the Subject Property. The identified orphan sites are not believed to have an impact on the Subject Property, and therefore, are not identified as a REC.

### **4.3 Physical Setting Sources**

#### **4.3.1 Topography**

The Subject Property is located in Larimer County, Colorado, approximately five miles northwest of the city of Fort Collins and approximately two miles north of the town of Laporte.

The Subject Property is situated at the western boundary of the Colorado Piedmont section of the Great Plains physiographic province, which is adjacent to the Southern Rocky Mountain Front Range physiographic province. Streams have eroded these two divisions into mountains, hogbacks, pediments, canyons, and valleys. These landforms are the product of late Tertiary and Quaternary erosion, which was controlled by the structure and the varying hardness of the underlying bedrock.

Locally, two lakes and two intermittent water courses exist near the Subject Property: Curtis Lake, Dealy Reservoir, the Larimer County Ditch, and the Poudre Valley Canal. Curtis Lake is located approximately one half mile northeast of the Plant, and Dealy Reservoir is located directly south of Curtis Lake. The Larimer County Ditch flows through property owned by Holcim but not through the Subject Property. The ditch flows from the south in a northerly direction before turning east toward the plains. This ditch feeds Curtis Lake and has historically been used for irrigation, stock watering, and as cooling water for the Plant. The Larimer County Ditch is capable of drawing approximately 67,800 acre-feet per year of water from the Cache La Poudre River. The Poudre Valley Canal flows west to east approximately one mile north of the Plant but not on the Subject Property.

The Subject Property is located at approximately 5200 feet above mean sea level (msl). Surface drainage is generally to the northeast towards Curtis Lake.

#### **4.3.2 Geology**

Bedrock in the vicinity of the Subject Property is composed of elements of the Pierre Shale and Niobrara Formations. These formations are of late Cretaceous age and generally dip eastward from the foothills, with the exception of the area immediately north of Fort Collins where the formations have been folded into a series of north-trending anticlines (URS, 1993).

The Niobrara Formation consists of chalky shales and thin-bedded chalky limestones. The basal limestone unit forms a persistent low hogback along the eastern margin of the foothills. Limestone from outcroppings of the Niobrara Formation is mined extensively for cement manufacturing purposes.

The Niobrara Formation is overlain by the Pierre Shale Formation which consists of a sequence of interbedded sandy shales, mudstones, and sandstones. Pediment deposits in the form of slopewash alluvium and colluvium cover the Pierre Shale Formation in the vicinity of the Plant. In general, the pediment deposits consist of dark red bentonitic clay and sand and gravel ranging in thickness from approximately 0 to 50 feet. Water bearing gravels associated with the pediment deposits are generally overlain by 1 to 30 feet of clay. In addition, the site may also be partially underlain by alluvial and river terrace deposits associated with the Cache La Poudre River basin. These alluvial deposits consist of clay, sand, and gravel, and have a maximum depth of approximately 80 feet below ground surface (bgs) (Water Resource Bulletin, 1993).

#### 4.3.3 Groundwater

Groundwater beneath the Subject Property is found in coarse sands associated with pediment, alluvial and river terrace deposits overlying the Pierre Shale and Niobrara Formations. Depth to groundwater ranges from 12 to 25 feet bgs. Water yields for the pediment and alluvial deposits average 15 gallons per minute (gpm) with a maximum yield of 200 gpm from irrigation wells located approximately one and a half miles northwest of the Plant. Irrigation wells completed in terrace deposits associated with the Cache La Poudre River typically yield approximately 300 gpm.

The average hydraulic conductivity of the pediment, alluvial and river terrace deposits is approximately  $10^{-5}$  centimeters per second (cm/sec). The average hydraulic conductivity for the Pierre and Niobrara formations is approximately  $10^{-7}$  cm/sec (URS, 1993).

#### 4.3.4 Watershed

ARCADIS performed an investigation of existing documentation regarding various environmental resources at the Plant in 2003. The investigation included the identification of wetlands and mapping the 100-year flood plan. Several small wetlands have been mapped in the area near the plant. The Subject Property is not included in this area of mapped wetlands, No flood plains have been mapped within the Subject Property.

#### **4.4 Historical Use Information on the Property**

##### **4.4.1 Fire Insurance Maps**

Historical fire insurance maps are reviewed, when available, to help investigate prior land use and to identify processes of facilities that might be an indication of storage or disposal of hazardous materials. ARCADIS ordered a search of historical fire insurance maps from EDR. Sanborn fire insurance map coverage was not available for the Subject Property.

##### **4.4.2 Aerial Photographs**

Aerial photographs were requested from EDR for review as part of the historical review but none were available. However, historical aerial photographs of the Subject Property and the surrounding plant for the following years were available on framed wall hanging at the plant office: (1) 1926, (2) 1980s, (1) 1990s and (1) 2002.

The historic aerial photographs show the Subject Property and the plant to be engaged in cement manufacturing with associated buildings and equipment. A railroad track is evident on the Subject Property on the 1926 photograph but is not evident on the 1980s and subsequent photographs. A Clinker shed and parking structure are evident on the 1980s and subsequent photographs but are not currently on the Subject Property.

No RECs were identified from historical photographs reviewed.

##### **4.4.3 Previous Environmental Investigations**

The following reports were reviewed by ARCADIS as part of this Phase I ESA:

- ARCADIS, 2003. Site Characterization Report and No Further Action Request Report;
- ARCADIS, 2003. Phase II Environmental Site Assessment. 7 March 2003;
- ARCADIS 2002. Asbestos Containing Materials Survey. 10 December 2002;
- Landmark Environmental, Inc. 2005. Asbestos Containing Materials Survey. 30 March 2005; and
- ARCADIS, 2003. Investigation of Existing Environmental Resources Documentation.

In addition, the ARCADIS Phase II Environmental Site Assessment references a previous Phase I ESA for the Holcim Fort Collins Plant (including the 35.11 acres of

the Subject Property) prepared by RMT in July 2002. According to the Phase II report, the Phase I ESA prepared by RMT in 2002 identified the following eight areas of concern (AOCs) at the plant:

- AOC 1: Disposal Areas;
- AOC 2: Cooling Water Pond and Landscape Areas;
- AOC 3: Underground Storage Tanks (USTs);
- AOC 4: Septic and Drain Fields;
- AOC 5: Tenant Parcels;
- AOC 6: Gear Oil Storage Areas;
- AOC 7: Above-Ground Storage Tank (AST); and
- AOC 8: Asbestos-Containing Material (ACM).

Only portions of AOC 4 and AOC 8 are located on the Subject Property. The Phase I ESA prepared by RMT in July 2002 was not available to ARCADIS during the preparation of this Phase I ESA.

The Phase II ESA summarized AOC 4 as follows:

*AOC 4 includes eight identified septic and drain fields that were located on site at Holcim. Historically, sanitary wastes were discharged to the eight septic tank and drain fields. Potential impact to site soil and groundwater through the septic and drain fields could have occurred if hazardous materials were improperly discharged through sinks or floor drains routed to the systems. There are no known reports of the septic and drain fields being sampled and analyzed.*

As part of the Phase II investigation, soil samples from two soil borings were collected and analyzed from the drain field near Laboratory Building A and B on the Subject Property. Arsenic was the only compound detected above the State of Colorado Tier 2 Residential, Commercial, and Industrial Soil Remediation Objectives. Arsenic is a common, naturally-occurring metal in soil and bedrock in Colorado that is observed to exist in soil at concentrations as high as 97 mg/kg (Shacklette, 1984). ARCADIS recommended that no further action be performed at AOC 4.

The drain field on the Subject Property has been investigated during the Phase II ESA (7 March 2003) and was determined to be free of impacts from hazardous materials

potentially improperly discharged through sinks or floor drains in the nearby buildings on the Subject Property. Therefore, the floor drains and underground pipes from buildings on the Subject Property and the drain field on the Subject Property are not considered as RECs.

AOC 8 was identified during the Phase II ESA because buildings at the plant (including building on the Subject Property) may contain ACM. AOC 8 is addressed in the following reports:

- ARCADIS 2002. Asbestos Containing Materials Survey. 10 December 2002; and
- Landmark Environmental, Inc. 2005. Asbestos Containing Materials Survey. 30 March 2005.

The ARCADIS 2002 ACM survey identified ACM in the following building on the Subject Property:

- Dry wall texture, wall plaster, and pipe insulation throughout the Plant office;
- ACM transite panels and pipes in the Laboratory A Building and associated Storage Building; the Laboratory A Building also contains ACM pipe insulation, ceiling texture in the restrooms, and sheet flooring materials.

In addition, the survey indicated that gaskets throughout the Plant that are internal to various process components such as air conveyors, pipe flanges, vibration collars, dust collectors, and ducting contain both friable and non-friable asbestos. The survey also identified that window glazing putty on older multi-paned windows throughout the Plant contain asbestos, rated fire doors throughout the Plant were assumed to contain asbestos in internal linings, and electrical wiring or transformers may contain ACM products.

*The Landmark 2005 report summarized that asbestos has historically been used in many types of construction materials and virtually all buildings constructed prior to 1980 have been found to contain asbestos. The U.S. EPA has stated in its Summary of Managing Asbestos In-Place (Green Book, 1990), "Intact and undisturbed asbestos materials do not pose a health risk". Given the status of much of the site and the low potential for disturbance of identified ACMs, Landmark recommends no immediate further action.*

*Furthermore, the Landmark 2005 report suggests a compliant alternate to abatement of intact ACMs is in-place management through an Operations and Maintenance Program (O&M Program). The purpose of an O&M Program is to implement practices and procedures that periodically inspect and maintain the ACM at the*

*project site and allow the ACM to remain in-place until removal is necessary. An O&M Program is a detailed approach to controlling the disturbance of AC, and will affect maintenance, cleaning, and contractor personnel who may need to work in close proximity to these materials.*

By definition, asbestos is excluded from CERCLA liability and is not included in the ASTM scope of work (see ASTM E 1527 Section X1.6.4.5) for Phase I ESAs. Therefore, the ACM identified in buildings, equipment, and structures at the Subject Property are not identified as RECs in this Phase I ESA.

Information in the Phase II ESA further indicates that AOCs 1, 2, 5, 6, and 7 (located at the Plant but not on the Subject Property) are not likely to have an impact on the Subject Property.

The ARCADIS, 2003 Site Characterization Report and No Further Action Request Report indicate that three leaking underground storage tanks were removed from the Plant (but not on the Subject Property) in October 2002. The report indicated that impacted soil was excavated and no further action was recommended. Therefore, releases from underground storage tanks are not likely to have impacted the Subject Property and therefore are not RECs.

#### **4.5 Freedom of Information Act (FOIA) Documents**

FOIA requests were not warranted in this Phase I ESA since necessary existing documents were available to ARCADIS.

#### **4.6 Historical Use Information on Adjoining Properties**

##### **4.6.1 Fire Insurance Maps**

Sanborn fire insurance map coverage was not available for adjoining properties.

##### **4.6.2 Aerial Photographs**

Aerial photographs of the Plant, as described in Section 4.4.2, were reviewed as part of this Phase I ESA. No other aerial photographs of adjoining properties were available for review, however.

### **5. Site Reconnaissance**

#### **5.1 Methodologies and Limiting Conditions**

Mr. Bruce Bush of ARCADIS conducted the reconnaissance of the site on 7 July 2005. Mr. Gordon Benton of Holcim accompanied Mr. Bush during the reconnaissance. The

Subject Property was defined by stakes placed in the ground by a survey crew and by documentation provided by Holcim. Mr. Bush and Mr. Benton discussed the Subject Property and historic operations at the Plant. The majority of the reconnaissance was spent inspecting the Subject Property and discussing historical operations at the Plant and on the Subject Property. No quantitative field activities were conducted during the Phase I ESA and no laboratory analyses were performed.

## **5.2 Site Setting**

The Subject Property consists of 35.11 acres and buildings and structures located on the 35.11 acres at the Holcim Fort Collins Plant. The remaining portions of the Holcim Fort Collins Plant, much of which has been demolished and removed, are not included in the Subject Property but are included in this Phase I ESA as an adjoining property.

The Holcim Fort Collins Plant and the Subject Property are shown on Figure 2. The general area of the Subject Property has been used as a quarry and cement manufacturing plant for over 80 years.

## **5.3 Observations**

The following information describes the general observations made during the reconnaissance at the Subject Property. Representative photographs of Subject Property taken during the reconnaissance are included in Appendix B.

### **5.3.1 Building Observations**

The following buildings are located on the Subject Property:

- Laboratory Building A;
- Storage Building (located south of Laboratory Building A);
- Laboratory Building B;
- Laboratory Services Building;
- Storage Building (located adjacent to the Laboratory Services Building);
- Former test plant equipment and structures;
- Plant office; and
- Storage dome.

Although floor drains, a drain field, and suspect ACM were observed in several of the above-mentioned buildings and structures at the Subject Property, previous investigations of these areas of concern have resulted in identifying no evidence of past releases that have impacted the environment or conditions that present a risk of harm to public health or the environment. Therefore, these areas of concern are not identified as a REC.

#### **5.4 Current Operations**

##### **5.4.1 Utilities**

The Subject Property is serviced by public utilities. Xcel Energy provides electricity to the Plant. Natural gas is provided to the Plant by Xcel Energy. Water is provided by the Northern Colorado Water Association. Wastewater is currently collected and treated on-site at a wastewater lagoon (pond). Water and wastewater utilities appear to have been disconnected at some of the buildings at the Subject Property. Also, according to Mr. Benton, wastewater from buildings at the Subject Property will be discharged to a septic field in the future.

No RECs associated with utilities were identified during the site reconnaissance.

##### **5.4.2 Material Handling and Storage Practices**

Containers of waste paint that are open and being allowed to solidify are stored in the Laboratory Services Building. Gasoline and motor oils are stored in the storage building located adjacent to the Laboratory Services Building in a flammable proof cabinet. No other significant materials were observed stored at the Subject Property.

No other RECs were identified for material handling and storage practices during the site reconnaissance.

##### **5.4.3 Solid and Hazardous Waste**

Other than the Plant office, the Subject Property is not currently being used. Solid waste from the Plant office is managed by Waste Management, Inc. No hazardous wastes are generated or disposed of at the Subject Property.

No RECs were identified for solid or hazardous waste during the site reconnaissance.

##### **5.4.4 Petroleum Products**

The following petroleum products were observed at the Subject Property:

- Gasoline in an above ground storage tank (AST); and

- Gasoline in 5-gallon or less containers in the storage building near the Laboratory Services Building.

No RECs were identified for petroleum products during the site reconnaissance.

#### 5.4.5 Above ground and Underground Storage Tanks

There is one above ground storage tank (AST) at the Laboratory Services Building. Although the size of the AST appears to be approximately 1,000 gallon capacity, Mr. Benton indicated that only 300 gallons of fuel is purchased at a time for the AST. Fuel is ordered only when the AST appears to be nearly empty.

Mr. Benton indicated that an AST had been recently removed from near the Laboratory Services Building. No evidence of a spill or release from the existing or removed AST was observed during the site reconnaissance. According to Mr. Benton, the Subject Property has and has had no underground storage tanks (UST).

No RECs were identified for ASTs and USTs during the site reconnaissance.

#### 5.4.6 Groundwater Contamination

Based upon the review of available records, field observations, and interviews conducted during the site reconnaissance, groundwater contamination is not known to be present on the Subject Property. RECs were not identified for groundwater contamination from the Subject Property during the site reconnaissance.

#### 5.4.7 Soil Contamination

Based upon the review of available records, field observations, and interviews conducted during the site reconnaissance, soil contamination is not known to be present on the Subject Property. RECs were not identified for soil contamination during the site reconnaissance.

#### 5.4.8 Water, Wastewater, and Storm Water

No RECs associated with water, wastewater, or stormwater at the Subject Property were identified during the site reconnaissance.

#### 5.4.9 Polychlorinated Biphenyls (PCBs)

Mr. Benton indicated that there are no PCBs at the Subject Property and, therefore, no RECs concerning PCBs were identified during the site reconnaissance.

#### 5.4.10 Mercury Containing Equipment

No RECs associated with mercury containing equipment were identified during the site reconnaissance.

## **6. Interviews**

The Subject Property and the adjoining Holcim Fort Collins Plant is managed by Mr. Gordon Benton. Mr. Benton has been employed by Holcim at the Fort Collins Plant for over 30 years. Mr. Benton was interviewed as part of this assessment and provided information on the Subject Property and the Holcim Fort Collins Plant. Mr. Benton led ARCADIS throughout the one-day tour of the site.

## **7. Findings and Opinion**

The following is a summary of the known or suspect environmental conditions associated with the Subject Property identified during the Phase I ESA.

- Floor drains and associated underground pipes leading from several buildings at the Subject Property to a drain field on the Subject Property had been previously identified as areas of concern. A previous Phase II ESA investigation documented that these potential sources of contamination have not impacted the underlying soil at the Subject Property above the State of Colorado Tier 2 Residential, Commercial, and Industrial Soil Remediation Objectives. Therefore, the floor drains, underground pipes, and the drain field are not identified as RECs in this Phase I ESA.
- ACM has been identified in several buildings and structures on the Subject Property. Since asbestos is excluded from CERCLA liability and from the scope of services of a Phase I ESA conducted in accordance with ASTM standards, ACM at the Subject Property is not identified as a REC in this Phase I ESA.
- Three leaking USTs were removed from the adjoining Holcim Fort Collins Plant in October 2002. According to the No Further Action Request (NFAR) report prepared by ARCADIS in 2003, these USTs have not impacted soil or groundwater on the Subject Property. Therefore, these USTs are not identified as RECs in this Phase I ESA.
- No other conditions were identified in this Phase I ESA as areas of concern.

## **8. Conclusions**

The above-referenced information was used to identify, to the extent practical and within the limitations of the Scope of Services, RECs associated with the Subject Property due to current or past land use disclosed by this study. This assessment has revealed no RECs at the Subject Property.

## **9. Deviations**

There were no exceptions, deviations, or deletions from the ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E 1527-00 as part of this Phase I ESA.

## **10. References**

ARCADIS, 2003. Site Characterization Report and No Further Action Request Report.

ARCADIS, 2003. Phase II Environmental Site Assessment. 7 March 2003

ARCADIS, 2003. Investigation of Existing Environmental Resources Documentation.

ARCADIS 2002. Asbestos Containing Materials Survey. 10 December 2002

Landmark Environmental, Inc. 2005. Asbestos Containing Materials Survey. 30  
March 2005

URS Consultants, Inc., 1993. Site Inspection Prioritization, Ideal Basic Industries.

Water Resources Bulletin, Volume 29, No. 4, 1993. South Platte River Basin –  
Colorado, Nebraska, and Wyoming.

## **11. Qualifications of Environmental Professionals**

### **Introduction**

Bruce Bush is an Environmental, Health & Safety and Security consultant as well as a Certified Environmental Professional with 19 years of experience in the consulting business. As an employee of ARCADIS since 1988, he has consistently provided cost-effective and multifaceted solutions to clients. Bruce Bush is an experienced project manager and is the National Account Manager for Amtrak nationwide.

### **Technical Capabilities**

Bruce Bush has made significant contributions to the development and implementation of environmental and safety management systems at industrial and governmental facilities throughout the United States. He is an experienced multimedia environmental compliance auditor and has performed vulnerability assessments at industrial facilities for security purposes. He has prepared numerous RCRA, Clean Water Act and Clean Air Act permit applications and associated plans for implementation. Mr. Bush has also performed numerous high-profile environmental site assessments and regulatory compliance audits for property transactions and mergers. An overview of his key projects is provided below.

## **Key Projects**

### **Representative Environmental Management Experience**

Bruce Bush prepared company policy documents and guidance documents as part of Amtrak's environmental management system. Company policy and guidance documents were prepared for hazardous waste management, universal waste management, stormwater pollution prevention, housekeeping, and recordkeeping.

As part of Amtrak's environmental management system, he has prepared standard procedures for vendor fueling, fueling inspections, crosstie management, RCRA inspections, SPCC inspections, waste disposal and recycling, oil filter disposal, and battery storage and disposal.

He has assisted Amtrak trainers with the development and preparation of Amtrak's environmental training program. Training was developed for stormwater pollution prevention, hazardous waste management, spill and response procedures, PCB management, wastewater systems, and air compliance. All training consisted of formal presentations with scripts, hands-on workshops, and field exercises.

For J&J Maintenance at the Air Force Academy, Brooks Army Medical Center, and J&J Maintenance Corporate offices, he has contributed as a team member to the planning and implementation of an Environmental Management System to be ISO certified. Contributions to the project included an aspects/impact analysis, preparation of standard operating procedures, training, regulatory register, and objectives and targets.

For Freightliner Truck Manufacturing Plants located in Portland, OR and Cleveland, NC, he has contributed to the planning and implementation of an Environmental Management System to be ISO certified. Contributions to the project included an aspects/impact analysis, preparation of standard operating procedures, training, regulatory register, and objectives and targets.

He has prepared environmental specifications covering all work to be performed at the U.S. Air Force Academy by government work forces. Specifications were prepared for federal, state, and local regulatory requirements, as well as Air Force, Department of Defense, and Army Corps of Engineers policy, procedures, guidance, and memoranda.

### **Representative Environmental Auditing Experience**

He lead a multimedia audit team responsible for auditing Freightliner Truck Manufacturing Plants located in Portland, OR, Cleveland, NC, and Ladson, SC. The

audits were conducted as in-house compliance audits under attorney-client privilege. Non-compliance findings and recommended best management practices were provided in the audit reports along with full documentation of applicable federal, state, and local requirements. He presented the audit findings to senior plant management at the plants.

He conducted environmental compliance audits for four Agilent Technologies facilities located along the front range of Colorado. Audits included all applicable federal, state, and local regulatory criteria with an emphasis on hazardous waste management, Emergency Planning Community Right-To-Know issues, air emissions, and water discharges. Audit reports were prepared for each facility that identified the findings of non-compliance with their regulatory citations.

He conducted an EPCRA audit of chemicals stored and used on-site at five Amtrak maintenance terminals in Illinois, Indiana, Louisiana and Florida. Tier 2 reporting and coordination with local emergency response providers was completed upon findings of the audit in accordance with EPCRA requirements.

He conducted environmental site assessments and multimedia compliance audits of four facilities located in New Mexico, Colorado, and Texas that are involved in the sale and service of heavy equipment prior to acquisition by a large corporation. The assessments and audits were conducted at the direction and satisfaction of legal counsel handling the corporate merger of the companies.

He conducted an environmental compliance audit of the Clean Harbors Waste Treatment and Recovery facility located in Kimball, Nebraska. The audit was conducted using the client requested audit checklist provided by the International Association for Environmental Corporation, Inc.

He served as the audit team leader and RCRA, CWA, and CAA auditor for an environmental audit of a chemical distribution company located in Arizona. The audit was conducted at the direction of legal counsel handling a potential corporate merger.

Under client/attorney privilege, he conducted an audit of deicing activities and stormwater discharge permit compliance for a major airline. He participated as an audit team leader and served as a technical reviewer for audit reports. He also participated as a trainer for other audit team members.

He has prepared an environmental site assessment and compliance audit of a large manufacturing facility (plumbing fixtures and pipes) located in Denver, Co. prior to a possible merger by another corporation. The audit included all applicable environmental and health and safety regulatory requirements.

He participated as audit team member conducting RCRA, Clean Water Act, Clean Air Act, and EPCRA audits at several manufacturing facilities in Colorado and New Mexico for clients that include Owens Corning, Lockheed Martin Astronautics, and Amtrak.

### **Representative Protective Engineering Experience**

He has prepared vulnerability assessments for the Centennial Water and Sanitation District (CWSD) water and wastewater systems. He identified baseline risk levels and new countermeasures to reduce unacceptable risk at CWSD assets. He determined the improved risk levels of assets upon the implementation of new countermeasures and their cost. He also prepared the CWSD Emergency Response Plan and coordinated the plan with the findings of the vulnerability assessment.

### **Representative RCRA Experience**

He has prepared RCRA Part B permit applications / modifications for Safety-Kleen service centers located in Blaine, Minnesota, Omaha, Nebraska, Albuquerque, New Mexico, and Sioux Falls, South Dakota. He conducted a site visit and collected site-specific information required for the preparation of the RCRA Part B applications / modifications. He developed an in-house Safety-Kleen RCRA permit application checklist to facilitate the efficient and effective preparation of future RCRA permit applications. All RCRA Part B permit applications / modifications contained all the required elements of a RCRA permit application / modification and were submitted for agency approval. He met with agency permit reviewers and participated in agency negotiations on behalf of Safety-Kleen. He also secured RCRA permits for Safety-Kleen service centers in a timely manner as needed to ensure the continued operation of the service centers.

He prepared RCRA Part A and Part B Permit Applications for a large aerospace manufacturing facility and an associated U.S. Air Force Base. Permitted units included several hazardous waste storage units and a thermal treatment unit. The scope of the project entailed a comprehensive reassessment of waste characteristics, the contingency plan, and solid waste management units. An audit of solid waste management units and their corrective action status over time was also prepared during this project under Attorney-Client Privilege.

He performed a survey to identify, describe, and evaluate potential solid waste management units and areas of concern at a U.S. Air Force Base located in Arizona as part of a Remedial Facility Assessment. The survey included a review of existing data, a visual site assessment, and the selection of units for further investigation.

He managed the successful closure of a permitted container storage unit at a Colorado Springs, CO semi-conductor manufacturing plant in accordance with the existing closure plan. Primary tasks included decontamination of the container storage unit, negotiations with the state lead agency, and the preparation of the closure report for submittal.

He served as Lead Hydrogeologist and Field Supervisor during the RCRA Facility Investigation at a large chemical distribution facility located in Albuquerque, New Mexico. He also served as the primary point of contact with the client Project Manager and state regulatory compliance personnel. He characterized the impacted aquifers and installed ground-water monitoring wells, ground-water recovery wells, and the vapor extraction wells for the implementation of corrective measures.

He served as Staff Hydrogeologist to collect and analyze ground-water quality and flow data for a RCRA Facility Investigation at a pharmaceutical manufacturing and research and development company. He participated in the design and installation of a ground-water collection trench with recovery wells for the subsequent Corrective Measures Study and Implementation at the facility. He also participated in the design and construction of a ground-water re-injection gallery for the re-injection of treated water.

### **Representative Clean Water Act Experience**

He prepared the USEPA Part 1 and Part 2 Group Permit Application for stormwater discharges for a group of over 250 Safety-Kleen. service centers located throughout the United States. He implemented the stormwater discharge-sampling program for a representative number of the Safety-Kleen service centers using personnel from approximately 15 different ARCADIS offices. He provided training and a stormwater sampling protocol to sampling personnel to ensure the efficient and cost-effective completion of the sampling program. He prepared a Stormwater Pollution Prevention Plan (SWPPP) template suitable for use by all service center group participant facilities. Also, he prepared the stormwater discharge construction permit for the construction of the Safety-Kleen headquarters in Elgin, Illinois.

He prepared USEPA Part 1 and Part 2 Group Permit Application for stormwater discharges for a group of over 15 Safety-Kleen. recycling centers located throughout the United States. He implemented the stormwater discharge-sampling program for a representative number of the Safety-Kleen recycling centers and provided training and a stormwater sampling protocol to sampling personnel to ensure the efficient and cost-effective completion of the sampling program. He also prepared site-specific Stormwater Pollution Prevention Plans for the recycling centers

He prepared the California Group Permit Application for stormwater discharges for a group of over 30 Safety-Kleen service centers located in California. California did not accept the USEPA group permit application and required a separate group permit applications. He implemented the stormwater discharge-sampling program for a representative number of the California Safety-Kleen service centers using personnel from ARCADIS California offices. He provided training and a stormwater sampling protocol to sampling personnel to ensure the efficient and cost-effective completion of the sampling program. He also prepared a Stormwater Pollution Prevention Plan template suitable for use by all California service center group participant facilities.

He prepared Spill Prevention Countermeasures and Control Plans and Stormwater Pollution Prevention Plans for over 30 railroad maintenance facilities and stations located throughout the United States. He provided on-site training and made recommendations for improved emergency response equipment and procedures. He also reviewed proposed SPCC regulations and prepared a summary of the proposed regulations.

He prepared an Integrated Clean Water Act Compliance Plan for a large aerospace manufacturing facility and an associated U.S. Air Force Base on an annual basis for approximately seven years. The plan included Stormwater Management Plan, an SPCC plan, and a Materials Containment Plan in compliance with federal and state Clean Water Act requirements. The integrated plan is updated annually and revised as needed to maintain current maps, descriptions of units, emergency response equipment, and emergency response procedures.

He managed the preparation of Stormwater permit applications and pollution prevention plans for a wide variety of industries including electronic plants, ceramics manufacturing facilities, warehouses, railroad facilities, and aerospace research facilities.

He evaluated on-site conditions with Stormwater Pollution Prevention Plans, SPCC Plans, and Oil and Hazardous Substance Spill Prevention and Response Plans for large Air Force Bases located in California and in Spain. He provided findings and recommendations for implementing best management practices and recommendations to ensure that the plans are in compliance with all applicable regulations.

He prepared SPCC plans for numerous natural gas pipeline stations located throughout the mid-western United States. The plans were prepared in accordance with a client requested format to establish emergency response procedures for the stations, many of which are not manned routinely.

Under client/attorney privilege, he conducted an audit of deicing activities and stormwater discharge permit compliance for a major airline at the New York LaGuardia, New York JFK, Denver International, Colorado Springs, CO airports and five other smaller airports.

He prepared Discharge Monitoring Reports for permitted wastewater discharges from a Colorado mine site using an environmental management database system. The database was populated with specific permit sampling and reporting requirements enabling the system to schedule compliance activities and prepare reports as required.

### **Representative Clean Air Act Experience**

In accordance with EPA's Risk Management Program requirements, he developed the Risk Management Program for a large food manufacturing company. He prepared risk management plans for six regulated facilities, conducted public meetings, and provided training for facility personnel responsible for implementing the risk management plan.

He developed the risk management program and prepared the risk management plans for two water treatment facilities owned and operated by the City of Louisville, CO. He also conducted a public meeting to describe the city's plan on behalf of the City of Louisville.

He developed the risk management program and prepared the risk management plan for the City of Pueblo, CO Wastewater Treatment Plant.

He prepared Air Pollutant Emissions Notices (applications) for several manufacturing facilities located in Colorado and Missouri. Sources of emissions included boilers, paint operations, and stack emissions.

He conducted sampling and data collection necessary for an investigation of indoor air quality at a large insurance company office complex. The investigation focused on possible bacteriological contamination in ceiling insulation resulting from a faulty humidification system.

### **Representative EPCRA Experience**

He prepared the Tier 2 report for a petroleum products storage and distribution company. The project included an inventory of all materials stored on-site and the determination of regulated chemicals.

He provided training to environmental staff of a hazardous waste management company concerning federal, state, and local spill release and reporting requirements.

He also prepared tables and flow charts to enable staff to easily determine reportable quantities from typical quantities of materials stored at the facilities.

## **Representative Environmental Site Assessment Experience**

He prepared a Phase I Environmental Site Assessment of a 122.4 mile rail segment from NA Junction, Colorado to Towner, Colorado prior to the purchase by the Colorado Department of Transportation. The assessment included the rail, bridges, maintenance buildings, ballast, and signals of the rail line as well as fueling depots and other facilities located on and adjacent to the right-of-way of the subject property.

He conducted an assessment of a 650-acre U.S. Air Force Facility to provide an estimate of the potential costs that may be incurred in the remediation of the property. Existing soil and ground-water data were compared with criteria developed to identify areas of known soil and/or ground-water contamination that require remediation. Where data was not available, potential areas of contamination were determined based upon circumstantial evidence. Appropriate remedial technologies and associated cost estimates were determined for both known areas of contamination and potential areas of contamination.

He conducted an environmental site assessment of the former Air Force Accounting and Finance Center in Denver, Colorado that consisted of 19 buildings totaling approximately 653,000 square feet on 37 acres. The assessment was conducted in accordance with applicable standards and included an investigation of potential site contamination by asbestos containing materials, lead containing materials, radon gas, and PCBs. The assessment also included an inspection of the site and adjacent properties for hazardous materials, conditions, and/or practices.

He conducted Phase I Environmental Site Assessments of the Breckenridge and Arapahoe ski resorts in Summit County, Colorado prior to property transactions. The assessments included multiple buildings, structures and thousands of acres of mountain property.

He conducted an Initial Site Assessment and modified Environmental Site Assessment workshop for Colorado Department of Transportation and Colorado Department of Public Health and Environment staff. Training included one day of classroom training and one day of field exercises.

For the Colorado Department of Transportation, he conducted a Phase I Environmental Site Assessments of I-25 from approximately C-470 to Castle Rock, CO and along I-85

from C-470 to Castle Rock, CO. These corridor studies were completed in advance of major construction along these routes.

### **Representative OSHA Experience**

He managed the development of a Process Safety Management (PSM) program for six food-manufacturing facilities regulated by OSHA PSM requirements. The team of process engineers and environmental scientists worked closely with plant personnel to develop the program. The major elements of the program included process safety information, process hazard analysis, operating procedures, training, contractors, pre-startup safety review, mechanical integrity, management of change, incident investigation, and emergency planning and response. A site-specific PSM manual was prepared and a 2-day training program was presented at each facility to enable on-site staff to implement the program.

He prepared emergency response procedures for a municipal water treatment system involving large amount of chlorine. The procedures were prepared in accordance with guidelines published by The Chlorine Institute.

He managed an investigation of asbestos, and lead based paint at an automobile dealership prior to demolition. This work included sampling, analysis, and the certification of findings as required by the state of Colorado.

He served as the project Health and Safety Officer and prepared project specific health and safety plans for several investigation and remediation projects at chemical distribution and pharmaceutical plants located in Colorado and New Mexico.

He conducted a health and safety evaluation for the City of Atlanta, Department of Watershed Management at the departments' water and wastewater treatment plants, pump stations and at associated activities. The evaluation included all applicable OSHA regulations and department requirements and resulted in a findings and recommendations report. The report documented the current conditions of the health and safety program and provided recommendations for the implementation of a management system in future years.

### **Representative SDWA Experience**

He managed and conducted a preliminary evaluation of the water distribution system at a large Air Force Base located in California. The evaluation included a review of previous SDWA reports and site inspections designed to collect information on the status of existing groundwater supply wells, pump stations, water treatment units, and storage tanks. The evaluation also included an extensive review of historical water

quality data, an analysis of the data compared to existing and proposed safe drinking water act standards, and the collection of new water quality data necessary to determine compliance with SDWA requirements.

He managed the detailed investigation of a water distribution system located in California. The water supply includes both on-site groundwater and surface water purchased from an off-site water agency. The investigation focused on the feasibility of blending groundwater with surface water prior to its distribution and included bench scale testing. Ideal blending ratios to achieve water quality standards and treatment alternatives were determined. Improvements necessary to the potable water distribution pipelines and related infrastructure were also identified.

He developed the wellhead protection program and prepared the wellhead protection plan for an Air Force Base located in California. The wellhead protection program was developed in accordance with federal, California, and Air Force SDWA requirements and guidelines.

## **Appendix A**

Environmental Data Resources, Inc.,  
Regulatory Database Report

## **Appendix B**

Photographic Summary