Kennedy/Jenks Consultants

405 E. Superior Street, Suite 250,
Duluth, MN 55802
218-464-4744
218-464-7303 (Fax)

Final Remedial Investigation Report For Operable Unit 6 at the Libby Asbestos Site Libby, Montana

30 April 2014

Prepared for

BNSF Railway Company
800 North Last Chance Gulch, Suite 101
Helena, Montana 59601

K/J Project No. 1349206.10

Table of Contents

List of Tables ..... *iv*

List of Figures ..... *iv*

List of Appendices ..... *iv*

List of Acronyms ..... *v*

Section 1: Introduction 1-1

1.1 Purpose and Report Organization 1-1
1.2 NPL Site History 1-2
1.3 OU6 History and Description 1-3
1.4 OU6 Definition 1-3
1.5 OU6 Land Use 1-3
1.6 Physical Site Characteristics 1-4
1.6.1 Physical Setting 1-4
1.6.2 Geologic Setting 1-4
1.6.3 Hydrologic Setting 1-5
1.6.4 Meteorological Setting 1-5
1.7 Investigation and Response Action History 1-6
1.7.1 Pre-2005 Investigation and Response Action History 1-6
1.7.2 Post-2005 Investigation History 1-11
1.7.3 Troy, Montana Documentation 1-16
1.7.4 Additional Potential Sources of ACM in OU6 1-17
1.7.5 Outdoor ABS Air Re-Analysis Results (August 2013) 1-18

Section 2: Sampling and Analysis 2-1

2.1 Summary of Existing Data in OU6 2-1
2.1.1 Excluded Data 2-1
2.1.1.1 Pre-2005 Soil Data 2-1
2.1.1.2 PCM NIOSH 7400 Method Air Data 2-1
2.1.1.3 Response Action Air Samples 2-2
2.1.1.4 Composite Stationary Air Sample 2-2
2.1.1.5 Field Quality Control Samples 2-2
2.1.2 Nature and Extent Data Set 2-2
2.2 Air Sampling Scenarios and Analytical Methods 2-3
2.2.1 Personal Air Sampling Scenarios 2-3
2.2.2 Personal Air Sampling Procedures 2-4
2.2.3 Stationary Air Sampling Scenarios 2-4
2.2.4 Stationary Air Sampling Procedures 2-5
2.3 Air Sample Analysis Methods 2-5
2.3.1 PCM 2-5
2.3.2 TEM 2-5

2.3.3 TEM AHERA 2-6
2.3.3.1 TEM ISO 10312 2-6
2.3.3.2 Supplemental TEM ISO 10312 2-7
2.4 Soil and Spoils Sampling Rationale and Procedures 2-7
2.4.1 Soil and Spoils Sampling Rationale 2-7
2.4.2 Soil and Spoils Sampling Procedures 2-8
2.5 Soil and Spoils Analysis Methods 2-8

Section 3: Data Recording and Data Quality Assessment 3-1

3.1 Data Recording 3-1
3.1.1 Site Databases 3-1
3.1.2 Libby2 3-2
3.1.3 Scribe 3-2
3.1.4 Response Manger 3-2
3.2 Data Quality Assessment 3-2
3.2.1 Comparison of Achieved and Target Analytical Sensitivities 3-2
3.2.2 Field Quality Assurance 3-3
3.2.3 Laboratory Quality Assurance 3-4
3.2.3.1 Laboratory Certification 3-4
3.2.3.2 Laboratory QC Samples 3-5
3.2.4 Field and Laboratory Procedure Modifications 3-5
3.2.4.1 Field Procedure Modifications 3-5
3.2.4.2 Laboratory Procedures Modifications 3-7
3.2.5 Data Verification and Validation 3-7
3.2.6 Comparison of Results to Investigation Data Quality Objective 3-7

Section 4: Nature and Extent of LA 4-1

4.1 Contaminants of Concern (COCs) 4-1
4.2 LA Asbestos in Air 4-1
4.2.1 Personal Air Samples 4-2
4.2.1.1 ABS Personal Air Samples 4-2
4.2.1.2 OSHA Personal Air Samples 4-2
4.2.1.3 Supplemental ABS Analysis 4-2
4.2.2 Stationary Air Samples 4-3
4.2.2.1 ABS Stationary Air Samples 4-3
4.2.2.2 OSHA Stationary Air Samples 4-3
4.3 LA Asbestos in Soil and Spoils 4-3
4.3.1 ABS Soil Samples 4-3
4.3.2 Asbestos in Undercutter Spoils 4-4

Section 5: COC Fate and Transport 5-1

Table of Contents (cont'd)

5.1 Releases to the Environment 5-1
5.2 Transport and Deposition 5-2
5.3 Transformation and Degradation in the Environment.....5-2

Section 6: Risk Assessment 6-1

Section 7: Summary and Conclusions 7-1

References..... *1*

Table of Contents (cont'd)

List of Tables

1 Summary of Investigations and Response Actions (2001-2011)
2 Summary of ABS Personal Air Sample Analysis (2008)
3 Summary of OSHA Personal Air Sample Analysis (2003-2011)
4 Summary of ABS Stationary Air Sample Analysis (2008)
5 Summary of OSHA Stationary Air Sample Analysis (2004-2010)
6 Summary of PLM-VE (Fine Fraction) Soil and Spoil Sample Analysis (2008-2009)
7 Summary of PLM-Grav (Coarse Fraction) Soil and Spoil Sample Analysis (2008-2009)
8 Summary of ABS Air Sample Supplemental Analysis (2013)

List of Figures

1 Operable Unit Boundaries
2 OU6 Boundaries and BNSF Mileposts

List of Appendices

A Libby Railyard Response Action 2004 Revised Construction Completion Report (March 2005)
B Libby Railyard Response Action Construction Completion Report Addendum (October 2006)
C Solid Waste With Vermiculite Removal Project, Concrete Bunker Structure, Troy, Montana (October 2010)
D Abandoned Concrete Structure, Troy, Montana (14 July 2011)
E Abatement and Clearance Air Monitoring Results – Libby, Montana Section House
F BNSF Asbestos-Containing Materials Database – Libby, Montana, Query
G BNSF Asbestos-Containing Materials Database – Troy, Montana, Query
H Figures from *Activity Based Sampling Summary Report – Public Receptors*

List of Acronyms

Abbreviation	Description
ABS	activity-based sampling
ACM	asbestos-containing material
AHERA	Asbestos Hazard Emergency Response Act
AIHA	American Industrial Hygiene Association
AMSL	above mean sea level
ATSDR	Agency for Toxic Substances and Disease Registry
bgs	below ground surface
BNSF	BNSF Railway Company
CB-UCL	count-based upper confidence limit
cc^{-1}	per cubic centimeter
CCR	Construction Completion Report
CDM Smith	Camp, Dresser, McKee, Smith
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	contaminant of concern
CSF	Close Support Facility
DQO	data quality objective
EDD	electronic data deliverable
EDS	energy dispersive spectroscopy
EMR	EMR, Inc.
EMSL	EMSL Analytical, Inc.
EPA	United States Environmental Protection Agency
ERT	Emergency Response Team
f/cc	fiber per cubic centimeter
FCO	field change order
feet/day	feet per day
FSDS	field sampling data sheet
GN	Great Northern Railway
HDR	HDR Engineering, Inc.
HEPA	high-efficiency particulate air
IH	industrial hygiene
ISO	International Organization for Standardization
IUR	inhalation unit risk
L/min	liters per minute
LA	Libby Amphibole
MP	Milepost
MCE	mixed cellulose ester

Abbreviation	Description
mm	millimeter
mm^2	square millimeter
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Standards and Technology
NPL	National Priorities List
NVLAP	National Voluntary Laboratory Accreditation Program
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PCM	phase contrast microscopy
PCME	phase contrast microscopy equivalent
PCM-Grav	PCM-Gravimetric
PE	performance evaluation
PEL	permissible exposure limit
PLM	polarized light microscopy
PLM-VE	polarized light microscopy-visual estimation
QA/QC	quality assurance/quality control
QC	quality control
RfC	reference concentration
RI	Remedial Investigation
ROD	Record of Decision
ROW	right-of-way
SAED	selective area electron diffraction
SAP	Sampling and Analysis Plan
SERAS	Scientific, Engineering, Response and Analytical Services
Site	Libby Asbestos Superfund Site
SOP	Standard Operating Procedure
SQL	standard query language
SRM	standard reference materials
s/cc	structures per cubic centimeter
TAS	target analytical sensitivity
TEM	transmission electron microscopy
UCL	upper confidence limit
UB-UCL	upper bound upper confidence limit
USDOT	United State Department of Transportation
WRCC	Western Regional Climate Center
µm	micrometers
^{o} F	degrees Fahrenheit
≥	greater than or equal to

Section 1: Introduction

On behalf of the BNSF Railway Company (BNSF), Kennedy/Jenks Consultants has prepared this Remedial Investigation (RI) Report for Operable Unit (OU) 6 at the Libby Asbestos Superfund Site (Site) in Libby, Montana. This RI Report is being completed at the request of the United States Environmental Protection Agency (EPA) as outlined in the *Request for Additional Removal Action Pursuant to Administrative Order on Consent for Removal Action (Administrative Order), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Docket No. CERCLA-08-2003-004, Libby Asbestos Site, Libby, Montana SSID #08-BC* (Request).

1.1 Purpose and Report Organization

The purpose of this RI Report is to describe the nature and extent of the Libby Amphibole (LA) asbestos within OU6. Sampling to determine the presence or absence of LA asbestos on BNSF-owned property started in 2001, and sampling efforts through 2004 served to define LA-impacted soils in preparation for response actions in, and adjacent to the BNSF Libby Railyard. More than 18,000 tons of LA asbestos-containing soils were removed from the BNSF Libby Railyard during response actions conducted between 2003 and 2005. Post-response action sampling focused on potential accidental human exposures through inhalation of LA released from soils during routine rail maintenance activities. The following RI Report was developed, at the request of the EPA, to describe the nature and extent of LA asbestos within OU6 using existing soil and air data. This RI Report relies solely upon existing data summary reports, which have been provided to EPA in the past.

This RI Report is organized into the following primary sections:

Section 1: Introduction. This section describes the purpose and format of the RI, National Priorities List (NPL) Site History, general history, and description for OU6; physical limits of OU6; land use and physical characteristics within OU6, and physical characteristics, including geologic and hydrogeologic settings; meteorology; and summaries of previous response action, investigations, and reports. Also included are information regarding potential asbestos contamination in BNSF-owned buildings, information on ballast sources, information regarding the types and quantities of hazardous substances within OU6, and past management and disposal practices.

Section 2: Sampling and Analysis. This section provides the rationale and framework for the data set used in nature and extent discussions and applicable sampling and analysis methods. This section also describes the sampling and analysis methods used to collect soil and air data within OU6.

Section 3: Data Recording and Data Quality Assessment. This section discusses data recording and storage methods, provides an assessment of data quality, field and analytical laboratory quality assurance measures, descriptions of field and laboratory procedure modifications, data validation, and a comparison of results to data quality objectives.

Section 4: Nature and Extent of LA. This section provides a discussion of the nature and extent of contaminants of concern (COCs) in surface soil and air.

Section 6: COC Fate and Transport. This section is a qualitative description of COC migration routes and persistence in the environment.

Section 7: Risk Assessment. This section discusses human and ecological health risk assessments.

Section 8: Summary and Conclusions. This section summarizes information presented in the RI Report and general conclusions.

1.2 NPL Site History

Libby is located near a former open-pit vermiculite mine located on Vermiculite Mountain. Vermiculite is a mica-like mineral that can be processed for use as an insulating material or soil amendment and was mined in Libby between 1919 and 1990. While in operation, the Libby mine may have produced 80 percent of the world's supply of vermiculite (EPA 2013). Over its operations history, it employed more than 1,900 people. W. R. Grace bought the mine and processing facility in 1963 and operated it until 1990 [Camp, Dresser, McKey (CDM) Smith 2008].

The main contaminant of concern at the Site is asbestos. The vermiculite from the mine site contains varying levels of naturally-occurring amphibole asbestos, consisting primarily of winchite and richterite, tremolite, magnesio-riebeckite, magnesio-arfvedsonite, and edenite/ferro-edenite (Meeker et al 2003). Depending on the valence state of iron and data reduction methods, some minerals may also be classified as actinolite (CDM Smith 2013). Because existing toxicological data are not sufficient to distinguish differences in toxicity among these different forms, EPA does not believe it is important to attempt to distinguish among these various amphibole types. Therefore, EPA simply refers to the mixture as LA asbestos (HDR 2013). Historical mining, milling, and processing operations, as well as bulk transfer of mining-related materials, tailings, and waste to locations throughout the Libby Valley, resulted in releases of vermiculite and LA asbestos to the environment [HDR Engineering, Inc. (HDR) 2013]. This has caused a range of adverse health effects in exposed people, including individuals who did not work at the mine or processing facilities (HDR 2013).

EPA has been working in Libby since 1999 when an Emergency Response Team (ERT) was sent to investigate local concerns and news articles about asbestos-contaminated vermiculite. (HDR 2013) Since that time, EPA has been working closely with the community to clean up LA asbestos and reduce risks to human health.

Based on health risks associated with LA asbestos exposure and evidence of increased human health risks, the Site was added to the NPL in October 2002. The Site is divided into eight OUs (EPA 2013):

1. OU1: Former export plant (including Riverfront Park)
2. OU2: Former screening plant and surrounding properties
3. OU3: Former vermiculite mine
4. OU4: Properties in and around the Libby area

5. OU5: Former Stimson Lumber area
6. OU6: BNSF Property
7. OU7: Properties in and around the Troy area
8. OU8: State highways.

Figure 1 (attached) shows the limits of the NPL area and the individual OUs. This RI addresses OU6, which consists of BNSF-owned and occupied property between the eastern boundary of OU3 and the western boundary of OU7, as shown on Figure 2.

1.3 OU6 History and Description

Libby is located in northwestern Montana and supported a large open pit vermiculite mine from the 1920s through 1990. Much of the processed ore produced by the mine, located approximately 7 miles northeast of Libby, was transported by BNSF predecessor railroads from a load out across the Kootenai River from the screening plant to either a processing plant located in Libby or to plants located across the country (CDM Smith 2008). Incidental spillage during the loading, unloading, and transportation processes is suspected to have deposited LA asbestos along the current BNSF right-of-way (ROW) (CDM Smith 2008a).

Railroad tracks were originally built through the area in the late 1800s by a BNSF predecessor railroad, the Great Northern Railway (GN). For the majority of the route through OU6, the current BNSF tracks follow the original GN route with the exception of a section that parallels the Fisher River, which was laid in the early 1970s in preparation for the construction of the Libby dam, which was dedicated in 1975.

1.4 OU6 Definition

OU6 consists of approximately 42 miles of BNSF ROW that traverses the Site. The eastern boundary is defined where the BNSF ROW enters the limits of OU4 (Libby homes and businesses) at approximately BNSF Milepost (MP) 1302 of BNSF's Kootenai River Subdivision. The western boundary is located where BNSF ROW exits OU7 (the town of Troy) at approximately MP 1341. As reference, the Montana State Highway overpass is located at MP 1319.6. The width of OU6 is defined by the ROW width, which is variable, but is generally 100 feet to either side of the track centerline. The BNSF tracks and ROW generally follows the courses of the Fisher and Kootenai River, through OU6 and passes through the towns of Libby and Troy, Montana. Both towns are within Lincoln County in the northwestern corner of Montana.

Figure 1 shows the extent of OU6, the proximity to other operable units, and Figure 2 shows OU6 in relationship to other geographic features.

1.5 OU6 Land Use

Libby, Montana, which is the Lincoln County seat, has a population of less than 3,000; 12,000 people live within a 10-mile radius. While Libby's economy is still largely supported by

natural resources, such as logging and mining, there are also many tourist and recreational opportunities in the area (EPA 2013).

Land use adjacent to the BNSF ROW varies greatly across the length of OU6. Land use in and adjacent to Libby and Troy includes light industrial, commercial, and residential. Elsewhere in OU6, adjacent land is largely undeveloped with occasional residential and agricultural usage. As the BNSF ROW lies between the primary regional roads and the Kootenai River, recreational users of the river have been observed trespassing on BNSF property.

The future use of OU6 is dependent on numerous economic factors that could expand or contract BNSF operations. Several BNSF business sectors are expanding, which could increase traffic levels through OU6, but no factors have been identified that would affect traffic that originates or terminates in either Libby or Troy. Since the mainline that passes through OU6 is BNSF's primary rail corridor between Chicago, Illinois and Seattle, Washington, land use along the mainline is likely to remain industrial/commercial and not residential.

1.6 Physical Site Characteristics

1.6.1 Physical Setting

OU6 is confined to the valleys occupied by the Kootenai and Fisher Rivers (Figure 2). The large Kootenai River valley is the dividing line between the Purcell Mountains to the north and the Cabinet Mountains to the south. The town of Libby, Montana, lies at an elevation of approximately 2,060 feet above mean sea level (AMSL) and encompasses approximately 1.3 square miles. Troy, Montana, located near the western end of OU6, lies at an elevation of approximately 1,888 feet AMSL. OU6 lies entirely within Lincoln County in the northwestern corner of Montana.

1.6.2 Geologic Setting

Bedrock in the Libby area is primarily composed of Precambrian sedimentary rocks belonging to the Belt Supergroup (Kootenai River Network, Inc. 2010). Overlying bedrock in the Kootenai River valley are unconsolidated sediments primarily consisting of Wisconsin-age glacial tills and Holocene alluvium. The tills were deposited during repeated advances of the Canadian Cordilleran ice sheet down the Kootenai River Valley. Following the final retreat of the Cordilleran ice sheet, approximately 16,000 years ago, erosion has scoured much of the till from the current coarse of the river, but till can be found in the erosional terraces along the sides of the valley (Alden 1953). Variable amounts of boulder-rich alluvium are generally found within depositional sectors of the active flood plain of the Kootenai River. Bedrock has been exposed along erosional portions of the Kootenai River allowing for an estimation of the thickness of unconsolidated sediments in these areas. In other portions of the Site (outside of OU6), unconsolidated sediments are found from the surface to depths of 190 feet below ground surface (bgs) (HDR 2013).

BNSF has not investigated or sampled the subsurface geology of OU6 outside of the BNSF Libby Railyard.

1.6.3 Hydrologic Setting

The BNSF ROW and OU6 follow courses of the Kootenai and Fisher Rivers, crossing several tributaries, including Libby Creek and Callahan Creek. The Kootenai River originates in British Columbia, Canada, and flows through Montana and Idaho before returning to Canada and flowing into the Columbia River. The Fisher River originates in the Salish Mountains to a convergence with the Kootenai River at a point approximately 11 miles east of Libby. Flows in the Kootenai and Fisher Rivers are tied to runoff from the mountains surrounding Libby. Runoff peaks in spring when high-elevation snow begins to melt. Stream flow decreases in summer due to low precipitation and snowmelt flow moderation by high elevation lakes (CDM Smith 2009).

Based on investigations at the Libby Groundwater Site (a separate NPL Site within the Libby Asbestos NPL Site), the hydrogeology in the southeastern portion of Libby consists of saturated alluvial deposits extending from the surface to approximately 190 feet bgs. These deposits have been sorted into three classifications: upper aquifer, intermediate zone, and lower aquifer. The upper aquifer contains high hydraulic conductivity material, including silty gravel and sand with occasional interbedded clayey, silty deposits. It is unconfined and extends from the water table (5 to 30 feet bgs) to approximately 70 feet bgs. Hydraulic conductivity ranges from 100 to 1,000 feet per day (feet/day). The inferred groundwater flow direction is north-northwest towards the Kootenai River (EPA 2010).

The intermediate zone is comprised of low permeability deposits similar to the upper aquifer, but with a higher percentage of fine-grained material. Acting as a confining layer, the intermediate zone is 40 to 60 feet thick, extending from approximately 60 to 70 feet bgs to 110 feet bgs. The hydraulic conductivity of this layer is much lower than the upper aquifer at approximately 1 foot/day.

The lower aquifer extends from approximately 100 feet bgs to 190 feet bgs and contains more low-permeability silt and clay layers than the upper aquifer. It is confined and under pressure, so water in wells screened in this aquifer rises to 14 to 26 feet bgs. Hydraulic conductivity of the lower aquifer ranges from 50 to 200 feet/day. The inferred groundwater flow direction is north-northwest towards the Kootenai River (EPA 2010).

BNSF has not investigated the local or regional hydrogeology. No groundwater monitoring wells have been installed by BNSF in OU6.

1.6.4 Meteorological Setting

Between 1998 and 2012, Libby averaged 15.83 inches of precipitation, with an annual average total snowfall of 27.7 inches [Western Regional Climate Center (WRCC) 2013]. The highest average precipitation occurs in December while the lowest occurs in April. The lowest average temperature [20.1 degrees Fahrenheit (° F)] occurs in December, while the highest average temperature occurs in July (87.0° F). Precipitation and humidity in Libby are greatest during the winter months due to the presence of temperature-regulating Pacific air masses. Occasionally, dry continental air masses occupy the Libby area for short periods during the winter, creating cold and less humid conditions (CDM Smith 2009).

Fog is common in Libby during winter months and in early morning throughout the year. Summer months are drier than winter and are warm with occasional rainfall (CDM Smith 2009).

Prevailing winds are from the south-west and average approximately 6 to 7 miles per hour. Wind direction and velocities fluctuate depending on temperature variances caused by vertical relief in the area. Inversions often trap stagnant air in the Libby valley (CDM Smith 2009).

Site-specific meteorological data was collected daily during the 2008 activity-based sampling (ABS) event and was included as Appendix D in the *Activity Based Sampling Summary Report – Public Receptors* [EMR, Inc. (EMR) 2010]. Site-specific data was not collected during any other sampling events or response actions.

1.7 Investigation and Response Action History

Sampling efforts began in 2001 and focused on characterization of impacts in and around the BNSF Libby Railyard. Sampling efforts after response actions, which were completed at the BNSF Libby Railyard in 2004 and 2005, have primarily focused on receptor exposure during railroad maintenance activities along the tracks and are considered representative of areas outside the BNSF Libby Railyard. The largest of these efforts was an ABS event, which occurred in late 2008 in cooperation with EPA and oversight provided by CDM Smith. In addition, BNSF has conducted additional sampling events, beyond EPA requirements, to monitor compliance with Occupational Safety and Health Administration (OSHA) regulations.

The RI Report will discuss the investigation and response action history for OU6 and divide the history into two sections: pre-2005 (prior to ABS) and post-2005 (including and after ABS). The investigations will be used to describe the nature and extent of LA asbestos within OU6.

1.7.1 Pre-2005 Investigation and Response Action History

The majority of investigation efforts prior to and including 2005 focused on characterization of vermiculite impacts in, and adjacent to, the BNSF Libby Railyard. Pre-2005 sampling efforts and response actions were summarized by U.S. Department of Transportation in the *Final Data Summary Report Operable Unit 6 – BNSF Railyard, Track and Right-of-Way, Libby Asbestos Site, Libby, Montana* [United States Department of Transportation (USDOT) 2008] and referenced historical reports.

The following discussion is a chronological summary of work completed prior to, and including, 2005. Table 1 summarizes OU6 investigation and response action history.

Soil/Undercutter Spoils Sampling - April 2001
LA asbestos characterization samples were collected from seven locations along the mainline and nine random locations within the BNSF Libby Railyard. A review of *Results for Soil Sampling at Libby Montana Railyard* (EMR 2001) indicates the mainline samples were collected from a “linear debris piles that run parallel to the mainline” and not *insitu* soil. Based on EMR’s understanding, the linear debris piles were generated during undercutting, a railroad maintenance process that removes sediment and debris from the ballast, which forms the foundation for the track structure. The linear debris piles were sampled at approximately 1-mile intervals between MP 1319 (Libby) and MP 1312 (approximately 7 rail-miles east of Libby). Soil samples were submitted to the Clayton Group Services for analysis by “EPA asbestos in soil method.” LA asbestos was detected at concentrations less than 1 percent in three of the nine soil sample collected from the BNSF Libby Railyard, but LA asbestos was not detected in any of the mainline (undercutter spoils) samples (EMR 2001).

Railyard Soil Sampling - November 2001
Composite surface soil samples (collected between ground surface and a depth of 6 inches bgs) were collected from 22 locations in the BNSF Libby Railyard and along the ROW. Composite samples consisted of four to five discrete grab samples. Composite samples were submitted for analysis and discrete samples were retained by the laboratory, pending further analysis. In general, if a composite sample tested positive for LA asbestos, the discrete samples would be analyzed to refine the location of the positive results. This composite sampling strategy was retained through the completion of response actions.

Soil samples were submitted to EMSL Analytical, Inc. (EMSL) for analysis using polarized light microscopy (PLM) National Institute for Occupational Safety and Health (NIOSH) 9002, Issue 2. LA asbestos was reported at concentrations less than 1 percent in five of the composite samples. The discrete samples from one composite sample (BN-09000) were subsequently analyzed and LA asbestos was reported at concentrations less than 1 percent in four of five discrete samples. LA asbestos was not detected in the remaining samples. Visible unexpanded vermiculite was observed along Tracks 1, 2, and 3 in the BNSF Libby Railyard.

Railyard Soil Characterization Sampling - October 2002
Soil sampling was conducted for non-LA asbestos parameters in the BNSF Libby Railyard to characterize soil for disposal purposes. Seven soil samples were collected and analyzed for gasoline range hydrocarbons, diesel range hydrocarbons, and lube oil hydrocarbons by EPA Method SW 846, Method 8015, volatile organic compounds by SW 846 Method 8260B, and eight metals by SW 846 Method 6010. Hydrocarbons were present in all soil sample locations, but all reported concentrations were acceptable for landfill disposal.

Railyard Soil Sampling – November 2002
Fifteen composite surface soil samples and two duplicates were collected and analyzed using PLM NIOSH 9002, Issue 2. LA asbestos was reported at concentrations less than 1 percent in eight composite soil samples and both duplicate samples. The 32 discrete samples, associated with the eight positive composite samples, were subsequently analyzed. LA asbestos was reported at concentrations less than 1 percent in 27 of the discrete samples. LA asbestos was not detected in the remaining samples.

2003 Response Action – August 2003
In August 2003, soil containing visible vermiculite was removed from the BNSF Libby Railyard using high efficiency particulate air (HEPA) filtered vacuum trucks and a small excavator. Post-excavation clearance soil sampling consisted of three composite and 12 grab soil samples that were analyzed using PLM NIOSH 9002, Issue 2. LA asbestos was detected in all three composite soil samples with reported concentrations ranging from less than 1 percent to 3 percent. LA asbestos was not detected in any of the grab samples.

Based on the results of the clearance soil samples and discussions with EPA, work was suspended, and the area was backfilled with clean fill. The top 2 inches of soil were removed from approximately 400 feet of Tracks 3 and 4. Approximately 81 cubic yards of material were removed and transported to the Lincoln County, Montana, landfill (EMR 2003).

Railyard Soil Sampling - July 2004
Additional soil sampling was conducted to define the western limit of the impacted (exclusion) zone in the BNSF Libby Railyard. Twelve soil samples were collected and split, resulting in 12 original and 12 split samples. The original samples were analyzed using PLM NIOSH 9002,

Issue 2, while the split samples were analyzed using PLM-Visual Estimation (VE). All analyses were conducted by EMSL. Eight of the original samples were reported with LA asbestos concentrations less than 1 percent. Two split samples were reported with LA asbestos concentrations of less than 1 percent. LA asbestos was not detected in the remaining samples.

Railyard Soil Sampling - September 2004
Supplemental characterization soil samples, consisting of three composite samples and 11 grab samples, were collected in the BNSF Libby Railyard. Soil sample analysis was performed by EMSL using PLM NIOSH 9002, Issue 2 methods. LA asbestos was detected in two composite soil samples and six individual samples at concentrations less than 1 percent.

2004 Libby Railyard Response Action
Following characterization of LA asbestos within the BNSF Libby Railyard, a Response Action Work Plan was developed (Kennedy/Jenks Consultants 2004). The Response Action Work Plan was approved by the EPA on 1 September 2004 and implemented between September and November 2004.

The demolition phase resulted in the removal of 14,091 feet of railroad track and 8,000 railroad ties to access the underlying, vermiculite-impacted soils. All track materials were removed, decontaminated, and either disposed or recycled. The BNSF scale house and associated concrete foundation was also removed during the demolition phase and disposed at the Lincoln County Landfill as potential asbestos-containing material (ACM).

The Response Action Work Plan specified two options to address soils containing detectable LA asbestos; excavation or in-place cover. The response action area was divided into eight work zones as follows:

- Zone 1 consisted of one contiguous zone, located immediately north of the BNSF mainline. Zone 1 was approximately 4,000 feet in length from east to west and covered approximately 0.93 acre.

- Zone 2/3 consisted of two separate zones (west and east), located immediately north of Zone 1. Zone 2/3 west was approximately 100 feet in length from east to west and covered approximately 0.05 acre. Zone 2/3 east was approximately 3,900 feet in length from east to west and covered approximately 1.77 acres.

- Zone 4/6/7 consisted of two separate zones (west and east), located immediately north of Zone 2/3. Zone 4/6/7 west was approximately 1,300 feet in length from east to west and covered approximately 0.38 acre. Zone 4/6/7 east was approximately 2,200 feet in length from east to west and covered approximately 2.62 acres.

- Zone 5 consisted of two separate zones (east and west), located immediately north of Zone 4/6/7. Zone 5 west was approximately 40 feet in length from east to west and covered approximately 0.01 acre. Zone 5 east was approximately 700 feet in length from east to west and covered approximately 0.22 acre.

- Zone 8 consisted of two separate zones (east and west) located immediately north of the Zone 4/6/7. Zone 8 west was approximately 200 feet in length from east to west and covered approximately 0.09 acre. Zone 8 east was approximately 40 feet in length from east to west and covered approximately 0.02 acre.

Maps illustrating the extent of each zone are found in Appendix A (Construction Drawings) of the *Libby Railyard Response Action Revised Construction Completion Report* (Kennedy/Jenks Consultants 2005), and are included as Appendix A of this report.

Excavation of soils with detectable LA asbestos was completed in Zones 1, 2/3, 5, and 8 where active tracks were anticipated in the future. Zone 1 was excavated to a final elevation at least 31 inches below the top of the adjacent mainline tie elevation. Zone 2/3 was excavated to a final elevation at least 25 inches below the top of the adjacent mainline tie elevation. Soils containing detectable LA asbestos in Zone 5 were excavated to a depth of approximately 6 inches and placed in Zone 4/7. Soils with detectable LA asbestos in Zone 8 were excavated to a depth of 8 inches to 12 inches. Where future active tracks were not anticipated, soils containing detectable LA asbestos were covered in-place in Zone 4/6/7.

Completed excavations in Zones 1, 2/3, 5, and 8 were covered with a geotextile membrane and then backfilled with clean soil. In Zone 4/6/7, where soil was covered in place, a geotextile cover was installed over LA asbestos-containing soils and then covered with 12 inches of clean, imported fill. A total of 12,859.38 tons of soil were removed and sent to the asbestos cell of the Lincoln County, Montana landfill. Remp Sand and Gravel supplied 17,792.31 tons of clean backfill from an EPA-approved source.

Clearance soil sampling was conducted in accordance with *Superfund Method for the Determination of Releasable Asbestos in Soils and Bulk Materials* to determine when excavation was complete and the limits did not contain detectable LA asbestos. After excavation of soils from Zones 1 and 2/3, discrete soil samples were collected at 50-foot intervals and combined into one composite soil sample, representative of 200 linear feet of track. If a composite sample tested positive for LA asbestos, the discrete soil samples were analyzed to determine which discrete soil sample(s) contained asbestos. Discrete soil sample locations that contained detectable LA asbestos were excavated in a 25-foot radius around the positive sample location.

Clearance soil samples were analyzed by EMSL using PLM NIOSH 9002, Issue 2 methods. A total of 75 composite and discrete soil samples were analyzed during the project. LA asbestos was detected at a concentration less than 1 percent LA asbestos in 14 soil samples. The remaining soil samples were reported as non-detect for LA asbestos. Clearance levels (non-detect for LA asbestos) were achieved at all locations except sample location BN-71001. Maps showing clearance soil sample locations are found in Appendix C (Soil Sample Location Drawings) of the *Libby Railyard Response Action Revised Construction Completion Report* (Kennedy/Jenks Consultants 2005), and are included as Appendix A of this report.

Prior to, and during response actions, stationary air monitoring was conducted along the limits of the soil removal area to monitor the effectiveness project engineering controls. Stationary air samples were collected using low volume, battery-powered pumps at five perimeter monitoring stations established around each exclusion zone. All stationary air samples were submitted to EMSL for analysis by Asbestos Hazard Emergency Response Act (AHERA) transmission electron microscopy (TEM) methods. A total of 228 stationary air samples were collected and ten samples were reported with LA asbestos concentrations ranging from 0.0021 structures per cubic centimeter (s/cc) to 0.0120 s/cc. LA asbestos was not detected in any of the remaining stationary air samples.

Personal air sampling was conducted on approximately 25 percent of the daily work force working within the exclusion zone during the response action. Personal air samples were collected using low volume, battery-powered pumps and were primarily analyzed by American Industrial Hygiene Association-(AIHA) certified analyst using NIOSH 7400 phase contrast microscopy (PCM) methods. Structures were detected in 10 of 12 personal air samples analyzed with NIOSH 7400 methods with concentrations ranging from 0.003 s/cc to 0.036 s/cc. NIOSH 7400 cannot differentiate between asbestos fibers and other fibers.

The *Libby Railyard Response Action 2004 - Revised Construction Completion Report* (CCR) (Kennedy/Jenks Consultants 2005) was developed and submitted to EPA in March 2005. The CCR, included as Appendix A, summarized the response action, site restoration, sampling methods and results, disposal methods, and reporting activities.

Personal and stationary air sample results are summarized in Table 3 and Table 5, respectively. Soil sample results are summarized in Appendix D of the CCR, included as Appendix A.

2005 Libby Railyard Response Action

In December 2004, BNSF notified the EPA that two previously identified areas of soil containing LA asbestos were inadvertently left onsite following the 2004 response action. A *Revised Response Action Work Plan Addendum* (EMR 2005) was submitted to the EPA and was approved on 26 September 2005.

Excavation was completed during November 2005 from two areas (southern half of Grid 9 and the southeastern quadrant of Grid 20). Excavation depth ranged from 10 inches to 18 inches bgs. A total of 374 cubic yards of soil were removed and disposed at the Lincoln County, Montana landfill.

Prior to response actions, two composite soil samples, each consisting of a four discrete soil samples, were collected to determine whether the removal of the track structure was necessary. LA asbestos was not detected in these samples, indicating that removal of the track structure was not necessary.

Following the November 2005 soil removal action, two composite samples, each consisting of five discrete samples, were collected using collection and analytical methods identical to those used during the 2004 Response Action. Soil samples were submitted to EMSL for analysis and resulted in no LA asbestos detections.

Stationary and personal air samples were collected using sampling methods, identical to those used during the 2004 Response Action. Seven personal air samples were analyzed onsite by an AIHA analyst using NIOSH 7400 PCM methods and results ranged from non-detect to 0.049 s/cc. NIOSH 7400 cannot differentiate between asbestos fibers and other fibers.

Four personal air samples that were analyzed by NIOSH 7400 and resulted in concentrations greater than 0.001 s/cc, and four stationary air samples were submitted to EMSL for supplemental AHERA TEM analysis. No LA asbestos was detected in any of the TEM AHERA-analyzed samples where analytical sensitivities ranged from 0.0087 s/cc to 0.0042 s/cc.

The *Libby Railyard Response Action Construction Completion Report Addendum* (CCR Addendum) was developed to summarize the 2005 response action and sampling results (Kennedy/Jenks Consultants 2006). The CCR Addendum was submitted to EPA in October

2006 and is included as Appendix B. The CCR and CCR Addendum were accepted by EPA in a letter to BNSF dated 21 April 2010 (EPA 2010a).

Personal and stationary air sample results are summarized in Table 3 and Table 5, respectively.

1.7.2 Post-2005 Investigation History

Post-2005 investigations have focused on the evaluation of human exposure related to potential accidental fiber releases from the disturbance of ballast and soil during rail maintenance activities on the mainline throughout OU6. These investigations are categorized in ABS and OSHA sampling events. One ABS event was completed in 2008, in cooperation with the EPA, while the remainder of post-2005 sampling was done at the request of BNSF to monitor compliance with OSHA Permissible Exposure Limits (PEL).

The following discussion is a chronological summary of work completed after 2005. Table 1 summarizes OU6 investigation and response action history.

Rail Crossing Air Monitoring Report - July 2008
Personal air samples were collected to monitor compliance with OSHA PEL for BNSF personnel involved with the replacement of the Jay Effar and Cedar Creek grade crossings in Libby, Montana, on 22, 23, and 29 July 2008. The work was completed at the request of BNSF Industrial Hygiene (IH) personnel.

Seventeen personal air samples, not including quality assurance (QA) blanks, were collected using, battery-powered, low volume pumps equipped with Zefon 25 millimeter (mm) PCM cassette secured within the breathing zone of the sampling subject, herein referred to as the OSHA personal air sampling procedure. Four personal air samples were analyzed by NIOSH 7400 PCM methods. Thirteen personal air samples were submitted to EMSL in Libby, Montana for AHERA TEM analysis. Fibers were detected in all four samples analyzed using NIOSH 7400 methods. Limitations of the NIOSH 7400 method do not allow differentiation between asbestos fibers and other fibers. No LA asbestos structures were observed in any of the directly prepared TEM samples, where achieved analytical sensitivities ranged from 0.0043 per cubic centimeter (cc^{-1}) to 0.0092 cc^{-1} (EMR 2008). One TEM sample required indirect preparation, but no LA asbestos structures were detected with an achieved sensitivity of 0.0490 cc^{-1}.

This sampling event was summarized in a letter report entitled *Rail Crossing Air Monitoring, BNSF Personnel*, addressed to BNSF and dated 14 August 2008 (EMR 2008). The letter report was submitted to the EPA in July 2011.

Personal and stationary air sample results are summarized in Table 3 and Table 5, respectively.

Activity Based Sampling and Analysis Plans – September/October 2008
Two sampling and analysis plans (SAPs) were developed in anticipation of the 2008 ABS event and submitted to EPA for review. A SAP was developed for each of the subject receptor populations: *Rail Maintenance Public Receptor Activity-Based Sampling and Analysis Plan* (ENSR/AECOM September 2008); and *Rail Maintenance Worker Receptor Activity-Based Sampling and Analysis Plan* (ENSR/AECOM October 2008b). The purpose of ABS was to provide methods and procedures used to conduct sampling to evaluate whether LA asbestos was present in air in the immediate vicinity of an active soil disturbance within OU6.

Therefore, the SAPs focused on the collection of the data needed to support an evaluation of exposure and risk associated with rail maintenance activities, as well as pedestrian activities in the absence of rail maintenance activities. In addition, collection of the data was used to characterize the nature of LA asbestos in air and soil within the planned rail maintenance areas of OU6.

The SAPs specified sample collection and field procedures, field documentation methods, and defined laboratory analysis requirements. Laboratory analytical summaries were included and defined the target analytical sensitivity (TAS) at 0.001 cc^{-1}.

Both the Public and Worker SAPs were submitted to the EPA for approval, and were determined to be sufficient by EPA (CDM Smith 2013b).

BNSF OSHA Exposure Sampling Summary Report – Steel Gang (September 2008)
Personal air monitoring was conducted simultaneously with ABS in September 2008. The purposes of the sampling were to measure potential worker LA asbestos exposure against the OSHA PEL and provide BNSF IH with data to evaluate personal protection equipment options. A total of 56 personal air samples were collected from BNSF personnel involved with maintenance activities within OU6 between 17 and 25 September 2008.

Personal air samples were collected using the OSHA personal air sampling procedure. Air samples were analyzed using NIOSH 7400 PCM or International Organization for Standardization (ISO) 10312 methods. Although fibers were detected in several samples using the NIOSH 7400 methods, all resulting fiber concentration were under the OSHA PEL (0.1 f/cc). Limitations of the NIOSH 7400 method do not allow differentiation between asbestos fibers and other fibers. No LA asbestos structures were observed in any TEM analyses, where achieved sensitivities ranged from 0.00203 cc^{-1} to 0.0024 cc^{-1} (EMR 2009). Three TEM samples required indirect preparation and resulting sensitivities ranged from 0.00359 cc^{-1} to 0.0103 cc^{-1}. All directly prepared TEM samples met or exceeded the TAS (0.0024 cc^{-1}).

This sampling event was summarized in the Steel Gang Air Monitoring - *BNSF OSHA Exposure Sampling Summary Report,* addressed to BNSF and dated 12 February 2009 (EMR 2009b). This letter report was submitted to the EPA in July 2011.

Activity Based Sampling Summary Report – Public Receptors (September 2008)
ABS activities were conducted between 17 September and 25 September 2008 to evaluate potential exposure risk for two different public receptor populations: 1) simulated pedestrian trespassers (14 samples); and 2) simulated on-looker trespassers (seven samples). In addition, 22 stationary air and 61 soil samples were collected. Sampling was conducted in accordance with the SAP that was submitted to EPA in September 2008 (ENSR/AECOM 2008), with exceptions described in the *Activity Based Sampling Summary Report – Public Receptors* (EMR 2010).

Personal and stationary air samples were analyzed by EMSL using ISO 10312. The TAS for air samples was increased from 0.001 cc^{-1} to 0.0024 cc^{-1} due to flow rate limitations of battery powered pumps. No LA asbestos structures were observed in TEM analysis of personal or stationary air samples where achieved sensitivities ranged from 0.000397 cc^{-1} to 0.0024 cc^{-1} (EMR 2010). All air samples met or exceeded the TAS.

Sixty-one discrete soil samples were collected from native soils outside the ballast profile between depths of 4 inches and 6 inches bgs (EMR 2010). Soil sampling locations were assigned a semi-quantitative estimate of visible vermiculite, which was recorded on the field sampling data sheet (FSDS).

Soil samples were submitted to CDM Smith Close Support Facility (CSF) in Denver, Colorado for preparation and analyzed by EMSL using PLM-VE and PLM-Gravimetric (Grav) methods. LA asbestos was not detected in any samples analyzed with PLM-VE methods, except samples RR-00022 and RR-00025, where trace concentrations (Bin B1) of LA Asbestos were reported. LA asbestos was not detected in any samples analyzed with PLM-Grav methods.

Preparation duplicate samples (split from field samples) were prepared by CDM Smith at a frequency of 10 percent for a total of six samples. Each preparation duplicate sample was accompanied by a drying blank and a grinding blank for a total of 18 QC samples. Preparation duplicates, drying blanks and grinding blanks were analyzed using PLM-VE methods while only PLM-Grav methods were used for analysis of preparation duplicates. LA asbestos was not detected in any QC samples.

All field and laboratory data collected during the Public Receptor ABS event were compiled and summarized in *Activity Based Sampling Summary Report – Public Receptors* (EMR 2010). The report was submitted to the EPA in July 2011.

Activity Based Sampling Summary Report – Worker Receptors (September 2008)
ABS was completed to evaluate the potential exposure risk for BNSF workers during rail maintenance activities between 17 September and 25 September 2008. A total of 14 personal air samples were collected in accordance with the SAP that was submitted to EPA in October 2008 (ENSR/AECOM 2008b), with exceptions described in the *Activity Based Sampling Summary Report – Worker Receptors* (EMR 2010b). LA asbestos was not detected in any sample where the achieved analytical sensitivities ranged from 0.00211 cc^{-1} to 0.00769 cc^{-1} (EMR 2010b).

Personal air samples were analyzed by EMSL using ISO 10312. The TAS for air samples was increased from 0.001 cc^{-1} to 0.0024 cc^{-1} due to flow rate limitations of battery powered pumps. Three personal air samples exceeded the TAS (0.0024 cc^{-1}).

All field and laboratory data collected during the Worker Receptor ABS event were compiled and summarized in *Activity Based Sampling Summary Report – Worker Receptors* (EMR, 2010b). The report was submitted to the EPA in July 2011.

BNSF Personnel OSHA Exposure Sampling Report – Supersurfacing Gang (May 2009)
Personal and stationary air sampling were conducted during track alignment work that was conducted within OU6 between 19 and 22 May 2009. The purposes of the sampling were to measure potential worker LA asbestos exposure against the OSHA PEL and provide BNSF IH with data to evaluate personal protection equipment options. Twenty-four personal air samples were collected from BNSF personnel associated with the work, and four stationary air samples were collected from near the property boundary.

Personal air samples were collected using the OSHA personal air sampling procedure. Stationary air samples were collected using high volume pumps equipped with Zefon 25 mm PCM cassettes, which were suspended approximately 4 feet above the ground surface near the

BNSF property boundary, herein referred to as the OSHA stationary air sampling procedure. One stationary air sample was relocated several times due to the short period of time the gang spent in any one area. Relocation of this sample was necessary to accumulate adequate sample volume in the vicinity of rail maintenance activities.

All air samples were analyzed using AHERA TEM methods, and no project-specific TAS was specified. Three air samples required indirect preparation methods and 16 air samples required indirect ashing preparation. All other air samples were directly prepared. No LA asbestos structures were observed in any TEM analyses, where achieved sensitivity for directly prepared samples ranged from 0.0018 s/cc to 0.0055 s/cc (EMR 2009b).

This sampling event was summarized in a letter report entitled *BNSF Personnel OSHA Exposure Sampling Report, BNSF Kootenai River Subdivision – Mileposts 1307 to 1341*, addressed to BNSF and dated 19 August 2009 (EMR 2009b). The letter report was submitted to the EPA in July 2011.

BNSF Undercutter Spoils Sampling Report (August 2009)
Six composite samples were collected in August 2009 from four undercutting spoils piles generated during maintenance that occurred in June 2009. Undercutting is a mechanized process used to remove fine sediments and debris from the ballast underlying the track structure. The process promotes proper drainage within the ballast. Fine sediment and debris removed during the process is typically deposited along the ROW as spoils. The samples were collected to evaluate whether the spoils contained LA asbestos.

All four sampled spoils piles were located within 1 mile of BNSF's Kootenai River siding or between BNSF MP 1329.8 and MP 1333.02, or roughly 11 miles to 14 miles west of Libby. Very fine mica flakes were observed at two sample locations at MP 1331.8 and 1332.89. A total of two composite samples were collected, one from each pile located at MP 1329.8 and MP 1331.02. Two composite spoils samples were collected from each of the larger spoils piles ranging from MP 1331.52 to MP 1331.8 and MP 1332.89 to MP 1333.02. All composite spoils samples consisted of six discrete samples collected from representative portions of each pile at a depth of approximately 6 inches.

The spoils samples were submitted to CDM Smith CSF in Denver, Colorado for preparation and then transferred to EMSL for PLM-VE and PLM-Grav analyses. LA asbestos structures were not detected in any of the PLM-VE or PLM-Grav analyzed soil samples (EMR 2009c).

Two preparation duplicate samples (split from field samples) were prepared by CDM Smith at a frequency of approximately 10 percent. One preparation duplicate was submitted for each PLM-VE and PLM-Grav analysis. The PLM-VE preparation duplicate sample was accompanied by a drying blank and a grinding blank for a total of four QC samples. LA asbestos was not detected in any QC samples.

This sampling event was summarized in a letter report entitled *2009 Undercutter Spoils Sampling Summary*, addressed to BNSF and dated 11 December 2009 (EMR 2009c). The letter report was submitted to the EPA in July 2011.

BNSF Asbestos Exposure Sampling Report – Steel Gang (March/April 2010)
Personal and stationary air samples were collected 29 March through 8 April 2010 from two separate BNSF maintenance groups that were simultaneously working in OU6 between

MP 1308.5 and MP 1344. The purposes of the sampling were to measure potential worker LA asbestos exposure against the OSHA PEL and provide BNSF IH with data to evaluate personal protection equipment options.

A total of 60 personal and 26 stationary air samples were collected. Personal and stationary air samples were collected using the OSHA personal and stationary air sampling procedures, respectively.

Personal and stationary air samples were analyzed using AHERA TEM methods, and no project-specific TAS was specified. Ten personal air samples required indirect preparation, all other air samples were directly prepared. No LA asbestos structures were observed in any TEM analyses. Achieved sensitivity for directly-prepared personal air samples ranged from 0.0024 cc^{-1} to 0.0050 cc^{-1} (EMR 2010c). Achieved sensitivity for stationary samples ranged from 0.0024 cc^{-1} to 0.0041 cc^{-1}.

This sampling event was summarized in a letter report entitled *BNSF Asbestos Exposure Sampling Report, BNSF Kootenai River Subdivision – Mileposts 1307 to 1341*, addressed to BNSF and dated 27 July 2010 (EMR 2010c). The letter report was submitted to the EPA in July 2011.

BNSF Asbestos Exposure Sampling Report – Stimson Wye Removal (May 2010)
Personal and stationary air samples were collected between 3 May and 7 May 2010 during the removal of two tracks located between the BNSF mainline and the Stimson lumber yard (OU5) in eastern Libby, Montana. The purposes of the sampling were to measure potential worker LA asbestos exposure against the OSHA PEL and provide BNSF IH with data to evaluate personal protection equipment options.

Over the course of 4 days, three personal and 10 stationary air samples were collected from, and adjacent to, the project area. Personal and stationary air samples were collected using the OSHA personal and stationary air sampling procedures, respectively.

Personal and stationary air samples were analyzed using AHERA TEM methods, and no project-specific TAS was specified. One stationary air sample required indirect preparation, all other air samples were directly prepared. No LA asbestos structures were observed in any TEM analyses, where achieved sensitivity for directly prepared samples ranged from 0.0019 cc^{-1} to 0.0210 cc^{-1} (EMR 2010d).

This sampling event was summarized in a letter report entitled *BNSF Asbestos Exposure Sampling Report, Stimson Wye Track Removal. BNSF Kootenai River Subdivision – Milepost 1319.41 to East End 3rd Street Terminus*, addressed to BNSF and dated 17 August 2010 (EMR 2010d). The letter report was submitted to the EPA in July 2011.

BNSF Personnel OSHA Exposure Sampling Report (September 2011)
Personal and stationary air samples were collected between 13 through 16 September 2011 during track maintenance activities consisting of shoulder ballast cleaning and track surfacing activities. The samplings were conducted to measure potential worker LA asbestos exposure against the OSHA PEL and provide BNSF IH with data to evaluate personal protection equipment options.

Over the 4-day sampling event, 23 personal air samples and four stationary air samples were collected. Personal and stationary air samples were collected using the OSHA personal and stationary air sampling procedures, respectively.

Personal and stationary air samples were submitted to EMSL for analysis using the ISO 10312 method. A TAS of 0.0024 $cc^{-1}$was specified. Ten personal air samples required indirect preparation, and two personal air samples required indirect-ashing preparation. Three of four stationary air samples required indirect preparation. No LA asbestos structures were observed in any TEM analyses, where achieved sensitivity for directly prepared samples ranged from 0.0023 cc^{-1} to 0.0133 cc^{-1} (EMR 2010d). Twelve of 27 samples met or exceeded the TAS.

This report was developed after the July 2011 EPA document submittal, but was included in the *BNSF Railway's Response to EPA Request for Information Pursuant to 104(e) of CERCLA for the Libby Asbestos Site, Libby, Montana (SSID #08-BC)* (BNSF 2013).

1.7.3 Troy, Montana Documentation

The following documents were developed to summarize efforts to prevent potential exposure to vermiculite containing materials in an abandoned concrete structure in Troy, Montana.

Solid Waste with Vermiculite Removal Project, Concrete Bunker Structure, Troy, Montana (October 2010)
During October 2010, BNSF removed solid waste that contained vermiculite from an abandoned concrete structure located on BNSF-owned property in Troy, Montana (EMR 2010e). Approximately 4 cubic yards of solid waste that reportedly contained visible vermiculite was removed by trained and certified asbestos abatement personnel, and transported to the Flathead County Solid Waste District in Kalispell, Montana for disposal. Two personal and one stationary air samples were collected during the project to evaluate compliance with OSHA regulations. Personal and stationary air samples were analyzed by an AIHA-certified analyst using NIOSH 7400 PCM methods. All air samples were below the OSHA PEL (0.1 f/cc). Following the removal of solid waste, concrete slurry was poured into the structure in an attempt to seal the soil floor within the structure.

This work was summarized in a report entitled *Solid Waste with Vermiculite Removal Project – Concrete Bunker Structure, Troy, Montana*, addressed to BNSF and dated October 2010 (EMR 2010e). A complete copy of the report is included in Appendix C of this RI Report.

Abandoned Concrete Structure, Troy, Montana (14 July 2011)
At the request of the Montana Department of Environmental Quality, additional actions were taken on 13 June 2011 to prevent access to the abandoned concrete structure located on BNSF-owned property in Troy, Montana. Concrete was poured into portions of the structure with exposed soils, and steel plates were installed to prevent unauthorized access to the structure (Olympus Technical Services 2011). No sampling was conducted during the project.

This work was summarized in a report entitled *Abandoned Concrete Structure, Troy, Montana*, addressed to BNSF and dated 14 July 2011 (Olympus Technical Services 2011). A copy of the report and attachments are included in Appendix D of this RI Report.

1.7.4 Additional Potential Sources of ACM in OU6

ACM in BNSF Buildings

BNSF-owned buildings within OU6 have been inspected and asbestos abatement has occurred, if necessary. Inspection and abatement details, including building construction, inspection and re-inspection dates, physical assessment information, ACM and suspect material quantities, and ACM removal actions for each structure, are maintained in a BNSF building database.

The BNSF building database was queried for buildings in Libby and Troy, Montana, and resulted in the following structures (EMR 2011):

- Libby Depot (no abatement, owned by BNSF, currently leased to Amtrak)
- Libby Scale House (abated and demolished as part of the 2004 response action)
- Libby Section House (abatement in 2001)
- Libby Tool House (no suspect materials)
- Troy Section House (abatement in 2001)
- Troy West Storage Building (no suspect materials)
- Troy East Storage Building (no suspect materials).

ACM inspections have been completed at the above-listed structures. The BNSF building database indicated ACM was found in each of the above-listed structures with the exception of the Libby tool house and the eastern and western storage buildings at Troy.

The above-listed structures were inspected for vermiculite in 2001. Vermiculite was reported only at the Libby and Troy Section Houses. Vermiculite abatements were performed on both buildings in 2001. Available documents from the BNSF Industrial Hygiene department and EMR, Inc. (who provided air monitoring services during the Libby and Troy vermiculite abatements) were reviewed. The results of air sampling during the Libby Section House abatement and clearance activities are included as Appendix E (EMR 2001b). No abatement or clearance air sampling results were found for the vermiculite abatement at the Troy Section House.

The BNSF building database indicates that no ACM abatement projects have been performed by BNSF at the Libby Depot, which was confirmed by electronic mail received by EMR on 7 January 2014.

Queries of the BNSF building database for Libby and Troy are contained in Appendices F and G, respectively.

BNSF Ballast Sources

According to electronic mail correspondence with BNSF's IH Department dated 19 November 2013, ballast for Montana operations is obtained from three sources consisting of:

- Mainline Rock (Sprague, Washington)

- Montana Rail Link (Pipestone, Washington)
- Martin Marietta (Cheyenne, Wyoming).

These ballast sources are located outside the Site and are not suspected to contain LA.

1.7.5 Outdoor ABS Air Re-Analysis Results (August 2013)

Personal air monitoring samples collected during the 2008 ABS event provide data representative of railroad workers performing typical maintenance activities, and for public receptors (e.g., onlookers, trespassers) along a 30-mile stretch of OU6. All samples were analyzed for LA asbestos by ISO 10312 TEM methods, counting and recording rules. However, results for these samples are limited because more than half of all air samples collected during this ABS study did not achieve the TAS of 0.001 cc^{-1} specified in the *Rail Maintenance Public Receptor Activity-Based Sampling and Analysis Plan* (SAP) (ENSR/AECOM 2008). The TAS specified in the SAP was derived based on a worker exposure scenario and utilizing the LA asbestos inhalation unit risk (IUR) (EPA 2008). More recently, the EPA has proposed new cancer and non-cancer toxicity values that are specific to LA. These are draft values that are currently undergoing review. Because the proposed LA-specific non-cancer reference concentration (RfC) is very low, the TAS needed to support reliable risk management decisions based on RfCs that are much lower than those originally specified in the original SAP. Therefore, select BNSF outdoor ABS air monitoring samples were re-analyzed to a lower TAS to support an evaluation of potential exposure and risks to workers and the general public from LA asbestos inhalation as a consequence of disturbances of the ROW environment and railway materials in OU6 (CDM Smith 2014).

Multiple selection criteria were applied in choosing samples for reanalysis. The selection criteria included: types of monitoring samples; type of disturbance activities, representativeness, and TAS. Thirty-five candidate ABS samples were identified and supplemental TEM analysis was specified for 22 samples consisting of all (14) worker samples and eight of 14 pedestrian samples. None of the onlooker trespasser samples were selected for supplemental TEM analysis.

The original air filters were used to prepare 10 new grids for TEM analysis following ISO 10312 TEM Methodologies as detailed in *Data Summary Report: OU6 Outdoor Supplemental TEM* Analysis *Recommendations Memorandum* (CDM Smith 2013c). The supplemental analysis specified new TASs of 0.0004 cc^{-1} for workers and 0.0009 cc^{-1} for pedestrian trespassers, which were reduced from 0.001 cc^{-1} for the original analysis.

No LA asbestos structures were observed in any personal air sample during the reanalysis effort and TAS was achieved for all 22 samples that were reanalyzed. The reanalysis of the 2008 ABS samples was documented in the draft *Data Summary Report: Outdoor Activity-based Sampling Air Re-analysis Results* (CDM Smith 2014).

Section 2: Sampling and Analysis

2.1 Summary of Existing Data in OU6

Investigations and response actions have been completed within OU6 and have been summarized in Section 1.7. Although much of investigative and response action work has been completed under EPA oversight, several investigations were completed at BNSF's request for internal evaluation of potential worker exposure against the OSHA PEL for asbestos, which are herein referred to as OSHA sampling events.

The purpose of the following discussion is to summarize the sampling and analysis procedures and methods used to collect data for the purpose of determining the nature and extent of LA asbestos in OU6.

2.1.1 Excluded Data

2.1.1.1 Pre-2005 Soil Data

Surface soil sampling prior to 2005 was completed for one of two following purposes:

1. Characterization Soil Sampling: Surface soil sampling (samples collected less than 6 inches bgs) to define the nature and lateral extent of LA asbestos-impacted soils in, and adjacent to, the BNSF Libby Railyard.

2. Clearance Soil Sampling: Subsurface soils sampling (samples collected at depths greater than 6 inches bgs) to confirm that the vertical limits of soil excavation was sufficient to remove LA asbestos-impacted soils from within the response action area.

While both characterization and clearance soil sample locations were used to define the extent LA-asbestos in the BNSF Libby Railyard, the LA asbestos-containing soils have been removed or placed under an engineered cover; thus, eliminating soil related exposure pathways. Therefore, pre-2005 soil samples associated with the BNSF Libby Railyard are not discussed further in this report.

2.1.1.2 PCM NIOSH 7400 Method Air Data

The PCM NIOSH Method 7400 analysis is the historical method used for the measurement of LA asbestos fibers in air, and the method on which many of the occupational exposure regulations are based. The primary disadvantage of this method is the inability to distinguish between asbestos and non-asbestos fibers. As this method is primarily used for worker health and safety monitoring purposes, air samples analyzed using the NIOSH 7400 method are excluded from nature and extent discussions.

Although these data are excluded from further discussion, personal and stationary air samples results obtained through NIOSH 7400 analysis are included in Tables 3 and 5.

2.1.1.3 Response Action Air Samples

Personal and stationary air samples, collected to monitor health and safety during pre-2005 response actions are excluded from nature and extent discussions and are not discussed further in this report. Personal air sampling during pre-2005 response actions was completed to evaluate the protectiveness of the respiratory protection used by field personnel during sampling and response actions. Stationary air sampling during pre-2005 response actions was completed to evaluate the effectiveness of dust suppression efforts.

Although these data are excluded from further discussion, personal and stationary air samples collected during pre-2005 response actions are included in Tables 3 and 5.

2.1.1.4 Composite Stationary Air Sample

One stationary air sample (02A) collected during the May 2009 Supersurfacing Gang Sampling Event was a composite of multiple sampling locations. Composite sampling was required due to the short duration of maintenance activities in any particular location and the need to obtain a sufficient volume of air for analysis.

Although these data are excluded from further discussion, the result of stationary air sample 02A analysis is included in Tables 3 and 5.

2.1.1.5 Field Quality Control Samples

Field quality control samples, consisting of closed and open air blanks and soil QC samples, were collected to allow for the evaluation of field and laboratory methods and yield data that are useful for determining data usability. These samples do not convey data relevant to a discussion of nature and extent and are not included in nature and extent discussions. However, these data are used to determine the adequacy and representativeness of the data set used to determine the nature and extent of LA asbestos in OU6 as discussed in Section 3.2.2.

2.1.2 Nature and Extent Data Set

The following data are used to evaluate the nature and extent of LA asbestos in OU6 (outside the BNSF Libby Railyard) and consists of the following (herein referred to as the OU6 Data Set):

- Thirty-five personal air samples collected in OU6 during ABS conducted in 2008.
- One hundred forty-one personal air samples collected in OU6 during OSHA sampling events between 2008 and 2011.
- Twenty-three stationary air samples collected in OU6 during ABS conducted in 2008.
- Forty-two stationary air samples collected in OU6 during OSHA sampling events between 2008 and 2011.
- Twenty-two personal air samples originally collected during ABS and reanalyzed in 2013 as discussed in Section 1.7.5.

- Sixty-one surface soil samples (collected at depths between the surface and 6 inches bgs) collected in OU6 during ABS conducted in 2008. Surface soil sample preparation resulted in 61 fine fraction samples that were analyzed using PLM-VE methods, and 51 coarse fraction samples that were analyzed using PLM-Grav methods.

- Six soil-like (spoils) composite samples collected in August 2009 from spoils piles generated by undercutting activities. Preparation of the spoils samples resulted in six fine fraction samples that were analyzed using PLM-VE methods, and six coarse fraction samples that were analyzed using PLM-Grav methods.

Tables 2 and 3 summarize ABS and OSHA personal air data, respectively. Tables 4 and 5 summarize ABS and OSHA stationary air data, respectively. Tables 6 and 7 summarize PLM-VE and PLM-Grav analysis data, respectively, collected during the 2008 ABS sampling and the 2009 undercutter spoils sampling event. Tables 3 and 5 include pre-2005 personal and stationary air sample data that are not included in the OU6 Data Set.

2.2 Air Sampling Scenarios and Analytical Methods

The following is a discussion of air sampling scenarios and analytical methods for personal air sampling and stationary air sampling.

2.2.1 Personal Air Sampling Scenarios

The OU6 Data Set contains 176 personal air samples and 22 supplemental analysis samples that were collected to be representative of the following human receptor populations discussed below.

Worker Receptor Activities

Personal air samples were collected from BNSF workers during both ABS (Worker Scenario) and OSHA sampling events. Although ABS and OSHA personal air samples were collected to evaluate risk and compliance with the OSHA PEL for asbestos, respectively, the criteria used to select worker receptors were identical and are described collectively below.

Workers sampled were involved with a variety of tasks associated with each maintenance activity. While not all tasks were sampled, the samples collected were representative of potential worker exposure scenarios. BNSF worker samples were subdivided into two general groups with distinct, potential exposure conditions:

- BNSF general laborers (herein referred to as BNSF laborers) who performed tasks while on foot and not associated with machine operation.

- BNSF workers operating rail maintenance machinery (herein referred to as BNSF machine operators) from either enclosed or open control cabs.

Public Receptor Activities

Personal air samples were collected to simulate public receptors only during the 2008 ABS event. Samples were collected from project personnel to represent the following potential public exposure scenarios:

- Onlooker trespasser who access the ROW at rail maintenance locations during rail maintenance activities. They may be onlookers to the rail maintenance activities, or they may be crossing the ROW.

- Pedestrian trespasser who may walk along the ROW in the absence of rail maintenance activities.

Tables 2 and 3 (attached) include details about analytical methods, sample locations, and analytical sensitivities (as applicable) for all known personal air samples collected in OU6.

2.2.2 Personal Air Sampling Procedures

Personal air samples were collected from the breathing zones of the ABS and OSHA sampling event participants, generally consistent with the approach found in Appendix A of the *Rail Maintenance Public Receptor Activity-Based SAP* (ENSR/AECOM 2008). In general, airflow rates and sampling durations were adjusted to achieve a target volume of 1,200 liters. However, airflow rates were variable due to field and pump conditions.

The personal air sampling train consisting of 0.8 micrometers (µm), 25 mm mixed cellulose ester (MCE) filter connected to a battery-powered sampling pump was used. The top cover from the cowl extension on the sampling cassette was removed and the cassette oriented face down.

2.2.3 Stationary Air Sampling Scenarios

The OU6 Data Set contains 23 stationary air samples that were collected during the Public Receptor ABS and 42 collected during OSHA sampling events.

According to the EPA's Standard Operating Procedure (SOP) #2084, stationary air samples are defined as samples collected upwind, downwind or crosswind of a specific activity (EPA 2007). Stationary air monitoring was conducted to (ENSR/AECOM 2008):

- Document air quality during activity sampling and establish background or upwind levels of LA asbestos during maintenance activities

- Monitor and document air quality during site activities near receptors

- Provide risk management information and address public confidence.

These objectives were developed for stationary air samples collected during the Public Receptor ABS and were adopted for OSHA sampling events with the exception of last bullet point (provide risk management information and address public confidence).

Tables 4 and 5 (attached) include details including analytical methods, sample locations, and analytical sensitivities (as applicable) for all known stationary air samples collected in OU6.

2.2.4 Stationary Air Sampling Procedures

In general, stationary air samples were collected in pairs near the BNSF property boundary. One sample located in each the upwind and downwind direction from the sampled activity, consistent with the procedures found in Appendix A of the *Rail Maintenance Public Receptor Activity-Based SAP* (ENSR/AECOM 2008) with the exception that collocated low volume samples were not collected. The duration of stationary air samples were variable, but were sufficient length to capture all maintenance activities passing the sample locations and to meet the target volume of 1,200 liters.

The stationary air sampling train consisted of an EMS Megalite high-volume air pumps equipped with Zefon 25 mm PCM cassettes with 0.8 µm MCE filters. The filters were suspended approximately 4 feet above ground surface with the filter opening facing downward to prevent the deposition of foreign material on the filter.

2.3 Air Sample Analysis Methods

Personal and stationary air samples were analyzed using the following methods:

- NIOSH 7400 Method PCM, Issue 2 (NIOSH 7400)
- AHERA Method TEM (AHERA TEM)
- ISO 10312:1995 Method TEM (ISO 10312 TEM).

2.3.1 PCM

The NIOSH 7400 is the historical technique used for the measurement of asbestos fibers in air and is the method upon which many occupational exposure regulations are based. A key limitation of PCM is that structure discrimination is based only on size and shape. Because of this, it is not possible to distinguish between asbestos and non-asbestos structures. All structures that have a length greater than 5 µm and have an aspect ratio (length: width) of 3:1 or more are counted as PCM fibers. The limit of PCM resolution is about 0.25 µm, so thinner structures are generally not observable. There is no upper width restriction imposed (CDM Smith 2013).

PCM is typically used as the preliminary analysis method for worker air samples collected as part of health and safety monitoring. This is because results for these samples are compared to OSHA exposure limits that are based on PCM.

2.3.2 TEM

TEM methods are more complex than PCM and PLM and require the use of a more sophisticated analytical instrument that operates at higher magnification (e.g., 20,000x) and hence, is able to detect structures much smaller than can be seen by other methods.

When a sample is analyzed by TEM, the analyst records the size (length, width) and structure type (e.g., fiber, bundle) of each observed individual asbestos structure. This structure attribute information can be used to determine the number of phase contrast microscopy equivalent

(PCME) structures observed in the TEM analysis. PCME is important for the purposes of human health risk assessment because available toxicity values are based on studies utilizing PCM data. TEM counting rules for PCME structures are identical to those for PCM, except a fiber width of greater than or equal to 0.25 µm, is specified. The PCME counting rule for width does not include an upper width cut-off of 3 µm, per EPA (2008), because particles wider than 3 µm are counted by the PCM method. Thus, to ensure comparability between the exposure concentrations and toxicity values, no upper width restriction is applied (CDM Smith 2013).

Many different standard methods have been developed for TEM and utilize different recording rules. Standard recording rules used for OU6 air samples consist of AHERA and ISO 10312 are described below.

2.3.3 TEM AHERA

This TEM method is based on regulation established for evaluating asbestos risks in schools under AHERA. Structure recording rules for AHERA TEM differ from other recording rules in that no attempt is made to record individual fibers that are part of a larger matrix or cluster aggregate. As a consequence, a sample analyzed using AHERA TEM recording rules may report a lower structure count than if it were analyzed using TEM ISO recording rules.

Under AHERA TEM recording rules, a fiber is defined as any structure greater than, or equal to (≥), 0.5 µm that has substantially parallel sides and an aspect ratio ≥5:1. At the Libby Site, this aspect ratio rule has varied over time (refer to current Libby laboratory modification #LB-000031), with more recent samples analyzed using an aspect ratio rule of ≥ 3:1, which allow for the estimation of PCME structures. The method-specific analytical sensitivity, as specified by 40 CFR Chapter I – Part 763 is 0.0050 cc^{-1}.

2.3.3.1 TEM ISO 10312

This TEM method is suitable for use in determining the concentration of asbestos structures in both indoor and outdoor environments. ISO 10312 TEM structure recording rules differ from other TEM analysis methods in that there is a fairly complex set of rules for counting fibers that occur in higher order structures (e.g., matrices, clusters), tending to enumerate individual fibers when they can be clearly distinguished, and counting the higher order particles as a unit when the individual fibers cannot be clearly resolved.

Under ISO 10312 TEM recording rules, a fiber is defined as any structure ≥ 0.5 µm that has substantially parallel sides and an aspect ratio ≥ 5:1. At the Site, this aspect ratio rule has varied over time (refer to current Libby laboratory modification #LB-000016), with more recent samples analyzed using an aspect ratio rule of ≥ 3:1, which allow for the estimation of PCME structures (CDM Smith 2013). All amphibole structures (including not only LA asbestos but all other amphibole asbestos types as well) that have appropriate selective area electron diffraction (SAED) patterns and energy dispersive spectroscopy (EDS) spectra, and meet PCME counting rules were recorded (CDM Smith 2013).

The TAS for ABS air samples was calculated to be 0.0024 cc^{-1} (ENSR/AECOM 2008). OSHA air samples that were analyzed using ISO 10312 TEM methods used this TAS by default.

At the Site, ISO 10312 TEM is typically used as the principal recording method for investigation samples, although ISO 10312 TEM is written as an analytical method for air filters that are

directly prepared. At the Site, this method has also been utilized to specify the desired recording rules for air samples that have been prepared indirectly and for the TEM analysis of other non-air media.

2.3.3.2 Supplemental TEM ISO 10312

Supplemental TEM analyses was performed on select ABS personal air samples using counting protocols for recording PCME structures only (per ISO 10312 Annex E). That is, filters were examined at a magnification of 5,000 times, and all asbestos structures meeting PCME counting rules (i.e., have a length >5 µm, width ≥ 0.25 µm, and aspect ratio ≥ 3:1) were recorded (CDM Smith 2014).

The TEM stopping rules differ from the original ABS analysis and consist of the following:

1. Examine a minimum of two grid openings from each of two grids.
2. Continue examining grid openings until one of the following is achieved:
   a. The receptor-specific TAS is achieved (worker = 0.0004 cc^{-1}, pedestrian trespasser = 0.0009 cc^{-1}).
   b. 25 PCME LA Asbestos structures have been observed.
   c. A total filter area of 10 square millimeters (mm^2) has been examined (this is approximately 1,000 grid openings).

Analysis was completed in accordance with the analytical requirements summary sheet SUPPABSOU6-0413, which detailed the specific preparation and analytical requirements associated with the supplemental evaluation.

2.4 Soil and Spoils Sampling Rationale and Procedures

2.4.1 Soil and Spoils Sampling Rationale

Surface soil samples were collected during the Public Receptors phase of the 2008 ABS event to determine whether a correlation was present between airborne LA asbestos measured by air sampling and the levels of LA asbestos in surface soil. To determine whether a correlation was present, discrete surface soil grab samples were collected for each rail maintenance activity area and for each trespasser area of the ROW away from rail maintenance activities. All surface soil samples were collected between the ground surface and a maximum depth of 6 inches bgs, and are herein simply referred to as soil samples.

Spoils samples collected in August 2009 are included in the OU6 Data Set, as these samples representative of track ballast conditions directly beneath the mainline. These samples provide valuable data from within the track ballast, an environment from which samples are difficult to obtain and where the evidence of accidental spillage of vermiculite ore and processed vermiculite would likely be encountered. Four spoils piles were sampled and one composite sample was collected from the two smallest piles. Two composite samples were collected from each of the two larger piles.

2.4.2 Soil and Spoils Sampling Procedures

Discrete soil samples were collected during ABS in accordance with the *Site-Specific Standard Operating Procedure for Soil Sample Collection* (CDM-LIBBY-05, Revision 2). Soils were not wetted before collection to help ensure that the resulting data were not biased low. The Public SAP proposed the collection of 15 discrete soil samples for each mile of maintenance activity for a sample spacing of approximately 350 feet. A stainless steel trowel was used to collect approximately 1 kilogram of soil, which was placed into 1-gallon, re-sealable plastic bags. Soil samples were typically collected from the toe of the ballast (the soil closet to the rail) because it was most likely to be disturbed during maintenance activities. Soil sampling from beneath the track structure was not possible due to the concurrent rail maintenance activities.

Undercutter spoils samples were collected as composites that consisted of six discrete grab samples. Each discrete grab sample was collected using a decontaminated, stainless steel trowel and from a depth of approximately 6 inches below the pile surface. Each discrete soil sample was of similar volume and was placed into a 1-gallon resealable plastic bag. After all discrete grab samples were collected, the soil was homogenized, labeled a unique sample identification supplied by CDM Smith, and placed inside a second 1-gallon resealable plastic bag. Sample information was recorded on an FSDS.

During soil and spoils sampling field observations were made as described in the *Site-Specific Standard Operating Procedure (SOP) for Semi-Quantitative Visual Estimation of Vermiculite in Soil* (CDM-LIBBY-06). Visual inspection data can be used to characterize the level of vermiculite (and presumptive LA asbestos contamination) in an area and considers both frequency and level of vermiculite.

As presented in SOP CDM-LIBBY-06, guidelines for assigning levels are as follows:

- None – No flakes of vermiculite observed within the soil sample.
- Low – A maximum of a few flakes of vermiculite observed within the soil sample.
- Moderate – Vermiculite easily observed throughout the soil sample, including the surface and contains less than 50 percent vermiculite.
- High – Vermiculite easily observed throughout the soil sample, including the surface, and contains 50 percent or more vermiculite.

Visual estimation of vermiculite results were recorded on soil and spoils sample FSDS.

2.5 Soil and Spoils Analysis Methods

Soil and spoil samples were analyzed using the following methods:

- PLM-VE
- PLM-Grav.

Samples of soil and spoils collected as part of the 2008 ABS and 2009 undercutter spoils sampling, respectively, were processed by the CDM Smith CSF for analysis in accordance with

SOP ISSI-LIBBY-01. Preparation consists of separation of coarse fraction and fine fraction materials using a ¼-inch sieve. Coarse fraction materials (greater than ¼ inch in diameter) are retained during sieving and fine fraction materials (less than ¼ inch in diameter) pass through the sieve.

Fine fraction materials are examined using visual area estimation in accordance with SOP SRC-LIBBY-03, referred to as "PLM-VE". PLM-VE is a semi-quantitative method that utilizes LA-specific reference materials to allow assignment of fine fraction materials into one of four reporting "bins, as follows (CDM Smith 2013):

1. Bin A (ND): Non-detect

2. Bin B1 (Trace): Detected at levels lower than the 0.2 percent (by mass) asbestos reference material

3. Bin B2 (<1%): Detected at levels lower than the 1 percent (by mass) asbestos reference material but greater than or equal to the 0.2 percent LA asbestos reference material

4. Bin C: Asbestos detected at levels greater than or equal to the 1 percent reference material; results are report to the nearest whole percent.

Coarse fraction materials are examined in accordance with SOP SRC-LIBBY-01, referred to as "PLM-Grav". PLM-Grav provides a screening method to examine the coarse fraction for evidence of asbestos mineral content using stereomicroscopy with confirmation of asbestos by PLM. The method is suitable for used on soil and other soil-like media to quantify all types of asbestos fibers, including chrysotile and amphiboles. Sensitivity can be affected by the homogeneity of the sample, the accuracy of the weight measurements obtained at the laboratory, and the effectiveness of the sample reduction and filtering procedures.

Results generated by both PLM-VE and PLM-Grav are expressed in percent mass of asbestos.

Section 3: Data Recording and Data Quality Assessment

3.1 Data Recording

ABS air, soil and spoils sample information was logged on one of three types of FSDSs that were provided by CDM Smith: 1) personal air samples; 2) stationary air samples; and 3) soil samples. FSDSs were completed using CDM Smith-assigned sample numbering labels, as well as sample-specific data. Hard copies of all FSDSs, field logbooks, and chain-of-custody forms generated during the OU6 sampling program were included in the appendices of the *Activity Based Sampling Summary Reports* (EMR 2010, 2010b).

Information for air samples collected during OSHA sampling events were entered on standard EMSL Asbestos Chain of Custody forms. Chain of Custody forms were included in laboratory reports that were included, in entirety, with each summary report.

Standardized data entry spreadsheets [electronic data deliverables (EDDs)] have been developed specifically for the Libby project to ensure consistency between laboratories in the presentation and submittal of analytical data. In general, a unique EDD has been developed for each type of analytical method. Each EDD provides the analyst with a standardized laboratory bench sheet and accompanying data entry form for recording analytical data. Data entry forms contain a variety of built-in quality control functions that improve accuracy of data entry and help maintain data integrity. These spreadsheets also perform automatic computations of analytical input parameters (e.g., sensitivity, dilution factors, and concentration), thus reducing the likelihood of analyst calculation errors.

ABS soil and air, and spoils analytical data were reported to BNSF by the analytical laboratory in the form of an EDD. Analytical data resulting from OSHA sampling events were transmitted to BNSF via email as an Adobe file type.

Hard copies of all analytical reports are stored in the Scientific, Engineering, Response and Analytical Services (SERAS – EPA's contractor) Program Central Files and electronic copies are stored on SERAS local area network.

3.1.1 Site Databases

This section provides an overview of the EPA data management applications utilized at the Site. Additional information on these applications can be found in the *EPA Data Management Plan for the Libby Asbestos Superfund Site Versions 1.1* (EPA 2013b). Data for the Site are constantly changing as new analytical results are received, previous results are revised, and property information is updated. OU6 analytical data are reportedly stored on the Libby2 server database and Scribe, which are described below, since OU6 was collected prior to, and after, 31 December 2009, the date at which new data storage was transferred from the Libby 2 Database to Scribe.

Please note that the OU6 dataset, presented in Tables 2 through 8, was manually tabulated as BNSF does not have access to the various Libby databases.

3.1.2 Libby2

Historically, there was a single standard query language (SQL) server database for the entire Libby project, referred to as the "Libby2 Database", which was used to manage and maintain most sample information, analysis details, and analytical results for all samples collected at the Site. The Libby2 Database is no longer utilized to manage data or property status, but analytical data have been compiled from the Libby2 Database for use in this report.

3.1.3 Scribe

All sample and analytical data collected since January 2010 are maintained exclusively in Scribe. Scribe is a software tool developed by the EPA ERT to assist in the process of managing environmental data. A Scribe project is a Microsoft Access database.

3.1.4 Response Manger

All property information gathered at the Libby Site is managed in Response Manager. Response Manager is a SQL server database tool developed for managing property information for Libby, Montana. This application is used to track property information, including records of property access and remediation status information, owner names and contact information, property-specific communications made at the relevant Information Center, and the status of all actions taken in response to the interactions.

3.2 Data Quality Assessment

The assessment of air and soil data quality included the comparison of achieved and TAS review and evaluation of air and soil QC data, evaluation of field and laboratory procedures, and the potential effects on data quality.

3.2.1 Comparison of Achieved and Target Analytical Sensitivities

As described in Section 2.3.4, the TAS for ABS air samples was calculated to be 0.0024 cc^{-1} (ENSR/AECOM 2008). Air samples collected during OSHA sampling events and analyzed using ISO 10312 TEM methods defaulted to this TAS.

Although the failure of a sample to meet the applicable sensitivity does not provide sufficient reason to exclude the sample, uncertainty with these samples is increased as low level LA asbestos concentrations may not have been detected. The following is a comparison of the achieved sensitivities and TASs for OU6 Data Set samples.

- Thirty-two of 35 personal air samples in the OU6 Data Set, collected during ABS and analyzed using ISO methods, had achieved sensitivities that were lower than or equal to the TAS.

- Twenty-five of 40 personal air samples in the OU6 Data Set, collected during OSHA sampling events and analyzed using ISO methods, had achieved sensitivities that were lower than or equal to the TAS.

- Sixty-one of 101 personal air samples in the OU6 Data Set, collected during OSHA sampling events and analyzed using AHERA TEM methods, had achieved analytical sensitivities that were lower than or equal to the method-specified sensitivity (0.005 cc^{-1}).

- Twenty-three of 23 stationary air samples in the OU6 Data Set collected during ABS and analyzed using ISO methods were lower than or equal to the method-specified sensitivity (0.005 cc^{-1}).

- Thirty-seven of 38 stationary air samples in the OU6 Data Set collected during OSHA sampling events and analyzed using the AHERA TEM method were lower than or equal to the method-specified sensitivity (0.005 cc^{-1}).

- One of four stationary air samples in the OU6 Data Set, collected during OSHA sampling events and analyzed using ISO methods, had achieved sensitivities that were lower than or equal to the TAS.

- Fourteen of 14 worker personal air samples in the OU6 Data Set that underwent supplemental ISO 10312 TEM analysis met the 2013 revised TAS of 0.0004 cc^{-1}

- Eight of eight pedestrian trespassers personal air samples in the OU6 Data Set that underwent supplemental ISO 10312 TEM analysis met the 2013 revised TAS of 0.0009 cc^{-1}.

Numerous air samples in the OU6 Data Set were indirectly prepared, or indirectly prepared through ashing due to filter overloading. An indirect preparation method increases the achieved sensitivity and is a significant factor in why many samples did not meet the TAS.

A similar comparison of soil results is not possible because the semi-quantitative PLM-VE and PLM-Grav methods do not have a specific minimum detection limit.

3.2.2 Field Quality Assurance

Elements of Section 2: Field Quality Assurance from the *Quality Assurance and Quality Control Summary Report (1999-2009) for the Libby Asbestos Superfund Site* (EPA 2012) were incorporated into ABS, and to a lesser extent, OSHA sampling events. Elements include field team training, field documentation review, equipment calibration, and equipment decontamination.

Field quality control (QC) samples were collected during both ABS and OSHA sampling events to evaluate potential contamination of field samples from external sources and to evaluate the precision of laboratory quality control processes.

Air Quality Control Samples
The frequency and type of QC air samples varied between investigations. In general, air quality control samples included:

- Closed Blanks – A random, unopened air cassette to evaluate lot quality.

- Open Blanks – An air cassette opened briefly in stationary air outside to evaluate the potential for sample contamination between the sampling location and the laboratory.

Open and closed blanks were not collected to be representative of personal or stationary samples, but overall sampling conditions.

Blanks were collected at a frequency of approximately 10 percent or 1 blank for every 10 samples. Six ABS blanks were analyzed and 18 OSHA blanks were analyzed between 2008 and 2011. Additionally, nine ABS and two OSHA blanks were archived by EMSL. Blanks were analyzed by both AHERA TEM and ISO 10312 TEM methods and no LA asbestos structures were observed in any blank samples. Laboratory qualifiers were not assigned to the results based on blank analytical results. Since asbestos structures were not observed in any of the analyzed blanks, cassette quality and sample storage and transport do not appear to have affected data quality.

Soil QC Samples

No QC soil samples were collected in the field during the 2008 ABS or 2009 undercutter spoils sampling event. However, QC samples were prepared for analysis by CDM Smith and are discussed below.

Six ABS soil samples submitted to CDM Smith for pre-analysis preparation were split, creating six preparation duplicates. Each preparation duplicate was accompanied by a drying blank and a grinding blank, both of which were prepared using asbestos-free quartz sand (EPA 2012). QC samples were assigned sample identifications that differentiated the QC samples (RR-002XX) from field-collected soil samples (RR-000XX) that were submitted by BNSF.

Undercutter spoils sample RR-00321 was selected by CDM Smith for the creation of a preparation duplicate. The fine fraction preparation duplicate (RR-00221) was accompanied by a drying blank (RR-00219) and a grinding blank (RR-00220).

All QC samples were submitted with the prepared field-collected soil samples to EMSL for analysis using PLM-VE and PLM-Grav methods. Asbestos structures were not observed in either the original field samples or the associated preparation samples. Asbestos structures were not observed in the drying or grinding blanks and no laboratory qualifiers were assigned. QC sample laboratory results are summarized in Tables 6 and 7.

A detailed review and discussion of the results for all QC samples and analyses for this investigation is provided in the *Quality Assurance and Quality Control Summary Report (1999-2009) for the Libby Asbestos Superfund Site* (EPA 2012).

3.2.3 Laboratory Quality Assurance

3.2.3.1 Laboratory Certification

All air and soil samples present in the OU6 Data Set were analyzed by EMSL at the Libby, Montana laboratory. EMSL is accredited by the National Institute of Standards and Technology (NIST)/National Voluntary Laboratory Accreditation Program (NVLAP) for the analysis of airborne asbestos by BNSF and/or analysis of bulk asbestos by PLM. This included the analysis of NIST/NVLAP standard reference materials (SRMs), other verified quantitative standards and successful participation in two proficiency rounds per year of bulk asbestos by PLM and airborne asbestos by TEM supplied by NIST/NVLAP (EPA 2012).

3.2.3.2 Laboratory QC Samples

A variety of laboratory-based QC analyses are performed to help establish the quality of data obtained by TEM. These analyses are discussed below.

TEM
The QC requirements for TEM analysis at the Site are patterned after the requirements set forth by NVLAP. The types of laboratory QC samples for TEM include the following (EPA 2012):

- Laboratory blanks
- Recount same (same grid openings, same analyst)
- Recount different (same grid openings, different analyst, same laboratory)
- Interlab (same grid openings, different analyst, different laboratory)
- Repreparation (new grid and grid openings).

Laboratory Modification LB-000029b summarizes the Libby program-wide TEM QC frequency rates, selection protocols, and acceptance criteria for all participating TEM laboratories.

PLM
Laboratory-based QC for PLM is based on the requirements specified by NIST/NVLAP and includes inter- and intra-analyst re-analyses (laboratory duplicates), interlabs, and analysis of performance evaluation (PE) standards. As specified in SOP SRC-LIBBY-03, laboratory duplicates for PLM-VE are to be performed at an overall frequency of 10 percent (1 per 10 analyses). Laboratory Modification LB-00073 summarizes the Libby program-wide PLM-VE interlab analysis frequency rated and acceptance criteria (EPA 2012).

No laboratory QC sample results were available to BNSF for review, but TEM and PLM data QC for the entire Libby Asbestos Site is discussed in detail in the *Quality Assurance and Quality Control Summary Report (1999-2009) – Libby Asbestos Superfund Site* (EPA 2012).

3.2.4 Field and Laboratory Procedure Modifications

3.2.4.1 Field Procedure Modifications

The ABS event was conducted in accordance with the procedures described in the EPA-recognized SAPs, except when field conditions warranted a deviation. Deviations from the SAP were primarily the result of differences between actual field conditions and those speculated during the SAP development. The dynamic nature of the railroad maintenance activities also contributed to SAP deviations.

Deviations were documented on field change order (FCO) forms, which were included as Appendix F in the *Activity Based Sampling Summary Reports – Public Receptors* (EMR 2010). FCOs that may have affected sampling methods or analytical results include the following:

FCO #17-1: The flow rates on pumps used to collect personal air samples could not reach 5 liters per minute (L/min) as specified by the SAP. This change resulted in a decrease of the

flow rate to approximately 2.5 L/min and sampling duration was increased from 2 and 4 hours per event to 6 hours and 8 hours per event. Analytical results were affected since the TAS was subsequently increased from 0.001 cc^{-1} to 0.0024 cc^{-1}.

FCO #17-2: Due to personnel limitations, the number of simulated onlooker trespasser samples was reduced from two samples to one sample per day. Although the number of onlooker trespasser samples was decreased, this change had no effect on analytical results.

FCO #17-3: The SAP was written with the assumption that no train traffic would occur during ABS. However, train traffic did pass through the sampling areas on sampling days and train passage was documented in field notes. Since no LA asbestos structures were observed in ABS air samples, train passage does not appear to have influenced sample results.

FCO #17-4: The SAP predicted pedestrian trespasser personal air samples would be collected away from maintenance activities. However, sampling personnel acting as simulated pedestrian trespassers walked in areas near track maintenance for periods of time. This could have resulted in higher LA asbestos in air concentrations, but no LA asbestos structures were observed in any simulated pedestrian trespasser samples.

FCO #17-5: The soil sampling trowel was decontaminated between discrete sample locations versus being wrapped in tin foil between composite sample locations, as described in the SAP. The sampling trowel was decontaminated using an Alconox wash and distilled water rinse and then transported between discrete sampling locations in a re-sealable plastic bag. Analytical data quality was likely improved by this FCO as the likelihood of cross contamination was decreased.

FCO #17-6: Worker personal air pumps could only be accessed at the beginning and end of the maintenance shift, which lasted approximately 10 hours. Overloading of filters was observed and a decrease in flow rate is suggested. The flow rates were decreased and likely improved data quality through a reduction in frequency of overloaded filters. Overloaded filters require indirect preparation, which decreases sensitivity.

FCO #18-1: The scheduled maintenance area decreased in length from the previous day. The number of soil samples was decreased from 15 samples to nine samples. Although this FCO decreased the number of soil samples, sample density within the work area, remained constant.

FCO #18-2: Personal air sample filter overloading occurred on the first day (17 September 2008) of sampling. The flow rates on personal air sample pumps were decreased from 2.8 L/min to 1.0 L/min. This change likely reduced filter overloading, the need for indirect preparation methods and may have resulted in increased sensitivity.

FCO #18-3: Maintenance area was noticeably less dusty than the previous day (17 September 2008). The change in conditions was attributed to less exposed soil and the lack of a BNSF access road adjacent to the maintenance area. Field conditions as documented on the FCO likely contributed to fewer overloaded air samples on 18 September 2008.

FCO #19-1: The scheduled maintenance area was less than 1,000 feet in length. Air and soil sampling was adjusted to accommodate the shortened maintenance area and maintenance duration. No adverse effects were noted with regard to sample collection or analytical results

since all air samples had sufficient air volume to achieve the TAS and soil sample spacing was closer than proposed in the Public SAP.

FCO #22-1: ABS was to be conducted during dry weather conditions. Rain occurred on 22 September 2008 and sampling continued uninterrupted. Analytical results may be underestimated due to precipitation-induced dust suppression. One stationary sample was damaged, but it is not known whether the damage was rain related.

The FCO mechanism was not utilized during OSHA or undercutter spoils sampling events.

3.2.4.2 Laboratory Procedures Modifications

Laboratory analyses of ABS samples were completed using methods and rules specified in accordance with EPA-approved analytical summaries. Applicable modifications to laboratory processes for air and soil samples are summarized in the *Rail Maintenance Public Receptor Activity-Based Sampling and Analysis Plan* (ENSR/AECOM 2008).

3.2.5 Data Verification and Validation

Data verification included checking that results were transferred correctly from FSDS forms and laboratory bench sheets to the laboratory report and to the EDD. Data verification for this project was performed in part as a function of built-in QC checks in the Libby project database when data are uploaded and is also performed manually in accordance with SOP EPA-LIBBY-09. However, the sample coordinator will notify the laboratories and the project database manager of any discrepancies found during data usage.

Upon receipt, laboratory reports and individual samples results were checked against the applicable chain-of-custody for completeness and accuracy. Additionally, EDDs and laboratory reports were reviewed for qualifiers. No errors were indicated by these checks.

3.2.6 Comparison of Results to Investigation Data Quality Objective

BNSF and its contractors evaluated the 2008 ABS data to determine if data quality objectives (DQOs) were achieved as discussed in *Activity Based Sampling Summary Reports – Public Receptors* and *Activity Based Sampling Summary Reports – Worker Receptors* (EMR 2010, 2010b).

While the DQOs that were developed for the 2008 ABS event generally apply to subsequent OSHA sampling events, DQOs were not formally defined for OSHA sampling events. The following discussion relates primarily to data collected during 2008 ABS event and whether the DQO have been satisfied.

DQOs are statements that define the type, quality, quantity, purpose, and use of data to be collected. The design of a study is closely tied to the DQOs, which serve as the basis for important decisions regarding key design features such as the number and location of samples to be collected and the chemical analyses to be performed.

In brief, the DQO process typically follows a seven-step procedure, as follows:

1. State the purpose that the study is designed to address.

2. Identify the decisions to be made with the data obtained.
3. Identify the types of data inputs needed to make the decision.
4. Define the bounds (in space and time) of the study.
5. Define the decision rule which will be used to make decisions.
6. Define the acceptable limits on decision errors.
7. Optimize the design using information identified in Steps 1-6.

Steps five through seven will be addressed by the risk assessments. The remainder of this section describes the DQOs used in the RI and whether the DQOs were achieved in steps one through four.

1. State the Purpose that the Study is Designed to Address.

The original purpose in collecting ABS outdoor air and soil data as part of OU6 maintenance activities (between MP 1312 to MP 1341) was to support risk assessment and risk management decisions for rail worker and public receptors, as well collect information necessary to address the decision of whether a remedy is needed with OU6 to protect the health of either rail workers who live in Libby doing maintenance activities or area residents who live or recreate near the railroad.

This DQO was achieved as the soil and air data collected during ABS appear to be adequate (given the 2013 reanalysis of several air samples in order to achieve a lowered TAS) to characterize human health risk (see Section 6.0). Air data collected during the OSHA sampling events were not collected to fulfill this DQO. However, air data generated by ABS and OSHA sampling events, and soil data generated during ABS and the undercutter spoils sampling event, have been utilized during the RI to define the nature and extent of LA asbestos in OU6.

2. Identify the Decisions to be made with the Data Obtained.

The ABS data were collected with the intent to support the following decisions:

- Will the current strategy to collect soil and air samples during maintenance work within OU6 accurately characterize the nature of LA asbestos within the planned rail maintenance areas of OU6 and support a correlation between soil and air concentrations of LA asbestos during ABS?
- Will the current sampling strategy support an evaluation of exposure and risk for OU6 potential human receptors, including residents located near the maintenance activities, trespassers walking along or across the ROW during maintenance activities, and trespassers walking on the ROW in the absence of rail maintenance activities?

This DQO was achieved as soil and air sampling during ABS occurred during optimal conditions over several days, with minimal precipitation, which would accurately characterize worst-case activities to promote airborne emission of LA asbestos from soil. In addition, the soil and air data collected during ABS were adequate to characterize human health risks, which resulted in no

observed LA asbestos fibers in any of the ABS air samples. The evaluation of nature and extent is strengthened through the collection of air data representative of a wide variety of maintenance activities during OSHA sampling events, and undercutter spoils sampling.

3. Identify the Types of Data Needed

The data needed to meet the objectives of this effort consist of accurate and reliable measures of:

- LA asbestos in outdoor air during ABS activities at different locations along the ROW where maintenance activities are planned.
- LA asbestos in outdoor air during ABS activities independent of rail maintenance activities (e.g., trespasser walking on the ROW).
- LA asbestos concentrations in surface soil that may be disturbed by maintenance areas and measured by ABS.

This DQO was achieved. The sampling locations were determined by the planned rail maintenance activities. For each receptor scenario, personal air samples, ROW soil samples, and stationary air samples were collected. OSHA sampling events focused on the collection of air data on track maintenance workers, which are the highest risk human population in OU6. These data were used to evaluate the nature and extent of LA asbestos in OU6.

4. Define the Bounds of the Study

Spatial Bounds
The spatial bounds of this study were restricted to the extent of the railroad ROW (approximately 50 feet on either side of the track) between MP 1312 and MP 1341 of OU6 where rail maintenance activities occurred in September 2008. This length traverses rural areas between Libby and Troy, as well as urban areas of Libby and Troy.

This DQO was met as the rail maintenance activities took place at several locations within OU6, such that, an adequate number of soil and air samples were collected to characterize the study area. Data gathered during OSHA sampling events reinforce the DQO data collected along portions of OU6 were not sampled during ABS.

Temporal Bounds
Estimation of human health risk from exposure to LA asbestos in outdoor air following a series of active outdoor soil disturbances were based on the average concentration that occurs across the series of disturbances. Because the level of LA asbestos in outdoor ABS air may depend on factors that vary seasonally (disturbance patterns, soil moisture, wind speed, humidity, etc.), the data set needed for this effort should ideally consist of multiple samples from each area, spanning a range of time points and meteorological conditions.

This DQO was achieved as significant rail maintenance activities are not scheduled during the winter months. The ABS sampling period is representative of the timeframe when BNSF conducts large-scale rail maintenance activities. Data gathered during OSHA sampling events reinforce this DQO as sampling occurred throughout the normal track maintenance season.

Section 4: Nature and Extent of LA

4.1 Contaminants of Concern (COCs)

The COC at the Site is LA asbestos. Asbestos is the generic name for the fibrous form of a broad family of naturally occurring magnesium-silicate minerals. Based on crystal structure, asbestos minerals are usually divided into two groups: serpentine and amphibole.

1. Serpentine – The only asbestos mineral in the serpentine group is chrysotile. Chrysotile is the most widely used form of asbestos, accounting for about 90 percent of the asbestos used in commercial products. There is no evidence that chrysotile occurs in the Libby vermiculite deposit, although it may be present in some types of building materials in Libby (HDR 2013).

2. Amphibole – Five minerals in the amphibole group that occur in the asbestiform morphology have found limited use in commercial products, including, but not limited to, actinolite, amosite, anthophyllite, crocidolite, and tremolite (HDR 2013).

At the Site, the form of asbestos that is present in the vermiculite deposit is amphibole asbestos that for many years was classified as tremolite/actinolite (McDonald et al. 1986, Amandus and Wheeler 1987). More recently, the U.S. Geological Service performed electron probe micro-analysis and x-ray diffraction analysis of 30 samples obtained from asbestos veins at the mine (Meeker et al. 2003). Using mineralogical naming rules recommended by Leake, et al. (1997), the results indicate that LA asbestos includes a number of related amphibole types. The most common forms are winchite and richterite, tremolite, magnesio-riebeckite, magnesio-arfvedsonite and edenite/ferro-edenite (Meeker et al 2003). Depending on the valence state of iron and data reduction methods, some minerals may also be classified as actinolite (CDM Smith 2013).

Because mineralogical name changes that have occurred over the years do not alter the asbestos material that is present in Libby and because EPA does not find that there are toxicological data to distinguish differences in toxicity among these different forms, EPA does not believe it is important to attempt to distinguish among these various amphibole types. Therefore, EPA simply refers to the mixture as LA asbestos.

4.2 LA Asbestos in Air

The amount of LA asbestos fibers released to air will vary depending upon the level of LA asbestos in the source material (e.g., outdoor soil) and the intensity and duration of the disturbance activity. Because of this, predicting the LA asbestos levels in air associated with disturbance activities based only on measured LA asbestos levels in the source material is extremely difficult. Therefore, ABS is considered the most direct way to estimate potential exposures from inhalation of LA asbestos.

4.2.1 Personal Air Samples

4.2.1.1 ABS Personal Air Samples

The OU6 Data Set includes of a total 35 ISO 10312 TEM-analyzed personal air samples. These personal air samples represent the following exposure receptors along a 29-mile stretch of OU6 (MP 1312 to MP 1341):

- Worker receptors/maintenance workers, which were characterized as either general laborers or workers operating machinery.
  - General Laborer, seven personal air samples
  - Worker Operating Machinery, seven personal air samples.

- Public receptors/trespassers, which were characterized as either onlookers at the OU6 boundary or pedestrians who may traverse the OU6 corridor.
  - Onlooker Trespasser, seven personal air samples
  - Pedestrian Trespasser, 14 personal air samples.

No LA asbestos structures were observed in any of the personal air samples in the OU6 Data Set. Only three (BA-00002, BA-00037, and BA-00038) of 35 personal air samples analyzed by ISO 10312 TEM did not achieve the revised ABS TAS (0.0024 cc^{-1}). These three samples were included in the supplemental ISO 10312 TEM analysis, discussed below.

The results of personal air samples collected during ABS are summarized in Table 2.

4.2.1.2 OSHA Personal Air Samples

The OU6 Data Set includes of a total 141 TEM-analyzed personal air samples. These personal air samples represent the worker exposure receptors along a 37-mile stretch of OU6 (MP 1307 to MP 1344) and consist of:

- General Laborer, 49 personal air samples

- Work Operating Machinery, 92 personal air samples.

No asbestos structures were observed in any of the OSHA personal air samples in the OU6 Data Set. Twenty-five of 40 OSHA personal air samples analyzed by ISO 10312 TEM achieved the revised ABS TAS (0.0024 cc^{-1}), and 61 of 101 OSHA personal air samples analyzed by AHERA TEM met the method specified sensitivity (0.005 cc^{-1}). Uncertainty exists with OSHA personal air samples that did not meet the TASs, since low level LA asbestos concentrations may not have been detected by these samples.

The results of personal air samples collected during OSHA sampling events conducted in OU6 are presented in Table 3.

4.2.1.3 Supplemental ABS Analysis

The OU6 Data Set includes of a total 22 personal air samples that were re-analyzed using the lower TAS using and ISO 10312 TEM methods as described in Section 1.7.5. These personal

air samples represent the following exposure receptors along a 29-mile stretch of OU6 (MP 1312 to MP 1341):

- General Laborer, seven personal air samples
- Worker Operating Machinery, seven personal air samples
- Pedestrian Trespasser, 14 personal air samples.

No asbestos structures were observed in any of the re-analyzed personal air samples in the OU6 Data Set. All reanalyzed personal air samples achieved their respective TASs.

The results of supplemental ABS personal air sample analysis are summarized in Table 8.

4.2.2 Stationary Air Samples

4.2.2.1 ABS Stationary Air Samples

The OU6 Data Set includes a total of 23 stationary air samples that were collected during ABS and analyzed using ISO 10312 TEM methods. These stationary air samples are representative of ambient air conditions during maintenance activities that occurred between MP 1312 and MP 1341.

No LA asbestos structures were observed in any of the ABS stationary air samples in the OU6 Data Set. All stationary air samples collected during ABS achieved the TAS (0.0024 cc^{-1}).

Table 4 summarizes ABS stationary air samples included in the OU6 Data Set.

4.2.2.2 OSHA Stationary Air Samples

The OU6 Data Set includes a total of 42 stationary air samples that were collected during OSHA sampling events and analyzed using AHERA and ISO 10312 TEM methods. These stationary air samples are representative of ambient air conditions during maintenance activities between MP 1307 and MP 1342.

No LA asbestos structures were observed in any of the OSHA stationary air samples in the OU6 Data Set. One sample required indirect preparation and did not meet the AHERA TEM method sensitivity (0.005 cc^{-1}). Three samples that were analyzed using ISO 10312 TEM methods required indirect preparation and did not meet the TAS.

Table 5 summarizes the results of all OSHA stationary air samples collected in OU6.

4.3 LA Asbestos in Soil and Spoils

4.3.1 ABS Soil Samples

Trace concentrations of LA asbestos were reported in two samples (RR-00022 and RR-00025) analyzed using the PLM-VE method. Both samples with LA asbestos detections were collected between MP 1331 and MP 1331.5, which is west of Libby. These detections appear to be

localized as six soil samples (RR-00016 through RR-00021), in which LA asbestos was not detected, are located immediately east of RR-00022. Similarly, five soil samples (RR-00026 through RR-00030), in which LA asbestos not was detected, are located immediately west of RR-00025. Soil sample RR-00023, in which LA asbestos was not detected was located between the RR-00022 and RR-00025. Figures 6 and 7 from the *Activity Based Sampling Summary Report – Public Receptors* (EMR 2010) are included in Appendix H, to illustrate the location of the above-described soil samples.

LA asbestos was not detected in the remaining PLM-VE analyzed samples and all PLM-Grav analyzed samples. Tables 6 and 7 (attached) summarize PLM-VE analytical, visual vermiculite estimates, and PLM-Grav analytical results, respectively.

No clear correlation can be established between visual vermiculite estimates and the corresponding laboratory result. For example, samples RR-00022 and RR-00025 were reported with trace LA asbestos concentrations; however, their visual vermiculite was classified as low and none, respectively. Only one sample, RR-00046, had visual vermiculite classified as medium, but the sample analysis resulted in no detectable LA.

Soil data suggest that trace concentrations of LA asbestos in soil are extremely localized in the portions of OU6 that have been sampled. Although personal and stationary air samples were collected adjacent to soils with trace LA asbestos concentrations, LA asbestos structures were not observed in any personal or stationary air samples in the OU6 Data Set.

4.3.2 Asbestos in Undercutter Spoils

LA asbestos was not detected in any undercutter spoils samples collected in 2009 although vermiculite was observed (classified as low) in two of four spoils piles. These samples were collected in the vicinity of the Kootenai Falls siding and reinforce the suggestion that trace concentrations of LA in soil appear to be localized in this area. The absence of LA asbestos in the spoils indicates that the spoils do not present a potential exposure hazard.

Section 5: COC Fate and Transport

5.1 Releases to the Environment

The suspected source for LA asbestos detected in surface soils within OU6 may include:

- Spillage of vermiculite during rail transit (CDM Smith 2008).
- Deposition of airborne fibers released from vermiculite mining and processing activities.
- Imported fill containing vermiculite mine wastes used during construction or maintenance.
- Naturally-occurring LA asbestos (at background levels) in native soils within the ROW.

The primary media containing LA asbestos in OU6 is surface soil. Surface soil and undercutter spoils sample data contained within the OU6 Data Set indicate that, with the exception of LA asbestos-containing soils under an engineered cover in the BNSF Libby Railyard, only limited and localized areas of surface soil that contain detectable LA asbestos concentrations, remain in OU6. With this in mind, the likelihood that surface soils with detectable LA asbestos would be disturbed is minimal. Furthermore, as no LA asbestos structures were observed in personal and stationary air samples in the OU6 Data Set, it appears that the suspension and dispersion of LA asbestos fibers in air, as a result of soil disturbance has little effect on the conditions in OU6.

It should be noted that while LA asbestos structures were not detected in OU6 Data Set personal or stationary air samples, detections were noted in air samples that were excluded from the OU6 Data Set, as described in Section 2.1.1 and below.

Personal air samples with detections, as shown in Table 3, were analyzed using NIOSH 7400 methods, which cannot differentiate between asbestos fibers and other fibers. Therefore, these samples were excluded from nature and extent discussions.

All stationary air samples with detections, as shown in Table 5, were analyzed using AHERA TEM methods with the exception of two samples that were analyzed using NIOSH 7400 methods. All AHERA TEM-analyzed stationary air samples, that were reported with detections, were collected at the exclusion zone boundary during 2004 BNSF Libby Railyard response actions and are representative of conditions that are more intrusive than rail maintenance activities. Furthermore, the exposure pathways associated with the BNSF Libby Railyard have been eliminated. During the 2009 Supersurfacing Gang OSHA sampling event, two NIOSH 7400-analyzed stationary air samples were reported with fiber detections. These samples were reanalyzed using AHERA TEM analysis, which resulted in no detected LA asbestos structures.

LA asbestos structures have been consistently detected in background soils within the Kootenai Valley that are not thought to be affected by anthropogenic releases from vermiculite mining and processing activities (CDM Smith 2014b). The average LA asbestos concentration in background soil is approximately 500,000 structures per gram or approximately 0.014 percent by mass (CDM Smith 2014b). Background LA asbestos were not likely detected during OU6 soil sampling since background concentrations are well below the detection limit of PLM-VE

methods used in OU6. Background LA asbestos concentration can only be reliably detected using fluidized bed asbestos segregator methods and TEM analysis.

According to conclusions made in *Background Soil Summary Report – Libby Asbestos Superfund Site, Montana*, a non-zero level of LA asbestos occurs in soils within the Kootenai Valley that is not attributable to vermiculite mining and preparation activities (CDM Smith 2014b). According to *The Dispersion of Fibrous Amphiboles by Glacial Processes in the Area Surrounding Libby, Montana, USA*, glacial and glacio-fluvial processes were likely responsible for the natural distribution of LA asbestos within the Kootenai Valley and adjacent areas (Langer et. al. 2010).

5.2 Transport and Deposition

The fate and transport of LA asbestos is dependent on the type of host media (soil, water, air, etc.), land use, and site characteristics.

The primary release mechanism for LA asbestos in OU6 is the accidental release of fibers caused by disturbance of LA asbestos-containing soils or soil-like materials (e.g., track ballast) during rail maintenance or other railroad activities. Secondary release mechanisms include disturbance of soils or soil-like materials containing LA asbestos by wind, recreational activities, construction, and site work. The primary transport mechanism for LA asbestos and ACM is suspension in air and transport by aerial dispersion.

LA asbestos residence time in the air is determined primarily by aerodynamic diameter; however, it is influenced by other factors, such as length and static charge (Webber et. al. 2008). Most LA asbestos particles observed in air in the Site have thicknesses ranging from approximately 0.1 to 1.0 µm, with an average of approximately 0.4 µm (CDM Smith 2009). The suspension of LA asbestos in air is measured in half times, which is the amount of time it will take 50 percent of LA Asbestos particles to settle out of the air column. A particle with a thickness of 0.5 µm has a half time of approximately 2 hours, assuming the source of disturbance has been removed (CDM Smith 2009).

Larger particles will settle faster; a particle of 1 µm has a half time of about 30 minutes. Smaller LA Asbestos particles may stay suspended significantly longer. The typical half time for a 0.15 particle is close to 40 hours (CDM Smith 2009).

Activity-specific testing found that the half-time of LA asbestos suspended by dropping vermiculite on the ground was about 30 minutes. LA asbestos suspended from disturbing vermiculite insulation settled within approximately 24 hours (CDM Smith 2009).

Once suspended, LA Asbestos moves by dispersion through air. LA asbestos concentration will be highest near the source and will decrease with increasing distance. In outdoor air, wind speed will determine direction and velocity of LA asbestos particle transport. Wind can cause the rapid dispersal of LA asbestos from the source of release.

5.3 Transformation and Degradation in the Environment

LA asbestos fibers (both serpentine and amphibole) are indefinitely persistent in the environment. According to the Agency for Toxic Substances and Disease Registry (ATSDR):

"Asbestos fibers are nonvolatile and insoluble, so their natural tendency is to settle out of air and water, and deposit in soil or sediment. However, some fibers are sufficiently small that they can remain in suspension in both air and water and be transported long distances. For example, fibers with aerodynamic diameters of 0.1–1 µm can be carried thousands of kilometers in air, and transport of fibers over 75 miles has been reported in the water of Lake Superior." In addition, *"they are resistant to heat, fire, and chemical and biological degradation"* (ATSDR 2001).

Different types of asbestos have varying characteristics that control persistence in the environment. Possible transformations and degradations are discussed below for each environmental medium of potential concern in OU6 (ATSDR 2001):

- Air: Asbestos particles are not known to undergo any significant transformations or degradation in air.
- Soil: In general, asbestos fibers are not known to undergo significant transformation or degradation in soil.
- Bulk ACM: Bulk ACM is subject to physical degradation through crushing or erosion that can generate fibers that are more mobile than the original material.

Section 6: Risk Assessment

An evaluation of potential exposures to and risks from LA asbestos will be included in the site-wide human and ecological risk assessments for the Libby asbestos Superfund Site. The site-wide risk assessments are stand-alone documents that support the feasibility study and Record of Decision (ROD). As such, OU-specific risk assessment reports have not been developed.

The Site-Wide Human Health Risk Assessment will evaluate potential risks to humans from exposures to LA asbestos under a variety of different exposure scenarios, including both indoor and outdoor exposure scenarios that may occur at the Site. Potential risks will be evaluated both alone and across multiple exposure scenarios as part of a cumulative exposure assessment.

The Site-Wide Ecological Risk Assessment will evaluate potential risks to aquatic and terrestrial receptors from exposures to LA asbestos that may be present in the environment at the Site. Refer to the respective site-wide risk assessment reports to provide information on potential exposures and risks from LA asbestos to human and ecological receptors.

Section 7: Summary and Conclusions

A summary of the RI and general conclusions are as follows:

Source of LA

- The source of LA asbestos within OU6 was LA asbestos-contaminated vermiculite ore and vermiculite produced at the Libby Mine (OU3). The majority of LA asbestos-contaminated vermiculite ore and vermiculite was transported by rail from the mine loadout to the Libby export plant or plants located throughout the United States. Potential sources of LA asbestos in OU6 surface soils include spillage of vermiculite during rail transit (CDM Smith 2008), deposition of airborne fibers released from vermiculite mining and processing activities, imported fill containing vermiculite mine wastes, and naturally-occurring LA asbestos (at background levels) in native soils.

Route of Exposure

- The primary route of potential exposure in OU6 is the inhalation of LA asbestos through the disturbance of soils and soil-like materials.

Pre-2005 Investigation and Response Action History

- Soil investigations conducted prior to 2005 showed soil impacts at the BNSF Libby Railyard. Response actions in the BNSF Libby Railyard consisted of the removal and disposal of approximately 13,000 cubic yards of LA asbestos-impacted soil. Other LA asbestos-impacted soils were left in-place under an engineered cover. These response actions eliminated soil-related exposure pathways.

Post-2005 Investigation History

- Air and soil sampling conducted after 2005 focused on potential human exposure to LA asbestos caused by accidental fiber releases during rail maintenance activities. ABS sampling was completed in 2008 to evaluate human risk. OSHA sampling events were completed between 2008 and 2011 to evaluate potential worker exposures with the OSHA PEL for asbestos. Undercutter spoils sampling was conducted to determine if the spoils contained LA asbestos.

Nature and Extent Data Set

- All data collected to date were evaluated for relevance in determining nature and extent of LA asbestos in OU6. The nature and extent data set (OU6 Data Set) consists of select air and soil data collected during both ABS and OSHA sampling events between 2008 and 2011. The OU6 Data Set air results are as follows:

  - No asbestos structures were observed in 35 personal air samples collected during ABS and analyzed using ISO 10312 TEM methods.

  - No asbestos structures were observed in 141 personal air samples collected during OSHA sampling events and analyzed using AHERA and ISO 10312 TEM methods.

- No asbestos structures were observed in 23 stationary air samples collected during ABS and analyzed using ISO 10312 TEM methods.

- No asbestos structures were observed in 42 stationary air samples collected during OSHA sampling events and analyzed using AHERA and ISO 10312 TEM methods.

- No asbestos structures were observed in 22 ABS personal air samples that underwent supplemental ISO 10312 TEM analysis.

OU6 Data Set air results indicate that human receptors are unlikely to experience unacceptable exposures of LA asbestos releases caused by railroad maintenance activities.

- The OU6 Data Set soil results are as follows:

  - Trace LA asbestos concentrations were reporting in two of 61 surface soil samples collected during ABS in 2008 and analyzed using PLM-VE methods.

  - No asbestos structures were observed in 51 surface soil samples collected during ABS in 2008 and analyzed using PLM-Grav methods.

  - No asbestos structures were observed in six composite samples collected during undercutter spoils sampling and analyzed using PLM-VE and PLM-Grav methods.

  OU6 Data Set soil results indicate that surface soils containing trace concentrations of LA asbestos are limited, outside of the BNSF Libby Railyard. No LA asbestos structures were observed in personal and stationary air samples collected adjacent to soils with trace LA asbestos concentrations. Based on these statements, it is unlikely that routine railroad maintenance activities would encounter soils with more than trace concentrations of LA asbestos and it is unlikely that unacceptable exposures would be caused by railroad maintenance activities.

Risk Assessment

- An evaluation of potential exposures to, and risks from, LA asbestos in OU6 will be included in the site-wide human risk and ecological assessments for the Libby Asbestos Superfund Site.

References

Alden, W.C. 1953. *Physiography and Glacial Geology of Western Montana and Adjacent Areas.* Geological Survey Professional Paper 231. United States Government Printing Office. Washington.

Amandus, H.E., Wheeler, R. 1987. *The Morbidity and Mortality of Vermiculite Miners and Millers Exposed to Tremolite-Actinolite: Part II. Mortality*. American Journal of Internal Medicine. 11:15-26.

ATSDR. 2001. *Year 2000 Medical Testing of Individuals Potentially Exposed to Asbestiform Minerals Associated with Vermiculite in Libby, Montana*. A Report to the Community.

BNSF Railway Company. 2013. *BNSF Railway's Response to EPA Request for Information Pursuant to 104(e) of CERCLA for the Libby Asbestos Site, Libby, Montana (SSID #08-BC)*. Missoula, Montana.

CDM Smith. 2008. *Final Data Summary Report, Operable Unit 6 – BNSF Railyard, Track and Right-of-Way, Libby Asbestos Site, Libby, Montana*. Denver, Colorado.

CDM Smith. 2008a. *Draft Final Data Gap Analysis for Potential Contaminated Media, Railyard and Railways, Operable Unit 6*. Denver, Colorado.

CDM Smith. 2009. *Former Export Plant Site Final Remedial Investigation Report, Operable Unit 1, Libby Asbestos Site, Libby, MT*.

CDM Smith. 2013. *Libby Asbestos Superfund Site Residential and Commercial Properties, Operable Unit 4, Libby, Montana, Remedial Investigation Report*. Denver, Colorado.

CDM Smith. 2013b. OU6 *Adequacy of Data for Risk Assessment and Site Characterization*. Memorandum. Denver, Colorado

CDM Smith. 2013c. *Data Summary Report: OU6 Outdoor ABS Supplemental TEM Analysis Recommendations Memorandum*.

CDM Smith. 2014. *Data Summary Report: Outdoor Activity-based Sampling Air Re-analysis Results.* Denver, Colorado.

CDM Smith. 2014b. *Background Soil Summary Report – Libby Asbestos Superfund Site, Montana*. Denver, Colorado.

EMR, Inc. 2001. *Results for Soil Sampling at Libby, Montana Railyard*. Redmond, Washington.

EMR, Inc. 2001b. *Final Report Vermiculite Removal Project – Section House, Libby, Montana.*

EMR, Inc. 2003. *2003 Soil Removal Report - Libby, Montana*. Minneapolis, Minnesota.

EMR, Inc. 2005. *Revised Response Action Work Plan Addendum*. Minneapolis, Minnesota.

EMR, Inc. 2008. *Rail Crossing Air Monitoring, BNSF Personnel*. Redmond, Washington.

EMR, Inc. 2009. *Steel Gang Air Monitoring, BNSF OSHA Exposure Sampling Summary Report*. Duluth, Minnesota.

EMR, Inc. 2009b. *BNSF Personnel OSHA Exposure Sampling Report, BNSF Kootenai River Subdivision – Mileposts 1307 to 1341*. Duluth, Minnesota.

EMR, Inc. 2009c. *2009 Undercutter Spoils Sampling Summary, BNSF Kootenai River Subdivision*. Duluth, Minnesota.

EMR, Inc. 2010. *Activity Based Sampling Summary Report – Public Receptors*. Duluth, Minnesota.

EMR, Inc. 2010b. *Activity Based Sampling Summary Report – Worker Receptors*. Duluth, Minnesota.

EMR, Inc. 2010c. *BNSF Asbestos Exposure Sampling Report, BNSF Kootenai River Subdivision – Mileposts 1307 to 1341*. Duluth, Minnesota.

EMR, Inc. 2010d. *BNSF Asbestos Exposure Sampling Report, Stimson Wye Track Removal, BNSF Kootenai River Subdivision – Milepost 1319.41 to East End 3rd Street Terminus*. Duluth, Minnesota.

EMR, Inc. 2010e. *Solid Waste with Vermiculite Removal Project, Concrete Bunker Structure, Troy, Montana*. Redmond, Washington.

EMR, Inc. 2011. *BNSF Asbestos Containing Material Database*. Query provided by EMR in August 2011. Lawrence, Kansas.

ENSR/AECOM. 2008. *Rail Maintenance Public Receptor Activity-Based Sampling and Analysis Plan – Operable Unit 6, Libby, Montana, Superfund Site*.

ENSR/AECOM. 2008b. *Rail Maintenance Worker Receptor Activity-Based Sampling and Analysis Plan – Operable Unit 6, Libby, Montana, Superfund Site*. October.

EPA. 2007. *Standard Operating Procedures # 2084. Activity-Based Air Sampling for Asbestos*.

EPA, 2008. *Framework for Investigating Asbestos-Contaminated Superfund Sites.* Prepared by the Asbestos Committee of the Technical Review Workgroup of the Office of Solid Waste and Emergency Response. OSWER Directive #9200.0-68.

EPA. 2010. *Fourth Five Year Review Report for Libby Groundwater Contamination Superfund Site; City of Libby, Lincoln County, Montana*. Denver, Colorado.

EPA. 2010a. *Libby Asbestos Superfund Site, BNSF Libby Railyard, Construction Completion Report*. Letter. Denver, Colorado.

EPA. 2012. *Quality Assurance and Quality Control Summary Report (1999-2009) for the Libby Asbestos Superfund Site*. Denver, Colorado.

EPA. 2013. Libby Asbestos, Region 8, United States Environmental Protection Agency. Website. Retrieved October 2013 from the World Wide Web: www.epa.gov/libby/.

EPA. 2013b. *EPA Data Management Plan Libby Asbestos Superfund Site Versions 1.1*. EPA Emergency Response Data Team and EPA Region 8 EPR Data System Team.

HDR Engineering, Inc. 2013. *Final Remedial Investigation Report, Operable Unit 8, Local and State Highways in Libby and Troy. Libby Asbestos National Priorities List Site*.

Kennedy/Jenks Consultants and EMR, Inc. 2004. *Response Action Work Plan*. Federal Way, Washington.

Kennedy/Jenks Consultants and EMR, Inc. 2005. *Libby Railyard Response Action 2004 – Revised Construction Completion Report*. Federal Way, Washington.

Kennedy/Jenks Consultants and EMR, Inc. 2006. *Libby Railyard Response Action Construction Completion Report Addendum.* Federal Way, Washington.

Kootenai River Network, Inc. 2010. *Kootenai River Basin – Geology*. International Alliance for Water Quality and Aquatic Resources.

Langer, W.H., Van Gosen, B.S., Meeker, G.P., Adams, D.T., Hoefen, T.M. 2010. *The Dispersion of Fibrous Amphiboles by Glacial Processes in the Area Surrounding Libby, Montana, USA*. Environmental Earth Science. 64: 157-168.

Leake, B.E., Woolley A.R., Arps C.E.S., Birch, W.D., Gilbert, M.C., Grice, J.D., Hawthorne, F.C., Kato, A., Kisch, H.J., Krivovichev, V.G., Linthout, K., Liard, J., Mandarino, J.A., Marech, W.V., Nickel, E.H., Rock, N.M.S., Schumacher, J.C., Smith, D.C., Stephenson, N.C.N, Ungaretti, L., Whittaker, E.J.W., Youzhi, G.. 1997. *Nomenclature of the amphiboles: Report of the subcommittee on Amphiboles of the International Mineralogical Association*. Commission on New Minerals and Mineral Names. American Mineralogist. 82: 1019-1037.

McDonald, J.C., McDonald, A.D., Armstrong, B., and Sebastian, P. 1986. *Cohort Study of Mortality of Vermiculite Miners Exposed to Tremolite*. British Journal of Industrial Medicine. 43: 436-444.

Meeker, G.P., Bern, A.M., Brownfield, I.K., Lowers, H.A., Sutley, S.J., Hoeffen, T.M., Vance, T.S. 2003. *The Composition and Morphology of Amphiboles from the Rainy Creek Complex, Near Libby Montana*. American Mineralogist. 88: 1955-1969.

Olympus Technical Services, Inc. 2011. *Abandoned Concrete Structure, Troy, MT*. Helena, Montana.

USDOT. 2008. *Final Data Summary Report. Operable Unit 6 – BNSF Railyard, Track and Right-of-Way, Libby Asbestos Site, Libby, Montana*. Cambridge, Massachusetts.

Webber, J.S., Blake, D.J., Ward, T.J., Pfau, J.F., 2008. *Separation and Characterization of Respirable Amphibole Fibers from Libby, Montana*. Inhalation Toxicology. 20: 733-740.

Western Regional Climate Center (WRCC). 2013. Website. Accessed November 2013 from the World Wide Web: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?mt5000.

Tables

TABLE 1

SUMMARY OF INVESTIGATIONS AND RESPONSE ACTIONS
2001-2011
BNSF Operable Unit 6
Libby, Montana

Date	Investigation Name	Location	Purpose	# Personal Air Samples [a]			# Stationary Air Samples[a]			# Soil Samples [a]			
				NIOSH [b]	AHERA [c]	ISO [d]	NIOSH	AHERA	ISO	Asbestos in Soil[e]	NIOSH 9002 [f]	PLM-VE [g]	PLM-GRAV [h]
Pre-2005 Investigation and Response Action History													
Apr-01	Soil/Undercutter Spoils Sampling	MP[i] 1312-1320	Characterization	NC[j]	NC	NC	NC	NC	NC	16	NC	NC	NC
Nov-01	Railyard Soil Sampling	MP 1319.3-1320	Delineation	NC	NC	NC	NC	NC	NC	NC	22	NC	NC
Oct-02	Railyard Soil Characterization Sampling	MP 1319.3-1320	Characterization	NC	NC	NC	NC	NC	NC	NA[k]	NA	NA	NA
Nov-02	Railyard Soil Sampling	MP 1319.3-1320	Delineation	NC	NC	NC	NC	NC	NC	NC	15	NC	NC
Aug-03	2003 Response Action	MP 1319.3-1320	Delineation	NC	NC	NC	NC	NC	NC	NC	15	NC	NC
Jul-04	Railyard Soil Sampling	MP 1319.3-1320	Delineation	NC	NC	NC	NC	NC	NC	NC	12	12	NC
Sep-04	Railyard Soil Sampling	MP 1319.3-1320	Delineation	NC	NC	NC	NC	NC	NC	NC	14	NC	NC
Sep-Nov-04	2004 Libby Railyard Response Action	MP 1319.3-1320	OSHA[l], Clearance	12	NC	NC	NC	228	NC	NC	75	NC	NC
Nov-05	2005 Libby Railyard Response Action	MP 1319.3-1320	OSHA, Clearance	10	4	NC	NC	4	NC	NC	4	NC	NC
Post-2005 Investigation History													
Jul-08	Rail Crossing Air Monitoring Report	MP 1321.8, MP 1324.3	OSHA	4	13	NC	NC	NC	NC	NC	NC	NC	NC
Sep-08	BNSF OSHA Exposure Sampling Summary Report - Steel Gang	MP 1312-1341	OSHA	39	NC	17	NC	NC	NC	NC	NC	NC	NC
Sep-08	Activity Based Sampling Summary Report - Public Receptors	MP 1312-1341	ABS [m], Delineation	NC	NC	21	NC	NC	23	NC	NC	61	51
Sep-08	Activity Based Sampling Summary Report - Worker Receptors	MP 1312-1341	ABS	NC	NC	14	NC	NC	NC	NC	NC	NC	NC
May-09	BNSF Personnel OSHA Exposure Sampling Report - Supersurfacing Gang	OU6	OSHA	NC	24	NC	2	4	NC	NC	NC	NC	NC
Jun-09	BNSF Undercutter Spoils Sampling Report	MP 1329.8-1333.02	Characterization	NC	NC	NC	NC	NC	NC	NC	NC	6	6
Mar-10	BNSF Asbestos Exposure Sampling Report - Steel Gang	MP 1308.5-1344	OSHA	NC	65	NC	NC	26	NC	NC	NC	NC	NC
May-10	BNSF Asbestos Exposure Sampling Report - Stimson Wye Removal	MP 1319.41 to 3rd Street terminus	OSHA	NC	3	NC	NC	9	NC	NC	NC	NC	NC
Sep-11	BNSF Personnel OSHA Exposure Sampling Report	1313-1342.1	OSHA	NC	NC	24	NC	NC	4	NC	NC	NC	NC

Notes:
- (a) Sample quantities do not include quality assurance/quality control samples
- (b) Asbetos fibers analyzed by National Institute for Occupational Safety and Health (NIOSH) test method 7400 by phase contrast microscopy (PCM).
- (c) Asbestos in ambient air analyzed by Asbestos Hazard Emergency Response Act (AHERA) test method transmission electron microscopy (TEM).
- (d) Asbestos in ambient air analyzed by the International Organization of Standardization (ISO) direct transfer method 10312.
- (e) Soil samples analyzed by United States Environmental Protection Agency (EPA) "asbestos in soil method".
- (f) Soil samples analyzed by NIOSH test method 9002, Issue 2 by polarized light microscopy (PLM).
- (g) Soil samples analyzed by PLM-Visual Estimation (PLM-VE).
- (h) Soil samples analyzed by PLM-Gravimetric (PLM-Grav).
- (i) Mile Post (MP).
- (j) "NC" indicates sample not collected.
- (k) "NA" indicates soil samples collected and analyzed for non-asbestos parameters.
- (l) Occupational Safety and Health Administration (OSHA).
- (m) Activity-based sampling (ABS).

TABLE 2

SUMMARY OF ABS PERSONAL AIR SAMPLE ANALYSIS
2008
BNSF Operable Unit 6
Libby, Montana

Gang ID	Task	Milepost	Sample ID	Sample Date	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc) [c]
September 2008 Rail Gang ABS Worker Sampling Event												
Unknown	Laborer	1312	BA-00001	9/17/2008	4/16/2009	EMSL	ISO 10312[(l)]	1,344	0.00211	0.0024	YES	<0.00211
RP-15	Cribber Operator	1312	BA-00002	9/17/2008	4/16/2009	EMSL	ISO 10312	1,333	0.00426	0.0024	NO	<0.00426
NA	NA	1312	BA-00010	9/17/2008	10/31/2008	EMSL	ISO 10312	0	0	NA	NA	0
RP-15	Cribber Operator	1331.5	BA-00011	9/18/2008	4/16/2009	EMSL	ISO 10312	706	0.00233	0.0024	YES	<0.00233
Unknown	Laborer	1331.5	BA-00012	9/18/2008	4/16/2009	EMSL	ISO 10312	687	0.00239	0.0024	YES	<0.00239
NA	NA	1331.5	BA-00020	9/18/2008	10/31/2008	EMSL	ISO 10312	0	0	NA	NA	0
Unknown	Laborer	1331	BA-00021	9/19/2008	4/16/2009	EMSL	ISO 10312	988	0.00231	0.0024	YES	<0.00231
RP-15	Cribber Operator	1331	BA-00022	9/19/2008	4/17/2009	EMSL	ISO 10312	1,016	0.00224	0.0024	YES	<0.00224
NA	NA	1331	BA-00027	9/19/2008	10/31/2008	EMSL	ISO 10312	0	0	NA	NA	0
Unknown	Laborer	1329.8	BA-00029	9/22/2008	4/17/2009	EMSL	ISO 10312	1,145	0.00235	0.0024	YES	<0.00235
RP-15	Cribber Operator	1329.8	BA-00030	9/22/2008	4/17/2009	EMSL	ISO 10312	1,145	0.00235	0.0024	YES	<0.00235
NA	NA	1329.8	BA-00036	9/22/2008	Archived	EMSL	NA	0	NA	NA	NA	NA
NA	Laborer	1337	BA-00037	9/23/2008	4/17/2009	EMSL	ISO 10312	739	0.00769	0.0024	NO	<0.00769
RP-21	Cribber Operator	1337	BA-00038	9/23/2008	4/17/2009	EMSL	ISO 10312	890	0.00319	0.0024	NO	<0.00319
NA	NA	1337	BA-00046	9/23/2008	Archived	EMSL	NA	0	NA	NA	NA	NA
NA	Laborer	1339.5	BA-00047	9/24/2008	4/17/2009	EMSL	ISO 10312	1,154	0.00233	0.0024	YES	<0.00233
RP-21	Clip Remover Machine	1339.5	BA-00048	9/24/2008	4/17/2009	EMSL	ISO 10312	1,165	0.00231	0.0024	YES	<0.00231
NA	NA	1339.5	BA-00056	9/24/2008	Archived	EMSL	NA	0	NA	NA	NA	NA
NA	NA	1339.5	BA-00057	9/24/2008	Archived	EMSL	NA	0	NA	NA	NA	NA
NA	Laborer	1341	BA-00058	9/25/2008	4/17/2009	EMSL	ISO 10312	510	0.00232	0.0024	YES	<0.00232
RP-15	Scrap Crane Operator	1341	BA-00059	9/25/2008	4/17/2009	EMSL	ISO 10312	501	0.00236	0.0024	YES	<0.00236
NA	NA	1341	BA-00069	9/25/2008	Archived	EMSL	NA	0	NA	NA	NA	NA
September 2008 Rail Gang ABS Public Sampling Event												
NA	Pedestrian	1312	BA-00003	9/17/2008	11/12/2008	EMSL	ISO 10312	933	0.000814	0.0024	YES	<0.000814
NA	Pedestrian	1312	BA-00004	9/17/2008	11/12/2008	EMSL	ISO 10312	991	0.000766	0.0024	YES	<0.000766
NA	On-Looker	1312	BA-00005	9/17/2008	11/6/2008	EMSL	ISO 10312	1,028	0.000993	0.0024	YES	<0.000993
NA	Pedestrian	1331.5	BA-00013	9/18/2008	11/12/2008	EMSL	ISO 10312	977	0.000777	0.0024	YES	<0.000777
NA	Pedestrian	1331.5	BA-00014	9/18/2008	11/12/2008	EMSL	ISO 10312	942	0.000806	0.0024	YES	<0.000806
NA	On-Looker	1331.5	BA-00015	9/18/2008	11/6/2008	EMSL	ISO 10312	938	0.000987	0.0024	YES	<0.000987
NA	Pedestrian	1331	BA-00023	9/19/2008	11/12/2008	EMSL	ISO 10312	960	0.000791	0.0024	YES	<0.000791
NA	Pedestrian	1331	BA-00024	9/19/2008	11/12/2008	EMSL	ISO 10312	988	0.000797	0.0024	YES	<0.000797
NA	On-Looker	1331	BA-00025	9/19/2008	11/6/2008	EMSL	ISO 10312	988	0.000967	0.0024	YES	<0.000967
NA	On-Looker	1329.8	BA-00031	9/22/2008	11/6/2008	EMSL	ISO 10312	779	0.000975	0.0024	YES	<0.000975
NA	Pedestrian	1329.8	BA-00032	9/22/2008	11/12/2008	EMSL	ISO 10312	780	0.000974	0.0024	YES	<0.000974
NA	Pedestrian	1329.8	BA-00033	9/22/2008	11/12/2008	EMSL	ISO 10312	658	0.00115	0.0024	YES	<0.00115
NA	On-Looker	1337	BA-00039	9/23/2008	11/6/2008	EMSL	ISO 10312	817	0.00098	0.0024	YES	<0.00098
NA	Pedestrian	1337	BA-00040	9/23/2008	11/13/2008	EMSL	ISO 10312	780	0.00237	0.0024	YES	<0.00237
NA	Pedestrian	1337	BA-00041	9/23/2008	11/13/2008	EMSL	ISO 10312	718	0.00229	0.0024	YES	<0.00229
NA	On-Looker	1339.5	BA-00049	9/24/2008	11/6/2008	EMSL	ISO 10312	803	0.000997	0.0024	YES	<0.000997

TABLE 2

SUMMARY OF ABS PERSONAL AIR SAMPLE ANALYSIS
2008
BNSF Operable Unit 6
Libby, Montana

Gang ID	Task	Milepost	Sample ID	Sample Date	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc) [c]
NA	Pedestrian	1339.5	BA-00050	9/24/2008	11/13/2008	EMSL	ISO 10312	806	0.0023	0.0024	YES	<0.0023
NA	Pedestrian	1339.5	BA-00051	9/24/2008	11/13/2008	EMSL	ISO 10312	791	0.0022	0.0024	YES	<0.0022
NA	On-Looker	1341	BA-00060	9/25/2008	11/6/2008	EMSL	ISO 10312	608	0.00125	0.0024	YES	<0.00125
NA	Pedestrian	1341	BA-00061	9/25/2008	11/13/2008	EMSL	ISO 10312	630	0.00235	0.0024	YES	<0.00235
NA	Pedestrian	1341	BA-00062	9/25/2008	11/13/2008	EMSL	ISO 10312	602	0.00234	0.0024	YES	<0.00234
Outdoor ABS Air Reanalysis (August 2013)												
NA	General Laborer	1312	BA-00001	9/17/2008	Not Provided	Not Provided	ISO 10312 I[(o)]	1,344	0.00039	0.0004	YES	<0.00039
NA	General Laborer	1331.5	BA-00012	9/18/2008	Not Provided	Not Provided	ISO 10312	687	0.00039	0.0004	YES	<0.00039
NA	General Laborer	1331	BA-00021	9/19/2008	Not Provided	Not Provided	ISO 10312	988	0.0004	0.0004	YES	<0.0004
NA	General Laborer	1329.8	BA-00029	9/22/2008	Not Provided	Not Provided	ISO 10312	1,145	0.0004	0.0004	YES	<0.0004
NA	General Laborer	1337	BA-00037	9/23/2008	Not Provided	Not Provided	ISO 10312 I[(o)]	739	0.00039	0.0004	YES	<0.00039
NA	General Laborer	1339.5	BA-00047	9/24/2008	Not Provided	Not Provided	ISO 10312	1,154	0.00039	0.0004	YES	<0.00039
NA	General Laborer	1341	BA-00058	9/25/2008	Not Provided	Not Provided	ISO 10312	510	0.0004	0.0004	YES	<0.0004
NA	Pedestrian Trespasser	1329.8	BA-00032	9/22/2008	Not Provided	Not Provided	ISO 10312	780	0.00079	0.0009	YES	<0.00079
NA	Pedestrian Trespasser	1329.8	BA-00033	9/22/2008	Not Provided	Not Provided	ISO 10312	658	0.00082	0.0009	YES	<0.00082
NA	Pedestrian Trespasser	1337	BA-00040	9/23/2008	Not Provided	Not Provided	ISO 10312	780	0.00069	0.0009	YES	<0.00069
NA	Pedestrian Trespasser	1337	BA-00041	9/23/2008	Not Provided	Not Provided	ISO 10312	718	0.00082	0.0009	YES	<0.00082
NA	Pedestrian Trespasser	1339.5	BA-00050	9/24/2008	Not Provided	Not Provided	ISO 10312	806	0.00073	0.0009	YES	<0.00073
NA	Pedestrian Trespasser	1339.5	BA-00051	9/24/2008	Not Provided	Not Provided	ISO 10312	791	0.00075	0.0009	YES	<0.00075
NA	Pedestrian Trespasser	1341	BA-00061	9/25/2008	Not Provided	Not Provided	ISO 10312	630	0.00089	0.0009	YES	<0.00089
NA	Pedestrian Trespasser	1341	BA-00062	9/25/2008	Not Provided	Not Provided	ISO 10312	602	0.00082	0.0009	YES	<0.00082
NA	Worker Operating Machinery	1312	BA-00002	9/17/2008	Not Provided	Not Provided	ISO 10312 I[(o)]	1,333	0.0004	0.0004	YES	<0.0004
NA	Worker Operating Machinery	1331.5	BA-00011	9/18/2008	Not Provided	Not Provided	ISO 10312	706	0.0004	0.0004	YES	<0.0004
NA	Worker Operating Machinery	1331	BA-00022	9/19/2008	Not Provided	Not Provided	IS10312	1,016	0.0004	0.0004	YES	<0.0004
NA	Worker Operating Machinery	1329.8	BA-00030	9/22/2008	Not Provided	Not Provided	ISO 10312	1,145	0.0004	0.0004	YES	<0.0004
NA	Worker Operating Machinery	1337	BA-00038	9/23/2008	Not Provided	Not Provided	ISO 10312 I[(o)]	890	0.00039	0.0004	YES	<0.0004
NA	Worker Operating Machinery	1339.5	BA-00048	9/24/2008	Not Provided	Not Provided	ISO 10312	1,165	0.00039	0.0004	YES	<0.0004
NA	Worker Operating Machinery	1341	BA-00059	9/25/2008	Not Provided	Not Provided	ISO 10312	501	0.0004	0.0004	YES	<0.0004

TABLE 2

SUMMARY OF ABS PERSONAL AIR SAMPLE ANALYSIS
2008
BNSF Operable Unit 6
Libby, Montana

Notes:

(a) Volume measured in liters (L).
(b) cc^{-1} = per cubic centimeter
(c) s/cc = structures/cubic centimeter [Note: Only ISO analyzed samples differentiated between structures (any fiber) and asbestos-form fibers.]
(d) "NA" indicates not applicable.
(e) Asbetos fibers analyzed by National Institute for Occupational Safety and Health (NIOSH) test method 7400 by phase contrast microscopy (PCM).
(f) "--" indicates there is no way for sensitivity to be determined through NIOSH test method 7400.
(g) "<" indicates no detection above the reporting limit.
(h) "~" indicates approximately.
(i) Asbetos in ambient air analyzed by Asbestos Hazard Emergency Response Act (AHERA) test method transmission electron microscopy (TEM).
(j) "ND" indicates non-detect from quality assurance/quality control (QA/QC) samples.
(k) Archived indicates a sample was collected and submitted for analysis, but not analyzed.
(l) Asbestos in ambient air analyzed by the International Organization of Standardization (ISO) direct transfer method 10312.
(m) Number of fibers per 100 fields counted.
(n) Results are suspected as skewed based on limited volume of air passing through cassette filters.
(o) Indirect ash (IA) and indirect (I) indicate the sample was collected indirectly through burning, re-suspension, and re-analysis.
(p) "NA-FD" indicates the sample was not analyzed due to filter damage.

Samples with observed fibers are shown in bold.

TABLE 3

SUMMARY OF OSHA PERSONAL AIR SAMPLE ANALYSIS
2003-2011
BNSF Operable Unit 6
Libby, Montana

Gang ID	Task	Milepost	Sample ID	Sample Date	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc) [c]
August 2003 Railyard Corrective Action Pilot Testing Personal Air Sampling												
NA[d]	Unknown	1319-1320	BN-00025	8/14/2003	Unknown	EMR	NIOSH 7400[e]	492	--[f]	NA	NA	<[g]0.0063
NA	Unknown	1319-1320	BN-00029	8/14/2003	Unknown	EMR	NIOSH 7400	236	--	NA	NA	<0.0131
NA	Unknown	1319-1320	BN-00032	8/14/2003	Unknown	EMR	NIOSH 7400	580	--	NA	NA	<0.0053
NA	Unknown	1319-1320	BN-00033	8/14/2003	Unknown	EMR	NIOSH 7400	273	--	NA	NA	<0.0113
NA	Unknown	1319-1320	BN-00045	8/18/2003	Unknown	EMR	NIOSH 7400	454	--	NA	NA	<0.0068
NA	Unknown	1319-1320	BN-00046	8/18/2003	Unknown	EMR	NIOSH 7400	526	--	NA	NA	<0.0059
NA	Unknown	1319-1320	BN-00051	8/18/2003	Unknown	EMR	NIOSH 7400	478	--	NA	NA	<0.0064
NA	Unknown	1319-1320	BN-00052	8/19/2003	Unknown	EMR	NIOSH 7400	286	--	NA	NA	<0.0108
NA	Unknown	1319-1320	BN-00054	8/19/2003	Unknown	EMR	NIOSH 7400	306	--	NA	NA	<0.0101
NA	Unknown	1319-1320	BN-00057	8/20/2003	Unknown	EMR	NIOSH 7400	204	--	NA	NA	<0.0150
NA	Unknown	1319-1320	BN-00058	8/28/2003	Unknown	EMR	NIOSH 7400	150	--	NA	NA	**0.02**
July-September 2004 Railyard Corrective Action Personal Air Sampling												
NA	Unknown	1319-1320	BN-00133	7/13/2004	Unknown	EMR	NIOSH 7400	425	--	NA	NA	**0.006**
NA	Unknown	1319-1320	BN-00134	7/13/2004	Unknown	EMR	NIOSH 7400	75	--	NA	NA	**0.036**
NA	Unknown	1319-1320	BN-00135	7/13/2004	Unknown	EMR	NIOSH 7400	300	--	NA	NA	**0.009**
NA	Unknown	1319-1320	BN-00138	7/14/2004	Unknown	EMR	NIOSH 7400	300	--	NA	NA	**0.013**
NA	Unknown	1319-1320	BN-00139	7/14/2004	Unknown	EMR	NIOSH 7400	75	--	NA	NA	**0.036**
NA	Unknown	1319-1320	BN-00293	9/24/2004	Unknown	EMR	NIOSH 7400	1,118	--	NA	NA	**0.005**
NA	Unknown	1319-1320	BN-00301	9/25/2004	Unknown	EMR	NIOSH 7400	1,148	--	NA	NA	<0.002
NA	Unknown	1319-1320	BN-00318	9/28/2004	Unknown	EMR	NIOSH 7400	1,641	--	NA	NA	**0.006**
NA	Unknown	1319-1320	BN-00324	9/29/2004	Unknown	EMR	NIOSH 7400	1,341	--	NA	NA	**0.005**
NA	Unknown	1319-1320	BN-00326	9/29/2004	Unknown	EMR	NIOSH 7400	1,334	--	NA	NA	**0.003**
NA	Unknown	1319-1320	BN-00332	9/30/2004	Unknown	EMR	NIOSH 7400	848	--	NA	NA	**0.005**
NA	Unknown	1319-1320	BN-00334	9/30/2004	Unknown	EMR	NIOSH 7400	1,217	--	NA	NA	<0.002
Libby Railyard Response Action 2005												
NA	Unknown	~[h]1319.6	BN-00482	11/14/2005	11/18/2005	EMR	NIOSH 7400	372	--	NA	NA	**0.011**
NA	Unknown	~1319.6	BN-00482	11/14/2005	11/22/2005	EMSL	AHERA TEM[i]	372	0.008	0.005	NO	<0.008
NA	NA	~1319.6	BN-00483	11/14/2005	11/18/2005	EMR	NIOSH 7400	0	NA	NA	NA	ND[j]
NA	Unknown	~1319.6	BN-00484	11/14/2005	11/18/2005	EMR	NIOSH 7400	342	--	NA	NA	**0.014**
NA	Unknown	~1319.6	BN-00484	11/14/2005	11/22/2005	EMSL	AHERA TEM	342	0.0087	0.005	NO	<0.0087
NA	Unknown	~1319.6	BN-00485	11/14/2005	11/18/2005	EMR	NIOSH 7400	190	--	NA	NA	<0.014
NA	NA	~1319.6	BN-00488	11/15/2005	11/18/2005	EMR	NIOSH 7400	0	NA	NA	NA	ND
NA	Unknown	~1319.6	BN-00489	11/15/2005	11/18/2005	EMR	NIOSH 7400	656	--	NA	NA	**0.013**
NA	Unknown	~1319.6	BN-00489	11/15/2005	11/22/2005	EMSL	AHERA TEM	656	0.0045	0.005	YES	<0.0045
NA	Unknown	~1319.6	BN-00490	11/15/2005	11/18/2005	EMR	NIOSH 7400	1,124	--	NA	NA	**0.005**
NA	NA	~1319.6	BN-00493	11/16/2005	11/18/2005	EMR	NIOSH 7400	0	NA	NA	NA	ND
NA	Unknown	~1319.6	BN-00494	11/16/2005	11/18/2005	EMR	NIOSH 7400	60	--	NA	NA	**0.049**
NA	Unknown	~1319.6	BN-00494	11/16/2005	11/22/2005	EMSL	AHERA TEM	60	0.0049	0.005	YES	<0.0049
NA	Unknown	~1319.6	BN-00495	11/16/2005	11/18/2005	EMR	NIOSH 7400	184	--	NA	NA	<0.015

TABLE 3

SUMMARY OF OSHA PERSONAL AIR SAMPLE ANALYSIS
2003-2011
BNSF Operable Unit 6
Libby, Montana

Gang ID	Task	Milepost	Sample ID	Sample Date	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc) [c]
July 2008 Crossing Replacement Sampling Event												
Libby Section	Tamper	~1322	1	7/22/2008	7/22/2008	EMR	NIOSH 7400	781	--	NA	NA	**0.003**
Libby Section	Crew Foreman	~1322	2	7/22/2008	7/23/2008	EMSL	AHERA TEM	634	0.0047	0.005	YES	<0.0047
Libby Section	Ballast Regulator	~1322	3	7/22/2008	7/24/2008	EMSL	AHERA TEM	905	0.0047	0.005	YES	<0.0047
Libby Section	Laborer	~1322	4	7/22/2008	7/25/2008	EMSL	AHERA TEM	419	0.0071	0.005	NO	<0.0071
Libby Section	Laborer	~1322	5	7/22/2008	7/26/2008	EMR	NIOSH 7400	321	--	NA	NA	**0.011**
NA	NA	NA	6	7/22/2008	Archived[k]	EMSL	NA	NA	NA	NA	NA	NA
NA	NA	NA	7	7/22/2008	Archived	EMSL	NA	NA	NA	NA	NA	NA
Libby Section	Tamper Operator	~1322	8	7/23/2008	7/23/2008	EMR	NIOSH 7400	607	--	NA	NA	**0.003**
Libby Section	Ballast Regulator	~1322	9	7/23/2008	7/23/2008	EMSL	AHERA TEM	741	0.005	0.005	YES	<0.005
Libby Section	Crew Foreman	~1322	10	7/23/2008	7/23/2008	EMR	NIOSH 7400	542	--	NA	NA	**0.007**
Libby Section	Loader Operator	~1322	11	7/23/2008	7/23/2008	EMSL	AHERA TEM	486	0.0061	0.005	NO	<0.0061
Libby Section	Laborer	~1322	12	7/23/2008	7/23/2008	EMSL	AHERA TEM	468	0.0063	0.005	NO	<0.0063
Libby Section	Laborer	~1322	13	7/23/2008	7/23/2008	EMSL	AHERA TEM	513	0.0058	0.005	NO	<0.0058
NA	NA	NA	14	7/23/2008	Archived	EMSL	NA	NA	NA	NA	NA	NA
NA	NA	NA	15	7/23/2008	Archived	EMSL	NA	NA	NA	NA	NA	NA
Libby Section	Laborer	~1324	16	7/29/2008	7/29/2008	EMSL	AHERA TEM	563	0.049	0.005	NO	<0.049
Libby Section	Loader Operator	~1324	17	7/29/2008	7/29/2008	EMSL	AHERA TEM	694	0.0043	0.005	YES	<0.0043
Libby Section	Laborer	~1324	18	7/29/2008	7/29/2008	EMSL	AHERA TEM	414	0.0072	0.005	NO	<0.0072
Libby Section	Tamper Operator	~1324	19	7/29/2008	7/29/2008	EMSL	AHERA TEM	533	0.0056	0.005	NO	<0.0056
Libby Section	Ballast Regulator	~1324	20	7/29/2008	7/29/2008	EMSL	AHERA TEM	533	0.0056	0.005	NO	<0.0056
Libby Section	Laborer	~1324	21	7/29/2008	7/29/2008	EMSL	AHERA TEM	436	0.0068	0.005	NO	<0.0068
NA	NA	NA	22	7/29/2008	Archived	EMSL	NA	0	NA	NA	NA	NA
NA	NA	NA	23	7/29/2008	Archived	EMSL	NA	0	NA	NA	NA	NA
September 2008 OSHA Rail Gang Sampling Event												
NA	NA	1312	1	9/17/2008	9/17/2008	EMR	NIOSH 7400	0	--	NA	NA	**2[m]**
NA	NA	1312	2	9/17/2008	9/17/2008	EMR	NIOSH 7400	0	--	NA	NA	**2[m]**
RP-15	Tamper Operator	1312	3	9/17/2008	9/30/2008	EMSL	ISO 10312	1,435.2	0.00206	0.0024	YES	<0.00206
RP-15	Laborer	1312	4	9/17/2008	9/17/2008	EMR	NIOSH 7400	1,294	--	NA	NA	**0.003**
RP-15	Laborer	1312	5	9/17/2008	9/17/2008	EMR	NIOSH 7400	1,279	--	NA	NA	**0.003**
RP-15	Laborer	1312	6	9/17/2008	9/30/2008	EMSL	ISO 10312	1,425.6	0.00208	0.0024	YES	<0.00208
RP-15	Scrub Crane Operator	1312	7	9/17/2008	9/30/2008	EMSL	ISO 10312	1,425.6	0.00208	0.0024	YES	<0.00208
RP-15	Spiker Operator	1312	8	9/17/2008	9/30/2008	EMSL	ISO 10312	1,420.8	0.00208	0.0024	YES	<0.00208
NA	NA	1331.5	9	9/18/2008	9/18/2008	EMR	NIOSH 7400	0	--	NA	NA	**2[m]**
NA	NA	1331.5	10	9/18/2008	9/18/2008	EMR	NIOSH 7400	0	--	NA	NA	**3[m]**
RP-15	Laborer	1331.5	11	9/18/2008	9/18/2008	EMR	NIOSH 7400	1,186	--	NA	NA	**0.004**
RP-15	Laborer	1331.5	12	9/18/2008	9/18/2008	EMR	NIOSH 7400	1,174	--	NA	NA	**0.004**
RP-15	Machine Operator	1331.5	13	9/18/2008	9/30/2008	EMSL	ISO 10312	1,178	0.00224	0.0024	YES	<0.00224
RP-15	Machine Operator	1331.5	14	9/18/2008	9/30/2008	EMSL	ISO 10312	1,176	0.0024	0.0024	YES	<0.0024
RP-15	Laborer	1331.5	15	9/18/2008	9/30/2008	EMSL	ISO 10312	1,159	0.00224	0.0024	YES	<0.00224
RP-15	Tamper Operator	1331.5	16	9/18/2008	9/30/2008	EMSL	ISO 10312	1,174	0.00221	0.0024	YES	<0.00221
NA	NA	1331	17	9/19/2008	9/19/2008	EMR	NIOSH 7400	0	--	NA	NA	**3[m]**
RP-15	NA	1331	18	9/19/2008	9/19/2008	EMR	NIOSH 7400	0	--	NA	NA	**2[m]**

TABLE 3

SUMMARY OF OSHA PERSONAL AIR SAMPLE ANALYSIS
2003-2011
BNSF Operable Unit 6
Libby, Montana

Gang ID	Task	Milepost	Sample ID	Sample Date	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc) [c]
RP-15	Tamper Operator	1331	19	9/19/2008	9/19/2008	EMR	NIOSH 7400	701	--	NA	NA	**0.006**
RP-15	Machine Operator	1331	20	9/19/2008	9/30/2008	EMSL	ISO 10312	698.4	0.00223	0.0024	YES	<0.00223
RP-15	Laborer	1331	21	9/19/2008	9/19/2008	EMR	NIOSH 7400	684	--	NA	NA	**0.005**
RP-15	Machine Operator	1331	22	9/19/2008	9/30/2008	EMSL	ISO 10312	691.2	0.00226	0.0024	YES	<0.00226
RP-15	Machine Operator	1331	23	9/19/2008	9/30/2008	EMSL	ISO 10312	698.4	0.00223	0.0024	YES	<0.00223
RP-15	Laborer	1331	24	9/19/2008	9/30/2008	EMSL	ISO 10312	705.6	0.0021	0.0024	YES	<0.0021
NA	NA	1329.5	25	9/22/2008	9/22/2008	EMR	NIOSH 7400	0	--	NA	NA	**3[m]**
NA	NA	1329.5	26	9/22/2008	9/22/2008	EMR	NIOSH 7400	0	--	NA	NA	**2[m]**
RP-15	Laborer	1329.5	27	9/22/2008	9/22/2008	EMR	NIOSH 7400	1,008	--	NA	NA	**0.004**
RP-15	Laborer	1329.5	28	9/22/2008	9/22/2008	EMR	NIOSH 7400	1,003	--	NA	NA	**0.005**
RP-15	Laborer	1329.5	29	9/22/2008	9/22/2008	EMR	NIOSH 7400	986	--	NA	NA	**0.004**
RP-15	Laborer	1329.5	30	9/22/2008	9/22/2008	EMR	NIOSH 7400	986	--	NA	NA	**0.006**
RP-15	Machine Operator	1329.5	31	9/22/2008	9/30/2008	EMSL	ISO 10312	974.4	0.00203	0.0024	YES	<0.00203
RP-15	Machine Operator	1329.5	32	9/22/2008	9/22/2008	EMR	NIOSH 7400	967	--	NA	NA	**0.005**
NA	NA	1337	33	9/23/2008	9/23/2008	EMR	NIOSH 7400	0	--	NA	NA	**2[m]**
NA	NA	1337	34	9/23/2008	9/23/2008	EMR	NIOSH 7400	0	--	NA	NA	**2[m]**
RP-21	Plate Blocker	1337	35	9/23/2008	9/23/2008	EMR	NIOSH 7400	694	--	NA	NA	**0.006**
RP-21	Laborer	1337	36	9/23/2008	9/23/2008	EMR	NIOSH 7400	811	--	NA	NA	**0.007**
RP-21	Machine Operator	1337	37	9/23/2008	9/23/2008	EMR	NIOSH 7400	792	--	NA	NA	**0.007**
RP-21	Spike Puller	1337	38	9/23/2008	9/23/2008	EMR	NIOSH 7400	778	--	NA	NA	**0.005**
RP-21	Pre-Gauger	1337	39	9/23/2008	10/28/2008	EMSL	ISO 10312	792	0.00359	0.0024	NO	<0.00359
RP-21	Anchor Box Operator	1337	40	9/23/2008	10/28/2008	EMSL	ISO 10312	918	0.0103	0.0024	NO	<0.0103
NA	NA	1339.5	41	9/24/2008	9/24/2008	EMR	NIOSH 7400	0	--	NA	NA	**2[m]**
NA	NA	1339.5	42	9/24/2008	9/24/2008	EMR	NIOSH 7400	0	--	NA	NA	**3[m]**
RP-21	Asst. Foreman	1339.5	43	9/24/2008	9/24/2008	EMR	NIOSH 7400	977	--	NA	NA	**0.004**
RP-21	Clip Remover	1339.5	44	9/24/2008	9/24/2008	EMR	NIOSH 7400	986	--	NA	NA	**0.004**
RP-21	Laborer	1339.5	45	9/24/2008	9/24/2008	EMR	NIOSH 7400	974	--	NA	NA	**0.004**
RP-21	Asst. Foreman	1339.5	46	9/24/2008	9/24/2008	EMR	NIOSH 7400	1051	--	NA	NA	**0.003**
RP-21	Machine Operator	1339.5	47	9/24/2008	10/28/2008	EMSL	ISO 10312	964	0.00589	0.0024	NO	<0.00589
RP-21	Machine Operator	1339.5	48	9/24/2008	10/28/2008	EMSL	ISO 10312	967	0.00236	0.0024	YES	<0.00236
NA	NA	1341	49	9/25/2008	9/25/2008	EMR	NIOSH 7400	0	--	NA	NA	**2[m]**
NA	NA	1341	50	9/25/2008	9/25/2008	EMR	NIOSH 7400	0	--	NA	NA	**2[m]**
RP-15	Laborer	1341	51	9/25/2008	9/25/2008	EMR	NIOSH 7400	422	--	NA	NA	**0.006**
RP-15	Laborer	1341	52	9/25/2008	9/25/2008	EMR	NIOSH 7400	422	--	NA	NA	**0.009**
RP-15	Machine Operator	1341	53	9/25/2008	9/25/2008	EMR	NIOSH 7400	425	--	NA	NA	0.014[n]
RP-15	Machine Operator	1341	54	9/25/2008	9/25/2008	EMR	NIOSH 7400	418	--	NA	NA	0.013[n]
RP-15	Laborer	1341	55	9/25/2008	9/25/2008	EMR	NIOSH 7400	410	--	NA	NA	**0.07**
RP-15	Laborer	1341	56	9/25/2008	9/25/2008	EMR	NIOSH 7400	406	--	NA	NA	**0.008**

TABLE 3

SUMMARY OF OSHA PERSONAL AIR SAMPLE ANALYSIS
2003-2011
BNSF Operable Unit 6
Libby, Montana

Gang ID	Task	Milepost	Sample ID	Sample Date	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc) [c]
May 2009 Supersurfacing Gang Sampling Event												
SC-30	Tamper Operator	1307-1313	1	5/19/2009	5/27/2009	EMSL	AHERA TEM IA[o]	1,584	0.007	0.005	NO	<0.007
SC-30	Tamper Operator	1307-1313	2	5/19/2009	5/27/2009	EMSL	AHERA TEM IA[o]	1,590	0.007	0.005	NO	<0.007
SC-30	Tamper Operator	1307-1313	3	5/19/2009	5/27/2009	EMSL	AHERA TEM IA[o]	1,584	0.007	0.005	NO	<0.007
SC-30	Profiler Operator	1307-1313	4	5/19/2009	5/27/2009	EMSL	AHERA TEM IA[o]	1,382	0.2	0.005	NO	<0.2
SC-30	Profiler Operator	1307-1313	5	5/19/2009	5/27/2009	EMSL	AHERA TEM IA[o]	1,373	0.81	0.005	NO	<0.81
SC-30	Profiler Operator	1307-1313	6	5/19/2009	5/27/2009	EMSL	AHERA TEM IA[o]	1,300	0.85	0.005	NO	<0.85
NA	Field Blank	1307-1313	03A	5/19/2009	5/20/2009	EMSL	AHERA TEM	0	NA	NA	NA	ND
NA	Lab Blank	1307-1313	04A	5/19/2009	5/20/2009	EMSL	AHERA TEM	0	NA	NA	NA	ND
SC-30	Profiler Operator	1313-1331	P-DC 052009	5/20/2009	5/20/2009	EMSL	AHERA TEM	1,516	0.0049	0.005	YES	<0.0049
SC-30	Profiler Operator	1313-1331	P-KF 052009	5/20/2009	5/20/2009	EMSL	AHERA TEM IA[o]	1,568	0.0071	0.005	NO	<0.0071
SC-30	Tamper Operator	1313-1331	P-LP 052009	5/20/2009	5/20/2009	EMSL	AHERA TEM IA[o]	1,345	0.0046	0.005	YES	<0.0046
SC-30	Profiler Operator	1313-1331	P-DW 052009	5/20/2009	5/20/2009	EMSL	AHERA TEM IA[o]	1,340	0.14	0.005	NO	<0.14
SC-30	Tamper Operator	1313-1331	P-JT 052009	5/20/2009	5/20/2009	EMSL	AHERA TEM	1,170	0.0042	0.005	YES	<0.0042
SC-30	Tamper Operator	1313-1331	P-RH-052009	5/20/2009	5/20/2009	EMSL	AHERA TEM I[o]	1,148	0.0048	0.005	YES	<0.0048
NA	Blank	1313-1331	B-BK 052009	5/20/2009	5/20/2009	EMSL	AHERA TEM	0	NA	NA	NA	ND
SC-30	Tamper Operator	1331-1336	P-RH-052109	5/21/2009	6/2/2009	EMSL	AHERA TEM I[o]	1,713	0.0046	0.005	YES	<0.0046
SC-30	Profiler Operator	1331-1336	P-KF 052109	5/21/2009	6/2/2009	EMSL	AHERA TEM IA[o]	1,710	0.011	0.005	NO	<0.011
SC-30	Tamper Operator	1331-1336	P-JT 052109	5/21/2009	6/2/2009	EMSL	AHERA TEM IA[o]	1,699	0.13	0.005	NO	<0.13
SC-30	Tamper Operator	1331-1336	P-LP 052109	5/21/2009	6/2/2009	EMSL	AHERA TEM IA[o]	1,430	0.13	0.005	NO	<0.13
SC-30	Profiler Operator	1331-1336	P-DW 052109	5/21/2009	6/2/2009	EMSL	AHERA TEM IA[o]	1,418	0.13	0.005	NO	<0.13
SC-30	Profiler Operator	1331-1336	P-DC 052109	5/21/2009	6/2/2009	EMSL	AHERA TEM I[o]	1,493	0.0074	0.005	NO	<0.0074
NA	Blank	1331-1336	B-BK 052109	5/21/2009	6/2/2009	EMSL	AHERA TEM	0	NA	NA	NA	ND
SC-30	Tamper Operator	1336-1341	P-JT 052209	5/22/2009	6/2/2009	EMSL	AHERA TEM	613	0.0048	0.005	YES	<0.0048
SC-30	Tamper Operator	1336-1341	P-RH 052209	5/22/2009	6/2/2009	EMSL	AHERA TEM	602	0.0049	0.005	YES	<0.0049
SC-30	Tamper Operator	1336-1341	P-LP 052209	5/22/2009	6/2/2009	EMSL	AHERA TEM	540	0.0055	0.005	NO	<0.0055
NA	Blank	1336-1341	B-BK 052209	5/22/2009	6/2/2009	EMSL	AHERA TEM	0	NA	NA	NA	ND
SC-30	Profiler Operator	1336-1341	P-DC 052209	5/22/2009	6/2/2009	EMSL	AHERA TEM I[o]	1,288	0.022	0.005	NO	<0.022
SC-30	Profiler Operator	1336-1341	P-DW 052209	5/22/2009	6/2/2009	EMSL	AHERA TEM I[o]	1,103	0.025	0.005	NO	<0.025
SC-30	Profiler Operator	1336-1341	P-KF 052209	5/22/2009	6/2/2009	EMSL	AHERA TEM IA[o]	1,100	0.017	0.005	NO	<0.017
May 2010 Stimson Wye Removal Sampling Events												
Libby Section	Loader Operator	Stimson Wye	P-1	5/4/2010	5/11/2010	EMSL	AHERA TEM	1,600	<0.0046	0.005	NO	<0.0046
Libby Section	Loader Operator	Stimson Wye	P-2	5/5/2010	5/11/2010	EMSL	AHERA TEM	424	<0.0057	0.005	NO	<0.0057
NA	Sealed Blank	Stimson Wye	SB	5/5/2010	5/11/2010	EMSL	AHERA TEM	0	NA	NA	NA	ND
NA	Open Blank	Stimson Wye	OB	5/5/2010	5/11/2010	EMSL	AHERA TEM	0	NA	NA	NA	ND
Libby Section	Loader Operator	Stimson Wye	P-3	5/7/2010	5/17/2010	EMSL	AHERA TEM	1,296	<0.0210	0.005	NO	<0.0210
NA	Sealed Blank	Stimson Wye	SB2	5/7/2010	Archived	EMSL	NA	0	NA	NA	NA	NA
NA	Open Blank	Stimson Wye	OB2	5/7/2010	Archived	EMSL	NA	0	NA	NA	NA	NA

TABLE 3

SUMMARY OF OSHA PERSONAL AIR SAMPLE ANALYSIS
2003-2011
BNSF Operable Unit 6
Libby, Montana

Gang ID	Task	Milepost	Sample ID	Sample Date	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc) [c]
March 2010 Steel Gang Sampling Event												
RP-11	Asst. Foreman	1338.7-1339.4	P-NS-032910	3/29/2010	4/19/2010	EMSL	AHERA TEM	844	0.0044	0.005	YES	<0.0044
RP-11	Sectionman	1338.7-1339.4	P-RL-032910	3/29/2010	4/19/2010	EMSL	AHERA TEM [o]	843	0.033	0.005	NO	<0.033
RP-11	Truck Driver	1338.7-1339.4	P-CB-032910	3/29/2010	4/19/2010	EMSL	AHERA TEM	849	NA	0.005	NO	NA-FD[p]
RP-11	Cribber/Adzer	1338.7-1339.4	P-JB-032910	3/29/2010	4/19/2010	EMSL	AHERA TEM	841	0.0044	0.005	YES	<0.0044
RP-11	Laborer	1338.7-1339.4	P-BW-032910	3/29/2010	4/19/2010	EMSL	AHERA TEM	838	0.0044	0.005	YES	<0.0044
NA	Blank	1338.7-1339.4	CB-OPEN-032910	3/29/2010	4/19/2010	EMSL	AHERA TEM	0	NA	NA	NA	ND
RP-11	Truck Driver	1335.1-1338.1	P-CB-033010	3/30/2010	4/16/2010	EMSL	AHERA TEM [o]	1,239	0.15	0.005	NO	<0.15
RP-11	Asst. Foreman	1335.1-1338.1	P-NS-033010	3/30/2010	4/16/2010	EMSL	AHERA TEM	1,064	0.0046	0.005	YES	<0.0046
RP-11	Truck Driver	1335.1-1338.1	P-BW-033010	3/30/2010	4/16/2010	EMSL	AHERA TEM	1,036	0.0048	0.005	YES	<0.0048
RP-11	Cribber/Adzer	1335.1-1338.1	P-JB-033010	3/30/2010	4/16/2010	EMSL	AHERA TEM	1,050	0.0047	0.005	YES	<0.0047
RP-11	Sectionman	1335.1-1338.1	P-RL-033010	3/30/2010	4/16/2010	EMSL	AHERA TEM [o]	1,141	0.15	0.005	NO	<0.15
NA	Blank	1335.1-1338.1	CB-OPEN-033010	3/30/2010	4/16/2010	EMSL	AHERA TEM	0	NA	NA	NA	ND
RP-21	Sectionman	1340-1344	P-RH-033010	3/30/2010	4/2/2010	EMSL	AHERA TEM	732	0.004	0.005	YES	<0.004
RP-21	Sectionman	1340-1344	P-JH-033010	3/30/2010	4/2/2010	EMSL	AHERA TEM	730	0.0041	0.005	YES	<0.0041
RP-21	Group 5	1340-1344	P-BG-033010	3/30/2010	4/2/2010	EMSL	AHERA TEM	722	0.0041	0.005	YES	<0.0041
RP-21	Group 5	1340-1344	P-RF-033010	3/30/2010	4/2/2010	EMSL	AHERA TEM	728	0.0037	0.005	YES	<0.0037
RP-21	Plugger	1340-1344	P-TB-033010	3/30/2010	4/2/2010	EMSL	AHERA TEM	748	0.004	0.005	YES	<0.004
NA	Blank	1340-1344	BK-033010	3/30/2010	4/2/2010	EMSL	AHERA TEM	0	NA	NA	NA	ND
RP-11	Pregauger Operator	1331.8-1332.5	P-TW-033110	3/31/2010	4/2/2010	EMSL	AHERA TEM	732	0.004	0.005	YES	<0.004
RP-11	Asst. Foreman	1331.8-1332.5	P-LS-033110	3/31/2010	4/2/2010	EMSL	AHERA TEM	730	0.0041	0.005	YES	<0.0041
RP-11	Rail Heater	1331.8-1332.5	P-TS-033110	3/31/2010	4/2/2010	EMSL	AHERA TEM	722	0.0041	0.005	YES	<0.0041
RP-11	Cribber/Adzer	1331.8-1332.5	P-JB-033110	3/31/2010	4/2/2010	EMSL	AHERA TEM	728	0.0037	0.005	YES	<0.0037
RP-11	Laborer	1331.8-1332.5	P-KK-033110	3/31/2010	4/2/2010	EMSL	AHERA TEM	748	0.004	0.005	YES	<0.004
NA	Blank	1331.8-1332.5	CB-OPEN-033110	3/31/2010	4/2/2010	EMSL	AHERA TEM	0	--	NA	NA	ND
RP-21	Machine Operator	1338-1340	P-EH-033110	3/31/2010	4/2/2010	EMSL	AHERA TEM	926	--	NA	NA	NA-FD
RP-21	Sectionman	1338-1340	P-JH-033110	3/31/2010	4/2/2010	EMSL	AHERA TEM	918	0.0046	0.005	YES	<0.0046
RP-21	Asst. Foreman	1338-1340	P-CC-033110	3/31/2010	4/2/2010	EMSL	AHERA TEM	912	0.0046	0.005	YES	<0.0046
RP-21	Trackman	1338-1340	P-CP-033110	3/31/2010	4/2/2010	EMSL	AHERA TEM	912	0.0046	0.005	YES	<0.0046
RP-21	Grinder	1338-1340	P-AS-033110	3/31/2010	4/2/2010	EMSL	AHERA TEM	914	0.0046	0.005	YES	<0.0046
NA	NA	1338-1340	BK-033110	3/31/2010	4/2/2010	EMSL	AHERA TEM	0	NA	0.005	NO	ND
RP-11	Truck Driver	1324.5-1330.0	P-BW-040110	4/1/2010	4/20/2010	EMSL	AHERA TEM	725	0.0045	0.005	YES	<0.0045
RP-11	Cribber/Adzer	1324.5-1330.0	P-JB-040110	4/1/2010	4/20/2010	EMSL	AHERA TEM	825	0.0045	0.005	YES	<0.0045
RP-11	Asst. Foreman	1324.5-1330.0	P-NS-040110	4/1/2010	4/20/2010	EMSL	AHERA TEM	809	0.0046	0.005	YES	<0.0046
RP-11	Laborer	1324.5-1330.0	P-KK-040110	4/1/2010	4/20/2010	EMSL	AHERA TEM	713	0.0046	0.005	YES	<0.0046
RP-11	Truck Driver	1324.5-1330.0	P-CB-040110	4/1/2010	4/20/2010	EMSL	AHERA TEM	631	0.0047	0.005	YES	<0.0047
NA	NA	1324.5-1330.0	CB-OPEN-040110	4/1/2010	4/20/2010	EMSL	AHERA TEM	0	NA	0.005	NO	ND
RP-21	Tie Plugger	1331.8-1332.5	P-TB-040110	4/1/2010	4/15/2010	EMSL	AHERA TEM	940	0.0045	0.005	YES	<0.0045
RP-21	Sectionman	1331.8-1332.5	P-JH-040110	4/1/2010	4/15/2010	EMSL	AHERA TEM	912	0.0046	0.005	YES	<0.0046
RP-21	Sectionman	1331.8-1332.5	P-RH-040110	4/1/2010	4/15/2010	EMSL	AHERA TEM	914	0.0046	0.005	YES	<0.0046
RP-21	Foreman	1331.8-1332.5	P-AG-040110	4/1/2010	4/15/2010	EMSL	AHERA TEM	918	0.0046	0.005	YES	<0.0046
RP-21	Truck Driver	1331.8-1332.5	P-BA-040110	4/1/2010	4/15/2010	EMSL	AHERA TEM	936	0.0045	0.005	YES	<0.0045
NA	NA	1331.8-1332.5	BK-040110	4/1/2010	4/15/2010	EMSL	AHERA TEM	0	NA	0.005	NO	ND

TABLE 3

SUMMARY OF OSHA PERSONAL AIR SAMPLE ANALYSIS
2003-2011
BNSF Operable Unit 6
Libby, Montana

Gang ID	Task	Milepost	Sample ID	Sample Date	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc) [c]
RP-11	Asst. Foreman	1310.8-1311.6	P-NS-040510	4/5/2010	4/16/2010	EMSL	AHERA TEM [o]	969	0.029	0.005	NO	<0.029
RP-11	Laborer	1310.8-1311.6	P-BW-040510	4/5/2010	4/16/2010	EMSL	AHERA TEM [o]	973	0.011	0.005	NO	<0.011
RP-11	Pregauger Operator	1310.8-1311.6	P-TW-040510	4/5/2010	4/16/2010	EMSL	AHERA TEM	975	0.0043	0.005	YES	<0.0043
RP-11	Cribber/Adzer	1310.8-1311.6	P-JB-040510	4/5/2010	4/16/2010	EMSL	AHERA TEM	974	0.0043	0.005	YES	<0.0043
RP-11	Rail Heater	1310.8-1311.6	P-TS-040510	4/5/2010	4/16/2010	EMSL	AHERA TEM	968	0.0044	0.005	YES	<0.0044
NA	NA	1310.8-1311.6	CB-OPEN-040510	4/5/2010	4/16/2010	EMSL	AHERA TEM	0	NA	0.005	NO	ND
RP-21	Group 5	1330-1332	P-TC-040510	4/5/2010	4/15/2010	EMSL	AHERA TEM	860	0.0049	0.005	YES	<0.0049
RP-21	Grinder	1330-1332	P-AS-040510	4/5/2010	4/15/2010	EMSL	AHERA TEM	924	0.0046	0.005	YES	<0.0046
RP-21	Laborer	1330-1332	P-DT-040510	4/5/2010	4/15/2010	EMSL	AHERA TEM	894	0.0047	0.005	YES	<0.0047
RP-21	Trackman	1330-1332	P-CP-040510	4/5/2010	4/15/2010	EMSL	AHERA TEM	858	0.0049	0.005	YES	<0.0049
RP-21	Group 5	1330-1332	P-RF-040510	4/5/2010	4/15/2010	EMSL	AHERA TEM	916	0.0046	0.005	YES	<0.0046
NA	NA	1330-1332	BK-040510	4/5/2010	4/15/2010	EMSL	AHERA TEM	0	NA	0.005	NO	ND
RP-21	Plugger	1322.06-1322.38	P-TB-040610	4/6/2010	4/22/2010	EMSL	AHERA TEM	624	0.0047	0.005	YES	<0.0047
RP-21	Trackman	1322.06-1322.38	P-CP-040610	4/6/2010	4/22/2010	EMSL	AHERA TEM	760	0.0049	0.005	YES	<0.0049
RP-21	Machine Operator	1322.06-1322.38	P-SH-040610	4/6/2010	4/22/2010	EMSL	AHERA TEM	758	0.0049	0.005	YES	<0.0049
RP-21	Group 5	1322.06-1322.38	P-RF-040610	4/6/2010	4/22/2010	EMSL	AHERA TEM	776	0.0048	0.005	YES	<0.0048
RP-21	Welder	1322.06-1322.38	P-RT-040610	4/6/2010	4/22/2010	EMSL	AHERA TEM [o]	788	0.035	0.005	NO	<0.035
NA	NA	1322.06-1322.38	BK-040610	4/6/2010	4/22/2010	EMSL	AHERA TEM	0	NA	0.005	NO	ND
RP-11	Clipper Operator	1308.7-1309.5	P-BW-040610	4/6/2010	4/16/2010	EMSL	AHERA TEM	870	NA	0.005	NO	NA-FD
RP-11	Cribber/Adzer	1308.7-1309.5	P-JB-040610	4/6/2010	4/16/2010	EMSL	AHERA TEM	884	0.0048	0.005	YES	<0.0048
RP-11	Asst. Foreman	1308.7-1309.5	P-NS-040610	4/6/2010	4/16/2010	EMSL	AHERA TEM	872	0.0049	0.005	YES	<0.0049
RP-11	Truck Driver	1308.7-1309.5	P-CB-040610	4/6/2010	4/16/2010	EMSL	AHERA TEM [o]	864	0.21	0.005	NO	<0.21
RP-11	SARS Machine Op.	1308.7-1309.5	P-TA-040610	4/6/2010	4/16/2010	EMSL	AHERA TEM	865	NA	0.005	NO	NA-FD
NA	NA	1308.7-1309.5	CB-OPEN-040610	4/6/2010	4/16/2010	EMSL	AHERA TEM	0	NA	0.005	NO	ND
RP-21	Group 5	1310.8-1311.6	P-TC-040710	4/7/2010	4/21/2010	EMSL	AHERA TEM	934	0.0045	0.005	YES	<0.0045
RP-21	Machine Operator	1310.8-1311.6	P-SH-040710	4/7/2010	4/21/2010	EMSL	AHERA TEM	854	0.005	0.005	YES	<0.005
RP-21	Laborer	1310.8-1311.6	P-MO-040710	4/7/2010	4/21/2010	EMSL	AHERA TEM [o]	864	0.013	0.005	NO	<0.013
RP-21	Machine Operator	1310.8-1311.6	P-EH-040710	4/7/2010	4/21/2010	EMSL	AHERA TEM	856	NA	0.005	NO	NA-FD
RP-21	Sectionman	1310.8-1311.6	P-JH-040710	4/7/2010	4/21/2010	EMSL	AHERA TEM [o]	864	0.0064	0.005	NO	<0.0064
NA	NA	1310.8-1311.6	BK-040710	4/7/2010	4/21/2010	EMSL	AHERA TEM	0	NA	0.005	NO	ND
RP-21	Sectionman	1308.5-1308.9	P-JH-040810	4/8/2010	4/22/2010	EMSL	AHERA TEM	744	0.005	0.005	YES	<0.005
RP-21	Sectionman	1308.5-1308.9	P-RH-040810	4/8/2010	4/22/2010	EMSL	AHERA TEM	740	0.0044	0.005	YES	<0.0044
RP-21	Trackman	1308.5-1308.9	P-CP-040810	4/8/2010	4/22/2010	EMSL	AHERA TEM	742	0.005	0.005	YES	<0.005
RP-21	Welder	1308.5-1308.9	P-RT-040810	4/8/2010	4/22/2010	EMSL	AHERA TEM [o]	744	0.015	0.005	NO	<0.015
RP-21	Group 5	1308.5-1308.9	P-BG-040810	4/8/2010	4/22/2010	EMSL	AHERA TEM	732	0.0045	0.005	YES	<0.0045
NA	NA	1308.5-1308.9	BK-040810	4/8/2010	4/22/2010	EMSL	AHERA TEM	0	NA	0.005	NO	ND

TABLE 3

SUMMARY OF OSHA PERSONAL AIR SAMPLE ANALYSIS
2003-2011
BNSF Operable Unit 6
Libby, Montana

Gang ID	Task	Milepost	Sample ID	Sample Date	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc) [c]
September 2011 Shoulder Ballast Cleaner Sampling Event												
SC-30	Machine Operator	1342.1-1337.9	P-JM-091311	9/13/2011	9/15/2011	EMSL	ISO 10312	1,058	0.00233	0.0024	YES	<0.00233
SC-30	Machine Operator	1342.1-1337.9	P-JT-091311	9/13/2011	9/15/2011	EMSL	ISO 10312	1,069.5	0.00231	0.0024	YES	<0.00231
SB-04	Laborer	1342.1-1337.9	P-KN-091311	9/13/2011	9/16/2011	EMSL	ISO 10312 I[o]	1,129.3	0.0245	0.0024	NO	<0.0245
SC-30	Machine Operator	1342.1-1337.9	P-RH-091311	9/13/2011	9/15/2011	EMSL	ISO 10312	1,060.3	0.00233	0.0024	YES	<0.00233
SC-30	Machine Operator	1342.1-1337.9	P-SB-091311	9/13/2011	9/15/2011	EMSL	ISO 10312	1,074.1	0.0023	0.0024	YES	<0.0023
SC-30	Machine Operator	1337.2-1331.8	P-DC-091411	9/14/2011	9/19/2011	EMSL	ISO 10312	1,053.4	0.00234	0.0024	YES	<0.00234
SB-04	Laborer	1337.2-1331.8	P-JO-091411	9/14/2011	9/19/2011	EMSL	ISO 10312 I[o]	114.7	0.0604	0.0024	NO	<0.0604
SB-04	Laborer	1337.2-1331.8	P-KN-091411	9/14/2011	9/19/2011	EMSL	ISO 10312 I[o]	1,122.4	0.00617	0.0024	NO	<0.00617
SB-04	Machine Operator	1337.2-1331.8	P-LE-091411	9/14/2011	9/19/2011	EMSL	ISO 10312 I[o]	1,094.8	0.00632	0.0024	NO	<0.00632
SC-30	Machine Operator	1337.2-1331.8	P-PW-091411	9/14/2011	9/19/2011	EMSL	ISO 10312	1,060.3	0.00233	0.0024	YES	<0.00233
SC-30	Machine Operator	1337.2-1331.8	P-SB-091411	9/14/2011	9/19/2011	EMSL	ISO 10312	1,048.8	0.00235	0.0024	YES	<0.00235
SC-30	Machine Operator	1331.8-1327.6	P-DC-091511	9/15/2011	9/29/2011	EMSL	ISO 10312 IA[o]	1,039.6	0.0133	0.0024	NO	<0.0133
SB-04	Laborer	1331.8-1327.6	P-JO-091511	9/15/2011	9/23/2011	EMSL	ISO 10312 I[o]	1,140.8	0.00607	0.0024	NO	<0.00607
SC-30	Machine Operator	1331.8-1327.6	P-JT-091511	9/15/2011	9/23/2011	EMSL	ISO 10312 I[o]	1,097.1	0.00631	0.0024	NO	<0.00631
SB-04	Laborer	1331.8-1327.6	P-KN-091511	9/15/2011	9/23/2011	EMSL	ISO 10312 I[o]	1,145.4	0.00604	0.0024	NO	<0.00604
SB-04	Machine Operator	1331.8-1327.6	P-KN-091511-A	9/15/2011	9/15/2011	EMSL	ISO 10312 I[o]	1,078.7	0.00642	0.0024	NO	<0.00604
SC-30	Machine Operator	1331.8-1327.6	P-PK-091511	9/15/2011	9/23/2011	EMSL	ISO 10312	1,062.6	0.00232	0.0024	YES	<0.00232
SB-04	Machine Operator	1317.1-1313	P-DC-091611	9/16/2011	9/30/2011	EMSL	ISO 10312	1,078.7	0.00229	0.0024	YES	<0.00229
SC-30	Laborer	1317.1-1313	P-JO-091611	9/16/2011	9/29/2011	EMSL	ISO 10312 I[o]	1,071.8	0.00646	0.0024	NO	<0.00646
SC-30	Machine Operator	1317.1-1313	P-JT-091611	9/16/2011	9/29/2011	EMSL	ISO 10312 IA[o]	1,044.2	0.00663	0.0024	NO	<0.00663
SB-04	Machine Operator	1317.1-1313	P-KN-091611	9/16/2011	9/30/2011	EMSL	ISO 10312 I[o]	1,087.9	0.00636	0.0024	NO	<0.0636
SC-30	Machine Operator	1317.1-1313	P-LE-091611	9/16/2011	9/29/2011	EMSL	ISO 10312	1,081	0.00228	0.0024	YES	<0.00228
SB-04	Machine Operator	1317.1-1313	P-PW-091611	9/16/2011	9/30/2011	EMSL	ISO 10312	1,076.4	0.00229	0.0024	YES	<0.00229
NA	Field Blank	1315	Field Blank_091611	9/16/2011	9/30/2011	EMSL	ISO 10312	0	NA	0.0024	NO	ND

Notes:

(a) Volume measured in liters (L).
(b) cc^{-1} = per cubic centimeter
(c) s/cc = structures/cubic centimeter [Note: Only ISO analyzed samples differentiated between structures (any fiber) and asbestos-form fibers.]
(d) "NA" indicates not applicable.
(e) Asbetos fibers analyzed by National Institute for Occupational Safety and Health (NIOSH) test method 7400 by phase contrast microscopy (PCM).
(f) "--" indicates there is no way for sensitivity to be determined through NIOSH test method 7400.
(g) "<" indicates no detection above the reporting limit.
(h) "~" indicates approximately.
(i) Asbetos in ambient air analyzed by Asbestos Hazard Emergency Response Act (AHERA) test method transmission electron microscopy (TEM).
(j) "ND" indicates non-detect from quality assurance/quality control (QA/QC) samples.
(k) Archived indicates a sample was collected and submitted for analysis, but not analyzed.
(l) Asbestos in ambient air analyzed by the International Organization of Standardization (ISO) direct transfer method 10312.
(m) Number of fibers per 100 fields counted.
(n) Results are suspected as skewed based on limited volume of air passing through cassette filters.
(o) Indirect ash (IA) and indirect (I) indicate the sample was collected indirectly through burning, re-suspension, and re-analysis.
(p) "NA-FD" indicates the sample was not analyzed due to filter damage.

Samples with observed fibers are shown in bold.

TABLE 4

SUMMARY OF ABS STATIONARY AIR SAMPLE ANALYSIS
2008
BNSF Operable Unit 6
Libby, Montana

Sample Type	Milepost	Sample ID	Sample Date	Sampler	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc)[c]
September 2008 Rail Gang ABS Public Receptor Sampling Event												
Stationary	1312	BA-00006	9/17/2008	JS	10/31/2008	EMSL	ISO 10312[h]	1,778	0.0024	0.0024	YES	<0.0024
Stationary	1312	BA-00007	9/17/2008	JS	10/31/2008	EMSL	ISO 10312	1,763	0.0024	0.0024	YES	<0.0024
Stationary	1312	BA-00008	9/17/2008	JS	10/31/2008	EMSL	ISO 10312	2,440	0.00202	0.0024	YES	<0.00202
Stationary	1312	BA-00009	9/17/2008	JS	10/31/2008	EMSL	ISO 10312	2,402	0.00205	0.0024	YES	<0.00205
Blank	NA	BA-00010	9/17/2008	JS	10/31/2008	EMSL	ISO 10312	0	NA	NA	NA	ND[i]
Stationary	1331.5	BA-00016	9/18/2008	JS	10/31/2008	EMSL	ISO 10312	2,675	0.00221	0.0024	YES	<0.00221
Stationary	1331.5	BA-00017	9/18/2008	JS	10/31/2008	EMSL	ISO 10312	2,675	0.00221	0.0024	YES	<0.00221
Stationary	1331.5	BA-00018	9/18/2008	JS	10/31/2008	EMSL	ISO 10312	2,538	0.00233	0.0024	YES	<0.00233
Stationary	1331.5	BA-00019	9/18/2008	JS	10/31/2008	EMSL	ISO 10312	2,523	0.00235	0.0024	YES	<0.00235
Blank	NA	BA-00020	9/18/2008	JS	10/31/2008	EMSL	ISO 10312	0	NA	NA	NA	ND
Stationary	1331	BA-00026	9/19/2008	JS	10/31/2008	EMSL	ISO 10312	1,961	0.00216	0.0024	YES	<0.00216
Blank	1331	BA-00027	9/19/2008	JS	10/31/2008	EMSL	ISO 10312	0	NA	NA	NA	ND
Blank	NA	BA-00028	9/19/2008	JS	10/31/2008	EMSL	ISO 10312	1,968	0.00215	0.0024	YES	<0.00215
Stationary	1329.8	BA-00034	9/22/2008	JS	10/31/2008	EMSL	ISO 10312	1,718	0.00215	0.0024	YES	<0.00215
Stationary	1329.8	BA-00035	9/22/2008	JS	10/31/2008	EMSL	ISO 10312	1,718	0.00215	0.0024	YES	<0.00215
Blank	NA	BA-00036	9/22/2008	JS	Archived[j]	EMSL	NA	0	NA	NA	NA	NA
Stationary	1337	BA-00044	9/23/2008	JS	11/14/2008	EMSL	ISO 10312	1,915	0.000397	0.0024	YES	<0.000397
Stationary	1337	BA-00045	9/23/2008	JS	11/5/2008	EMSL	ISO 10312	1,915	0.000397	0.0024	YES	<0.000397
Blank	NA	BA-00046	9/23/2008	JS	Archived	EMSL	NA	0	NA	NA	NA	NA
Stationary	1339.5	BA-00052	9/24/2008	JS	11/5/2008	EMSL	ISO 10312	1,626	0.000467	0.0024	YES	<0.00467
Stationary	1339.5	BA-00053	9/24/2008	JS	11/5/2008	EMSL	ISO 10312	1,619	0.000469	0.0024	YES	<0.000469
Stationary	1339.5	BA-00054	9/24/2008	JS	11/5/2008	EMSL	ISO 10312	1,634	0.000465	0.0024	YES	<0.000465
Stationary	1339.5	BA-00055	9/24/2008	JS	11/5/2008	EMSL	ISO 10312	1,634	0.000465	0.0024	YES	<0.000465
Blank	NA	BA-00056	9/24/2008	JS	Archived	EMSL	NA	0	NA	NA	NA	NA
Blank	NA	BA-00057	9/24/2008	JS	Archived	EMSL	NA	0	NA	NA	NA	NA
Stationary	1341	BA-00063	9/25/2008	JS	NS-FD[k]	EMSL	ISO 10312	1,170	NS-FD	NA	NA	NS-FD
Stationary[l]	1341	BA-00064	9/25/2008	JS	11/5/2008	EMSL	ISO 10312	1,170	0.000649	0.0024	YES	<0.000469
Stationary	1341	BA-00065	9/25/2008	JS	11/5/2008	EMSL	ISO 10312	1,178	0.000645	0.0024	YES	<0.000645
Stationary	1341	BA-00066	9/25/2008	JS	11/5/2008	EMSL	ISO 10312	1,170	0.000649	0.0024	YES	<0.000649
Stationary	1341	BA-00067	9/25/2008	JS	11/5/2008	EMSL	ISO 10312	1,178	0.000645	0.0024	YES	<0.000645
Stationary[m]	1341	BA-00068	9/25/2008	JS	11/5/2008	EMSL	ISO 10312	1,178	0.000645	0.0024	YES	<0.000645
Blank	NA	BA-00069	9/25/2008	JS	11/6/2008	EMSL	NA	0	NA	NA	NA	NA

TABLE 4

SUMMARY OF ABS STATIONARY AIR SAMPLE ANALYSIS
2008
BNSF Operable Unit 6
Libby, Montana

Notes:

(a) Volume measured in liters (L).
(b) cc^{-1} = per cubic centimeter
(c) s/cc = structures/cubic centimeter [Note: Only ISO analyzed samples differentiated between structures (any fiber) and asbestos-form fibers.]
(d) Generic milepost for Libby Railyard Response Action 2004 and 2005 from Libby Yard Station Sign. Not necessarily representative of where sample was collected.
(e) Asbestos in ambient air analyzed by Asbestos Hazard Emergency Response Act (AHERA) test method transmission electron microscopy (TEM).
(f) "NA" indicates not applicable.
(g) "<" indicates no detection above the reporting limit.
(h) Asbestos in ambient air analyzed by the International Organization of Standardization (ISO) direct transfer method 10312.
(i) "ND" indicates non-detect from blank samples.
(j) Archived indicates a sample was collected and submitted for analysis, but not analyzed.
(k) "NS-FD" indicates the sample was not analyzed due to filter damage.
(l) Co-located with BA-000063.
(m) Co-located with BA-000067.
(n) Asbestos fibers analyzed by National Institute for Occupational Safety and Health (NIOSH) test method 7400 by phase contrast microscopy (PCM).
(o) "--" indicates there is no way for sensitivity to be determined through NIOSH test method 7400.
(p) Indirect (I) indicates the sample was collected indirectly through burning, re-suspension, and re-analysis.
(q) No sample collected due to generator malfunction.

Samples with observed fibers are shown in bold.

TABLE 5

SUMMARY OF OSHA STATIONARY AIR SAMPLE ANALYSIS
2004-2010
BNSF Operable Unit 6
Libby, Montana

Sample Type	Milepost	Sample ID	Sample Date	Sampler	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc)[c]
Libby Railyard Response Action 2004												
Stationary	1319.6[d]	BN-00135	9/3/2004	Unknown	9/7/2004	EMSL	AHERA TEM[e]	1,560	0.0047	NA[f]	NA	<[g]0.0047
Stationary	1319.6	BN-00136	9/3/2004	Unknown	9/7/2004	EMSL	AHERA TEM	1,537	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00137	9/3/2004	Unknown	9/7/2004	EMSL	AHERA TEM	1,486	0.004	NA	NA	<0.0040
Stationary	1319.6	BN-00138	9/3/2004	Unknown	9/7/2004	EMSL	AHERA TEM	1,541	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00139	9/3/2004	Unknown	9/7/2004	EMSL	AHERA TEM	1,338	0.0044	NA	NA	<0.0044
Stationary	1319.6	BN-00140	9/3/2004	Unknown	9/7/2004	EMSL	AHERA TEM	1,650	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00101	9/3/2004	Unknown	9/7/2004	EMSL	AHERA TEM	730	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00093	9/2/2004	Unknown	9/7/2004	EMSL	AHERA TEM	672	0.0049	NA	NA	<0.0049
Stationary	1319.6	BN-00092	9/2/2004	Unknown	9/7/2004	EMSL	AHERA TEM	526	0.0056	NA	NA	<0.0056
Stationary	1319.6	BN-00091	9/2/2004	Unknown	9/7/2004	EMSL	AHERA TEM	590	0.005	NA	NA	<0.0050
Stationary	1319.6	BN-00090	9/2/2004	Unknown	9/7/2004	EMSL	AHERA TEM	1,246	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00089	9/2/2004	Unknown	9/7/2004	EMSL	AHERA TEM	476	0.0062	NA	NA	<0.0062
Stationary	1319.6	BN-00083	9/1/2004	Unknown	9/8/2004	EMSL	AHERA TEM	1,011	0.0049	NA	NA	<0.0049
Stationary	1319.6	BN-00084	9/1/2004	Unknown	9/8/2004	EMSL	AHERA TEM	1,536	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00085	9/1/2004	Unknown	9/8/2004	EMSL	AHERA TEM	957	0.0044	NA	NA	<0.0044
Stationary	1319.6	BN-00086	9/1/2004	Unknown	9/8/2004	EMSL	AHERA TEM	1,018	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00087	9/1/2004	Unknown	9/8/2004	EMSL	AHERA TEM	1,526	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00142	9/7/2004	Unknown	9/8/2004	EMSL	AHERA TEM	2,227	0.0033	NA	NA	<0.0033
Stationary	1319.6	BN-00143	9/7/2004	Unknown	9/8/2004	EMSL	AHERA TEM	2,254	0.0033	NA	NA	<0.0033
Stationary	1319.6	BN-00144	9/7/2004	Unknown	9/8/2004	EMSL	AHERA TEM	2,507	0.003	NA	NA	<0.0030
Stationary	1319.6	BN-00145	9/7/2004	Unknown	9/8/2004	EMSL	AHERA TEM	2,185	0.0034	NA	NA	<0.0034
Stationary	1319.6	BN-00146	9/7/2004	Unknown	9/8/2004	EMSL	AHERA TEM	2,606	0.0028	NA	NA	<0.0028
Stationary	1319.6	BN-00147	9/7/2004	Unknown	9/8/2004	EMSL	AHERA TEM	2,223	0.0033	NA	NA	<0.0033
Stationary	1319.6	BN-00154	9/8/2004	Unknown	9/9/2004	EMSL	AHERA TEM	2,079	0.0036	NA	NA	<0.0036
Stationary	1319.6	BN-00155	9/8/2004	Unknown	9/9/2004	EMSL	AHERA TEM	2,212	0.0033	NA	NA	<0.0033
Stationary	1319.6	BN-00156	9/8/2004	Unknown	9/9/2004	EMSL	AHERA TEM	2,109	0.0035	NA	NA	<0.0035
Stationary	1319.6	BN-00157	9/8/2004	Unknown	9/9/2004	EMSL	AHERA TEM	2,088	0.0035	NA	NA	<0.0035
Stationary	1319.6	BN-00158	9/8/2004	Unknown	9/9/2004	EMSL	AHERA TEM	1,965	0.0038	NA	NA	<0.0038
Stationary	1319.6	BN-00159	9/8/2004	Unknown	9/9/2004	EMSL	AHERA TEM	1,902	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00160	9/9/2004	Unknown	9/11/2004	EMSL	AHERA TEM	2,238	0.0033	NA	NA	<0.0033
Stationary	1319.6	BN-00161	9/9/2004	Unknown	9/11/2004	EMSL	AHERA TEM	2,200	0.0034	NA	NA	<0.0034
Stationary	1319.6	BN-00162	9/9/2004	Unknown	9/11/2004	EMSL	AHERA TEM	2,234	0.0033	NA	NA	<0.0033
Stationary	1319.6	BN-00163	9/9/2004	Unknown	9/11/2004	EMSL	AHERA TEM	2,146	0.0035	NA	NA	<0.0035
Stationary	1319.6	BN-00164	9/9/2004	Unknown	9/11/2004	EMSL	AHERA TEM	2,382	0.0031	NA	NA	<0.0031
Stationary	1319.6	BN-00165	9/9/2004	Unknown	9/11/2004	EMSL	AHERA TEM	2,196	0.0034	NA	NA	<0.0034
Stationary	1319.6	BN-00166	9/9/2004	Unknown	9/11/2004	EMSL	AHERA TEM	2,236	0.0033	NA	NA	<0.0033
Stationary	1319.6	BN-00173	9/9/2004	Unknown	9/11/2004	EMSL	AHERA TEM	2,101	0.0035	NA	NA	<0.0035
Stationary	1319.6	BN-00174	9/10/2004	Unknown	9/11/2004	EMSL	AHERA TEM	2,077	0.0036	NA	NA	<0.0036
Stationary	1319.6	BN-00175	9/10/2004	Unknown	9/11/2004	EMSL	AHERA TEM	2,100	0.0035	NA	NA	<0.0035
Stationary	1319.6	BN-00176	9/10/2004	Unknown	9/11/2004	EMSL	AHERA TEM	1,943	0.0038	NA	NA	<0.0038
Stationary	1319.6	BN-00177	9/10/2004	Unknown	9/11/2004	EMSL	AHERA TEM	1,995	0.0037	NA	NA	<0.0037

TABLE 5

SUMMARY OF OSHA STATIONARY AIR SAMPLE ANALYSIS
2004-2010
BNSF Operable Unit 6
Libby, Montana

Sample Type	Milepost	Sample ID	Sample Date	Sampler	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc)[c]
Stationary	1319.6	BN-00178	9/10/2004	Unknown	9/11/2004	EMSL	AHERA TEM	1,934	0.0038	NA	NA	<0.0038
Stationary	1319.6	BN-00179	9/10/2004	Unknown	9/11/2004	EMSL	AHERA TEM	2,008	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00180	9/10/2004	Unknown	9/11/2004	EMSL	AHERA TEM	819	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00181	9/11/2004	Unknown	9/12/2004	EMSL	AHERA TEM	1,984	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00182	9/11/2004	Unknown	9/12/2004	EMSL	AHERA TEM	2,253	0.0033	NA	NA	<0.0033
Stationary	1319.6	BN-00183	9/11/2004	Unknown	9/12/2004	EMSL	AHERA TEM	1,858	0.004	NA	NA	<0.0040
Stationary	1319.6	BN-00184	9/11/2004	Unknown	9/12/2004	EMSL	AHERA TEM	1,546	0.0036	NA	NA	<0.0036
Stationary	1319.6	BN-00185	9/11/2004	Unknown	9/12/2004	EMSL	AHERA TEM	1,190	0.0041	NA	NA	<0.0041
Stationary	1319.6	BN-00186	9/11/2004	Unknown	9/12/2004	EMSL	AHERA TEM	1,794	0.0041	NA	NA	<0.0041
Stationary	1319.6	BN-00187	9/11/2004	Unknown	9/12/2004	EMSL	AHERA TEM	1,045	0.0047	NA	NA	<0.0047
Stationary	1319.6	BN-00188	9/11/2004	Unknown	9/12/2004	EMSL	AHERA TEM	1,919	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00170	9/10/2004	Unknown	9/14/2004	EMSL	AHERA TEM	1,230	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00194	9/12/2004	Unknown	9/14/2004	EMSL	AHERA TEM	1,112	0.0044	NA	NA	<0.0044
Stationary	1319.6	BN-00195	9/12/2004	Unknown	9/14/2004	EMSL	AHERA TEM	1,159	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00196	9/12/2004	Unknown	9/14/2004	EMSL	AHERA TEM	1,087	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00197	9/12/2004	Unknown	9/14/2004	EMSL	AHERA TEM	1,091	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00198	9/12/2004	Unknown	9/14/2004	EMSL	AHERA TEM	1,223	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00199	9/12/2004	Unknown	9/14/2004	EMSL	AHERA TEM	772	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00200	9/13/2004	Unknown	9/14/2004	EMSL	AHERA TEM	1,969	0.0038	NA	NA	<0.0038
Stationary	1319.6	BN-00201	9/13/2004	Unknown	9/14/2004	EMSL	AHERA TEM	2,285	0.0032	NA	NA	<0.0032
Stationary	1319.6	BN-00202	9/13/2004	Unknown	9/14/2004	EMSL	AHERA TEM	1,364	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00203	9/13/2004	Unknown	9/14/2004	EMSL	AHERA TEM	2,244	0.0033	NA	NA	<0.0033
Stationary	1319.6	BN-00204	9/13/2004	Unknown	9/14/2004	EMSL	AHERA TEM	1,976	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00205	9/13/2004	Unknown	9/14/2004	EMSL	AHERA TEM	2,022	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00206	9/13/2004	Unknown	9/14/2004	EMSL	AHERA TEM	1,999	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00213	9/14/2004	Unknown	9/15/2004	EMSL	AHERA TEM	1,907	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00214	9/14/2004	Unknown	9/15/2004	EMSL	AHERA TEM	828	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00215	9/14/2004	Unknown	9/15/2004	EMSL	AHERA TEM	2,210	0.0034	NA	NA	<0.0034
Stationary	1319.6	BN-00216	9/14/2004	Unknown	9/15/2004	EMSL	AHERA TEM	1,938	0.0038	NA	NA	<0.0038
Stationary	1319.6	BN-00217	9/14/2004	Unknown	9/15/2004	EMSL	AHERA TEM	913	0.0046	NA	NA	<0.0046
Stationary	1319.6	BN-00218	9/14/2004	Unknown	9/15/2004	EMSL	AHERA TEM	1,881	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00219	9/15/2004	Unknown	9/16/2004	EMSL	AHERA TEM	1,659	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00220	9/15/2004	Unknown	9/16/2004	EMSL	AHERA TEM	2,399	0.0031	NA	NA	<0.0031
Stationary	1319.6	BN-00221	9/15/2004	Unknown	9/16/2004	EMSL	AHERA TEM	2,164	0.0034	NA	NA	<0.0034
Stationary	1319.6	BN-00222	9/15/2004	Unknown	9/16/2004	EMSL	AHERA TEM	1,272	0.0047	NA	NA	<0.0047
Stationary	1319.6	BN-00223	9/15/2004	Unknown	9/16/2004	EMSL	AHERA TEM	2,054	0.0036	NA	NA	<0.003.6
Stationary	1319.6	BN-00224	9/15/2004	Unknown	9/16/2004	EMSL	AHERA TEM	1,843	0.004	NA	NA	<0.0040
Stationary	1319.6	BN-00225	9/15/2004	Unknown	9/16/2004	EMSL	AHERA TEM	900	0.0047	NA	NA	<0.0047
Stationary	1319.6	BN-00231	9/16/2004	Unknown	9/17/2004	EMSL	AHERA TEM	1,280	0.0046	NA	NA	<0.0046
Stationary	1319.6	BN-00232	9/16/2004	Unknown	9/17/2004	EMSL	AHERA TEM	1,529	0.004	NA	NA	<0.0040
Stationary	1319.6	BN-00233	9/16/2004	Unknown	9/17/2004	EMSL	AHERA TEM	2,033	0.0036	NA	NA	<0.0036
Stationary	1319.6	BN-00234	9/16/2004	Unknown	9/17/2004	EMSL	AHERA TEM	1,221	0.0049	NA	NA	<0.0049

TABLE 5

SUMMARY OF OSHA STATIONARY AIR SAMPLE ANALYSIS
2004-2010
BNSF Operable Unit 6
Libby, Montana

Sample Type	Milepost	Sample ID	Sample Date	Sampler	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc)[c]
Stationary	1319.6	BN-00235	9/16/2004	Unknown	9/17/2004	EMSL	AHERA TEM	1,980	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00236	9/16/2004	Unknown	9/17/2004	EMSL	AHERA TEM	2,083	0.0036	NA	NA	<0.0036
Stationary	1319.6	BN-00237	9/16/2004	Unknown	9/17/2004	EMSL	AHERA TEM	2,008	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00238	9/16/2004	Unknown	9/17/2004	EMSL	AHERA TEM	864	0.0049	NA	NA	<0.0049
Stationary	1319.6	BN-00239	9/17/2004	Unknown	9/19/2004	EMSL	AHERA TEM	1,378	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00240	9/17/2004	Unknown	9/19/2004	EMSL	AHERA TEM	2,387	0.0031	NA	NA	<0.0031
Stationary	1319.6	BN-00241	9/17/2004	Unknown	9/19/2004	EMSL	AHERA TEM	1,349	0.0044	NA	NA	<0.0044
Stationary	1319.6	BN-00242	9/17/2004	Unknown	9/19/2004	EMSL	AHERA TEM	1,323	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00243	9/17/2004	Unknown	9/19/2004	EMSL	AHERA TEM	2,014	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00244	9/17/2004	Unknown	9/19/2004	EMSL	AHERA TEM	1,961	0.0038	NA	NA	<0.0038
Stationary	1319.6	BN-00245	9/17/2004	Unknown	9/19/2004	EMSL	AHERA TEM	1,290	0.0046	NA	NA	<0.0046
Stationary	1319.6	BN-00250	9/18/2004	Unknown	9/20/2004	EMSL	AHERA TEM	1,261	0.0047	NA	NA	<0.0047
Stationary	1319.6	BN-00251	9/18/2004	Unknown	9/20/2004	EMSL	AHERA TEM	1,052	0.0047	NA	NA	<0.0047
Stationary	1319.6	BN-00252	9/18/2004	Unknown	9/20/2004	EMSL	AHERA TEM	1,790	0.0041	NA	NA	<0.0041
Stationary	1319.6	BN-00253	9/18/2004	Unknown	9/20/2004	EMSL	AHERA TEM	1,724	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00254	9/18/2004	Unknown	9/20/2004	EMSL	AHERA TEM	1,301	0.0046	NA	NA	<0.0046
Stationary	1319.6	BN-00255	9/18/2004	Unknown	9/20/2004	EMSL	AHERA TEM	915	0.0046	NA	NA	<0.0046
Stationary	1319.6	BN-00257	9/20/2004	Unknown	9/22/2004	EMSL	AHERA TEM	1,526	0.0049	NA	NA	<0.0049
Stationary	1319.6	BN-00258	9/20/2004	Unknown	9/22/2004	EMSL	AHERA TEM	1,511	0.0049	NA	NA	<0.0049
Stationary	1319.6	BN-00259	9/20/2004	Unknown	9/22/2004	EMSL	AHERA TEM	2,020	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00260	9/20/2004	Unknown	9/22/2004	EMSL	AHERA TEM	1,151	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00261	9/20/2004	Unknown	9/22/2004	EMSL	AHERA TEM	1,984	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00262	9/20/2004	Unknown	9/22/2004	EMSL	AHERA TEM	1,094	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00264	9/20/2004	Unknown	9/22/2004	EMSL	AHERA TEM	1,405	0.0042	NA	NA	<0.0042
Stationary	1319.6	BN-00266	9/21/2004	Unknown	9/23/2004	EMSL	AHERA TEM	1,495	0.004	NA	NA	<0.0040
Stationary	1319.6	BN-00267	9/21/2004	Unknown	9/23/2004	EMSL	AHERA TEM	1,196	0.005	NA	NA	<0.0050
Stationary	1319.6	BN-00268	9/21/2004	Unknown	9/23/2004	EMSL	AHERA TEM	848	0.0044	NA	NA	<0.0044
Stationary	1319.6	BN-00269	9/21/2004	Unknown	9/23/2004	EMSL	AHERA TEM	1,186	0.0042	NA	NA	<0.0042
Stationary	1319.6	BN-00270	9/21/2004	Unknown	9/23/2004	EMSL	AHERA TEM	1,665	0.0044	NA	NA	<0.0044
Stationary	1319.6	BN-00271	9/21/2004	Unknown	9/23/2004	EMSL	AHERA TEM	2,057	0.0036	NA	NA	<0.0036
Stationary	1319.6	BN-00272	9/21/2004	Unknown	9/23/2004	EMSL	AHERA TEM	1,240	Unknown	NA	NA	<0.0048
Stationary	1319.6	BN-00275	9/21/2004	Unknown	10/11/2004	EMSL	AHERA TEM	NA	NA	NA	NA	NA
Stationary	1319.6	BN-00275	9/21/2004	Unknown	10/12/2004	EMSL	AHERA TEM	1,358	0.0147	NA	NA	<0.0147
Stationary	1319.6	BN-00278	9/22/2004	Unknown	10/11/2004	EMSL	AHERA TEM	1,385	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00279	9/22/2004	Unknown	9/24/2004	EMSL	AHERA TEM	1,375	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00280	9/22/2004	Unknown	9/24/2004	EMSL	AHERA TEM	1,318	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00281	9/22/2004	Unknown	9/24/2004	EMSL	AHERA TEM	1,202	0.0049	NA	NA	<0.0049
Stationary	1319.6	BN-00282	9/22/2004	Unknown	9/24/2004	EMSL	AHERA TEM	1,229	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00283	9/22/2004	Unknown	9/24/2004	EMSL	AHERA TEM	1,902	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00284	9/23/2004	Unknown	9/24/2004	EMSL	AHERA TEM	1,471	0.0040	NA	NA	<0.0040
Stationary	1319.6	BN-00285	9/23/2004	Unknown	9/24/2004	EMSL	AHERA TEM	1,403	0.0042	NA	NA	<0.0042
Stationary	1319.6	BN-00286	9/23/2004	Unknown	9/24/2004	EMSL	AHERA TEM	1,229	0.0048	NA	NA	<0.0048

TABLE 5

SUMMARY OF OSHA STATIONARY AIR SAMPLE ANALYSIS
2004-2010
BNSF Operable Unit 6
Libby, Montana

Sample Type	Milepost	Sample ID	Sample Date	Sampler	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc)[c]
Stationary	1319.6	BN-00287	9/23/2004	Unknown	9/24/2004	EMSL	AHERA TEM	1,138	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00288	9/23/2004	Unknown	9/24/2004	EMSL	AHERA TEM	1,021	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00293	9/24/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,118	0.0044	NA	NA	**0.0044**
Stationary	1319.6	BN-00294	9/24/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,277	0.0046	NA	NA	<0.0046
Stationary	1319.6	BN-00295	9/24/2004	Unknown	9/28/2004	EMSL	AHERA TEM	2,290	0.0032	NA	NA	<0.0032
Stationary	1319.6	BN-00296	9/24/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,408	0.0042	NA	NA	**0.0042**
Stationary	1319.6	BN-00297	9/24/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,730	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00298	9/24/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,193	0.0120	NA	NA	**0.0120**
Stationary	1319.6	BN-00299	9/24/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,990	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00300	9/25/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,158	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00301	9/25/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,148	0.0086	NA	NA	**0.0086**
Stationary	1319.6	BN-00303	9/25/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,544	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00303	9/25/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,717	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00304	9/25/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,164	0.0042	NA	NA	<0.0042
Stationary	1319.6	BN-00305	9/25/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,178	0.0042	NA	NA	<0.0042
Stationary	1319.6	BN-00306	9/25/2004	Unknown	9/28/2004	EMSL	AHERA TEM	2,431	0.003	NA	NA	<0.0030
Stationary	1319.6	BN-00307	9/25/2004	Unknown	9/28/2004	EMSL	AHERA TEM	2,110	0.0035	NA	NA	<0.0035
Stationary	1319.6	BN-00308	9/27/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,539	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00310	9/27/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,453	0.0041	NA	NA	<0.0041
Stationary	1319.6	BN-00311	9/27/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,791	0.0041	NA	NA	<0.0041
Stationary	1319.6	BN-00312	9/27/2004	Unknown	9/28/2004	EMSL	AHERA TEM	1,655	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00313	9/27/2004	Unknown	9/28/2004	EMSL	AHERA TEM	2,124	0.0036	NA	NA	<0.0036
Stationary	1319.6	BN-00314	9/27/2004	Unknown	9/28/2004	EMSL	AHERA TEM	2,200	0.0034	NA	NA	<0.0036
Stationary	1319.6	BN-00315	9/27/2004	Unknown	9/28/2004	EMSL	AHERA TEM	2,813	0.0026	NA	NA	<0.0026
Stationary	1319.6	BN-00316	9/28/2004	Unknown	9/30/2004	EMSL	AHERA TEM	1,840	0.004	NA	NA	<0.0040
Stationary	1319.6	BN-00318	9/28/2004	Unknown	9/30/2004	EMSL	AHERA TEM	1,641	0.0045	NA	NA	**0.0045**
Stationary	1319.6	BN-00319	9/28/2004	Unknown	9/30/2004	EMSL	AHERA TEM	1,478	0.004	NA	NA	<0.0040
Stationary	1319.6	BN-00320	9/28/2004	Unknown	9/30/2004	EMSL	AHERA TEM	3,660	0.002	NA	NA	<0.0020
Stationary	1319.6	BN-00321	9/28/2004	Unknown	9/30/2004	EMSL	AHERA TEM	2,288	0.0032	NA	NA	<0.0032
Stationary	1319.6	BN-00322	9/28/2004	Unknown	9/30/2004	EMSL	AHERA TEM	4,283	0.0017	NA	NA	<0.0017
Stationary	1319.6	BN-00323	9/28/2004	Unknown	9/30/2004	EMSL	AHERA TEM	1,534	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00327	9/29/2004	Unknown	9/30/2004	EMSL	AHERA TEM	1,598	0.0046	NA	NA	<0.0046
Stationary	1319.6	BN-00328	9/29/2004	Unknown	9/30/2004	EMSL	AHERA TEM	1,163	0.0042	NA	NA	<0.0042
Stationary	1319.6	BN-00329	9/29/2004	Unknown	9/30/2004	EMSL	AHERA TEM	2,411	0.0031	NA	NA	<0.0031
Stationary	1319.6	BN-00330	9/29/2004	Unknown	9/30/2004	EMSL	AHERA TEM	3,969	0.0019	NA	NA	<0.0019
Stationary	1319.6	BN-00331	9/29/2004	Unknown	9/30/2004	EMSL	AHERA TEM	3,983	0.0019	NA	NA	<0.0019
Stationary	1319.6	BN-00335	9/30/2004	Unknown	10/1/2004	EMSL	AHERA TEM	1,373	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00336	9/30/2004	Unknown	10/1/2004	EMSL	AHERA TEM	4,275	0.0017	NA	NA	<0.0017
Stationary	1319.6	BN-00337	9/30/2004	Unknown	10/1/2004	EMSL	AHERA TEM	1,404	0.0042	NA	NA	<0.0042
Stationary	1319.6	BN-00338	9/30/2004	Unknown	10/1/2004	EMSL	AHERA TEM	1,998	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00339	9/30/2004	Unknown	10/1/2004	EMSL	AHERA TEM	3,801	0.0019	NA	NA	<0.0019
Stationary	1319.6	BN-00340	10/1/2004	Unknown	10/6/2004	EMSL	AHERA TEM	1,518	0.0049	NA	NA	<0.0049

TABLE 5

SUMMARY OF OSHA STATIONARY AIR SAMPLE ANALYSIS
2004-2010
BNSF Operable Unit 6
Libby, Montana

Sample Type	Milepost	Sample ID	Sample Date	Sampler	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc)[c]
Stationary	1319.6	BN-00343	10/1/2004	Unknown	10/5/2004	EMSL	AHERA TEM	1,635	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00344	10/1/2004	Unknown	10/5/2004	EMSL	AHERA TEM	1,438	0.0041	NA	NA	<0.0041
Stationary	1319.6	BN-00345	10/1/2004	Unknown	10/5/2004	EMSL	AHERA TEM	3,276	0.0023	NA	NA	<0.0023
Stationary	1319.6	BN-00346	10/1/2004	Unknown	10/5/2004	EMSL	AHERA TEM	1,667	0.0044	NA	NA	<0.0044
Stationary	1319.6	BN-00347	10/1/2004	Unknown	10/5/2004	EMSL	AHERA TEM	3,600	0.0021	NA	NA	**0.0021**
Stationary	1319.6	BN-00350	10/2/2004	Unknown	10/5/2004	EMSL	AHERA TEM	1,680	0.0044	NA	NA	<0.0044
Stationary	1319.6	BN-00351	10/2/2004	Unknown	10/5/2004	EMSL	AHERA TEM	1,308	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00352	10/2/2004	Unknown	10/5/2004	EMSL	AHERA TEM	2,600	0.0028	NA	NA	<0.0028
Stationary	1319.6	BN-00353	10/2/2004	Unknown	10/5/2004	EMSL	AHERA TEM	3,885	0.0019	NA	NA	<0.0019
Stationary	1319.6	BN-00354	10/2/2004	Unknown	10/5/2004	EMSL	AHERA TEM	1,803	0.0041	NA	NA	<0.0041
Stationary	1319.6	BN-00355	10/4/2004	Unknown	10/5/2004	EMSL	AHERA TEM	2,157	0.0031	NA	NA	<0.0034
Stationary	1319.6	BN-00356	10/4/2004	Unknown	10/5/2004	EMSL	AHERA TEM	1,346	0.0044	NA	NA	<0.0044
Stationary	1319.6	BN-00357	10/4/2004	Unknown	10/5/2004	EMSL	AHERA TEM	1,144	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00358	10/4/2004	Unknown	10/5/2004	EMSL	AHERA TEM	1,272	0.0047	NA	NA	<0.0047
Stationary	1319.6	BN-00359	10/4/2004	Unknown	10/5/2004	EMSL	AHERA TEM	1,639	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00360	10/4/2004	Unknown	10/5/2004	EMSL	AHERA TEM	1,581	0.0047	NA	NA	<0.0047
Stationary	1319.6	BN-00361	10/4/2004	Unknown	10/5/2004	EMSL	AHERA TEM	1,573	0.0047	NA	NA	<0.0047
Stationary	1319.6	BN-00362	10/4/2004	Unknown	10/6/2004	EMSL	AHERA TEM	1,361	0.0044	NA	NA	<0.0044
Stationary	1319.6	BN-00367	10/5/2004	Unknown	10/6/2004	EMSL	AHERA TEM	1,300	0.0046	NA	NA	<0.0046
Stationary	1319.6	BN-00369	10/5/2004	Unknown	10/6/2004	EMSL	AHERA TEM	1,172	0.0042	NA	NA	<0.0042
Stationary	1319.6	BN-00370	10/5/2004	Unknown	10/6/2004	EMSL	AHERA TEM	1,971	0.0038	NA	NA	**0.0038**
Stationary	1319.6	BN-00371	10/5/2004	Unknown	10/6/2004	EMSL	AHERA TEM	1,835	0.004	NA	NA	<0.0040
Stationary	1319.6	BN-00372	10/5/2004	Unknown	10/6/2004	EMSL	AHERA TEM	1,845	0.004	NA	NA	<0.0040
Stationary	1319.6	BN-00373	10/5/2004	Unknown	10/6/2004	EMSL	AHERA TEM	1,808	0.0041	NA	NA	<0.0041
Stationary	1319.6	BN-00374	10/5/2004	Unknown	10/6/2004	EMSL	AHERA TEM	1,196	0.0041	NA	NA	<0.0041
Stationary	1319.6	BN-00376	10/6/2004	Unknown	10/8/2004	EMSL	AHERA TEM	2,097	0.0035	NA	NA	<0.0035
Stationary	1319.6	BN-00377	10/6/2004	Unknown	10/8/2004	EMSL	AHERA TEM	2,053	0.0036	NA	NA	<0.0036
Stationary	1319.6	BN-00378	10/6/2004	Unknown	10/8/2004	EMSL	AHERA TEM	2,058	0.0036	NA	NA	<0.0036
Stationary	1319.6	BN-00379	10/6/2004	Unknown	10/8/2004	EMSL	AHERA TEM	1,957	0.0076	NA	NA	**0.0076**
Stationary	1319.6	BN-00380	10/6/2004	Unknown	10/8/2004	EMSL	AHERA TEM	1,242	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00382	10/6/2004	Unknown	10/8/2004	EMSL	AHERA TEM	1,122	0.0044	NA	NA	<0.0044
Stationary	1319.6	BN-00388	10/7/2004	Unknown	10/9/2004	EMSL	AHERA TEM	1,396	0.0042	NA	NA	<0.0042
Stationary	1319.6	BN-00389	10/7/2004	Unknown	10/9/2004	EMSL	AHERA TEM	1,985	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00390	10/7/2004	Unknown	10/9/2004	EMSL	AHERA TEM	1,974	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00391	10/7/2004	Unknown	10/9/2004	EMSL	AHERA TEM	1,967	0.0038	NA	NA	<0.0038
Stationary	1319.6	BN-00392	10/7/2004	Unknown	10/9/2004	EMSL	AHERA TEM	1,267	0.0047	NA	NA	<0.0047
Stationary	1319.6	BN-00393	10/7/2004	Unknown	10/9/2004	EMSL	AHERA TEM	1,922	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00394	10/7/2004	Unknown	10/9/2004	EMSL	AHERA TEM	1,166	0.0042	NA	NA	<0.0042
Stationary	1319.6	BN-00395	10/8/2004	Unknown	10/11/2004	EMSL	AHERA TEM	1,815	0.0041	NA	NA	<0.0041
Stationary	1319.6	BN-00396	10/8/2004	Unknown	10/11/2004	EMSL	AHERA TEM	1,541	0.0040	NA	NA	<0.0040
Stationary	1319.6	BN-00397	10/8/2004	Unknown	10/11/2004	EMSL	AHERA TEM	1,226	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00398	10/8/2004	Unknown	10/11/2004	EMSL	AHERA TEM	1,212	0.0049	NA	NA	<0.0049

TABLE 5

SUMMARY OF OSHA STATIONARY AIR SAMPLE ANALYSIS
2004-2010
BNSF Operable Unit 6
Libby, Montana

Sample Type	Milepost	Sample ID	Sample Date	Sampler	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc)[c]
Stationary	1319.6	BN-00399	10/8/2004	Unknown	10/11/2004	EMSL	AHERA TEM	1,873	0.0040	NA	NA	**0.0040**
Stationary	1319.6	BN-00400	10/8/2004	Unknown	10/11/2004	EMSL	AHERA TEM	1,255	0.0047	NA	NA	<0.0047
Stationary	1319.6	BN-00401	10/8/2004	Unknown	10/11/2004	EMSL	AHERA TEM	1,008	0.0049	NA	NA	<0.0049
Stationary	1319.6	BN-00408	10/11/2004	Unknown	10/12/2004	EMSL	AHERA TEM	2,041	0.0036	NA	NA	<0.0036
Stationary	1319.6	BN-00409	10/11/2004	Unknown	10/12/2004	EMSL	AHERA TEM	2,023	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00410	10/11/2004	Unknown	10/12/2004	EMSL	AHERA TEM	1,265	0.0047	NA	NA	<0.0047
Stationary	1319.6	BN-00411	10/11/2004	Unknown	10/12/2004	EMSL	AHERA TEM	2,023	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00412	10/11/2004	Unknown	10/12/2004	EMSL	AHERA TEM	2,006	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00414	10/11/2004	Unknown	10/12/2004	EMSL	AHERA TEM	1,198	0.0049	NA	NA	<0.0049
Stationary	1319.6	BN-00415	10/11/2004	Unknown	10/12/2004	EMSL	AHERA TEM	1,240	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00417	10/12/2004	Unknown	10/13/2004	EMSL	AHERA TEM	1,988	0.0037	NA	NA	<0.0037
Stationary	1319.6	BN-00418	10/12/2004	Unknown	10/13/2004	EMSL	AHERA TEM	1,964	0.0038	NA	NA	<0.0038
Stationary	1319.6	BN-00419	10/12/2004	Unknown	10/13/2004	EMSL	AHERA TEM	1,932	0.0038	NA	NA	<0.0038
Stationary	1319.6	BN-00420	10/12/2004	Unknown	10/13/2004	EMSL	AHERA TEM	1,228	0.0048	NA	NA	<0.0048
Stationary	1319.6	BN-00421	10/12/2004	Unknown	10/13/2004	EMSL	AHERA TEM	1,939	0.0038	NA	NA	<0.0038
Stationary	1319.6	BN-00422	10/12/2004	Unknown	10/13/2004	EMSL	AHERA TEM	1,911	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00427	10/13/2004	Unknown	10/14/2004	EMSL	AHERA TEM	1,925	0.0038	NA	NA	<0.0038
Stationary	1319.6	BN-00428	10/13/2004	Unknown	10/14/2004	EMSL	AHERA TEM	1,929	0.0038	NA	NA	<0.0038
Stationary	1319.6	BN-00429	10/13/2004	Unknown	10/14/2004	EMSL	AHERA TEM	1,911	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00430	10/13/2004	Unknown	10/14/2004	EMSL	AHERA TEM	1,901	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00431	10/13/2004	Unknown	10/14/2004	EMSL	AHERA TEM	1,887	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00432	10/13/2004	Unknown	10/14/2004	EMSL	AHERA TEM	1,333	0.0044	NA	NA	<0.0044
Stationary	1319.6	BN-00435	10/13/2004	Unknown	10/14/2004	EMSL	AHERA TEM	1,044	0.0047	NA	NA	<0.0047
Stationary	1319.6	BN-00437	10/14/2004	Unknown	10/16/2004	EMSL	AHERA TEM	1,957	0.0038	NA	NA	<0.0038
Stationary	1319.6	BN-00438	10/14/2004	Unknown	10/16/2004	EMSL	AHERA TEM	1,943	0.0038	NA	NA	<0.0038
Stationary	1319.6	BN-00439	10/14/2004	Unknown	10/16/2004	EMSL	AHERA TEM	1,887	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00440	10/14/2004	Unknown	10/16/2004	EMSL	AHERA TEM	1,883	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00441	10/14/2004	Unknown	10/16/2004	EMSL	AHERA TEM	1,855	0.0039	NA	NA	<0.0039
Stationary	1319.6	BN-00442	10/14/2004	Unknown	10/18/2004	EMSL	AHERA TEM	1,161	0.0049	NA	NA	<0.0049
Stationary	1319.6	BN-00445	10/15/2004	Unknown	10/18/2004	EMSL	AHERA TEM	1,505	0.0041	NA	NA	<0.0041
Stationary	1319.6	BN-00446	10/15/2004	Unknown	10/18/2004	EMSL	AHERA TEM	1,453	0.0040	NA	NA	<0.0040
Stationary	1319.6	BN-00447	10/15/2004	Unknown	10/18/2004	EMSL	AHERA TEM	1,495	0.0040	NA	NA	<0.0040
Stationary	1319.6	BN-00448	10/15/2004	Unknown	10/18/2004	EMSL	AHERA TEM	1,491	0.0040	NA	NA	<0.0040
Stationary	1319.6	BN-00449	10/15/2004	Unknown	10/18/2004	EMSL	AHERA TEM	1,484	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00452	10/15/2004	Unknown	10/18/2004	EMSL	AHERA TEM	991	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00454	10/18/2004	Unknown	10/20/2004	EMSL	AHERA TEM	1,624	0.0046	NA	NA	<0.0046
Stationary	1319.6	BN-00455	10/18/2004	Unknown	10/20/2004	EMSL	AHERA TEM	1,624	0.0046	NA	NA	<0.0046
Stationary	1319.6	BN-00456	10/18/2004	Unknown	10/20/2004	EMSL	AHERA TEM	1,628	0.0045	NA	NA	<0.0045
Stationary	1319.6	BN-00459	10/19/2004	Unknown	10/21/2004	EMSL	AHERA TEM	575	0.0052	NA	NA	<0.0052
Stationary	1319.6	BN-00462	10/19/2004	Unknown	10/21/2004	EMSL	AHERA TEM	1,726	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00463	10/19/2004	Unknown	10/21/2004	EMSL	AHERA TEM	1,845	0.0040	NA	NA	<0.0040
Stationary	1319.6	BN-00464	10/19/2004	Unknown	10/21/2004	EMSL	AHERA TEM	1,677	0.0044	NA	NA	<0.0044

TABLE 5

SUMMARY OF OSHA STATIONARY AIR SAMPLE ANALYSIS
2004-2010
BNSF Operable Unit 6
Libby, Montana

Sample Type	Milepost	Sample ID	Sample Date	Sampler	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc)[c]
Stationary	1319.6	BN-00465	10/19/2004	Unknown	10/21/2004	EMSL	AHERA TEM	1,589	0.0047	NA	NA	<0.0047
Stationary	1319.6	BN-00466	10/19/2004	Unknown	10/21/2004	EMSL	AHERA TEM	1,579	0.0047	NA	NA	<0.0047
Stationary	1319.6	BN-00470	10/20/2004	Unknown	10/22/2004	EMSL	AHERA TEM	1,736	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00471	10/20/2004	Unknown	10/22/2004	EMSL	AHERA TEM	1,740	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00472	10/20/2004	Unknown	10/22/2004	EMSL	AHERA TEM	1,719	0.0043	NA	NA	<0.0043
Stationary	1319.6	BN-00473	10/20/2004	Unknown	10/22/2004	EMSL	AHERA TEM	1,502	0.0049	NA	NA	<0.0049
Stationary	1319.6	BN-00478	10/20/2004	Unknown	10/22/2004	EMSL	AHERA TEM	872	0.0049	NA	NA	<0.0049
Stationary	1319.6	BN-00479	10/20/2004	Unknown	10/22/2004	EMSL	AHERA TEM	865	0.0049	NA	NA	<0.0049
Stationary	1319.6	BN-00480	10/21/2004	Unknown	10/23/2004	EMSL	AHERA TEM	1,205	0.0049	NA	NA	**0.0049**
Libby Railyard Response Action 2005												
Stationary	1319.6	BN-00486	11/14/2005	NA	11/18/2005	EMSL	AHERA TEM	473	0.0063	NA	NA	<0.0063
Stationary	1319.6	BN-00487	11/14/2005	NA	11/18/2005	EMSL	AHERA TEM	1,358	0.0044	NA	NA	<0.0044
Stationary	1319.6	BN-00491	11/16/2005	NA	11/18/2005	EMSL	AHERA TEM	1,420	0.0042	NA	NA	<0.0042
Stationary	1319.6	BN-00492	11/16/2005	NA	11/18/2005	EMSL	AHERA TEM	1,420	0.0042	NA	NA	<0.0042
May 2009 Supersurfacing Gang Sampling Event												
Stationary	1307	01A	5/19/2009	NA	5/19/2009	EMR	NIOSH 7400[n]	1,584	--[o]	NA	NA	**0.006**
Stationary	1307-1313	02A	5/19/2009	NA	5/19/2009	EMR	NIOSH 7400	1,590	--	NA	NA	**0.014**
Stationary	1307	01A	5/19/2009	NA	5/20/2009	EMSL	AHERA TEM	4,216	0.0018	0.005	YES	<0.0018
Stationary	1307-1313	02A	5/19/2009	NA	5/20/2009	EMSL	AHERA TEM	3,360	0.0022	0.005	YES	<0.0022
Stationary	1314.5	A-RB 052009	5/20/2009	NA	5/20/2009	EMSL	AHERA TEM	1,560	0.0047	0.005	YES	<0.0047
Stationary	1314.5	A-BB 052009	5/20/2009	NA	5/20/2009	EMSL	AHERA TEM	1,560	0.0047	0.005	YES	<0.0047
March 2010 Steel Gang Sampling Event												
Stationary	1339	S-1338W-032910	3/29/2010	ATD	4/19/2010	EMSL	AHERA TEM	3,126	0.0024	0.005	YES	<0.0024
Stationary	1339	S-1338E-032910	3/29/2010	ATD	4/19/2010	EMSL	AHERA TEM	3,126	0.0044	0.005	YES	<0.0044
Stationary	1338	S-1338W-033010	3/30/2010	ATD	4/16/2010	EMSL	AHERA TEM	2,100	0.0035	0.005	YES	<0.0035
Stationary	1338	S-1338E-033010	3/30/2010	ATD	4/16/2010	EMSL	AHERA TEM	2,100	0.0035	0.005	YES	<0.0035
Stationary	1332	S-1332W-033110	3/31/2010	ATD	4/2/2010	EMSL	AHERA TEM	2,135	0.0035	0.005	YES	<0.0035
Stationary	1332	S-1332E-033110	3/31/2010	ATD	4/2/2010	EMSL	AHERA TEM	2,135	0.0035	0.005	YES	<0.0035
Stationary	1339.3	S-1339.3W033110	3/31/2010	MMC	4/2/2010	EMSL	AHERA TEM	2,170	0.0034	0.005	YES	<0.0034
Stationary	1339.4	S-1339.4E033110	3/31/2010	MMC	4/2/2010	EMSL	AHERA TEM	2,170	0.0034	0.005	YES	<0.0034
Stationary	1341.8	S-1341.8W033010	3/30/2010	MMC	4/2/2010	EMSL	AHERA TEM	2,135	0.0035	0.005	YES	<0.0035
Stationary	1342	S-1342E033010	3/30/2010	MMC	4/2/2010	EMSL	AHERA TEM	2,128	0.0035	0.005	YES	<0.0035
Stationary	1309	S-1309W-040610	4/6/2010	ATD	4/16/2010	EMSL	AHERA TEM	1,806	0.0041	0.005	YES	<0.0041
Stationary	1309	S-1309E-040610	4/6/2010	ATD	4/16/2010	EMSL	AHERA TEM	1,816	0.004	0.005	YES	<0.0040
Stationary	1322.06	S-1322.06W-040610	4/6/2010	MMC	4/22/2010	EMSL	AHERA TEM	2,226	0.0033	0.005	YES	<0.0033
Stationary	1322.07	S-1322.07E-040610	4/6/2010	MMC	4/22/2010	EMSL	AHERA TEM	2,212	0.0033	0.005	YES	<0.0033
Stationary	1324	S-1324-09W040510	4/5/2010	MMC	4/15/2010	EMSL	AHERA TEM	2,772	0.0027	0.005	YES	<0.0027
Stationary	1324.1	S-1324.1E040510	4/5/2010	MMC	4/15/2010	EMSL	AHERA TEM	2,765	0.0027	0.005	YES	<0.0027
Stationary	1311	S-1311W-040510	4/5/2010	ATD	4/16/2010	EMSL	AHERA TEM	2,250	0.0033	0.005	YES	<0.0033
Stationary	1311	S-1311E-040510	4/5/2010	ATD	4/16/2010	EMSL	AHERA TEM	2,250	0.0033	0.005	YES	<0.0033
Stationary	1332	S-1332.0W040110	4/1/2010	MMC	4/15/2010	EMSL	AHERA TEM	2,380	0.0031	0.005	YES	<0.0031
Stationary	1332.1	S-1332.1E040110	4/1/2010	MMC	4/15/2010	EMSL	AHERA TEM	2,394	0.0031	0.005	YES	<0.0031

TABLE 5

SUMMARY OF OSHA STATIONARY AIR SAMPLE ANALYSIS
2004-2010
BNSF Operable Unit 6
Libby, Montana

Sample Type	Milepost	Sample ID	Sample Date	Sampler	Analysis Date	Laboratory	Analytical Method	Volume (L)[a]	Achieved Sensitivity (cc^{-1})[b]	Target Analytical Sensitivity (TAS) (cc^{-1})	Achieved Sensitivity ≤ TAS?	Results (s/cc)[c]
Stationary	1329.7	S-1329.7W-040110	4/1/2010	ATD	4/20/2010	EMSL	AHERA TEM	2,225	0.0033	0.005	YES	<0.0033
Stationary	1329.7	S-1329.7E-040110	4/1/2010	ATD	4/20/2010	EMSL	AHERA TEM	2,225	0.0033	0.005	YES	<0.0033
Stationary	1310.6	S-1310.6W040710	4/7/2010	MMC	4/21/2010	EMSL	AHERA TEM	2,422	0.0031	0.005	YES	<0.0031
Stationary	1310.7	S-1310.7E040710	4/7/2010	MMC	4/21/2010	EMSL	AHERA TEM	2,422	0.0031	0.005	YES	<0.0031
Stationary	1308.7	S-1308.70W040810	4/8/2010	MMC	4/22/2010	EMSL	AHERA TEM	3,080	0.0024	0.005	YES	<0.0024
Stationary	1308.71	S-1308.71E040810	4/8/2010	MMC	4/22/2010	EMSL	AHERA TEM	3,080	0.0024	0.005	YES	<0.0024
May 2010 Stimson Wye Track Removal												
Stationary	1319.41	050310-1	5/3/2010	DLW	5/11/2010	EMSL	AHERA TEM	1,824	0.0041	0.005	YES	<0.0041
Stationary	1319.41	050310-2	5/3/2010	DLW	5/11/2010	EMSL	AHERA TEM	1,896	0.0039	0.005	YES	<0.0039
Stationary	1319.41	050310-3	5/3/2010	DLW	5/11/2010	EMSL	AHERA TEM	1,848	0.004	0.005	YES	<0.0040
Stationary	1319.41	050410-1	5/4/2010	DLW	5/11/2010	EMSL	AHERA TEM	3,626	0.002	0.005	YES	<0.0020
Stationary	1319.41	050410-2	5/4/2010	DLW	5/11/2010	EMSL	AHERA TEM	1,194	0.005	0.005	YES	<0.0050
Stationary	1319.41	050410-3	5/4/2010	DLW	5/11/2010	EMSL	AHERA TEM	3,911	0.0019	0.005	YES	<0.0019
Stationary	1319.41	050410-4	5/4/2010	DLW	5/11/2010	EMSL	AHERA TEM	2,541	0.0029	0.005	YES	<0.0029
Stationary	1319.41	050710-1	5/7/2010	DLW	5/17/2010	EMSL	AHERA TEM	3,901	0.0019	0.005	YES	<0.0019
Stationary	1319.41	050710-2	5/7/2010	DLW	5/17/2010	EMSL	AHERA TEM I[p]	3,441	0.008	0.005	NO	<0.0080
Stationary	1319.41	050710-3	5/7/2010	DLW	5/17/2010	EMSL	NS[q]	NA	NA	NA	NA	NA
September 2011 Shoulder Ballast Cleaner Sampling Event												
Stationary	1331.8	S-1331.8E-091511	9/15/2011	ATD	9/23/2011	EMSL	ISO 10312 [p]	2,258	0.00307	0.0024	NO	<0.00307
Stationary	1331.8	S-1331.8W-091511	9/15/2011	ATD	9/23/2011	EMSL	ISO 10312 [p]	2,251	0.0031	0.0024	NO	<0.0031
Stationary	1315	S-1315E-091611	9/16/2011	ATD	9/30/2011	EMSL	ISO 10312 [p]	795	0.00871	0.0024	NO	<0.00871
Stationary	1315	S-1315W-091611	9/16/2011	ATD	9/30/2011	EMSL	ISO 10312	795	0.00233	0.0024	YES	<0.00233

Notes:

(a) Volume measured in liters (L).
(b) cc^{-1} = per cubic centimeter
(c) s/cc = structures/cubic centimeter [Note: Only ISO analyzed samples differentiated between structures (any fiber) and asbestos-form fibers.]
(d) Generic milepost for Libby Railyard Response Action 2004 and 2005 from Libby Yard Station Sign. Not necessarily representative of where sample was collected.
(e) Asbetos in ambient air analyzed by Asbestos Hazard Emergency Response Act (AHERA) test method transmission electron microscopy (TEM).
(f) "NA" indicates not applicable.
(g) "<" indicates no detection above the reporting limit.
(h) Asbestos in ambient air analyzed by the International Organization of Standardization (ISO) direct transfer method 10312.
(i) "ND" indicates non-detect from blank samples.
(j) Archived indicates a sample was collected and submitted for analysis, but not analyzed.
(k) "NS-FD" indicates the sample was not analyzed due to filter damage.
(l) Co-located with BA-000063.
(m) Co-located with BA-000067.
(n) Asbetos fibers analyzed by National Institute for Occupational Safety and Health (NIOSH) test method 7400 by phase contrast microscopy (PCM).
(o) "--" indicates there is no way for sensitivity to be determined through NIOSH test method 7400.
(p) Indirect (I) indicates the sample was collected indirectly through burning, re-suspension, and re-analysis.
(q) No sample collected due to generator malfunction.

Samples with observed fibers are shown in bold.

TABLE 6

SUMMARY OF PLM-VE (FINE FRACTION) SOIL AND SPOIL SAMPLE ANALYSIS
2008 - 2009
BNSF Operable Unit 6
Libby, Montana

Milepost	Index ID	Location ID	Sample Group	Sample Date	Analysis Date	Libby Amphibole %	Bin	Other Amphibole %	Chrysotile	Visible Vermiculite
Activity Based Sampling - 17 September 2008										
1312	RR-00001	SP-138460	Property	9/17/2008	4/27/2009	ND[a]	A	ND	ND	None
1312	RR-00002	SP-138461	Property	9/17/2008	4/27/2009	ND	A	ND	ND	Low
1312	RR-00003	SP-138462	Property	9/17/2008	4/27/2009	ND	A	ND	ND	Low
1312	RR-00004	SP-138463	Property	9/17/2008	4/27/2009	ND	A	ND	ND	Low
1312	RR-00005	SP-138464	Property	9/17/2008	4/27/2009	ND	A	ND	ND	Low
1312	RR-00006	SP-138465	Property	9/17/2008	4/27/2009	ND	A	ND	ND	None
1312	RR-00007	SP-138466	Property	9/17/2008	4/27/2009	ND	A	ND	ND	None
1312	RR-00008	SP-138467	Property	9/17/2008	4/27/2009	ND	A	ND	ND	None
1312	RR-00009	SP-138468	Property	9/17/2008	4/27/2009	ND	A	ND	ND	Low
1312	RR-00010	SP-138469	Property	9/17/2008	4/27/2009	ND	A	ND	ND	Low
1312	RR-00011	SP-138470	Property	9/17/2008	4/27/2009	ND	A	ND	ND	Low
1312	RR-00012	SP-138471	Property	9/17/2008	4/27/2009	ND	A	ND	ND	Low
1312	RR-00013	SP-138472	Property	9/17/2008	4/27/2009	ND	A	ND	ND	None
1312	RR-00014	SP-138473	Property	9/17/2008	4/27/2009	ND	A	ND	ND	Low
1312	RR-00015	SP-138474	Property	9/17/2008	4/27/2009	ND	A	ND	ND	None
Activity Based Sampling - 18 September 2008										
1331.5	RR-00016	SP-138475	Property	9/18/2008	4/27/2009	ND	A	ND	ND	None
1331.5	RR-00017	SP-138476	Property	9/18/2008	4/27/2009	ND	A	ND	ND	None
1331.5	RR-00018	SP-138477	Property	9/18/2008	4/27/2009	ND	A	ND	ND	None
1331.5	RR-00019	SP-138478	Property	9/18/2008	4/27/2009	ND	A	ND	ND	None
1331.5	RR-00020	SP-138479	Property	9/18/2008	4/27/2009	ND	A	ND	ND	Low
1331.5	RR-00021	SP-138480	Property	9/18/2008	4/27/2009	ND	A	ND	ND	Low
1331.5	RR-00022	SP-138481	Property	9/18/2008	4/28/2009	**Trace**	B1	ND	ND	Low
1331.5	RR-00023	SP-138482	Property	9/18/2008	4/28/2009	ND	A	ND	ND	Low
1331.5	RR-00024	SP-138483	Not Used	9/18/2008	4/28/2009	NA[b]	NA	NA	NA	NA
Activity Based Sampling - 19 September 2008										
1331	RR-00025	SP-138484	Property	9/19/2009	4/28/2009	**Trace**	B1	ND	ND	None
1331	RR-00026	SP-138485	Property	9/19/2009	4/28/2009	ND	A	ND	ND	None
1331	RR-00027	SP-138486	Property	9/19/2009	4/28/2009	ND	A	ND	ND	None
1331	RR-00028	SP-138487	Property	9/19/2009	4/28/2009	ND	A	ND	ND	None
1331	RR-00029	SP-138488	Property	9/19/2009	4/28/2009	ND	A	ND	ND	None
1331	RR-00030	SP-138489	Property	9/19/2009	4/28/2009	ND	A	ND	ND	None
Activity Based Sampling - 22 September 2008										
1329.8	RR-00031	SP-138490	Property	9/22/2009	4/28/2009	ND	A	ND	ND	None
1329.8	RR-00032	SP-138491	Property	9/22/2009	4/28/2009	ND	A	ND	ND	None
1329.8	RR-00033	SP-138492	Property	9/22/2009	4/28/2009	ND	A	ND	ND	None
1329.8	RR-00034	SP-138493	Property	9/22/2009	4/28/2009	ND	A	ND	ND	None
1329.8	RR-00035	SP-138494	Property	9/22/2009	4/28/2009	ND	A	ND	ND	None
1329.8	RR-00036	SP-138495	Property	9/22/2009	4/28/2009	ND	A	ND	ND	Low
1329.8	RR-00037	SP-138496	Property	9/22/2009	4/28/2009	ND	A	ND	ND	None
1329.8	RR-00038	SP-138497	Property	9/22/2009	4/28/2009	ND	A	ND	ND	None
Activity Based Sampling - 23 September 2008										
1337	RR-00039	SP-138498	Property	9/23/2009	4/28/2009	ND	A	ND	ND	Low
1337	RR-00040	SP-138499	Property	9/23/2009	4/28/2009	ND	A	ND	ND	None
1337	RR-00041	SP-138500	Property	9/23/2009	4/28/2009	ND	A	ND	ND	Low
1337	RR-00042	SP-138501	Property	9/23/2009	4/28/2009	ND	A	ND	ND	Low
1337	RR-00043	SP-138502	Property	9/23/2009	4/28/2009	ND	A	ND	ND	Low
1337	RR-00044	SP-138503	Property	9/23/2009	4/28/2009	ND	A	ND	ND	Low
1337	RR-00045	SP-138504	Property	9/23/2009	4/28/2009	ND	A	ND	ND	Low
1337	RR-00046	SP-138505	Property	9/23/2009	4/29/2009	ND	A	ND	ND	Medium

TABLE 6

SUMMARY OF PLM-VE (FINE FRACTION) SOIL AND SPOIL SAMPLE ANALYSIS
2008 - 2009
BNSF Operable Unit 6
Libby, Montana

Milepost	Index ID	Location ID	Sample Group	Sample Date	Analysis Date	Libby Amphibole %	Bin	Other Amphibole %	Chrysotile	Visible Vermiculite
Activity Based Sampling - 24 September 2008										
1339.5	RR-00047	SP-138506	Property	9/24/2008	4/29/2009	ND	A	ND	ND	None
1339.5	RR-00048	SP-138507	Property	9/24/2008	4/29/2009	ND	A	ND	ND	None
1339.5	RR-00049	SP-138508	Property	9/24/2008	4/29/2009	ND	A	ND	ND	None
1339.5	RR-00050	SP-138509	Property	9/24/2008	4/29/2009	ND	A	ND	ND	Low
1339.5	RR-00051	SP-138510	Property	9/24/2008	4/29/2009	ND	A	ND	ND	Low
1339.5	RR-00052	SP-138511	Property	9/24/2008	4/29/2009	ND	A	ND	ND	Low
1339.5	RR-00053	SP-138512	Property	9/24/2008	4/29/2009	ND	A	ND	ND	Low
1339.5	RR-00054	SP-138513	Property	9/24/2008	4/29/2009	ND	A	ND	ND	Low
1339.5	RR-00055	SP-138514	Property	9/24/2008	4/29/2009	ND	A	ND	ND	Low
Activity Based Sampling - 25 September 2008										
1341	RR-00056	SP-138515	Property	9/25/2008	4/29/2009	ND	A	ND	ND	None
1341	RR-00057	SP-138516	Property	9/25/2008	4/29/2009	ND	A	ND	ND	None
1341	RR-00058	SP-138517	Property	9/25/2008	4/29/2009	ND	A	ND	ND	None
1341	RR-00059	SP-138518	Property	9/25/2008	4/29/2009	ND	A	ND	ND	None
1341	RR-00060	SP-138519	Property	9/25/2008	4/29/2009	ND	A	ND	ND	None
1341	RR-00061	SP-138520	Property	9/25/2008	4/29/2009	ND	A	ND	ND	None
1341	RR-00062	SP-138520	Property	9/25/2008	4/29/2009	ND	A	ND	ND	None
Activity Based Sampling - CDM QA/QC [c]										
NA	RR-00201	NA	PBD [d]	10/31/2008	4/29/2009	ND	A	ND	ND	NA
NA	RR-00202	NA	PBG [e]	10/31/2008	4/29/2009	ND	A	ND	ND	NA
NA	RR-00203	NA	PD [f] [g]	10/31/2008	4/29/2009	ND	A	ND	ND	NA
NA	RR-00204	NA	PBD	11/3/2008	4/29/2009	ND	A	ND	ND	NA
NA	RR-00205	NA	PBG	11/4/2008	4/29/2009	ND	A	ND	ND	NA
NA	RR-00206	NA	PD [h]	11/4/2008	4/29/2009	ND	A	ND	ND	NA
NA	RR-00207	NA	PBD	4/13/2009	4/29/2009	ND	A	ND	ND	NA
NA	RR-00208	NA	PBG	4/14/2009	4/29/2009	ND	A	ND	ND	NA
NA	RR-00209	NA	PD [i]	4/14/2009	4/29/2009	ND	A	ND	ND	NA
NA	RR-00210	NA	PBD	4/14/2009	4/30/2009	ND	A	ND	ND	NA
NA	RR-00211	NA	PBG	4/15/2009	4/30/2009	ND	A	ND	ND	NA
NA	RR-00212	NA	PD [j]	4/15/2009	4/30/2009	ND	A	ND	ND	NA
NA	RR-00213	NA	PBD	4/15/2009	4/30/2009	ND	A	ND	ND	NA
NA	RR-00214	NA	PBG	4/17/2009	4/30/2009	ND	A	ND	ND	NA
NA	RR-00215	NA	PD [k]	4/17/2009	4/30/2009	ND	A	ND	ND	NA
NA	RR-00216	NA	PBD	4/17/2009	4/30/2009	ND	A	ND	ND	NA
NA	RR-00217	NA	PBG	4/21/2009	4/30/2009	ND	A	ND	ND	NA
NA	RR-00218	NA	PD [l]	4/21/2009	4/30/2009	ND	A	ND	ND	NA
Undercutter Spoils Sampling - 19 August 2009										
1329.8	RR-00321	SP-138515	Property	8/19/2009	9/1/2009	ND	A	ND	ND	None
1331.52	RR-00322	SP-138516	Property	8/19/2009	9/1/2009	ND	A	ND	ND	None
1331.01	RR-00323	SP-138517	Property	8/19/2009	9/1/2009	ND	A	ND	ND	None
1331.8	RR-00324	SP-138518	Property	8/19/2009	9/1/2009	ND	A	ND	ND	None
1332.89	RR-00325	SP-138519	Property	8/19/2009	9/1/2009	ND	A	ND	ND	None
1333.02	RR-00326	SP-138520	Property	8/19/2009	9/1/2009	ND	A	ND	ND	None
Undercutter Spoils Sampling - CDM QA/QC [c]										
NA	RR-00219	NA	PBD [d]	8/26/2009	9/1/2009	ND	A	ND	ND	NA
NA	RR-00220	NA	PBG [e]	8/26/2009	9/1/2009	ND	A	ND	ND	NA
NA	RR-00221	NA	PD [f] [m]	8/26/2009	9/1/2009	ND	A	ND	ND	NA

TABLE 6

SUMMARY OF PLM-VE (FINE FRACTION) SOIL AND SPOIL SAMPLE ANALYSIS
2008 - 2009
BNSF Operable Unit 6
Libby, Montana

Notes:
(a) "ND" indicates non-detect from blank samples.
(b) "NA" indicates not applicable.
(c) Samples are quality control samples generated by CDM during the soil sample preperation.
(d) PBD - Preparation Blank - Drying
(e) PBG - Preparation Blank - Grinding
(f) PD - Preparation Duplicate
(g) Associated field collected soil sample is RR-00019
(h) Associated field collected soil sample is RR-00034
(i) Associated field collected soil sample is RR-00001
(j) Associated field collected soil sample is RR-00011
(k) Associated field collected soil sample is RR-00047
(l) Associated field collected soil sample is RR-00055
(m) Associated field collected soil sample is RR-00321

TABLE 7

SUMMARY OF PLM-GRAV (COARSE FRACTION) SOIL AND SPOIL SAMPLE ANALYSIS
2008 - 2009
BNSF Operable Unit 6
Libby, Montana

Milepost	Index ID	Location ID	Sample Group	Sample Date	Analysis Date	Libby Amphibole Quantity	Other Amphibole Quantity	Chrysotile
Activity Based Sampling - 17 September 2008								
1312	RR-00001	SP-138460	Property	9/17/2008	4/30/2009	ND[a]	ND	ND
1312	RR-00002	SP-138461	Property	9/17/2008	4/30/2009	ND	ND	ND
1312	RR-00005	SP-138464	Property	9/17/2008	4/30/2009	ND	ND	ND
1312	RR-00011	SP-138470	Property	9/17/2008	4/30/2009	ND	ND	ND
1312	RR-00012	SP-138471	Property	9/17/2008	4/30/2009	ND	ND	ND
1312	RR-00013	SP-138472	Property	9/17/2008	4/30/2009	ND	ND	ND
1312	RR-00014	SP-138473	Property	9/17/2008	4/30/2009	ND	ND	ND
1312	RR-00015	SP-138474	Property	9/17/2008	4/30/2009	ND	ND	ND
Activity Based Sampling - 18 September 2008								
1331.5	RR-00016	SP-138475	Property	9/18/2008	4/30/2009	ND	ND	ND
1331.5	RR-00017	SP-138476	Property	9/18/2008	5/1/2009	ND	ND	ND
1331.5	RR-00018	SP-138477	Property	9/18/2008	5/1/2009	ND	ND	ND
1331.5	RR-00019	SP-138478	Property	9/18/2008	5/1/2009	ND	ND	ND
1331.5	RR-00020	SP-138479	Property	9/18/2008	5/1/2009	ND	ND	ND
1331.5	RR-00021	SP-138480	Property	9/18/2008	5/1/2009	ND	ND	ND
1331.5	RR-00022	SP-138481	Property	9/18/2008	5/1/2009	ND	ND	ND
1331.5	RR-00023	SP-138482	Property	9/18/2008	5/1/2009	ND	ND	ND
Activity Based Sampling - 19 September 2008								
1331	RR-00025	SP-138484	Property	9/19/2009	5/1/2009	ND	ND	ND
1331	RR-00027	SP-138486	Property	9/19/2009	5/1/2009	ND	ND	ND
1331	RR-00028	SP-138487	Property	9/19/2009	5/1/2009	ND	ND	ND
1331	RR-00029	SP-138488	Property	9/19/2009	5/1/2009	ND	ND	ND
1331	RR-00030	SP-138489	Property	9/19/2009	5/1/2009	ND	ND	ND
Activity Based Sampling - 22 September 2008								
1329.8	RR-00031	SP-138490	Property	9/22/2009	5/1/2009	ND	ND	ND
1329.8	RR-00032	SP-138491	Property	9/22/2009	5/1/2009	ND	ND	ND
1329.8	RR-00033	SP-138492	Property	9/22/2009	5/1/2009	ND	ND	ND
1329.8	RR-00034	SP-138493	Property	9/22/2009	5/1/2009	ND	ND	ND
1329.8	RR-00035	SP-138494	Property	9/22/2009	5/1/2009	ND	ND	ND
1329.8	RR-00036	SP-138495	Property	9/22/2009	5/4/2009	ND	ND	ND
1329.8	RR-00037	SP-138496	Property	9/22/2009	5/4/2009	ND	ND	ND
Activity Based Sampling - 23 September 2008								
1337	RR-00039	SP-138498	Property	9/23/2009	5/4/2009	ND	ND	ND
1337	RR-00040	SP-138499	Property	9/23/2009	5/4/2009	ND	ND	ND
1337	RR-00041	SP-138500	Property	9/23/2009	5/4/2009	ND	ND	ND
1337	RR-00042	SP-138501	Property	9/23/2009	5/4/2009	ND	ND	ND
1337	RR-00043	SP-138502	Property	9/23/2009	5/4/2009	ND	ND	ND
1337	RR-00044	SP-138503	Property	9/23/2009	5/4/2009	ND	ND	ND
1337	RR-00045	SP-138504	Property	9/23/2009	5/4/2009	ND	ND	ND
1337	RR-00046	SP-138505	Property	9/23/2009	5/4/2009	ND	ND	ND

TABLE 7

SUMMARY OF PLM-GRAV (COARSE FRACTION) SOIL AND SPOIL SAMPLE ANALYSIS
2008 - 2009
BNSF Operable Unit 6
Libby, Montana

Milepost	Index ID	Location ID	Sample Group	Sample Date	Analysis Date	Libby Amphibole Quantity	Other Amphibole Quantity	Chrysotile
Activity Based Sampling - 24 September 2008								
1339.5	RR-00047	SP-138506	Property	9/24/2008	5/4/2009	ND	ND	ND
1339.5	RR-00048	SP-138507	Property	9/24/2008	5/4/2009	ND	ND	ND
1339.5	RR-00050	SP-138509	Property	9/24/2008	5/4/2009	ND	ND	ND
1339.5	RR-00051	SP-138510	Property	9/24/2008	5/4/2009	ND	ND	ND
1339.5	RR-00052	SP-138511	Property	9/24/2008	5/4/2009	ND	ND	ND
1339.5	RR-00053	SP-138512	Property	9/24/2008	5/4/2009	ND	ND	ND
1339.5	RR-00054	SP-138513	Property	9/24/2008	5/4/2009	ND	ND	ND
1339.5	RR-00055	SP-138514	Property	9/24/2008	5/4/2009	ND	ND	ND
Activity Based Sampling - 25 September 2008								
1341	RR-00056	SP-138515	Property	9/25/2008	5/4/2009	ND	ND	ND
1341	RR-00057	SP-138516	Property	9/25/2008	5/4/2009	ND	ND	ND
1341	RR-00058	SP-138517	Property	9/25/2008	5/4/2009	ND	ND	ND
1341	RR-00059	SP-138518	Property	9/25/2008	5/4/2009	ND	ND	ND
1341	RR-00060	SP-138519	Property	9/25/2008	5/4/2009	ND	ND	ND
1341	RR-00061	SP-138520	Property	9/25/2008	5/4/2009	ND	ND	ND
1341	RR-00062	SP-138520	Property	9/25/2008	5/4/2009	ND	ND	ND
Activity Based Sampling - CDM QA/QC [b]								
NA	RR-00203	NA	PD [c] [d]	10/31/2008	5/4/2009	ND	ND	ND
NA	RR-00206	NA	PD [e]	11/4/2008	5/4/2009	ND	ND	ND
NA	RR-00209	NA	PD [f]	4/14/2009	5/4/2009	ND	ND	ND
NA	RR-00212	NA	PD [g]	4/15/2009	5/4/2009	ND	ND	ND
NA	RR-00215	NA	PD [h]	4/17/2009	5/4/2009	ND	ND	ND
NA	RR-00218	NA	PD [i]	4/21/2009	5/4/2009	ND	ND	ND
Undercutter Spoils Sampling - 19 August 2009								
1329.8	RR-00321	SP-138515	Property	8/19/2009	9/1/2009	ND	A	ND
1331.52	RR-00322	SP-138516	Property	8/19/2009	9/1/2009	ND	A	ND
1331.01	RR-00323	SP-138517	Property	8/19/2009	9/1/2009	ND	A	ND
1331.8	RR-00324	SP-138518	Property	8/19/2009	9/1/2009	ND	A	ND
1332.89	RR-00325	SP-138519	Property	8/19/2009	9/1/2009	ND	A	ND
1333.02	RR-00326	SP-138520	Property	8/19/2009	9/1/2009	ND	A	ND
Undercutter Spoils Sampling - CDM QA/QC [b]								
NA	RR-00221	NA	PD [j]	8/26/2009	8/31/2009	ND	A	ND

TABLE 7

SUMMARY OF PLM-GRAV (COARSE FRACTION) SOIL AND SPOIL SAMPLE ANALYSIS
2008 - 2009
BNSF Operable Unit 6
Libby, Montana

Notes:

(a) "ND" indicates non-detect from blank samples.
(b) Samples are quality assurance/quality control (QA/QC) samples generated by CDM during the soil sample preperation.
(c) PD - Preparation Duplicate
(d) Associated field collected soil sample is RR-00019
(e) Associated field collected soil sample is RR-00034
(f) Associated field collected soil sample is RR-00001
(g) Associated field collected soil sample is RR-00011
(h) Associated field collected soil sample is RR-00047
(i) Associated field collected soil sample is RR-000559
(j) Associated field collected soil sample is RR-000321

TABLE 8

SUMMARY OF ABS AIR SAMPLE SUPPLEMENTAL ANALYSIS
August 2013
BNSF Operable Unit 6
Libby, Montana

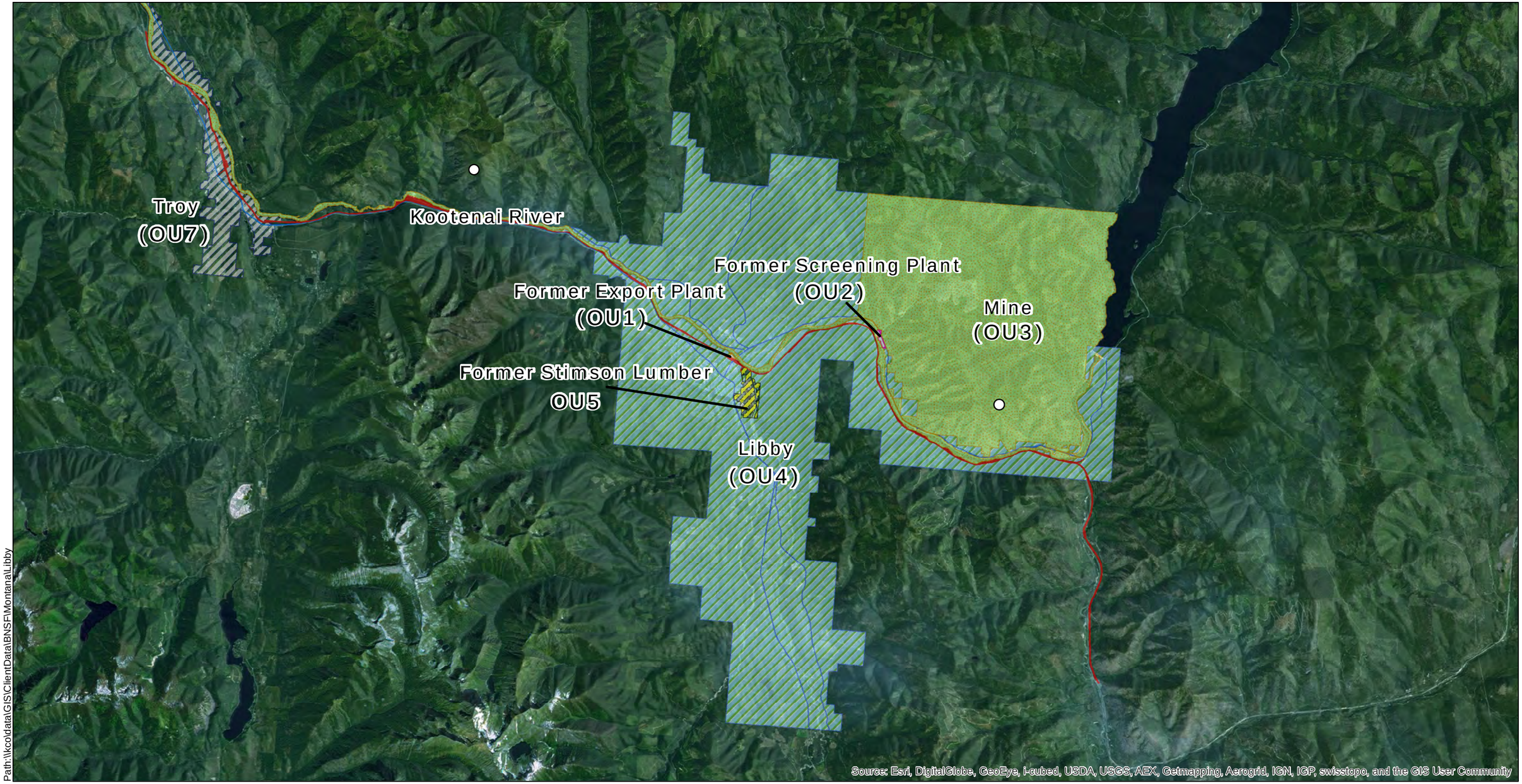
Sample Information								Original Analysis								Supplemental Analysis				Pooled/Final Results			Dataset Statistics				
Sample Type	Sample ID	Sample Date	Milepost	Pump Flow Rate (L/min)	Pump Start Time	Pump End Time	Sample Volume (L)	Preparation Method	F Factor	EFA (mm^2)	Area of GO (mm^2)	Number of GO Analyzed	Achieved Sensitivity (cc^{-1})	N PCME LA Structures	PCME LA Air Conc (S/cc)	Number of GO Analyzed	Achieved Sensitivity (cc^{-1})	N PCME LA Structures	PCME LA Air Conc (S/cc)	Achieved Sensitivity (cc^{-1})	N PCME LA Structures	PCME LA Air Conc (S/cc)	Milepost Range	Arithmetic Mean Air Conc (S/cc)	Arithmetic Mean Achieved Sensitivity (cc^{-1})	Estimated Upperbound Air Conc. (CB-UCL) GSD = 10 (S/cc)	Estimated Upperbound Air Conc (CB-UCL) GSD = 20 (S/cc)
General Laborer	BA-00001	9/17/2008	1312	2.8	636	1436	1344	Indirect	0.25	360	0.013	35	0.00211	0	0	210	0.00039	0	0	0.00033	0	0	1312 - 1341 (30 miles)	0	0.00034	0.00103	0.00502
General Laborer	BA-00012	9/18/2008	1331.5	1.4	648	1459	687	Direct	1	385	0.013	18	0.00239	0	0	110	0.00039	0	0	0.00034	0	0					
General Laborer	BA-00021	9/19/2008	1331	2.8	630	1223	988	Direct	1	385	0.013	13	0.00231	0	0	75	0.0004	0	0	0.00034	0	0					
General Laborer	BA-00029	9/22/2008	1329.8	2.8	629	1318	1145	Direct	1	385	0.013	11	0.00235	0	0	65	0.0004	0	0	0.00034	0	0					
General Laborer	BA-00037	9/23/2008	1337	2.4	640	1148	739	Indirect	0.125	360	0.013	39	0.00769	0	0	760	0.00039	0	0	0.00038	0	0					
General Laborer	BA-00047	9/24/2008	1339.5	2.8	617	1309	1154	Direct	1	385	0.013	11	0.00233	0	0	65	0.00039	0	0	0.00034	0	0					
General Laborer	BA-00058	9/25/2008	1341	2.8	623	925	510	Direct	1	385	0.013	25	0.00232	0	0	146	0.0004	0	0	0.00034	0	0					
Onlooker Trespasser	BA-00005	9/17/2008	1312	2.8	753	1400	1028	Direct	1	385	0.013	13	0.000993	0	0	NA[a]				0.000993	0	0	1312 - 1341 (30 miles)	0	0.00102	0.00302	0.0147
Onlooker Trespasser	BA-00015	9/18/2008	1331.5	2.8	1015	1556	938	Direct	1	385	0.013	14	0.000987	0	0	NA				0.000987	0	0					
Onlooker Trespasser	BA-00025	9/19/2008	1331	2.8	648	1241	988	Direct	1	385	0.013	13	0.000967	0	0	NA				0.000967	0	0					
Onlooker Trespasser	BA-00031	9/22/2008	1329.8	2.8	941	1435	779	Direct	1	385	0.013	16	0.000975	0	0	NA				0.000975	0	0					
Onlooker Trespasser	BA-00039	9/23/2008	1337	2.8	653	1150	817	Direct	1	385	0.013	16	0.00098	0	0	NA				0.00098	0	0					
Onlooker Trespasser	BA-00049	9/24/2008	1339.5	2.8	907	1359	803	Direct	1	385	0.013	16	0.000997	0	0	NA				0.000997	0	0					
Onlooker Trespasser	BA-00060	9/25/2008	1341	2.8	653	1030	608	Direct	1	385	0.013	21	0.00125	0	0	NA				0.00125	0	0					
Pedestrian Trespasser	BA-00003	9/17/2008	1312	2.8	749	1348	933	Direct	1	385	0.013	14	0.000814	0	0	NA				0.000814	0	0	1312 - 1341 (30 miles)	0	0.0006551	0.00053	0.00192
Pedestrian Trespasser	BA-00004	9/17/2008	1312	2.8	749	1343	991	Direct	1	385	0.013	13	0.000766	0	0	NA				0.000766	0	0					
Pedestrian Trespasser	BA-00013	9/18/2008	1331.5	2.8	1000	1555	977	Direct	1	385	0.013	13	0.000777	0	0	NA				0.000777	0	0					
Pedestrian Trespasser	BA-00014	9/18/2008	1331.5	2.8	1006	1555	942	Direct	1	385	0.013	14	0.000806	0	0	NA				0.000806	0	0					
Pedestrian Trespasser	BA-00023	9/19/2008	1331	2.8	648	1231	960	Direct	1	385	0.013	13	0.000791	0	0	NA				0.000791	0	0					
Pedestrian Trespasser	BA-00024	9/19/2008	1331	2.8	648	1241	988	Direct	1	385	0.013	13	0.000797	0	0	NA				0.000797	0	0					
Pedestrian Trespasser	BA-00032	9/22/2008	1329.8	2.8	946	1435	780	Direct	1	385	0.013	16	0.000974	0	0	50	0.00076	0	0	0.00043	0	0					
Pedestrian Trespasser	BA-00033	9/22/2008	1329.8	2.8	1030	1425	658	Direct	1	385	0.013	19	0.00115	0	0	55	0.00082	0	0	0.00048	0	0					
Pedestrian Trespasser	BA-00040	9/23/2008	1337	2.7	710	1159	780	Direct	1	385	0.013	16	0.00237	0	0	55	0.00069	0	0	0.00053	0	0					
Pedestrian Trespasser	BA-00041	9/23/2008	1337	2.7	720	1151	718	Direct	1	385	0.013	18	0.00229	0	0	50	0.00082	0	0	0.00061	0	0					
Pedestrian Trespasser	BA-00050	9/24/2008	1339.5	2.8	907	1400	806	Direct	1	385	0.013	16	0.0023	0	0	50	0.00073	0	0	0.00056	0	0					
Pedestrian Trespasser	BA-00051	9/24/2008	1339.5	2.7	907	1400	791	Direct	1	385	0.013	17	0.0022	0	0	50	0.00075	0	0	0.00056	0	0					
Pedestrian Trespasser	BA-00061	9/25/2008	1341	2.8	655	1040	630	Direct	1	385	0.013	20	0.00235	0	0	53	0.00089	0	0	0.00064	0	0					
Pedestrian Trespasser	BA-00062	9/25/2008	1341	2.8	656	1031	602	Direct	1	385	0.013	21	0.00234	0	0	60	0.00082	0	0	0.00061	0	0					
Worker Operating Machinery	BA-00002	9/17/2008	1312	2.8	636	1432	1333	Indirect	0.125	360	0.013	39	0.00426	0	0	420	0.0004	0	0	0.00036	0	0	1312 - 1341 (30 miles)	0	0.00034	0.00103	0.00498
Worker Operating Machinery	BA-00011	9/18/2008	1331.5	1.4	638	1502	706	Direct	1	385	0.013	18	0.00233	0	0	105	0.0004	0	0	0.00034	0	0					
Worker Operating Machinery	BA-00022	9/19/2008	1331	2.8	628	1231	1016	Direct	1	385	0.013	13	0.00224	0	0	73	0.0004	0	0	0.00034	0	0					
Worker Operating Machinery	BA-00030	9/22/2008	1329.8	2.8	629	1318	1145	Direct	1	385	0.013	11	0.00235	0	0	65	0.0004	0	0	0.00034	0	0					
Worker Operating Machinery	BA-00038	9/23/2008	1337	2.8	631	1149	890	Indirect	0.25	360	0.013	39	0.00319	0	0	320	0.00039	0	0	0.00035	0	0					
Worker Operating Machinery	BA-00048	9/24/2008	1339.5	2.8	619	1315	1165	Direct	1	385	0.013	11	0.00231	0	0	65	0.00039	0	0	0.00033	0	0					
Worker Operating Machinery	BA-00059	9/25/2008	1341	2.8	625	924	501	Direct	1	385	0.013	25	0.00236	0	0	148	0.0004	0	0	0.00034	0	0					

Notes:
(a) NA indicates supplemental analysis was not conducted.

L/min = liters per minute
L = liter
F = Fraction of primary filter deposited on secondary filter (indirect preparation only)
EFA = effective filter area
mm^2 = square millimeter
cc^{-1} = per cubic centimeter
N PCME = number - phase contrast microscopy equivalent

LA = Libby Amphibole
PCME = phase contrast microscopy equivalent
S/cc = structures per cubic centimeter
GO = grid openings
CB-UCL = count-based upper confidence limit
GSD = geometric standard deviation

Figures



Path:\\kcoldata\GIS\ClientData\BNSF\Montana\Libby

Legend

- OU1: Former Export Plant
- OU2: Former Screening Plant
- OU3: (Study Area) Mine and Kootenai River
- OU4: Libby Homes and Businesses
- OU5: Former Stimson Lumber
- OU6: BNSF Rail Line
- OU7: The Town of Troy
- OU8: Roadway

N

0 30,000 Feet

1 inch = 15,000 feet

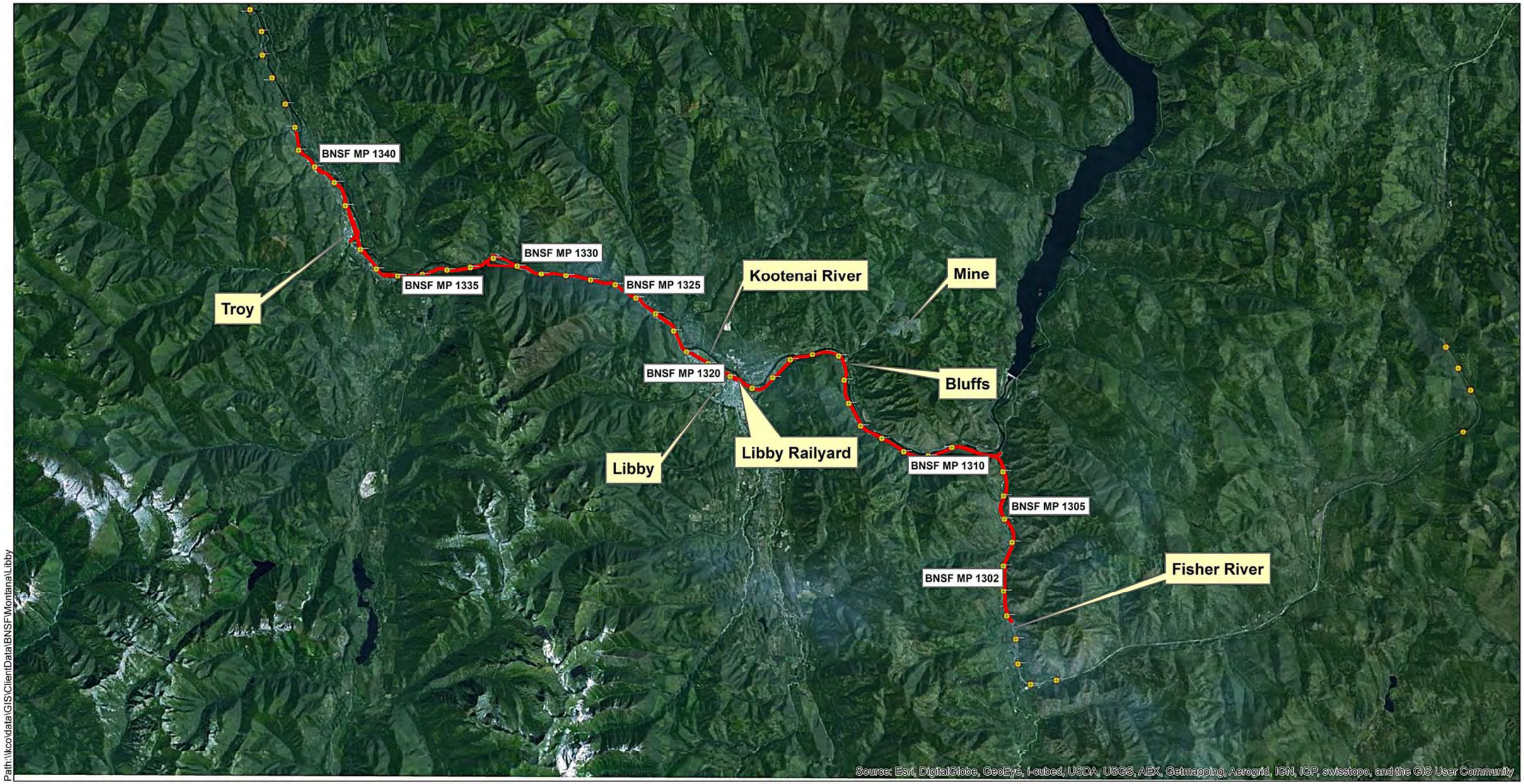
Kennedy/Jenks Consultants

BNSF Railway Company
BNSF Operable Unit 6
Libby, Montana

Operable Unit Boundaries

1349206*00

Figure 1



Path:\\kcoldata\GIS\ClientData\BNSF\Montana\Libby

Legend

- BNSF Railroad Milepost
- BNSF OU6 Boundaries

N

0 40,000 Feet

1 inch = 20,000 feet

Kennedy/Jenks Consultants

BNSF Railway Company
BNSF Operable Unit 6
Libby, Montana

OU6 Boundaries and BNSF Mileposts

1349206*00

Figure 2

Appendix A

Libby Railyard Response Action 2004 Revised Construction Completion Report (March 2005)

Libby Railyard Response Action 2004
Revised Construction Completion Report

Libby Railyard
Libby, Montana

BNSF Railway Company

K/J 046022.11
March 2005

Kennedy/Jenks Consultants
EMR, Inc.

LIBBY RAILYARD RESPONSE ACTION 2004
REVISED CONSTRUCTION COMPLETION REPORT
LIBBY RAILYARD, LIBBY, MONTANA

Prepared for

BNSF RAILWAY COMPANY

Prepared by

KENNEDY/JENKS CONSULTANTS
ENGINEERS AND SCIENTISTS
32001 32nd Avenue South, Suite 100
Federal Way, Washington 98001
(253) 874-0555

Prepared by

EMR, INC.
5301 East River Road, Suite 114
Fridley, Minnesota 55421
(763) 277-5200

K/J 046022.11

March 2005

STATEMENT OF AUTHENTICITY

Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Approved by: _____ 3/10/05

Tanya Drake
Project Coordinator
EMR, Inc. for
BNSF Railway Company

Date

The work described by this report has been performed in compliance with the standard of practice for civil engineering in the State of Montana. I certify that to the best of my knowledge and belief, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete.

MONTANA
RICHARD C. GIGLIOMO
9406 PE
REGISTERED PROFESSIONAL ENGINEER

expires 6/30/2006
signed 3/09/2005

TABLE OF CONTENTS

Page Number

LIST OF TABLES v

LIST OF APPENDICES v

1.0 INTRODUCTION 1-1

1.1 PURPOSE AND OBJECTIVES 1-2

1.2 LIBBY RAILYARD LOCATION 1-3

1.3 RELEVANT DESIGN DOCUMENTS 1-3

1.4 PROJECT REPORTING REQUIREMENTS 1-4

1.5 REQUEST FOR INFORMATION FORMS 1-4

2.0 DESCRIPTION OF WORK 2-1

2.1 TRACK REMOVAL/ DEMOLITION 2-1

2.2 EXCAVATION/CAPPING 2-2
2.2.1 Zone 1/2/3 2-3
2.2.2 Zone 4/6/7 2-3
2.2.3 Zone 5 2-4
2.2.4 Zone 8 2-4

2.3 SOIL SAMPLES 2-4
2.3.1 Characterization Samples 2-5
2.3.2 Clearance Samples 2-6

2.4 SOIL AND TRACK DISPOSAL 2-6

2.5 HEALTH AND SAFETY 2-7

2.6 AIR MONITORING 2-7

2.7 SOIL AND RAILROAD TIE DISPOSAL CHARACTERIZATION 2-8

2.8 REPORTING AND COORDINATION ACTIVITIES 2-8

TABLE OF CONTENTS

		Page Number
2.9	FINAL LIBBY RAILYARD RESTORATION	2-8
2.10	ADDITIONAL WORK	2-8
3.0	CONSTRUCTION QUALITY ASSURANCE	3-1
3.1	EARTHWORK	3-1
3.2	CONSTRUCTION MATERIALS VERIFICATION	3-1
3.3	CAP REPLACEMENT	3-1
4.0	QUANTITIES OF MATERIALS	4-1
5.0	CONSTRUCTION COMPLETION INSPECTION	5-1
6.0	APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS ANALYSIS	6-1
REFERENCES		R-1

TABLE OF CONTENTS

LIST OF TABLES

TABLE 1 QUANTITIES OF MATERIALS

LIST OF APPENDICES

APPENDIX A CONSTRUCTION DRAWINGS

APPENDIX B REQUEST FOR INFORMATION (RFI) FORMS

APPENDIX C SOIL SAMPLE LOCATION DRAWINGS

APPENDIX D ANALYTICAL DATA TABLES

APPENDIX E CONSTRUCTION QUALITY ASSURANCE

APPENDIX F DOCUMENTATION OF MATERIAL TAKEN TO ASBESTOS CELL AT LINCOLN COUNTY LANDFILL

APPENDIX G DOCUMENTATION OF IMPORTED CLEAN BACKFILL

APPENDIX H APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

APPENDIX I IDENTIFICATION OF ADDITIONAL WORK

BNSF RAILWAY COMPANY

LIBBY RAILYARD RESPONSE ACTION 2004
REVISED CONSTRUCTION COMPLETION REPORT

1.0 INTRODUCTION

This construction completion report summarizes the Libby Railyard Response Action 2004 (Response Action), as supported by record drawing details, for the abatement of soil containing asbestos fibers in the form of tremolite/actinolite (Libby amphibole) and visibly identified hydrated biotite (an indicator of Libby amphibole) identified along portions of the rail lines at the Libby, Montana railyard, herein referred to as the Libby Railyard. This Response Action was conducted to comply with an Agreed Order on Consent (AOC) between BNSF Railway Company (BNSF) and the United Stated Environmental Protection Agency, Region VIII (EPA), which was executed by BNSF on 17 April 2003.

The Libby Railyard is owned and operated by BNSF. The primary objectives of the Response Action were to remove or cap Libby Railyard surface soils that potentially contained Libby amphibole. The mitigation activities were conducted in accordance with the Revised Response Action Work Plan (Kennedy/Jenks Consultants, August 2004) and modifications based on supplemental soil sampling data collected during 2004 construction activities. EPA approved The Revised Response Action Work Plan as final on 1 September 2004.

The Response Action activities performed at specific tracks within the Libby Railyard were based on soil sample analysis conducted by EMR Incorporated (EMR). Based upon the sampling data, it was decided that a specific portion of the soils within the Libby Railyard would undergo excavation to remove and dispose of soils containing detectable Libby amphibole, and other specific portions of the Libby Railyard would be capped in place (without excavation) to prevent future Libby amphibole exposure. Because the Libby Railyard is an active rail facility with switches and sidings still used by BNSF, track reconstruction is planned for up to two tracks along portions of the excavation zone.

Railroad tracks within the zone of excavation and the zones of capping were removed to allow access to soil potentially containing Libby amphibole or visible hydrated biotite beneath the track structures. In the zones scheduled for excavation, soil potentially containing Libby amphibole or hydrated biotite was excavated, and underlying soil was sampled concurrently to evaluate whether detectable Libby amphibole remained (clearance samples). Excavation proceeded until laboratory results indicated that Libby amphibole fibers were not detected in the soil samples (generally no more than 29 to 35 inches below the top of the adjacent ties comprising the existing BNSF main line) or to a depth of at least 4 feet. At several locations, excavation reached a depth greater than 4 feet, but clearance samples indicated detectable Libby amphibole had been removed. At one small location, excavation reached at least 6 feet, but clearance was not achieved, as described below. In the other portions of the Libby Railyard, soil containing Libby amphibole or hydrated biotite was capped in place.

The removed rails were decontaminated onsite by pressure washing. The decontaminated rails were removed for re-use or scrap. The removed railroad ties were decontaminated by first pressure washing and then cleaning through a conveyor system of high-pressure nozzles inside a specially designed railroad tie washer. The decontaminated ties will be disposed at the Montana Waste Systems Landfill in Great Falls, Montana.

Kennedy/Jenks Consultants prepared the Response Action design and provided construction observation services on behalf of BNSF. EMR performed asbestos oversight, sampling, personal, and perimeter monitoring on behalf of BNSF. EMR's oversight included air monitoring, visual inspection, confirmation soil sampling, and monitoring for visible dust or particle emissions. In addition, EMR completed daily soil removal reports in conjunction with Kennedy/Jenks Consultants. The Contractor (Envirocon) prepared daily safety reports in conjunction with Kennedy/Jenks Consultants. BNSF will be responsible for final track reconstruction, which is not part of the Response Action elements needed for compliance with the AOC. Project reporting requirements, including record drawings (sometimes called "as-built" drawings), construction quality assurance/quality control (QA/QC), material submittals, health and safety plan, and a final inspection report are provided in the appendices of this report.

1.1 PURPOSE AND OBJECTIVES

The purpose of the Response Action at the Libby Railyard was to comply with the work requirements of the AOC.

The Response Action objectives included the following:

- Remove soil potentially containing Libby amphibole from areas of the railyard that will continue to contain active tracks in the future.
- Cap soil potentially containing Libby amphibole in the areas of the railyard that are not likely to contain active tracks in the future.
- Decontaminate and recycle or dispose of rail, ties, and other track materials that will be demolished to allow removal or capping of soil in areas of the railyard potentially containing Libby amphibole.
- Provide a final subgrade elevation in the removal areas, with appropriate thickness of sub-ballast material beneath the final subgrade, to permit BNSF to reconstruct track consistent with current and foreseeable future operational needs.

1.2 LIBBY RAILYARD LOCATION

The Libby Railyard is located within the town of Libby, Montana, as shown on Record Drawing Sheet 1 in Appendix A-1. The Response Action was conducted on BNSF property located north of the BNSF main line track. The eastern limit of Response Action activities is the switch located between the BNSF main line and the railyard at the eastern end of the yard. The western limit of Response Action activities is the switch located between the BNSF passing siding and the railyard at the western end of the yard. Response Actions were also conducted on the former W. R. Grace facility (a 10-foot-wide strip of property belonging to the City of Libby that runs east/west immediately north of the Libby Railyard). This 10-foot strip is located west of the Highway 37 overpass and north of the BNSF property line. In addition, an unused scale house was mitigated, demolished, and disposed as potential asbestos-containing material (ACM), and a concrete/steel freight car scale was excavated and removed; these structures were located on Track 4 east of Highway 37, as shown on Record Drawing Sheet 4A in Appendix A-1.

1.3 RELEVANT DESIGN DOCUMENTS

The following documents provide the basis for design and construction of the Libby Railyard Response Action performed in 2004:

The following documents provide the basis for design and construction of the Libby Railyard Response Action performed in 2004:

- *Evaluation of Conceptual Response Options* dated June 2004, prepared for BNSF by Kennedy/Jenks Consultants.

- *Project Manual, The Burlington Northern and Santa Fe Railway Company, Libby Rail Yard Asbestiform Fiber Removal, Libby, Montana* (project construction specifications) dated July 2004, prepared for BNSF by Kennedy/Jenks Consultants, which includes *Project Specification, BNSF Libby Railyard Hydrated Biotite Removal, Libby, Montana* dated July 2004, prepared for BNSF by EMR.

- *Burlington Northern and Santa Fe Railway Company, Libby Railyard, Response Action* (design drawings) by Kennedy/Jenks Consultants dated 26 July 2004, prepared for BNSF by Kennedy/Jenks Consultants.

- *Volume III, Health and Safety Plan, BNSF Libby Rail Yard Libby Amphibole Impacted Soil Removal, Libby, Montana* dated July 2004, prepared for BNSF by EMR.

- *Revised Response Action Work Plan, Libby Railyard, Libby, Montana* dated August 2004, prepared for BNSF by Kennedy/Jenks Consultants.

- *Approval of Revised Work Plan for Libby Railyard* dated 1 September 2004, prepared by EPA.

1.4 PROJECT REPORTING REQUIREMENTS

Project reporting requirements, including record drawings, construction QA/QC, material submittals, health and safety plan, and final inspection report are provided in the appendices of this report. The appendices include:

Appendix A	Construction Drawings A-1 Record Drawings A-2 Construction Design Drawings
Appendix B	Request for Information (RFI) Forms
Appendix C	Soil Sample Location Drawings
Appendix D	Analytical Data Tables
Appendix E	Construction Quality Assurance E-1 Soil Compaction Data E-2 Submittals
Appendix F	Documentation of Material Taken to Asbestos Cell at Lincoln County Landfill
Appendix G	Documentation of Imported Clean Backfill
Appendix H	Applicable or Relevant and Appropriate Requirements
Appendix I	Identification of Additional Work

1.5 REQUEST FOR INFORMATION FORMS

During construction, any modifications, clarifications, changes, or additions to the Draft Response Action Work Plan (July 2004) were documented and submitted to EPA for approval. These modifications were documented to EPA as standard RFIs. Copies of the RFIs are included in Appendix B. The RFIs are included in the Response Action summaries for the relevant portions of the Libby Railyard.

2.0 DESCRIPTION OF WORK

The Response Action occurred from September 2004 to November 2004.

Envirocon, Kennedy/Jenks Consultants, and EMR safety personnel conducted daily safety meetings at the beginning of each workday. Most work was performed between 7:00 a.m. and 5:30 p.m., Monday through Saturday. Completion of the work required the use of a variety of heavy earthmoving equipment to perform excavation, soil removal, and cap/backfill installation. Best management practices (BMPs) were used throughout the construction area and haul routes to help mitigate potential airborne Libby amphibole fibers, control road dust, and manage stormwater.

The following consultants and contractors performed the construction and oversight:

Consultant/Contractor	Work Performed
Kennedy/Jenks Consultants	Resident Engineer, Construction Observation
EMR, Inc.	Construction Observation for asbestos issues
HKM Engineering, Inc.	Surveying and Compaction Testing
Envirocon, Inc.	General Contractor
Montana Railroad Services	Rail Removal Subcontractor
U.S. Environmental Protection Agency	Regulatory Agency
Camp Dresser & McKee (CDM)	Agency Oversight
Volpe Center	Agency Oversight

The following sections describe the construction activities of the Response Actions for the relevant segments of Libby Railyard. Record drawings documenting the construction are enclosed in Appendix A-1. Construction design drawings are enclosed in Appendix A-2.

2.1 TRACK REMOVAL/DEMOLITION

Rails and other track materials (OTM) from Tracks 1, 2, 3, 4, the West Spurs, and a portion of Track 5 were removed/demolished. OTM includes metallic appurtenances such as tie plates, spikes, joint bars, and bolts. The demolition is shown in Appendix A-2, Drawings D-1 through D-11. Tracks 1, 2, and connections to Track 5 and the City of Libby's West Spur will be reconstructed later. The anticipated reconstruction materials are concrete ties and 136-pound-per-yard ribbon rail.

The removed/demolished items were disposed as follows:

- Rails and OTM were removed and decontaminated by pressure washing, trucked to the Ripley Siding (approximately 6 miles northeast of the Libby Railyard), and loaded onto railcars for final disposal as salvageable property belonging to Montana Railroad Services. A total of 28,182 linear rail feet (14,091 track feet) was removed for salvage. BNSF retained specialized rail parts such as track switches and tapered rail sections used to join rails of differing sizes.

- The Scale House (Appendix A-2, Drawing D-11) was demolished and disposed as potential ACM at the Lincoln County landfill.

- The concrete supports underlying the scale track located along Track 4 were demolished by jackhammer. Most of the structure was removed to the base of concrete, which was more than 12 feet below grade, and backfilled with clean imported sub-ballast material. An approximately 20-foot-long slab at the eastern end of the scale track structure was removed to a depth of at least 1 foot below original grade, covered with approximately 1 foot of adjacent native Zone 4/6/7 soil, then capped with geotextile and 12 inches of sub-ballast.

- All ties were removed from Tracks 1 and 2, part of Track 3, the removed portion of Track 5, and the portion of the West Spurs to be reconstructed. Most remaining ties were removed from the areas to be capped (Track 4, part of Track 3, and the remainder of the West Spurs). All removed ties were decontaminated by pressure washing on a conveyor device and inspected by EMR prior to stockpiling. The ties were loaded into BNSF railcars for transport. As of December 2004, between 7,900 and 8,000 decontaminated ties are scheduled for transport by rail to the Montana Waste Systems landfill in Great Falls, Montana, for final disposal. The quantity of 8,000 was agreed upon with the Contractor, which accounts for fragmented ties and statistical uncertainty in the count. EMR conducted confirmation sampling for asbestos fibers on random samples comprising approximately 5% of the decontaminated ties. The ties were analyzed with polarized light microscopy (PLM) by Analytica Group of Thornton, Colorado. No asbestos was detected in samples collected from the ties, and the ties were not classified as ACM. Two truckloads of wood tie debris were transported to the asbestos cell of the Lincoln County landfill.

2.2 EXCAVATION/CAPPING

In areas of the Libby Railyard located north of the BNSF main line track, soil believed to contain Libby amphibole was either excavated and backfilled with sub-ballast material or capped in place by sub-ballast material with a geotextile liner. Montana Railroad Services removed track and ties to provide access to the underlying soil.

2.2.1 Zone 1/2/3

Before the geotextile liner and clean backfill material (railroad sub-ballast) were set in place, soil within Zone 1/2/3 that was believed to contain Libby amphibole was excavated to a tan clay layer [approximately 18 inches below ground surface (bgs)], or to the depth required to remove all visible hydrated biotite. After soil had been excavated to the prescribed depths, confirmation soil samples were collected to verify removal of Libby amphibole. One location (sample BN-71001) failed to achieve clearance, but the final excavation elevation was 6 feet below the original ground surface, which is greater than EPA's 4-foot standard for leaving potentially impacted soil in place. The location with remaining detectable Libby amphibole is shown on Appendix A-1, Record Drawing Sheet 3 and on Appendix C, Sheet C-4S.

After acceptable clearance results were received from Zones 1/2/3, the Contractor performed additional excavation and backfilling (clean imported fill) to achieve design sub-grade elevation in these areas. Appendix A-1, Record Drawing Sheets 3 and 4 show the areas as follows:

- Zone 1 was excavated to a final elevation at least 31 inches below the top of the adjacent mainline tie, geotextile liner installed, and the area backfilled with a minimum of 18 inches of clean imported sub-ballast material.

- Zone 2/3 was excavated to a final elevation at least 25 inches below the top of the adjacent mainline tie, geotextile liner installed, and the area backfilled with a minimum of 12 inches of clean imported sub-ballast material.

2.2.2 Zone 4/6/7

Soil located in Zone 4/6/7 believed to contain Libby amphibole was capped in place by removing most railroad ties, placing a geotextile liner over the existing soil, and capping with a geotextile barrier and 12 inches of imported clean backfill (railroad sub-ballast). Potentially impacted surface soil within Zone 6 was removed as part of the clearing and grubbing activities along the northwestern property boundary and disposed in the asbestos cell of the Lincoln County landfill. Zone 7 constituted a sub-zone of Zone 4 that was identified in design documents to provide a location to stockpile decontaminated ties, if needed. Zone 7 was constructed identically to the remainder of Zone 4 and was never utilized for stockpiling materials in the manner originally identified in the Project Manual and Design Drawings.

EPA approved RFI 2004-01, which provided clean soil (as determined from soil sample results) from over-excavation within Zone 1/2/3 to be used as backfill comprising no more than 6 inches of the 12-inch cap in Zone 4/6/7. In selected locations on the eastern side of the Libby Railyard, the uppermost 6 to 9 inches of the 12-inch cap consisted of clean imported sub-ballast material.

2.2.3 Zone 5

Soil containing Libby amphibole within Zone 5 was scraped into Zone 4/7 (Shown on Record Drawing Sheet 3) where it was capped in place along with the Zone 4/7 soil. The excavated material comprised approximately 6 inches of soil in a 10-foot strip located immediately north of the BNSF property line, on the former W. R. Grace facility that is currently owned by the City of Libby. The excavated soil was replaced with clean imported backfill (railroad sub ballast). Geotextile was not placed beneath the cap materials, because the underlying soil had been previously remediated as part of the former W. R. Grace facility.

2.2.4 Zone 8

As shown on Record Drawing Sheet 4, two areas of surface soil south of Track 5 (east of the Highway 37 overpass) were excavated and capped with clean imported sub-ballast material. These excavation/backfill areas are referenced on Record Drawing Sheet 4 as Zone 8. Zone 8 was not previously identified in the referenced design documents. The areas excavated were based on characterization soil samples BR-28001 to BR-30005 shown in Appendix C, Sheet C-5S. EMR collected characterization soil samples south of Track 5 during the 2004 remediation activities. Rather than being capped as originally proposed, the areas that contained detectable Libby amphibole in the soil were excavated and backfilled with clean imported sub-ballast to allow BNSF track crews to relocate Track 5 in the future, if necessary. Soil was excavated approximately 8 to 12 inches to the above-referenced tan clay layer, and clearance samples were obtained. The excavated area was covered with geotextile and backfilled with a minimum of 8 to 12 inches of clean imported railroad sub-ballast. Based on data from soil samples BR-29002 through BR-29004, the area between the two portions of Zone 8 did not require excavation.

2.3 SOIL SAMPLES

Soil sample categories include characterization samples and clearance samples. In general, soil sample nomenclature consists of a prefix and a five-digit number. The prefix designates the type of sample, and the number identifies the sample location. Most samples are four-point composites collected every 50 feet over a distance of 200 feet; thus, four sub-samples comprise each composite sample. The sample numbers usually increase from east to west (e.g., composite sample BR-29000 is located west of sample BR-28000 and east of composite sample BR-30000). Where parallel rows of samples were collected along parallel tracks, the composite numbers usually increase from north to south (e.g., composite sample BR-11000 is located north of composite sample BR-12000). Individual sub-samples within the zone of a composite sample are identified by a digit in the right-hand column (e.g., BR-12001, BR-12002).

In April 2001, characterization soil samples were collected along the main line track at milepost locations and random locations within the Libby Railyard. In 2002, soil samples BN-01000 through BN-22000 were collected in 100-by-100-foot square grids from which a five-point composite was collected. The sample data from 2001 and 2002 were reported to EPA previously.

Sample prefixes are designated as follows:

- Soil characterization sample names begin with no prefix or prefix BN.
- Clearance samples have prefixes of BR, BX, and BY. BR was used during the first sampling for clearance. If the sample failed clearance, and further excavation was performed, the next clearance sample was given the BX prefix. In one instance, additional excavation was required and the sample prefix BY was used to indicate that over-excavation. One soil clearance sample collected at a depth of 6 feet bgs was designated as sample BN-71001 (a characterization prefix) because it contained detectable Libby amphibole as discussed elsewhere in this report. Clearance was not achieved for this location.

2.3.1 Characterization Samples

Railroad bed characterization data was compiled from a variety of sample collection efforts undertaken by EMR from 2001 to 2004, as well as the visual mapping of hydrated biotite in October 2001. Supplemental characterization soil sampling was conducted in July 2004 to identify the western limit of the excavation zone. EMR established a grid system for soil sampling that included metal stakes to assist in defining the boundaries of impacted areas. Surface soil samples were analyzed by a variety of methods between October 2001 and October 2004, including PLM Method 9002, Issue 2, and PLM Method 9002-VE in accordance with the National Institute for Occupational Safety and Health (NIOSH) methods. Samples collected in early 2001 were submitted to Clayton Group Services for analysis by "EPA asbestos in soil method," which involved separating the coarse, medium and fine fractions of samples and conducting a combination of TEM semi-quantitative and PLM Method 600 analyses on those fractions. Areas showing impacts in the 2001 samples were excavated or capped in 2004.

Characterization soil sample locations for samples collected in 2001 were submitted to Mr. Mark Raney of Volpe National Transportation Systems Center in a 25 January 2002 facsimile transmittal. Characterization soil sample results are shown in Appendix D, Table D-1. Laboratory reports for characterization soil samples collected before 2004 were submitted electronically to EPA from EMSL Laboratories and via facsimile upon receipt by EMR. Hard copies of those reports, along with results from soil samples collected in 2004, will be submitted under separate cover to EPA by EMR.

Soil samples were collected in October 2002 and analyzed for other compounds in order to complete the soil profile for disposal. These samples (T1-EO-100 through T4-WO-400) were analyzed for gasoline-range hydrocarbons, diesel-range hydrocarbons, lube oil-range hydrocarbons, total metals, and volatile organic compounds (VOCs) by EPA Method 8260B. Soil analytical results from this event are included in Appendix D, Table D-6.

2.3.2 Clearance Samples

After soil removal from Zone 1/2/3, clearance soil samples were collected at 50-foot intervals along the rail lines, including one composite sample per every 200-foot length of track. As described above, clearance sample prefixes are BR, BX, and BY. The laboratory retained the discrete samples comprising the composites pending receipt of composite sample test results. Sample locations are shown in Appendix C, Sheets C-2S to C-6S. Soil analytical results from clearance samples are included in Appendix D, Table D-2.

The samples were collected from the surface of the excavation bottom and submitted for asbestos analysis by EMSL Laboratories in Libby, Montana. Prior to submittal, CDM personnel reviewed and verified sample paperwork and nomenclature. Sample coordinates were obtained by measuring from a baseline established along the BNSF main line track by HKM Engineering, the sample location was marked by a plastic flag driven into the ground, and the location was established and documented with a hand-held global positioning system (GPS) device. If the composite soil sample tested positive for Libby amphibole, the discrete soil samples were analyzed to determine which sample location contained asbestos. The areas with detectable results were re-excavated in a 25-foot radius around the sample locations (areas previously cleared or areas to be capped were not included in the excavation). The soil samples were collected in accordance with the USEPA 540-R-97-028 document, *Superfund Method for the Determination of Releasable Asbestos in Soils and Bulk Materials,* Appendix 15 of the Quality Analysis Program Plan (QAPP) for the USEPA Libby Mine project. The samples were analyzed for Libby Amphibole by PLM Method 9002, Issue 2.

2.4 SOIL AND TRACK DISPOSAL

Soil potentially containing Libby amphibole was placed in dump trucks for transport to the Lincoln County Landfill. A canvas tarpaulin was placed over the load and secured during truck transit to and from the landfill. Water was applied frequently to control dust during the excavation and loading of soil potentially containing Libby amphibole, and workers onsite used proper respiratory and dermal protection. Equipment operators involved with loading asbestos-containing soil onto trucks were equipped with Level C personal protective equipment (PPE) and personal monitoring equipment. All trucks and equipment leaving the exclusion zone (EZ) were decontaminated over the truck decontamination pad at the eastern end of the Libby Railyard. Truck cabs were equipped with a positive pressure ventilation system equipped with a high efficiency particulate air (HEPA) filter.

The rails, OTM, and ties were decontaminated and recycled or disposed as described in Section 2.1. Decontaminated rails and OTM were salvaged for recycling, and decontaminated ties will be disposed at the Montana Waste Systems Landfill in Great Falls, Montana.

2.5 HEALTH AND SAFETY

Libby Railyard health and safety requirements were identified in EMR's July 2004 Health and Safety Plan. Kennedy/Jenks Consultants and the Contractor developed and followed their own Health and Safety Plans based on the EMR plan. EMR acted as the primary Health and Safety observer, with additional periodic observation by BNSF. Response Action work was conducted within the EZ, which was demarcated with safety cones and caution tape, including a sign indicating that respirators and PPE were required prior to entrance. Libby Railyard personnel were required to wear level C PPE inside the EZ at all times. A Contamination Reduction Zone (CRZ) established outside the EZ contained a three-stage decontamination trailer with clean room, shower, and equipment room. Libby Railyard personnel were required to use the decontamination trailer upon entering and exiting the EZ. Equipment used inside the EZ was washed with a pressure washer prior to leaving the EZ. An existing decontamination pad was reconstructed with a weir to an excavation filled with sub-ballast material to prevent overflow water from leaving the decontamination pad. At the end of construction, the decontamination pad and overflow area were excavated and disposed in the asbestos cell of the Lincoln County Landfill.

2.6 AIR MONITORING

Prior to construction, background air samples were collected equidistant across the length of the yard. During construction, work was conducted in modified Level C PPE within an EZ that extended northward from a boundary 8.5 feet north of the main line track centerline to include the limits of the work area, which changed frequently. Ambient air samples were collected during Response Actions at five perimeter monitoring stations around each EZ (sometimes active work areas included more than one EZ) to verify that asbestos fibers did not migrate outside the EZ. Ambient air samples were submitted for analysis by the TEM Asbestos Schools Hazard Abatement Act (AHERA) Method. If airborne asbestos fibers were detected at a concentration greater than 0.01 fibers per cubic centimeter (f/cc), work practices were examined and altered upon receipt of the sample results. Ambient air samples were submitted to EMSL Laboratories for analysis after CDM personnel reviewed and verified the sample paperwork and; monitoring results are documented in Appendix D, Table D-3.

Personnel air monitoring was conducted on approximately 25% of the work force. Personal air samples were collected with a low volume battery pump from chosen personnel inside the EZ. These air samples were representative of a full 8-hour shift. An AIHA-certified analyst with EMR analyzed the majority of the personnel monitoring samples onsite using the NIOSH 7400 PCM Method. When an AHIA-certified analyst was not present onsite, personnel air samples were submitted to the EMSL laboratory in Libby, Montana for the same analysis. If an air sample inside the EZ exceeded 0.1 f/cc, the sample was submitted to EMSL for analysis by the TEM AHERA Method. Initial respiratory protection inside the EZ consisted of full-face positive-pressure air-purifying respirators (PAPR) equipped with high-efficiency particulate air (HEPA) filters. Based on the results of air monitoring during Libby Railyard activities, respiratory protection was downgraded to half-face respirators after approval from the Certified Industrial Hygienist (CIH). Personal air monitoring results for samples analyzed by EMSL are documented in Appendix D, Tables D-3 and D-4.

2.7 SOIL AND RAILROAD TIE DISPOSAL CHARACTERIZATION

In anticipation of landfill disposal, Libby Railyard soil samples were collected in October 2002 to characterize the soil for non-asbestos constituents. The results of this characterization sampling are reported in Appendix D, Table D-5. Samples were analyzed for gasoline-, diesel-, and lube oil-range hydrocarbons, eight metals by EPA 6010-Series Methods, and VOC by EPA Method 8260B. Detected compounds were within the ranges acceptable for landfill disposal.

Forty railroad ties were randomly selected and sampled for analysis by PLM methods to document decontamination procedures. Asbestos fibers were not detected in any samples. Sample results are reported in Appendix D, Table D-6.

2.8 REPORTING AND COORDINATION ACTIVITIES

EMR completed notification to the Montana State Department of Environmental Quality (MDEQ) Solid Waste division in accordance with the AOC. Prior to beginning work, Envirocon provided a courtesy notification to EPA and MDEQ in accordance with National Emission Standards for Hazardous Air Pollutants (NESHAPS) 40CFR 61, Sub-part M. EMR submitted daily reports and sampling logs to Kennedy/Jenks Consultants at the end of the workday, including air monitoring tests and results, daily safety reports, and soil removal reports. EMR prepared weekly and monthly progress reports for submittal to EPA.

2.9 FINAL LIBBY RAILYARD RESTORATION

The finished grade and sub-grade for the rail beds and cap material were in accordance with the design drawings and RFIs. A surveyor licensed in the State of Montana established the final elevations.

2.10 ADDITIONAL WORK

During review of soil sampling data while preparing this Construction Completion Report, two areas on the southern side of the main line were identified as containing Libby amphibole or hydrated biotite in the Libby Railyard soil. EMR identified those areas in a 1 December 2004 letter to EPA, which is enclosed in Appendix I. BNSF will institute appropriate response actions for those areas during the 2005 construction season.

3.0 CONSTRUCTION QUALITY ASSURANCE

The following sections provide brief descriptions of the Construction Quality Assurance (CQA) activities completed for the project. Kennedy/Jenks Consultants, EMR, HKM, Envirocon, and EPA representatives performed CQA daily throughout the project.

3.1 EARTHWORK

Earthwork quality assurance requirements outlined in *The Burlington Northern and Santa Fe Railway Company Libby Yard Asbestiform Fiber Removal Project Manual* (July 2004) were followed for soil density tests, gradation analyses, and dust control.

Sub-ballast material placed for the reconstructed rail beds was compacted to 95% compaction by ASTM D1557 modified proctor density. Compaction testing was performed by an approved testing firm (HKM Engineering of Butte, Montana) at random intervals but not less than every 100 feet along the length of the yard. Density tests were performed onsite with a nuclear density gage to determine the in-place density of compacted soil. Geotechnical soil analyses (gradations, proctor) were performed offsite to verify material conformance with project specifications. Compaction testing results are provided in Appendix E-1.

3.2 CONSTRUCTION MATERIALS VERIFICATION

Submittals for project materials, including sub-ballast, geotextile fabric, and fence materials were received and approved prior to installation (Appendix E-2). Upon delivery to the Libby Railyard, the material was visually examined by the contractors and Kennedy/Jenks Consultants to assure conformance with the specifications. Material tags, invoices, and delivery tickets were obtained onsite as further verification that the material met specifications. Material verification documentation is enclosed in Appendix E-2.

3.3 CAP PLACEMENT

The sub-ballast cap material was supplied by Remp Sand and Gravel, a local source acceptable to BNSF and EPA (Remp Sand and Gravel). The sub-ballast was placed in 12- to 24-inch lifts and compacted with a vibratory compactor. Backfill thickness beneath Zones 1 and 2/3 was verified by before and after survey data. Backfill thickness for Zones 5 and 8 and cap thickness for Zone 4/6/7 were verified by measurement at the cap front during placement of sub-ballast and bulldozing, as well as by survey data. Compaction was tested as described in Section 3.1.

4.0 QUANTITIES OF MATERIALS

The total quantities of materials are summarized in Table 1. The quantities are based on the following:

- Removed rail was measured with a measuring wheel prior to removal.
- Following decontamination, removed ties were counted while they were stacked, prior to loading into railcars for future disposal.
- Soil and other potential ACM transported to the Lincoln County Landfill for incorporation in the asbestos cell was weighed on a certified truck scale at the Libby Railyard. Documentation of the amount of material taken to the landfill asbestos cell is provided in Appendix F.
- Imported sub-ballast from Remp Sand and Gravel was weighed on a certified truck scale at the Libby Railyard prior to placement. Documentation of the amount of clean imported fill is provided in Appendix G.

5.0 CONSTRUCTION COMPLETION INSPECTION

A final construction inspection was conducted on 11 November 2004. The Libby Railyard inspection included personnel from EPA and its contractors, Montana Department of Environmental Quality, BNSF, Kennedy/Jenks Consultants, and Envirocon. No deficiencies were identified during this final inspection.

6.0 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS ANALYSIS

Compliance with applicable or relevant and appropriate requirements (ARARs) is documented in Appendix H.

REFERENCES

EMR, Incorporated. 2004a. Project Specification, BNSF Libby Railyard Hydrated Biotite Removal, Libby, Montana. Prepared for BNSF by EMR, Incorporated. July 2004.

EMR, Incorporated. 2004b. Volume III, Health and Safety Plan, BNSF Libby Railyard Libby Amphibole Impacted Soil Removal, Libby, Montana. Prepared for BNSF by EMR, Incorporated. July 2004.

Kennedy/Jenks Consultants. 2004a. Evaluation of Conceptual Response Options. Prepared for BNSF by Kennedy/Jenks Consultants. June 2004.

Kennedy/Jenks Consultants. 2004b. Project Manual, The Burlington Northern and Santa Fe Railway Company, Libby Rail Yard Asbestiform Fiber Removal, Libby, Montana. Prepared for BNSF by Kennedy/Jenks Consultants. July 2004.

Kennedy/Jenks Consultants. 2004c. Burlington Northern and Santa Fe Railway Company, Libby Railyard, Response Action (Design Drawings). Prepared for BNSF by Kennedy/Jenks Consultants. 26 July 2004.

Kennedy/Jenks Consultants. 2004d. Revised Response Action Work Plan, Libby Railyard, Libby, Montana. Prepared for BNSF by Kennedy/Jenks Consultants. August 2004.

United States Environmental Protection Agency, Region VIII. 2003. Administrative Order on Consent for Removal Action, In the Matter of: The Burlington Northern and Santa Fe Railway Company – Libby Railyard, Montana, Libby Asbestos Site, Libby, Montana. Prepared by United States Environmental Protection Agency. Signed by The Burlington Northern and Santa Fe Railway Company on 17 April 2003.

Tables

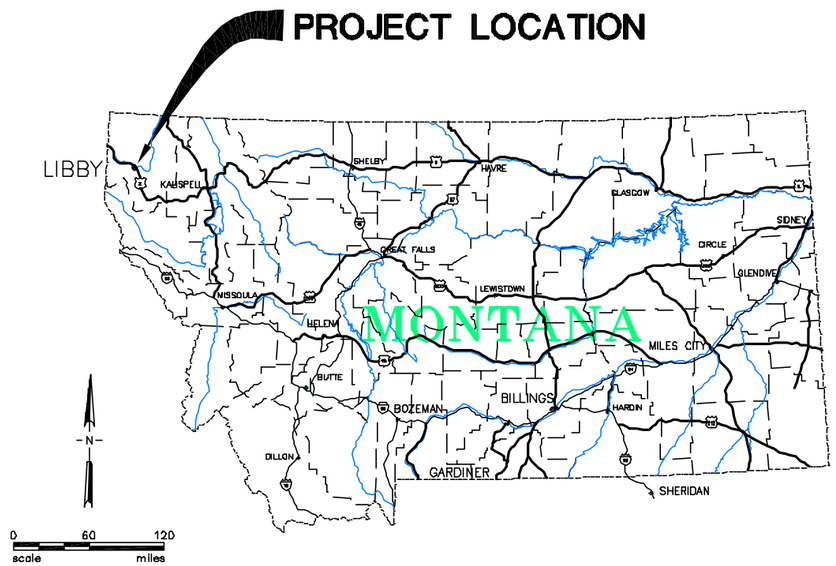
TABLE 1

QUANTITIES OF MATERIALS
BNSF RAILWAY COMPANY
LIBBY RAILYARD RESPONSE ACTION 2004
LIBBY, MONTANA

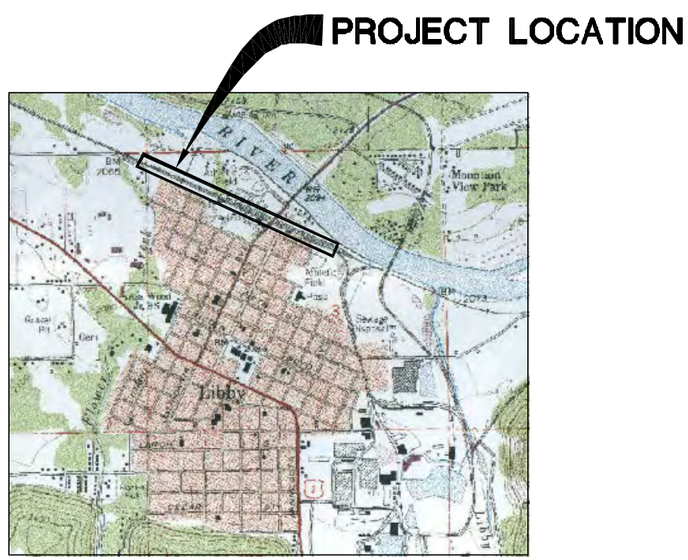
Item	Quantity	Units	Comments
Rail and other track materials	28,182	linear feet	Recycled by Montana Railroad Services (14,091 track-feet)
Railroad ties	8,000	each	Pending disposal at Montana Waste Systems Landfill, Great Falls, Montana
Soil potentially containing Libby amphibole	12,859.38	tons	Disposed at asbestos cell of Lincoln County Landfill, Montana (Appendix F)
Clean imported backfill	17,792.31	tons	Remp Sand and Gravel (Appendix G)

Appendix A-1

Record Drawings

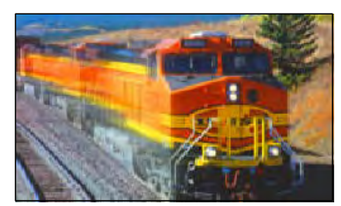


RECORD DRAWINGS
for the
LIBBY RAILYARD.
BURLINGTON NORTHERN
& SANTA FE RAILWAY COMPANY
in
LIBBY, MONTANA



Prepared for :

KENNEDY/JENKS CONSULTANTS

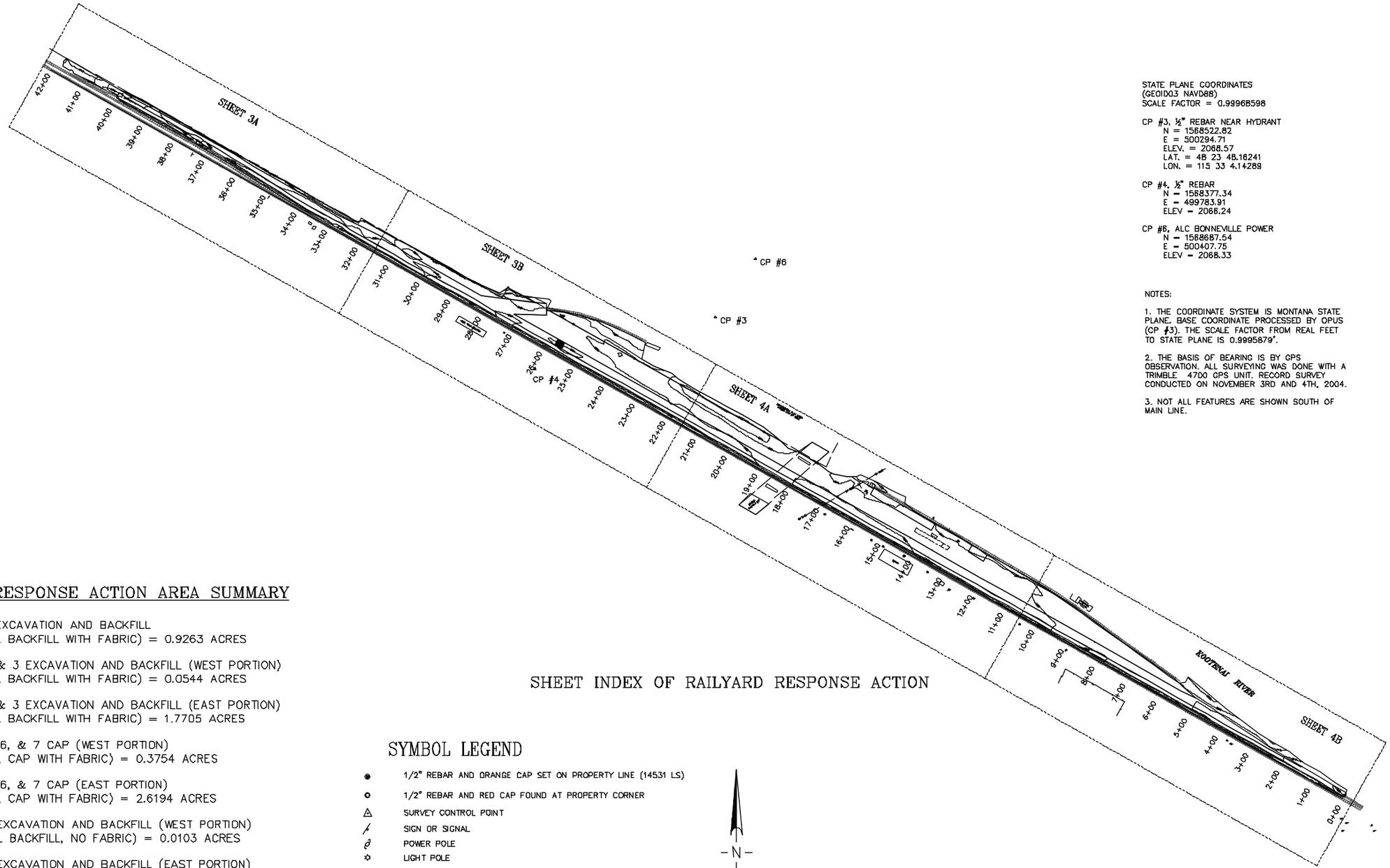


HKM Engineering Inc.
1015 S. Montana St.
P.O. Box 3588
Butte, MT 59702
(406) 723-8213
FAX (406) 723-8328

PROJECT NO. 15B638.102 DECEMBER 2004

Copyright © 2004 HKM Engineering Inc., All Rights Reserved.

G:\15\B638102\LIBBY-SPC\dwg\libby-SPC-sheets.dwg 12/13/2004 11:47:39 AM MST



STATE PLANE COORDINATES
(GEOID03 NAVD88)
SCALE FACTOR = 0.99968598

CP #3, ½" REBAR NEAR HYDRANT
N = 1568522.82
E = 500294.71
ELEV. = 2068.57
LAT. = 48 23 48.18241
LON. = 115 33 4.14289

CP #4, ½" REBAR
N = 1568377.34
E = 499783.91
ELEV = 2068.24

CP #6, ALC BONNEVILLE POWER
N = 1568687.54
E = 500407.75
ELEV = 2068.33

NOTES:

1. THE COORDINATE SYSTEM IS MONTANA STATE PLANE. BASE COORDINATE PROCESSED BY OPUS (CP #3). THE SCALE FACTOR FROM REAL FEET TO STATE PLANE IS 0.9995879'.

2. THE BASIS OF BEARING IS BY GPS OBSERVATION. ALL SURVEYING WAS DONE WITH A TRIMBLE 4700 GPS UNIT. RECORD SURVEY CONDUCTED ON NOVEMBER 3RD AND 4TH, 2004.

3. NOT ALL FEATURES ARE SHOWN SOUTH OF MAIN LINE.

LIBBY RESPONSE ACTION AREA SUMMARY

ZONE 1 EXCAVATION AND BACKFILL
(1.5' SOIL BACKFILL WITH FABRIC) = 0.9263 ACRES

ZONE 2 & 3 EXCAVATION AND BACKFILL (WEST PORTION)
(1.0' SOIL BACKFILL WITH FABRIC) = 0.0544 ACRES

ZONE 2 & 3 EXCAVATION AND BACKFILL (EAST PORTION)
(1.0' SOIL BACKFILL WITH FABRIC) = 1.7705 ACRES

ZONE 4, 6, & 7 CAP (WEST PORTION)
(1.0' SOIL CAP WITH FABRIC) = 0.3754 ACRES

ZONE 4, 6, & 7 CAP (EAST PORTION)
(1.0' SOIL CAP WITH FABRIC) = 2.6194 ACRES

ZONE 5 EXCAVATION AND BACKFILL (WEST PORTION)
(0.5' SOIL BACKFILL, NO FABRIC) = 0.0103 ACRES

ZONE 5 EXCAVATION AND BACKFILL (EAST PORTION)
(0.5' SOIL BACKFILL, NO FABRIC) = 0.2190 ACRES

ZONE 8 EXCAVATION AND BACKFILL (WEST PORTION)
(1.0' SOIL BACKFILL, NO FABRIC) = 0.0907 ACRES

ZONE 8 EXCAVATION AND BACKFILL (EAST PORTION)
(1.0' SOIL BACKFILL, NO FABRIC) = 0.0233 ACRES

SHEET INDEX OF RAILYARD RESPONSE ACTION

SYMBOL LEGEND

- 1/2" REBAR AND ORANGE CAP SET ON PROPERTY LINE (14531 LS)
- 1/2" REBAR AND RED CAP FOUND AT PROPERTY CORNER
- SURVEY CONTROL POINT
- SIGN OR SIGNAL
- POWER POLE
- LIGHT POLE
- WATER SPIGOT
- MONITORING WELL
- PROPERTY LINE
- FENCE
- SURVEY PERIMETER
- OH ELEC — OVERHEAD ELECTRIC

N

SCALE: 1"=150'

No.	Revision	By	Date

WARNING
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

Project No. 158638.102 • libby-SPC-sheets.dwg • Date November 2004 • Drawn JMG • Checked JMG • Approved EJ

LIBBY RAILYARD
BURLINGTON NORTHERN & SANTA FE RAILWAY

RESPONSE ACTION INDEX
RECORD DRAWINGS

RECORD DRAWINGS

HKM Engineering Inc.
1015 S. Montana St.
P.O. Box 3588
Butte, MT 59702
(406) 723-8213
FAX (406) 723-8328

Sheet No.
2
of 4

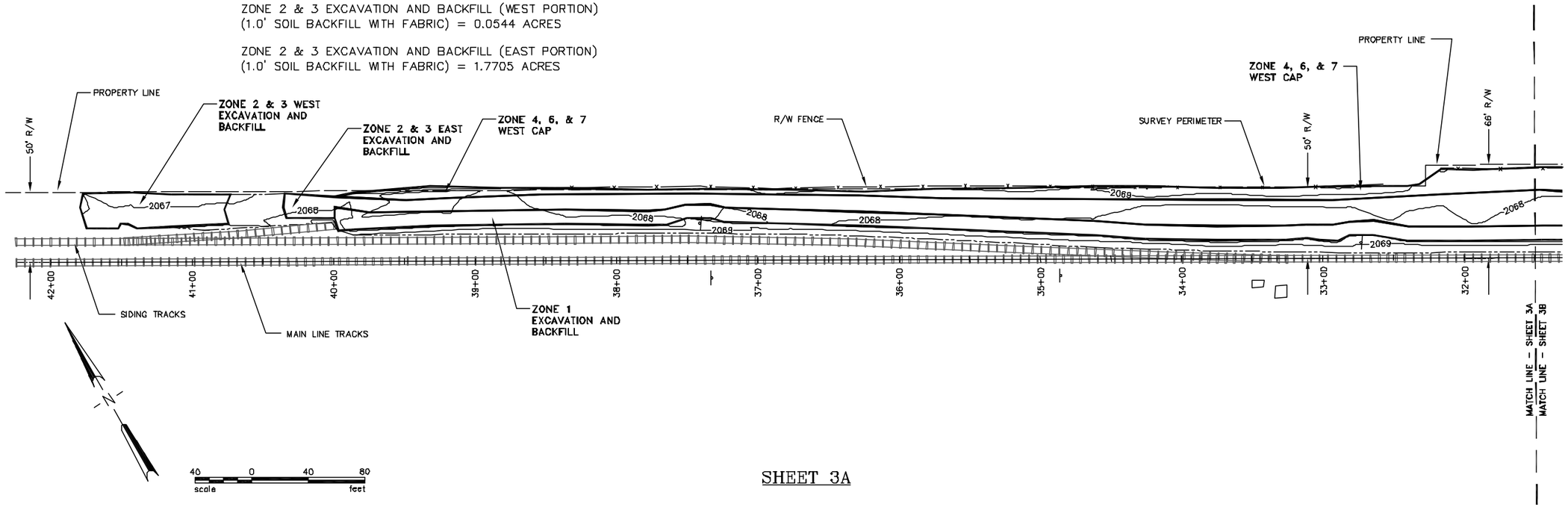
Copyright © 2004 HKM Engineering Inc., All Rights Reserved.

Q:\15\158638\02\LIBBY-SPC\dwg\libby-SPC-sheets.dwg 12/13/2004 11:47:39 AM MST

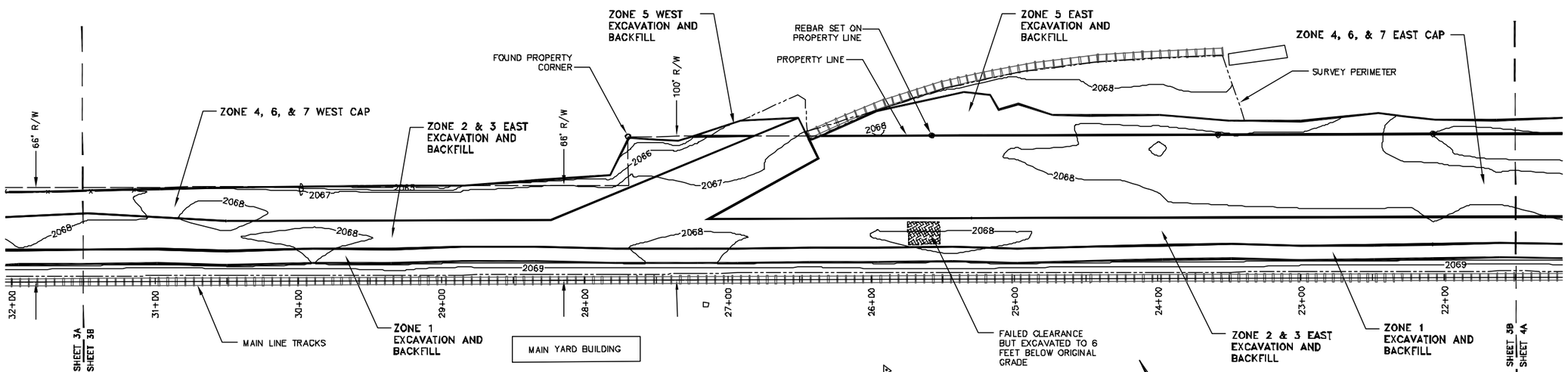
LIBBY RESPONSE ACTION AREA SUMMARY 3A

ZONE 2 & 3 EXCAVATION AND BACKFILL (WEST PORTION)
(1.0' SOIL BACKFILL WITH FABRIC) = 0.0544 ACRES

ZONE 2 & 3 EXCAVATION AND BACKFILL (EAST PORTION)
(1.0' SOIL BACKFILL WITH FABRIC) = 1.7705 ACRES



SHEET 3A



LIBBY RESPONSE ACTION AREA SUMMARY 3B

ZONE 1 EXCAVATION AND BACKFILL
(1.5' SOIL BACKFILL WITH FABRIC) = 0.9263 ACRES

ZONE 4, 6, & 7 CAP (WEST PORTION)
(1.0' SOIL CAP WITH FABRIC) = 0.3754 ACRES

ZONE 4, 6, & 7 CAP (EAST PORTION)
(1.0' SOIL CAP WITH FABRIC) = 2.6194 ACRES

ZONE 5 EXCAVATION AND BACKFILL (WEST PORTION)
(0.5' SOIL BACKFILL, NO FABRIC) = 0.0103 ACRES

ZONE 5 EXCAVATION AND BACKFILL (EAST PORTION)
(0.5' SOIL BACKFILL, NO FABRIC) = 0.2190 ACRES

SHEET 3B

No.	Revision	By	Date

WARNING
D 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

Project No. 158638.102 • libby-SPC-sheets.dwg • Date November 2004 • Drawn JMG • Checked JMG • Approved EJ

LIBBY RAILYARD
BURLINGTON NORTHERN & SANTA FE RAILWAY

RESPONSE ACTION AREAS RECORD DRAWINGS

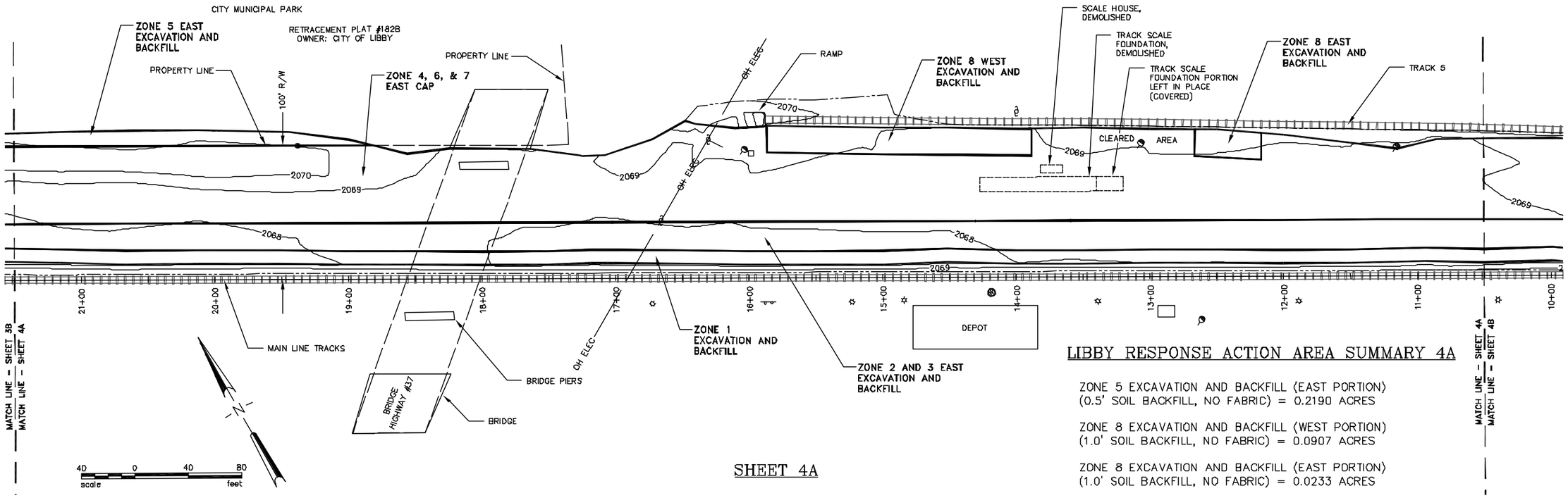
RECORD DRAWINGS

HKM Engineering Inc.
1015 S. Montana St.
P.O. Box 3588
Butte, MT 59702
(406) 723-8213
FAX (406) 723-8328

Sheet No. 3 of 4

Q:\15\158638102\LIBBY-SPC\dwg\libby-SPC-sheets.dwg 12/13/2004 11:47:39 AM MST

Copyright © 2004 HKM Engineering Inc., All Rights Reserved.



SHEET 4A

LIBBY RESPONSE ACTION AREA SUMMARY 4A

ZONE 5 EXCAVATION AND BACKFILL (EAST PORTION)
(0.5' SOIL BACKFILL, NO FABRIC) = 0.2190 ACRES

ZONE 8 EXCAVATION AND BACKFILL (WEST PORTION)
(1.0' SOIL BACKFILL, NO FABRIC) = 0.0907 ACRES

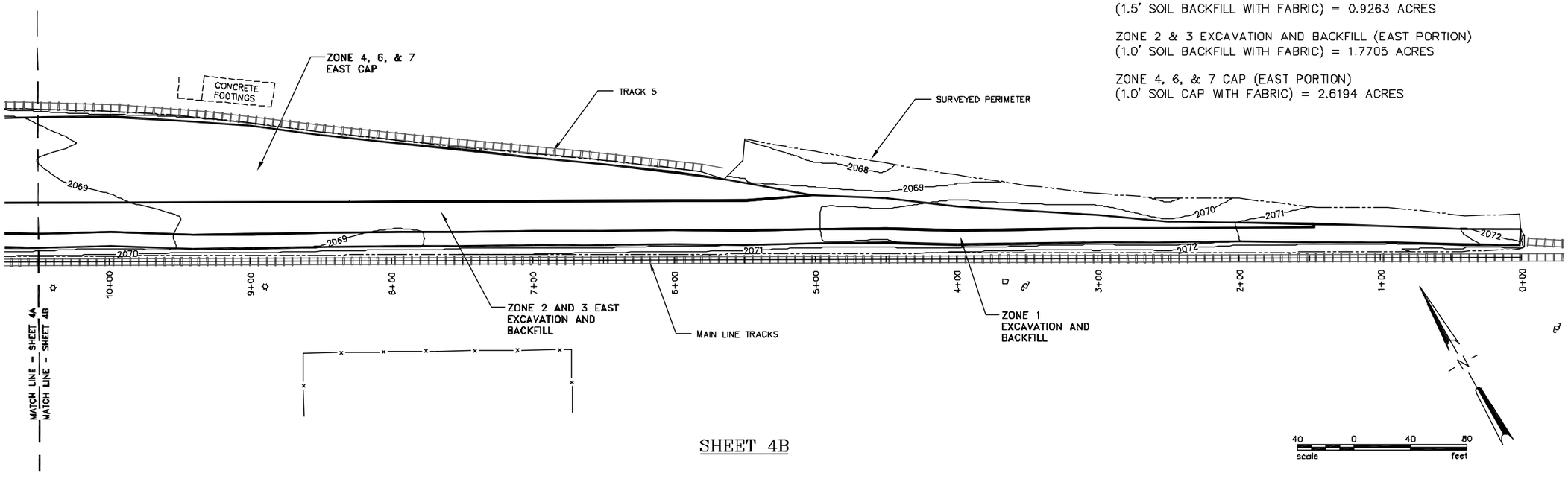
ZONE 8 EXCAVATION AND BACKFILL (EAST PORTION)
(1.0' SOIL BACKFILL, NO FABRIC) = 0.0233 ACRES

LIBBY RESPONSE ACTION AREA SUMMARY 4B

ZONE 1 EXCAVATION AND BACKFILL
(1.5' SOIL BACKFILL WITH FABRIC) = 0.9263 ACRES

ZONE 2 & 3 EXCAVATION AND BACKFILL (EAST PORTION)
(1.0' SOIL BACKFILL WITH FABRIC) = 1.7705 ACRES

ZONE 4, 6, & 7 CAP (EAST PORTION)
(1.0' SOIL CAP WITH FABRIC) = 2.6194 ACRES



SHEET 4B

No.	Revision	By	Date

WARNING
D 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

Project No. 158638.102 • libby-SPC-sheets.dwg • Date November 2004 • Drawn JMG • Checked JMG • Approved EJ

LIBBY RAILYARD
BURLINGTON NORTHERN & SANTA FE RAILWAY

RESPONSE ACTION AREAS RECORD DRAWINGS

RECORD DRAWINGS

HKM Engineering Inc.
1015 S. Montana St.
P.O. Box 3588
Butte, MT 59702
(406) 723-8213
FAX (406) 723-8328

Sheet No. 4 of 4

Q:\15\158638102\LIBBY-SPC\dwg\libby-SPC-sheets.dwg 12/13/2004 11:47:39 AM MST

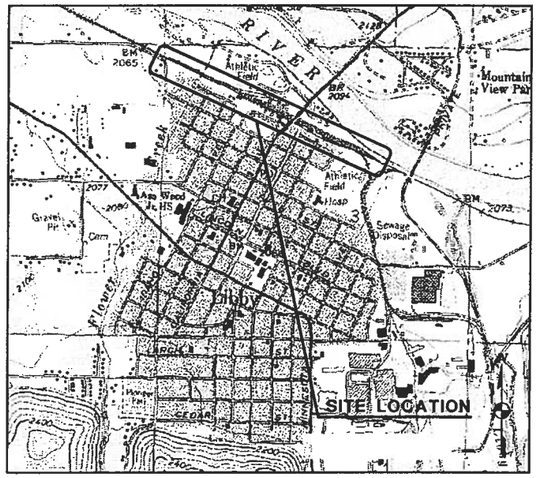
Copyright © 2004 HKM Engineering Inc., All Rights Reserved.

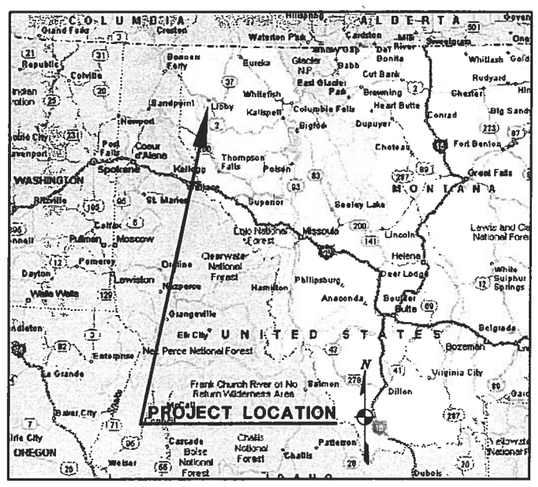
Appendix A-2

Construction Design Drawings

BURLINGTON NORTHERN & SANTA FE RAILWAY COMPANY

LIBBY RAILYARD
RESPONSE ACTION
BY
KENNEDY/JENKS CONSULTANTS





LIBBY MONTANA VICINITY MAPS

LIST OF DRAWINGS

GENERAL:

DWG NO.	TITLE
G-1	TITLE SHEET
G-2	ABBREVIATIONS
G-3	CIVIL/GENERAL SYMBOLS
G-4	SITE PHOTOS
G-5	SITE PHOTOS
G-6	SITE PHOTOS

DEMOLITION

DWG NO.	TITLE
D-1	RAILROAD TRACK DEMOLITION SHEET 1
D-2	RAILROAD TRACK DEMOLITION SHEET 2
D-3	RAILROAD TRACK DEMOLITION SHEET 3
D-4	RAILROAD TRACK DEMOLITION SHEET 4
D-5	RAILROAD TRACK DEMOLITION SHEET 5
D-6	RAILROAD TIE DEMOLITION SHEET 1
D-7	RAILROAD TIE DEMOLITION SHEET 2
D-8	RAILROAD TIE DEMOLITION SHEET 3
D-9	RAILROAD TIE DEMOLITION SHEET 4
D-10	RAILROAD TIE DEMOLITION SHEET 5

CIVIL

DWG NO.	TITLE
C-1	EXISTING SITE PLAN
C-2	EXCAVATION ZONE SHEET 1
C-3	EXCAVATION ZONE SHEET 2
C-4	EXCAVATION ZONE SHEET 3
C-5	EXCAVATION ZONE SHEET 4
C-6	EXCAVATION ZONE SHEET 5
C-7	NOT USED
C-8	NOT USED
C-9	NOT USED
C-10	NOT USED
C-11	NOT USED
C-20	NOT USED
C-21	NOT USED
C-22	TYPICAL SECTIONS EAST AND WEST OF THE HIGHWAY BRIDGE

MONTANA
RICHARD C. GUGLOMO
No. 9406PE
LICENSED PROFESSIONAL ENGINEER

Richard C. Guglomo

EXPIRES - 6/30/2005
SIGNED - 7/26/2004

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

TITLE SHEET

BID ISSUE
JULY, 2004

DRAWING NUMBER
G-1
OF

P:\CAD\04\046022.11-Libby\G-01.dwg Jul 26, 2004 - 11:44am

ABBREVIATIONS

&	AND
@	AT
X	BY
℄	CENTERLINE
[	CHANNEL
°F	DEGREES FAHRENHEIT
ø	DIAMETER
'	FEET
"	INCHES
#	NUMBER, POUND
⅊	PROPERTY LINE
□	SQUARE
∠, L	STRUCTURAL ANGLE
A53	A53 CARBON STEEL
AB	ANCHOR BOLT
ABT	ABOUT
AC	AIR CONDITIONER, ASPHALT CONCRETE
ADJ	ADJACENT
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AMCA	AIR MOVEMENT AND CONTROL ASSOCIATION, INC.
ANCH	ANCHOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
ARV	AIR RELIEF VALVE
AS	AIR SUPPLY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATS	AUTOMATIC TRANSFER SWITCH
AVR	AIR/VACUUM RELIEF VALVE
B&S	BALL AND SOCKET
BE	BOTTOM ELEVATION
BF	BLIND FLANGE
BFP	REDUCED PRESSURE BACK FLOW PREVENTER
BFV	BUTTERFLY VALVE
BLDG	BUILDING
BM	BEAM, BENCHMARK
BOC	BOTTOM OF CONCRETE
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BP	REACTOR BYPASS
BSP	BLACK STEEL PIPE
BTUH	BRITISH THERMAL UNITS PER HOUR
BV	BALL VALVE
BWR	BACKWASH RECYCLE
BWS	BACKWASH SUPPLY
BWW	BACKWASH TO WASTE
C	CHEMICAL
CA	COMPRESSED AIR
CB	CATCH BASIN
CC	CENTER TO CENTER
CCP	CONCRETE CYLINDER PIPE
CCWR	CLOSED-LOOP COOLING WATER RETURN
CCWS	CLOSED-LOOP COOLING WATER SUPPLY
CFM	CUBIC FEET PER MINUTE
CHK'D	CHECKED
CHKR	CHECKERED
CI	CAST IRON
CIP	CAST IN PLACE
CJ	CONSTRUCTION JOINT
CK	CHECK VALVE
CL	PIPE CLASS, CENTERLINE
CL2	CHLORINE
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CEMENT MORTAR UNIT
CO	COMPANY, CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CPLG	COUPLING
CP	CONTROL POINT
CPP	CORRUGATED PLASTIC PIPE
CPVC	CHLORINATED POLYVINYL CHLORIDE
CSTC	CRUSHED SURFACING TOP COURSE
CU	COPPER
CW	CITY WATER OR COLD WATER
CY	CUBIC YARD(S)
DAF	DISSOLVED AIR FLOTATION UNIT
DB	DRY BULB
DBL BLK & BLD	DOUBLE BLOCK AND BLEED
DC	DOUBLE CONTAINED
DEMO	DEMOLISH
DFO	DIESEL FUEL OIL
DI	DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DN	DOWN
DR	DRAIN
DWG	DRAWING
DWV	DRAIN, WASTE, & VENT
(E), EXIST	EXISTING
E	EAST
e.g.	FOR EXAMPLE
EA	EACH
EAG	EXHAUST AIR GRILL
ECC	ECCENTRIC
EES	EMERGENCY ELECTRICAL SUPPLY
EF	EXHAUST FAN
EFF	EFFLUENT
EL, ELEV	ELEVATION
ELECT	ELECTRICAL
ENCL	ENCLOSURE
EP, EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQUIP	EQUIPMENT
ES	ELECTRICAL SUPPLY
EW/EF	EACH WAY EACH FACE
EW	EACH WAY
EWS	EYEWASH/SHOWER
EXP	EXPANSION
EXT	EXTERIOR, EXTENSION
F	FIRE SPRINKLER
FAB	FABRICATE
FB	FLAT BAR
FC	FAIL CLOSED
FCA	FLANGED COUPLING ADAPTER
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FDR	FOUNDATION DRAIN
FF	FINISHED FLOOR
FH	FIRE HYDRANT
FIN	FINISH
FIN FLR	FINISHED FLOOR
FL, FLG	FLANGE
FLEX	FLEXIBLE
FM	FORCE MAIN
FNPT	FEMALE NATIONAL PIPE THREAD
FO	FAIL OPEN
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FRP	FIBERGLASS REINFORCED PLASTIC
FSS	FIBERGLASS STRUCTURAL SHAPE
FT	FEET
FTG	FOOTING
FV	FOOT VALVE
FW	FILTERED WATER
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
GR	GRADE, GROUND
GS	GALVANIZED STEEL
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
GW	GROUND WATER
HB	HOSE BIBB
HGL	HYDRAULIC GRADE LINE
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPCW	HIGH PRESSURE ZONE
HDPE	HIGH-DENSITY POLYETHYLENE
HR	HOUR
HT	HEIGHT
HV	HAND VALVE
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HW	HOT WATER
HZ	HERTZ
I	IRRIGATION
IAW	IN ACCORDANCE WITH
ID	INSIDE DIAMETER
IE, IN EL	INVERT ELEVATION
IH	INFLUENT HEADER
IN	INCH
INV	INVERT
IPS	IRON PIPE SIZE
IW	INJECTOR WATER
IWS	INDUSTRIAL WASTE SYSTEM/SEWER
IWW	INDUSTRIAL WASTEWATER
IWWTF, IWTF,IWTP	INDUSTRIAL WASTEWATER TREATMENT FACILITY/PLANT
JO	JOURNAL OIL
JT	JOINT
KW	KILOWATT
L	ANGLE
LB	POUND
LF	LINEAL FEET
LG	LONG
LO	LUBE OIL
LP	LOW POINT
LT	LEFT
LT.WT.	LIGHT WEIGHT
M	MODIFICATION, METER
MACH	MACHINE
MANUF	MANUFACTURER
MAT'L	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MBH	MILLIONS OF BRITISH THERMAL UNITS PER HOUR
MCC	MOTOR CONTROL CENTER
MD	MEASURE DOWN
MECH	MECHANICAL
MEOH	METHANOL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MNPT	MALE NATIONAL PIPE THREAD
MON	MONUMENT
MPH	MILES PER HOUR
MUX	TELEMETRY MULTIPLEXING
MX	MIXER
(N)	NEW
N	NORTH
NIC	NOT IN CONTRACT
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NE	NORTHEAST
NG	NATURAL GAS
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NO	NORMALLY OPEN
NO.	NUMBER
NOM	NOMINAL
NPT	NATIONAL PIPE THREAD
NPW	NON-POTABLE WATER
NRS	NON-RISING STEM
NST	NATIONAL STANDARD THREAD
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE/OVERFLOW
OHP	OVERHEAD POWER
OPER	OPERATOR
OPNG	OPENING
OS&Y	OUTSIDE SCREW & YOKE
OSHA	OCCUPATION SAFETY AND HEALTH ACT
OWS	OIL/WATER SEPARATOR
PA	PLANT AIR
PCW	PROCESS WATER
PE	PLAIN END OR POLYETHYLENE
PERIM	PERIMETER
PI	PRESSURE INDICATOR
PIWW	PUMPED INDUSTRIAL WASTEWATER
PIP	PLASTIC IRRIGATION PIPE
PL	PLATE
PLC	PROGRAMMABLE LOGIC CONTROLLER
POC	POINT OF CONNECTION
POTW	PUBLICLY OWNED TREATMENT WORKS
PP	POLYPROPYLENE
PRESS	PRESSURE
PRV	PRESSURE RELIEF VALVE, PRESSURE REDUCING VALVE
PS	PUMP STATION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PSS	PRESSURIZED SANITARY SEWER
PT	POINT
PTW	PUMP-TO-WASTE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PW	POTABLE WATER
R	RADIUS
R/W	RIGHT OF WAY
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RE	RIM ELEVATION
RECIRC	RESIRCULATION
RED	REDUCER
REF	REFERENCE
REG	REGULATOR
REINF	REINFORCING, REINFORCED
REQ'D	REQUIRED
RF	RAISED FACE
RJ	RESTRAINED JOINT
RO	ROUGH OPENING
RPM	REVOLUTIONS PER MINUTE
RW	RAW WATER, RECOVERY WELL
S	SOUTH, SLOPE
SA	SAMPLE
SAN	SANITARY SEWER
SCHED	SCHEDULE
SDR	STANDARD DIMENSION RATIO
SE	SOUTHEAST
SEC	SECOND
SEQT	STORM EQUALIZATION TANK
SEW	SEWER
SF	SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION
SMH	SANITARY SEWER MANHOLE
SP	STATIC PRESSURE OR SURFACE PREPARATION, SUMP PUMP
SPA	SPACES
SPEC	SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL, SANITARY SEWER
SSPC	STRUCTURAL STEEL PAINTING COUNCIL
STA	STATION
STD	STANDARD
STL	STEEL
STORM, SD	STORM DRAIN
STR	STRENGTH
STRUCT	STRUCTURAL
SW	SOUTHWEST
T	THERMOSTAT
T&B	TOP AND BOTTOM
TBM	TEMPORARY BENCH MARK
TCE	TRICHLOROETHYLENE
TEL	TELEPHONE
TGE	TOP OF GRATING ELEVATION
TOC	TOP OF CONCRETE
TOS	TOP OF SLAB, TOP OF STEEL
TOW	TOP OF WALL
TT	TANK TRUCK
TURB	TURBIDITY
TYP	TYPICAL
U/G	UNDERGROUND
UBC	UNIFORM BUILDING CODE
UH	UNIT HEATER
UL	UNDERWRITER'S LABORATORY
UO	USED OIL
UON	UNLESS OTHERWISE NOTED
V	VENT, VENT ABOVE ELEVATION
VERT	VERTICAL
VSD	VARIABLE SPEED DRIVE (VFD)
VTR	VENT THRU ROOF
W	WEST
W/	WITH
W/O	WITHOUT
WB	WET BULB
WM	WATER METER
WS	WASTE SLUDGE, WATER SURFACE
WTP	WATER TREATMENT PLANT
WW	WASTEWATER
WWT	WASTEWATER TREATMENT
WWTP	WASTEWATER TREATMENT PLANT
WWTPS	WASTEWATER TRANSFER PUMP STATION
XJ	EXPANSION JOINT
YD	YARD

MONTANA
RICHARD C. GUGLOMO
No. 9466PE
PROFESSIONAL ENGINEER

EXPIRES - 6/30/2006
SIGNED - 7/26/2004

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington 98001

The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

ABBREVIATIONS

BID ISSUE
JULY, 2004

DRAWING NUMBER
G-2
OF

P:\CAD\04\046022.11-Libby\G-02.dwg Jul 26, 2004 - 10:45am

CIVIL/GENERAL SYMBOLS

- FIRE PROTECTION WATER (EXISTING) — FW
- SEWER (EXISTING) — SS
- STORM DRAIN (EXISTING) — SD
- WATER LINE (EXISTING) — W
- RECLAIMED WATER (EXISTING) — RW
- GAS LINE (EXISTING) — G
- TELEPHONE LINE (EXISTING) — T
- ELECTRICAL LINE (EXISTING) — E
- CABLE TV (EXISTING) — CTV
- CROSSING UTILITIES (EXISTING)
- FENCE
- PROPERTY LINE/RIGHT-OF-WAY
- CONTRACTORS WORK AREA LIMITS — WA
- CENTERLINE
- CULVERT WITH END SECTIONS
- HANDRAIL OR GUARDRAIL
- WATER SURFACE
- GRADE CHANGE LINE
- RIDGE LINE — R
- FLOW LINE
- GRADED SLOPE — TOP, TOE
- DITCH OR SWALE
- CONTOUR MAJOR (NEW) — 110
- CONTOUR MINOR (NEW)
- CONTOUR MAJOR (EXIST) — 110
- CONTOUR MINOR (EXIST)

- CONTROL POINT — CP
- SOIL BORING, IDENTIFICATION NUMBER — B-10
- SOIL TEST PIT, IDENTIFICATION NUMBER — TP-10
- SPOT ELEVATION — 10.35
- ELECTROLYSIS TEST STATION — ETS
- WATER METER — WM
- FIRE DEPT. CONNECTION
- FIRE HYDRANT
- UTILITY BOX (AS LABELED)
- POWER POLE
- STREET LIGHT
- STREET LIGHT AND TRAFFIC SIGNAL
- YARD LIGHT
- TRAFFIC SIGNAL
- TELEPHONE RISER — T RISER
- GUY ANCHOR
- CATCH BASIN — CB
- DROP INLET — DI
- CLEAN OUT — CO
- DRIVEWAY
- HANDICAP ACCESS RAMP
- CURVE NO. — 14
- SURVEY PANEL
- MONUMENT OR SURVEY POINT
- SECTION CORNER
- ELEVATION MARK (REFERENCE)
- ELEVATION MARK (DESIGN)
- FLAG NOTE — 1

- STRUCTURE OR PIPE (NEW)
- STRUCTURE OR PIPE
- DEMOLITION
- CONCRETE IN SECTION
- STEEL IN SECTION
- WOOD IN SECTION
- GRATING IN PLAN
- CHECKERED PLATE IN PLAN
- GRAVELED AREA IN PLAN OR SECTION
- SAND
- BRICK OR CONCRETE BLOCK IN SECTION
- GRADE
- FILL
- ASPHALT CONCRETE (IN PLAN)
- ASPHALT CONCRETE (IN SECTION)
- TRACK DEMOLITION HATCH
- TIE DEMOLITION HATCH
- EXCAVATION ZONE 1/2/3
- EXCAVATION ZONE 4
- EXCAVATION ZONE 5
- EXCAVATION ZONE 6

SECTION OR DETAIL REFERENCE

SECTION (LETTER)
DETAIL (NUMERAL)

A
C1 | C2

DRAWING NUMBER REFERENCED ON

DRAWING NUMBER DRAWN ON

NOTES:

1. THIS IS A GENERALIZED LEGEND SHEET. THIS CONTRACT MAY NOT USE ALL INFORMATION SHOWN.
2. INFORMATION SHOWN MAY NOT BE ALL INCLUSIVE. SEE ALSO ABBREVIATIONS, G2.

MONTANA
RICHARD C. GUGLOMO
PE No. 9406PE
LICENSED
PROFESSIONAL ENGINEER

EXPIRES - 6/30/2006
SIGNED - 7/26/2004

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 — 1" / 0 — 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington 98001

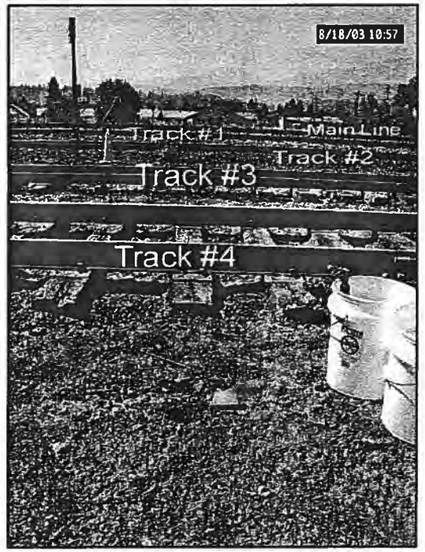
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

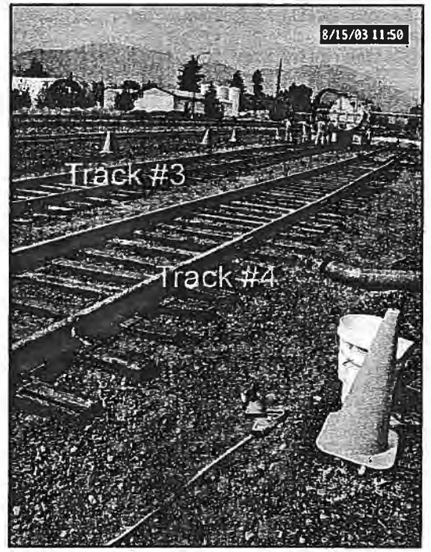
CIVIL/GENERAL SYMBOLS

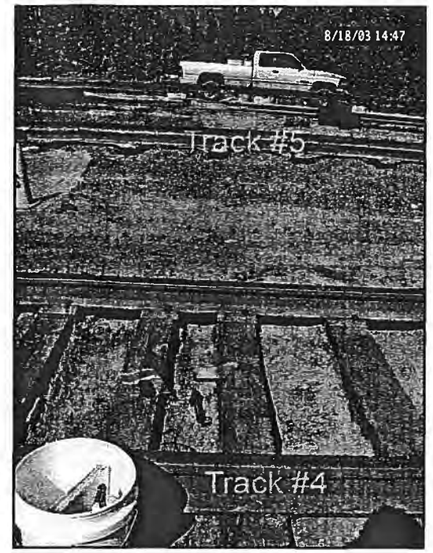
BID ISSUE
JULY, 2004

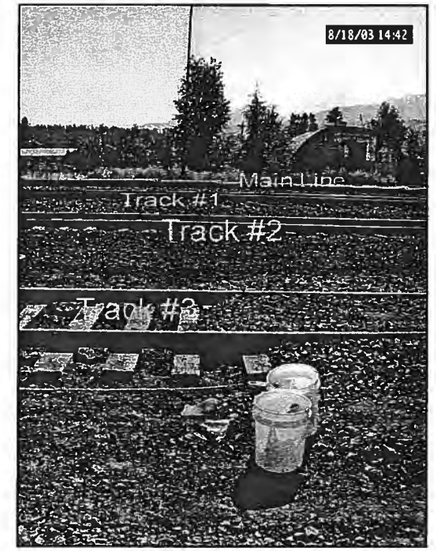
DRAWING NUMBER
G-3
OF

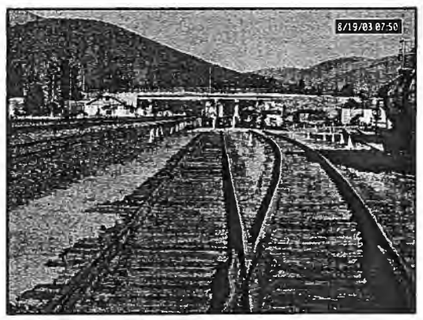
P:\CAD\04\046022.11-Libby\G-03.dwg Jul 26, 2004 - 10:45am

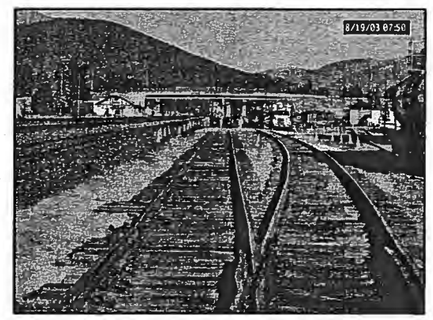


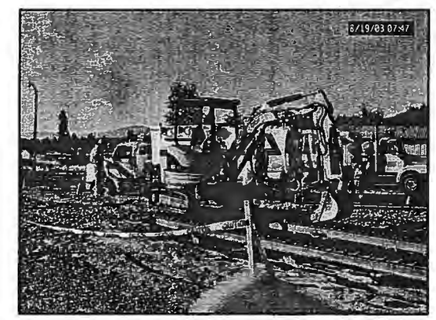


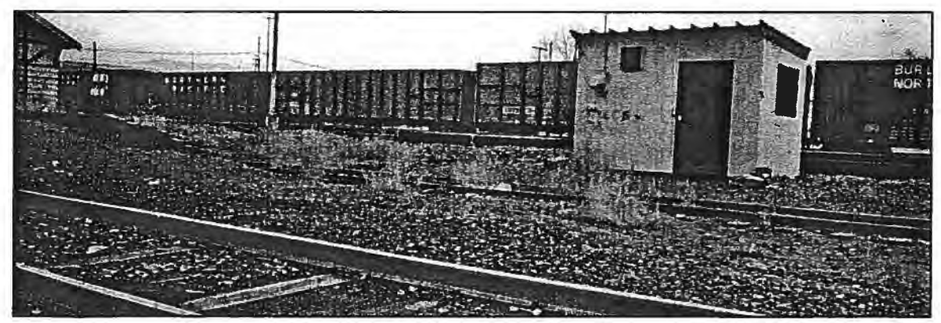












MONTANA
RICHARD C. GUGLOMO
No. 7105PE
PROFESSIONAL ENGINEER

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

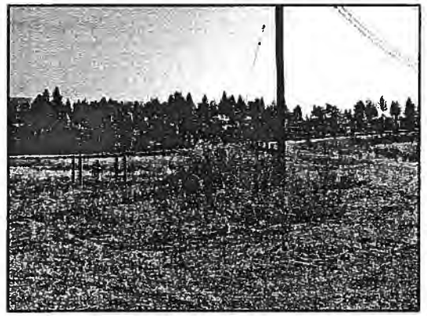
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

SITE PHOTOS

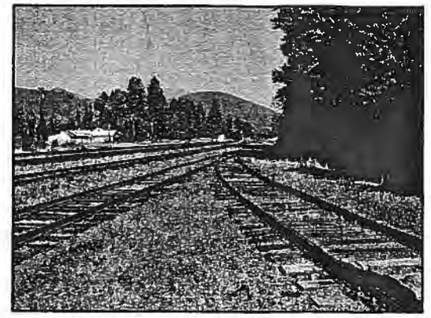
BID ISSUE
JULY, 2004

DRAWING NUMBER
G-4
OF

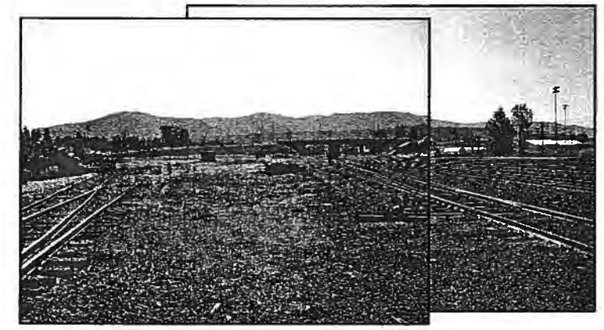
P:\CAD\04\046022.11-Libby\G-04.dwg Jul 26, 2004 - 10:44am



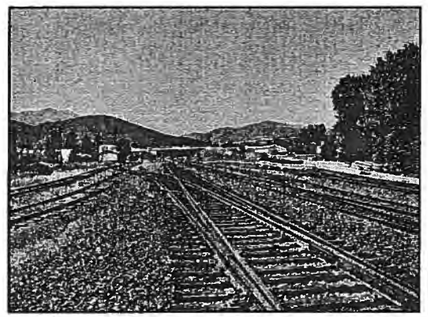
LOCATION OF WATER HYDRANT



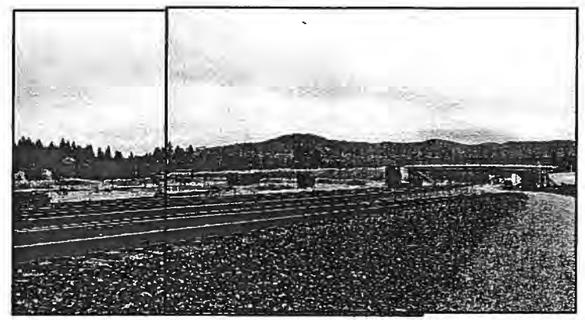
SPUR INTO WR GRACE STIE



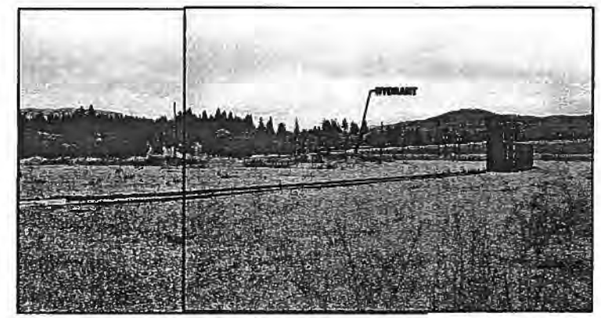
LOOKING WEST AT WR GRACE SITE



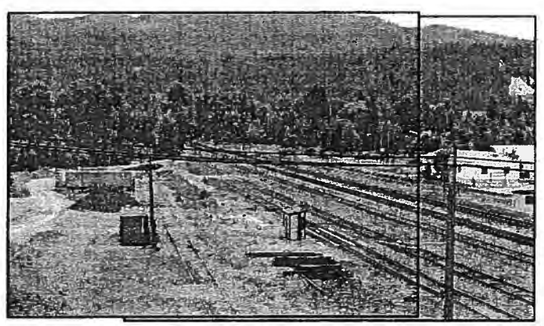
LOOKING WEST FROM EAST OF HWY BRIDGE



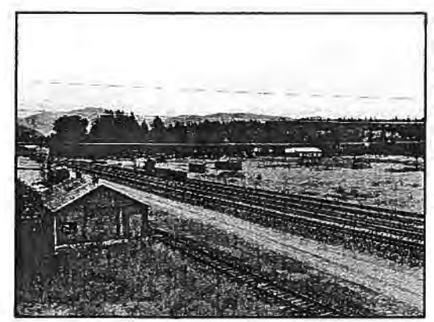
STAGING AREA LOOKING NE FROM SOUTH OF MAIN LINE



STAGING AREA, LOOKING NORTH EAST



NORTH SIDE OF HWY BRIDGE LOOKING EAST



STAGING AREA FROM SOUTH SIDE HWY BRIDGE

STAGING AREA FROM SOUTH SIDE HWY BRIDGE

MONTANA
RICHARD C. GUGLOMO
No. 9406PE
REGISTERED PROFESSIONAL ENGINEER

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

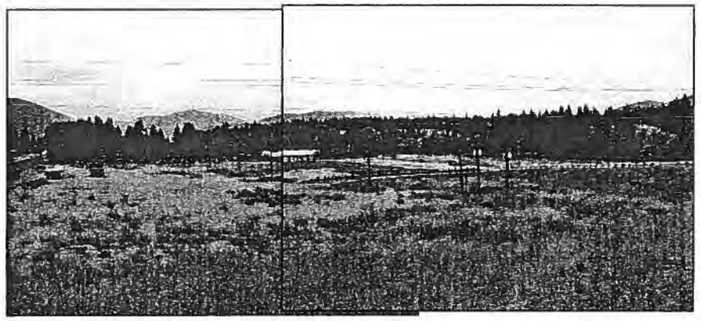
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

SITE PHOTOS

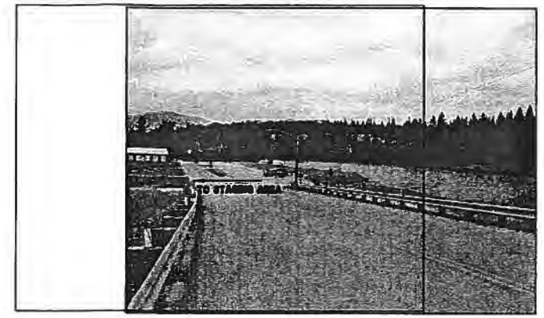
BID ISSUE
JULY, 2004

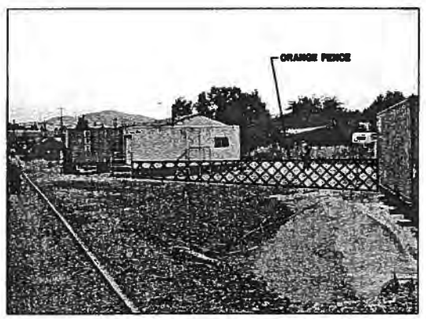
DRAWING NUMBER
G-5
OF

P:\CAD\04\046022.11-Libby\G-05.dwg Jul 26, 2004 - 10:43am

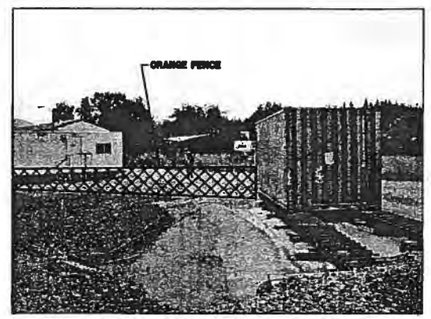


STAGING AREA LOOKING WEST FROM NORTH SIDE OF HWY BRIDGE

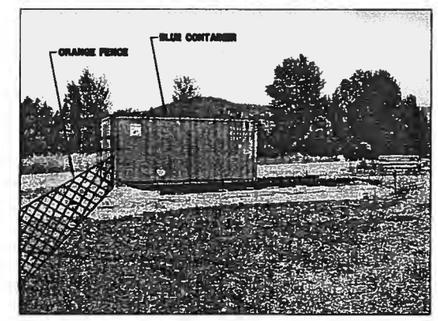




DECONTAMINATION TRAILER



DECONTAMINATION TRAILER



EXISTING DECONTAMINATION PAD

MONTANA
RICHARD C. GUGLOMO
No. 9406PE
LICENSED PROFESSIONAL ENGINEER

Richard C. Guglomo

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR:
0 1"
0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

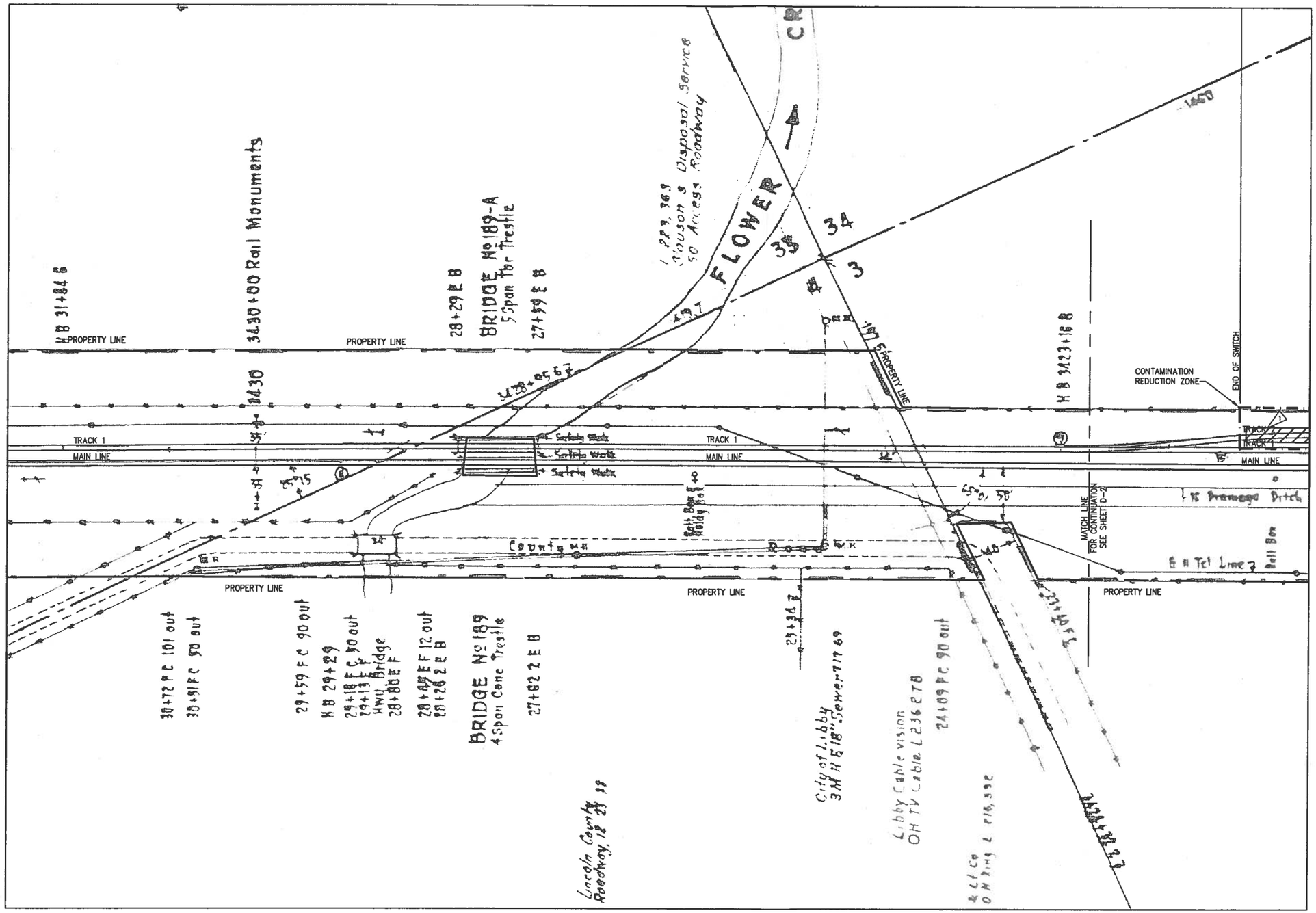
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

SITE PHOTOS

BID ISSUE
JULY, 2004

DRAWING NUMBER
G-6
OF

P:\CAD\04\046022.11-Libby\G-06.dwg Jul 26, 2004 – 10:46am



PLAN
SCALE: 1" = 40'

CONSTRUCTION NOTES:

1 REMOVE INDICATED TRACK.

MONTANA
RICHARD C. GUGLOMO
No. 9408PE
PROFESSIONAL ENGINEER

Richard C. Guglomo

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington 98001

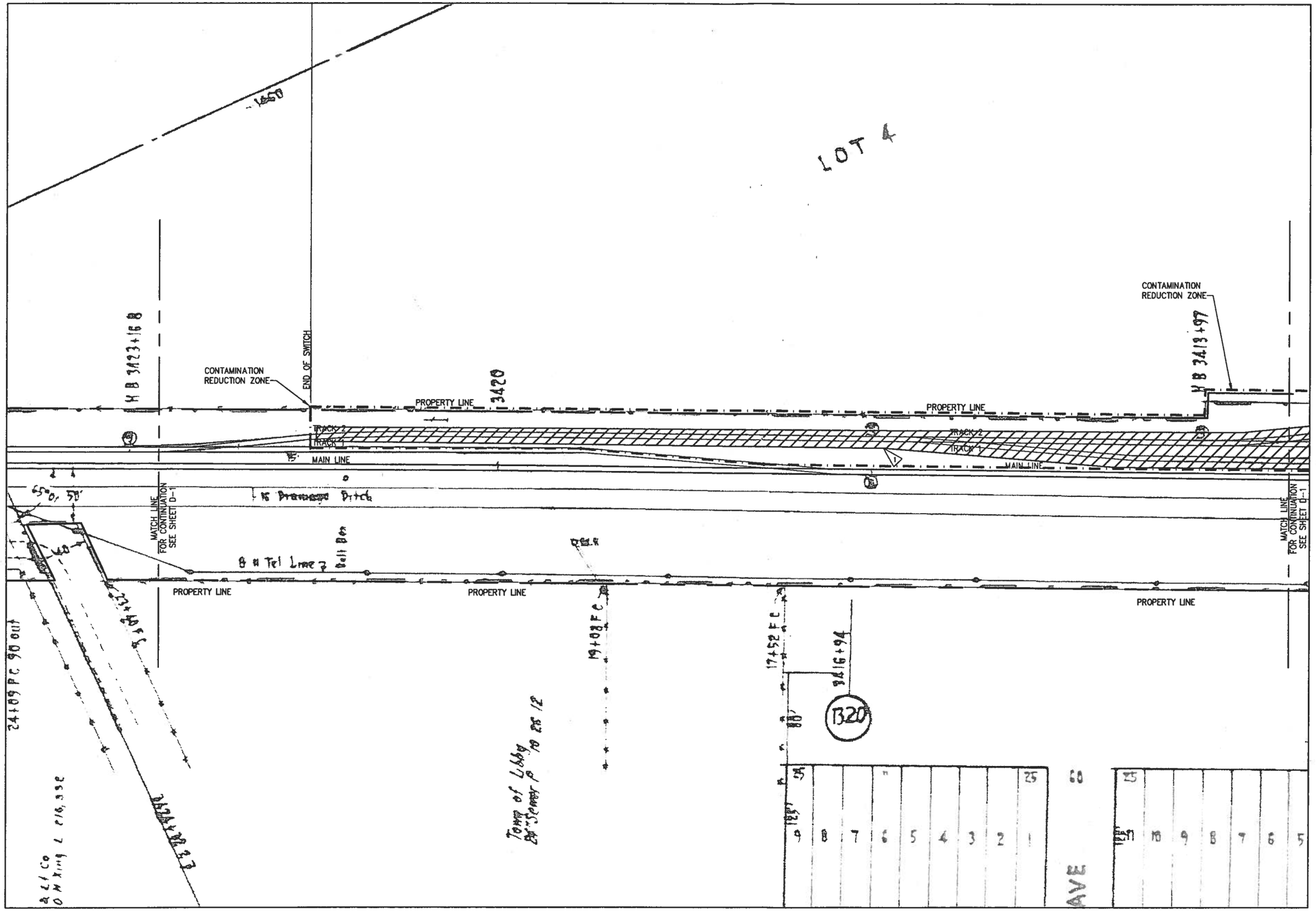
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

RAIL DEMOLITION SHEET 1

BID ISSUE
JULY, 2004

DRAWING NUMBER
D-1
OF

P:\CAD\04\046022.11-Libby\D-01.dwg Jul 26, 2004 - 11:09am



CONSTRUCTION NOTES:

1. REMOVE INDICATED TRACK.

PLAN
SCALE: 1" = 40'

MONTANA
RICHARD C. GUGLOMO
No. 9406PE
PROFESSIONAL ENGINEER
EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

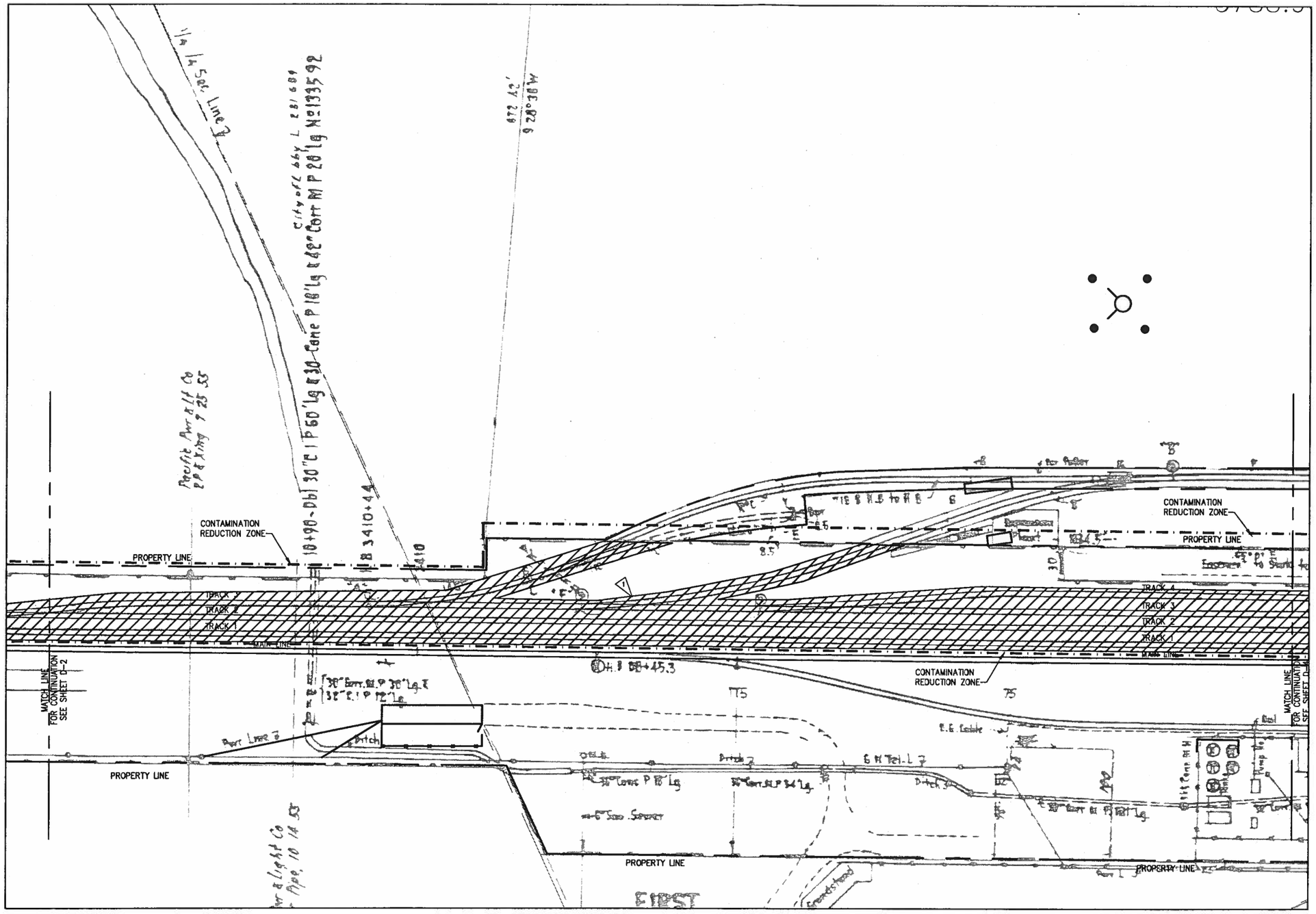
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

RAIL
DEMOLITION
SHEET 2

BID ISSUE
JULY, 2004

DRAWING NUMBER
D-2
OF

P:\CAD\04\046022.11-Libby\D-02.dwg Jul 26, 2004 - 11:10am



PLAN
SCALE: 1" = 40'

CONSTRUCTION NOTES:

1. REMOVE INDICATED TRACK.

MONTANA
RICHARD C. GUGLOMO
No. 9408PE
LICENSED PROFESSIONAL ENGINEER

EXPIRES - 6/30/2006
SIGNED - 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington 98001

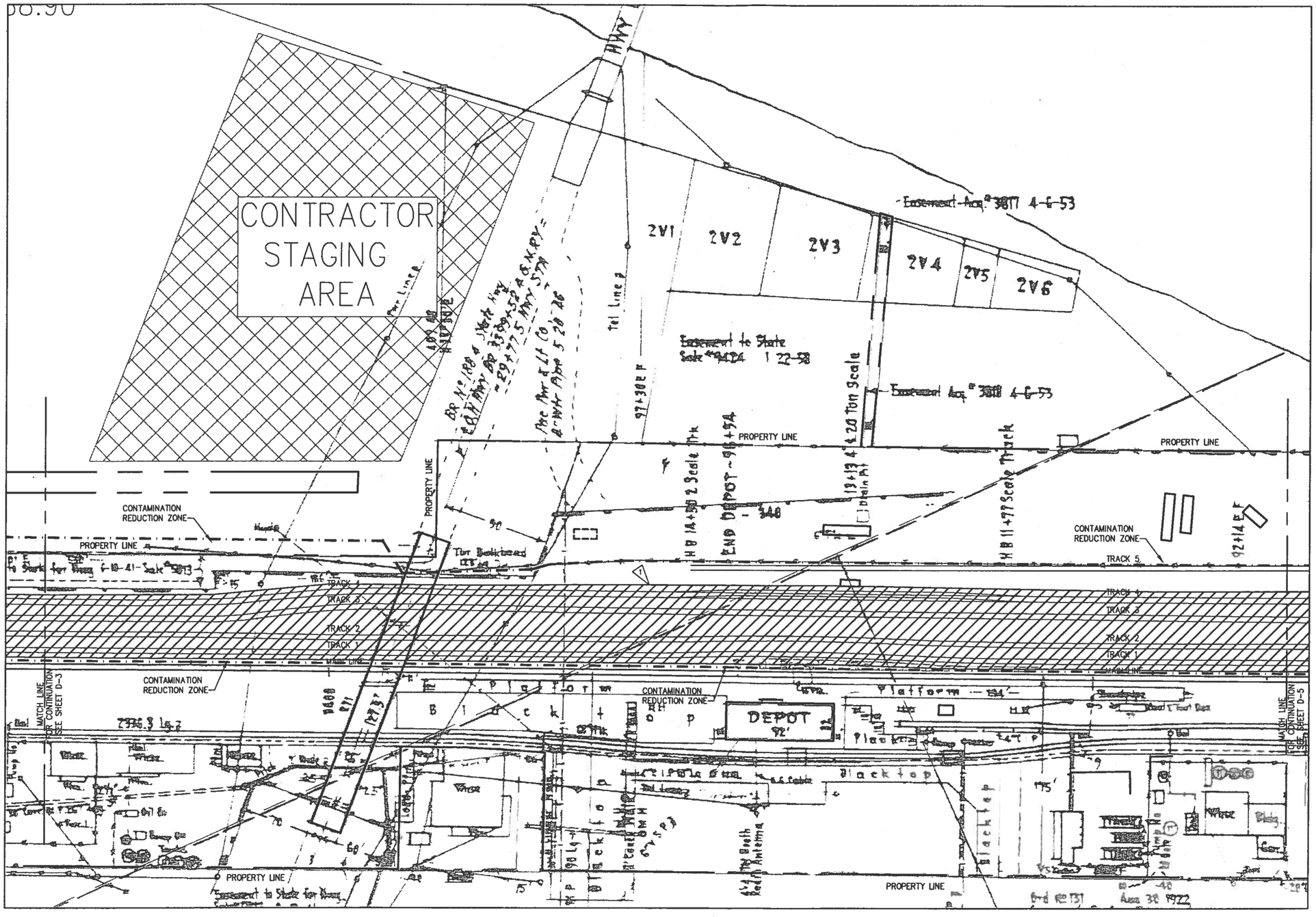
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

RAIL DEMOLITION SHEET 3

BID ISSUE
JULY, 2004

DRAWING NUMBER
D-3
OF

P:\CAD\04\046022.11-Libby\D-03.dwg Jul 26, 2004 - 11:10am



CONSTRUCTION NOTES:

1. REMOVE INDICATED TRACK.

PLAN

SCALE: 1" = 40'

MONTANA
RICHARD C. GUGLOMO
No. 9416PE
REGISTERED PROFESSIONAL ENGINEER

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington 98001

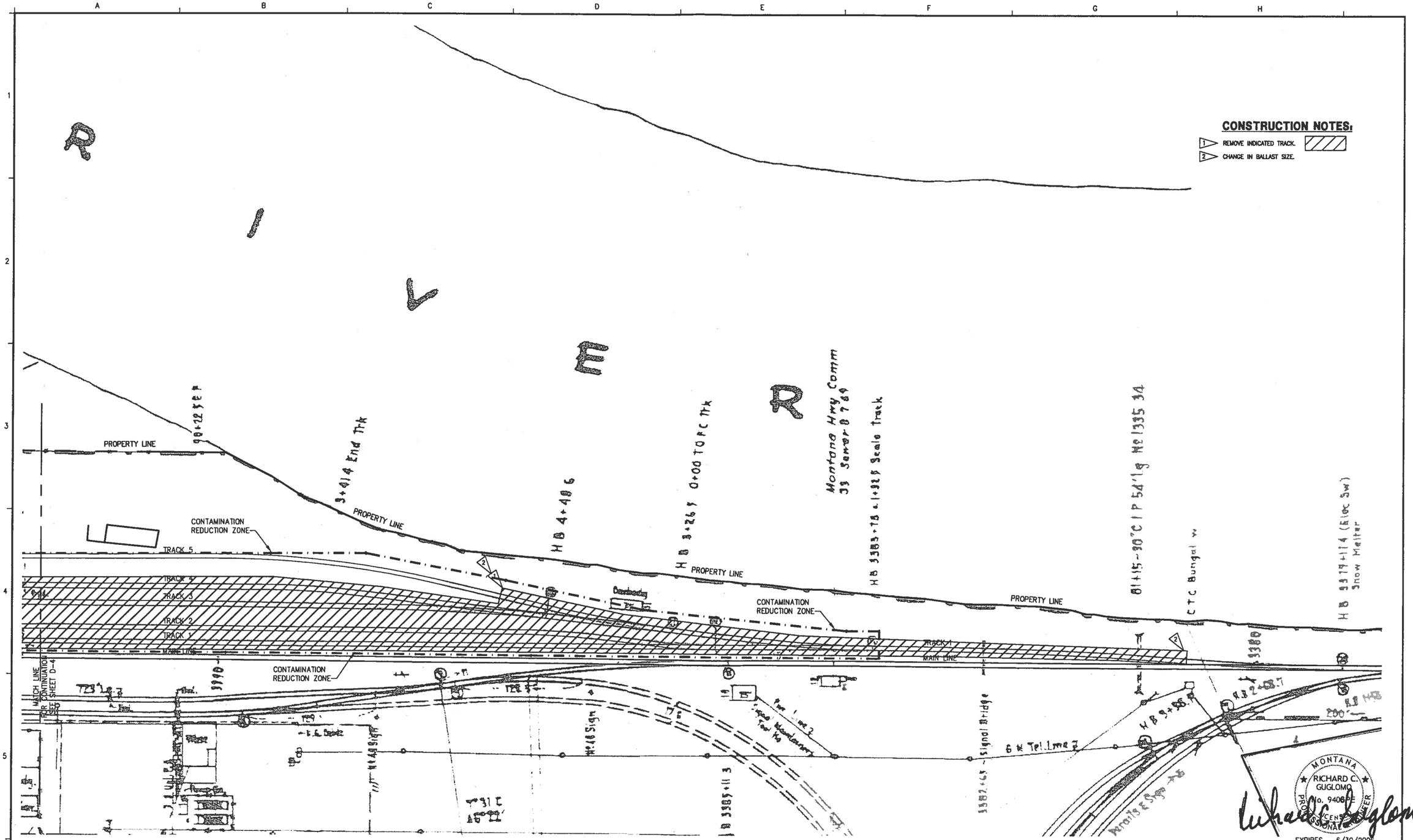
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

RAIL DEMOLITION SHEET 4

BID ISSUE
JULY, 2004

DRAWING NUMBER
D-4
OF

P:\CAD\04\046022.11-Libby\D-04.dwg Jul 26, 2004 - 11:09am



PLAN
SCALE: 1" = 40'

SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

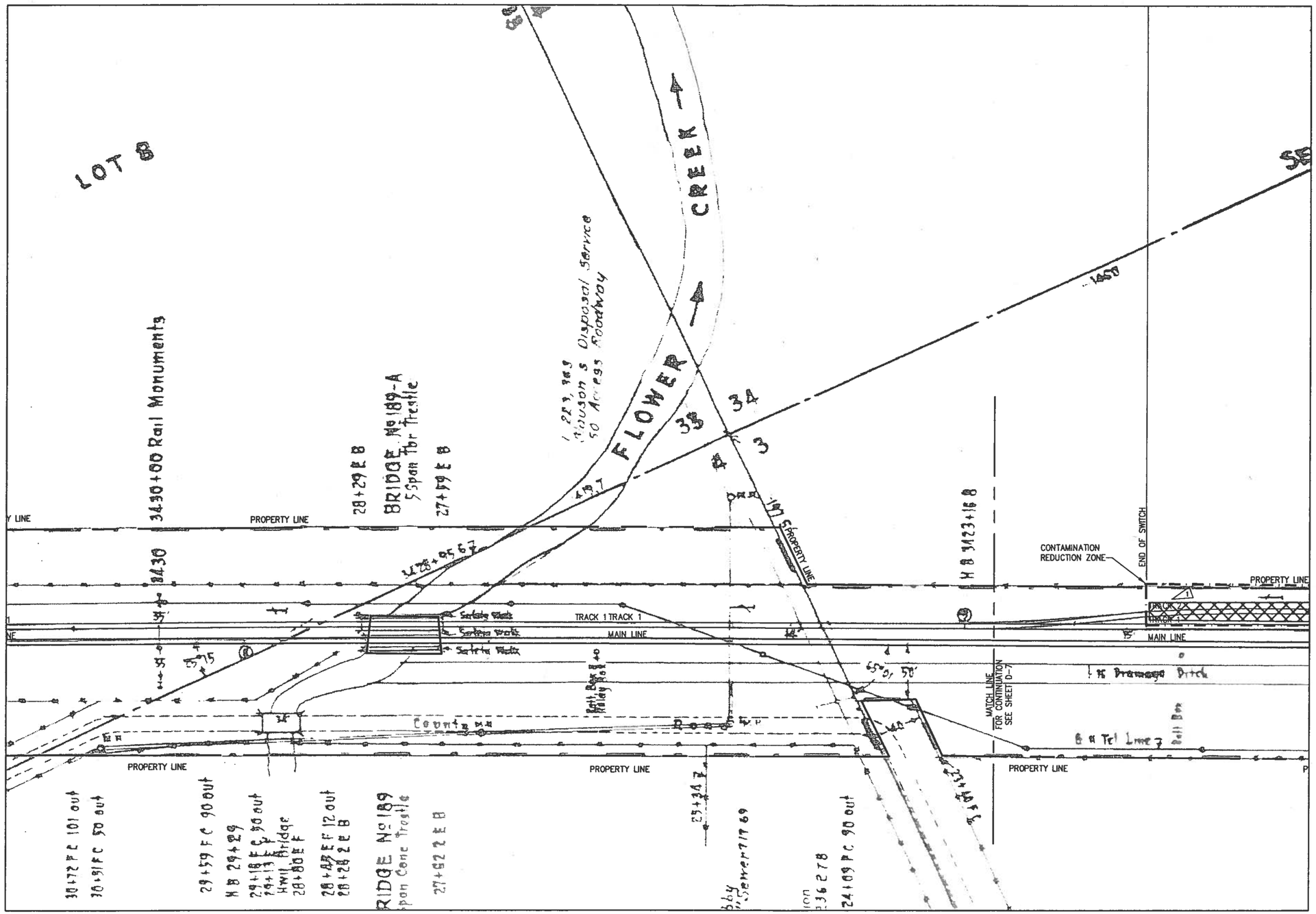
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

RAIL DEMOLITION SHEET 5

BID ISSUE
JULY, 2004

DRAWING NUMBER
D-5
OF

P:\CAD\04\046022.11-Libby\D-05.dwg Jul 26, 2004 - 11:17am



CONSTRUCTION NOTES:

REMOVE INDICATED TIES.

PLAN
SCALE: 1" = 40'

MONTANA RICHARD C. GUGLOMO No. 9406PE PROFESSIONAL ENGINEER

Richard C. Guglomo

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington 98001

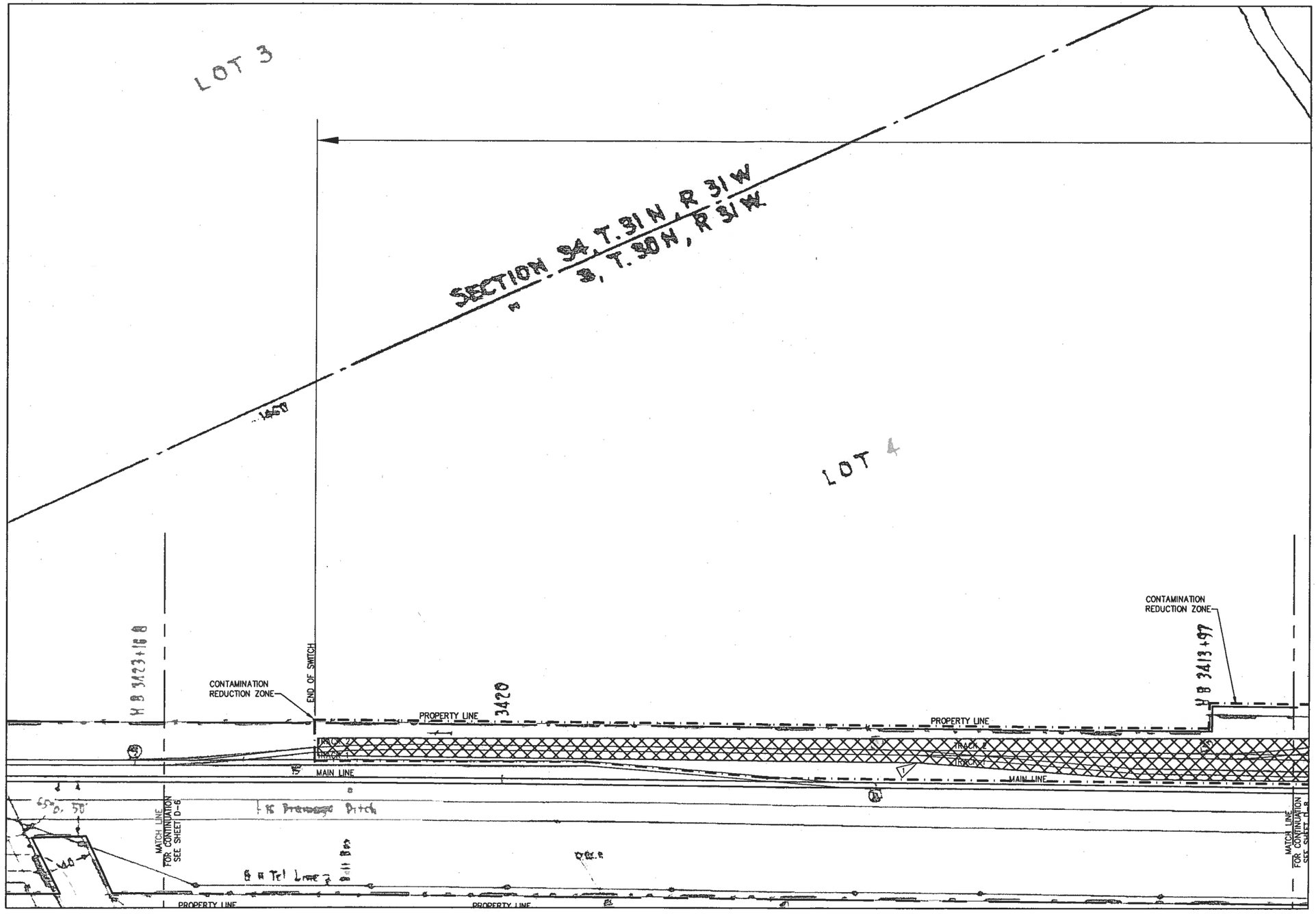
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

RAILROAD TIE DEMOLITION SHEET 1

BID ISSUE
JULY, 2004

DRAWING NUMBER
D-6
OF

P:\CAD\04\046022.11-Libby\D-06.dwg Jul 26, 2004 – 11:25am



CONSTRUCTION NOTES:

1 REMOVE INDICATED TIES.

PLAN
SCALE: 1" = 40'

MONTANA RICHARD C. GUGLOMO No. 9408PE LICENSED PROFESSIONAL ENGINEER

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

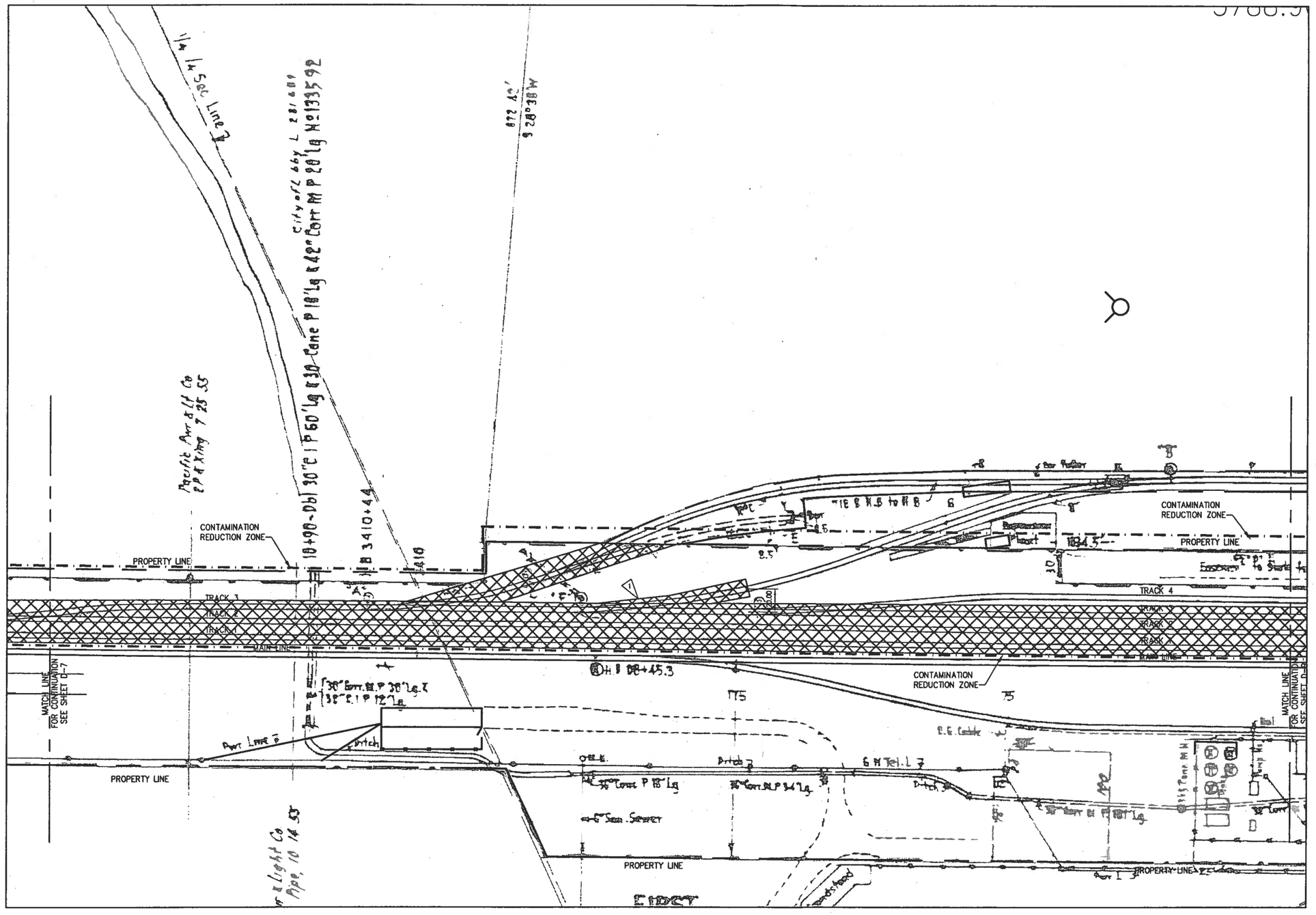
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

RAILROAD TIE DEMOLITION SHEET 2

BID ISSUE
JULY, 2004

DRAWING NUMBER
D-7
OF

P:\CAD\04\046022.11-Libby\D-07.dwg Jul 26, 2004 - 11:28am



PLAN
SCALE: 1" = 40'

CONSTRUCTION NOTES:

1. REMOVE INDICATED TIES.

MONTANA
RICHARD C. GUGLOMO
No. 9408PE
PROFESSIONAL ENGINEER
LICENSED

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

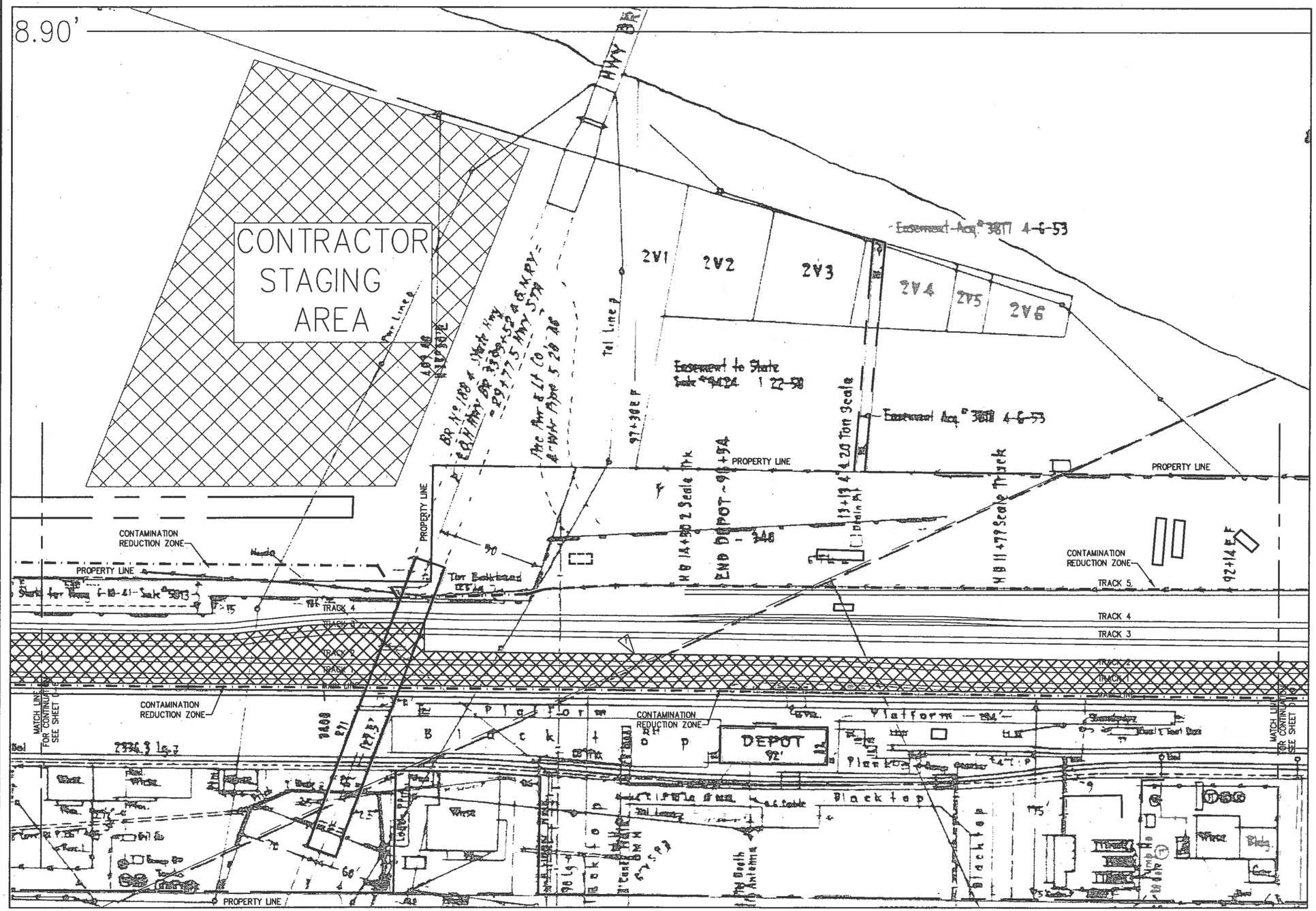
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

RAILROAD TIE DEMOLITION SHEET 3

BID ISSUE
JULY, 2004

DRAWING NUMBER
D-8
OF

P:\CAD\04\046022.11-Libby\D-08.dwg Jul 26, 2004 – 11:28am



PLAN
SCALE: 1" = 40'

CONSTRUCTION NOTES:

1 REMOVE INDICATED TIES.

MONTANA
RICHARD C. GUGLOMO
No. 9408PE
PROFESSIONAL ENGINEER
LICENSED

Richard C. Guglomo

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

RAILROAD TIE DEMOLITION SHEET 4

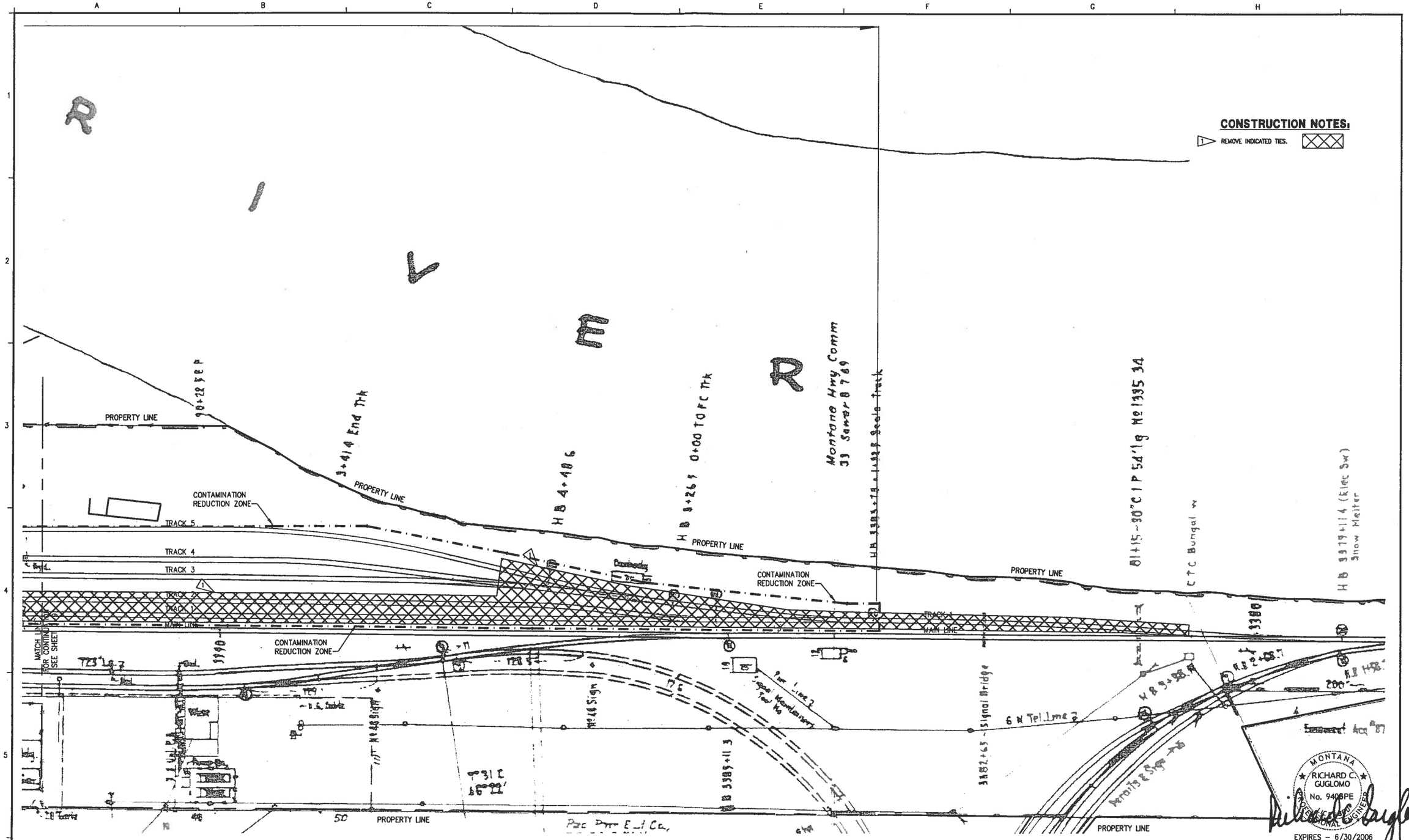
BID ISSUE
JULY, 2004

DRAWING NUMBER
D-9
OF

P:\CAD\04\046022.11-Libby\D-09.dwg Jul 26, 2004 – 11:28am

CONSTRUCTION NOTES:

1. REMOVE INDICATED TIES.



PLAN
SCALE: 1" = 40'

SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 — 1" / 0 — 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

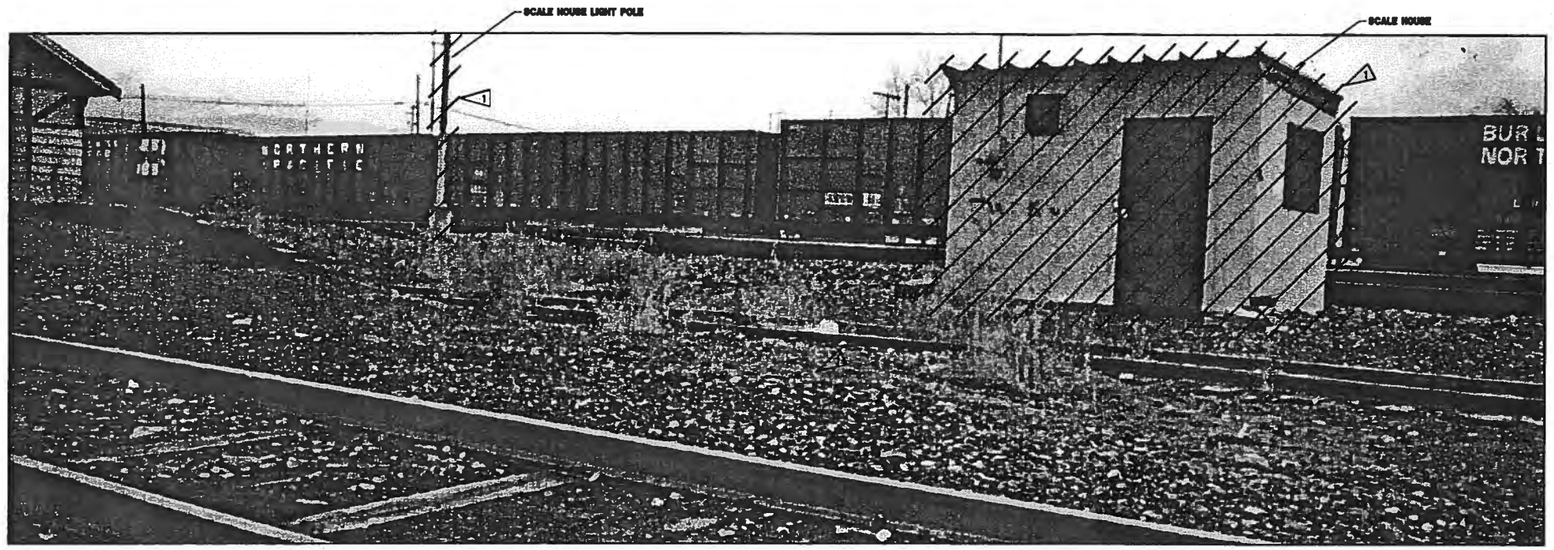
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

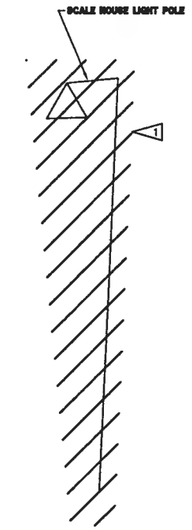
RAILROAD TIE DEMOLITION SHEET 5

BID ISSUE
JULY, 2004

DRAWING NUMBER
D-10
OF

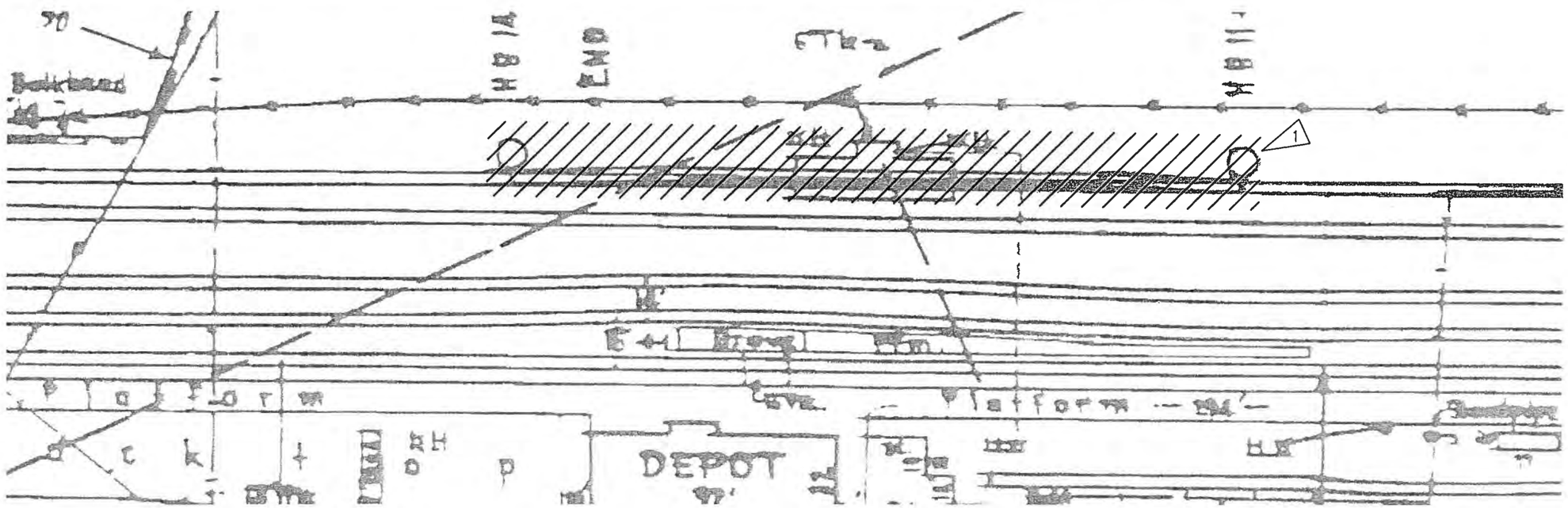
P:\CAD\04\046022.11-Libby\D-10.dwg Jul 26, 2004 - 11:27am





CONSTRUCTION NOTES:

1. DEMOLISH SCALE, SCALE HOUSE, AND LIGHT POLES.
2. BNSF WILL DISCONNECT THE ELECTRICAL SERVICE TO THE SCALE HOUSE BUILDING. NOTIFY THE ENGINEER TO COORDINATE DISCONNECT WITH BNSF WHEN READY.



MONTANA RICHARD C. GUGLOMO No. 4068PE PROFESSIONAL ENGINEER

Richard C. Guglomo

EXPIRES - 6/30/2006
SIGNED - 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington 98001

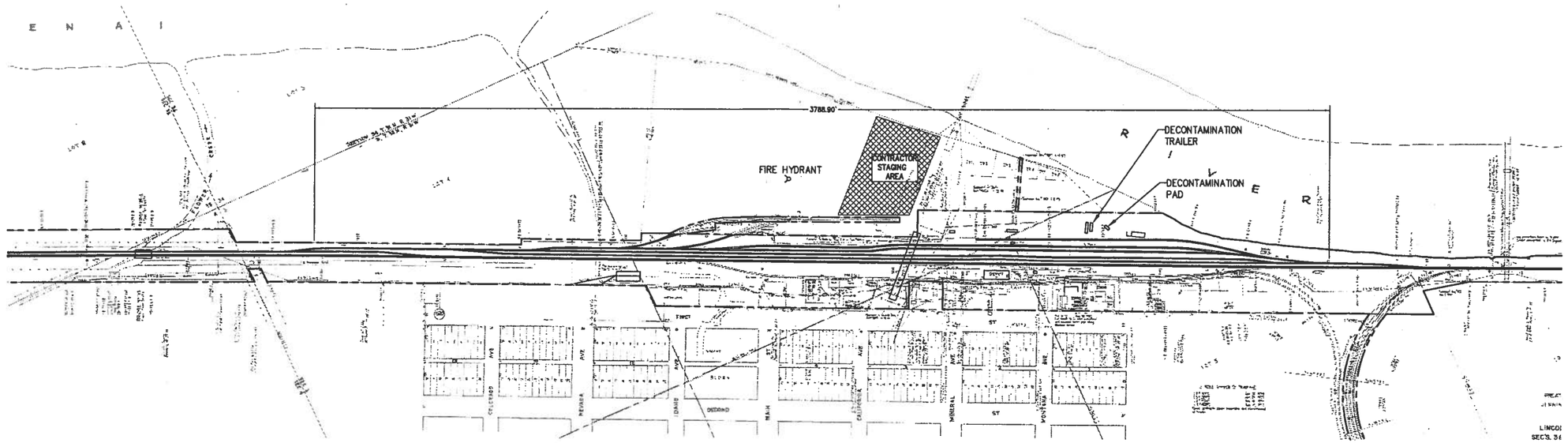
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

SCALE
DEMOLISHION SHEET

BID ISSUE
JULY, 2004

DRAWING NUMBER
D-11
OF

P:\CAD\04\046022.11-Libby\D-11.dwg Jul 26, 2004 - 11:29am



SITE PLAN

SCALE: 1"=200'

MONTANA
RICHARD C. GUGLOMO
No. 9408PE
PROFESSIONAL ENGINEER

EXPIRES – 6/30/2005
SIGNED – 7/26/2004

0 100 200 400 600
SCALE: 1"=200'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR:
0 1"
0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

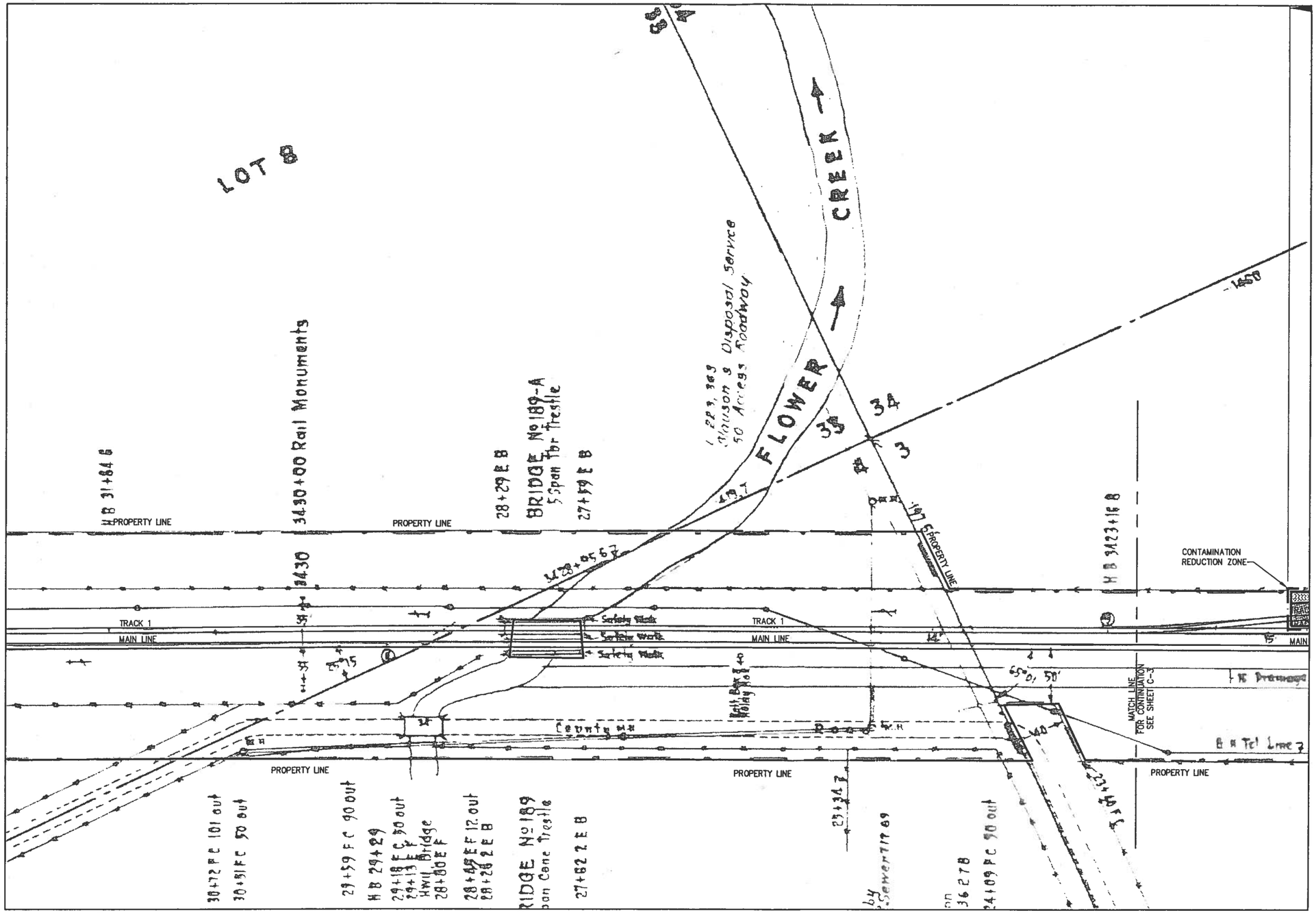
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

EXISTING SITE PLAN

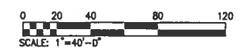
BID ISSUE
JULY, 2004

DRAWING NUMBER
C-1
OF

P:\CAD\04\046022.11-Libby\C-01.dwg Jul 26, 2004 – 10:56am



PLAN
SCALE: 1" = 40'



MONTANA
RICHARD C. GUGLOMO
No. 9408PE
LICENSED PROFESSIONAL ENGINEER

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington 98001

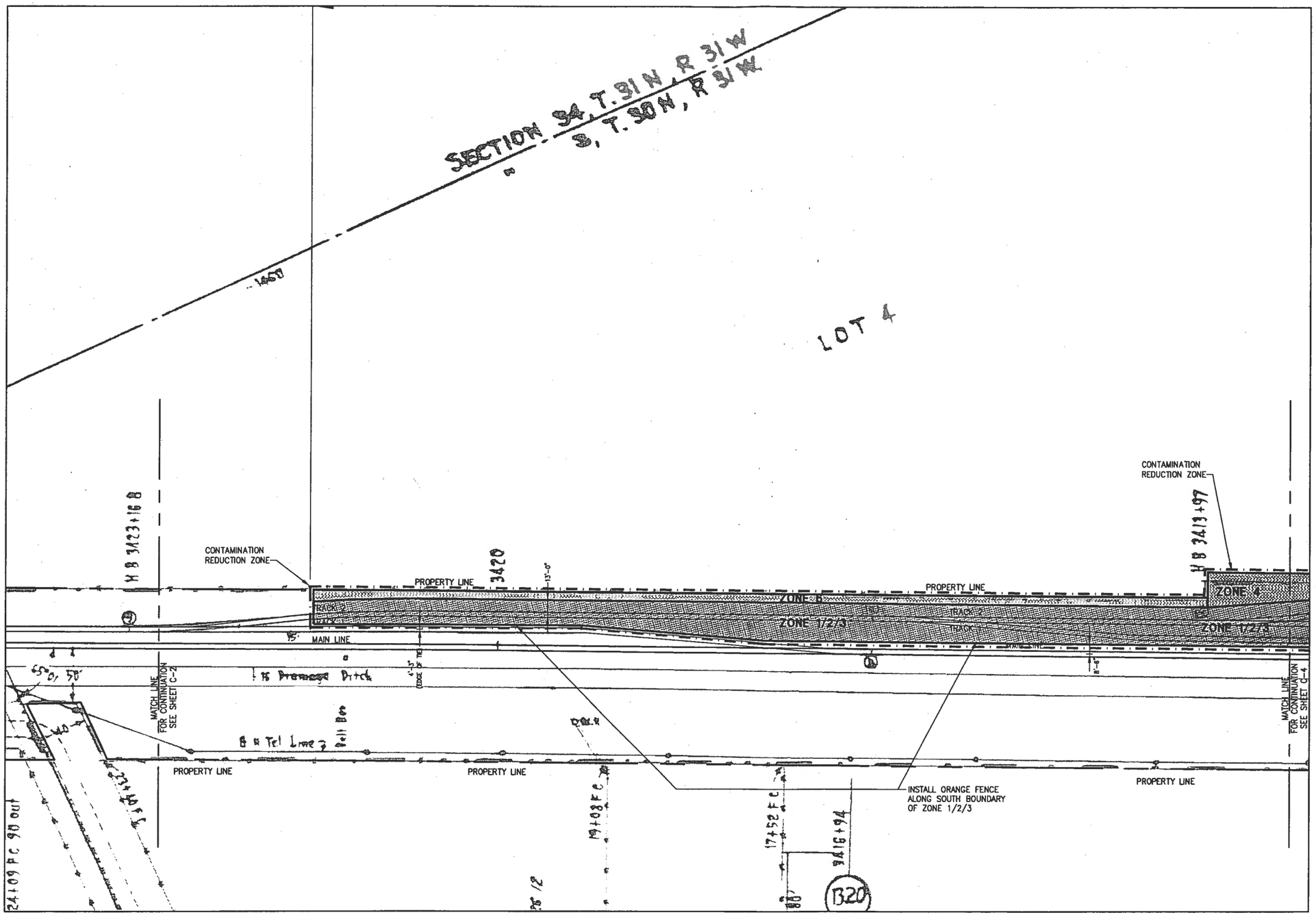
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

EXCAVATION ZONE
SHEET 1

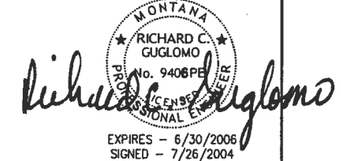
BID ISSUE
JULY, 2004

DRAWING NUMBER
C-2
OF

P:\CAD\04\046022.11-Libby\C-02.dwg Jul 26, 2004 - 11:00am



PLAN
SCALE: 1" = 40'



EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington 98001

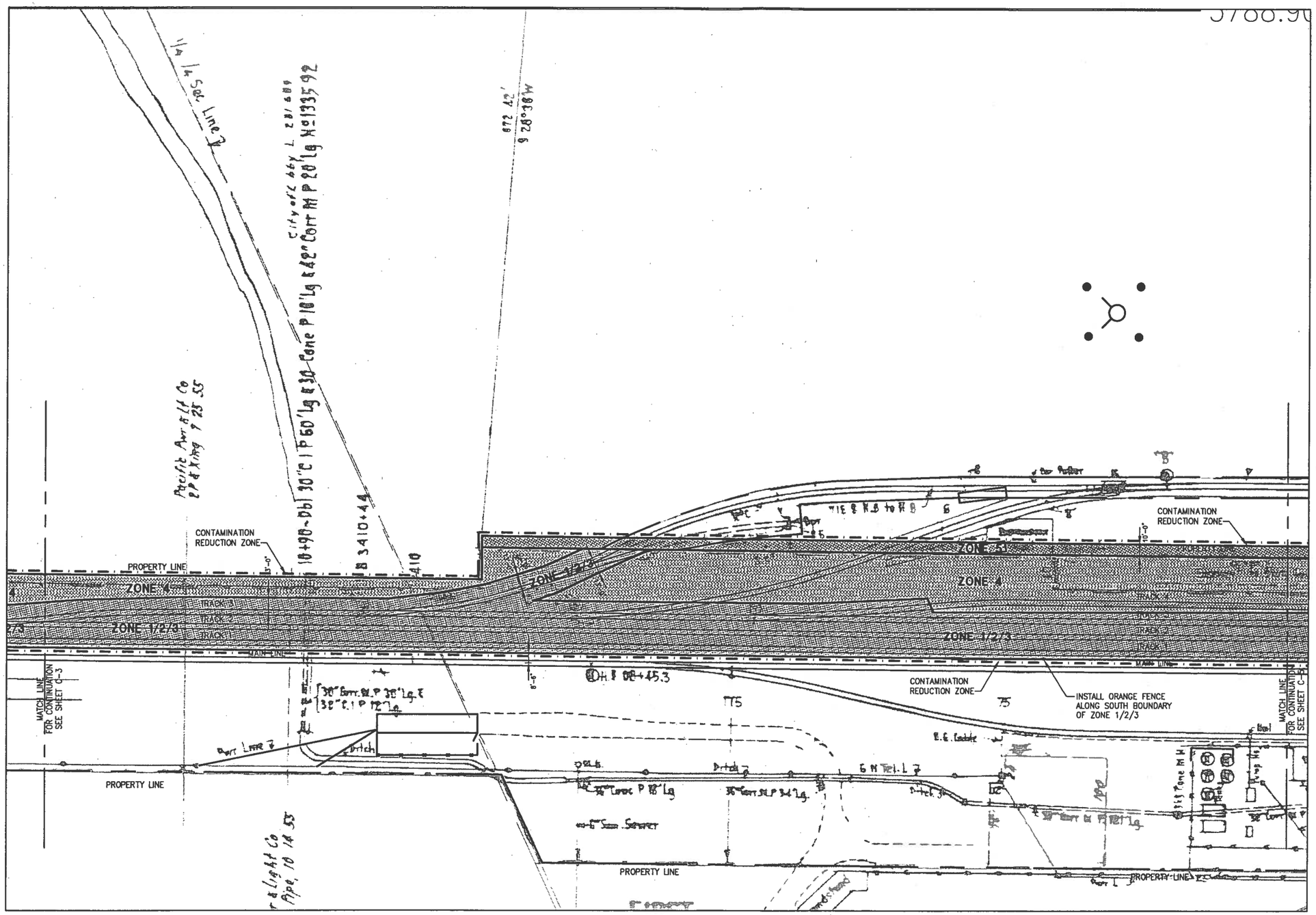
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

EXCAVATION ZONE
SHEET 2

BID ISSUE
JULY, 2004

DRAWING NUMBER
C-3
OF

P:\CAD\04\046022.11-Libby\C-03.dwg Jul 26, 2004 – 10:59am



PLAN
SCALE: 1" = 40'

MONTANA
RICHARD C. GUGLOMO
No. 9406PE
LICENSED PROFESSIONAL ENGINEER

Richard C. Guglomo

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington 98001

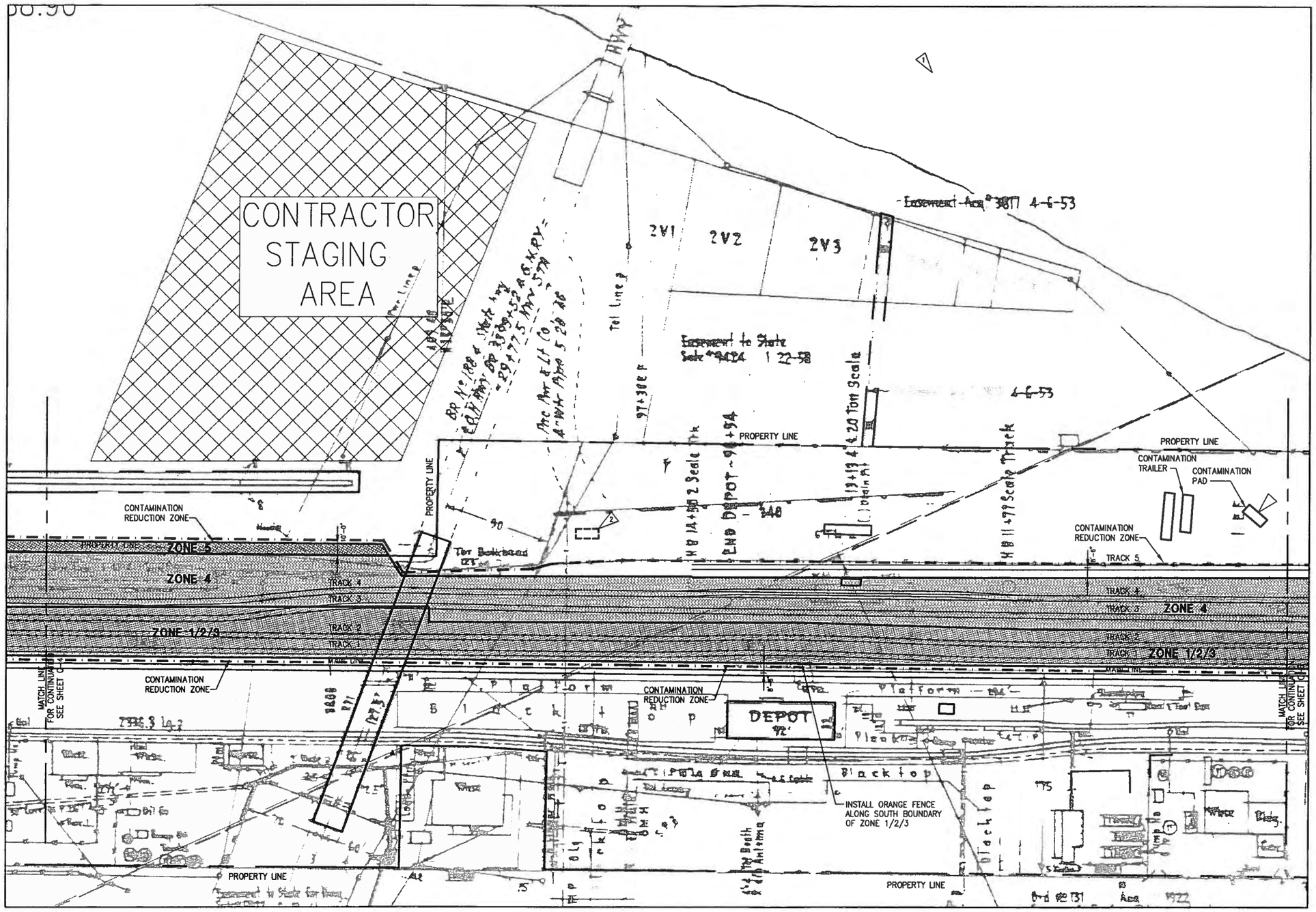
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

EXCAVATION ZONE
SHEET 3

BID ISSUE
JULY, 2004

DRAWING NUMBER
C-4
OF

P:\CAD\04\046022.11-Libby\C-04.dwg Jul 26, 2004 - 10:58am



PLAN
SCALE: 1" = 40'

CONSTRUCTION NOTES:

1. MOVE EXISTING BLUE CONTAINER TO LOCATION 2
2. NEW LOCATION OF EXISTING BLUE CONTAINER

RICHARD C. GUGLOMO
MONTANA
No. 9406PE
REGISTERED PROFESSIONAL ENGINEER

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington 98001

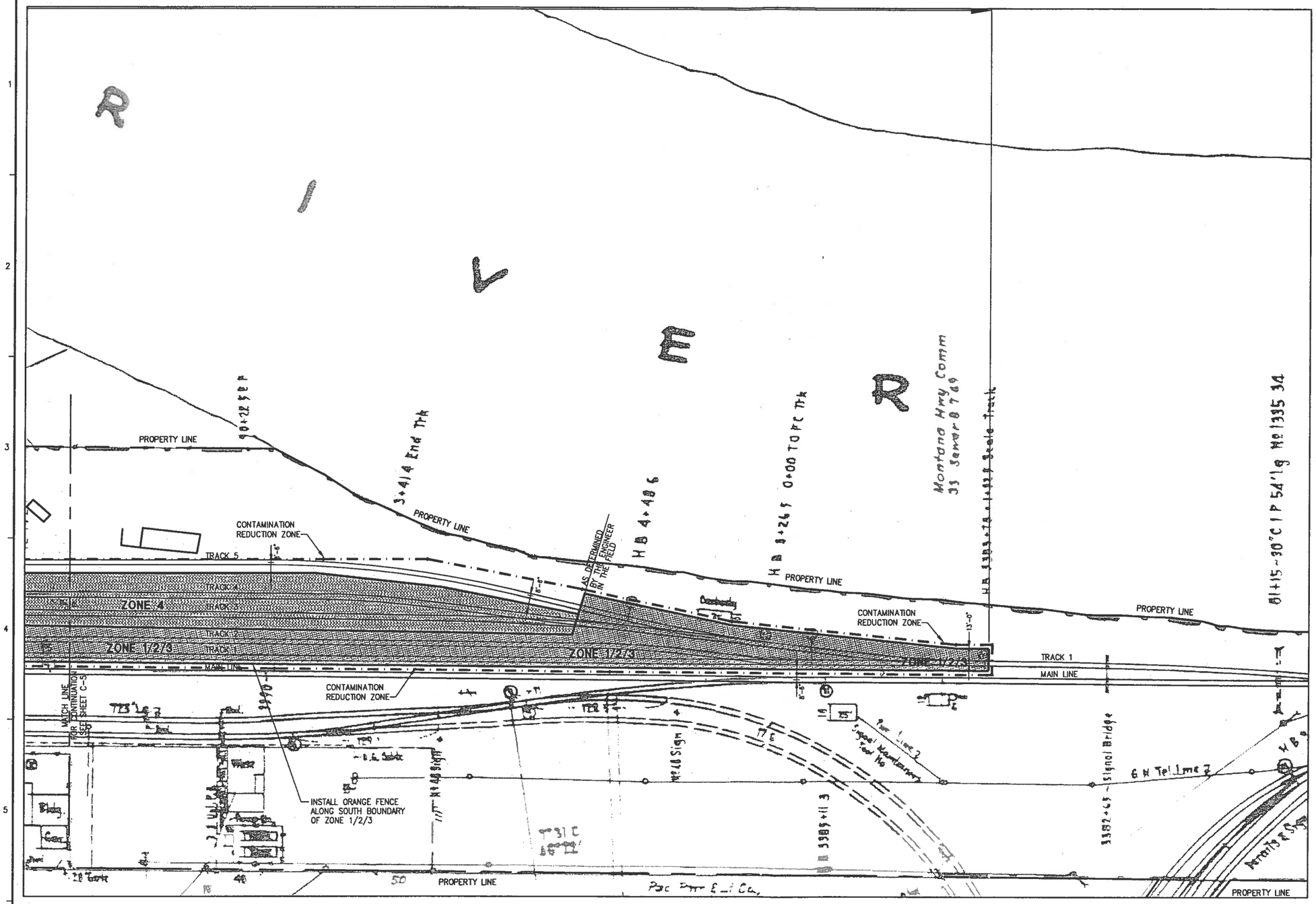
The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

EXCAVATION ZONE
SHEET 4

BID ISSUE
JULY, 2004

DRAWING NUMBER
C-5
OF

P:\CAD\04\046022.11-Libby\C-05.dwg Jul 26, 2004 – 10:58am



PLAN
SCALE: 1" = 40'

MONTANA
RICHARD C. GUGLOMO
No. 9406PE
PROFESSIONAL ENGINEER

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

EXCAVATION ZONE
SHEET 5

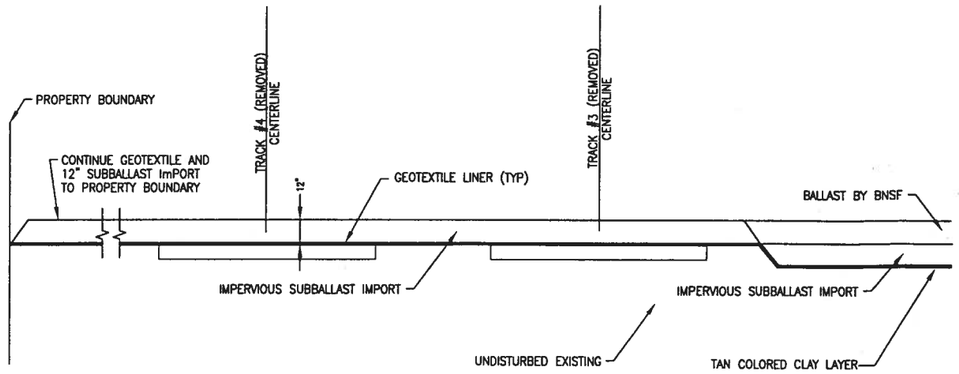
BID ISSUE
JULY, 2004

DRAWING NUMBER
C-6
OF

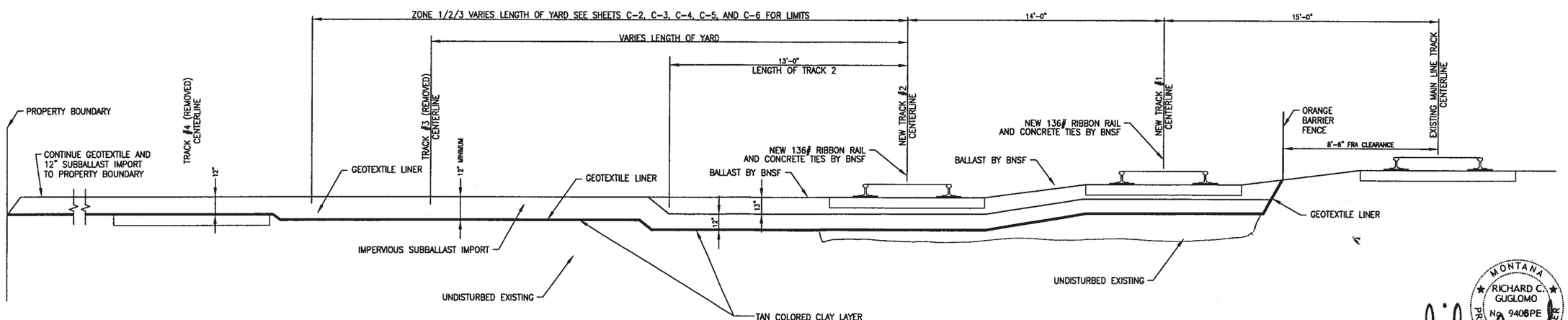
P:\CAD\04\046022.11-Libby\C-06.dwg Jul 26, 2004 - 10:57am

GENERAL NOTES:

1. REMOVE CONTAMINATED MATERIAL THE LENGTH OF THE YARD TO THE TAN CLAY LAYER. MAINTAIN EXCAVATED AREA IN CLEAN CONDITION. WHEN CONTAMINATED MATERIAL HAS BEEN REMOVED AS SHOWN ON THE DRAWINGS, REMOVE ADDITIONAL CLEAN MATERIAL TO 25 INCHES BELOW THE TOP OF THE NEW TIES FOR TRACKS 1 AND 2. IF LINCOLN COUNTY LANDFILL APPROVES, CLEAN MATERIAL MAY BE DISPOSED OF AT LANDFILL. SEE SPECIFICATION SECTION 02302 FOR ADDITIONAL REQUIREMENTS.



PARTIAL SECTION EAST OF BRIDGE
SCALE: 3/8" = 1'



SECTION WEST OF BRIDGE
SCALE: 3/8" = 1'

MONTANA RICHARD C. GUGLOMO No. 9408PE PROFESSIONAL ENGINEER LICENSED

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm — IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington 98001

The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

TYPICAL SECTIONS
EAST AND WEST
OF THE HIGHWAY BRIDGE

BID ISSUE
JULY, 2004

DRAWING NUMBER
C-22
OF

P:\CAD\04\046022.11-Libby\C-22.dwg Jul 26, 2004 – 11:04am

Appendix B

Request for Information (RFI) Forms

Libby Asbestos Superfund Site
BNSF Libby Rail Yard Response Action 2004
RFI - REQUEST FOR INFORMATION

DATE: Sept. 24, 2004	RFI NO. 2004-1 INITIATED BY: Kennedy Jenks Consultants	CONTRACTOR: BNSF (Kennedy/Jenks)	CONTRACT NO.
CONTRACT DESCRIPTION: BNSF Libby Rail Yard Response Action 2004		ATTENTION OF: Jim Christiansen, Region 8 EPA	

SUBJECT:
O ELECTRICAL O MECHANICAL X CIVIL O STRUCTURAL/ARCHITECTURAL O INSTRUMENTATION

OPERABLE UNIT	REFERENCE DWG., P.O., TAG, SPECIFICATION NO. (FOR DEVIATIONS OR DEFICIENCIES) ETC: Drawing Sheets C2 through C5

PROBLEM DESCRIPTION

Soil tested as clean is currently scheduled to be removed and transported to the landfill as "clean" cover material. Sub ballast material will be brought in from an approved outside source, and placed over filter fabric that will cap the railroad ties that remain in place as described for Zones 4, 6 and 7. Soil sampled as clean could be used as a sub base to the ¾-inch minus sub ballast material, thereby reducing transportation over public roads, and reducing potential ambient dust from trucking operations.

	O Design Deficiency ☒ Engineering Change Request O Agency Directive O Construction Deficiency O Schedule	☒ Material Substitution O Vendor Material Deficiency O Scope O Clarification/Information O Other Final Design Document	PRP Representative Dave Diem (Kennedy/Jenks Consultants) for BNSF

RESPONSE/DIRECTIVE

Place a lift of soil that has documented analytical clearance at a thickness of up to, but no more than, 6-inches only in the Zone 4, 6 and 7 areas. The material will be placed over the filter fabric as originally designed, and then compacted. Once this lift has been compacted, another lift (6-inch minimum thickness) of imported ¾-inch minus base material will be placed and compacted to bring the grade up to design specifications. Random composite samples will be collected from the "stockpiled" clean soil to serve as a QA/QC for the presence of asbestos form material.

Compaction will be measured by qualitative methods (relative compaction) for Zones 4, 6 and 7 due to the underlying railroad ties and low vehicular traffic levels anticipated in the future.

COMMENTS Ensure the soil is used at fabric interface, is no thicker than 6", and is covered by at least 6" of imported soil.

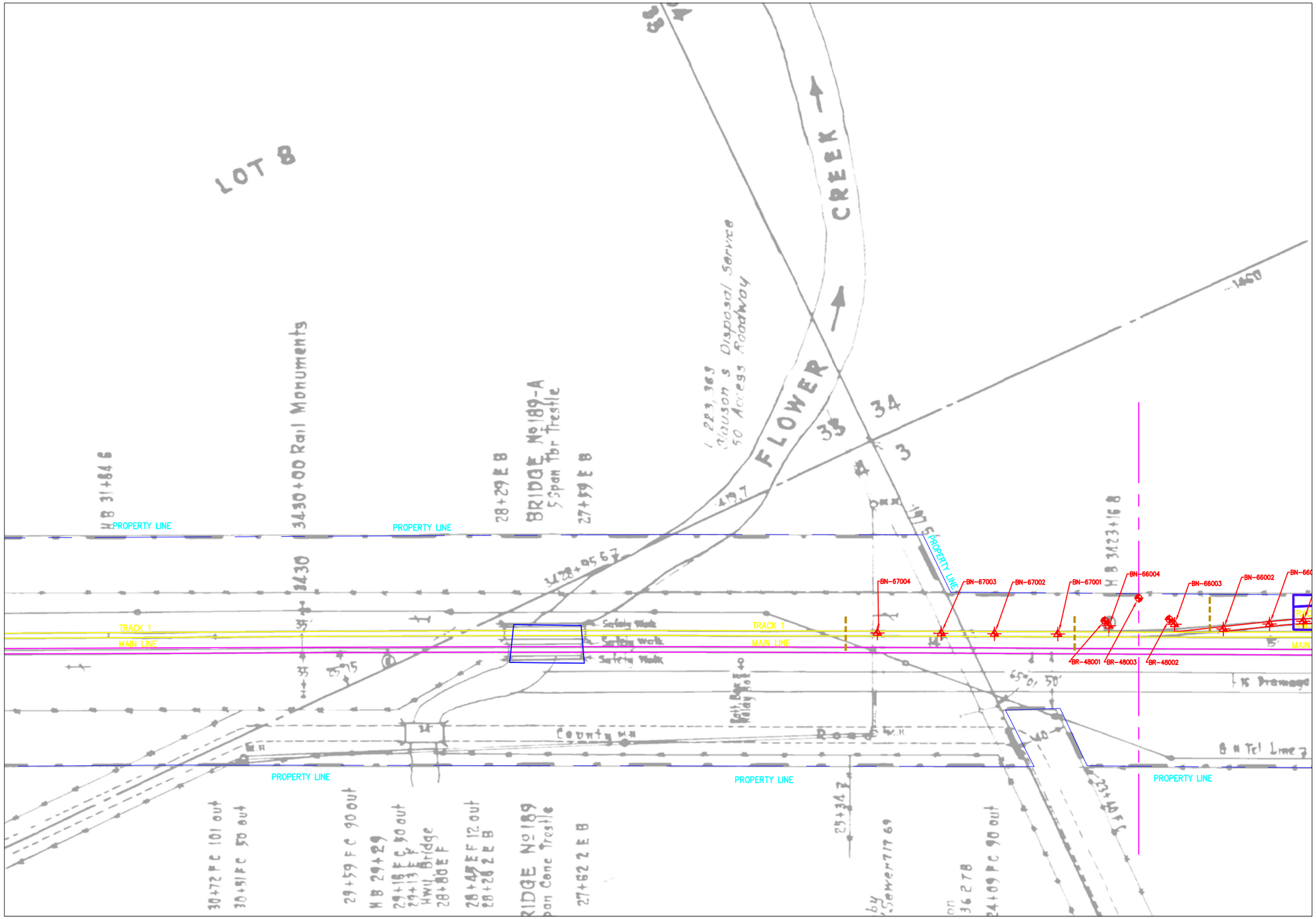
Kennedy/Jenks: [signature] Date: 9/24/04

EPA Representative: [signature] Date: 9/29/04

CC: File: RFI Log
Project Manager: Chuck Soule / Kennedy/Jenks
Construction Manager: Dave Diem / Kennedy/Jenks
Other: Jim Christiansen / EPA, Courtney Zamora / Volpe

Appendix C

Soil Sample Location Drawings



PLAN
SCALE: 1" = 40'

LEGEND:

- CHARACTERIZATION SAMPLES 2003 OR LATER
- CHARACTERIZATION SAMPLES 2002 OR EARLIER
- CLEARANCE SAMPLES
- DEEPER CLEARANCE SAMPLES AT APPROXIMATE LOCATIONS OF EARLIER FAILED CLEARANCE SAMPLE
- AREA EXCAVATED MORE THAN 4 FEET BELOW GROUND SURFACE, BUT DEEPEST SAMPLE CONTAINED DETECTABLE LIBBY AMPHIBOLE

MONTANA
RICHARD C. GUGLOMO
No. 9406PE
LICENSED PROFESSIONAL ENGINEER

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

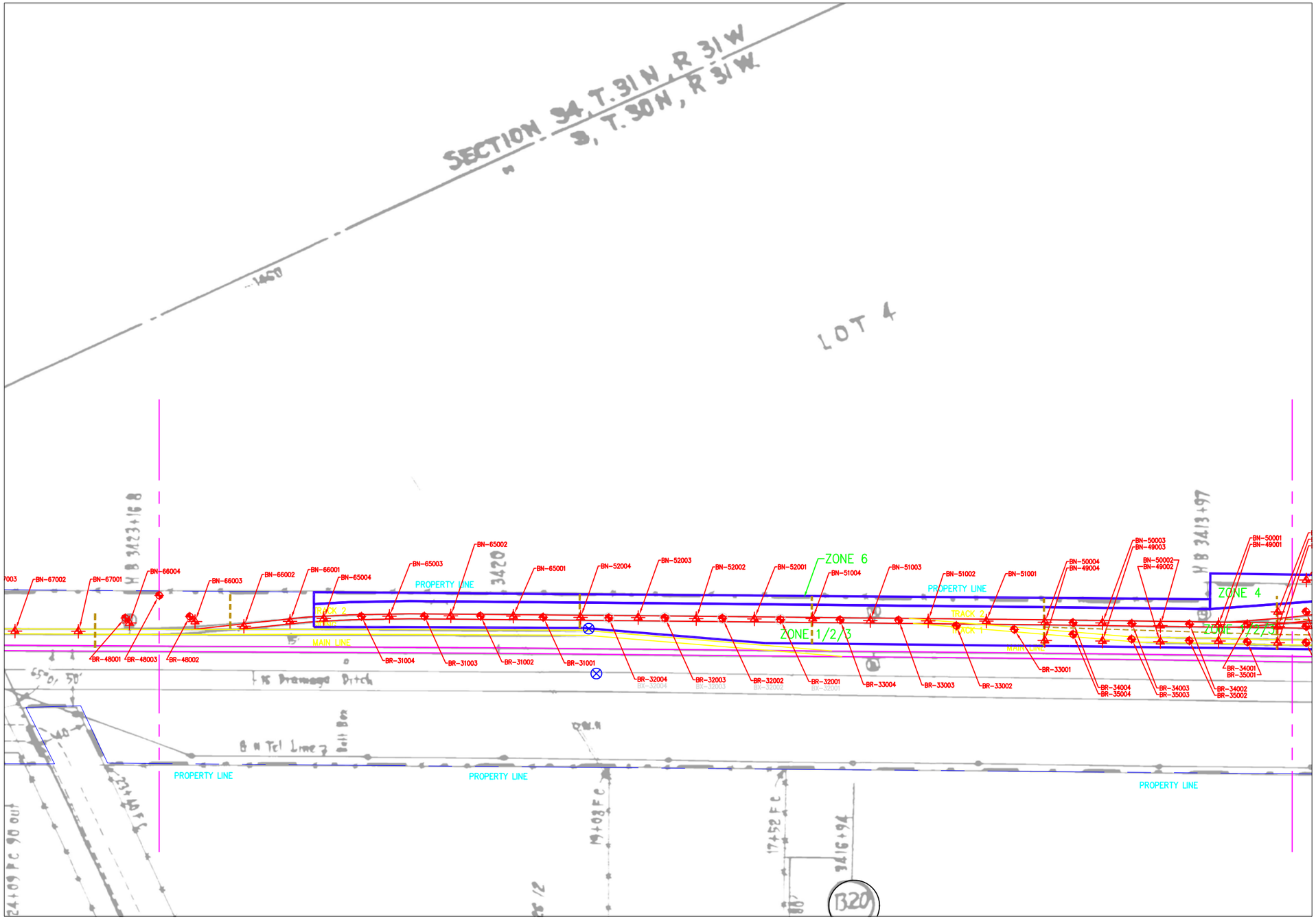
Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

SOIL SAMPLE LOCATION MAP
SHEET 1

BID ISSUE
JULY, 2004

DRAWING NUMBER
C-2S
OF



PLAN
SCALE: 1" = 40'

LEGEND:

- CHARACTERIZATION SAMPLES 2003 OR LATER
- CHARACTERIZATION SAMPLES 2002 OR EARLIER
- CLEARANCE SAMPLES
- DEEPER CLEARANCE SAMPLES AT APPROXIMATE LOCATIONS OF EARLIER FAILED CLEARANCE SAMPLE
- AREA EXCAVATED MORE THAN 4 FEET BELOW GROUND SURFACE, BUT DEEPEST SAMPLE CONTAINED DETECTABLE LIBBY AMPHIBOLE

MONTANA
RICHARD C. GUGLOMO
No. 9406PE
LICENSED PROFESSIONAL ENGINEER

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR:
0 1"
0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

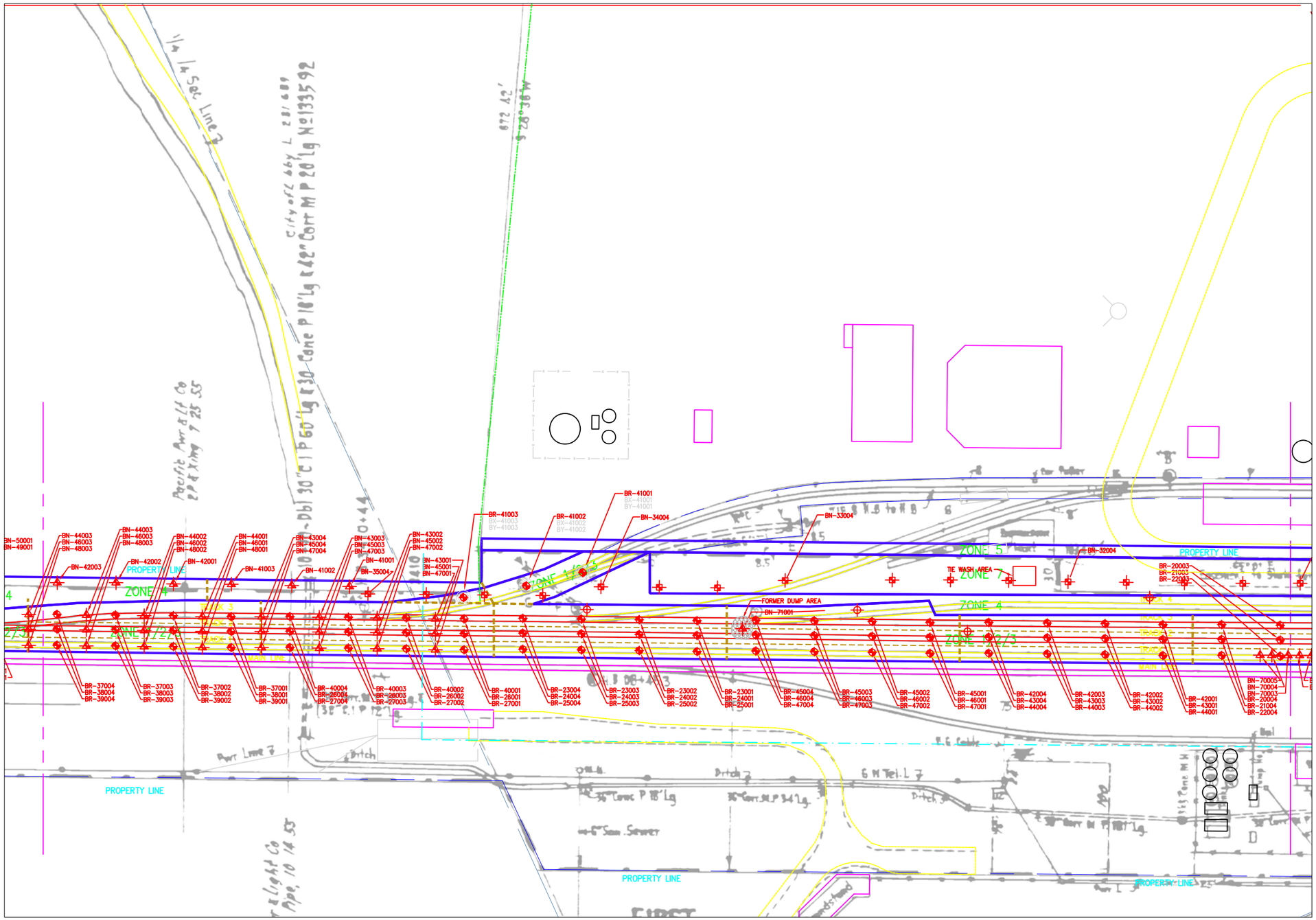
Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

SOIL SAMPLE LOCATION MAP
SHEET 2

BID ISSUE
JULY, 2004

DRAWING NUMBER
C-3S
OF



PLAN
SCALE: 1" = 40'

LEGEND:

- CHARACTERIZATION SAMPLES 2003 OR LATER
- CHARACTERIZATION SAMPLES 2002 OR EARLIER
- CLEARANCE SAMPLES
- DEEPER CLEARANCE SAMPLES AT APPROXIMATE LOCATIONS OF EARLIER FAILED CLEARANCE SAMPLE
- AREA EXCAVATED MORE THAN 4 FEET BELOW GROUND SURFACE, BUT DEEPEST SAMPLE CONTAINED DETECTABLE LIBBY AMPHIBOLE

MONTANA
RICHARD C. GUGLOMO
No. 9406PE
LICENSED PROFESSIONAL ENGINEER

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

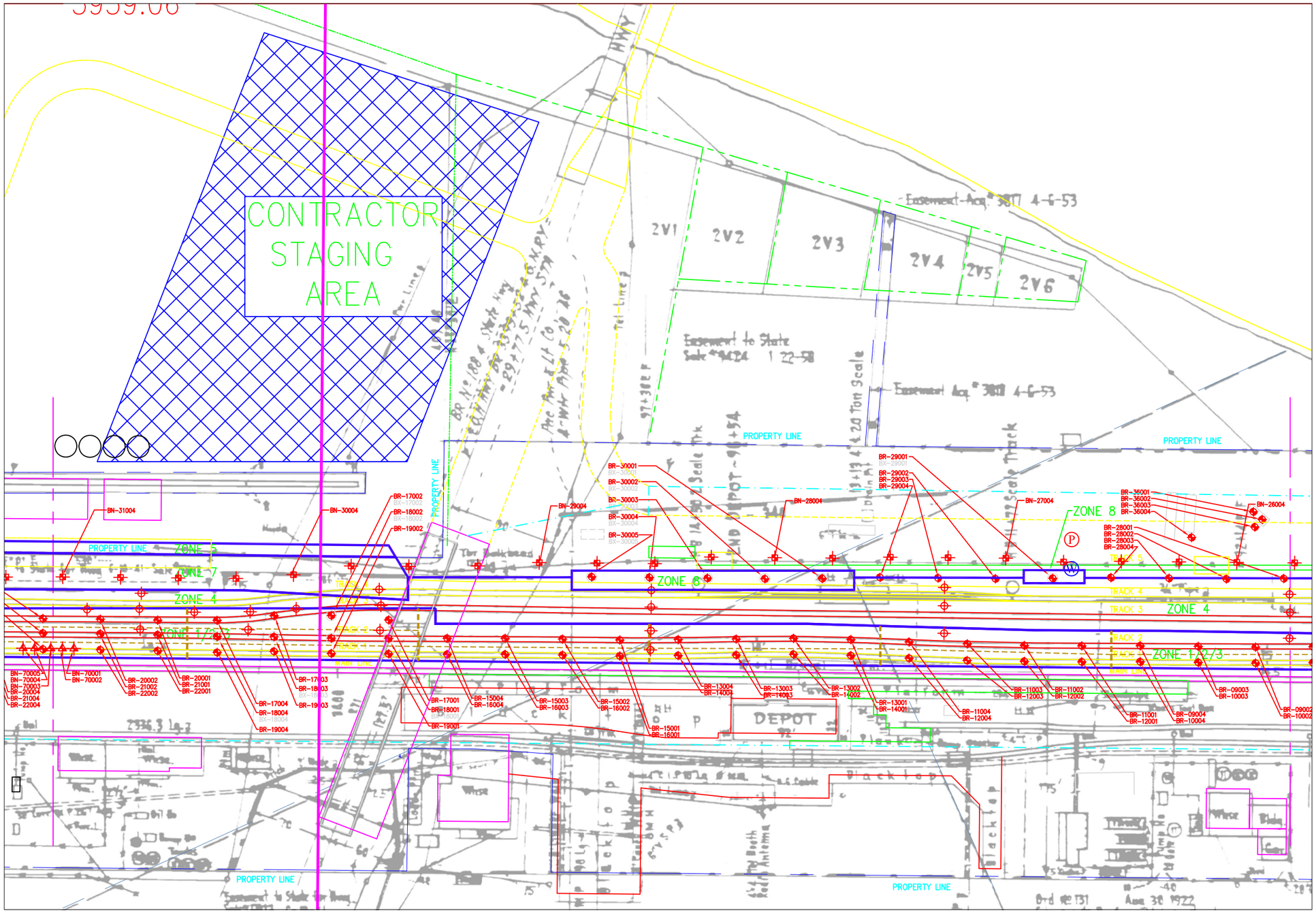
Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

SOIL SAMPLE LOCATION MAP
SHEET 3

BID ISSUE
JULY, 2004

DRAWING NUMBER
C-4S
OF



LEGEND:

- CHARACTERIZATION SAMPLES 2003 OR LATER
- CHARACTERIZATION SAMPLES 2002 OR EARLIER
- CLEARANCE SAMPLES
- DEEPER CLEARANCE SAMPLES AT APPROXIMATE LOCATIONS OF EARLIER FAILED CLEARANCE SAMPLE
- AREA EXCAVATED MORE THAN 4 FEET BELOW GROUND SURFACE, BUT DEEPEST SAMPLE CONTAINED DETECTABLE LIBBY AMPHIBOLE

PLAN
SCALE: 1" = 40'

MONTANA RICHARD C. GUGLOMO No. 9406PE LICENSED PROFESSIONAL ENGINEER

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

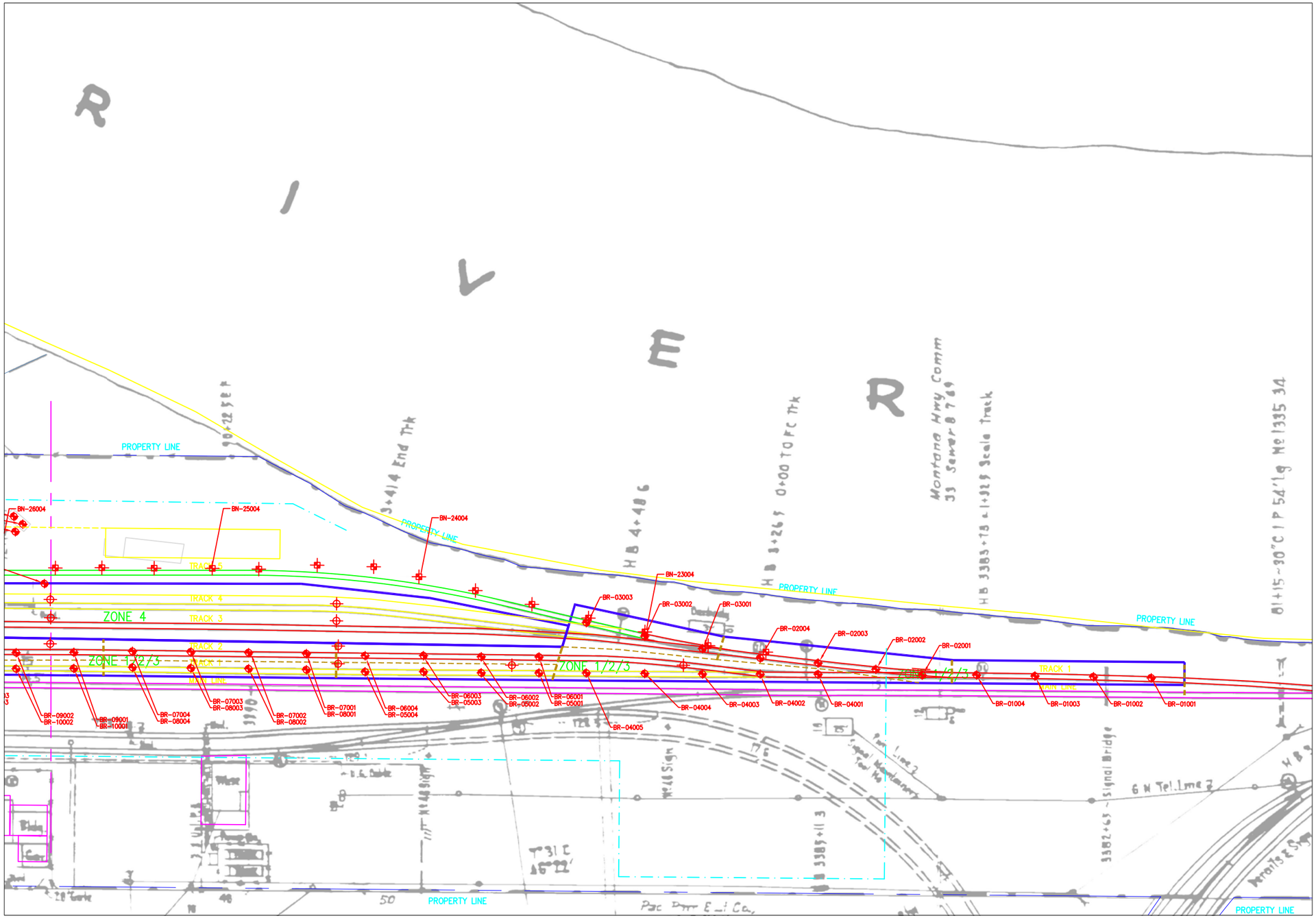
Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington 98001

The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

SOIL SAMPLE LOCATION MAP
SHEET 4

BID ISSUE
JULY, 2004

DRAWING NUMBER
C-5S
OF



PLAN
SCALE: 1" = 40'

LEGEND:

- CHARACTERIZATION SAMPLES 2003 OR LATER
- CHARACTERIZATION SAMPLES 2002 OR EARLIER
- CLEARANCE SAMPLES
- DEEPER CLEARANCE SAMPLES AT APPROXIMATE LOCATIONS OF EARLIER FAILED CLEARANCE SAMPLE
- AREA EXCAVATED MORE THAN 4 FEET BELOW GROUND SURFACE, BUT DEEPEST SAMPLE CONTAINED DETECTABLE LIBBY AMPHIBOLE

MONTANA
RICHARD C. GUGLOMO
No. 9406PE
LICENSED PROFESSIONAL ENGINEER

EXPIRES – 6/30/2006
SIGNED – 7/26/2004

0 20 40 80 120
SCALE: 1"=40'-0"

NO.	DATE	DESCRIPTION OF REVISIONS

SCALE BAR: 0 1" / 0 25.4mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

ENGR: C. SOULE
DRWN: D. ROTH
CHKD: R. GUGLOMO
BNSF APPROVAL
BY: DATE:

Kennedy/Jenks Consultants
Engineers & Scientists
32001 32nd Ave. S, Suite 100
Federal Way, Washington
98001

The Burlington Northern and Santa Fe Railway Company
LIBBY RAILYARD
RESPONSE ACTION
LIBBY, MONTANA

SOIL SAMPLE LOCATION MAP
SHEET 5

BID ISSUE
JULY, 2004

DRAWING NUMBER
C-6S
OF

Appendix D

Analytical Data Tables

Table D-1
Characterization Soil Samples
BNSF Libby Railyard Response Action 2004

Index ID	Analytical Method	Date Received by Laboratory	Tremolite-Actinolite (%)[1]	Chrysotile (%)	Other Amphiboles (%)	LAB	PLM Result	PLM (%F) Result	TEM (%F) Result	Comments
MP1313	EPA asbestos in Soil Method[2]	4/23/2001	NA	NA	NA	Clayton	ND	ND	ND	
MP1315	EPA asbestos in Soil Method[2]	4/23/2001	NA	NA	NA	Clayton	ND	ND	ND	
MP1316	EPA asbestos in Soil Method[2]	4/23/2001	NA	NA	NA	Clayton	ND	ND	ND	
MP1317	EPA asbestos in Soil Method[2]	4/23/2001	NA	NA	NA	Clayton	ND	ND	ND	
MP1318	EPA asbestos in Soil Method[2]	4/23/2001	NA	NA	NA	Clayton	ND	ND	ND	
MP1319	EPA asbestos in Soil Method[2]	4/23/2001	NA	NA	NA	Clayton	ND	ND	ND	
1-E	EPA asbestos in Soil Method[2]	4/24/2001	NA	NA	NA	Clayton	ND	ND	ND	
2-W	EPA asbestos in Soil Method[2]	4/24/2001	NA	NA	NA	Clayton	ND	ND	ND	
3-E	EPA asbestos in Soil Method[2]	4/24/2001	NA	NA	NA	Clayton	ND	ND	ND	
4-W	EPA asbestos in Soil Method[2]	4/24/2001	NA	NA	NA	Clayton	0.5	ND	ND	
5-W	EPA asbestos in Soil Method[2]	4/24/2001	NA	NA	NA	Clayton	ND	ND	ND	
6-E	EPA asbestos in Soil Method[2]	4/24/2001	NA	NA	NA	Clayton	ND	ND	ND	
7-W	EPA asbestos in Soil Method[2]	4/24/2001	NA	NA	NA	Clayton	ND	0.25	ND	
8-W	EPA asbestos in Soil Method[2]	4/24/2001	NA	NA	NA	Clayton	0.75	ND	ND	
9-NW	EPA asbestos in Soil Method[2]	4/24/2001	NA	NA	NA	Clayton	ND	ND	ND	
10-MP	EPA asbestos in Soil Method[2]	4/24/2001	NA	NA	NA	Clayton	ND	ND	ND	
BN-01000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-1
BN-02000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-2
BN-03000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-3
BN-04000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-4
BN-05000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-5
BN-06000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-6
BN-07000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-7
BN-08000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-8
BN-09000	PLM 9002, Issue 2	12/12/2001	<1	ND	ND	EMSL27	NA	NA	NA	comp-9
BN-09001	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL	NA	NA	NA	Grid-9 Center
BN-09002	PLM 9002, Issue 2	12/12/2001	<1	ND	ND	EMSL	NA	NA	NA	Grid-9 NW
BN-09003	PLM 9002, Issue 2	12/12/2001	<1	ND	ND	EMSL	NA	NA	NA	Grid-9 SE
BN-09004	PLM 9002, Issue 2	12/12/2001	<1	ND	ND	EMSL	NA	NA	NA	Grid-9 SW
BN-09005	PLM 9002, Issue 2	12/12/2001	<1	ND	ND	EMSL	NA	NA	NA	Grid-9 NE
BN-10000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-10
BN-11000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-11
BN-12000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-12
BN-13000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-13
BN-14000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-14
BN-15000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-15
BN-16000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-16
BN-17000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-17
BN-18000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-18
BN-19000	PLM 9002, Issue 2	12/12/2001	<1	ND	ND	EMSL27	NA	NA	NA	comp-19
BN-19001	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL	NA	NA	NA	Grid-19 Center
BN-19002	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL	NA	NA	NA	Grid-19 NW
BN-19003	PLM 9002, Issue 2	12/12/2001	<1	ND	ND	EMSL	NA	NA	NA	Grid-19 NE
BN-19004	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL	NA	NA	NA	Grid-19 SE
BN-19005	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL	NA	NA	NA	Grid-19 SW
BN-20000	PLM 9002, Issue 2	12/12/2001	<1	ND	ND	EMSL27	NA	NA	NA	comp-20
BN-20001	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL	NA	NA	NA	Grid-20 Center
BN-20002	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL	NA	NA	NA	Grid-20 NW
BN-20003	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL	NA	NA	NA	Grid-20 NE
BN-20004	PLM 9002, Issue 2	12/12/2001	<1	ND	ND	EMSL	NA	NA	NA	Grid-20 SE
BN-20005	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL	NA	NA	NA	Grid-20 SW
BN-21000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-21
BN-22000	PLM 9002, Issue 2	12/12/2001	ND	ND	ND	EMSL27	NA	NA	NA	comp-22
BN-23000	PLM 9002, Issue 2	11/26/2002	<1	ND	ND	RESI	NA	NA	NA	
BN-23000	PLM 9002, Issue 2	11/26/2002	<1	ND	ND	RESI	NA	NA	NA	
BN-23001	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-23002	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-23003	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-23004	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-24000	PLM 9002, Issue 2	11/26/2002	<1	ND	ND	RESI	NA	NA	NA	
BN-24001	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-24001	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-24002	PLM 9002, Issue 2	1/2/2003	ND	ND	ND	RESI	NA	NA	NA	
BN-24003	PLM 9002, Issue 2	1/2/2003	ND	ND	ND	RESI	NA	NA	NA	
BN-24004	PLM 9002, Issue 2	1/2/2003	ND	ND	ND	RESI	NA	NA	NA	
BN-25000	PLM 9002, Issue 2	11/26/2002	ND	ND	ND	RESI	NA	NA	NA	
BN-26000	PLM 9002, Issue 2	11/26/2002	ND	ND	ND	RESI	NA	NA	NA	
BN-27000	PLM 9002, Issue 2	11/26/2002	ND	ND	ND	RESI	NA	NA	NA	
BN-28000	PLM 9002, Issue 2	11/26/2002	ND	ND	ND	RESI	NA	NA	NA	
BN-29000	PLM 9002, Issue 2	11/26/2002	ND	ND	ND	RESI	NA	NA	NA	
BN-30000	PLM 9002, Issue 2	11/26/2002	<1	ND	ND	RESI	NA	NA	NA	
BN-30000	PLM 9002, Issue 2	11/26/2002	<1	ND	ND	RESI	NA	NA	NA	
BN-30001	PLM 9002, Issue 2	1/2/2003	ND	ND	ND	RESI	NA	NA	NA	
BN-30002	PLM 9002, Issue 2	1/2/2003	ND	ND	ND	RESI	NA	NA	NA	
BN-30003	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-30004	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-31000	PLM 9002, Issue 2	11/26/2002	<1	ND	ND	RESI	NA	NA	NA	
BN-31001	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-31001	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-31002	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-31003	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-31004	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-32000	PLM 9002, Issue 2	11/26/2002	<1	ND	ND	RESI	NA	NA	NA	
BN-32001	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-32002	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-32003	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-32004	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-32004	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-33000	PLM 9002, Issue 2	11/26/2002	<1	ND	ND	RESI	NA	NA	NA	
BN-33001	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-33002	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-33003	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-33004	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-34000	PLM 9002, Issue 2	11/26/2002	<1	ND	ND	RESI	NA	NA	NA	
BN-34001	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-34002	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	

Table D-1
Characterization Soil Samples
BNSF Libby Railyard Response Action 2004

Index ID	Analytical Method	Date Received by Laboratory	Tremolite-Actinolite (%)[1]	Chrysotile (%)	Other Amphiboles (%)	LAB	PLM Result	PLM (%F) Result	TEM (%F) Result	Comments
BN-34003	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-34004	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-34004	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-35000	PLM 9002, Issue 2	11/26/2002	<1	ND	ND	RESI	NA	NA	NA	
BN-35001	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-35002	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-35003	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-35004	PLM 9002, Issue 2	1/2/2003	<1	ND	ND	RESI	NA	NA	NA	
BN-36000	PLM 9002, Issue 2	11/26/2002	ND	ND	ND	RESI	NA	NA	NA	
BN-37000	PLM 9002, Issue 2	11/26/2002	ND	ND	ND	RESI	NA	NA	NA	
T3-00001	PLM 9002, Issue 2	8/13/2003	ND	ND	ND	EMSL27	NA	NA	NA	
T4-00001	PLM 9002, Issue 2	8/13/2003	ND	ND	ND	EMSL27	NA	NA	NA	
BN-38000	PLM 9002, Issue 2	8/15/2003	2	ND	ND	EMSL27	NA	NA	NA	
BN-38001	PLM 9002, Issue 2	8/15/2003	2	ND	ND	EMSL27	NA	NA	NA	
BN-38002	PLM 9002, Issue 2	8/15/2003	ND	ND	ND	EMSL27	NA	NA	NA	
BN-38003	PLM 9002, Issue 2	8/15/2003	2	ND	ND	EMSL27	NA	NA	NA	
BN-38004	PLM 9002, Issue 2	8/15/2003	<1	ND	ND	EMSL27	NA	NA	NA	
BN-38005	PLM 9002, Issue 2	8/15/2003	2	ND	ND	EMSL27	NA	NA	NA	
BN-39000	PLM 9002, Issue 2	8/18/2003	2	ND	ND	EMSL27	NA	NA	NA	
BN-39001	PLM 9002, Issue 2	8/18/2003	2	ND	ND	EMSL27	NA	NA	NA	
BN-39002	PLM 9002, Issue 2	8/18/2003	ND	ND	ND	EMSL27	NA	NA	NA	
BN-39003	PLM 9002, Issue 2	8/18/2003	2	ND	ND	EMSL27	NA	NA	NA	
BN-39004	PLM 9002, Issue 2	8/18/2003	ND	ND	ND	EMSL27	NA	NA	NA	
BN-39005	PLM 9002, Issue 2	8/18/2003	<1	ND	ND	EMSL27	NA	NA	NA	
BN-40000	PLM 9002, Issue 2	8/18/2003	2	ND	ND	EMSL27	NA	NA	NA	
BN-40001	PLM 9002, Issue 2	8/18/2003	2	ND	ND	EMSL27	NA	NA	NA	
BN-40002	PLM 9002, Issue 2	8/18/2003	2	ND	ND	EMSL27	NA	NA	NA	
BN-40003	PLM 9002, Issue 2	8/18/2003	3	ND	ND	EMSL27	NA	NA	NA	
BN-40004	PLM 9002, Issue 2	8/18/2003	<1	ND	ND	EMSL27	NA	NA	NA	
BN-40005	PLM 9002, Issue 2	8/18/2003	<1	ND	ND	EMSL27	NA	NA	NA	
BN-00123	PLM 9002, Issue 2	8/20/2003	ND	ND	ND	EMSL27	NA	NA	NA	
BN-00124	PLM 9002, Issue 2	8/20/2003	ND	ND	ND	EMSL27	NA	NA	NA	
BN-00125	PLM 9002, Issue 2	8/20/2003	ND	ND	ND	EMSL27	NA	NA	NA	
BN-00126	PLM 9002, Issue 2	8/20/2003	ND	ND	ND	EMSL27	NA	NA	NA	
BN-00127	PLM 9002, Issue 2	8/20/2003	ND	ND	ND	EMSL27	NA	NA	NA	
BN-00128	PLM 9002, Issue 2	8/20/2003	ND	ND	ND	EMSL27	NA	NA	NA	
BN-00129	PLM 9002, Issue 2	8/20/2003	ND	ND	ND	EMSL27	NA	NA	NA	
BN-00130	PLM 9002, Issue 2	8/20/2003	ND	ND	ND	EMSL27	NA	NA	NA	
BN-00131	PLM 9002, Issue 2	8/20/2003	ND	ND	ND	EMSL27	NA	NA	NA	
BN-00132	PLM 9002, Issue 2	8/20/2003	ND	ND	ND	EMSL27	NA	NA	NA	
BN-41000	PLM 9002, Issue 2	7/14/2004	<1	ND	ND	EMSL27	NA	NA	NA	Split of BN-53000
BN-42000	PLM 9002, Issue 2	7/14/2004	<1	ND	ND	EMSL27	NA	NA	NA	Split of BN-54000
BN-43000	PLM 9002, Issue 2	7/14/2004	ND	ND	ND	EMSL27	NA	NA	NA	Split of BN-55000
BN-44000	PLM 9002, Issue 2	7/14/2004	<1	ND	ND	EMSL27	NA	NA	NA	Split of BN-56000
BN-45000	PLM 9002, Issue 2	7/14/2004	<1	ND	ND	EMSL27	NA	NA	NA	Split of BN-57000
BN-46000	PLM 9002, Issue 2	7/14/2004	<1	ND	ND	EMSL27	NA	NA	NA	Split of BN-58000
BN-47000	PLM 9002, Issue 2	7/14/2004	<1	ND	ND	EMSL27	NA	NA	NA	Split of BN-59000
BN-48000	PLM 9002, Issue 2	7/14/2004	ND	ND	ND	EMSL27	NA	NA	NA	Split of BN-60000
BN-49000	PLM 9002, Issue 2	7/14/2004	ND	ND	ND	EMSL27	NA	NA	NA	Split of BN-61000
BN-50000	PLM 9002, Issue 2	7/14/2004	ND	ND	ND	EMSL27	NA	NA	NA	Split of BN-62000
BN-51000	PLM 9002, Issue 2	7/14/2004	<1	ND	ND	EMSL27	NA	NA	NA	Split of BN-63000
BN-52000	PLM 9002, Issue 2	7/14/2004	<1	ND	ND	EMSL27	NA	NA	NA	Split of BN-64000
BN-53000	PLM 9002- VE	7/28/2004	ND	ND	ND	EMSL04	NA	NA	NA	Split of BN-41000
BN-54000	PLM 9002- VE	7/28/2004	ND	ND	ND	EMSL04	NA	NA	NA	Split of BN-42000
BN-55000	PLM 9002- VE	7/28/2004	ND	ND	ND	EMSL04	NA	NA	NA	Split of BN-43000
BN-56000	PLM 9002- VE	7/28/2004	ND	ND	ND	EMSL04	NA	NA	NA	Split of BN-44000
BN-57000	PLM 9002- VE	7/28/2004	ND	ND	ND	EMSL04	NA	NA	NA	Split of BN-45000
BN-58000	PLM 9002- VE	7/28/2004	Tr	ND	ND	EMSL04	NA	NA	NA	Split of BN-46000
BN-59000	PLM 9002- VE	7/28/2004	ND	ND	ND	EMSL04	NA	NA	NA	Split of BN-47000
BN-60000	PLM 9002- VE	7/28/2004	ND	ND	ND	EMSL04	NA	NA	NA	Split of BN-48000
BN-61000	PLM 9002- VE	7/28/2004	ND	ND	ND	EMSL04	NA	NA	NA	Split of BN-49000
BN-62000	PLM 9002- VE	7/28/2004	ND	ND	ND	EMSL04	NA	NA	NA	Split of BN-50000
BN-63000	PLM 9002- VE	7/28/2004	Tr	ND	ND	EMSL04	NA	NA	NA	Split of BN-51000
BN-64000	PLM 9002- VE	7/28/2004	ND	ND	ND	EMSL04	NA	NA	NA	Split of BN-52000
BN-65000	PLM 9002, Issue 2	9/9/2004	<1	ND	ND	EMSL04	NA	NA	NA	
BN-66000	PLM 9002, Issue 2	9/9/2004	<1	ND	ND	EMSL04	NA	NA	NA	
BN-66001	PLM 9002, Issue 2	9/9/2004	ND	ND	ND	EMSL04	NA	NA	NA	
BN-66002	PLM 9002, Issue 2	9/9/2004	ND	ND	ND	EMSL04	NA	NA	NA	
BN-66003	PLM 9002, Issue 2	9/9/2004	<1	ND	ND	EMSL04	NA	NA	NA	
BN-66004	PLM 9002, Issue 2	9/9/2004	<1	ND	ND	EMSL04	NA	NA	NA	
BN-67000	PLM 9002, Issue 2	9/9/2004	ND	ND	ND	EMSL04	NA	NA	NA	
BN-69001	PLM 9002, Issue 2	9/14/2004	ND	ND	ND	EMSL04	NA	NA	NA	
BN-70001	PLM 9002, Issue 2	9/24/2004	ND	ND	ND	EMSL04	NA	NA	NA	
BN-70002	PLM 9002, Issue 2	9/24/2004	<1	ND	ND	EMSL04	NA	NA	NA	
BN-70003	PLM 9002, Issue 2	9/24/2004	<1	ND	ND	EMSL04	NA	NA	NA	
BN-70004	PLM 9002, Issue 2	9/24/2004	<1	ND	ND	EMSL04	NA	NA	NA	
BN-70005	PLM 9002, Issue 2	9/24/2004	ND	ND	ND	EMSL04	NA	NA	NA	
BN-71001	PLM 9002, Issue 2	10/1/2004	<1	ND	ND	EMSL04	NA	NA	NA	

1 - Libby Amphibole % for PLM 9002-VE Sample Method
2 - Samples were analyzed by EPA 600 and TEM Semi-quantitative
NA- Not Analyzed, Not Available
ND- Not Detected
TR- Trace

Table D-2
Clearance Soil Samples
BNSF Libby Railyard Response Action 2004

Sample ID	COC Number	Appearance	Analytical Method	Date Collected	Date Analyzed	Asbestos Percentage	Asbestos Type
BR-01000	B0015	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/15/2004	9/16/2004	ND	NA
BR-02000	B0016	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/16/2004	9/17/2004	ND	NA
BR-03000	B0021	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/20/2004	9/20/2004	ND	NA
BR-04000	B0021	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/20/2004	9/20/2004	ND	NA
BR-05000	B0022	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/21/2004	9/22/2004	ND	NA
BR-06000	B0022	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/21/2004	9/22/2004	ND	NA
BR-07000	B0023	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/21/2004	9/22/2004	ND	NA
BR-08000	B0023	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/21/2004	9/22/2004	ND	NA
BR-09000	B0026	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/22/2004	9/24/2004	ND	NA
BR-10000	B0026	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/22/2004	9/24/2004	ND	NA
BR-11000	B0027	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/22/2004	9/24/2004	ND	NA
BR-12000	B0027	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/22/2004	9/24/2004	ND	NA
BR-13000	B0028	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/23/2004	9/26/2004	ND	NA
BR-14000	B0028	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/24/2004	9/26/2004	ND	NA
BR-15000	B0029	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/24/2004	9/26/2004	ND	NA
BR-16000	B0029	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/24/2004	9/26/2004	ND	NA
BR-17000	B0049	Tan Fibrous Homogeneous	9002, Issue 2[1]	9/28/2004	9/30/2004	<1%	Tremolite/Actinolite
BR-17001	B0049	Beige Fibrous Homogeneous	9002, Issue 2[1]	9/28/2004	10/2/2004	ND	NA
BR-17002	B0049	Brown Fibrous Homogeneous	9002, Issue 2[1]	9/28/2004	10/2/2004	<1%	Tremolite/Actinolite
BX-17002	B0060	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/4/2004	10/5/2004	ND	NA
BR-17003	B0049	Beige Fibrous Homogeneous	9002, Issue 2[1]	9/28/2004	10/2/2004	ND	NA
BR-17004	B0049	Beige Fibrous Homogeneous	9002, Issue 2[1]	9/28/2004	10/2/2004	ND	NA
BR-18000	B0049	Brown, Tan Fibrous Homogeneous	9002, Issue 2[1]	9/28/2004	9/30/2004	<1%	Tremolite/Actinolite
BX-18000	B0103	Tan Fibrous Homogeneous	9002, Issue 2[1]	10/19/2004	10/20/2004	ND	NA
BR-18001	B0049	Beige Fibrous Homogeneous	9002, Issue 2[1]	9/28/2004	10/2/2004	ND	NA
BR-18002	B0049	Gray Fibrous Homogeneous	9002, Issue 2[1]	9/28/2004	10/2/2004	ND	NA
BR-18003	B0049	Beige Fibrous Homogeneous	9002, Issue 2[1]	9/28/2004	10/2/2004	ND	NA
BR-18004	B0049	Beige Fibrous Homogeneous	9002, Issue 2[1]	9/28/2004	10/2/2004	ND	NA

Table D-2
Clearance Soil Samples
BNSF Libby Railyard Response Action 2004

Sample ID	COC Number	Appearance	Analytical Method	Date Collected	Date Analyzed	Asbestos Percentage	Asbestos Type
BR-19000	B0050	Brown Fibrous Homogeneous	9002, Issue 2[1]	9/28/2004	9/30/2004	ND	NA
BR-20000	B0050	Brown Fibrous Homogeneous	9002, Issue 2[1]	9/28/2004	9/30/2004	ND	NA
BR-21000	B0051	Brown Fibrous Homogeneous	9002, Issue 2[1]	9/28/2004	9/30/2004	ND	NA
BR-22000	B0051	Brown Fibrous Homogeneous	9002, Issue 2[1]	9/28/2004	9/30/2004	ND	NA
BR-23000	B0061	Brown, Black Fibrous Homogeneous	9002, Issue 2[1]	10/5/2004	10/6/2004	ND	NA
BR-24000	B0061	Brown, Black Fibrous Homogeneous	9002, Issue 2[1]	10/5/2004	10/6/2004	ND	NA
BR-25000	B0062	Brown, Black Fibrous Homogeneous	9002, Issue 2[1]	10/5/2004	10/6/2004	ND	NA
BR-26000	B0062	Brown, Black Fibrous Homogeneous	9002, Issue 2[1]	10/6/2004	10/6/2004	ND	NA
BR-27000	B0063	Brown, Black Fibrous Homogeneous	9002, Issue 2[1]	10/5/2004	10/6/2004	ND	NA
BR-28000	B0078	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/6/2004	10/7/2004	ND	NA
BR-29000	B0078	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/6/2004	10/7/2004	<1%	Tremolite/Actinolite
BR-29001	B0078	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/6/2004	10/11/2004	<1%	Tremolite/Actinolite
BX-29001	B0103	Tan Fibrous Homogeneous	9002, Issue 2[1]	10/19/2004	10/20/2004	ND	NA
BR-29002	B0078	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/6/2004	10/11/2004	ND	NA
BR-29003	B0078	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/6/2004	10/11/2004	ND	NA
BR-29004	B0078	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/6/2004	10/11/2004	ND	NA
BR-30000	B0078	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/6/2004	10/7/2004	<1%	Tremolite/Actinolite
BR-30001	B0079	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/6/2004	10/11/2004	<1%	Tremolite/Actinolite
BR-30002	B0079	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/6/2004	10/11/2004	<1%	Tremolite/Actinolite
BR-30003	B0079	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/6/2004	10/11/2004	<1%	Tremolite/Actinolite
BR-30004	B0079	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/6/2004	10/11/2004	<1%	Tremolite/Actinolite
BR-30005	B0079	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/6/2004	10/11/2004	<1%	Tremolite/Actinolite
BX-30000	B0103	Tan Fibrous Homogeneous	9002, Issue 2[1]	10/19/2004	10/20/2004	ND	NA
BR-31000	B0080	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/11/2004	10/12/2004	ND	NA
BR-32000	B0080	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/11/2004	10/12/2004	<1%	Tremolite/Actinolite
BX-32000	B0109	Tan Fibrous Homogeneous	9002, Issue 2[1]	10/20/2004	10/21/2004	ND	NA
BR-33000	B0081	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/11/2004	10/12/2004	ND	NA
BR-34000	B0081	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/11/2004	10/12/2004	ND	NA

Table D-2
Clearance Soil Samples
BNSF Libby Railyard Response Action 2004

Sample ID	COC Number	Appearance	Analytical Method	Date Collected	Date Analyzed	Asbestos Percentage	Asbestos Type
BR-35000	B0082	Beige Fibrous Homogeneous	9002, Issue 2[1]	10/11/2004	10/12/2004	ND	NA
BR-36000	B0082	Beige Fibrous Homogeneous	9002, Issue 2[1]	10/11/2004	10/12/2004	ND	NA
BR-37000	B0083	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/13/2004	10/13/2004	ND	NA
BR-38000	B0083	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/13/2004	10/13/2004	ND	ND
BR-39000	B0084	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/13/2004	10/13/2004	ND	NA
BR-40000	B0084	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/13/2004	10/13/2004	ND	NA
BR-41000	B0085	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/13/2004	10/13/2004	<1%	Tremolite/Actinolite
BX-41000	B0098	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/15/2004	10/15/2004	<1%	Tremolite/Actinolite
BY-41000	B0108	Tan Fibrous Homogeneous	9002, Issue 2[1]	10/19/2004	10/20/2004	ND	NA
BR-42000	B0086	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/14/2004	10/14/2004	ND	NA
BR-43000	B0086	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/14/2004	10/14/2004	ND	NA
BR-44000	B0087	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/14/2004	10/14/2004	ND	NA
BR-45000	B0088	Tan Fibrous Homogeneous	9002, Issue 2[1]	10/15/2004	10/15/2004	ND	NA
BR-46000	B0088	Tan Fibrous Homogeneous	9002, Issue 2[1]	10/15/2004	10/15/2004	ND	NA
BR-47000	B0098	Brown Fibrous Homogeneous	9002, Issue 2[1]	10/15/2004	10/15/2004	ND	NA
BR-48000[2]	B0109	Tan Fibrous Homogeneous	9002, Issue 2[1]	10/20/2004	10/21/2004	ND	NA

[1] NIOSH Method 9002, Issue 2

[2] Sample BR-48000 was reported by the laboratory to be BX-48000. EMR has notified the labororatory of the error and requested a revised report.

ND- Not detected

NA- Not applicable

Table D-3
TEM Air Monitoring Samples
BNSF Libby Railyard Response Action 2004

Sample ID	Analytical Method	Sample Collection Date	Sample Analysis Date	COC Number	Asbestos Type	Structures ≥0.5 µ<5	Structures ≥0.5 µ	Volume (Liters)	S/mm²	S/cc
BN-00135	TEM	9/3/2004	9/7/2004	B0001	NA	ND	ND	1560	<19.00	<0.0047
BN-00136	TEM	9/3/2004	9/7/2004	B0001	NA	ND	ND	1537	<19.00	<0.0048
BN-00137	TEM	9/3/2004	9/7/2004	B0001	NA	ND	ND	1486	<15.00	<0.0040
BN-00138	TEM	9/3/2004	9/7/2004	B0001	NA	ND	ND	1541	<19.00	<0.0048
BN-00139	TEM	9/3/2004	9/7/2004	B0001	NA	ND	ND	1338	<15.00	<0.0044
BN-00140	TEM	9/3/2004	9/7/2004	B0001	NA	ND	ND	1650	<19.00	<0.0045
BN-00101	TEM	9/3/2004	9/7/2004	B0001	NA	ND	ND	730	<8.50	<0.0045
BN-00093	TEM	9/2/2004	9/7/2004	B0002	NA	ND	ND	672	<8.50	<0.0049
BN-00092	TEM	9/2/2004	9/7/2004	B0002	NA	ND	ND	526	<7.70	<0.0056
BN-00091	TEM	9/2/2004	9/7/2004	B0002	NA	ND	ND	590	<7.70	<0.0050
BN-00090	TEM	9/2/2004	9/7/2004	B0002	NA	ND	ND	1246	<15.00	<0.0048
BN-00089	TEM	9/2/2004	9/7/2004	B0002	NA	ND	ND	476	<7.70	<0.0062
BN-00083	TEM	9/1/2004	9/8/2004	B0003	NA	ND	ND	1011	<13.00	<0.0049
BN-00084	TEM	9/1/2004	9/8/2004	B0003	NA	ND	ND	1536	<19.00	<0.0048
BN-00085	TEM	9/1/2004	9/8/2004	B0003	NA	ND	ND	957	<11.00	<0.0044
BN-00086	TEM	9/1/2004	9/8/2004	B0003	NA	ND	ND	1018	<13.00	<0.0048
BN-00087	TEM	9/1/2004	9/8/2004	B0003	NA	ND	ND	1526	<15.00	<0.0039
BN-00142	TEM	9/7/2004	9/8/2004	B0004	NA	ND	ND	2227	<19.00	<0.0033
BN-00143	TEM	9/7/2004	9/8/2004	B0004	NA	ND	ND	2254	<19.00	<0.0033
BN-00144	TEM	9/7/2004	9/8/2004	B0004	NA	ND	ND	2507	<19.00	<0.0030
BN-00145	TEM	9/7/2004	9/8/2004	B0004	NA	ND	ND	2185	<19.00	<0.0034
BN-00146	TEM	9/7/2004	9/8/2004	B0004	NA	ND	ND	2606	<19.00	<0.0028
BN-00147	TEM	9/7/2004	9/8/2004	B0004	NA	ND	ND	2223	<19.00	<0.0033
BN-00154	TEM	9/8/2004	9/9/2004	B0005	NA	ND	ND	2079	<19.00	<0.0036
BN-00155	TEM	9/8/2004	9/9/2004	B0005	NA	ND	ND	2212	<19.00	<0.0033
BN-00156	TEM	9/8/2004	9/9/2004	B0005	NA	ND	ND	2109	<19.00	<0.0035
BN-00157	TEM	9/8/2004	9/9/2004	B0005	NA	ND	ND	2088	<19.00	<0.0035
BN-00158	TEM	9/8/2004	9/9/2004	B0005	NA	ND	ND	1965	<19.00	<0.0038
BN-00159	TEM	9/8/2004	9/9/2004	B0005	NA	ND	ND	1902	<19.00	<0.0039
BN-00160	TEM	9/9/2004	9/11/2004	B0008	NA	ND	ND	2238	<19.00	<0.0033
BN-00161	TEM	9/9/2004	9/11/2004	B0008	NA	ND	ND	2200	<19.00	<0.0034
BN-00162	TEM	9/9/2004	9/11/2004	B0008	NA	ND	ND	2234	<19.00	<0.0033
BN-00163	TEM	9/9/2004	9/11/2004	B0008	NA	ND	ND	2146	<19.00	<0.0035
BN-00164	TEM	9/9/2004	9/11/2004	B0008	NA	ND	ND	2382	<19.00	<0.0031
BN-00165	TEM	9/9/2004	9/11/2004	B0008	NA	ND	ND	2196	<19.00	<0.0034
BN-00166	TEM	9/9/2004	9/11/2004	B0008	NA	ND	ND	2236	<19.00	<0.0033
BN-00173	TEM	9/10/2004	9/11/2004	B0009	NA	ND	ND	2101	<19.00	<0.0035

Table D-3
TEM Air Monitoring Samples
BNSF Libby Railyard Response Action 2004

Sample ID	Analytical Method	Sample Collection Date	Sample Analysis Date	COC Number	Asbestos Type	Structures ≥0.5 μ<5	Structures ≥0.5 μ	Volume (Liters)	S/mm²	S/cc
BN-00174	TEM	9/10/2004	9/11/2004	B0009	NA	ND	ND	2077	<19.00	<0.0036
BN-00175	TEM	9/10/2004	9/11/2004	B0009	NA	ND	ND	2100	<19.00	<0.0035
BN-00176	TEM	9/10/2004	9/11/2004	B0009	NA	ND	ND	1943	<19.00	<0.0038
BN-00177	TEM	9/10/2004	9/11/2004	B0009	NA	ND	ND	1995	<19.00	<0.0037
BN-00178	TEM	9/10/2004	9/11/2004	B0009	NA	ND	ND	1934	<19.00	<0.0038
BN-00179	TEM	9/10/2004	9/11/2004	B0009	NA	ND	ND	2008	<19.00	<0.0037
BN-00180	TEM	9/10/2004	9/11/2004	B0009	NA	ND	ND	819	<9.60	<0.0045
BN-00181	TEM	9/11/2004	9/12/2004	B0010	NA	ND	ND	1894	<19.00	<0.0039
BN-00182	TEM	9/11/2004	9/12/2004	B0010	NA	ND	ND	2253	<19.00	<0.0033
BN-00183	TEM	9/11/2004	9/12/2004	B0010	NA	ND	ND	1858	<19.00	<0.0040
BN-0184	TEM	9/11/2004	9/12/2004	B0010	NA	ND	ND	1546	<19.00	<0.0036
BN-00185	TEM	9/11/2004	9/12/2004	B0010	NA	ND	ND	1190	<13.00	<0.0041
BN-00186	TEM	9/11/2004	9/12/2004	B0010	NA	ND	ND	1794	<19.00	<0.0041
BN-00187	TEM	9/11/2004	9/12/2004	B0010	NA	ND	ND	1045	<13.00	<0.0047
BN-00188	TEM	9/11/2004	9/12/2004	B0010	NA	ND	ND	1919	<19.00	<0.0039
BN-00170	TEM	9/10/2004	9/14/2004	B0011	NA	ND	ND	1230	<15.00	<0.0048
BN-00194	TEM	9/12/2004	9/14/2004	B0011	NA	ND	ND	1112	<13.00	<0.0044
BN-00195	TEM	9/12/2004	9/14/2004	B0011	NA	ND	ND	1159	<13.00	<0.0043
BN-00196	TEM	9/12/2004	9/14/2004	B0011	NA	ND	ND	1087	<13.00	<0.0045
BN-00197	TEM	9/12/2004	9/14/2004	B0011	NA	ND	ND	1091	<13.00	<0.0045
BN-00198	TEM	9/12/2004	9/14/2004	B0011	NA	ND	ND	1223	<15.00	<0.0048
BN-00199	TEM	9/12/2004	9/14/2004	B0011	NA	ND	ND	772	<9.60	<0.0048
BN-00200	TEM	9/13/2004	9/14/2004	B0012	NA	ND	ND	1969	<19.00	<0.0038
BN-00201	TEM	9/13/2004	9/14/2004	B0012	NA	ND	ND	2285	<19.00	<0.0032
BN-00202	TEM	9/13/2004	9/14/2004	B0012	NA	ND	ND	1364	<15.00	<0.0043
BN-00203	TEM	9/13/2004	9/14/2004	B0012	NA	ND	ND	2244	<19.00	<0.0033
BN-00204	TEM	9/13/2004	9/14/2004	B0012	NA	ND	ND	1976	<19.00	<0.0037
BN-00205	TEM	9/13/2004	9/14/2004	B0012	NA	ND	ND	2022	<19.00	<0.0037
BN-00206	TEM	9/13/2004	9/14/2004	B0012	NA	ND	ND	1999	<19.00	<0.0037
BN-00213	TEM	9/14/2004	9/15/2004	B0014	NA	ND	ND	1907	<19.00	<0.0039
BN-00214	TEM	9/14/2004	9/15/2004	B0014	NA	ND	ND	828	<9.60	<0.0045
BN-00215	TEM	9/14/2004	9/15/2004	B0014	NA	ND	ND	2210	<19.00	<0.0034
BN-00216	TEM	9/14/2004	9/15/2004	B0014	NA	ND	ND	1938	<19.00	<0.0038
BN-00217	TEM	9/14/2004	9/15/2004	B0014	NA	ND	ND	913	<11.00	<0.0046
BN-00218	TEM	9/14/2004	9/15/2004	B0014	NA	ND	ND	1881	<19.00	<0.0039
BN-00219	TEM	9/15/2004	9/16/2004	B0017	NA	ND	ND	1659	<19.00	<0.0045
BN-00220	TEM	9/15/2004	9/16/2004	B0017	NA	ND	ND	2399	<19.00	<0.0031

Table D-3
TEM Air Monitoring Samples
BNSF Libby Railyard Response Action 2004

Sample ID	Analytical Method	Sample Collection Date	Sample Analysis Date	COC Number	Asbestos Type	Structures ≥0.5 μ<5	Structures ≥0.5 μ	Volume (Liters)	S/mm²	S/cc
BN-00221	TEM	9/15/2004	9/16/2004	B0017	NA	ND	ND	2162	<19.00	<0.0034
BN-00222	TEM	9/15/2004	9/16/2004	B0017	NA	ND	ND	1272	<15.00	<0.0047
BN-00223	TEM	9/15/2004	9/16/2004	B0017	NA	ND	ND	2054	<19.00	<0.0036
BN-00224	TEM	9/15/2004	9/16/2004	B0017	NA	ND	ND	1843	<19.00	<0.0040
BN-00225	TEM	9/15/2004	9/16/2004	B0017	NA	ND	ND	900	<11.00	<0.0047
BN-00231	TEM	9/16/2004	9/17/2004	B0018	NA	ND	ND	1280	<15.00	<0.0046
BN-00232	TEM	9/16/2004	9/17/2004	B0018	NA	ND	ND	1529	<15.00	<0.0040
BN-00233	TEM	9/16/2004	9/17/2004	B0018	NA	ND	ND	2033	<19.00	<0.0036
BN-00234	TEM	9/16/2004	9/17/2004	B0018	NA	ND	ND	1221	<15.00	<0.0049
BN-00235	TEM	9/16/2004	9/17/2004	B0018	NA	ND	ND	1980	<19.00	<0.0037
BN-00236	TEM	9/16/2004	9/17/2004	B0018	NA	ND	ND	2083	<19.00	<0.0036
BN-00237	TEM	9/16/2004	9/17/2004	B0018	NA	ND	ND	2008	<19.00	<0.0037
BN-00238	TEM	9/16/2004	9/17/2004	B0018	NA	ND	ND	864	<11.00	<0.0049
BN-00239	TEM	9/17/2004	9/19/2004	B0019	NA	ND	ND	1378	<15.00	<0.0043
BN-00240	TEM	9/17/2004	9/19/2004	B0019	NA	ND	ND	2387	<19.00	<0.0031
BN-00241	TEM	9/17/2004	9/19/2004	B0019	NA	ND	ND	1349	<15.00	<0.0044
BN-00242	TEM	9/17/2004	9/19/2004	B0019	NA	ND	ND	1323	<15.00	<0.0045
BN-00243	TEM	9/17/2004	9/19/2004	B0019	NA	ND	ND	2014	<19.00	<0.0037
BN-00244	TEM	9/17/2004	9/19/2004	B0019	NA	ND	ND	1961	<19.00	<0.0038
BN-00245	TEM	9/17/2004	9/19/2004	B0019	NA	ND	ND	1290	<15.00	<0.0046
BN-00250	TEM	9/18/2004	9/20/2004	B0020	NA	ND	ND	1261	<15.00	<0.0047
BN-00251	TEM	9/18/2004	9/20/2004	B0020	NA	ND	ND	1052	<13.00	<0.0047
BN-00252	TEM	9/18/2004	9/20/2004	B0020	NA	ND	ND	1790	<19.00	<0.0041
BN-00253	TEM	9/18/2004	9/20/2004	B0020	NA	ND	ND	1724	<19.00	<0.0043
BN-00254	TEM	9/18/2004	9/20/2004	B0020	NA	ND	ND	1301	<15.00	<0.0046
BN-00255	TEM	9/18/2004	9/20/2004	B0020	NA	ND	ND	915	<11.00	<0.0046
BN-00257	TEM	9/20/2004	9/22/2004	B0024	NA	ND	ND	1526	<19.00	<0.0049
BN-00258	TEM	9/20/2004	9/22/2004	B0024	NA	ND	ND	1511	<19.00	<0.0049
BN-00259	TEM	9/20/2004	9/22/2004	B0024	NA	ND	ND	2020	<19.00	<0.0037
BN-00260	TEM	9/20/2004	9/22/2004	B0024	NA	ND	ND	1151	<13.00	<0.0043
BN-00261	TEM	9/20/2004	9/22/2004	B0024	NA	ND	ND	1984	<19.00	<0.0037
BN-00262	TEM	9/20/2004	9/22/2004	B0024	NA	ND	ND	1094	<13.00	<0.0045
BN-00264	TEM	9/20/2004	9/22/2004	B0024	NA	ND	ND	1405	<15.00	<0.0042
BN-00266	TEM	9/21/2004	9/23/2004	B0025	NA	ND	ND	1495	<15.00	<0.0040
BN-00267	TEM	9/21/2004	9/23/2004	B0025	NA	ND	ND	1196	<15.00	<0.0050
BN-00268	TEM	9/21/2004	9/23/2004	B0025	NA	ND	ND	848	<9.60	<0.0044
BN-00269	TEM	9/21/2004	9/23/2004	B0025	NA	ND	ND	1186	<13.00	<0.0042

Table D-3
TEM Air Monitoring Samples
BNSF Libby Railyard Response Action 2004

Sample ID	Analytical Method	Sample Collection Date	Sample Analysis Date	COC Number	Asbestos Type	Structures ≥0.5 µ<5	Structures ≥0.5 µ	Volume (Liters)	S/mm²	S/cc
BN-00270	TEM	9/21/2004	9/23/2004	B0025	NA	ND	ND	1665	<19.00	<0.0044
BN-00271	TEM	9/21/2004	9/23/2004	B0025	NA	ND	ND	2057	<19.00	<0.0036
BN-00272	TEM	9/21/2004	9/23/2004	B0025	NA	ND	ND	1240	<15.00	<0.0048
BN-00275	TEM	9/21/2004	10/11/2004	B0076	overloaded	ND	ND	NA	NA	NA
BN-00275	TEM	9/21/2004	10/12/2004	B0076	NA	ND	ND	1358	<51.75	<0.0147
BN-00278	TEM	9/22/2004	10/11/2004	B0076	NA	ND	ND	1385	<15.00	<0.0043
BN-00279	TEM	9/22/2004	9/24/2004	B0031	NA	ND	ND	1375	<15.00	<0.0043
BN-00280	TEM	9/22/2004	9/24/2004	B0031	NA	ND	ND	1318	<15.00	<0.0045
BN-00281	TEM	9/22/2004	9/24/2004	B0031	NA	ND	ND	1202	<15.00	<0.0049
BN-00282	TEM	9/22/2004	9/24/2004	B0031	NA	ND	ND	1229	<15.00	<0.0048
BN-00283	TEM	9/22/2004	9/24/2004	B0031	NA	ND	ND	1902	<19.00	<0.0039
BN-00284	TEM	9/23/2004	9/24/2004	B0033	NA	ND	ND	1471	<15.00	<0.0040
BN-00285	TEM	9/23/2004	9/24/2004	B0033	NA	ND	ND	1403	<15.00	<0.0042
BN-00286	TEM	9/23/2004	9/24/2004	B0033	NA	ND	ND	1229	<15.00	<0.0048
BN-00287	TEM	9/23/2004	9/24/2004	B0033	NA	ND	ND	1138	<13.00	<0.0043
BN-00288	TEM	9/23/2004	9/24/2004	B0033	NA	ND	ND	1021	<13.00	<0.0048
BN-00293	TEM	9/24/2004	9/28/2004	B0032	L. Amphibole	ND	1	1118	13.00	0.0044
BN-00294	TEM	9/24/2004	9/28/2004	B0032	NA	ND	ND	1277	<15.00	<0.0046
BN-00295	TEM	9/24/2004	9/28/2004	B0032	NA	ND	ND	2290	<19.00	<0.0032
BN-00296	TEM	9/24/2004	9/28/2004	B0032	L. Amphibole	ND	1	1408	15.00	0.0042
BN-00297	TEM	9/24/2004	9/28/2004	B0032	NA	ND	ND	1730	<19.00	<0.0043
BN-00298	TEM	9/24/2004	9/28/2004	B0032	L. Amphibole	2	1	1193	38.00	0.0120
BN-00299	TEM	9/24/2004	9/28/2004	B0032	NA	ND	ND	1990	<19.00	<0.0037
BN-00300	TEM	9/25/2004	9/28/2004	B0046	NA	ND	ND	1158	<13.00	<0.0043
BN-00301	TEM	9/25/2004	9/28/2004	B0046	L. Amphibole	ND	2	1148	26.00	0.0086
BN-00303	TEM	9/25/2004	9/28/2004	B0046	NA	ND	ND	1544	<19.00	<0.0048
BN-00303	TEM	9/25/2004	9/28/2004	B0046	NA	ND	ND	1717	<19.00	<0.0043
BN-00304	TEM	9/25/2004	9/28/2004	B0046	NA	ND	ND	1164	<13.00	<0.0042
BN-00305	TEM	9/25/2004	9/28/2004	B0046	NA	ND	ND	1178	<13.00	<0.0042
BN-00306	TEM	9/25/2004	9/28/2004	B0046	NA	ND	ND	2431	<19.00	<0.0030
BN-00307	TEM	9/25/2004	9/28/2004	B0046	NA	ND	ND	2110	<19.00	<0.0035
BN-00308	TEM	9/27/2004	9/28/2004	B0045	NA	ND	ND	1539	<19.00	<0.0048
BN-00310	TEM	9/27/2004	9/28/2004	B0045	NA	ND	ND	1453	<15.00	<0.0041
BN-00311	TEM	9/27/2004	9/28/2004	B0045	NA	ND	ND	1791	<19.00	<0.0041
BN-00312	TEM	9/27/2004	9/28/2004	B0045	NA	ND	ND	1655	<19.00	<0.0045
BN-00313	TEM	9/27/2004	9/28/2004	B0045	NA	ND	ND	2124	<19.00	<0.0036
BN-00314	TEM	9/27/2004	9/28/2004	B0045	NA	ND	ND	2200	<19.00	<0.0034

Table D-3
TEM Air Monitoring Samples
BNSF Libby Railyard Response Action 2004

Sample ID	Analytical Method	Sample Collection Date	Sample Analysis Date	COC Number	Asbestos Type	Structures ≥0.5 µ<5	Structures ≥0.5 µ	Volume (Liters)	S/mm^2	S/cc
BN-00315	TEM	9/27/2004	9/28/2004	B0045	NA	ND	ND	2813	<19.00	<0.0026
BN-00316	TEM	9/28/2004	9/30/2004	B0047	NA	ND	ND	1840	<19.00	<0.0040
BN-00318	TEM	9/28/2004	9/30/2004	B0047	L. Amphibole	ND	1	1641	19.00	0.0045
BN-00319	TEM	9/28/2004	9/30/2004	B0047	NA	ND	ND	1478	<15.00	<0.0040
BN-00320	TEM	9/28/2004	9/30/2004	B0047	NA	ND	ND	3660	<19.00	<0.0020
BN-00321	TEM	9/28/2004	9/30/2004	B0047	NA	ND	ND	2288	<19.00	<0.0032
BN-00322	TEM	9/28/2004	9/30/2004	B0047	NA	ND	ND	4283	<19.00	<0.0017
BN-00323	TEM	9/28/2004	9/30/2004	B0047	NA	ND	ND	1534	<19.00	<0.0048
BN-00327	TEM	9/29/2004	9/30/2004	B0052	NA	ND	ND	1598	<19.00	<0.0046
BN-00328	TEM	9/29/2004	9/30/2004	B0052	NA	ND	ND	1163	<13.00	<0.0042
BN-00329	TEM	9/29/2004	9/30/2004	B0052	NA	ND	ND	2411	<19.00	<0.0031
BN-00330	TEM	9/29/2004	9/30/2004	B0052	NA	ND	ND	3969	<19.00	<0.0019
BN-00331	TEM	9/29/2004	9/30/2004	B0052	NA	ND	ND	3983	<19.00	<0.0019
BN-00335	TEM	9/30/2004	10/1/2004	B0054	NA	ND	ND	1373	<15.00	<0.0043
BN-00336	TEM	9/30/2004	10/1/2004	B0054	NA	ND	ND	4275	<19.00	<0.0017
BN-00337	TEM	9/30/2004	10/1/2004	B0054	NA	ND	ND	1404	<15.00	<0.0042
BN-00338	TEM	9/30/2004	10/1/2004	B0054	NA	ND	ND	1998	<19.00	<0.0037
BN-00339	TEM	9/30/2004	10/1/2004	B0054	NA	ND	ND	3801	<19.00	<0.0019
BN-00340	TEM	10/1/2004	10/6/2004	B0035	NA	ND	ND	1518	<19.00	<0.0049
BN-00343	TEM	10/1/2004	10/5/2004	B0056	NA	ND	ND	1635	<19.00	<0.0045
BN-00344	TEM	10/1/2004	10/5/2004	B0056	NA	ND	ND	1438	<15.00	<0.0041
BN-00345	TEM	10/1/2004	10/5/2004	B0056	NA	ND	ND	3276	<19.00	<0.0023
BN-00346	TEM	10/1/2004	10/5/2004	B0056	NA	ND	ND	1667	<19.00	<0.0044
BN-00347	TEM	10/1/2004	10/5/2004	B0056	L. Amphibole	ND	1	3600	19.00	0.0021
BN-00350	TEM	10/2/2004	10/5/2004	B0058	NA	ND	ND	1680	<19.00	<0.0044
BN-00351	TEM	10/2/2004	10/5/2004	B0058	NA	ND	ND	1308	<15.00	<0.0045
BN-00352	TEM	10/2/2004	10/5/2004	B0058	NA	ND	ND	2600	<19.00	<0.0028
BN-00353	TEM	10/2/2004	10/5/2004	B0058	NA	ND	ND	3885	<19.00	<0.0019
BN-00354	TEM	10/2/2004	10/5/2004	B0058	NA	ND	ND	1803	<19.00	<0.0041
BN-00355	TEM	10/4/2004	10/5/2004	B0043	NA	ND	ND	2157	<19.00	<0.0034
BN-00356	TEM	10/4/2004	10/5/2004	B0043	NA	ND	ND	1346	<15.00	<0.0044
BN-00357	TEM	10/4/2004	10/5/2004	B0043	NA	ND	ND	1144	<13.00	<0.0043
BN-00358	TEM	10/4/2004	10/5/2004	B0043	NA	ND	ND	1272	<15.00	<0.0047
BN-00359	TEM	10/4/2004	10/5/2004	B0043	NA	ND	ND	1639	<19.00	<0.0045
BN-00360	TEM	10/4/2004	10/5/2004	B0043	NA	ND	ND	1581	<19.00	<0.0047
BN-00361	TEM	10/4/2004	10/5/2004	B0043	NA	ND	ND	1573	<19.00	<0.0047
BN-00362	TEM	10/4/2004	10/6/2004	B0035	NA	ND	ND	1361	<15.00	<0.0044

Table D-3
TEM Air Monitoring Samples
BNSF Libby Railyard Response Action 2004

Sample ID	Analytical Method	Sample Collection Date	Sample Analysis Date	COC Number	Asbestos Type	Structures ≥0.5 μ<5	Structures ≥0.5 μ	Volume (Liters)	S/mm²	S/cc
BN-00367	TEM	10/5/2004	10/6/2004	B0035	NA	ND	ND	1300	<15.00	<0.0046
BN-00369	TEM	10/5/2004	10/6/2004	B0035	NA	ND	ND	1172	<13.00	<0.0042
BN-00370	TEM	10/5/2004	10/6/2004	B0035	L. Amphibole	ND	1	1971	19	0.0038
BN-00371	TEM	10/5/2004	10/6/2004	B0035	NA	ND	ND	1835	<19.00	<0.0040
BN-00372	TEM	10/5/2004	10/6/2004	B0035	NA	ND	ND	1845	<19.00	<0.0040
BN-00373	TEM	10/5/2004	10/6/2004	B0035	NA	ND	ND	1808	<19.00	<0.0041
BN-00374	TEM	10/5/2004	10/6/2004	B0035	NA	ND	ND	1196	<13.00	<0.0041
BN-00376	TEM	10/6/2004	10/8/2004	B0067	NA	ND	ND	2097	<19.00	<0.0035
BN-00377	TEM	10/6/2004	10/8/2004	B0067	NA	ND	ND	2053	<19.00	<0.0036
BN-00378	TEM	10/6/2004	10/8/2004	B0067	NA	ND	ND	2058	<19.00	<0.0036
BN-00379	TEM	10/6/2004	10/8/2004	B0067	Tremolite/Actinolite	ND	2	1957	38	0.0076
BN-00380	TEM	10/6/2004	10/8/2004	B0067	NA	ND	ND	1242	<15.00	<0.0048
BN-00382	TEM	10/6/2004	10/8/2004	B0067	NA	ND	ND	1122	<13.00	<0.0044
BN-00388	TEM	10/7/2004	10/9/2004	B0074	NA	ND	ND	1396	<15.00	<0.0042
BN-00389	TEM	10/7/2004	10/9/2004	B0074	NA	ND	ND	1985	<19.00	<0.0037
BN-00390	TEM	10/7/2004	10/9/2004	B0074	NA	ND	ND	1974	<19.00	<0.0037
BN-00391	TEM	10/7/2004	10/9/2004	B0074	NA	ND	ND	1967	<19.00	<0.0038
BN-00392	TEM	10/7/2004	10/9/2004	B0074	NA	ND	ND	1267	<15.00	<0.0047
BN-00393	TEM	10/7/2004	10/9/2004	B0074	NA	ND	ND	1922	<19.00	<0.0039
BN-00394	TEM	10/7/2004	10/9/2004	B0074	NA	ND	ND	1166	<13.00	<0.0042
BN-00395	TEM	10/8/2004	10/11/2004	B0076	NA	ND	ND	1815	<19.00	<0.0041
BN-00396	TEM	10/8/2004	10/11/2004	B0076	NA	ND	ND	1841	<19.00	<0.0040
BN-00397	TEM	10/8/2004	10/11/2004	B0076	NA	ND	ND	1226	<15.00	<0.0048
BN-00398	TEM	10/8/2004	10/11/2004	B0076	NA	ND	ND	1212	<15.00	<0.0049
BN-00399	TEM	10/8/2004	10/11/2004	B0076	L. Amphibole	1	ND	1873	19	0.0040
BN-00400	TEM	10/8/2004	10/11/2004	B0076	NA	ND	ND	1255	<15.00	<0.0047
BN-00401	TEM	10/8/2004	10/11/2004	B0076	NA	ND	ND	1008	<13.00	<0.0049
BN-00408	TEM	10/11/2004	10/12/2004	B0089	NA	ND	ND	2041	<19.00	<0/0036
BN-00409	TEM	10/11/2004	10/12/2004	B0089	NA	ND	ND	2023	<19.00	<0.0037
BN-00410	TEM	10/11/2004	10/12/2004	B0089	NA	ND	ND	1265	<15.00	<0.0047
BN-00411	TEM	10/11/2004	10/12/2004	B0089	NA	ND	ND	2023	<19.00	<0.0037
BN-00412	TEM	10/11/2004	10/12/2004	B0089	NA	ND	ND	2006	<19.00	<0.0037
BN-00414	TEM	10/11/2004	10/12/2004	B0089	NA	ND	ND	1198	<15.00	<0.0049
BN-00415	TEM	10/11/2004	10/12/2004	B0089	NA	ND	ND	1240	<15.00	<0.0048
BN-00417	TEM	10/12/2004	10/13/2004	B0092	NA	ND	ND	1988	<19.00	<0.0037
BN-00418	TEM	10/12/2004	10/13/2004	B0092	NA	ND	ND	1964	<19.00	<0.0038
BN-00419	TEM	10/12/2004	10/13/2004	B0092	NA	ND	ND	1932	<19.00	<0.0038

Table D-3
TEM Air Monitoring Samples
BNSF Libby Railyard Response Action 2004

Sample ID	Analytical Method	Sample Collection Date	Sample Analysis Date	COC Number	Asbestos Type	Structures ≥0.5 µ<5	Structures ≥0.5 µ	Volume (Liters)	S/mm²	S/cc
BN-00420	TEM	10/12/2004	10/13/2004	B0092	NA	ND	ND	1228	<15.00	<0.0048
BN-00421	TEM	10/12/2004	10/13/2004	B0092	NA	ND	ND	1939	<19.00	<0.0038
BN-00422	TEM	10/12/2004	10/13/2004	B0092	NA	ND	ND	1911	<19.00	<0.0039
BN-00427	TEM	10/13/2004	10/14/2004	B0096	NA	ND	ND	1925	<19.00	<0.0038
BN-00428	TEM	10/13/2004	10/14/2004	B0096	NA	ND	ND	1929	<19.00	<0.0038
BN-00429	TEM	10/13/2004	10/14/2004	B0096	NA	ND	ND	1911	<19.00	<0.0039
BN-00430	TEM	10/13/2004	10/14/2004	B0096	NA	ND	ND	1901	<19.00	<0.0039
BN-00431	TEM	10/13/2004	10/14/2004	B0096	NA	ND	ND	1887	<19.00	<0.0039
BN-00432	TEM	10/13/2004	10/14/2004	B0096	NA	ND	ND	1333	<15.00	<0.0044
BN-00435	TEM	10/13/2004	10/14/2004	B0096	NA	ND	ND	1044	<13.00	<0.0047
BN-00437	TEM	10/14/2004	10/16/2004	B0097	NA	ND	ND	1957	<19.00	<0.0038
BN-00438	TEM	10/14/2004	10/16/2004	B0097	NA	ND	ND	1943	<19.00	<0.0038
BN-00439	TEM	10/14/2004	10/16/2004	B0097	NA	ND	ND	1887	<19.00	<0.0039
BN-00440	TEM	10/14/2004	10/16/2004	B0097	NA	ND	ND	1883	<19.00	<0.0039
BN-00441	TEM	10/14/2004	10/16/2004	B0097	NA	ND	ND	1855	<19.00	<0.0039
BN-00442	TEM	10/14/2004	10/18/2004	B0099	NA	ND	ND	1161	<19.00	<.0049
BN-00445	TEM	10/15/2004	10/18/2004	B0099	NA	ND	ND	1505	<15.00	<.0041
BN-00446	TEM	10/15/2004	10/18/2004	B0099	NA	ND	ND	1453	<15.00	<.0040
BN-00447	TEM	10/15/2004	10/18/2004	B0099	NA	ND	ND	1495	<15.00	<.0040
BN-00448	TEM	10/15/2004	10/18/2004	B0099	NA	ND	ND	1491	<15.00	<.0040
BN-00449	TEM	10/15/2004	10/18/2004	B0099	NA	ND	ND	1484	<11.00	<.0043
BN-00452	TEM	10/15/2004	10/18/2004	B0099	NA	ND	ND	991	<13.00	<.0043
BN-00454	TEM	10/18/2004	10/20/2004	B0106	NA	ND	ND	1624	<19.00	<.0046
BN-00455	TEM	10/18/2004	10/20/2004	B0106	NA	ND	ND	1624	<19.00	<.0046
BN-00456	TEM	10/18/2004	10/20/2004	B0106	NA	ND	ND	1628	<19.00	<.0045
BN-00459	TEM	10/19/2004	10/21/2004	B0110	NA	ND	ND	575	<7.70	<.0052
BN-00462	TEM	10/19/2004	10/21/2004	B0110	NA	ND	ND	1726	<19.00	<.0043
BN-00463	TEM	10/19/2004	10/21/2004	B0110	NA	ND	ND	1845	<19.00	<.0040
BN-00464	TEM	10/19/2004	10/21/2004	B0110	NA	ND	ND	1677	<19.00	<.0044
BN-00465	TEM	10/19/2004	10/21/2004	B0110	NA	ND	ND	1589	<19.00	<.0047
BN-00466	TEM	10/19/2004	10/21/2004	B0110	NA	ND	ND	1579	<19.00	<.0047
BN-00470	TEM	10/20/2004	10/22/2004	B0112	NA	ND	ND	1736	<19.00	<.0043
BN-00471	TEM	10/20/2004	10/22/2004	B0112	NA	ND	ND	1740	<19.00	<.0043
BN-00472	TEM	10/20/2004	10/22/2004	B0112	NA	ND	ND	1719	<19.00	<.0043
BN-00473	TEM	10/20/2004	10/22/2004	B0112	NA	ND	ND	1502	<19.00	<.0049
BN-00478	TEM	10/20/2004	10/22/2004	B0112	NA	ND	ND	872	<11.00	<.0049
BN-00479	TEM	10/20/2004	10/22/2004	B0112	NA	ND	ND	865	<11.00	<.0049

Table D-3
TEM Air Monitoring Samples
BNSF Libby Railyard Response Action 2004

Sample ID	Analytical Method	Sample Collection Date	Sample Analysis Date	COC Number	Asbestos Type	Structures ≥0.5 μ<5	Structures ≥0.5 μ	Volume (Liters)	S/mm^2	S/cc
BN-00480	TEM	10/21/2004	10/23/2004	B0114	L. Amphibole	ND	1	1205	15	0.0049

ND - Not Detected above Method Detection Limits
NA- Not Available/ Not Applicable
S - Structures
cc - Cubic Centimeter
mm - Milllimeter

Table D-4
Personal Air Monitoring Samples
BNSF Libby Railyard Response Action 2004

Sample ID	Type	Sample Collection Date	Sample Analysis Date	COC Number	Number of Fibers	Volume (Liters)	F/ mm^2	F/cc
BN-00133	PCM	7/13/2004	7/21/2004	NA	4	425	<7.0	0.006
BN-00134	PCM	7/13/2004	7/21/2004	NA	2.5	75	<7.0	0.036
BN-00135	PCM	7/13/2004	7/21/2004	NA	4.5	300	<7.0	0.009
BN-00138	PCM	7/14/2004	7/21/2004	NA	8	300	10.2	0.013
BN-00139	PCM	7/14/2004	7/21/2004	NA	1.5	75	<7.0	0.036
BN-00293	PCM	9/24/2004	10/2/2004	B0032	12.5	1118	15.9	0.005
BN-00301	PCM	9/25/2004	10/2/2004	B0046	<5.5	1148	<7.0	<.002
BN-00318	PCM	9/28/2004	10/2/2004	B0047	19.5	1641	24.8	0.006
BN-00324	PCM	9/29/2004	9/30/2004	B0048	13.5	1341	17.2	0.005
BN-00326	PCM	9/29/2004	9/30/2004	B0048	7	1334	8.92	0.003
BN-00332	PCM	9/30/2004	10/2/2004	B0053	9.5	848	12.1	0.005
BN-00334	PCM	9/30/2004	10/2/2004	B0053	<5.5	1217	<7.0	<.002

Table D-5
Soil Disposal Criteria Sampling
BNSF Libby Railyard Response Action 2004

				NWTPH-Gx	NWTPH-Dx		Total Metals								Volatile Organic Compounds EPA 8260B			
Location Identifier	Sample ID	Date Sampled	Date Analyzed	Gasoline Range Hydrocarbons	Diesel Range Hydrocarbons	Lube Oil Range Hydrocarbons	Silver	Arsenic	Barium	Cadmium	Chromium	Mercury	Lead	Selenium	Naphthalene	Toluene	1,2,4 Trimethlybenzene	Xylenes
T1-EO-100	B2J0694-01	10/26/2002	10/30/2002	ND	494	1720	20.7	50.1	337	13.8	176	ND	411	ND	NA	NA	NA	NA
T2-EO-200	B2J0694-06	10/26/2002	10/30/2002	10.3	672	2040	3.11	14.4	296	3.28	44.2	ND	313	ND	1.41	0.267	0.128	0.507
T3-EO-300	B2J0694-11	10/26/2002	10/30/2002	ND	190	576	51.1	18.9	140	21.9	42.5	ND	609	ND	NA	NA	NA	NA
T4-EO-400	B2J0694-16	10/26/2002	10/30/2002	ND	326	1510	7.7	3.11	120	0.903	14.4	ND	47	ND	1.1	ND	ND	ND
T2-WO-200	B2J0694-21	10/26/2002	10/30/2002	ND	162	582	1.43	12.8	366	2.15	48.1	ND	325	ND	0.588	ND	ND	ND
T3-WO-300	B2J0694-26	10/26/2002	10/30/2002	ND	215	847	2.34	3.16	142	0.561	35.2	ND	32.5	ND	0.142	ND	ND	ND
T4-WO-400	B2J0694-31	10/26/2002	10/30/2002	ND	351	1660	1.33	2.35	167	0.611	11.0	ND	25.5	ND	NA	NA	NA	NA

ND = None Detected

NA = Not Analyzed

Concentrations in milligrams per kilogram (mg/kg)

Table D-6
Railroad Tie Samples
BNSF Libby Railyard Response Action 2004

Sample ID	Appearance	Analytical Method	Date Collected	Date Analyzed	Asbestos Percentage	Asbestos Type
TD-1	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-2	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-3	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-4	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-5	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-6	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-7	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-8	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-9	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-10	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-11	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-12	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-13	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-14	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-15	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-16	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-17	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-18	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-19	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-20	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-21	Dark Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-22	Light Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-23	Dark Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-24	Dark Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-25	Light Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-26	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-27	Gray	PLM	10/6/2004	10/11/2004	ND	NA
TD-28	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-29	Light Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-30	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-31	Light Tan/Dark Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-32	Dark Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-33	Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-34	Tan	PLM	10/6/2004	10/11/2004	ND	NA
TD-35	Tan/Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-36	Tan/Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-37	Tan	PLM	10/6/2004	10/11/2004	ND	NA
TD-38	Tan/Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-39	Blackish Brown	PLM	10/6/2004	10/11/2004	ND	NA
TD-40	Dark Brown/Tan	PLM	10/6/2004	10/11/2004	ND	NA

ND- Not Detected above method detection limits.
NA- Not applicable.
PLM - Polarized Light Micrscopy Method 600.
Samples were analyzed by Analytica Group in Thornton, Colorado.
Samples were ¾-inch diameter cores of railroad ties.

Appendix E

Construction Quality Assurance

Appendix E-1

Soil Compaction Data

Time Departed _____
Arrived on Site _____
Departed Site _____
Arrived Office _____

Mileage Start _____
Mileage End _____
Total Mileage _____

HKM Engineering
PO Box 31318
Billings MT 59107
(406)656-6399

FIELD DENSITY TESTS

Material Type

EB=Embankment Fill
TB=Trench Backfill FB=Foundation Backfill
RB=Road Base RE= Roadway Embankment

Type Test

N6=6" Nuclear
S6=6" Sandcone

Project: Libby
Project No:
Operator: T. Erickson

Sheet No: 2
Gauge No: 13P07
Standards: DS 2161 MS 598

Test No	Date	Station	Location	CL Offset	Below FG	Mat'l Type	Type Test	Laboratory OMC %	Laboratory Max. Dens.	Field % Moist	Field Dry Dens.	Field Moist Var	Field % Comp	Field % Req.	Fail (F)	Retest Yes/No	Remarks
9	10/4/04	7+50	Track #1	21' Rt	-	RB	NB	6.0	139.7	3.6	134.4	-2.4	96.2	95			
10	10/4/04	7+50	Track #1	50' Rt	-	RB	NB	6.0	139.7	4.3	133.0	-1.7	95.2	95			
11	10/5/04	3+50	Track #1	21' Rt	-	RB	NB	6.0	139.7	6.0	132.6	-	95.0	95			
12	10/5/04	3+00	"	℄	-	RB	NB	6.0	139.7	5.3	133.3	-0.7	95.4	95			
13	10/5/04	2+05	"	℄	-	RB	NB	6.0	139.7	5.4	134.2	-0.6	96.0	95			
7R	10/11/04	4+50	Track #1	3' Rt	-	RB	NB	6.0	139.7	3.8	129.2	-2.2	92.4	95	F	Y	
6R	10/11/04	5+00	Track #1	℄	-	RB	NB	6.0	139.7	4.4	133.5	-1.6	95.6	95		Y	Retest of #6 Passed
14	10/11/04	8+00	"	℄	-	RB	NB	6.0	139.7	5.0	135.7	-1.0	97.1	95			
15	10/11/04	1+00	"	℄	-	RB	NB	6.0	139.7	5.0	133.1	-1.0	95.3	95			
7R	10/11/04	4+50	"	℄	-	RB	NB	6.0	139.7	3.7	134.3	-2.3	96.1	95			

Comments: 10/5/04 DS = 2119 MS = 603
10/11/04 DS = 2169 MS = 604

Approved By:

Type of Observation: ☐ Full Time ☐ On Call ☐ Part Time ☐ Other

Client's Representative Advised ☐

Time Departed _____
Arrived on Site _____
Departed Site _____
Arrived Office _____

Mileage Start _____
Mileage End _____
Total Mileage _____

HKM Engineering
PO Box 31318
Billings MT 59107
(406)656-6399

FIELD DENSITY TESTS

Material Type

EB=Embankment Fill
TB=Trench Backfill FB=Foundation Backfill
RB=Road Base RE= Roadway Embankment

Type Test

N6=6" Nuclear
S6=6" Sandcone

Project: Libby
Project No:
Operator: J. Erickson

Sheet No: 3
Gauge No: 13F02
Standards: DS 2169 1 MT 604

Test No	Date	Station	Location	CL Offset	Below FG	Mat'l Type	Type Test	Laboratory OMC %	Laboratory Max. Dens.	Field % Moist	Field Dry Dens.	Field Moist Var	Field % Comp	Field % Req.	Fail (F)	Retest Yes/No	Remarks
16	10/11/04	8+50	Track #1	℄	–	RB	N6	6.0	139.7	4.8	139.1	-1.2	99.6	95			
17	10/11/04	9+00	Track #1	℄	–	RB	N6	6.0	139.7	5.1	136.4	-0.9	97.6	95			
18	10/11/04	9+50	Track #1	℄	–	RB	N6	6.0	139.7	5.4	132.4	-0.6	94.8	95	F		
18R	10/11/04	9+50	Track #1	℄	–	RB	N6	6.0	139.7	5.3	133.3	-0.7	95.4	95		Y	Passed Retest
19	10/11/04	10+00	Track #1	10' Rt ℄	–	RB	N6	6.0	139.7	5.6	139.5	-0.4	99.8	95			
20	10/11/04	10+50	Track #1														Passed but not recorded
21	10/11/04	11+00	Track #1	41 Rt	–	RB	N6	6.0	139.7	4.8	139.0	-1.2	99.5	95			
22	10/11/04	11+50	Track #1	31 Rt	–	RB	N6	6.0	139.7	4.6	136.1	-1.4	97.4	95			
23	10/11/04	12+00	Track #1	℄	–	RB	N6	6.0	139.7	4.5	137.5	-1.5	98.4	95			
24	10/11/04	12+50	Track #1	℄	–	RB	N6	6.0	139.7	4.4	134.0	-1.6	95.9	95			
25	10/11/04	13+00	Track #1	℄	–	RB	N6	6.0	139.7	4.3	138.6	-1.7	99.2	95			

Comments:

Approved By:

Type of Observation: ☐ Full Time ☐ On Call ☐ Part Time ☐ Other

Client's Representative Advised ☐

Time Departed _____
Arrived on Site _____
Departed Site _____
Arrived Office _____

Mileage Start _____
Mileage End _____
Total Mileage _____

HKM Engineering
PO Box 31318
Billings MT 59107
(406)656-6399

FIELD DENSITY TESTS

Material Type

EB=Embankment Fill
TB=Trench Backfill FB=Foundation Backfill
RB=Road Base RE= Roadway Embankment

Type Test

N6=6" Nuclear
S6=6" Sandcone

Project: Libby
Project No: _____
Operator: T. Brackson

Sheet No: 4
Gauge No: 13P02
Standards: DS 2169 MS 609

Test No	Date	Station	Location	CL Offset	Below FG	Mat'l Type	Type Test	Laboratory OMC %	Laboratory Max. Dens.	Field % Moist	Field Dry Dens.	Field Moist Var	Field % Comp	Field % Req.	Fail (F)	Retest Yes/No	Remarks
26	10/11/04	13+50	Track #1	℄	–	RB	NP	6.0	139.7	4.0	138.5	-2.0	99.1	95			
27	10/11/04	14+00	Track #1	℄	–	RB	NP	6.0	139.7	3.7	138.3	-2.3	99.0	95			
28	10/11/04	14+50	Track #1	℄	–	RB	NP	6.0	139.7	4.7	138.6	-1.3	99.2	95			
29	10/11/04	15+00	Track #1	℄	–	RB	NP	6.0	139.7	4.9	138.7	-1.1	99.3	95			
30	10/11/04	15+50	Track #1	℄	–	RB	NP	6.0	139.7	5.5	135.4	-0.5	96.9	95			
31	10/11/4	16+00	Track #1	2' Rt	–	RB	NP	6.0	139.7	5.0	136.4	-1.0	97.6	95			
32	10/12/04	16+50	Track #1	1' Lt	–	RB	NP	6.0	139.7	4.9	136.7	-1.1	97.9	95			
34	10/12/04	17+00	Track #1	5' Rt	–	RB	NP	6.0	139.7	4.4	135.3	-1.6	96.8	95			
35	10/12/04	17+50	Track #1	10' Rt	–	RB	NP	6.0	139.7	3.6	133.8	-2.4	95.7	95			
36	10/12/04	18+00	Track #1	3' Rt	–	RB	NP	6.0	139.7	2.9	135.1	-3.1	96.7	95			

Approved By:

Comments:
10/12/04 DS=2167 MS=606

Type of Observation: ☐ Full Time ☐ On Call ☐ Part Time ☐ Other

Client's Representative Advised ☐

11/13/2004 10:05 12

Time Departed _____
Arrived on Site _____
Departed Site _____
Arrived Office _____

Mileage Start _____
Mileage End _____
Total Mileage _____

HKM Engineering
PO Box 31318
Billings MT 59107
(406)656-5399

FIELD DENSITY TESTS

Material Type

EB=Embankment Fill
TB=Trench Backfill FB=Foundation Backfill
RB=Road Base RE= Roadway Embankment

Type Test

N6=6" Nuclear
S6=6" Sandcone

Project: Libby
Project No:
Operator: T. Erickson

Sheet No: 5
Gauge No: 13F02
Standards: DS 2167 MS 606

Test No	Date	Station	Location	CL Offset	Below FG	Mat'l Type	Type Test	Laboratory OMC %	Laboratory Max. Dens.	Field % Moist	Field Dry Dens.	Field Moist Var	Field % Comp	Field % Req.	Fail (F)	Retest Yes/No	Remarks
37	10/12/04	16+00	Track #1 Ref. (Track #3+4 Area)	40' Rt	–	RB	NP	6.0	139.7	5.9	135.5	-0.1	97	~~95~~			
38	10/12/04	14+00	Track #1 Ref. (Track #3+#4 Area)	60' Rt	–	RB	NP	6.0	139.7	4.4	137.1	-1.6	98.1	90			
39	10/12/04	12+00	Track #1 Ref (Track #3+#4 Area)	50' Rt	–	RB	NP	6.0	139.7	6.3	139.9	+0.3	100.1	90			
40	10/12/04	10+00	Track #1 Ref (Track #3+#4 Area)	35' Rt	–	RB	NP	6.0	139.7	4.8	137.6	-1.2	98.5	90			
41	10/12/04	8+00	Track #1 Ref. (Track #3+#4 Area	50 Rt	–	RB	NP	6.0	139.7	5.0	137.4	-1.0	98.4	90			
42	10/12/04	6+50	Track #1 Ref (Track #3+#4 Area)	40' Rt	–	RB	NP	6.0	139.7	4.6	~~141.7~~ 139.0	-1.4	99.5	90			
43	10/12/04	20+00	Track #1	2' Rt	–	RB	NP	6.0	139.7	6.1	134.6	+0.1	96.3	95			
44	10/12/04	20+50	Track #1	5' Rt	–	RB	NP	6.0	139.7	4.4	136.0	-1.6	97.3	95			
45	10/12/04	18+50	Track #1 (Track #3+4 Area)	40' Rt	–	RB	NP	6.0	139.7	5.5	138.6	-0.5	99.2	90			
46	10/12/04	17+00	Track #1	5' Rt	–	RB	NP	6.0	139.7	5.6	137.7	-0.4	98.6	95			

Comments: 10/12/04 DS=2179, MS 599

Approved By:

Type of Observation: ☐ Full Time ☐ On Call ☐ Part Time ☐ Other

Client's Representative Advised ☐

Time Departed _____
Arrived on Site _____
Departed Site _____
Arrived Office _____

Mileage Start _____
Mileage End _____
Total Mileage _____

HKM Engineering
PO Box 31318
Billings MT 59107
(406)656-6399

Material Type

EB=Embankment Fill
TB=Trench Backfill FB=Foundation Backfill
RB=Road Base RE= Roadway Embankment

FIELD DENSITY TESTS

Type Test
N6=6" Nuclear
S6=6" Sandcone

Project: Libby
Project No:
Operator: T. Erickson

Sheet No: 6
Gauge No: 13802
Standards: DS 2179 MS 599

Test No	Date	Station	Location	CL Offset	Below FG	Mat'l Type	Type Test	Laboratory OMC %	Laboratory Max. Dens.	Field % Moist	Field Dry Dens.	Field Moist Var	Field % Comp	Field % Req.	Fail (F)	Retest Yes/No	Remarks
47	10/19/04	27+50	Track #1	3' Rt	–	RB	NP	6.0	139.7	5.6	134.8	-0.4	96.5	95			
48	10/19/04	29+50	Track #1	5' Rt	–	RB	NP	6.0	139.7	5.8	138.2	-0.2	98.9	95			
49	10/19/04	30+00	Track #1	3' Rt	–	RB	NP	6.0	139.7	5.7	137.9	-0.3	98.7	95			
50	10/19/04	30+50	Track #1	7' Rt	–	RB	NP	6.0	139.7	4.0	137.5	-2.0	98.4	95			
51	10/19/04	31+00	Track #1	℄	–	RB	NP	6.0	139.7	4.0	128.3	-2.0	91.8	95	F		
52	10/19/04	31+50	Track #1	3' Rt	–	RB	NF	6.0	139.7	3.7	134.0	-2.3	95.9	95			
53	10/20/04	21+00	Track #1 (Track #3 + #4 Area)	55' Rt	–	RB	NP	6.0	139.7	6.1	140.6	+0.1	100.6	90			
54	10/20/04	32+00	Track #1	15' Rt	–	RB	NP	6.0	139.7	3.8	138.1	-2.2	98.9	95			
55	10/20/04	32+50	Track #1	15' Rt	–	RB	NF	6.0	139.7	5.2	130.7	-0.8	93.5	95	F		
56	10/28/04	18+50	Track #1	10' Rt	–	RB	NP	6.0	137.7	4.9	136.8	-1.2	97.9	95			

Comments: 10/20/04 DS = 2183 , MS = 612
10/28/04 DS = 2163 , MS = 605

Approved By:

Type of Observation: ☐ Full Time ☐ On Call ☐ Part Time ☐ Other

Client's Representative Advised ☐

Time Departed _____
Arrived on Site _____
Departed Site _____
Arrived Office _____

Mileage Start _____
Mileage End _____
Total Mileage _____

HKM Engineering
PO Box 31318
Billings MT 59107
(406)656-6399

FIELD DENSITY TESTS

Material Type

EB=Embankment Fill
TB=Trench Backfill FB=Foundation Backfill
RB=Road Base RE= Roadway Embankment

Type Test

N6=6" Nuclear
S6=6" Sandcone

Project: Libby
Project No:
Operator: T. Erickson

Sheet No: 7
Gauge No: 13807
Standards: BS 21631 MS 605

Test No	Date	Station	Location	CL Offset	Below FG	Mat'l Type	Type Test	Lab. OMC %	Lab. Max. Dens.	Field % Moist	Field Dry Dens.	Field Moist Var	Field % Comp	Field % Req.	Fail (F)	Retest Yes/No	Remarks
57	10/28/04	19+00	Track #1	7' Rt	–	RB	Np	6.0	139.7	5.2	138.1	-0.8	98.8	95			
58	10/28/04	19+50	Track #1	~10' Rt	–	RB	Np	6.0	139.7	4.9	138.5	-1.1	99.1	95			
59	10/28/04	21+00	Track #1	15' Rt	–	RB	Np	6.0	139.7	4.7	137.6	-1.3	98.5	95			
60	10/28/04	22+00	Track #1	7' Rt	–	RB	Np	6.0	139.7	4.1	136.4	-1.9	97.6	95			
61	10/28/04	22+40	Track #1	10' Rt	–	RB	Np	6.0	139.7	4.3	133.3	-1.7	95.4	95			
62	10/28/04	24+80	Track #1	7' Rt	–	RB	Np	6.0	139.7	4.3	137.7	-1.7	98.6	95			
63	10/28/04	25+00	Track #1	41' Rt	–	RB	Np	6.0	139.7	5.9	135.5	-0.1	97.0	95			
64	10/28/04	26+00	Track #1	81' Rt	–	RB	Np	6.0	139.7	5.4	142.2	-0.6	101.8	95			
65R	10/28/04	31+00	Track #1	℄	–	RB	Np	6.0	139.7	3.8	133.3	-2.2	95.4	95		Y	
55R	10/28/04	32+50	Track #1	151' Rt	–	RB	Np	6.0	139.7	4.2	138.4	-1.8	99.0	95		Y	

Comments:

Approved By:

Type of Observation: ☐ Full Time ☐ On Call ☐ Part Time ☐ Other

Client's Representative Advised ☐

Time Departed _____
Arrived on Site _____
Departed Site _____
Arrived Office _____

Mileage Start _____
Mileage End _____
Total Mileage _____

HKM Engineering
PO Box 31318
Billings MT 59107
(406)656-6399

Material Type

EB=Embankment Fill
TB=Trench Backfill FB=Foundation Backfill
RB=Road Base RE= Roadway Embankment

FIELD DENSITY TESTS

Type Test
N6=6" Nuclear
S6=6" Sandcone

Project: Libby
Project No:
Operator: T. Erickson

Sheet No: 8
Gauge No: 13802
Standards: MS 2720 MS 607

Test No	Date	Station	Location	CL Offset	Below FG	Mat'l Type	Type Test	Laboratory OMC %	Laboratory Max. Dens.	Field % Moist	Field Dry Dens.	Field Moist Var	Field % Comp	Field % Req.	Fail (F)	Retest Yes/No	Remarks
65	10/29/04	34+00	Track #1	10' Rt	–	RB	NP	6.0	139.7	3.8	132.6	-2.2	94.9	95			
66	10/29/04	35+00	Track #1	5' Rt	–	RB	NP	6.0	139.7	4.7	136.8	-1.3	97.9	95			
67	10/29/04	36+00	Track #1	℄	–	RB	NP	6.0	139.7	3.8	131.3	-2.2	94.0	95	F		
68	10/29/04	37+00	Track #1	5' Lt	–	RB	NP	6.0	139.7	3.5	132.9	-2.5	95.1	95			
69	10/29/04	38+00	Track #1	℄	–	RB	NP	6.0	139.7	3.8	133.5	-2.2	95.6	95			
70	10/29/04	39+00	Track #1	5' Rt	–	RB	NP	6.0	139.7	3.5	136.4	-2.5	97.6	95			
67R	10/29/04	36+00	Track #1	5' Lt	–	RB	NP	6.0	139.7	4.1	132.7	-1.9	95.0	95	F	Y	

Comments:

Approved By:

Type of Observation: ☐ Full Time ☐ On Call ☐ Part Time ☐ Other

Client's Representative Advised ☐

11/13/2004 10:09 12 PAGE 03

Appendix E-2

Submittals

ENVIROCON

4381 Highway 2 West
PO Box 649
Libby, MT 59923
TEL (406) 293-8659
FAX (406) 293-45145

SUBMITTAL/ TRANSMITTAL

Date: 9/1/04	Submittal #: 001
Project: BNSF Libby Rail Yard Response Action - 2004 Project No. 14560	Revision #:
To: Kennedy/Jenks Consultants 32001 32nd Avenue South, Suite 100 Federal Way, Washington 98001 ATTN: Charles Soule	Specification Section/Drawing No. 01300 Subject:

We are sending via: X Hand Delivery o Mail o Federal Express o UPS

o Enclosed o Separately

SECTION NO.	SPECIFICATION NAME	DESCRIPTION OF SUBMITTAL	COMMENTS
01300	Submittals	Health and Safety Plan	3 copies
01300	Submittals	MTDEQ notification	1 copy

Envirocon Representative JJ Mills Title Project Manager

RECEIVED
SEP 1 2004

SHOP DRAWING REVIEW
S.D. 001 No. 01300-1
ACTION
Subject to all provisions of Project Plans and Specifications
X NO EXCEPTIONS TAKEN Comments noted | AMEND & RESUBMIT
MAKE CORRECTIONS NOTED NO RESUBMISSION REQUIRED | REJECTED RESUBMIT
Kennedy/Jenks Consultants

Action Taken

☐ ..... Approved As Submitted

☐ .....Approved As Noted (see notes/exceptions)

☐ .....Rejected (re-submittal required)

By_____ Date
Engineer

BURLINGTON NORTHERN SANTA FE RAILWAY - ENGINEERING
CONTRACTOR SAFETY ACTION PLAN

Please PRINT this page for your records.

[FrontPage Save Results Component]

Thank you for submitting your safety action plan.
This is a copy of your plan that has been submitted.
Use the toolbar and press (file) then (print) to print this Safety Action Plan. If you need any reprints of this Action Plan there will be a $5.00 charge.

Today's Date **08/31/2004**

I. GENERAL INFORMATION

Your Name	**Douglas G. Tisdell**
Company Name	**Envirocon Inc.**
Company Address	**101 International Way**
Company City	**Missoula**
Company State	**MT**
Company Zip	**59808**
Phone Number	**406 523-1150**

Scope of Work
Remove, decontaminate and load rails and ties. Excavate, transport and dispose of Libby Amphibole and hydrated biotite contaminated soils, import and place backfill materials to specified grade.

Location of Project/Work
Libby Rail Yard, Libby Montana

Anticipated timeframe of project, from 9/1/04 to 11/24/04 (date).

On-Site Supervisor Brian Vibbert Phone 406 546-9551
On-Site Safety Coordinator Douglas G. Tisdell Phone 406 544-6883
BNSF Project Representative Arnie Olson Phone 208-267-6813

II. COMPANY INJURY HISTORY

Frequency Rate = # of reportable injuries x 200,000 divided by the # of actual manhours

Severity Rate = # of lost days x 200,000 divided by the actual manhours

Frequency and Severity Rates for Each of the Last Three Calendar Years:

Year 2001 Frequency 3.08 Severity 3.6
Year 2002 Frequency 2.58 Severity 5.7
Year 2003 Frequency 2.20 Severity 4.1

List some areas of concern (e.g. sprains/strains, back injuries, vehicle operations)
Envirocon is emphasizing internal severity measures to include all incidents not just OSHA incidents. A primary area of concern is equipment damage.

How are you addressing these areas of concern?
Envirocon is addressing these areas of concern through monthly project evaluations, regional operations performance matrix, plan of the day, daily safety meetings, and incentives to regional managers based on improvement.

III. JOB SAFETY BRIEFINGS

The below statements must be checked and implemented within your safety plan; by checking these statements you affirm that they will be accomplished. This Safety Action Plan will not be accepted unless these are checked.

YES **Job Safety Briefings will be completed at the start of the work shift and as needed during the course of the day; e.g., personnel changes, weather changes, and/or changes in assignments.**

YES **Job Safety Briefings will include Emergency Preparedness Information and summarize the findings of Risk Assessment activities.**

IV. EMPLOYEE TRAINING

The below statements must be checked and implemented within your safety plan; by checking these statements you affirm that they will be accomplished. This Safety Action Plan will not be accepted unless these are checked.

YES *All employees working on-site at BNSF have completed the BNSF Engineering Contractor Safety Orientation Program.*

YES *All employees working on-site, who will be working within 25' of track centerline, have completed annual Roadway Worker Protection/On-Track Safety Training.*

Check below, other required safety training conducted by/through the contractor company in which your employees, who will be working on BNSF property. Copies of training programs do not need to be provided. BNSF does not conduct safety training for personnel other than BNSF employees. *Safety Training needs to be conducted by/through the contractor company.*

YES **Asbestos**
Lead Safety
YES **Excavation**
YES **DOT Training**
Fall Protection/Bridge Worker Safety
Confined Space
yes **Lockout/Tagout**
yes **Hazardous Waste**
yes **Hearing Conservation**
yes **Respiratory Protection**
yes **Hazard Communications**
yes **Personal Protective Equipment**

Other
Other

V. EMERGENCY PREPAREDNESS

Written Emergency Preparedness information needs to be at the job-site with work groups. For projects in fixed work locations complete the following. For work groups that will be on the move during the course of a project this information needs to be updated as necessary and maintained with each work group.

The BNSF 24-hour Emergency Phone Number is 1-800-832-5452

The below statements must be checked and implemented within you safety plan; by checking these statements you affirm that they will be accomplished. This Safety Action Plan will not be accepted unless these are checked.

Job Safety Briefings will include emergency preparedness information.

Copies of Material Safety Data Sheets (MSDSs) for hazardous materials will be provided to the BNSF Project Representative and be maintained on-site.

Identify Responding Agencies

	Agency	Telephone	Est. Resp. Time
Medical	St Johns Lutheran Hospital	406 293-0100	5 min.
Fire	Libby Fire Dept.	911	5 min.
Police	Libby Police Dept.	911	3 min.

Verify communications: landline radio YES cellular telephone
Employee assigned to make call and his/her back-up Brian Vibbert
Backup employee to also make the call Douglas G. Tisdell

The below statements must be checked and implemented within you safety plan; by checking these statements you affirm that they will be accomplished. This Safety Action Plan will not be accepted unless these are checked.

YES First Aid and CPR trained employees will be at the job-site(s) and identified during job safety briefings.

YES A First Aid Kit will be available at the job-site.

Latitude/longitude coordinates of job-site (optional)

Written directions to job-site
From Hwy 2 West. take Hwy. 37 North approx 0.6 miles. turn right immediately after crossing rail yard over pass. proceed into work site.

Note: May be necessary to assign an employee to meet emergency response personnel at an intersection .
To be determined at site.

VI. FIRE PREVENTION

Hot Work activities will be performed on BNSF property?: Yes NO No

The below statements must be checked and implemented within you safety plan; by checking these statements you affirm that they will be accomplished. This Safety Action Plan will not be accepted unless these are checked.

YES Risk Assessment activities and Job Safety Briefings will identify procedures/strategies, and equipment available for fire prevention and suppression, as well as, locations where suppression equipment will be staged.

YES In Right-of-Way areas, the local fire agency is contacted to check possible hot work bans or restrictions, and to determine ability of local agency to provide emergency assistance.

YES In Right-of-Way areas, the BNSF Engineering Right-of-Way Fire Prevention Risk Assessment form will be completed and maintained on the job-site.

yes **All right-of-way fires are to be reported to the responsible BNSF Project Representative.**

List fire prevention and suppression equipment on-site.
Water truck, fire extinguishers, water storage tank with pressure sprayer

VII. SAFETY AUDITING

Formal safety audits of on-site work activities will be conducted at the following frequency e.g. twice/week, weekly: weekly

The below statements must be checked and implemented within your safety plan; by checking these statements you affirm that they will be accomplished. This Safety Action Plan will not be accepted unless these are checked.

YES Assessments will include assessment of work behavior, as well as the identification of physical hazards.

YES Reports of audit findings will be available at the job-site for review by BNSF auditors.

Formal Safety Audits will be conducted by (job title); e.g., on-site supervisor, insurance carrier representative, safety committee

Name	Title
Douglas G. TIsdell	Safety Supervisor
Brian Vibbert	Superintendant
Jeff Mikell	Project Manager

IX. ROADWAY WORKER PROTECTION/ON-TRACK SAFETY INFORMATION

In addition to Job Safety Briefings, briefly describe how safety-related information is coordinated within your organization: e.g., safety committee meetings, voicemail systems, mass mailings, job-site postings, etc.

Daily toolbox safety meetings, weekly safety managers meeting, e-mail briefings of safety and health related items, lessons learned from safety websites of incidents and problems encountered by other companies.

For contractors working within 25 feet of track centerline. Must mark what applies to your work group.

Have own roadway worker protection plan/on-track safety program

yes Will use the BNSF on-track safety program (Engineering instruction No. 1.1)

Not Applicable (No workers within 25 feet of track centerline)

A COPY OF YOUR COMPLETED SAFETY ACTION PLAN UPON SUBMISSION, WILL BE FORWARDED TO THE WEBMASTER OF THIS SITE. ADDITIONALLY, PRINT A COPY OF THIS SAFETY ACTION PLAN AND KEEP A MASTER COPY, AND PROVIDE A HARD COPY TO YOUR BNSF REPRESENTATIVE, AND TO EACH OF YOUR ON-SITE WORK GROUPS.

FOR CONTRACTOR WORK GROUPS WORKING WITHIN 25' OF TRACK CENTER-LINE, A COPY OF YOUR ROADWAY WORKER PROTECTION/ON-TRACK SAFETY PROGRAM MUST BE MAINTAINED WITH EACH WORKGROUP. CONTRACTORS WHO ELECT TO ADOPT THE BNSF ON-TRACK SAFETY PROGRAM MUST MAINTAIN A COPY OF BNSF ENGINEERING INSTRUCTION NO. 1.1 WITH EACH WORK GROUP.

Department of Environmental Quality

Waste & Underground Storage Tank Management Bureau • Asbestos Control Program • P.O. Box 200901 • Helena MT 59620-0901 • (406) 444-5300

APPLICATION FOR A MONTANA ASBESTOS ABATEMENT PROJECT PERMIT AND NESHAP DEMOLITION/RENOVATION NOTIFICATION

DEQ USE ONLY

Notification Received Date _____

Notification Postmark Date _____

ACCT.	FUND	ORG
502702	02202	5132

PLEASE FILL IN THE FOLLOWING

Amount of Initial fee submitted with your Application LIBBY SUPERFUND N/A

Check Number _____

☐ Final or ☐ Revision Fee

Check Number N/A

TO BE FILLED OUT BY APPLICANT

Type of Notification ☐ NESHAP Demo/Reno *or* ☐ Asbestos Abatement Project Permit

☐ Original ☐ Revised # _____ (permit number) _____ (number of revisions) ☐ Cancelled

Does Facility have an annual permit? ☒ No ☐ Yes *If Yes . . .* Permit Number _____

Type of Operation

☐ Renovation ☐ Annual ☐ Ordered Demolition ☐ Transport

☐ Demolition ☒ Courtesy ☐ Emergency Renovation ☐ Disposal

ASBESTOS ABATEMENT CONTRACTOR (Operator)

ENVIROCON INC.
Contractor, Individual or Company Name

101 INTERNATIONAL WAY
Mailing Address

MISSOULA (City) MT (State) 59808 (Zip) _____ (County)

406 523-1150 (Telephone Number) 406 543-7987 (Fax Number)

Douglas G. Tisdell
Contractor Contact Person

Douglas G. Tisdell
On-Site Project Contractor/Supervisor

MTA 2602-CS (Montana Accreditation Number) 1-8-05 (Expiration Date)

SITE LOCATION

BNSF RAIL YARD
Building Name / Site

Between downtown Libby and the Kootenai River
Location Address

LIBBY (City) MT (State) 59923 (Zip) LINCOLN (County)

_____ Site Telephone Number

Arnie Olson
Owners Representative - Dave Smith
Location Contact Person

N/A (Building Size (sq. ft.)) N/A (Number of Floors) 100 + (Age of Site in Years)

DEMOLITION/RENOVATION CONTRACTOR (Operator)

Contractor, Individual or Company Name

Mailing Address

City State Zip County

Telephone Number Fax Number

Contractor Contact Person

SITE OWNER

BNSF Railway Company
Owner Name

139 N. Last Chance Gulch
Mailing Address

Helena (City) MT (State) 59601 (Zip) L+C (County)

(208) 267-6813
Telephone Number

Arnie Olson
Contact Person for Owner

Location Present Use	Location Prior Use
☐ Commercial	☐ Commercial
☐ Hospital	☐ Hospital
☐ Industrial	☐ Industrial
☐ Miscellaneous	☐ Miscellaneous
☐ Office	☐ Office
☐ Public Building	☐ Public Building
☐ Residence	☐ Residence
☐ School	☐ School
☐ Ship/Boat	☐ Ship/Boat
☐ University/College	☐ University/College
☐ Vacant	☐ Vacant
☒ Rail Yard	☒ Rail Yard

Inspection Information

Is Asbestos Present? ☐ Yes ☐ No

Libby Amphibole
Hydrated BIOTITE - EMR
(Name of Inspector who performed Inspection)

CONTACT: EMR - TANYA DRAKE
(Date of Inspection) 763-277-5200

(Accreditation Number) (Expiration Date)

Project Design Information

KENNEDY / JENKS CONSULTANTS
(Name of Project Designe)

☐ Project Designer (Accreditation Number)

☐ Contractor/Supervisor (Accreditation Number)
(If project is < 50 sq ft or 50 linear ft)

Approximate Amount of Asbestos Material, Including -

"Asbestos abatement project" means the encapsulation, enclosure, removal, repair, renovation, placement in new construction, demolition of friable or potentially friable asbestos-containing material in a building or other structure, or the transportation or disposal of friable or potentially friable asbestos-containing material. The term does not include a project that involves less than 3 square feet in surface area or 3 linear feet of regulated asbestos containing material.

Regulated asbestos-containing material (RACM) means (a) Friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

Friable asbestos material means any material containing more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763 section 1, Polarized Light Microscopy, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

Category I non-friable ACM means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy.

Category II non-friable ACM means any material, excluding Category I nonfriable ACM, containing more that 1 percent asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Regulated Asbestos Containing Material (RACM)		Non-Friable asbestos material to be removed		Non-Friable asbestos material not to be abated		Indicate unit of measurement below	
	RACM to be abated	CAT I	CAT II	CAT 1	CAT II	Linear Feet	Square Feet
Pipes							
Surface Area							
Volume of RACM of Facility Component							

* Approx. 6,000 cu. yd. Hydrated Biotite < 1% Quartz - LA (Libby Amphibole

Scheduled Dates for Asbestos Abatement	
Start Date (mm/dd/yy)	Complete Date (mm/dd/yy)
09/09/04	11-24-04

Scheduled Dates for Demolition/Renovation	
Start Date (mm/dd/yy)	Complete Date (mm/dd/yy)

Waste Transporter #1

Envirocon Inc.
Contractor, Individual or Company Name

101 International Way
Mailing Address

Missoula | MT | 59808 | Missoula
City | State | Zip | County

406 523-1150
Telephone Number

Jeff McKell
Contact Person

Waste Transporter #2 (if applicable)

Contractor, Individual or Company Name

Mailing Address

City | State | Zip | County

Telephone Number

Contact Person

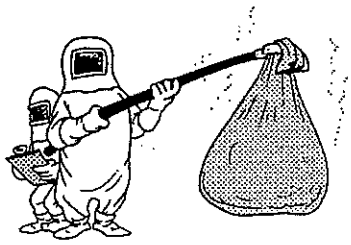
Waste Disposal Site

LIBBY LANDFILL
Site Name

Mailing Address

LIBBY | MT | 59923 | LINCOLN
City | State | Zip | County

Telephone Number | N/A Permit Number



FOR EMERGENCY RENOVATIONS

Date of Emergency _____ (Start Date) _____ (Complete Date)

Description of the sudden, unexpected event.

IF DEMOLITION IS ORDERED BY A GOVERNMENT AGENCY, PLEASE IDENTIFY

Agency Name | Title

Authority

Date ordered to begin

Date of Order

Description of procedures to be followed in the event unexpected asbestos is found or previously non-friable asbestos material becomes crumbled, pulverized, or reduced to powder: All work performed using wet method engineering controls, in Level "C" Personal Protective Equipment,

THIS SECTION APPLIES TO FACILITY DEMOLITIONS/RENOVATIONS

I certify that the above information is correct and that a State-accredited asbestos inspector inspected the facility.

Signature | Date

THIS SECTION APPLIES TO ASBESTOS ABATEMENT PROJECTS

I certify that all work performed pursuant to the authorization of the Asbestos Abatement Project Permit will be performed in accordance with 29 CFR 1926.1101, 40 CFR 763 subpart E, 40 CFR 763.120, 40 CFR 763.121, 40 CFR 763.124, 40 CFR part 61 subpart M, 75-2-501 through 519 MCA, and ARM 17.74.301 through 406. In addition, I hereby certify all asbestos-containing waste materials removed during this project will be transported properly and disposed of in a State-approved Class II landfill or similar approved asbestos disposal facility.

Douglas D. McKell
Signature

8/24/04
Date

HEALTH AND SAFETY DOCUMENT SIGNATURE PAGE

I have read and understand the safety rules described in the Health and Safety Plan.

NAME	SIGNATURE	COMPANY	DATE

Approvals

Jeff Mikell	Envirocon Project Manager
Name	Title
Signature	9-1-04
	Date

Douglas G. Tisdell	Envirocon Health and Safety Supervisor
Name	Title
Signature	09-01-04
	Date

TABLE OF CONTENTS

A. SITE INTRODUCTION A-1
A.1. Scope A-1
A.2. Description of Tasks A-1

B. BASIS B-1
B.1. Preparation and Approval B-1
B.2. Zero Incident Performance (ZIP) B-1
B.3. Policies and Regulatory Basis B-2
B.4. Changing Conditions and Daily Postings B-2
B.5. HASP and AHA Familiarization B-3
B.6. Compliance B-3

C. SITE ORGANIZATION AND KEY PERSONNEL C-1
C.1. Project Manager: Jeff Mikell C-1
C.2. Site Superintendent / Safety Officer: Brian Vibbert C-1
C.3. Corporate Director Health and Safety: Joseph Ocken, CIH, CSP, CHMM C-1
C.4. Health and Safety Supervisor / Asbestos Technical Advisor: Doug Tisdell C-2
C.5. Site Competent Persons C-2
C.6. Lower Tier Subcontractors C-4
C.7. Competent Person Designation Form C-5

D. SITE SECURITY AND CONTROLS D-1
D.2. Project Rules D-1
D.3. Communications D-2
D.4. Site Access D-4
D.5. Decontamination D-5
D.6. Reporting Incidents D-9
D.7. Emissions Controls D-9
D.8. Qualifications and Access Requirements D-10

E. HAZARDS E-1
E.1. Accident Prevention Program E-1
E.2. Potential Waste Hazards E-2
E.3. Chemicals Brought on Site E-3

F. INDUSTRIAL HYGIENE PROGRAM CONTROLS F-1
F.1. Perimeter Site Monitoring and Sampling F-1
F.2. Personal Monitoring F-1
F.3. Personal Protective Equipment F-1
F.4. Site-Specific Respiratory Protection F-5
F.5. Heat Stress F-11
F.6. Cold Stress F-11
F.7. Hazard Communication Program F-15

G. SITE SAFETY PROCEDURES G-1
G.1. Code of Safe Work Practices G-1
G.2. Employee Participation G-2
G.3. Safety Procedures for General Labor and Mobilization Tasks G-3
G.4. Intrusive Work (including excavations and drilling) G-8
G.5. Falling and Tripping Hazards G-11
G.6. Portable Tools G-13
G.7. Fire Prevention G-13
G.8. Lifting Heavy Objects G-16

G.9. Sanitation and Hygiene G-17

H. RECORDKEEPING H-1
H.1. Training and Safety Meeting Records H-1
H.2. Injury/Illness H-1
H.3. Accident Reports H-1
H.4. Employee Exposure Data H-1
H.5. Medical Surveillance Records H-1
H.6. Written Programs H-1
H.7. Health and Safety Plans H-1
H.8. Employee Access H-1
H.9. Health and Safety and Related Logs H-2

I. INCIDENT AND EMERGENCY PROCEDURES I-1
I.1. General Emergency Procedures I-1
I.2. Reporting and Investigating Incidents I-2
I.3. Personnel Injury I-3
I.4. Heavy Weather I-4
I.5. Emergency Contacts for Site* I-6

APPENDICES

Appendix A: Voluntary Emergency Data Form

A. SITE INTRODUCTION

This task-specific Health and Safety Plan (HASP) provides safety-related information and requirements specific to the task and work location(s) described. General requirements contained in the Contractor Requirements for the Libby Rail Yard Asbestiform Fiber Removal and the Envirocon Health and Safety Program Manual along with this task-specific HASP will be implemented except where noted. Significant changes to this HASP shall be documented and approved using a field change request or re-submittal of a revised task-specific HASP.

A.1. Scope

This HASP applies to Burlington Northern and Santa Fe Railroad Company Libby Rail Yard Asbestiform Fiber Removal project located in Libby, Montana.

A.1.a. Site History

The Burlington Northern and Santa Fe Railroad Company Libby Rail Yard facility is located between downtown Libby, Lincoln County, Montana and the Kootenai River to the north. The Libby Railyard was used historically to weigh and switch railroad cars used to ship hydrated biotite, which can contain asbestos including asbestiform fibers of Libby Amphibole. Historical activities have resulted in contamination of near surface soils. The project site is approximately six acres, with a total of six rail lines trending east-west along with associated buildings and siding platforms.

The primary contaminant of concern is Libby Amphibole and hydrated-biotite contaminated soils under the track ballast and surrounding cover soils. The existing ground cover at the facility includes track ballast, gravel, grass and weeds. Historically, several buildings may have existed on the site. Intact concrete foundation walls and concrete slabs are still present at the facility.

A.2. Description of Tasks

The scope of work associated with this project includes (but is not limited to) supervision, labor, equipment and expertise to perform the Remediation of the Burlington Northern and Santa Fe Railroad Company Libby Rail Yard in Libby, Montana. This includes the following job task descriptions:

- Site Mobilization;
- Install a temporary perimeter fence around the Rail Yard Exclusion Zone area;
- Construct equipment decontamination pad;
- Establish water supply system for dust suppression systems and decontamination facilities on site;
- Establish water supply system to provide water for decontamination facilities at the landfill;
- Furnish wastewater treatment system at site for decontamination facilities;
- Remove, decontaminate, and load track rail for transport;

- Remove, decontaminate, and load ties for transport and disposal;
- Remove surface debris;
- Excavate contaminated soils;
- Transportation of waste materials to the Libby landfill;
- Landfill disposal as detailed;
- Import and place backfill material; and
- Facility reclamation.

B. BASIS

This section will discuss the basis in regulations, standards and policies for the project. It includes OSHA regulations and Envirocon policies and procedures.

B.1. Preparation and Approval

This plan is based upon existing available information regarding the site and upon past experience at other sites. This document is also based on OSHA regulations, contractual specifications applicable to the scope of work, the client's health and safety plans and procedures, Envirocon's Health and Safety Program, and Envirocon policies and procedures. This document describes the Task-specific implementation of those policies and procedures. Envirocon personnel and lower tier subcontractors are required to adhere to all of these documents during the course of this project. Some of the applicable regulations and standards are described in Table 0:

B.1.a. Prepared For

This plan was prepared for:

Kennedy / Jenks Consultants
Environmental Management Resources, Inc.

B.1.b. Prepared By

Loren Gunderson, CIH, CSP
Envirocon, Inc.
651 Corporate Circle Suite 114
Golden, Colorado 80401

B.1.c. Approvals and Modifications

This plan and future changes must be approved as follows:

- After preparation and approval by Envirocon, this plan will be submitted to the client's representative in accordance with the applicable contract and specifications.
- Envirocon's designated Project Manager is responsible for the final approval of this plan before transmittal to the client.
- Envirocon's Corporate Director of Health and Safety or designated representative is responsible for approval of this plan and any future modifications after preparation. Note: Certified Envirocon Safety and Health Professionals (CIH or CSP) are hereby designated to approve changes to this plan for the Director.

B.2. Zero Incident Performance (ZIP)

Zero Incident Performance means error-free project execution: no injuries, illnesses, property damage, community or environmental impacts, or incidents that could have resulted in these occurrences under different conditions. Zero Incident Performance does not happen by chance: It is achievable through the integration of safety into all management systems, the project process, and individual efforts. We believe that all incidents are preventable. This objective serves as the primary basis for this HASP.

B.3. Policies and Regulatory Basis

Table 0 Some Important Applicable Regulations and Standards	
Latest revision	Contract Specifications applicable to the scope of work.
BNSF	Safety Rules and General Responsibilities
29 CFR 1910.20	Access to employee exposure and medical records
29 CFR 1910.38	Employee emergency plans
29 CFR 1910.95	Occupational noise exposure
29 CFR 1910.134	Respiratory protection
29 CFR 1910.120	Hazardous waste operations
29 CFR 1910.151	Medical services and first aid kit
29 CFR 1910.157	Portable fire extinguisher
29 CFR 1910.1000	Air contaminants
29 CFR 1910.1001	Asbestos
29 CFR 1910.1200	Hazard communication
29 CFR 1926	Construction Industry Standards

B.4. Changing Conditions and Daily Postings

B.4.a. Identification of Changes

The plan presents a realistic approach to the anticipated hazards at the site. It is expected that site conditions may vary throughout the duration of the project. This plan will be modified as necessary to respond to changing conditions and/or scope of work. Changes in conditions and identification of previously unrecognized hazards are identified by the following processes:

- site inspections by supervisory and site safety personnel
- observations and suggestions by all personnel
- proper planning for each new phase of operations
- Activity Hazard Analysis (AHA) for each new phase of operations
- communicating plans and controls to all effected employees
- accident investigations and lessons learned from this and other projects
- contract modification

B.4.b. Response to Changes

Adjustments to procedures may be required. The Health and Safety Supervisor will be responsible for developing the response to these changes.

- New procedures and/or tasks will be addressed by a new or modified AHA.
- Changes in PPE and/or monitoring requirements will be modified by briefing the crew.
- Significant changes to this HASP shall be documented.
- Changes in PPE and AHAs will be discussed in the morning safety meeting, by special safety meetings held as necessary throughout the day, and by postings.

B.5. HASP and AHA Familiarization

The information presented in this plan will be reviewed with the employees during task-specific training to be completed before working on site. These site entry briefings will focus on the specific tasks of those being briefed. A copy of this plan will be available at all times on the site for any one to review thoroughly. As the project initiates new tasks on site, the crews for those tasks will be briefed on the appropriate AHA(s). AHAs will highlight applicable controls from this plan. All assigned personnel, visitors, and regulatory personnel will document their familiarity with the AHA by signing a training acknowledgment. Copies of training acknowledgments for Envirocon employees, vendors, and subcontractors will be individually maintained in Envirocon's Health and Safety files. AHA trained individuals are therefore expected to be familiar with and comply with all aspects of this plan. If the safety requirements are unclear each individual is responsible for getting clarification from their supervisor. The qualifications required for various tasks on this project are summarized in the training and qualifications section below.

B.6. Compliance

Failure to follow the rules and procedures prescribed in this document potentially jeopardizes the working environment of other employees. For this reason, Envirocon is prepared to enforce the progressive disciplinary procedures described in the site control section of this document for those who fail to follow the established policies and procedures for this project.

C. SITE ORGANIZATION AND KEY PERSONNEL

29 CFR 1910.120 requires an effective site organization to be responsible for supervision of all work at hazardous waste sites. The purpose of this section is to describe this site's organization as it applies to this project.

C.1. Project Manager: Jeff Mikell

The Project Manager is responsible for oversight and management of all aspects of the project including health and safety, quality assurance, construction, remedial design, equipment, and personnel.

The Project Manager is responsible for project health and safety performance in accordance with ZIP goals.

- Conducting periodic site inspections.
- Participating in incident investigations.
- Provides safety leadership through example and by holding all personnel assigned to this project accountable for their safety responsibilities.

C.2. Site Superintendent / Safety Officer: Brian Vibbert

The site supervisor is responsible for coordinating activities with the project manager and site safety officer. This includes:

- enforcing the provisions of this HASP;
- preparing for new tasks in advance of field operations in accordance with the Envirocon Field Operations Manual;
- ensuring that an AHA has been completed before any new work commences; and
- briefing crew members before assigning them to the new task;
- ensuring that employee safety suggestions are fairly and respectfully evaluated, and that employees are informed of the outcome of the evaluations;
- monitoring the conduct of operations in the field to ensure safe delivery of a quality product for the client;
- supervising subcontractors in accordance with this plan;
- site emergency coordinator and
- ensuring that injured personnel (with or without life threatening injuries) are escorted to medical treatment by the safety officer or other supervisory personnel.

C.3. Corporate Director Health and Safety: Joseph Ocken, CIH, CSP, CHMM

Envirocon's Corporate Director of Health and Safety is responsible for the development and implementation of the Corporate Health and Safety Program. The program contains Envirocon's accident prevention plans and procedures and other related plans, policies and procedures required by OSHA standards. The Corporate Director is responsible for:

- ensuring that all health and safety issues on site are resolved;
- ensuring that employee complaints are addressed in accordance with Envirocon policies and procedures; and applicable laws;
- ensuring that all confidential employee complaints received by the director are kept confidential;
- ensuring appropriate investigation of all incident reports;
- ensuring that audit findings are corrected in accordance with Envirocon policies and procedures; and applicable laws; and
- providing professional support for the project manager's health and safety program.

C.4. Health and Safety Supervisor / Asbestos Technical Advisor: Doug Tisdell

The Project Health and Safety Officer (HSS) / Asbestos Program Manager assigned to the project is responsible for the following:

- developing and implementing the Project Manager's task-specific health and safety program and procedures;
- providing professional technical support for the Project Manager with regard to all matters of health and safety associated with the project;
- developing and reviewing project health and safety procedures, hazard analysis and other supporting documents;
- implementing and administers this HASP;
- performs site inspections to include frequent visits to the work site and haul route;
- maintaining site safety records including safety meetings, training, air monitoring, and accident/incident investigation.
- conducts periodic audits of the project site for the Corporate Director;
- coordinating all health and safety activities with the Project Manager;
- alternate site emergency coordinator, and
- in the event that personnel fail to adhere to established safety guidelines, recommending disciplinary and/or corrective actions to the Project Manager.

C.5. Site Competent Persons

OSHA's general safety and health provisions from the construction industry standards (29 CFR 1926.20(b)) include accident prevention responsibilities. Such programs shall provide for frequent and regular inspections of the job sites, materials, and equipment to be made by competent persons designated by the employers. OSHA's regulations regarding scaffolding, excavation and hazardous waste operations have similar requirements. The construction safety competent person is defined in 29 CFR 1926.32 to mean "one who is capable of identifying existing and predictable hazards in the surroundings

or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them."

Competent persons are designated on the form that follows this section. Each competent person is given responsibility and authority for certain aspects of safety on site. It is important for each competent person to recognize the limits of their own knowledge, training, experience and capability. It is the responsibility of each competent person to act within the limits of their own knowledge, training, experience and capabilities.

C.5.a. Site Safety Competent Persons

The HSS(s) serve as the general site competent person (SCP) responsible for accident prevention in accordance with 29 CFR 1926.20. The competent person is responsible for, and authorized to act to ensure that personnel are not working under conditions, which are unsanitary, hazardous, or dangerous to their health or safety.

The competent person's accident prevention responsibilities includes

- frequent and regular inspections of the job site,
- inspections of materials on site, and
- inspection of equipment on site.

The project manager may designate additional competent persons.

Designated and authorized persons, in accordance with 29 CFR 1926.32, must be capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees.

Once designated and authorized, these competent persons share Envirocon's authority to take prompt corrective measures to eliminate these hazards.

C.5.b. Excavation Competent Person (as designated in the table below)

This individual will have direct supervisory control over all excavation activities involving entry into excavations or trenches. All competent and authorized persons shall acknowledge their responsibility by signing the Competent Person Designation Form below.

Compliance standards

The excavation competent person ensures compliance with 29 CFR 1926, Subpart P (1926.650 through 652). The scope of these regulations include all excavations (e.g., hand digging, equipment excavation, with or without personnel entry). Additional competent persons may be designated by the Project Manager in consultation with the Corporate Director of Health and Safety. Designation will be based on experience and knowledge of these standards.

Specific duties include:

- Assists supervisor with planning excavations obtaining such information as to completely and correctly execute the activity. Ensures that utilities are located and marked (underground or overhead hazards) prior to excavating. Hand dig to locate when excavating within six feet of utilities.

- Where personnel entries are involved, classifies soils in accordance with OSHA soil classification in 29 CFR 1926 Subpart P.
- Ensures the use of protective systems in accordance with Subpart P where personnel entries are required.
- Monitors all excavation activities for associated hazards.
- The competent person is authorized by Envirocon to take corrective action to eliminate hazardous or dangerous situations. This includes halting excavation operations and/or removing personnel from excavations.

- Performs inspections of excavations prior to the start of work, and as needed throughout the shift and after every rainstorm.

C.6. Lower Tier Subcontractors

Lower Tier Subcontractors are responsible for supervising their work and personnel in accordance with this plan and applicable site policies and procedures. Regardless of other requirements, lower tier subcontractors shall adhere to all BNSF, federal, state and local laws and regulations. In particular this includes the requirements of 29 CFR 1910.120/1926.65 HAZWOPER Standards. Lower tier subcontractors personnel will be supervised in accordance with the same requirements and standards as Envirocon and subcontractor personnel. Where their programs, policies and procedures exceed the requirements of this document and the applicable site policies and procedures, the lower tier subcontractor may use their own policies and procedures to implement these requirements, otherwise they must adopt this document. When a lower tier subcontractor intends to implement a policy more stringent than an AHA in place, such field changes shall be made in the AHA to document implementation of the policy.

C.6.a. Site Access Control

Envirocon is in part responsible for controlling access to this site along with our client. Envirocon reserves the right to deny access to Envirocon personnel All other personnel who are not otherwise qualified or appropriately (PPE) protected to work on site may be denied access.

This safety plan does not necessarily address all of the hazards specific to lower tier subcontractors' work. Lower tier subcontractors shall submit either a task-specific health and safety plan for their particular operation(s) or prepare and submit appropriate Activity Hazard Analysis(ses) to append to this plan.

C.7. Competent Person Designation Form

COMPETENT PERSON DESIGNATION		
The following individual(s) has been designated as a "Competent Person," meaning one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who is hereby authorized by Envirocon to take prompt corrective measures to eliminate them. The person(s) named below has knowledge of the systems, equipment, conditions and procedures in relationship to the proper use, inspection, manufacturers' recommendations and instructions, and maintenance as designated below. This person(s) has been delegated the responsibility to coordinate all activities and operations as defined by the designation(s). In carrying out these responsibilities, it shall be the duty of the competent person to act within the limits of their knowledge and training.		
NAME/DESIGNATION(S)	**COMPANY**	**COMPETENT PERSON**
Rick Rogers	Envirocon	☒Excavation
Acknowledgment: Signature _____ Date _____ Competent Person		
Brian Vibbert	Envirocon	☒Excavation ☒Site Safety
Acknowledgment: Signature _____ Date _____ Competent Person		
Doug Tisdell	Envirocon	☒Site Safety ☒Excavation,
Acknowledgment: Signature _____ Date _____ Competent Person		

D. SITE SECURITY AND CONTROLS

This section deals with site access and general project rules, and the controls related to waste management and access to contaminated areas to ensure qualifications of personnel.

D.1.a. Public Safety

The work area shall be suitably delineated (i.e., as appropriate for a construction site) in order to prevent unauthorized entry. Envirocon visitors shall be directed to the project manager's designated representative to seek authorization when appropriate. Visitors shall be signed in at the administrative office of Envirocon or other location as directed. Visitors that are not qualified for work in the EZ shall be escorted or otherwise prevented from accidentally entering the EZ.

All unattended equipment will be secured physically and mechanically during periods of non-use.

D.2. Project Rules

The project rules have been developed by BNSF and Envirocon in order to create a problem-free and rewarding work environment, one in which the employee understands what is expected of them on the project site. An employee who fails to maintain at all times the proper standards of conduct or who violates any of the following rules and regulations may be subject to disciplinary action, including but not limited to, termination of employment or denial of access.

D.2.a. Unacceptable Conduct

Unacceptable employee conduct and/or violation of a project rule or requirement may be reason for disciplinary action up to and including suspension without pay, termination of employment, or denial of access to the work area or client facilities. Examples of unacceptable employee conduct and/or rule violation are as follows:

- Possessing, when not authorized project, or other person's property or services, or theft of the same.
- Altering, damaging, or mutilating project, or other person's property.
- Violating the Security Rules.
- Making or stating false claims or falsifying reports or records.
- Refusing to submit to a search.
- Refusing to submit to drug and alcohol screening or testing or other similar inspections.
- Possessing or using alcoholic beverages, controlled substances, or weapons on any project.
- Using or possessing keys or other devices used for lock opening without specific permission.
- Failure or refusal to perform assigned work as directed.
- Fighting.

- Negligence resulting in an infraction of health and safety or project rules or requirements.
- Taking unauthorized work breaks.
- Engaging in horseplay of any kind.
- Not using trash receptacles or otherwise creating unsanitary conditions.
- Smoking, using tobacco, or eating in prohibited areas.
- Violating health and safety or project rules or requirements.
- Sexual harassment.
- Not reporting use of prescription drugs.
- Not reporting equipment or material damage.
- Not reporting an accident or incident.
- Displaying pornographic, sexually explicit or otherwise offensive photographs, calendars, or other materials that may be objectionable to other individuals or groups.

D.2.b. Discipline

Envirocon reserve the right to take disciplinary action at its discretion up to and including suspension or termination of employment or denial of access to the site work areas, depending on the severity of the violation.

D.2.c. Subcontractors

Subcontractors shall also adhere to established policies and procedures applicable to this project site.

Subcontractors are responsible for disciplinary actions regarding their own employees and their lower tier subcontractors.

Failure of subcontractor employees to adhere to policies and procedures as described in this document will result in verbal or written warnings to the responsible subcontractor.

Envirocon reserves the right to permanently or temporarily remove and bar subcontractor employees from the project site. Unacceptable conduct or failure to adhere to established policies and procedures willfully or repeatedly may result in such removal from the project site.

D.3. Communications

Site communications for this project will follow the following communications protocols: Each employee while in exclusion areas:

Primary means is by visual communication with a buddy.

Alternate communication is by radio.

Envirocon shall furnish and post asbestos warning signs conforming to the requirements of 40 CFR 61.154 and 29 CFR 1910.1 *45(d)(4)* on perimeter fence. Warning signs shall be posted at the entrances and at intervals not to exceed 100 meters (328 feet) at the site exclusion zone fence and disposal facility fence. Post an approximately 20 inch by 14 inch manufactured caution sign at each entrance to the work area displaying the following legend with letter sizes and styles of a visibility required by29CFR 1926:

LEGEND

DANGER

ASBESTOS

CANCER AND LUNG DISEASE HAZARD

RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED
IN THIS AREA

Provide spacing between respective lines at least equal to the height of the respective upper line.

Post an approximately 10 inch by 14 inch manufactured sign at each entrance to each work area displaying the following legend with letter sizes and styles of a visibility at least equal to the following:

LEGEND	NOTATION
No Food, Beverages or Tobacco Permitted	3/4" Block
All Persons Shall Don Protective Clothing (Coverings) Before~ Entering the Work Area	3/4" Block
All Persons Shall Shower Immediately After Leaving Work Area and Before Entering the Changing Area	3/4" Block.

Standard Hand Directing Signals (Placing Materials)

Stop: Left or right hand in a fist pointing upwards.

Emergency Stop: Both hands in a fist pointing upwards.

Set brake, reduce engine to idle speed and remove hands from wheel: Both hands open and fingers spread, palms forward pointing up. (This should appear to be a motion like a driver lifting hands off of the wheel.)

Hold your position and open dump gate: Both hands in a fist with thumbs up.

Move cautiously straight forward or backward: Either hand pointing upward, palms facing in the motion of travel, swinging forward and backward. (This signal should produce a gesture of hands waving someone forward or pushing back. Use the fingers only to indicate an even slower or smaller amount.)

You are clear to raise your bed: Hold one hand in a fist to indicate stop (i.e., hold your position) and use the other hand to point index finger into the air.

You are clear to lower your bed: Hold one hand in a fist to indicate stop (i.e., hold your position) and use the other hand to point index finger downward.

Emergency Hand Signals:

Hands waving above head: Attention getter.

Hands motioning from front to back overhead: "Follow me immediately… evacuating the area."

Grip on a partner's wrist or placement of both hands around a partner's waist: "Leave the area immediately, no debate."

Hands on top of head: "Need assistance."

Thumbs up: "Okay, I'm all right, I understand."

Thumbs down: "No, negative."

Audible Emergency Signals

Site evacuation notification:

- The signal is a continuous horn blast from air horns or truck horns.
- Unless otherwise directed, all personnel will leave the Exclusion Zone and head for the predesignated assembly point (see emergency procedures).

D.4. Site Access

Access to the site shall be limited to those personnel that are qualified and have an acceptable (in the judgement of the client facility's designated representatives and the Envirocon security manager) reason for being on site. Continuing access is further conditioned on adherence to the established site policies and procedures.

D.4.a. Contamination Control Boundaries

The site safety officer is responsible for establishing and maintaining contamination control boundaries and supervising decontamination. Envirocon shall erect temporary fencing to establish an exclusion zone, contamination reduction zone, and support zone.

Work Areas. The work area, for purposes of this project, is that area defined by hazardous waste and supporting operations. The work area is that area that is regulated by 29 CFR 1910.120 and/or 1926.65.

Exclusion Zone (EZ). The EZ is that part of the work area where, at a given time, workers may potentially come in contact with contaminated materials. This contact is generally defined as inhalation of airborne levels exceeding task-specific action limits or 50% of established exposure limits (OSHA or ACGIH). Contact also includes any ingestion, skin contact, injection, or other contact route of exposure to materials exceeding EPA or other established levels of contamination for the site. All disturbances of contaminated media will occur within the exclusion zone.

Contamination Reduction Zone (CRZ). The CRZ is that part of the work area between the EZ and support areas where contamination from the EZ is controlled in such a way as to remove the potential for contaminating support areas. . Waste loading will be permitted in the contamination reduction zone.

Support Area. The support area is that part of the work area where supporting tasks are conducted, and where the potential for exposure to contaminants has been fully controlled (i.e., personnel are not exposed to potential contact with contaminants).

Boundaries

Boundaries are established by the site safety and health officer based on the definitions above as compared to actual site conditions as monitored. Boundaries are flexible and should reflect current site conditions.

Boundaries to be marked with suitable barriers (e.g., yellow banner guard, brightly colored rope, barricades, or orange snow fence) to clearly establish the specified areas and the applicable regulations for that area. If rope is used, pennants should be tied to the rope to help increase the visibility to foot and vehicle traffic and to provide a suitable warning.

D.5. Decontamination

The site safety officer is responsible for establishing and supervising decontamination on site. The following procedures are intended to establish guidelines for this purpose. As work progresses control zones may be altered. It is essential that the safety officer adjust this process as necessary to ensure that:

- personnel and equipment leave the site free of contamination, and
- contamination is not spread to other areas on site.

D.5.a. Contamination Reduction Zone(s) (CRZ)

Contamination Reduction Zone(s) are those areas established for the purpose of transition between an EZ and adjoining areas. CRZs should be established for personnel and/or equipment to decontaminate during exit from an EZ into:

- clean support areas, and/or
- an adjoining EZ with different or lesser contamination.
- Envirocon shall furnish separate personnel and equipment decontamination facilities within the contamination reduction zone. Decontamination facilities system shall be placed and operating prior to initiation of clearing and waste excavation.

D.5.b. Frequency

All equipment will be inspected and be adequately decontaminated to avoid cross-contamination when moving out of an EZ.

All equipment will be decontaminated for site release before leaving the site.

All personnel will be decontaminated before leaving a designated EZ.

D.5.c. Personnel Decontamination Procedures

Entering Contaminated Area through Support Zone:

- Pick up clean PPE and boots.
- All donning of clothing and equipment, taping, etc. is done here.
- Equipment contaminated from the preceding day is to be picked up in the contamination control area.

CRZ:

- Prior to entering this area, be sure that all personnel protective equipment is in good working condition.
- Conduct final inspection of PPE ensemble.

Exiting Exclusion Zone

- Personnel and equipment leaving the Exclusion Zone shall be thoroughly decontaminated.
- The following protocols shall be used for the decontamination stations according to the level of protection as follows. Where a step involves an article that is not prescribed, skip the step.

Disposable PPE (or other lightly contaminated solid materials) will be placed in a sealable container affixed with a legible description of contents (and origin, date, responsible party, and phone number) for disposal in an appropriate landfill. Such a container will be a minimum of two layers of 6 mil. poly of substantial enough construction to sustain repeated lifting/carrying by hand or light mechanical conveyance without damage to seams, sealing mechanism or rupture due to contents.

	[illegible]
1	equipment drop
2	outer boot rinse
3	outer boot removal
4	outer glove removal
5	remove hard-hat
6	coverall removal
7	remove inner gloves
8	shower
9	remove respirator (in shower)
10	rinse respirator
11	hand dry and bag respirator
12	change to street clothing

D.5.d. Emergency Decon – Evacuation to CRZ or Immobilized Victims

This procedure applies to non-exit decontamination. Examples of the circumstances for these emergencies include the following. Emergency decon procedures are intended to be a guideline. Depending on the nature of the actual emergency, response personnel and evacuees will ultimately be responsible for weighing the risks of the emergency against the risk of incomplete decontamination.

EZ Evacuation to the CRZ.

In this case employees are evacuating the EZ due to a release or emergency limited to the EZ that requires all or most of the employees to retreat to the CRZ.

The main objective in this case is to perform the minimum decon necessary to prevent gross contamination of the CRZ while sheltering employees.

Immobile Victims are Prepared for Medical Evacuation Inside the EZ.

In these cases, immobile victims will be decontaminated (to the degree this can be safely accomplished) in preparation for rescue personnel to remove them on a litter or backboard.

- Gently wash and rinse outer garments to the extent this can be safely accomplished.
- Lay down clean tarps, trash bags or other soil barriers for EMTs and their equipment.
- If possible, place the victims on clean barriers or lay barriers as close as possible to the victims.
- Bring similar clean materials to the CRZ for placing in the ambulance or evacuation vehicle.

- Bring clean potable water and a first aid kit to the victim for cleaning wounds.

D.5.e. Emergency Decon – Evacuation to Support Areas or Mobile Victims

This procedure applies to circumstances requiring exit decontamination. Emergency decon procedures are intended to be a guideline. Depending on the nature of the actual emergency, response personnel and evacuees will ultimately be responsible for weighing the risks of the emergency against the risk of incomplete decontamination. . Examples of the circumstances for these emergencies include the following.

EZ Evacuation to Support Zone areas.

In this case employees are evacuating the EZ beyond the CRZ.

The main objective in this case is to shed contaminated materials quickly (with the idea that discarded articles can be decontaminated later when the emergency is over).

Mobile victims will be expeditiously evacuated from the area for medical treatment in support areas.

In these cases, immobile victims will be decontaminated (to the degree this can be safely and expeditiously accomplished).

EMTs and medical facilities must be advised that the employee may still have some contamination.

D.5.f. Equipment Decontamination

Equipment decontamination for release from the site will be performed on the facility de-con pad.

Prior to exiting an EZ, the equipment operator will ensure that the equipment is inspected for visible gross contamination. Visible gross contamination will be removed using shovels and hand equipment as necessary to prevent cross-contamination of the site. Pressurized water will be used to perform the detail decontamination.

Before release from the site, all contaminated equipment will be thoroughly decontaminated at the equipment de-con area using wet methods and HEPA vacuum to remove visible contamination.

- If material is judged as un-cleanable it will not be used outside the Contamination Zone and will be disposed of at the end of its usefulness.

D.5.g. Small Equipment Procedure

Surface debris and dirt will be removed from small equipment and tools with vigorous wet brushing and wiping.

D.5.h. Disposition of Decontamination Wastes

All equipment and solvents used for decontamination shall be decontaminated or disposed of with the established waste streams as described in the waste management plan.

D.6. Reporting Incidents

All incidents must be reported in accordance with the project Health and Safety Plan (HASP) and Envirocon procedures.

The on-site supervisor is responsible for ensuring that the Hazardous Waste Manager is informed of any spills.

This includes, but is not limited to, the following:

- accidents (with or without damages),
- finding unusual materials or soil conditions (e.g., previously disturbed soils, materials with unusual odors, materials with unusual coloration, etc.);
- spills of remediation waste; or
- spills of lubricants, coolants, fuels, or any other hazardous materials.

D.7. Emissions Controls

Dust and Airborne Fiber Controls

Dust and airborne fiber levels will be monitored on site in accordance with the HASP monitoring requirements for protection of personnel. Recognized limits for this monitoring include the Department of Labor (OSHA) Permissible Exposure Limits (PEL) and/or the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV).

Perimeter fiber levels will be monitored by EMR to ensure contaminants do not leave the EZ.

Exceedance shall be controlled by a combination of the following:

- changing control zone boundaries
- upgrading respiratory protection control
- slowing or suspending intrusive work
- application of water

D.7.a. Spill Response and Prevention

Spill prevention controls and response procedures are documented in the emergency response procedures of this Health and Safety Plan.

D.7.b. Waste Minimization

Waste generated on site will be minimized by proper sampling and categorization of waste streams.

Waste generated on site will be minimized by protecting segregated wastes from wind, weather and runoff.

D.8. Qualifications and Access Requirements

Access to project sites is conditioned upon maintaining qualifications with regard to training, medical monitoring, drug & alcohol testing, adherence to required procedures, and related requirements. Failure to maintain these qualifications may result in removal from site and/or termination of employment.

All onsite workers involved in or working onsite during intrusive activities that will disturb soils or waste must have completed the OSHA 40-hour HAZWOPER training and annual updates and must have a minimum of 32 hours of asbestos training and 16 hours of site-specific training.

D.8.a. Training Qualifications Summary

Table D.8.a summarizes the training qualifications for this project.

	40 Hour Training	8 hr annual refresher	8 Hr Super-visor	BNSF Safety Training	Project HASP and Site Training	Applicable AHAs	Daily Safety Briefings	Respiratory Protection Training	AHERA 40/32 hour Training	Asbestos Awareness
Supervisors	X	X	X	X	X	A	X	X	X	
Level C (i.e., with potential use of respirators)	X	X		X	X	A	X	X	X	
Work outside of EZ (e.g., office staff)				X	X	A	X			
Managers entering EZ to observe only	X	X		X	X	X	X	X		X
Truck Drivers	X	X		X	X	A			X	
Delivery personnel outside of EZ					E					

A = Information as applicable to hazards and tasks on site.

O = Site HSO will determine whether a 32-hour HAZWOPER course will suffice

- All personnel performing work on this project will receive a briefing on this HASP. This training shall include the following:
    - Names of personnel and alternates responsible for safety and health.
    - Safety, health and other hazards present on site and off site.
    - Use of personal protective equipment.
    - Site Safety Practices/Standard Operating Procedures
    - Work practices by which the employee can minimize risks from hazards.
    - Safe use of engineering controls and equipment on the site.

- Medical surveillance techniques, and recognition of symptoms and signs that might indicate overexposure to hazards.
- An emergency action plan meeting the requirements for safe and effective responses to emergencies, including all necessary equipment.
- spill containment program.
- Decontamination procedures.
- Proper use of field equipment.
- Employees rights and responsibilities.

- Employees shall be briefed on applicable AHAs.
- This training must be acknowledged on the sign-up sheets at the front of this plan.
- Worker Acknowledgement of asbestos training will be signed by employees on form in Appendix G.
- Personnel entering the exclusion zone shall have a minimum of 40 hours of HAZWOPER training in accordance with 29 CFR 1910.120 or 1926.65. This includes an additional three days of On-the-Job Training (OJT) which must be documented.
- Personnel required to wear respiratory protection will have a minimum of 40 hours of HAZWOPER training and appropriate asbestos training, to include respiratory protection training.
- Supervisors will have an additional 8 hours of supervisory training for work in the EZ.
- Personnel required to have HAZWOPER training must be up to date on annual 8 hour refresher training.
- Personnel performing support functions (i.e., work outside of the EZ or CRZ) are not required to have HAZWOPER training but shall be briefed on this HASP and have completed BNSF Safety Training.
- Personnel will be provided specialized training to qualify them as a "competent person", as for example for excavations, confined space entry, and other useages under the OSHA standards.

D.8.b. Meetings

In order to maintain qualifications, it is necessary to have regular meetings in order to enhance planning efforts and to pass information from lessons learned or changes in procedures.

Daily Safety Meetings

A daily "tailgate" safety meeting will be held before starting work. Safety meetings will also be held when site conditions change, before starting new activities, and after incidents.

These daily meeting shall be used to keep personnel up to date on changes in plans and procedures since their initial training and also to ensure coordinated work assignments by outlining the day's activities and job assignments.

Daily "tailgate" safety meeting attendance is mandatory for all site personnel including lower tier subcontractors; personnel not in attendance must review topics discussed prior to entry.

Meetings will also be used to discuss:

- Topics of interest or concern of the crew.
- Suspected hazards for that day's work and what precautions are necessary to deal with these hazards.
- Necessary training requirements and site work rules.
- Changes in work practices or environmental conditions.
- Precautions or safe work practices related to the day's site activities.
- New or modified site-wide procedures or requirements.

Documentation of daily safety meetings shall be maintained and made available for inspection..

Daily safety meetings shall be used as a time for personnel to make safety suggestions. Suggestions shall be noted in the minutes and evaluated by supervisory and safety personnel. Actions taken on suggestions should be noted on the daily safety meeting form.

D.8.c. Medical Qualifications Summary

The following medical qualifications are required to perform work in certain areas.

TEST COMPONENT (1)	Level D (1)	Level C Exclusion Zone (1)	Asbestos worker	Support Zone Workers (1)	Envirocon New Hires (1)(5)	Post-Accident/ exposure (1)	End of Project (1)(2)
Occupational History/update	X	X	X	(5)	X		(6)
Audiometric Exam	X	X	X		X		
Manual lifting protocol	X	X	X		X		
Drug testing(1)					(5)	(4)X	
Fitness to return to work (after work/non-work related injuries or illness).						X	
Fitness for Hazardous Waste Work (29 CFR 1910.120) including liver functions		X				(1)	(6)
Fitness to wear respirators (29 CFR 1910.134)		(3)	X		(3)		
Asbestos protocol (7)		X	X				

TEST COMPONENT (1)	Level D (1)	Level C Exclusion Zone (1)	Asbestos worker	Support Zone Workers (1)	Envirocon New Hires (1)(5)	Post-Accident/ exposure (1)	End of Project (1)(2)
Basic Fitness For Duty (Level D, Construction, or non-HAZWOPER)	X	X		(5)	(5)		X

NOTES:

(1) WorkCare provides medical monitoring for all Envirocon employees through local health care facilities. The appropriate protocol will be scheduled by an authorized Envirocon representative and should never by scheduled by the employee (except in the case of a medical emergency). Lower tier subcontractors and guest are required to produce their own protocols equivalent to those indicated and/or in accordance with the referenced regulatory requirements. Employee may be required at any scheduled exam, examinations conducted after accidents, randomly, or as part of facility procedures to donate specimens for drug and alcohol testing. Failure to conform to medical monitoring requirements, drug & alcohol, or other related requirements may be grounds for removal from site and termination of employment.

(2) This column refers to certain task-specific protocols. It IS NOT A TERMINATION OF EMPLOYMENT EXAM requirement. All Envirocon employees should be notified of potential eligibility for termination exams when they are terminated from employment. If they request such an exam, the Director of Health and Safety will review the request and determine eligibility under the Envirocon Medical Monitoring Program in accordance with 29 CFR 1910.120.

(3) Must be completed prior to wearing respiratory protection

(4) As determined by Envirocon policy and the Director of Health and Safety accidents, incidents, injuries, or illnesses involving medical evaluations, potential OSHA recordability, potential property damages in excess of $500, involving damages or injuries to parties not affiliated with Envirocon shall be evaluated.

(5) New employees are hired provisionally based on their ability to pass the fitness for duty examination. Workcare makes the final determination regarding fitness for duty for Envirocon Employees (this includes all aspects of fitness for duty and drug testing results). New hires may begin Level-D work (i.e., this evaluation does not authorize work where exposures may exceed the action levels for chemical exposures) with the basic fitness for duty evaluation provided by the attending or examining physician. The examining or attending physician's evaluation is considered temporary (not to exceed 30 days) until final evaluation by Workcare's final evaluation.

(6) Employees that will be terminated at the end of the project and have not had a HAZWOPER physical within the last six months shall be offered a termination examination.

(7) Workers who for a combined total of 30 or more days per year are engaged in Asbestos Class II work per 29 CFR 1910.1101

E. HAZARDS

This safety and health program includes orderly processes for recognizing and evaluating hazards. Hazard identification and evaluation must be a continuing process although the focal point is the planning phases of tasks.

E.1. Accident Prevention Program

Envirocon's Health and Safety Program Manual serves as the primary accident prevention program document. This HASP further develops the task-specific procedures to prevent accidents at the site. Beyond these documents, the accident prevention program is an ongoing process which involves the participation of all personnel through hazard identification, hazard analysis and hazard control. Refer to Envirocon's Health and Safety Program Procedure 14 "Correcting Unsafe Conditions and Work Practices."

E.1.a. Elements of the Accident Prevention Program

The accident prevention process at this site includes a number of ways to identify hazards and develop appropriate controls. They include the following programs and procedures.

Proper planning. There are a number of planning process which take place prior to execution of a given task. Based on many other plans and programs, Envirocon and the client have developed a HASP for the site.

Activity Hazard Analysis (AHA). The planning and hazard assessment process continues into the individual job task through the use of AHA. AHAs shall be developed for all significant work tasks associated with this project. New tasks, or previously undeveloped hazards require a new AHA or redraft existing ones. AHAs are primarily a planning phase tool. As needed, this HASP may be modified in order to accommodate control requirements identified through the AHA process.

AHA's prepared as a part of this HASP (Appendix E) and their status is described in the following chart:

AHA #	Title
1	Mobilization
2	Heavy Equipment
3	Rail Removal / Rail Tie Washing Activities
4	Excavation
5	Decontamination
6	Hauling

Work place inspections. All supervisory personnel, safety officers, and competent persons shall conduct site inspections. Site inspections are intended to ensure that established plans and procedures are followed, changes in conditions are identified, effectiveness of controls are assessed, and new hazards identified.

Employee involvement. The active involvement of every employee is encouraged through the site incentives program, "time out for safety" authority, safety observer program, and daily safety briefings. Employee involvement is the cornerstone of the ZIP goal. This goal will not be met (and has no real meaning) without every employee's complete focus at all times on every task. Additionally, every employee is required to look out for their coworkers when their focus falters.

Incident investigations. Employees are required to immediately report all incidents in order to ensure a timely investigation. Incident investigation is aggressive at site in order to capture lessons learned from minor incidents and correct controls before significant accidents occur.

E.1.b. Responsibilities

Supervisors, assisted by safety and health personnel are responsible for implementing effective accident prevention processes. This includes:

- conducting required planning,
- conducting required inspections,
- aggressively investigating all incidents,
- encouraging employee participation, and
- taking a leadership role in achieving ZIP.

Employees are responsible for:

- following established procedures,
- actively participating in training processes,
- reporting all incidents immediately to their supervisors,
- positively assisting in investigations of incidents, and
- looking out for their coworkers (i.e., "buddies").

E.2. Potential Waste Hazards

Historical activities at the site and surrounding areas have resulted in extensive areas of soil contamination. The primary contaminants of concern are Libby Amphibole and visually identified hydrated biotite. The Response action is based on analytical data from 2001 through 2004, and visual mapping of hydrated biotite that was mapped in October 2001.

E.3. Chemicals Brought on Site

Envirocon anticipates bringing to the site chemicals with recognized hazards. Only quantities necessary for the performing of project tasks will be brought. All chemicals will be used in accordance with manufacturer's recommendations and the manufacturer's MSDS will be kept at the site. Each employee will be trained to the requirements of 29 CFR 1910.1200 in understanding the hazards, means of protection, clean-up protocols and other use and handling information of chemicals on site.

Envirocon anticipates bringing the following chemicals to the site:

- Conventional motor fuels, greases, lubricants and antifreeze
- Cleaning products

F. INDUSTRIAL HYGIENE PROGRAM CONTROLS

OSHA mandates programmatic controls for many hazards. This section describes the programs in place to control safety and health hazards on site.

F.1. Perimeter Site Monitoring and Sampling

Perimeter site monitoring will be performed by EMR in accordance the sampling and analyses plan provided in the contract documents. No visible dust shall be permitted to leave the exclusion zone boundary, and dust monitoring is not deemed necessary due to the wet method dust/fiber suppression engineering controls to be used during intrusive excavation activities.

F.2. Personal Monitoring

Personal monitoring will be provided by EMR in accordance the sampling and analyses plan provided in the contract documents. Analytical results will be provided and posted by EMR to maintain compliance with applicable OSHA standards.

F.3. Personal Protective Equipment

PPE shall be selected, used, maintained and stored in accordance with 29 CFR 1910 Subpart I. Engineering, administrative, and/or work practice controls shall be implemented where feasible, rather than relying exclusively on PPE for hazard control.

F.3.a. Selection and Use

Selection and use of PPE shall be based on the chemical and physical hazards associated with site contamination and the potential safety hazards associated with the work being performed. Envirocon shall maintain an adequate selection of PPE to allow working with wastes from the site. Standard PPE for contamination prevention, except for respirators, will be supplied by Envirocon for Envirocon employees.

PPE requirements will be determined by the Health and Safety Supervisor based on the latest information and monitoring results.

Maintenance and Storage

PPE (including respirators) shall be maintained and stored in a central location. Envirocon will ensure that adequate facilities for cleaning, maintenance, storage and issue are made available. Maintenance of PPE and respiratory protection shall be completed in accordance with manufacturer's instructions. Specific functions to be carried out may include:

- Storing and issuing PPE
- Maintaining and inspecting all PPE and respiratory protection
- Cleaning reusable PPE
- Disposing of used PPE

F.3.b. Summary of Basic PPE Requirements

Table F-2b: Summary of Standard PPE					
Activity	*Head/ Face*	*Foot* (8)	*Hands* (10)	*Respirator*	*Clothing*
General site labor, non-intrusive support zone tasks	• Hard hat(2), • safety glasses(2)	Steel toed boots	Leather gloves as needed.	none (1)	• Shirt w/sleeves • Long pants • high visibility vest (5)
Supervision of support zone work.	• Hard hat(2), • safety glasses(2)	Steel toed boots	As needed.	None. (1)	• Shirt w/sleeves • Long pants • high visibility vest (5)
Decon (contaminated) soils) Soils intrusive activites	• Hard hat(2), • Safety glasses(2)	Boots w/steel toes, (4) Boot covers	Leather outer gloves, nitrile or equal inner glove	Level C PAPR/APR respirator with HEPA cartridge(s)	• Tyvek coveralls w/hoods taped at wrists and ankles(3) • Orange vest, (high vis) (5)
Drivers	• Hard hat outside cab (2), • Safety glasses(2)	Boots w/steel toes, (4)	As needed.	None. (if inside positive pressure cab)	• Long pants • Shirts with sleeves

Table F3.b Summary of Standard PPE					
Activity	*Head/ Face*	*Foot* (8)	*Hands* (10)	*Respirator*	*Clothing*

(1) Voluntary use of respirators is authorized for nuisance dusts and exposures known to be below PEL levels. For nuisance dust use disposable N, R or P 95 or better (dispose of N or R types daily and P type weekly) For odors use half mask with OV or OV/P95 or better (change at start of week)

(2) Hard hats and safety glasses are not required inside of enclosed cabs with windshields; or when working outside of the contaminated areas performing non-labor tasks such as walking to and from buildings/trailers, typing, or making notes.

(3) Dust resistant outer coveralls such as Tyveks with "scrubs" underneath will meet this requirement. These are not allowed for use with hazardous materials.

(4) Boot covers are a durable covering capable of resisting dust penetration which would contaminate steel toed boots.

(5) High visibility vests are required for activities on BNSF properties.

(6) When working with wet contaminated materials, a PVC or other equivalent water resistant outer boot covering will be used to prevent contamination of steel toed boots. Under conditions with launderable coveralls are penetrated by wet conditions they shall be similarly substituted or covered with a suitable outer water proof layer.

(7) For purposes of preventing heat or cold stress, decon ensembles may not be torn, or worn open.

(8) EZ wet work and decon must use a PVC steel-toed boot, or a "Fireman's overboot" but not a leather boot with cover (except for truck drivers).

(9) Inner suit of comfort/modesty clothing (e.g., launderable hospital scrubs).

(10) Hand protection may have two components; as a physical protector against cut/abrasions etc., and as a barrier against chemical contact. Combinations to meet these requirements should be approved through the site safety officer depending on the task, contaminants and other relevant considerations.

F.3.c. PPE Rules

All personnel are required to use the personal protection specified for their work. This may include, but is not limited to cartridge respirator, protective suit, gloves, boots, hard hat, hearing protection, safety vest and safety glasses.

All respirator use will be in accordance with Envirocon's Respiratory Protection Program and/or task-specific procedures.

Safety Boots/Shoes

- Safety steel-toed boots/shoes that meet the requirements and specifications of ANSI Z41.1 shall be worn while working in field locations.
- Boots/shoes must be in good repair and laced or fastened. Sandals and tennis-style shoes of any type shall not be worn while working.

Safety / Hard Hats

Approved safety hats that meet requirements and specifications established in ANSI Z89.1 shall be worn at all times in the field or construction zone/yard removal locations.

Safety hats are not required to be worn in vehicles (passenger cars or trucks)or offices. Safety hats are not required in construction equipment with enclosed cabs. Safety hats must be worn in all construction equipment (loaders, bobcats, excavators, dump trucks, backhoes, etc.) that do not have enclosed cabs.

Eye Protection

As a minimum, ANSI-approved safety glasses with side shields will be worn at all times when working on this site.

ANSI-approved safety glasses must be worn by an equipment operator unless the cab is a full enclosure with windows closed.

Proper eye protection (goggles, safety glasses, etc.) must be worn when working with (or in the proximate exposure area of) recognized hazards to the eyes such as wire brushing, hammering, buffing, chipping, grinding, welding, cutting wire rope, working on rust, dirty chains, cables, or handling chemicals. **If the job might result in eye injury, then eye protection is required**.

Selection of shading for brazing, cutting and welding filter lenses will be based on 29 CFR 1910.133. Shading of PPE lenses to protect against bright, ultra-violet or infra-red light may reduce visibility in normal light. Workers must remove tinted lenses when performing work or moving around in work areas when tinting is not required.

Protective measures (for personnel potentially within range of an activity that may generate projectiles or damaging radiation) may include physical shields, or tarps or relocation beyond range for the duration of the activity.

Goggles or transparent full-face shields must always be worn when grinding.

Envirocon may not provide prescription safety glasses, however, Envirocon will provide safety glasses capable of fitting over prescription glasses and manufacturer inserts for respirator corrective eyewear.

Hearing Protection

Approved earplugs or earmuffs must be worn in areas of high noise levels.

High noise level is defined as areas where noise levels exceed, or may exceed, 90 dBA. A noise survey will conducted at each work station where a noise exposure level is anticipated to reach 85 dBA.

Safety Vests

Orange safety vests are required anytime Envirocon personnel are working on BNSF project sites or around operating equipment. This requirement applies to equipment operators whose duties involve them leaving the cab of their equipment and working in general area.

Clothing

Sleeved shirts must be worn on the job. Tank tops will not be allowed. Long pants shall be worn. Pants shall cover the work boot top. Shorts will only be allowed if they are worn under cotton coveralls or other protective clothing. Loose or ragged clothing shall not be worn.

All personnel are responsible to clean and maintain the protective equipment issued to them. Any noted defects in the equipment shall immediately be reported to the Envirocon Project Manager or the site superintendent, as appropriate.

F.4. Site-Specific Respiratory Protection

F.4.a. Documents

Envirocon's written Respiratory Protection Program is contained in Procedure 1403.016. This health and safety plan procedure serves as the task-specific procedure for the use of respirators on this project.

F.4.b. Administration

The Respiratory Protection Program Administrator is Joe Ocken, CIH.

The designated site safety supervisor for this project will serve as assistant program administrator.

Medical qualification procedures are evaluated and implemented by WorkCare, Drs. Greaney and Chan.

F.4.c. Respiratory Protection Program Objectives

Objectives of the respiratory protection program are as follows:

- Use engineering controls, and procedures to minimize the potential for exposure, and if they are not feasible, or not effective, respiratory equipment will be used.
- Make available to employees the appropriate Respiratory Protection Policy describing the issuance, cleaning, inspection, and storage of respirators.
- Ensure that respirators are inspected, maintained, sanitized, and appropriately stored.

F.4.d. Continuing Respirator Effectiveness

The assistant administrator (site safety officer) is responsible for conducting daily site inspections, including special inspections described in the inspections section of this procedure.

Daily site inspections shall include surveillance of work place conditions. In particular the following conditions shall be assessed.

- potential changes in contaminant concentration,
- changes in employee exposure or stress; and

- respirator effectiveness.

F.4.e. Respiratory Training Objectives

Specific respiratory protection training will be provided by Envirocon for employees and subcontractors who will be required to wear respirators as part of their normal job function. Respiratory Protection training will include but not be limited to:

- Proper use of respirators
- Limitations of respirators
- Emergency procedures
- Donning and doffing
- Maintenance of respirators

F.4.f. Training

Envirocon Respiratory Protection Training Procedures include the following:

- Employees may be trained using the Envirocon Respiratory Protection Program lesson plan.
- 40 hr HAZWOPER Training. Employees may be trained in a recent 40 hour or Emergency Response training courses (within the last year), or a recent 8 hour refresher training course which covers the use of respiratory protection (within the last year).
- Respirator wearers may also be trained by certified training using a lesson plan covering the new (1998) revised respiratory protection program standard.
- OSHA training (for example Hazard Communication, Respiratory Protection, Hearing Conservation etc.) that is provided in an 8-hour HAZWOPER refresher will be documented and placed in each employee's training/medical file.

F.4.g. Voluntary Use of Respirators

The voluntary use of respirators by employees (e.g., for control of odors or nuisance dusts) must be qualified. Voluntary use of respirators is only allowed in areas characterized as not requiring respiratory protection. The specific type of respirator and conditions of use must be approved by the Director of Health and Safety. Voluntary use of respirators must otherwise be in accordance with this procedure.

Employees voluntarily using respirators must be trained in the information provided in Appendix D to Sec. 1910.134 "Information for Employees Using Respirators When Not Required Under the Standard." Voluntary use of disposable nuisance dust masks does not require medical evaluation. Voluntary use of these masks does not require a fit test.

F.4.h. Medical Qualifications.

Respirator wearer's shall be medically evaluated by a company designated physician or other licensed health care professional (PLHCP).

Envirocon's PLHCP is Drs. Greaney and Chan of Workcare.

Dr. Greaney will be assisted in these duties by a local PLHCP. Local PLHCPs will also be licensed physicians. Fitness to wear respiratory protection will be determined by the local PLHCP and reviewed by Dr. Greaney.

F.4.i. Fit Testing

General requirements

- Before an employee uses any respirator with a negative or positive pressure tight-fitting facepiece, the employee must be fit tested with the same make, model, style, and size of respirator that will be used.
- Positive pressure (i.e., pressure-demand mode) supplied air respirators (SAR) or self contained breathing apparatus (SCBA) with tight-fitting facepieces are included in this requirement.
- Unless noted otherwise, fit test shall be administered using an OSHA-accepted Qualitative (QLFT) protocol.
- Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by QNFT or QLFT.

Tight-fitting atmosphere-supply & powered air-purifying respirators

Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.

Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual facepiece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator facepiece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator facepiece.

Quantitative fit testing of these respirators shall be accomplished by modifying the facepiece to allow sampling inside the facepiece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate facepiece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the facepiece.

Any modifications to the respirator facepiece for fit testing shall be completely removed, and the facepiece restored to NIOSH-approved configuration, before that facepiece can be used in the workplace.

Envirocon fit testing will be done in accordance with the OSHA-accepted QLFT and QNFT protocols and procedures are contained in Appendix A of 29 CFR 1910.134.

F.4.j. Fit Testing Period.

Fit test results are good for a period of one year.

If an employee using a tight-fitting facepiece respirator will be assigned a different respirator facepiece (size, style, model or make) the fit testing must be repeated.

Fit test results are voided whenever the employee, a supervisor, a safety officer, the PLHCP, or program administrator makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to:

- facial scarring,
- dental changes,
- cosmetic surgery, or
- an obvious change in body weight.

F.4.k. Use of Respirators.

Employees are not allowed to use respirators with tight-fitting facepieces with:

- facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function; or
- any condition that interferes with the face-to-facepiece seal or valve function.

If an employee wears corrective glasses, Envirocon will obtain the appropriate spectacle kit and have it fitted with prescription lenses. Employees are required to perform a fit check when donning all tight-fitting respirators.

F.4.l. General Inspection and Repairs

Inspection requirements

- All respirators used in routine situations shall be inspected before each use and during cleaning.
- All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use.
- Emergency escape-only respirators shall be inspected before being carried into the workplace for use.
- Self-contained breathing apparatus (SCBA) shall be inspected monthly.

Repairs

Respirators that fail an inspection or are otherwise found to be defective are removed from service, and are discarded or repaired or adjusted in accordance with these procedures:

Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations.

Repairs shall be made using only the respirator manufacturer's NIOSH-approved parts designed for the respirator.

Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed.

Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

Employees shall inspect their respirator carefully and paying particular attention to:

- exhalation valve(s),
- inhalation valve(s),
- tightness of components,
- elasticity of components,
- look for missing components,
- look for cracked components,
- look for missing cartridge gaskets;
- look for damage to cartridges (in particular the seat that seals with the cartridge gasket); and
- ensure that all filters, cartridges and canisters used are labeled and color coded with the NIOSH approval label and that the label is not removed and remains legible.

F.4.m. Respirator Cartridges Changes

Respirator cartridges shall be changed

- in accordance with manufacturer's recommendations, and
- as prescribed by this HASP or Activity Hazard Analysis (AHA).

The change-out schedule for respirator canisters/cartridges will adhere to the following logic. Combination cartridges shall follow the more conservative of criteria for particulate and organic vapors.

For any particulate filtering respirator the cartridge must be changed at least every fifth day of respirator wear, or earlier if breathing becomes difficult due to increased cartridge resistance.

If the potential organic contaminants have a boiling point > 70 °C and the concentration is less than 20 ppm, a service life (for organic vapor cartridges) will be 40 hours at a normal work rate.

If the potential organic contaminants have a boiling point > 70 °C and the concentration is less than 200 ppm, a service life will be 8 hours at a normal work rate.

Any report by an employee (using a well-fitting and properly maintained respirator) that they can detect the odor of vapors while respirator is being used on this schedule will reduce the service life for organic vapor cartridges by 20% for all wearers.

- Note: When humidity is at or above 85%, a 50% reduction in service life will be put into effect until humidity levels are again less than 85%.

F.4.n. Cleaning and Disinfecting.

Cleaning

Whenever respirators are doffed, employees shall wash their faces and respirator facepieces in order to prevent eye or skin irritation. Cleaning shall be accomplished by using soap and water or equivalent cleaning solutions.

Disinfecting requirements

Respirators issued to more than one employee shall be cleaned and disinfected before being worn by different individuals.

Respirators maintained for emergency use shall be cleaned and disinfected after each use.

Respirators used in fit testing and training shall be cleaned and disinfected after each use.

Respirators used by a single individual shall be disinfected at least weekly.

F.4.o. Storage

All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals.

All respirators shall be packed or stored to prevent deformation of the facepiece and exhalation valve.

Emergency respirators shall be:

- kept accessible to the work area;
- stored in compartments or in covers that are clearly marked as containing emergency respirators; and
- stored in accordance with any applicable manufacturer instructions.

F.4.p. IDLH atmospheres

Entry into an IDLH atmosphere is not permitted.

F.4.q. Site Inspections

The site safety officer is responsible for conducting certain site inspections on a routine basis.

Program inspections

Site inspections will be conducted daily.

The site safety officer is responsible for these inspections, including special inspections described in the inspections section of this procedure.

Daily site inspections shall include surveillance of work place conditions. In particular the following conditions shall be assessed.

- potential changes in contaminant concentration,
- changes in employee exposure or stress; and
- respirator effectiveness.

F.5. Heat Stress

The site heat stress program shall be enforced prior during periods when the ambient temperature of 70°F. Training shall be accomplished prior to implementation.

F.5.a. Training.

All site personnel shall be trained in the hazards and controls of heat stress prior to the onset of hot weather. Training will include identifying signs and symptoms of heat stress (e.g., muscle spasms, dizziness, lack of perspiration) in fellow workers and themselves.

F.5.b. Acclimatization.

Personnel become acclimatized in about 7 to 10 days (and lose acclimatization in about the same period of time). Extra attention should be given during transitional weather and to new employees that are not used to heat stressful conditions.

F.5.c. Fluids.

Workers shall be encouraged to increase consumption of water. Cool or cold water shall be used to enhance palatability and consumption. Electrolyte-containing beverages may also be used to encourage consumption.

F.5.d. Shelter.

Shelter from radiant heat (i.e., shade) shall be available for ground laborers exposed to direct sunlight (i.e., radiant heat loading) during conditions of heat stress. Shelter does not necessarily require air conditioning, and air conditioning may actually be uncomfortable for employees working in heat stressful conditions.

F.5.e. Clothing.

Every effort should be made to minimize PPE requirements which may increase the heat stress of personnel without a commensurate gain in personal protection.

F.6. Cold Stress

To minimize cold related illnesses, site supervisors are to be aware of the symptoms and environmental conditions that lead to cold-related illnesses. Appropriate steps shall be taken to take to prevent their occurrence of these illnesses. This procedure describes the causes, symptoms, treatment and/or prevention of cold-related illness.

F.6.a. Thermal Balance.

When the temperature of the surrounding air or water are cooler than the worker, the body's physical processes must increase to maintain thermal balance.

Shivering is the body's attempt to generate increased heat.

F.6.b. Cold Stress Symptoms.

Common (but unreliable) symptoms

Shivering, pain, and numbness, although commonly associated with cold stress, **are not trustworthy indicators** to cold exposures!

The reason you should not trust these is because prolonged cold exposure numbs all body sensations.

If these symptoms are detected, cold stress should be suspected.

The lack of these symptoms **DOES NOT rule out** the possibility of cold stress.

Wind-chill temperature is a better means of evaluation as it takes into account the wind's ability to strip heat from the body through convection.

Water conducts heat away from the body much faster than air. Personnel are especially exposed to a cold stress hazard when performing spill clean-up in boats or around open water in cold weather situations. Falling into cold water can rob body heat very quickly.

Clothing that is wet with perspiration (as well as from water contact) will cause heat loss through conduction.

F.6.c. Cold Injury

Trench Foot.

Cause: Occurs as a result of extended exposure of the feet to cold and moisture.

Injury: Capillary walls of the feet are injured, resulting in tingling, itching and pain.

Recognition: Blisters may form followed by ulceration of the skin.

Frost-Nip.

Cause: Is a localized superficial freezing of extremities such as ears, nose, toes, and fingers.

Injury: Worker experiencing frost nip are susceptible to future injury and should avoid chilling.

Recognition: Initially there is a dark bluish color due to bleeding under the skin which at times can become gangrenous.

Frostbite.

Cause: Frostbite occurs when the moisture in the skin actually freezes, forming ice crystals, resulting in the damage of skin cells. The ears, nose, toes and fingers are most susceptible because of poorer circulation in these areas. The body may shut down flow to the extremities in order to maintain warmth in body core areas.

Injury: Tissues are destroyed when bodily fluids turn to ice. Damaged area can become gangrenous resulting in the loss of tissue, finger tips and toes.

Recognition:

- A burning pain is noted initially, then pain decreases and numbness sets in.
- The injured area becomes red, then blue/red.
- The skin becomes waxy pale in appearance because of lack of oxygen.

Hypothermia.

Cause: Occurs when heat production of the body is not sufficient to replace heat lost to the environment.

Injury: The core body temperature is lowered and the pulse rate slows. Metabolic processes in the body are finely tuned to perform at normal body temperature. As the temperature is lowered, muscular weakness occurs, mental abilities dull and the worker becomes uncoordinated. Cardiac arrest follows if core temperature continues to fall.

Recognition:

- Signs of hypothermia are evident at 95 degrees F body core temperature.
- Consciousness is lost between 89.6 - 86.0 degrees F.
- At lower core temperatures, cardiac arrest is possible.
- Exposure to cold water decreases the body core temperature rapidly and consciousness is quickly lost.
- Workers on or over water should be acutely aware of the danger of immersion during cold weather.
- Hypothermia results in dulling of senses and could result in poor decision making.

F.6.d. Prevention

Training and Recognition.

Prevention of cold stress is, in many ways, similar to preventing heat stress. Training and recognition of the hazard is especially important.

All personnel will receive training on the cause, symptoms, and most importantly, methods of prevention of cold stress injuries.

Clothing.

Prevention of hypothermia and other cold injuries is best accomplished by protecting workers from cold and moisture.

Clothing is the most important factor in prevention of injury.

Personnel working on land should layer clothing with outer layer being wind and water resistant.

The layers should be capable of being vented at wrist, neck and waist to reduce wetting by perspiration.

Protect extremities that have poor circulation.

Keep head and face covered.

Wear insulated foot wear, keep socks dry (bring extra socks as needed).

Gloves are extremely important.

Never allow bare skin to contact metal surfaces at sub-zero temperatures.

Acclimatization.

Do not count on acclimatization.

A limited degree of acclimatization can occur from exposure and working in cold environments.

Some physiological changes do occur but people also learn how to more effectively protect themselves from temperature extremes.

Fluid Replacement.

As with heat stress, blood circulation and heat transfer is critical to dealing with cold temperature extremes.

Cold weather causes significant water loss as a result of the dryness of the air.

Fluid intake should be increased to prevent dehydration which directly affects blood volumes and flow to the extremities.

Warm, sweet, caffeine-free, nonalcoholic drinks and soup offer the best fluid replacement and provide caloric energy.

Work-Rest Regimens.

When temperatures are less than 20 degrees F (actual or windchill) heated warming shelters should be made available.

Workers should use these on regular basis. See Table I at the end of this procedure for guidelines for scheduling breaks.

Diet.

As with any work in extreme temperatures, personnel will be instructed to eat a well-balanced diet to replace calories burned and provide necessary vitamins and nutrients.

Environmental Monitoring.

Regular monitoring of the environment by recording wind speed and actual thermometer readings for comparison to the windchill chart should occur at regular intervals depending on conditions. See Table I at the end of this procedure for wind chill equivalents.

Prohibited Activities.

Alcohol should not be consumed since it increases blood circulation to the skin and interferes with internal thermostatic control. Alcohol also interferes with mental acuity which can lead to risk taking.

Cigarette smoking should be prohibited since the nicotine restricts flow of blood to the extremities.

ACGIH TLV Guidelines:

The current edition of the American Council of Governmental Industrial Hygienists' Threshold Limit Values (TLV) provides a reference on cold stress prevention.

Some of the TLV information is summarized in the following Table I.

F.6.e. Treatment of Injuries

Trench Foot, Frost-nip and Frost Bite.

These injuries require immediate response, including removal of the individual from a cold environment, the gradual warming of the affected areas, having the victim not use the affected limbs, (drive victim or carry, do not allow the victim to walk).

Obtain immediate medical attention as these types of injuries become more severe as exposure progresses.

AVOID RAPID WARMING OF EXTREMITIES.

Hypothermia.

Hypothermia is a life threatening condition that requires immediate response. Remove victim to a warm area. The individual may be disorientated and unable to talk clearly or understand you.

Help the individual to a warm place and wrap them in warm blankets or bathe them (if possible) in warm (not hot) water.

If they are conscious give hot (non-caffeine) liquids to drink.

Summon immediate medical attention. UNTREATED HYPOTHERMIA CAN LEAD TO VENTRICULAR FIBRILLATION (HEART ATTACK) AND DEATH.

F.7. Hazard Communication Program

The Envirocon Program, in its entirety, is located in a separate labeled notebook in the Envirocon Project facility. The notebook is available for review by employees at any time during normal work shift. Envirocon will be responsible for maintaining a copy of their Hazardous Communication Program and MSDSs on site.

F.7.a. Subcontractors

Subcontractors will be responsible for keeping an individual copy of their respective programs.

F.7.b. Material Safety Data Sheets (MSDSs) and Inventory Sheet

MSDSs will be located in a separate labeled notebook in the Envirocon Project Trailer. MSDSs will be available to all employees for review during the work shift.

An inventory sheet identifying all chemicals brought onto the site will be included in the front of the MSDS notebook.

F.7.c. Container Labeling

All containers received on site will be inspected to ensure the following:

- All containers clearly labeled;
- Appropriate hazard warning; and

- Name and address of the manufacturer.

F.7.d. Employee Training and Information

Prior to starting work, each employee will attend a health and safety orientation and will receive information and training on the following: An overview of the requirements contained in the Hazardous Communication Program. This training shall include at a minimum the following:

- Hazardous chemicals brought to the site for the project;
- The location and availability of the written Haz Comm Program;
- Physical and health effects of the hazardous chemicals;
- Methods of preventing or eliminating exposure;
- Emergency procedures to follow if exposed;
- How to read labels and review MSDSs to obtain information; and
- Location of MSDS file and location of hazardous chemical list.

F.7.e. Documentation of Training

Documentation of initial training to the components of the Hazard Communication Program will be maintained in the individual training files maintained on site.

G. SITE SAFETY PROCEDURES

This section addresses safe work practices and task-specific safety procedures that will be used to control hazards on site.

G.1. Code of Safe Work Practices

Every employee has a responsibility to ensure that the program proceeds efficiently and safely. The following procedures constitute the basic safe work practices expected of every employee.

G.1.a. Conducting Yourself in a Responsible Manner

- Perform all tasks in a safe and approved manner.
- Do not direct an air hose at another person. Do not use compressed air to remove debris from clothes, hair, or any part of the body.
- Honor the barricades erected by other contractors on the job site.
- Do not work while your ability or alertness is so impaired by fatigue, illness, or other causes that they might unnecessarily expose yourself or others to injury.
- Workers shall not handle or tamper with any electric equipment in a manner not within the scope of their duties, unless they have received instructions from a qualified, licensed electrician.
- Do not use any form of solvent, gasoline or kerosene for cleaning hands or clothing. Use soap and water or other cleansers intended for the purpose.
- Use handrails when climbing or descending stairs and walkways.
- Do not run, except as necessary in an emergency.
- Do not jump (e.g., climb off equipment using three points of contact, walk down stairs, use platforms to cross trenches).
- Always stand on an approved ladder to remove articles that may out of reach from floor level. Do not stand on chairs, boxes, or other makeshift devices.
- Loose or frayed clothing, loose or hanging long hair, dangling ties, finger rings, etc., shall not be worn around moving machinery or other areas where they may become entangled.
- Do not improperly use, mishandle, or tamper with health and safety equipment and sampling devices.
- Personnel shall not drop or throw any articles or materials of any kind unless a specific procedure has been developed to do so safely.

G.1.b. Participate in Safety Programs

There are a number of ways for you to influence the safety on site. Don't just complain about problems, participate in your own safety.

- Attend each day's work briefing as scheduled.
- Attend all required safety meetings, training, or briefings.
- Complete safety observer reports when you want to make a suggestion, observe a commendable act of safety or quality, take a "time out for safety" to correct an unsafe act or condition.
- Approach every task with incident free performance in mind … ZIP!
- Ask questions when you are uncertain about a procedure or equipment use.
- Participate in the evaluation or investigation of any accident or incident when you are requested to do so.
- If you fear reprisal use the Envirocon safety Hotline 800-224-7389.

G.1.c. Supervisors Play a Leadership Role in Safety

As with all aspects of conducting operations, the supervisor is ultimately responsible for carrying out work in accordance with company policies and procedures, and in accordance with the specifications and applicable regulations.

- Take a leadership role in establishing safety a safety culture on site.
- Give employees frequent accident prevention instruction and encouragement.
- First through encouragement and incentives, ensure that employees observe and obey all applicable Company, State or Federal regulation and order as is necessary to the safe conduct of the work. When necessary, compliance must be compelled using progressive disciplinary measures described in this document.
- Ensure that employees are qualified for the work they are assigned.
- No one shall knowingly be permitted or required to work while the employee's ability or alertness is so impaired by fatigue, illness, or other causes that they might unnecessarily expose the employee or others to injury.
- Daily "tailgate" safety meetings shall be held to discuss safety concerns, instruct on new procedures, and discuss lessons learned from investigations and other related safety topics.
- Encourage and listen to the suggestions of all employees.
- All work shall be thoroughly planned and supervised to prevent injuries in the handling of materials and in working together with equipment.
- Inspect the site daily.
- Investigate all incidents.
- Ensure thorough documentation of all aspects of the safety program.

G.2. Employee Participation

This project has established a variety of procedures to encourage the participation of employee in their own safety. Employee participation includes all Envirocon, and lower tier subcontract personnel.

G.2.a. Training

Training is required for each employee before starting any new task or working in a new area. Training is considered an employee participation process. Employees are encouraged to ask questions and utilize training sessions to familiarize themselves with procedures.

G.2.b. Daily Safety Briefing

Each day's work begins with a safety briefing. These briefings shall be conducted in a manner to encourage employee participation.

Supervisors shall report the plan of the day for all employees. This should include other work that may occur near the project site or impact on project work. Special tasks expected for the day.

- Discuss lessons learned from incidents on this site or others.
- Report and discuss safety observations made by employees.
- Report and discuss times out for safety.
- Discuss employee suggestions.
- Recognize safety performance (good and unsatisfactory).

G.2.c. "Time Out for Safety" Authority

The "time out for safety" authority is intended to encourage employees to take initiative in correcting unsafe conditions or behaviors. Where an unsafe condition or behavior poses an imminent threat that can be readily addresses without a change in procedure or policy, each employee is authorized to correct the situation or report the issue. If the unsafe condition can not be readily corrected, your supervisor should be notified to have it corrected. Examples:

- Stop another employee that is driving into the wrong direction.
- Grab a roll of barrier tape to mark a broken step on a stairway and report it to your supervisor.
- Moving several boxes blocking the access to an eye wash.
- Flagging traffic around a spill until a response crew arrives.

G.3. Safety Procedures for General Labor and Mobilization Tasks

G.3.a. Good Housekeeping

Housekeeping is the hallmark of employees who care about their site and their safety:

- Keep your work area clean and orderly.
- Good housekeeping practices shall be maintained continually.
- Keep work, storage, and access areas clean of tools, equipment, and debris.
- All means of egress shall be kept unblocked, kept clear of debris and slip or trip hazards, kept well lighted, and kept unlocked at times.
- Clean up or otherwise remove slip/trip/fall hazards immediately.

- Do not leave boards with protruding nails or other loose material on the floor where they may be stepped on.
- Keep aisles and walkways clear of electrical and telephone cords.
- Do not overload electrical outlets.
- Electric cords shall not be exposed to potential damage from vehicles.
- Mark or barricade slip/trip/fall hazards that can not be removed.
- Any time work is performed overhead, barricades shall be erected.
- Barricades shall consist of caution (yellow) or danger (red) barricade colors and appropriately worded tape or signs.
- All barricades shall be removed when not in use.

G.3.b. Follow Standard Procedures

Hazardous waste operations involve a number of standard procedures which are particularly important. Make these procedures a habit.

- Use the Buddy System when performing operations in hazardous areas; when working with hazardous contaminants; when physical capabilities may become stressed (heat stress); or working in proximity of operating machinery or equipment.
- Practice contamination-avoidance techniques.
- Enter and exit the Exclusion Zone (EZ) and the Contamination Reduction Zone (CRZ) through designated areas.
- Complete sign-in/out logs when required.
- Do not eat, drink, chew tobacco or gum, smoke, or engage in any other activity that may increase the possibility of hand-to mouth contact in the EZ or the CRZ. (Exceptions may be permitted by the Project Health and Safety Manager (PHSM) for other reasons, such as to allow fluid intake during heat stress conditions.)
- Do not use lighters or matches in the EZ and CRZ.
- Employees under a physician's care and/or taking prescribed narcotics must notify the designated site safety supervisor.
- Lift material in a safe manner and avoid strains. Bend your knees, keep your back straight, and push upwards with your legs when lifting. The lifting of heavy and bulky objects will normally be done by or more shop personnel. Lifting heavy/bulky objects improperly can result in needless injury.
- Get help (mechanical help or more people) when lifting heavy or awkward materials.
- Wear the personal protective equipment (PPE) specified in the site HASP, including hard hats, steel toed boots, and safety glasses that must be worn at all times in active work areas.
- If you are required to wear a respirator, remove facial hair (beards, long sideburns, or mustaches) that may interfere with the satisfactory fit of the respirator mask.

- Use safety devices provided for your protection (e.g., handrails, guards, pressure relief valves, and seat belts). Do not remove these devices while the equipment is being operated.
- Never approach within 25 feet of the operating area of a piece of equipment without first making eye contact with the operator, signaling your intention, and receiving an acknowledgement from the operator. If you wish to approach the equipment (e.g., to speak with the operator) the operator must first lower all buckets, blades, etc. and idle the engine before you approach.
- When ground personnel support heavy equipment, pay particular attention to pinch points (e.g., the counterweight swing radius and the tracks of an excavator). Keep out from under suspended loads.

G.3.c. Follow Safety Procedures

In addition to standard procedures, there will be many site specific procedures to learn and follow. You need to learn these from your task-specific training and follow the procedures. If you feel the procedures are incorrect or inadequate it is improper to take it upon yourself to modify procedures. Ask your supervisor, make suggestions, or raise questions during planning and training.

- Attend, pay attention, and ask questions during procedure training and briefings.
- Implement, adhere to, and follow established rules, guidelines, procedures, plans, etc., as specified.
- Follow proper decontamination procedures.
- Make sure fall protection or fall arrest systems are in place when working at elevations greater than 6 feet above the surrounding work area.
- Follow the work-rest regimens and other practices required by the heat stress program.
- Where appropriate, lockout procedures shall be used.
- Employees shall not work under vehicles supported by jacks or chain hoists without protective blocking that will prevent injury if jacks or hoists should fail.
- Obey all authorized safety signs and demarcations. Do not place or remove these items except as authorized by the Site Health and Safety Supervisor (HSS).
- Become familiar with the on-site hazards, work zones, PPE requirements, and decontamination methods.

G.3.d. Permit Required Procedures

Many of the most important procedures dealing with the most dangerous hazards involve permit requirements to ensure that necessary precautions are taken before work begins. Pay particular attention to these procedures.

- Do not enter a permit-required Confined Space without a permit, and follow all requirements of permits as issued.
- Don't rely on postings to warn you of confined space hazards. When in doubt ask for a permit and testing. Manholes, underground vaults, chambers, certain confining excavations, tanks, silos or other similar spaces may have a confined space hazard.

- Check with your Supervisor prior to starting any Hot Work operation (welding or cutting operations) and, if you are working in an area that requires a Hot Work Permit, follow the permit as issued.
- Depending on the fire hazards at your facility, hot work permits may be required for use of cigarette lighters, electrical equipment that is not intrinsically safe, flash photography, motors, engines, or spark producing metal tools.
- The combination of hot work and confined spaces is particularly dangerous even if you don't plan to enter the space! No burning, welding, or other source of ignition shall be applied to, or near any enclosed tank or vessel, even if there are some openings, until it has first been determined that no possibility of explosion exists and authority for the work is obtained from the foreman or superintendent. This includes small voids too! A sealed can, doubler space, storage compartments or similar small spaces can contain flammable debris or explosive vapors.
- Do not dig or drive objects into the ground without first ensuring that a utility locate has been performed.
- Check excavations daily for slope stability and air quality. Do not enter an excavation unless authorized by the HSS and/or excavation competent person. Maintain safe means access and egress from all excavations.
- Follow lockout/tagout procedures when working on equipment involving moving parts or hazardous energy sources. Install and remove locks and tags only in accordance with procedure and only when authorized.

G.3.e. Use Tools Properly

Tools, especially hand tools, are used frequently with minimal supervision. It can be all to easy to use tools improperly and create serious safety hazards.

Use all tools in the manner intended and/or prescribed. The operating instructions for all tools and equipment *ARE MANDATORY.*

Modification of use or design must be in accordance with the written instructions or permission of the manufacturer.

Do not suspend tools or any other items using electrical cords.

In locations where the use of a portable power tool is difficult, the tool shall be supported by means of a rope or similar support of adequate strength.

Air hoses shall not be disconnected at compressors until the hose line has been bled.

Inspect safety devices before every use including but not limited to:

respirators,

personal protective equipment,

body harnesses,

lanyards,

monitors,

fire extinguishers,

confined space retrieval systems (not the same as fall protection harnesses), and

manbaskets.

Inspect other tools and equipment before use.

Inspect power tools, looking especially for damaged insulation or missing ground plugs on electrical cords.

Inspect cutting devices looking especially for properly sharpened and guarded edges.

Inspect hand tools look especially for chisels, hammers and punches with mushroomed heads; files without handles, and hammers with broken handles.

Do not use defective equipment.

Don't leave defective equipment in service for others to use. Remove it from service and report the problem to your supervisor.

At a minimum, defective equipment must be tagged out of service.

Use a red tag placed near starting switches or levers.

Describe the reason the equipment is tagged out.

Write your name and the date on the tag.

Alternatively, defective equipment can be taken out of service by destruction and disposal.

Use ground fault circuit interrupters (GFCI) for cord and plug equipment used outdoors, in damp locations, or when equipment is not plugged directly into permanent wiring.

Use only extension cords rated for hard service or junior hard service (e.g., SO, JSO, SOW, JSOW). A UL label on a local hardware store flat cord is probably *NOT* rated for this service!

Keep electrical cords out of walkways and accumulations of water unless protected and rated for such service.

G.3.f. Operate Equipment Safely

All equipment is to be operated in accordance with manufacture's written instructions and/or manuals.

Equipment shall not be modified or operated out of specified limits without written permission from the manufacturer and the health and safety manager for the project.

Only trained and authorized persons shall operate machinery or equipment.

Do not operate equipment unless you are properly trained and authorized to do so in a manner consistent with the owner/operators manual.

DO NOT use a piece of equipment, which has been tagged out of service! Do not remove red tags without authorization from the person placing the tag or the person responsible for the repairs.

Inspect equipment before using it.

Heavy equipment inspections shall be documented. Note all discrepancies and tag out equipment that may be dangerous to operate.

Red tags must have a description of the reason for the tag, the name of the person placing the tag, and the date the tag was applied.

Machinery shall not be serviced, repaired, or adjusted while in operation, nor shall oiling of moving parts be attempted, except on equipment that is designed or fitted with safeguards to protect the person performing the work.

Use vehicle or equipment seat belts any time the vehicle or equipment is in motion.

Excavating equipment shall not be operated near tops of 'cuts, banks, or cliffs if employees are working below.

Do not maneuver equipment into the working area of other equipment without first making eye contact with the operator working in the area and signaling your intentions to maneuver into that area.

Always acknowledge that you understand that other equipment or ground personnel may enter your working area.

Do not allow people on foot to approach without lowering hydraulically lifted or suspended components (e.g., buckets, blades, bellies) and reducing engine speed to idle.

Tractors, bulldozers, scrapers, and carryalls shall not operate where there is a possibility of overturning in dangerous areas such as the edges of deep fills, cut banks, and steep slopes.

Do not allow supporting ground personnel to work within pinch points of the equipment (e.g., the swing radius of a counterweight and the tracks on an excavator) or under suspended loads.

G.3.g. Be Prepared for Incidents

Become familiar with the emergency response plan so that you can respond properly in an emergency.

Become familiar with the locations and types of emergency equipment, such as fire extinguishers, emergency showers, or air horns.

Report all incidents to your supervisor immediately!

Participate fully and truthfully in incident investigations.

G.4. Intrusive Work (including excavations and drilling)

The OSHA standards for excavation safety (29 CFR 1926, Subpart P) shall be followed at all times during excavation activities. Excavations include "any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal." This standard applies regardless of the depth of the excavation, for example utility locates should be done at any depth.

G.4.a. Excavations (5 feet or deeper that personnel will be entering)

In excavations 5 feet deep or deeper, a competent person shall ensure that the following requirements are met.

Table G.4.a Excavation Sloping Requirements

SOIL OR ROCK TYPE	EXAMPLES	MAXIMUM ALLOWABLE SLOPES HORIZONTAL TO VERTICAL FOR EXCAVATIONS LESS THAN 20 FEET DEEP(1)
Stable Rock		Vertical (90 Degrees)
Type A Cohesive	Clay, Hardpan, Silty Clay	3/4 : 1 (53 degrees)
Type B Cohesive/Granular	Silt, Unstable Rock, sandy Loam, Fissured type A	1 : 1 (45 degrees)
Type C Granular	Gravel, Submerged, Loamy, Sand	1.5 : 1 (34 degrees)

(1) Excavations greater than 20 feet deep must be designed by a PE.

Provide safe access and egress. This includes ladders or ramps. In trenches, a point of egress must be within 25 feet at all times while in the trench. Ramps shall be sloped so as not to require the use of hands to walk out of the excavation.

Employees must be protected from cave-ins.

In trench excavations the competent person must have all sides sloped in accordance with OSHA requirements on either side of the trench where personnel are working.

In excavations, at a minimum, employees within a distance equal to the depth of a cut face shall be protected. Where employees are in excavating equipment, at a minimum, the equipment shall not undercut a face in such a way that the cab is closer than the height above the cab.

Alternative protections, specified by OSHA include trench boxes or shoring.

In excavations where employees may be required to enter, excavated or other materials shall be effectively stored and retained at least 2 feet or more from the edge of the trench.

G.4.b. Water

Whenever, groundwater may be encountered; a specific classification and slope adjustment will be made on site by the Competent Person. At a minimum an additional 1/2 to 1 slope will be added if flowing conditions are encountered at the toe of the slope where personnel are working.

G.4.c. General Excavation Practices

In excavations with potential airborne vapor hazards, where employees may be required to enter shall have the atmosphere tested before each entry and as conditions change.

Employees exposed to vehicular traffic shall be provided with and instructed to wear warning vests made of reflective or high visibility materials.

All employees in trenches shall wear the appropriate PPE, e.g., hard hats, safety glasses, hard-toed boots, etc.

No employees will be permitted under loads.

Dust conditions shall be kept to a minimum in accordance with the project dust control plan.

Where employees or equipment are allowed to cross over excavations, all walkways and/or bridges will have guardrails.

Adequate barrier protection will be provided at remotely located excavations (e.g., reflective cones or sawhorse barriers).

Each excavation must be inspected daily. If evidence of cave-ins or slides is apparent, all work in the excavation must cease until necessary precautions have been taken to safeguard employees.

Where vehicles or equipment operate near excavations or trenches, the sides of the excavation must be shored or braced as required to withstand the forces exerted by the superimposed load.

G.4.d. Utility Lines

Utility lines, both above and below ground, must be addressed in any excavation activity regardless of depth.

Be aware and always suspect the existence of underground utilities such as electrical power, gas, petroleum, telephone, sewer and water. Underground utilities are a concern at any depth.

Overhead and buried utilities should be located, noted and emphasized on all excavation and work plans (regardless of depth of excavation). Post warning barricades on the ground along the line of excavation in order to alert excavating equipment approaching overhead utilities.

When excavating within 6 feet of buried utilities, first locate and mark the expected location. Due to the inaccuracies of locating, hand digging (i.e., potholing) will be used to visually confirm the utility location before using heavy equipment.

When excavating within 6 feet of underground utilities, a spotter shall be used to assist mechanical excavating equipment in locating utilities.

When excavating within 5 feet of underground electrical, phone, flammable gas/liquid lines de-energize the lines. Hand-excavation shall be conducted when at 2-feet or less from the utility.

The requirements above should be taken as a minimum. High volume or high pressure mains should be given a wider margin. Fiber-optical lines should be given additional margin. High pressure or high volume water lines should be approached in the same manner as "more dangerous" utilities.

Overhead Utilities.

> When overhead electrical power lines exist at or near an excavation site, consider all wires to be alive and dangerous. Support overhead utility lines as necessary. Overhead electrical lines may induce a current without actually touching the lines. Be sure to maintain clearances from electrical lines of 50 kV or greater in accordance with 29 CFR 1926.550(a)(15). Place ground markers to indicate overhead hazards as well as those below ground.

G.4.e. Competent Person.

The excavation competent persons are assigned in the organization and key personnel section earlier in this document. The excavation competent person is authorized to, and shall take prompt action to correct unsanitary, hazardous, or dangerous working conditions. Other responsibilities include (but are not limited to):

The competent person will supervise each utility locate procedure to ensure proposed areas for excavation are checked.

The competent person will directly oversee all operations and be present on site at all times while employees are in the excavation.

The competent person will make a daily inspection of the excavation area before each shift begins, after any changes in the excavation area or after a rainstorm.

The competent person will ensure that personnel in excavations will not work under suspended loads.

The competent person will ensure that work activities on the surface of the excavated area will be restricted to prevent working above personnel.

The competent person will ensure that banner guard and barriers will be placed across public access to the excavation areas at night to protect and warn personnel as necessary.

The competent person will ensure that personnel exposed to high traffic areas will wear high visibility vests; orange for daytime and reflective for night operations.

G.5. Falling and Tripping Hazards

G.5.a. Falls--Housekeeping and Materials Storage.

All material shall be stored in a manner that will ensure that the material is safe from unexpected movement, falling, rolling, blowing, or any other uncontrolled motion.

Materials and supplies shall be kept away from edges of floors, stairways and access/egress routes (36 inches minimum).

Forms and scrap lumber with protruding nails and all other debris shall be cleared from work areas, passageways, stairs, and in and around buildings or other structures.

Tripping hazards, protruding nails, oil slicks, scrap materials and other hazardous conditions occurring during the course of the job shall be eliminated as work progresses.

Tools and equipment shall not be strewn about where they might cause tripping or falling hazards and shall, at the end of each workday, be collected and stored or disposed of as appropriate.

All food waste and oily/greasy rag containers shall be equipped with tight closing lids.

G.5.b. Falls--Slippery Surfaces, Unstable Surfaces, Uneven Terrain

Wet conditions on the site caused by rain and/or work activities are likely to be encountered during the project.

Employees will be informed of the hazards associated with walking on slippery and or uneven surfaces.

Mark or remove trip hazards.

Proper foot wear will be provided to all employees involved with work activities during these conditions.

When possible, pedestrian traffic will be redirected around potentially dangerous areas.

Everyone should keep the work area and other areas where people may walk clean and orderly.

Tools, debris, and other objects should not be left on the floor, decking, or other areas where they present hazards during a job or after a job is completed.

Oil spills and slippery spots shall be cleaned up immediately.

Extra precautions should be taken when walking on steel decking during wet/icy weather and/or oily conditions.

Never walk on piping, never take dangerous shortcuts, and avoid jumping from elevated places.

G.5.c. Falls--Ladders

Personnel must visually inspect each ladder for defects before use, defective ladders shall not be used.

When working from a ladder, wear fall protection if work requires your body to extend past the margins of the ladder sides.

While ascending or descending a ladder, carry nothing which will prevent holding onto the ladder with both hands in order to maintain three-points of contact at all times.

Metal ladders will not be used if there are any existing or potential electrical hazards in the work area.

All ladders must be securely tied off or secured by an attendant while the ladder is in use.

When working from ladders, work facing the ladder with both feet on the rungs.

Workers shall not stand with their waist above the top step of a ladder without wearing a safety belt that is securely tied off to a local structure.

Short ladders shall not be spliced together to make a longer ladder.

The base of the ladder must be set back a safe distance from the vertical; approximately one-fourth the working length of the ladder.

G.5.d. Falls--Fall Protection Working from Elevated Surfaces

Duties involving heights greater than 6 feet above the ground include:

Utilize fall protection or restraint system as described in the Envirocon Fall Protection Program.

Append a task specific AHA to this plan to specify type and design of fall protection system on a case by case basis.

G.5.e. Illumination

Light plants or other sources of light shall be used as necessary to maintain the requirements described in Table D-65.1 of 29 CFR 1926.65.

G.6. Portable Tools

G.6.a. Deadman switches

Portable electrical power tools will be equipped with constant pressure switches or controls that will shut off power when the pressure is released.

G.6.b. Guards

All tools will be equipped with appropriate guards, the guards will be properly adjusted, and the guards will be replaced if they are damaged.

G.6.c. Field Modifications

Table D-65.1 of 29 CFR 1926.65: Illumination of Work Areas

Foot Candles	Area of Operations
5	General Site Areas
3	Excavation and waste areas, accessways, active storage areas, loading platforms, refueling, and field maintenance areas.
5	Indoors: Warehouses, corridors, hallways, and exitways.
5	Tunnels, shafts, and general underground work areas. (Exception: minimum of 10 foot-candles is required at tunnel and shaft heading during drilling, mucking, and scaling. Mine Safety and Health Administration approved cap lights shall be acceptable for use in the tunnel heading.
10	General shops (e.g., mechanical and electrical equipment rooms, active storerooms, barracks or living quarters, locker or dressing rooms, dining areas, and indoor toilets and workrooms.
30	First aid stations, infirmaries, and offices.

Hand/Powered tools may be used only for their intended purpose. The design or guard capacity shall not be exceeded or circumvented by unauthorized attachments or modifications.

G.6.d. Electrical

All portable electrical powered tools shall be double insulated or grounded.

Ground Fault Interrupters (GFCIs) will be used with all outdoor temporary wiring.

Power tools shall be hoisted or lowered by a hand line; never by the cord or hose.

G.7. Fire Prevention

G.7.a. Extinguishers

Extinguishers will be readily available on site. At a minimum, extinguishers will be places as follows. (Extinguishers of greater size or inclusive types may be substituted).

Heavy Equipment will be equipped with a 5 # ABC fire extinguisher rated at 2-A:10-B:C.

Fuel depots and flammable liquid storage/handling areas

20# ABC fire extinguishers with a rating of 2-A:40-B:C will be provided within 75 feet of, but no closer than 25 feet to, all refueling depots and flammable storage areas.

10# ABC fire extinguishers with a rating of 2-A:40-B:C will be provided within 75 feet of, but no closer than 25 feet to, all mobile fueling stations, flammable liquid transfer areas, and generators.

Trailers, buildings and work areas

All trailers and work areas will have at least a 5 # ABC fire extinguisher rated at 2-A:10-B:C.

Extinguishers in trailers will be mounted near a clear evacuation egress point (door).

Extinguishers on site will be located at the primary entrance to the work area.

Smoke detectors will be mounted in all occupied trailers.

Access routes to fire extinguisher shall be kept clear at all times.

All fire extinguishers shall be inspected monthly and serviced annually.

G.7.b. Fighting Fires

Personnel are authorized to fight fires in the beginning stages of development and only to the extent that they judge this can be done safely. Personnel are not required to fight fires.

When a fire is detected, first ensure that the area is safely evacuated and the supervisor is being notified so that the fire department can be summoned.

Ensure your own evacuation route before attempting to extinguish a fire.

If more people or more extinguishers are needed, the effort should be abandoned.

G.7.c. Facility Systems

A task-specific procedure will be developed where project work (such as demolition) potentially jeopardizes facility systems.

Facility managers will generally be notified when any work is done on any facility systems such as fixed fire suppression systems for buildings, or where excavations encroach on facility systems such as fire hydrants or related piping.

When excavating or performing demolition near facility systems, the facility systems should be uniquely marked to avoid damaging these systems.

Facility fire hydrants shall not be used without notification and permission of the facility manager or designated representative.

G.7.d. Flammable Liquids, Fuels and Fueling

Protection of depots

Depots will be located in such a manner as to provide clear access for fire trucks.

Depots will be protected from damage from vehicle or equipment damage using bollards, bails, curbs or similar devices.

Portable containers

All portable fuel cans shall be free of deformities which threaten the integrity of the container.

All flammable storage cans of 1 gallon capacity or greater shall have self closing lids and flame arresters (i.e. safety cans).

All flammable storage containers shall be labeled as to their contents, and shall include a warning regarding flammable contents.

Gasoline engines shall not be fueled while the engine is running.

G.7.e. Containments

All equipment shall be fueled through funnels or spouts that prevent spillage. All spouts and funnels must be of metal construction.

NFPA flammables (e.g., gasoline) will not be stored in the same containment as NFPA combustibles (diesel fuels).

Containers and depot tanks in excess of 5 gallons will be held or stored in containments designed to collect spillage.

Covered containments must be capable of containing a volume equal to:

the capacity of the largest tank, plus

the combined displaced volumes of all tanks and containers stored in the containment.

Uncovered containments must be capable of containing a volume equal to:

the capacity of the largest tank, plus

the combined displaced volumes of all tanks and containers stored in the containment, plus

25 percent excess capacity for rain collection.

Uncovered containments will be kept free of standing water.

Water in excess of 5% containment capacity will be pumped off within a 48 hour period.

Water will not be discharged onto the ground unless free of visible residues or films.

Bonding and grounding

Any transfer of a flammable liquid from one container to another requires bonding from one container to the other.

All flammable fuel depot tanks set up on site will be grounded.

G.7.f. Smoking, Fire and Hotwork

Hotwork permits shall be issued for all applicable hot work according to facility requirements.

Smoking and hot work will not be allowed within 50 feet of fuel depots or other flammable liquid storage and/or transfer areas.

Fuel depots or other flammable liquid storage and/or transfer areas will be posted against smoking, open flames, or hot work.

Oily rags storage

Oily rags, trash and other combustible scrap materials shall be placed in closed receptacles separate from other trash.

Oily rags shall be stored in containers approved for this purpose.

G.7.g. Welding, Cutting, and Hotwork

General

All welding and hotwork will be done in accordance with Envirocon's Health and Safety Procedures 11.0 and 12.0;

Fire Watch

> A fire watch shall be maintained for at least 30 minutes after completion of welding/cutting operations so that possible smoldering fire can be detected and extinguished.
>
> Fire watch personnel shall be instructed in the selection and use of appropriate fire extinguishers.
>
> Fire watch personnel shall be familiar with facilities and the procedures to be followed in the event of a fire. They watch for fires in all exposed areas and attempt to extinguish fires only when obviously within the capacity of the equipment available.
>
> The requirement for a fire watch may be waived when, after completion of the Welding, Cutting, and Heating Permit, it has been determined that there is no possibility of sparks, slag, hot material, etc., coming into contact with flammable or combustible solids, vapors, liquids, or residues.

G.8. Lifting Heavy Objects

Heavy objects will be lifted using appropriate machinery or enough manpower as is required. Employees will be specifically instructed to seek assistance in lifting heavy objects.

G.8.a. Before Lifting:

Determine if the object can be moved by some other means (mechanical device).

Determine if the object is too bulky and would obscure vision; if so, get another person to help carry it. When handling material with others, everyone should agree on who will act as leader and give the signals. Loads should not be released until everyone is ready. Teamwork is important.

Determine if the object is within the lifter's capability (a preliminary "heft" will indicate this).

Determine if the footing around the object is solid.

G.8.b. Lifting

Legs should be bent at knees, back nearly vertical, body as close to the object as possible, feet apart but not further than shoulder width. Take a firm hold and straighten knees. Back is still straight and upright. Pull load close to body and lean back slightly to keep center of gravity over feet.

Avoid twisting the body when lifting or carrying loads.

i.

G.9. Sanitation and Hygiene

G.9.a. Drinking Water

An adequate supply of potable water will be provided on site.

Portable water containers will be capable of being tightly closed and equipped with a tap.

Water shall not be dipped from containers for drinking purposes. Single service, disposable drinking cups will be provided.

No one shall place any objects (e.g. soda pop, ice tea, etc.) in coolers.

G.9.b. Restrooms and Hygiene Facilities

From Table D-65.2 of 29 CFR 1926.65	
Number of Employees	Minimum Number of Facilities
20 or fewer	One.
21 to 199	One toilet seat and one urinal per 40 employees
200 or more	One toilet seat and one urinal per 50 employees

Toilet facilities (sanitary sewer w/flushing toilets, chemical toilets, recirculating toilets, or combustion toilets) including hand washing stations will be provided in accordance with 29 CFR 1926.65(n) and Table D-65.2.

H. RECORDKEEPING

The health- and safety-related documents for the project will be handled in the following manner:

H.1. Training and Safety Meeting Records

Certificates of completion for all mandatory training for Envirocon and lower tier subcontractor employees will be maintained on site at this site. Minutes for safety and health meetings, including daily safety briefings, will also be maintained on site. These records are located in Envirocon's Safety Trailer office.

H.2. Injury/Illness

Copies of "Supervisor's Report of Injury or Illness" will be maintained on site. Envirocon's official OSHA 200 log is maintained at the Corporate office. See the emergency procedures below for accident reporting procedures. A first aid log will be used to document first aid cases as described below in the log keeping section.

H.3. Accident Reports

Accident investigation reports will be maintained on site. All injuries will be reported to the client as well. See the emergency procedures below for accident reporting procedures.

H.4. Employee Exposure Data

Detailed exposure monitoring records will be made available to the employees monitored. General information, without personal information will be made available to all members of the crew on site. After the project is completed, these records will be archived for at least 40 years.

H.5. Medical Surveillance Records

All medical records received on site will be forwarded to the corporate office after review. No medical records will be maintained on site; Fitness For Duty forms, however, will be available on site for all personnel.

H.6. Written Programs

Written programs for compliance with the OSHA standards, such as respiratory protection, hearing conservation, and certain chemical exposure are maintained on the site as well as at the corporate office.

H.7. Health and Safety Plans

At least one copy of the plan and any amendments will be maintained on site.

H.8. Employee Access

All employees have a right to access most of the documents related to health and safety. Medical and training records are available only to individuals requesting their own records. Employees can receive copies of their medical records or air monitoring exposure records upon written request. Medical information can only be released upon the written consent of the individual.

H.9. Health and Safety and Related Logs

The health and safety officer is responsible for maintaining logs of health and safety activities, including safety inspections.

H.9.a. Health and Safety Log

This is a bound log of daily inspections and health and safety issues kept by the project health and safety officer.

H.9.b. First Aid Log

Employees are required to report all injuries and illness regardless of how minor the incident may seem. These reports shall be documented on an injury/illness report form, or in the project first aid log where diagnosis and treatments involve only simple first aid diagnosis and/or treatments.

Treatment/diagnosis by 3rd party EMTs, physicians, nurses, or other medical professionals shall be reported using the injury/illness reporting procedures. Determination of OSHA recordability/first-aid shall be determined by the Corporate Director of Health and Safety in these cases.

This First Aid Log is a log of all reported injuries and/or illnesses reported to supervisors and/or the health and safety officer. This log shall document the report, date, name of the injured employee, nature of the injury/illness, diagnosis and the treatment given.

If no treatment is given the incident shall still be noted in the log. This shall include any dispensing of first aid supplies or administered by a supervisor, safety officer or other first aid trained employee.

Non-work related injuries/illness reports and use of prescription drugs should also be noted in this log.

Self-medication by employees with respect to non-prescription (i.e., Over The Counter (OTC)) pharmaceuticals unrelated for colds headaches or other non-work related ailments need not be documented.

I. INCIDENT AND EMERGENCY PROCEDURES.

This section documents procedures to be followed in the event of incidents and certain emergencies. Where possible these have been formatted to individual sheets for response training and ready reference when needed.

I.1. General Emergency Procedures

This subsection describes procedures which are common to a variety of incidents.

I.1.a. Responsibilities

The site supervisor is responsible for the overall conduct of emergency procedures. This includes maintaining an orderly succession of supervision; making necessary reports to all concerned parties; ensuring that the causes of accidents are identified and corrected; and ensuring that injured personnel (with or without life threatening injuries) are escorted to medical treatment by the site safety officer or other supervisory personnel.

The HSO has the responsibility for ensuring that the provisions of this HASP are adequate and implemented in the field. Changing field conditions may require decisions to be made concerning adequate protection procedures. The HSO is also responsible for conducting site inspections on a regular basis to ensure the emergency readiness. The HSO shall be notified of any on-site emergencies and shall be responsible for ensuring that the appropriate procedures are followed.

I.1.b. First Aid

First Aid Kits are located in each Envirocon pickup, trailer; and decon facility.

A first aid trained individual will be on site at all times.

Emergency eye wash and showers will be located at the decon facility.

I.1.c. Evacuation Procedures

The site safety officer shall select and maintain appropriate assembly points for evacuations. The primary point of evacuation will be to the Envirocon personnel decontamination facility. At least one secondary assembly point shall be established by the safety officer and shall generically be an upwind point if fire or imminent release emergency would arise. General emergency directions include:

Turn off equipment whenever possible. Avoid leaving hazardous conditions in the process of evacuating.

Evacuate in the safest direction indicated by wind, smoke, fire, or other hazards.

Take a head count and report to the supervisor.

Do not leave the assembly area without reporting to the supervisor.

I.2. Reporting and Investigating Incidents

All incidents at the site shall be reported. It is hoped that most incidents will be small and/or near misses. It is essential that these events be reported as well more serious incidents in order to learn from them and avoid the more serious accidents.

I.2.a. Project and Facility Requirements

An incident is defined as follows:

- A work-related injury or illness
- An exposure to a hazardous substance above the allowable exposure limit
- Property/vehicle/equipment damage
- A uncontrolled fire or explosion
- An unplanned spill or release (including air releases) to the environment
- A permit exceedence
- Any unexpected contact or damage to aboveground or below ground utilities
- A "near miss" or an unplanned event that has a reasonable probability in resulting in one of the outcomes described above had the circumstances been different and for which modifications to management programs will reduce the probability of occurrence or the severity of the outcome.

I.2.b. Reporting Incidents

Report all unplanned, unexpected, events or changes in conditions. Some examples include:

Personnel incidents such as:

injuries,

illnesses,

first aid cases,

fights or other acts or threats of violence,

fatalities, or

any personnel injuries or incidents which might be the result of acts of other contractors, subcontractors, or facility personnel.

Accidents such as:

motor vehicle accidents (with or without damages),

equipment accidents (with or without damages), or

property damage (including fires).

New, previously unknown, or unexpected potential hazards such as:

buried drums, cylinders, or hazardous materials containers,

unusual soil conditions (e.g., previously disturbed soils, soils with unusual odors, soils with unusual coloration),

floating contaminants (e.g., oil, chemicals, or sheens on water).

Environmental incidents such as:

oil or chemical spills,

Unauthorized personnel in work areas such as:

unauthorized workers on site,

unescorted public visitors,

media personnel, or

unescorted government visitors.

I.2.c. Procedures for Reporting Incidents

First Responder's Report

If your work is involved with the incident of interest, STOP WORK IMMEDIATELY!

Ensure the safety of the area from any imminent hazards.

Report to your immediate supervisor by radio or phone if at all possible.

If you must leave the area to make a report, find someone to help secure the area if at all possible.

Supervisors

Control imminent hazards as necessary.

Ensure that injuries are being taken care of, and assign someone to escort injured employees leaving the site for medical evaluation/treatment.

Ensure that the area is adequately secured.

Ensure that the scene is not further disturbed.

Visit the accident scene as soon as possible.

Interview injured workers and witnesses as soon as possible.

Reporting requirements

Report all incidents verbally to the client as soon as the area has been secured.

Follow up with a written report before the close of business.

Follow up with a written investigation report within 48 hours.

I.3. Personnel Injury

I.3.a. First Aid

The PM (or senior supervisor on site) and/or HSO shall ensure necessary first aid or medical attention is obtained. First aid shall be provided by qualified first aid providers or EMTs.

If personnel need medical evaluation, ensure that a safety officer or supervisor is assigned to escort the employee.

Do not allow injured personnel to drive themselves unless a doctor determines they are fit to do so.

If a doctor prescribes medication determine if that medication limits ability to drive. Do not allow employees to drive themselves if the medication impacts on driving safety. (If an employee wants to drive themselves and has been prescribed medication that will impact on driving safety the employee can wait to take the medicine at home if the doctor allows this.)

I.3.b. Hazard Assessment

The PM (or senior supervisor on site) and/or HSO shall immediately investigate the nature and cause of injury in order to assess the hazard to ongoing site work. This should include consideration of working short handed if the injured person can not resume work right away. It is the senior supervisor's responsibility to stop work if necessary to make corrective changes.

I.4. Heavy Weather

I.4.a. High Winds

Outdoor equipment operations for non-intrusive activities will be suspended at wind speeds of 35 mph for 15-minutes, any gust of 55 mph or when dust control measures are no longer effective. Soil intrusive activities including excavation, truck loading or unloading, crane operations, work with sheet materials (e.g., liners); or work with large profile materials will be stopped at 25 mph.

I.4.b. Lightning.

Outdoor operations will be suspended when lightning is within a 5 second count of the site (i.e., the time difference between seeing a lightning strike and hearing the sound). High profile equipment operations shall be suspended when lightning is within 15 seconds of the site. Safety officer may halt activities for lightning up to a 25-seconds away if fast approaching storms or multiple severe strikes are in evidence.

High profile operations include crane operations, drilling operations, or electrical wiring tasks.

Equipment operators shall stop their equipment and park it safely before heading for shelter.

No personnel will be left on the ground in an exposed location.

Preferred shelter is a permanent building. Personnel may also take shelter in trailers or low profile rubber tired equipment (e.g., pickups). Avoid driving pickups or any other equipment except to help evacuate personnel.

Work will resume after a 15-minute period without lightning.

I.4.c. Phone Threats

This includes bomb threats, threats against personnel, threats of violence or any other threatening communications made by phone or radio.

Do not hang up.

- Try to remain calm. It is important not to hang up on threatening callers. This may provoke an act of violence.

Listen carefully to background noises or conversations.

Take notes on the callers exact words if possible.

Try to get someone else to report the call immediately to the phone company on another line before the caller hangs up.

Report the call immediately to the senior Envirocon supervisor on site.

DO NOT discuss the call with anyone else.

The Envirocon supervisor shall immediately bring the call to the attention of the senior client's representative.

The senior supervisors from Envirocon and the client's project manager shall be responsible for determining if an evacuation will be called.

I.4.d. Rescue

Notify someone.

Put into effect the established emergency rescue procedures.

Know the locations of the emergency rescue equipment before the need arises.

I.5. Emergency Contacts for Site*

Position/Agency	Person/Radio	Phone
Fire Department		**Emergency 911**
Ambulance		**Emergency 911**
Police		**Emergency 911**
Envirocon Project Manager	Jeff Mikell	(801) 554-2461
Envirocon Project Superintendent	Brian Vibbert	(406) 546-9551
Health and Safety Supervisor	Doug Tisdell	(406) 544-6883
Envirocon Corp. Dir Health & Safety	Joe Ocken	(406)-523-1194
Envirocon Corp Ofc. Missoula, MT		(406) 523-1150
ENVIROCON SAFETY HOTLINE:		800-224-7389
Libby Police Department 203 Mineral Ave, Libby, MT 59923		(406)-293-3343
Lincoln County Sheriff Department		(406)-293-7781
St. Johns Lutheran Hospital 350 Louisiana Avenue Libby, MT 59923		(406)-293-0100
Agency for Toxic Substances and Disease Registry (ATSDR) chemical exposures		(404)-639-0615 (emergency) (404)-639-6360 / 6000 (non-emergency)

Appendix A: Voluntary Employee's Emergency Information Data Sheet

Last name _____ First Name _____

The following information is being gathered to help us respond to an emergency. **All questions are optional.** You may answer any of the questions you like or leave any blank. The original copy is sent to the Corporate safety office, and a copy will be maintained on site. If the information provided changes, you should submit a new sheet.

Emergency Contacts (name as many as you like)

In the event of an emergency who should we contact to let them know? _____

_____

What City and State do they live in? _____ phone number? _____

What is their relationship to you? _____

Emergency Contact for YOU !

How can we get in touch with you for project recalls, shutdowns, emergencies etc.?

_____

Where are you staying while on site? _____

What is the phone number there? _____

Medical Conditions

Are you alergic to any medications? ❑yes/❑no.

What are they? _____

Are you alergic to insect bites or stings? ❑yes/❑no.

What are they? _____

Do you carry treatments or medicine(s) (e.g., insulin, sugar/candy/food, bee sting kits) that needs to be given in an emergency? ❑yes/❑no.

What are they? _____

Where is it kept? _____

Are you or do you have:

- ❑yes/❑no: Hypertension (Is it uncontrolled? ❑yes/❑no)
- ❑yes/❑no: Asthma (Is it uncontrolled? ❑yes/❑no)
- ❑yes/❑no: Diabetes (Is it uncontrolled? ❑yes/❑no)
- ❑yes/❑no: Hypoglycemia
- ❑yes/❑no: Epilepsy/seizures
- ❑yes/❑no: Fainting spells
- ❑yes/❑no: Irregular heart beat
- ❑yes/❑no: Narcolepsi (sleeping spells)

Safety Officer's Notes:

Shop Drawing Review Letter

Kennedy/Jenks Consultants

32001 32nd Avenue South, Suite 100
Federal Way, WA 98001-9625
253-874-0555
253-952-3435 (Fax)
www.KennedyJenks.com

To: Envirocon
4381 Highway 2 West
PO Box 649
Libby, MT

ATTENTION: Jeff Mikkel

DATE: 10 September 2004
SERIAL NO.: 002
SPEC. REF.: 01300
PROJECT: BNSF Libby Yard Response Action 2004
K/J JOB NO.: 046022.11
SUBMITTAL NO.: 01300-2
PAGE: 1 of 1

A. The action(s) noted below have been taken on the enclosed drawing(s).

NET = No Exceptions Taken
MCN = Make Corrections Noted
A&R = Amend and Resubmit
RR = Rejected, Resubmit
NR = Not Reviewed

Item	*K/J Action*	*Refer to Comment*	*Manufacturer or Supplier*	*Title of Submittal / Drawing*
002	NET	No	Not Applicable	Schedule

Comment: None

Discussion: None

B. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for: confirming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction, coordinating its work with that of all other trades, and performing its work in a safe and satisfactory manner.

DISTRIBUTION		SDRL	ENCL.
Envirocon	Jeff Mikkel	x	x
Project Coordinator:	Dick Guglomo	x	x
Construction Manager	Dave Diem	x	x
Resident Engineer:	Brent Sowle	x	x
File		x	x

By: Chuck Soule

ENVIROCON

4381 Highway 2 West
PO Box 649
Libby, MT 59923
TEL (406) 293-8659
FAX (406) 293-45145

SUBMITTAL/ TRANSMITTAL

Date: 9/1/04	Submittal #: 002
Project: BNSF Libby Rail Yard Response Action - 2004 Project No. 14560	Revision #:
To: Kennedy/Jenks Consultants 32001 32nd Avenue South, Suite 100 Federal Way, Washington 98001 ATTN: Charles Soule	Specification Section/Drawing No. 01300 Subject:

We are sending via: X Hand Delivery o Mail o Federal Express o UPS

o Enclosed o Separately

SECTION NO.	SPECIFICATION NAME	DESCRIPTION OF SUBMITTAL	COMMENTS
01300	Submittals	Preliminary schedule	3 copies

Envirocon Representative JM MJM

Title Project Manager

SHOP DRAWING REVIEW
S.D. 002 No. 01300-2
ACTION
Subject to all provisions of Project Plans and Specifications
X NO EXCEPTIONS TAKEN | AMEND & RESUBMIT
MAKE CORRECTIONS NOTED NO RESUBMISSION REQUIRED | REJECTED RESUBMIT
Kennedy/Jenks Consultants
By [illegible] Date 9/9/04
RECEIVED SEP 1 2004
K/J Federal Way

Action Taken

☐ ..... Approved As Submitted

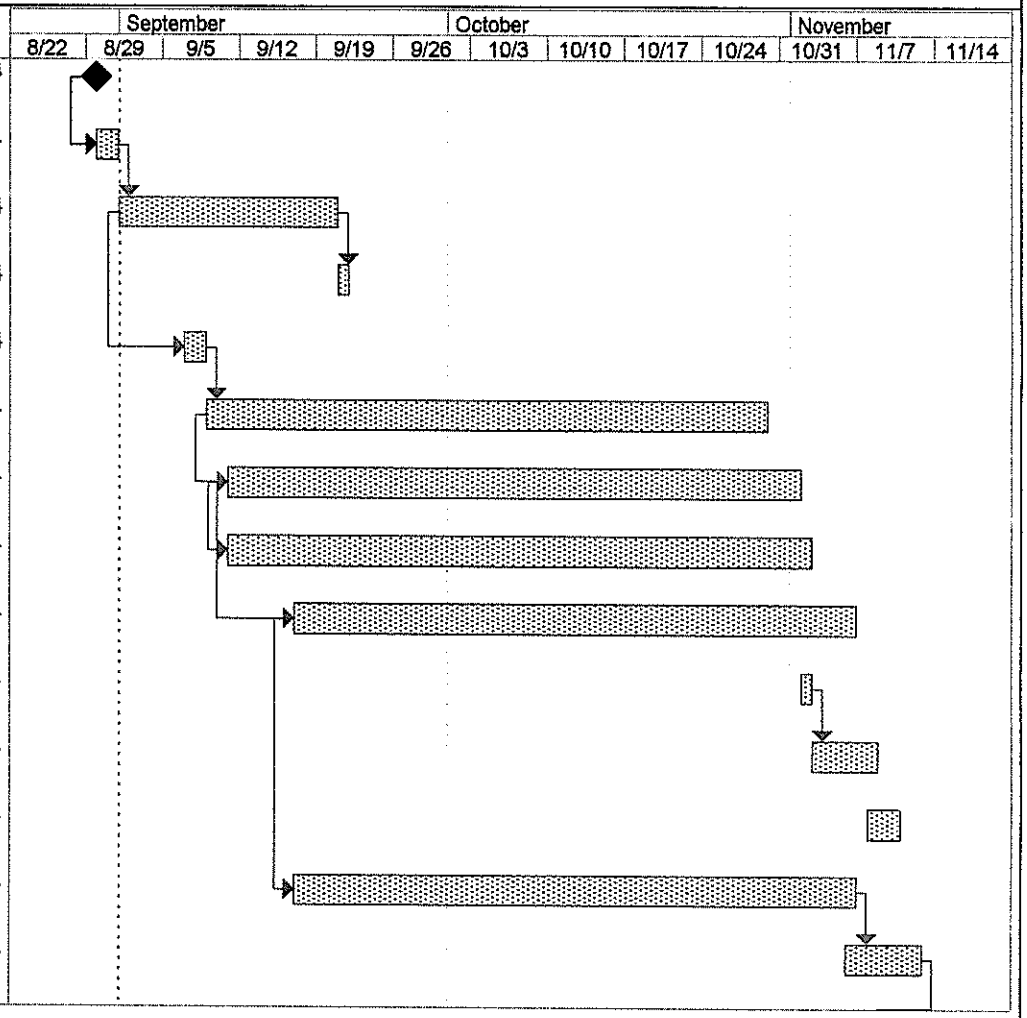
☐ ..... Approved As Noted (see notes/exceptions)

☐ ..... Rejected (re-submittal required)

By_____ Date
Engineer

BN/SF Libby Rail Yard Removal Action

ID	Task Name	Duration	Start	Finish
1	Notice to Proceed Construction	1 d?	Mon 8/30/04	Mon 8/30/04
2	Rail Removal Contractor Mob	2 d	Mon 8/30/04	Tue 8/31/04
3	Phase 1 Rail Removal	15 d	Wed 9/1/04	Mon 9/20/04
4	Partial Demob	1 d	Tue 9/21/04	Tue 9/21/04
5	Excavation Crew/Equipment Mob	2 d	Tue 9/7/04	Wed 9/8/04
6	Tie Removal	44 d	Thu 9/9/04	Fri 10/29/04
7	Excavate Contaminated Soils and Trans	44 d	Sat 9/11/04	Mon 11/1/04
8	Owner Confirmation Sampling	45 d	Sat 9/11/04	Tue 11/2/04
9	Excavate Clean Subballast	44 d	Fri 9/17/04	Sat 11/6/04
10	Phase 2 Track Removal Mob	1 d	Tue 11/2/04	Tue 11/2/04
11	Phase 2 Track Removal	5 d	Wed 11/3/04	Mon 11/8/04
12	Demo Scalehouse	3 d	Mon 11/8/04	Wed 11/10/04
13	Backfill Subballast	44 d	Fri 9/17/04	Sat 11/6/04
14	Clean Up and Demob	6 d	Sat 11/8/04	Fri 11/12/04

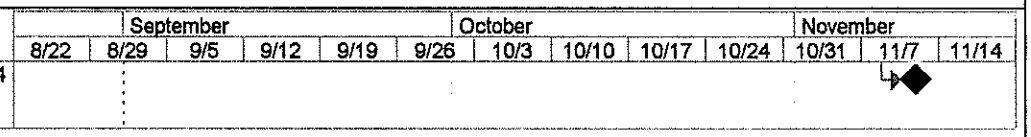


Project: Project2
Date: Wed 9/1/04

Task	Rolled Up Task	External Tasks	
Critical Task	Rolled Up Critical Task	Project Summary	
Progress	Rolled Up Milestone	Group By Summary	
Milestone	Rolled Up Progress	Deadline	
Summary	Split		

BN/SF Libby Rail Yard Removal Action

ID	Task Name	Duration	Start	Finish
15	Project Complete	1 d	Fri 11/12/04	Fri 11/12/04



Project: Project2
Date: Wed 9/1/04

Task		Rolled Up Task		External Tasks	
Critical Task		Rolled Up Critical Task		Project Summary	
Progress		Rolled Up Milestone		Group By Summary	
Milestone		Rolled Up Progress		Deadline	
Summary		Split			

Submittal No. 3 (Schedule of Values) was rejected. It was resubmitted as Submittal No. 7, which was accepted.

Shop Drawing Review Letter

Kennedy/Jenks Consultants

32001 32nd Avenue South, Suite 100
Federal Way, WA 98001-9625
253-874-0555
253-952-3435 (Fax)
www.KennedyJenks.com

TO: Envirocon
4381 Highway 2 West
PO Box 649
Libby, MT

ATTENTION: Jeff Mikkel

DATE: 10 September 2004
SERIAL NO.: 004
SPEC. REF.: 01300
PROJECT: BNSF Libby Yard Response Action 2004
K/J JOB NO.: 046022.11
SUBMITTAL NO.: 01300-4
PAGE: 1 of 1

A. The action(s) noted below have been taken on the enclosed drawing(s).

NET = No Exceptions Taken
MCN = Make Corrections Noted
A&R = Amend and Resubmit
RR = Rejected, Resubmit
NR = Not Reviewed

Item	*K/J Action*	*Refer to Comment*	*Manufacturer or Supplier*	*Title of Submittal / Drawing*
004	NET	No	Not Applicable	Superintendent Resume

Comment: None

Discussion: None

B. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for: confirming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction, coordinating its work with that of all other trades, and performing its work in a safe and satisfactory manner.

DISTRIBUTION		SDRL	ENCL.
Envirocon	Jeff Mikkel	x	x
Project Coordinator:	Dick Guglomo	x	x
Construction Manager	Dave Diem	x	x
Resident Engineer:	Brent Sowle	x	x
File		x	x

By: Chuck Soule

ENVIROCON

4381 Highway 2 West
PO Box 649
Libby, MT 59923
TEL (406) 293-8659
FAX (406) 293-45145

SUBMITTAL/ TRANSMITTAL

Date: 9/1/04	Submittal #: 004
Project: BNSF Libby Rail Yard Response Action - 2004 Project No. 14560	Revision #:
To: Kennedy/Jenks Consultants 32001 32nd Avenue South, Suite 100 Federal Way, Washington 98001 ATTN: Charles Soule	Specification Section/Drawing No. 01300 Subject:

We are sending via: X Hand Delivery o Mail o Federal Express o UPS

o Enclosed o Separately

SECTION NO.	SPECIFICATION NAME	DESCRIPTION OF SUBMITTAL	COMMENTS
01300	Submittals	Designation of Superintendent	3 copies

Envirocon Representative J.H. Mills

Title Project Manager

SHOP DRAWING REVIEW
S.D. 004 No. 01300-4
ACTION
Subject to all provisions of Project Plans and Specifications
X NO EXCEPTIONS TAKEN | AMEND & RESUBMIT
MAKE CORRECTIONS NOTED NO RESUBMISSION REQUIRED | REJECTED RESUBMIT
RECEIVED
Kennedy/Jenks Consultants
SEP 1 2004
By C Soule Date 9/9/04
K/J Federal Way

Action Taken

☐ ..... Approved As Submitted

☐ .....Approved As Noted (see notes/exceptions)

☐ .....Rejected (re-submittal required)

By_____ Date
Engineer

BRIAN VIBBERT

TITLE Safety Supervisor/Construction Superintendent

EXPERIENCE

Mr. Vibbert has 12 years experience in construction management in a safety supervisory role, superintendent role, or combination of each. His primary experience is Occupational Health and Safety managing large construction projects and specializing in industrial hygiene, compliance research, Activity Hazard Analysis (AHA) development, and written program and procedure development for occupational hazards in general industry and construction. His experience also includes duel role positions as safety supervisor and superintendent, or solely superintendent roles on several major construction sites.

His selected project experience includes:

- Construction superintendent for the demolition of a coke plant in Kemmerer, Wyoming. Scope included hazardous materials abatement and demolition services. This included a hazardous materials survey, removal, and proper disposal of all hazardous/toxic materials (asbestos, mercury switches, light fixtures/bulbs, cleaning supplies, waste oil, lubricants, etc.) remaining on site; removal and proper disposal of all process equipment, structures, and buildings to grade level; removal and disposal of all above ground utilities including 5 miles of overhead power lines and poles; sump closures; and the excavation and management of on-site disposal cells for non-salvageable debris.

- Site Safety Supervisor and construction superintendent for a conversion of 72 miles of railroad into a recreation bicycle and hiking trail in Northern Idaho. The project included the removal and salvage of 64 miles of rail and ties, excavation and transportation to a repository of 110,000 cubic yards of contaminated rail bed material, installation of 59 culverts, erosion repair, riprap construction, precast concrete bridge construction, and backfill of 78,000 cubic yards of structural fill. This included decontaminating over 180,000 railroad ties. The rail bed was ripped, compacted, and reconstructed using over 120,000 cubic yards of crushed gravel. A 53 mile length of trail was paved with asphalt, with the remaining 19 miles being completed with crushed gravel. The work involved coordination with numerous agencies including EPA, Corps of Engineers, Idaho DEQ, Idaho Department of Parks and Recreation, IDOT, the Coeur d'Alene Indian tribe, and three county governments.

- Site foreman for the residential portion of reclamation work at the Triumph Mine Site in Triumph, Idaho. The project involved the regrading and capping two tailings piles, regrading and capping an approximately 400,000 cubic yard waste rock pile, construction of a geosynthetic-lined pond within the waste rock pile to store mine discharge water, and a 30 property residential yard removal.

- Site Safety Supervisor and QA/QC for the grading and stabilization of Class IV residue at a former zinc refinery site in Bartlesville, Oklahoma. The refinery produced various metals from the refining of zinc concentrates, secondary materials, and other zinc rich materials. The scope of work included the excavation, hauling, stabilization, and placement of three types of on-site materials, 68,800 cubic yards of geothite, 39,800 cubic yards of hot tower precipitate (HTP), and 23,000 cubic yards of contaminated pond sediments. The contaminants of concern for the above materials were lead, arsenic, cadmium, and zinc.

- Site Safety Supervisor on multi-year project overseeing employees and subcontractors performing remediation work on a remote copper and cobalt mine. Work consisted of heavy equipment operations removing over 400,000 cubic yards of mine tailings; construction of diversion ditches, pipe installation, two clay-core dams (100' and 160' high) with grout curtains, elaborate drain system through capped tailings, sediment containment ponds, roads and 4500' of concrete creek channels. Duties consisted of: site security, air monitoring, site specific and HAZWOPER training, daily safety meetings, first aid provider on secluded job sites; maintaining all compliance documentation; accident investigations, and traffic control for all main and haul roads.

BRIAN VIBBERT (Cont.)

- Site Safety Officer/foreman on a demolition project overseeing asbestos removal operations. Duties consisted of daily industrial hygiene surveys for asbestos, employee training, site monitoring, and fit testing respirators.

- Site Safety Officer on a Superfund site overseeing safety and industrial hygiene for the stabilization and removal of 2,500 drums of contaminated waste, 1600' slurry wall installation, and the excavation and remediation of contaminated sludge and wood waste. Duties consisted of: site security, daily air monitoring, performing daily safety meetings, maintaining all compliance documentation, work plan writing and development, purchasing and maintaining all levels of personal protective and safety equipment, fit testing respirators, traffic control, and first aid.

- Site Safety Officer for a major construction company overseeing 80+ union ironworkers for the demolition and renovation of an elevated railroad. Work consisted of removing designated track structure, demolition of elevated concrete track foundation, replacement of foundation, track, and ties. Primary regulations included Lead exposure and fall protection. Duties consisted of employee training; maintaining all compliance documentation; administering and tracking medical and Lead monitoring program; fit testing respirators, site and traffic monitoring, on-site inspections, air monitoring for employees, and first aid training.

- Safety Consultant responsible for writing and implementation of Corporate Safety and Health programs. Program implementation and training material included hazard communication, confined space entry procedures, electrical safety programs, bloodborne pathogen programs, record keeping program analysis, respirator protection programs, lockout/tagout programs and procedures, and emergency action and fire exit plans.

- Emergency Medical Technician with a volunteer ambulance service responsible for training all volunteers in hazard communication, and bloodborne pathogens. This included fit testing HEPA respirators, accounting for all protective equipment, maintaining all safety compliance documentation, and overseeing safety on all vehicle accidents, rescues, and fires.

EDUCATION

B.S., Occupational Safety and Industrial Hygiene, Millersville University

TRAINING/CERTIFICATIONS

40-Hour Hazardous Waste Operations Training
32-Hour Asbestos Worker
8-Hour Hazardous Waste Operations Supervisors' Training
30-Hour Construction Safety
National Registered Emergency Medical Technician
Radiation Worker Level II Training

Address
Libby Home Address- Two Bit Trailer Park, Highway 2 West
Cell Phone- 406-546-9551

Submittal No. 5 (Type 2 Subballast gradation) was rejected. It was resubmitted as Submittal No. 6, which was accepted.

Shop Drawing Review Letter

Kennedy/Jenks Consultants

32001 32nd Avenue South, Suite 100
Federal Way, WA 98001-9625
253-874-0555
253-952-3435 (Fax)
www.KennedyJenks.com

TO: Envirocon
4381 Highway 2 West
PO Box 649
Libby, MT 59923

ATTENTION: Jeff Mikkel

DATE: 22 September 2004
SERIAL NO.: 006
SPEC. REF.: 02302.1.03
PROJECT: BNSF Libby Yard Response Action 2004
K/J JOB NO.: 046022.11
SUBMITTAL NO.: 02302-2
PAGE: 1 of 1

A. The action(s) noted below have been taken on the enclosed drawing(s).

NET = No Exceptions Taken
MCN = Make Corrections Noted
A&R = Amend and Resubmit
RR = Rejected, Resubmit
NR = Not Reviewed

Item	*K/J Action*	*Refer to Comment*	*Manufacturer or Supplier*	*Title of Submittal / Drawing*
006	NET	No	Remp Sand and Gravel	Type 2 subballast gradation

Comment: None

Discussion: None

B. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for: confirming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction, coordinating its work with that of all other trades, and performing its work in a safe and satisfactory manner.

DISTRIBUTION		SDRL	ENCL.
Envirocon	Jeff Mikkel	x	x
Project Coordinator:	Dick Guglomo	x	x
Construction Manager	Dave Diem	x	x
Resident Engineer:	Brent Sowle	x	x
File		x	x

By: Chuck Soule

ENVIROCON

4381 Highway 2 West
PO Box 649
Libby, MT 59923
TEL (406) 293-8659
FAX (406) 293-45145

RECEIVED
SEP 21 2004
K/J Federal Way

SUBMITTAL/ TRANSMITTAL

Date:	9/1/04	Submittal #:	006
Project:	BNSF Libby Rail Yard Response Action - 2004 Project No. 14560	Revision #:	1
To:	Kennedy/Jenks Consultants 32001 32nd Avenue South, Suite 100 Federal Way, Washington 98001 ATTN: Charles Soule	Specification Section/Drawing No.	02302.1.03.
		Subject:	

We are sending via: X Hand Delivery o Mail o Federal Express o UPS

o Enclosed o Separately

SECTION NO.	SPECIFICATION NAME	DESCRIPTION OF SUBMITTAL	COMMENTS
01300	Earthwork	Type 2 subballast gradation	Remp Sand & Gravel - 8 copies

Envirocon Representative J.H. Mill Title Project Manager

SHOP DRAWING REVIEW
S.D. 006 No. 02302-2
ACTION
Subject to all provisions of Project Plans and Specifications
X NO EXCEPTIONS TAKEN | AMEND & RESUBMIT
MAKE CORRECTIONS NOTED NO RESUBMISSION REQUIRED | REJECTED RESUBMIT
Kennedy/Jenks Consultants
By C. Soule Date 9/22/04

Action Taken

☐ ..... Approved As Submitted

☐ .....Approved As Noted (see notes/exceptions)

☐ .....Rejected (re-submittal required)

By_____ Date
Engineer

GRADATION

SIEVE ANALYSIS

DATE: 9.15.04

JOB # REMP SAND & GRAVEL PROJECT: 3/4" CRUSHED

TESTING REQUIRED ON SAMPLE T11 & T27 INSPECTO DJK

SAMPLE GROSS WT., WET (gm)	7050.0
SAMPLE GROSS WT., DRY (gm)	7050.0
CONTAINER TARE WEIGHT (gm)	658.0
NET WEIGHT SAMPLE (gm)	6392.0

SAMPLE % MOISTURE	0.0
% SAMPLE PASSING #200	10.4

sieve size	1"	3/4"	1/2"	3/8"	1/4"	#4	#8	#10
weight retained	0.0	0.0	0.0	1706.0	0.0	1282.0	0.0	0.0
percent retained	0.0	0.0	0.0	26.7	0.0	20.1	0.0	0.0
percent passing	100.0	100.0	100.0	73.3	73.3	53.2	53.2	53.2
specification	N/A							

sieve size	#16	#30	#40	#50	#80	#60	#100	#200
weight retained	1381.0	0.0	0.0	0.0	0.0	0.0	1179.0	200.0
percent retained	21.3	0.0	0	0	0	0	18.4	3.1
percent passing	31.9	31.9	31.9	31.9	31.9	31.9	13.5	10.4
specification	N/A							

Shop Drawing Review Letter

Kennedy/Jenks Consultants

32001 32nd Avenue South, Suite 100
Federal Way, WA 98001-9625
253-874-0555
253-952-3435 (Fax)
www.KennedyJenks.com

TO: Envirocon
4381 Highway 2 West
PO Box 649
Libby, MT

ATTENTION: Jeff Mikkel

DATE: 29 September 2004
SERIAL NO.: 007
SPEC. REF.: 02302.1.03
PROJECT: BNSF Libby Yard Response Action 2004
K/J JOB NO.: 046022.11
SUBMITTAL NO.: 01300-5
PAGE: 1 of 1

A. The action(s) noted below have been taken on the enclosed drawing(s).

NET = No Exceptions Taken
MCN = Make Corrections Noted
A&R = Amend and Resubmit
RR = Rejected, Resubmit
NR = Not Reviewed

Item	*K/J Action*	*Refer to Comment*	*Manufacturer or Supplier*	*Title of Submittal / Drawing*
007	NET	No	Not Applicable	Envirocon Schedule of Values

Comment: None

Discussion: None

B. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for: confirming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction, coordinating its work with that of all other trades, and performing its work in a safe and satisfactory manner.

DISTRIBUTION		SDRL	ENCL.
Envirocon	Jeff Mikkel	x	x
Project Coordinator:	Dick Guglomo	x	x
Construction Manager	Dave Diem	x	x
Resident Engineer:	Brent Sowle	x	x
File		x	x

By: Chuck Soule

ENVIROCON

4381 Highway 2 West
PO Box 649
Libby, MT 59923
TEL (406) 293-2727
FAX (406) 293-2729

RECEIVED
SEP 21 2004
K/J Federal Way

SUBMITTAL/ TRANSMITTAL

Date:	9/20/04	Submittal #:	007
Project:	BNSF Libby Rail Yard Response Action - 2004 Project No. 14560	Revision #:	1
To:	Kennedy/Jenks Consultants 32001 32nd Avenue South, Suite 100 Federal Way, Washington 98001 ATTN: Charles Soule	Specification Section/Drawing No.	01300
		Subject:	

We are sending via: X Hand Delivery o Mail o Federal Express o UPS

o Enclosed o Separately

SECTION NO.	SPECIFICATION NAME	DESCRIPTION OF SUBMITTAL	COMMENTS
01300	Submittals	Schedule of Values	3 copies

Envirocon Representative [signature] Title Project Manager

SHOP DRAWING REVIEW
S.D. 007 No. ~~06~~ 01300-5
ACTION
Subject to all provisions of Project Plans and Specifications
X NO EXCEPTIONS TAKEN | AMEND & RESUBMIT
MAKE CORRECTIONS NOTED NO RESUBMISSION REQUIRED | REJECTED RESUBMIT
Kennedy/Jenks Consultants
By [signature] Date 9/29/04

Action Taken

☐ ..... Approved As Submitted

☐ .....Approved As Noted (see notes/exceptions)

☐ .....Rejected (re-submittal required)

By _____ Date
Engineer

ENVIROCON, INC
SCHEDULE OF VALUES
BNSF LIBBY RAIL YARD RESPONSE ACTION - 2004

BURLINGTON NORTHERN & SANTA FE RAILWAY COMPANY
ATTN: DAVE SMITTH
139 NORTH LAST CHANCE GULCH
HELENA, MT 59601

INVOICE #:
DATE:
INVOICED THROUGH:

SOV ITEM #	DESCRIPTION OF WORK	CONTRACT AMOUNT	CONTRACT UNIT PRICE	CONTRACT UNITS	UNIT	UNITS COMPLETED THIS INVOICE	UNITS COMPLETED PRIOR PERIOD	UNITS COMPLETED TO DATE	TOTAL COMPLETED THIS INVOICE	TOTAL COMPLETED PRIOR PERIODS	TOTAL COMPLETED TO DATE	%	BALANCE TO COMPLETE
A1.1	**MOBILIZIZATION & DEMOBILIZATION**	**$25,300.00**	**$25,300.00**	**1**	**LS**								**$25,300.00**
A1.2	**HAZWOPPER TRAINING**	**$1.00**	**$1.00**	**1**	**LS**								**$1.00**
A2	HEALTH AND SAFETY	$13,500.00	$13,500.00	1	LS								$13,500.00
A3	TRACK REMOVAL	-$1,540.00	-$0.11	14,000	SF								-$1,540.00
A6	ORANGE BARRIER FENCE INSTALLED	$6,390.00	$1.42	4,500	LF								$6,390.00
A7	CONNECTION TO EXISTING FIRE HYDRANT	$1,705.00	$1,705.00	1	LS								$1,705.00
A8	PPE SIGN	$170.00	$170.00	1	EA								$170.00
A9	RESET TREADS DECON PAD	$2,272.00	$2,272.00	1	LS								$2,272.00
B1	MOBILIZIZATION & DEMOBILIZATION & INSURANCE	$88,600.00	$88,600.00	1	LS								$88,600.00
B2	HEALTH AND SAFETY	$76,650.00	$76,650.00	1	LS								$76,650.00
B3	DECON PAD CONSTRUCTION & DEMO	$15,880.00	$15,880.00	1	LS								$15,880.00
B4	PLACE GEOTEXTILE FABRIC	$9,450.00	$0.03	315,000	SF								$9,450.00
B5	REMOVE TIES WITHOUT WASHING AND LOAD	$62,550.00	$6.95	9,000	EA								$62,550.00
B6	REMOVE TIES, WASH AND STORE	$70,650.00	$7.85	9,000	EA								$70,650.00
B7	EXCAVATE & DISPOSE OF CONTAMINATED SOIL	$169,400.00	$12.10	14,000	TONS								$169,400.00
B7A	EXCAVATE & DISPOSE OF CLEAN SOIL	$95,400.00	$5.30	18,000	TONS								$95,400.00
B8	PLACE CLEAN IMPROT SUBBALLAST	$48,000.00	$3.20	15,000	TONS								$48,000.00
B9A	ORANGE BARRIER FENCE INSTALLED	$3,040.00	$1.90	1,600	LF								$3,040.00
B9B	REMOVE ORANGE SAFETY FENCE	$2,196.00	$0.36	6,100	LF								$2,196.00
B10	DEMOLISH TRACK SCALE AND HOUSE	$14,500.00	$14,500.00	1	LS								$14,500.00
B11	DISPOSE OF CONTRACTOR SUPPILED ITEMS AND PPE	$620.00	$620.00	1	LS								$620.00
B12	OVERFLOW PIT AT THE DECONTAMINATION PAD	$1,856.00	$1,856.00	1	LS								$1,856.00
D1	HYDROSEEDING	$1,500.00	$0.06	25,000	SF								$1,500.00
D2	DEDUCT FOR AWARD SHEDULE A AND B	-$50.00	-$50.00	1	LS								-$50.00
D3	REMOVE CLEAN SUITABLE SUBGRADE SOIL TO LCL	$5.30	$5.30	1	TONS								$5.30
D5	SILTATION FENCE	$3.41	$3.41	1	LF								$3.41
	TOTAL	$708,048.71											$708,048.71

Engineer Approval _____ Date _____

Appendix F

Documentation of Material Taken to Asbestos Cell at Lincoln County Landfill

TABLE F-1

Summary of Soil Hauled to Asbestos Cell
Lincoln County Landfill
BNSF Libby Railyard Response Action 2004

Week	Weekly Tons	Weekly Cu. Yards
9/6/2004	NA	4.00
9/13/2004	1,018.38	636.49
9/20/2004	2,833.79	1,771.12
9/27/2004	3,032.74	1,895.46
10/4/2004	675.49	422.18
10/11/2004	3,594.03	2,246.27
10/18/2004	1,704.95	1,065.59
Total	**12,859.38**	**8,041.11**

TABLE F-2

Soil Hauled to Asbestos Cell at Lincoln County Landfill
BNSF Libby Railyard Response Action 2004
Weeks of 6 September and 13 September 2004

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
9/9/2004	NA	NA	NA	NA	Estimate	4.00
Week of 6 September - 1 half load, as test					NA	4.00

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
9/15/2004	1006	27080	42540	15460	7.73	4.83
9/15/2004	1007	27080	47520	20440	10.22	6.39
9/15/2004	1010	24020	43460	19440	9.72	6.08
9/15/2004	1011	22680	45660	22980	11.49	7.18
9/15/2004	1013	26960	48360	21400	10.7	6.69
9/15/2004	1014	24020	45440	21420	10.71	6.69
9/15/2004	1015	22640	41840	19200	9.6	6.00
9/15/2004	1016	24020	44960	20940	10.47	6.54
9/15/2004	1018	22640	43860	21220	10.61	6.63
9/15/2004	1019	26960	48240	21280	10.64	6.65
9/15/2004	1020	24020	45180	21160	10.58	6.61
9/15/2004	1021	22640	44060	21420	10.71	6.69
9/15/2004	1023	26960	48720	21760	10.88	6.80
9/15/2004	1024	24020	45440	21420	10.71	6.69
9/15/2004	1025	22640	42280	19640	9.82	6.14
9/15/2004	1026	26720	48560	21840	10.92	6.83
9/15/2004	1027	24020	45340	21320	10.66	6.66
9/15/2004	1029	22640	50560	27920	13.96	8.73
9/15/2004	1030	26720	49400	22680	11.34	7.09
9/15/2004	1031	24020	46560	22540	11.27	7.04
9/15/2004	1032	22640	44400	21760	10.88	6.80
9/15/2004	1033	26720	48000	21280	10.64	6.65
9/15/2004	1034	24020	44800	20780	10.39	6.49
9/15/2004	1036	22640	46040	23400	11.7	7.31
9/15/2004	1037	26720	49220	22500	11.25	7.03
9/15/2004	1038	24020	44660	20640	10.32	6.45
9/15/2004	1039	22640	44240	21600	10.8	6.75
9/15/2004	1040	26720	49280	22560	11.28	7.05
Total =		688620	1288620	600000	300	187.50

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
9/16/2004	1041	22640	44020	21380	10.69	6.68
9/16/2004	1043	24020	43900	19880	9.94	6.21
9/16/2004	1044	25440	40620	15180	7.59	4.74
9/16/2004	1045	22640	46440	23800	11.9	7.44
9/16/2004	1046	24020	44880	20860	10.43	6.52
9/16/2004	1047	25440	40540	15100	7.55	4.72
9/16/2004	1049	22640	44080	21440	10.72	6.70
9/16/2004	1050	24020	49100	25080	12.54	7.84
9/16/2004	1051	25440	40860	15420	7.71	4.82
9/16/2004	1052	22640	45180	22540	11.27	7.04
9/16/2004	1053	24020	47200	23180	11.59	7.24
9/16/2004	1054	25440	40920	15480	7.74	4.84
9/16/2004	1055	22640	46280	23640	11.82	7.39
9/16/2004	1056	24020	49460	25440	12.72	7.95
9/16/2004	1057	25440	41280	15840	7.92	4.95
9/16/2004	1058	22640	47860	25220	12.61	7.88
9/16/2004	1059	24020	47400	23380	11.69	7.31
9/16/2004	1060	25440	40320	14880	7.44	4.65
9/16/2004	1061	22640	45200	22560	11.28	7.05
9/16/2004	1062	24020	46720	22700	11.35	7.09
9/16/2004	1063	25440	40900	15460	7.73	4.83
9/16/2004	1064	22640	45580	22940	11.47	7.17
9/16/2004	1065	24020	47380	23360	11.68	7.30
9/16/2004	1066	25440	40460	15020	7.51	4.69
9/16/2004	1067	22640	44600	21960	10.98	6.86
9/16/2004	1068	24020	45480	21460	10.73	6.71
9/16/2004	1069	25440	39940	14500	7.25	4.53
9/16/2004	1070	22640	45700	23060	11.53	7.21
9/16/2004	1071	24020	49500	25480	12.74	7.96
9/16/2004	1072	25440	42260	16820	8.41	5.26
9/16/2004	1073	22640	46180	23540	11.77	7.36
9/16/2004	1074	24020	48060	24040	12.02	7.51
9/16/2004	1075	25440	41600	16160	8.08	5.05
9/16/2004	1076	22640	45220	22580	11.29	7.06
9/16/2004	1078	22640	46660	24020	12.01	7.51
9/16/2004	1079	25440	40360	14920	7.46	4.66
9/16/2004	1080	24020	48640	24620	12.31	7.69
Total =		887840	1650780	762940	381.47	238.42

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
9/17/2004	1081	22640	45500	22860	11.43	7.14
9/17/2004	1082	24020	48520	24500	12.25	7.66
9/17/2004	1083	22640	46580	23940	11.97	7.48
9/17/2004	1084	24020	50360	26340	13.17	8.23
9/17/2004	1085	22640	44820	22180	11.09	6.93
9/17/2004	1086	24020	47460	23440	11.72	7.33
9/17/2004	1087	22640	44300	21660	10.83	6.77
9/17/2004	1088	24020	48220	24200	12.1	7.56
9/17/2004	1089	22640	43100	20460	10.23	6.39
9/17/2004	1090	24020	45720	21700	10.85	6.78
9/17/2004	1091	22640	44360	21720	10.86	6.79
9/17/2004	1092	24020	48800	24780	12.39	7.74
9/17/2004	1093	22640	43520	20880	10.44	6.53
9/17/2004	1094	24020	45200	21180	10.59	6.62
9/17/2004	1095	22640	45520	22880	11.44	7.15
9/17/2004	1096	24020	46580	22560	11.28	7.05
9/17/2004	1097	22640	47500	24860	12.43	7.77
9/17/2004	1098	24020	48280	24260	12.13	7.58
9/17/2004	1099	25440	41980	16540	8.27	5.17
9/17/2004	1100	22640	50340	27700	13.85	8.66
9/17/2004	1101	24020	48060	24040	12.02	7.51
9/17/2004	1102	25440	42520	17080	8.54	5.34
9/17/2004	1103	22640	50080	27440	13.72	8.58
9/17/2004	1104	24020	48460	24440	12.22	7.64
9/17/2004	1105	25440	41840	16400	8.2	5.13
9/17/2004	1106	22640	44900	22260	11.13	6.96
9/17/2004	1107	24020	47940	23920	11.96	7.48
9/17/2004	1108	25440	41420	15980	7.99	4.99
9/17/2004	1109	22640	44920	22280	11.14	6.96
9/17/2004	1110	24020	45360	21340	10.67	6.67
Total =		708340	1382160	673820	336.91	210.57
Grand Total, Week of 13 September 2004					1,018.38	636.49

TABLE F-3

Soil Hauled to Asbestos Cell at Lincoln County Landfill
BNSF Libby Railyard Response Action 2004
Week of 20 September 2004

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
9/20/2004	1111	20840	36560	15720	7.86	4.91
9/20/2004	1113	24360	48460	24100	12.05	7.53
9/20/2004	1114	22520	46960	24440	12.22	7.64
9/20/2004	1115	24360	45700	21340	10.67	6.67
9/20/2004	1117	22580	47980	25400	12.7	7.94
9/20/2004	1118	20640	38140	17300	8.65	5.41
9/20/2004	1119	24360	49600	25240	12.62	7.89
9/20/2004	1120	22520	45160	22640	12.82	8.01
9/20/2004	1121	20640	38640	17800	8.9	5.56
9/20/2004	1122	24360	49100	24740	12.37	7.73
9/20/2004	1123	22520	45480	22960	11.48	7.18
9/20/2004	1124	20840	38700	17860	8.93	5.58
9/20/2004	1125	24360	45480	21120	11.06	6.91
9/20/2004	1126	22520	46700	24180	12.09	7.56
9/20/2004	1127	20640	36260	15420	7.71	4.82
9/20/2004	1128	24360	46600	22240	11.12	6.95
9/20/2004	1129	22520	48720	24200	12.1	7.56
9/20/2004	1130	20640	34760	13920	6.96	4.35
9/20/2004	1131	24360	45180	20820	10.41	6.51
9/20/2004	1133	22520	45700	23180	11.59	7.24
9/20/2004	1133	20840	34620	13780	6.89	4.31
9/20/2004	1134	24360	46900	22540	12.27	7.67
9/20/2004	1135	22520	45120	22600	11.3	7.06
9/20/2004	1136	20840	35220	14380	7.19	4.49
9/20/2004	1137	24360	46900	22540	11.27	7.04
9/20/2004	1138	22520	43660	21140	10.57	6.61
9/20/2004	1139	20840	33320	12480	6.24	3.90
9/20/2004	1140	24360	43660	19300	9.65	6.03
9/20/2004	1141	22520	44100	21580	10.79	6.74
9/20/2004	1142	20840	35480	14640	7.32	4.58
9/20/2004	1143	24360	45620	21260	10.63	6.64
9/20/2004	1144	22520	47620	25100	12.55	7.91
9/20/2004	1145	20640	36720	15280	7.64	4.96
9/20/2004	1146	24360	47840	23480	11.74	7.34
9/20/2004	1147	22520	45120	22600	12.8	8.00
9/20/2004	1148	22520	47300	24780	12.39	7.74
9/20/2004	1149	20840	36080	15220	7.61	4.76
9/20/2004	1150	24360	48680	24320	12.16	7.60
9/20/2004	1151	25300	46260	20960	5.48	3.43
9/20/2004	1152	20640	36000	15360	7.68	4.74
9/20/2004	1153	24360	48760	24400	12.2	7.63
9/20/2004	1154	22520	48120	25600	12.8	8.00
9/20/2004	1155	20640	37620	16780	8.39	5.24
9/20/2004	1156	29300	44300	15000	7.8	4.88
Total =		1006720	1906560	900140	450.07	281.29

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
9/21/2004	1157	24360	47160	22800	11.4	7.13
9/21/2004	1158	22520	43480	20960	10.48	6.55
9/21/2004	1159	20840	37600	16760	8.38	5.24
9/21/2004	1160	24360	47180	22820	11.41	7.13
9/21/2004	1161	22520	48300	23780	11.89	7.43
9/21/2004	1162	22520	47080	24560	12.28	7.68
9/21/2004	1163	20640	35850	15020	7.51	4.69
9/21/2004	1164	29300	42420	13120	6.56	4.10
9/21/2004	1165	24360	46340	21980	10.99	6.87
9/21/2004	1166	22520	45800	23280	11.64	7.28
9/21/2004	1167	20640	34240	13600	6.7	4.19
9/21/2004	1168	26600	39780	13180	6.59	4.11
9/21/2004	1169	22520	46360	23840	11.43	7.14
9/21/2004	1170	24360	49060	24700	12.35	7.72
9/21/2004	1171	22520	45260	22740	11.37	7.11
9/21/2004	1172	20840	36180	15340	7.67	4.79
9/21/2004	1173	26600	40480	13880	6.94	4.34
9/21/2004	1174	22520	49400	23880	11.94	7.46
9/21/2004	1175	24360	46080	21720	10.86	6.79
9/21/2004	1176	22520	46860	24340	12.17	7.61
9/21/2004	1177	20840	36220	15380	7.69	4.81
9/21/2004	1178	26600	41700	15100	7.55	4.72
9/21/2004	1179	22520	51700	29180	13.09	8.18
9/21/2004	1180	24360	46900	24540	12.27	7.67
9/21/2004	1181	22520	45960	23440	11.72	7.33
9/21/2004	1182	20840	36180	15340	7.67	4.79
9/21/2004	1183	26600	41100	14500	7.25	4.53
9/21/2004	1184	22520	48300	22780	11.39	7.12
9/21/2004	1185	24360	47180	22820	11.41	7.13
9/21/2004	1186	22520	46500	23980	11.99	7.49
9/21/2004	1187	20840	35740	14900	7.45	4.66
9/21/2004	1188	26600	40720	14120	7.06	4.41
9/21/2004	1189	22520	48260	22760	11.38	7.11
9/21/2004	1190	24360	46060	21700	10.85	6.78
9/21/2004	1191	20840	36300	15460	7.73	4.83
9/21/2004	1192	26600	40520	13920	6.96	4.35
9/21/2004	1193	22520	43300	20780	10.39	6.49
9/21/2004	1194	22520	45780	21260	10.63	6.64
9/21/2004	1195	24360	46020	21660	10.83	6.77
9/21/2004	1196	20840	37140	16300	8.15	5.09
9/21/2004	1197	26600	39440	12840	6.42	4.01
9/21/2004	1198	22520	45680	23160	11.58	7.24
9/21/2004	1199	22520	48240	25720	10.36	6.48
9/21/2004	1200	24360	46740	22380	11.19	6.99
9/21/2004	1201	20840	35600	14760	7.38	4.61
9/21/2004	1202	26600	39000	12400	6.2	3.88
9/21/2004	1203	22520	45480	22940	11.47	7.17
9/21/2004	1204	25520	48320	19800	9.9	6.19
9/21/2004	1205	24360	44920	20560	10.28	6.43
9/21/2004	1206	20640	34000	13360	6.68	4.11
9/21/2004	1207	26600	38700	12100	6.05	3.78
9/21/2004	1208	22520	44260	21740	10.87	6.79
9/21/2004	1209	25320	45840	20520	10.16	6.35
9/21/2004	1210	24360	43020	18660	9.33	5.83
9/21/2004	1211	20840	34500	13660	6.83	4.27
9/21/2004	1212	26600	39360	12760	6.38	3.99
9/21/2004	1213	22520	45360	22840	11.42	7.14
9/21/2004	1214	22520	47420	22100	11.05	6.91
9/21/2004	1215	24360	45540	21180	10.59	6.62
9/21/2004	1216	20840	32440	11600	5.8	3.63
9/21/2004	1217	26600	39560	12960	6.48	4.05
9/21/2004	1218	22520	43480	20960	10.48	6.55
9/21/2004	1219	22520	42540	17020	8.51	5.32
9/21/2004	1220	24360	42860	18500	9.25	5.78
9/21/2004	1221	20840	33620	12780	6.39	3.99
9/21/2004	1222	22520	44140	21620	10.81	6.76
9/21/2004	1223	26600	39400	12800	6.4	4.00
9/21/2004	1224	22520	43360	17840	8.92	5.58
Total =		1828340	2910560	1262220	641.11	408.69

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
9/22/2004	1225	20840	34940	14100	7.05	4.41
9/22/2004	1226	24360	44560	20200	10.1	6.31
9/22/2004	1227	22520	44940	19420	9.71	6.07
9/22/2004	1228	22520	41520	19000	9.5	5.94
9/22/2004	1229	20840	35780	14940	7.47	4.67
9/22/2004	1230	24360	44080	19720	9.86	6.16
9/22/2004	1231	22520	46940	21420	10.71	6.69
9/22/2004	1232	22520	44320	21800	10.9	6.81
9/22/2004	1233	20840	33740	12900	6.45	4.03
9/22/2004	1234	24360	45360	21000	10.5	6.56
9/22/2004	1235	22520	46040	20520	10.26	6.41
9/22/2004	1236	22520	42540	20020	10.01	6.26
9/22/2004	1237	20840	33560	12720	6.37	3.98
9/22/2004	1238	24360	46940	22580	11.29	7.06
9/22/2004	1239	26600	39700	13100	6.55	4.09
9/22/2004	1240	22520	46240	20720	10.36	6.48
9/22/2004	1241	22520	42100	19580	9.79	6.12
9/22/2004	1242	20840	34300	13460	6.73	4.21
9/22/2004	1243	24360	44520	20160	10.08	6.30
9/22/2004	1244	26600	40380	13780	6.89	4.31
9/22/2004	1245	22520	42440	19920	9.96	6.23
9/22/2004	1246	25520	45280	19760	9.88	6.18
9/22/2004	1247	20840	34720	13880	6.94	4.34
9/22/2004	1248	24360	44760	20400	10.2	6.38
9/22/2004	1249	26600	39640	13040	6.52	4.08
9/22/2004	1250	22520	42840	20320	10.16	6.35
9/22/2004	1251	20840	33880	13040	6.52	4.08
9/22/2004	1252	25520	45280	19760	9.88	6.18
9/22/2004	1253	24360	42320	17960	8.98	5.61
9/22/2004	1254	26600	41820	15220	7.61	4.76
9/22/2004	1255	22520	42700	20180	10.09	6.31
9/22/2004	1256	20840	35100	14260	7.13	4.46
9/22/2004	1257	25520	45680	21280	10.64	6.65
9/22/2004	1258	24360	43920	19560	9.78	6.11
9/22/2004	1259	20840	35180	14340	7.17	4.48
9/22/2004	1260	26600	39900	13300	6.65	4.16
9/22/2004	1261	22520	43360	20840	10.43	6.52
9/22/2004	1262	25520	43700	18180	9.09	5.68
9/22/2004	1263	24360	45180	20820	10.4	6.50
9/22/2004	1264	20840	36660	15820	7.91	4.94
9/22/2004	1265	26600	42120	15520	7.76	4.85
9/22/2004	1266	22520	45980	23460	11.53	7.21
9/22/2004	1267	25520	46300	20780	10.39	6.49
9/22/2004	1268	24360	45560	21200	10.61	6.63
9/22/2004	1269	20840	36280	15440	7.72	4.83
9/22/2004	1270	26600	40460	13860	6.93	4.33
9/22/2004	1271	22520	42960	20140	10.07	6.29
9/22/2004	1272	25520	44700	19180	9.59	5.99
9/22/2004	1273	24360	43960	19600	9.8	6.13
9/22/2004	1274	20840	36360	15520	7.76	4.85
9/22/2004	1275	26600	41400	14800	7.4	4.63
9/22/2004	1276	22520	43680	21160	10.58	6.61
9/22/2004	1277	25520	45440	19920	9.96	6.23
9/22/2004	1278	24360	43660	19300	9.65	6.03
9/22/2004	1279	20840	34180	13340	6.67	4.17
9/22/2004	1280	26600	40460	13860	6.94	4.34
9/22/2004	1281	22520	43460	20940	10.47	6.54
9/22/2004	1282	25520	45240	19720	9.86	6.16
9/22/2004	1283	24360	42820	18460	9.23	5.77
9/22/2004	1284	20840	34200	13360	6.68	4.18
9/22/2004	1285	26600	40620	14020	7.01	4.38
9/22/2004	1286	22520	43460	20940	10.47	6.54
9/22/2004	1287	22520	43300	20780	10.39	6.49
Total =		1495960	2623740	1127780	563.89	352.43

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
9/23/2004	1288	20840	37080	16240	8.12	5.08
9/23/2004	1289	24360	45600	21240	10.62	6.64
9/23/2004	1290	22520	43920	18400	9.2	5.75
9/23/2004	1291	22520	42840	20320	10.16	6.35
9/23/2004	1292	20840	33920	13080	6.54	4.09
9/23/2004	1293	26600	41360	14760	7.38	4.62
9/23/2004	1294	24360	47760	23420	11.71	7.32
9/23/2004	1295	22520	50060	24540	12.27	7.67
9/23/2004	1296	22520	45620	23100	11.55	7.22
9/23/2004	1297	20840	37620	16780	8.39	5.24
9/23/2004	1298	26600	43520	16920	8.46	5.29
9/23/2004	1299	24360	48560	24200	12.1	7.56
9/23/2004	1300	22520	46560	21160	10.58	6.61
9/23/2004	1301	22520	43660	21140	10.57	6.61
9/23/2004	1302	20840	34960	14120	7.06	4.41
9/23/2004	1303	26600	41520	15020	7.51	4.69
9/23/2004	1304	24360	48360	23000	11	6.88
9/23/2004	1305	22520	49400	23880	11.94	7.46
9/23/2004	1306	22520	42940	20420	10.21	6.38
9/23/2004	1307	20840	34580	13740	6.87	4.29
9/23/2004	1308	26600	41420	14820	7.41	4.63
9/23/2004	1309	24360	47020	22660	11.33	7.08
9/23/2004	1310	22520	45360	18840	9.92	6.20
9/23/2004	1311	22520	42760	20240	10.12	6.33
9/23/2004	1312	20840	33560	12840	6.42	4.01
9/23/2004	1313	24360	47560	23200	11.6	7.25
9/23/2004	1314	26600	39200	12600	6.3	3.94
9/23/2004	1315	22520	45680	20160	10.08	6.30
9/23/2004	1316	20840	33660	13020	6.51	4.07
9/23/2004	1317	22520	44280	21760	10.88	6.80
9/23/2004	1318	24360	47340	22980	11.49	7.18
9/23/2004	1319	26600	41860	15260	7.63	4.77
9/23/2004	1320	22520	46140	20620	10.31	6.44
9/23/2004	1321	20840	35960	15120	7.56	4.73
9/23/2004	1322	22520	43100	20580	10.29	6.43
9/23/2004	1323	24360	44740	20380	10.19	6.37
9/23/2004	1324	26600	41180	14580	7.29	4.56
9/23/2004	1325	20640	36020	15380	7.69	4.74
9/23/2004	1326	22520	45160	19660	9.83	6.14
9/23/2004	1327	22520	40660	18340	9.17	5.73
9/23/2004	1328	24360	42780	18420	9.21	5.76
9/23/2004	1329	26600	39640	13040	6.52	4.08
9/23/2004	1330	20840	35180	14340	7.17	4.48
9/23/2004	1331	22520	45900	20380	10.19	6.37
9/23/2004	1332	22520	40220	17700	8.85	5.53
9/23/2004	1333	24360	43180	18820	9.41	5.88
9/23/2004	1334	26600	40140	13540	6.77	4.23
9/23/2004	1335	20840	35560	14720	7.36	4.60
9/23/2004	1336	22520	45740	20220	10.11	6.32
9/23/2004	1337	22520	43820	21300	10.65	6.66
9/23/2004	1338	24360	44160	19800	9.9	6.19
9/23/2004	1339	26600	40040	13440	6.72	4.20
9/23/2004	1340	20840	35540	14700	7.35	4.59
9/23/2004	1341	22520	46060	20540	10.27	6.42
9/23/2004	1342	22520	42240	19720	9.86	6.16
9/23/2004	1343	24360	43560	19200	9.6	6.00
9/23/2004	1344	26600	36760	10160	5.08	3.80
9/23/2004	1345	20840	34540	13700	6.85	4.28
9/23/2004	1346	22520	44780	19260	9.63	6.02
9/23/2004	1347	22520	42620	20100	10.05	6.28
9/23/2004	1348	24360	46260	21900	10.95	6.84
9/23/2004	1349	26600	39180	12580	6.29	3.93
9/23/2004	1350	20840	34040	13200	6.6	4.13
9/23/2004	1351	22520	46480	20960	10.48	6.55
9/23/2004	1352	22520	41200	18680	9.34	5.84
9/23/2004	1353	24360	44480	20120	10.06	6.28
9/23/2004	1354	20840	35100	14260	7.13	4.46
9/23/2004	1355	26600	39720	13120	6.56	4.10
9/23/2004	1356	22520	45520	20000	10	6.25
9/23/2004	1357	24360	44240	19880	9.94	6.21
Total =		1673540	2942160	1268320	634.16	396.35

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
9/24/2004	1358	20840	35780	14940	7.47	4.67
9/24/2004	1359	22520	44200	21680	10.84	6.78
9/24/2004	1360	24360	44680	20320	10.16	6.35
9/24/2004	1361	26600	41100	14500	7.25	4.53
9/24/2004	1362	22520	44720	19200	9.6	6.00
9/24/2004	1363	20840	37240	16400	8.2	5.13
9/24/2004	1364	22520	42140	19620	9.81	6.13
9/24/2004	1365	24360	45120	20760	10.38	6.49
9/24/2004	1366	26600	38220	12220	6.11	3.82
9/24/2004	1367	22520	42120	16600	8.3	5.19
9/24/2004	1368	20840	35440	14600	7.3	4.56
9/24/2004	1369	22520	43300	20780	10.39	6.49
9/24/2004	1370	24360	45600	21240	10.62	6.64
9/24/2004	1371	26600	40420	13820	6.91	4.32
9/24/2004	1372	22520	46260	20760	10.38	6.49
9/24/2004	1373	20840	35100	14260	7.13	4.46
9/24/2004	1374	22520	42260	19740	9.87	6.17
9/24/2004	1375	24360	44120	19760	9.88	6.18
9/24/2004	1376	26600	39340	12740	6.37	3.98
9/24/2004	1377	22520	47840	22020	11.01	6.88
9/24/2004	1378	20840	35320	17480	8.74	5.46
9/24/2004	1379	22520	46620	24100	12.05	7.53
9/24/2004	1380	24360	48200	23840	11.92	7.45
9/24/2004	1381	26600	41050	14450	7.24	4.53
9/24/2004	1382	20840	37520	16680	8.34	5.21
9/24/2004	1383	22520	51300	25780	12.89	8.06
9/24/2004	1384	22520	45480	22960	11.48	7.18
9/24/2004	1385	24360	46660	22300	11.15	6.97
9/24/2004	1386	26600	41640	15040	7.52	4.70
9/24/2004	1387	22520	46400	20880	10.44	6.53
9/24/2004	1388	22520	45280	22760	11.38	7.11
9/24/2004	1389	24360	45060	20700	10.35	6.47
9/24/2004	1390	26600	40440	13840	6.92	4.33
9/24/2004	1391	22520	46700	21180	10.59	6.62
9/24/2004	1392	22520	42940	20420	10.21	6.38
9/24/2004	1393	24360	46300	21940	10.97	6.86
9/24/2004	1394	26600	38740	12140	6.07	3.79
9/24/2004	1395	22520	45540	20020	10.01	6.26
9/24/2004	1396	22520	43000	20480	10.24	6.40
9/24/2004	1397	24360	41300	16940	8.47	5.29
9/24/2004	1398	26600	38640	12040	6.02	3.76
9/24/2004	1399	22520	46260	20740	10.37	6.48
9/24/2004	1400	22520	43980	21460	10.73	6.71
9/24/2004	1401	24360	45660	21300	10.65	6.65
9/24/2004	1402	26600	42460	15860	7.94	4.96
9/24/2004	1403	22520	48180	22660	11.33	7.08
9/24/2004	1404	22520	46960	24340	12.17	7.61
9/24/2004	1405	24360	48300	23940	11.97	7.48
9/24/2004	1406	26600	44160	17560	8.78	5.49
9/24/2004	1407	22520	50340	24820	12.41	7.76
9/24/2004	1408	22520	46960	24440	12.23	7.64
9/24/2004	1409	24360	49420	25060	12.53	7.83
9/24/2004	1410	26600	42260	15660	7.83	4.89
9/24/2004	1411	22520	47540	22120	11.06	6.91
9/24/2004	1412	22520	46040	23520	11.76	7.35
9/24/2004	1413	24360	47760	23400	11.7	7.31
Total =		1359920	2419040	1059120	544.56	340.35

Grand Total for Week of 20 September 2004	2,833.79	1,771.12

TABLE F-4

Soil Hauled to Asbestos Cell at Lincoln County Landfill
BNSF Libby Railyard Response Action 2004
Week of 27 September 2004

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
9/27/2004	1414	20940	38120	17180	8.59	5.37
9/27/2004	1415	24260	50620	26420	13.21	8.26
9/27/2004	1416	22160	45780	23620	11.81	7.38
9/27/2004	1417	20940	42360	21420	10.71	6.70
9/27/2004	1418	26240	41940	15100	7.55	4.72
9/27/2004	1419	25680	48720	23180	11.59	7.24
9/27/2004	1420	20040	36480	16440	7.77	4.86
9/27/2004	1421	24260	46160	21900	10.95	6.84
9/27/2004	1422	22160	49500	24340	12.17	7.61
9/27/2004	1423	20960	44220	23260	11.79	7.36
9/27/2004	1424	20240	42340	16100	8.05	5.03
9/27/2004	1425	25680	49120	23440	11.77	7.35
9/27/2004	1426	20940	40560	19620	9.82	6.14
9/27/2004	1427	24260	50320	25780	12.89	8.05
9/27/2004	1428	22160	47200	25040	12.52	7.83
9/27/2004	1429	20960	44260	23540	11.77	7.36
9/27/2004	1430	26240	39740	13500	6.75	4.22
9/27/2004	1431	25680	49560	23880	11.94	7.31
9/27/2004	1432	20940	38740	17800	8.9	5.56
9/27/2004	1433	24260	45440	21180	10.59	6.62
9/27/2004	1434	22160	44540	22380	11.19	6.99
9/27/2004	1435	20960	42440	21480	10.74	6.71
9/27/2004	1436	26240	42320	16080	8.04	5.02
9/27/2004	1437	25680	49640	21060	10.53	6.58
9/27/2004	1438	20940	37840	17000	8.5	5.31
9/27/2004	1439	24260	45460	21200	10.61	6.63
9/27/2004	1440	22160	44540	22380	11.19	6.99
9/27/2004	1441	20960	42940	22080	11.04	7.25
9/27/2004	1442	26240	42660	16420	8.21	5.13
9/27/2004	1443	25680	46360	21400	10.7	6.69
9/27/2004	1444	20940	38880	17940	8.97	5.58
9/27/2004	1445	24260	47880	23620	11.81	7.41
9/27/2004	1446	22160	43780	21620	10.81	6.76
9/27/2004	1447	20960	44500	23540	11.82	7.45
9/27/2004	1448	26240	41440	15200	7.6	4.75
9/27/2004	1449	25680	48080	22400	11.25	7.03
9/27/2004	1450	24260	47420	23160	11.58	7.24
9/27/2004	1451	22160	42680	20520	10.26	6.41
9/27/2004	1452	20940	37440	16500	8.25	5.16
9/27/2004	1453	20960	41280	20320	10.31	6.44
9/27/2004	1454	26240	42860	16620	8.31	5.19
9/27/2004	1455	25680	56140	29560	14.78	9.24
9/27/2004	1456	24260	46960	22900	11.3	7.06
9/27/2004	1457	22160	45400	23240	10.62	6.64
9/27/2004	1458	20940	39900	19020	9.51	5.94
9/27/2004	1459	20960	41400	20740	10.37	6.48
9/27/2004	1460	26240	40240	14000	7	4.38
9/27/2004	1461	25680	47520	22040	11.02	6.88
9/27/2004	1462	24260	47300	23040	11.52	7.20
9/27/2004	1463	22160	44340	22180	11.09	6.93
9/27/2004	1464	20940	36500	15560	7.78	4.86
9/27/2004	1465	20960	40400	19440	9.87	6.17
9/27/2004	1466	26240	38620	12380	6.24	3.90
9/27/2004	1467	25680	43860	24000	11.7	7.31
9/27/2004	1468	24260	45460	21200	10.6	6.63
9/27/2004	1469	22160	46800	24640	12.02	7.51
9/27/2004	1470	20940	37260	16340	8.17	5.11
9/27/2004	1471	20960	42420	21460	10.73	6.70
9/27/2004	1472	26240	40340	14100	7.05	4.41
9/27/2004	1473	25680	46920	21240	10.62	6.64
9/27/2004	1474	24260	46340	21080	10.54	6.59
9/27/2004	1475	20940	37000	16060	8.03	5.02
9/27/2004	1476	22160	45780	24620	12.31	7.69
9/27/2004	1477	25680	47220	21540	10.77	6.73
Total =		1491340	2808520	1317180	657.59	410.99

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
9/28/2004	1478	20940	39100	18160	9.08	5.67
9/28/2004	1479	24260	50240	25980	12.99	8.12
9/28/2004	1480	22160	48000	25840	12.92	8.08
9/28/2004	1481	26240	41740	15500	7.75	4.84
9/28/2004	1482	25680	49040	23360	11.68	7.30
9/28/2004	1483	20940	39700	17760	8.88	5.55
9/28/2004	1484	24260	49260	25000	12.5	7.81
9/28/2004	1485	22160	46960	23900	11.95	7.47
9/28/2004	1486	26240	39280	13040	6.52	4.08
9/28/2004	1487	25680	47740	22060	11.03	6.89
9/28/2004	1488	20940	37740	16800	8.4	5.25
9/28/2004	1489	24260	51440	27180	13.59	8.49
9/28/2004	1490	22160	47400	25240	12.62	7.89
9/28/2004	1491	26240	42520	16280	8.14	5.12
9/28/2004	1492	25680	49800	24120	12.14	7.59
9/28/2004	1493	20940	38800	17860	8.93	5.58
9/28/2004	1494	24260	52000	27740	13.87	8.66
9/28/2004	1495	22160	47080	24920	12.46	7.78
9/28/2004	1496	26240	40940	14700	7.35	4.59
9/28/2004	1497	25680	49400	23720	11.86	7.41
9/28/2004	1498	20940	37280	16340	8.22	5.14
9/28/2004	1499	24260	49360	25100	12.55	7.84
9/28/2004	1500	22160	46800	24640	12.4	7.75
9/28/2004	1501	26240	42840	16600	8.3	5.19
9/28/2004	1502	20940	42820	21880	10.94	6.84
9/28/2004	1503	25680	52360	26680	13.34	8.34
9/28/2004	1504	24260	50820	26560	13.28	8.30
9/28/2004	1505	22160	51360	29200	14.6	9.13
9/28/2004	1506	20940	40040	19100	9.55	5.97
9/28/2004	1507	26240	41820	15580	7.79	4.87
9/28/2004	1508	20940	43120	22180	11.09	6.93
9/28/2004	1509	22160	54260	32100	16.05	10.03
9/28/2004	1510	24260	49860	25600	12.8	7.99
9/28/2004	1511	25680	56840	31160	15.58	9.73
9/28/2004	1512	26240	40600	14360	7.18	4.49
9/28/2004	1513	20940	40860	19920	9.96	6.22
9/28/2004	1514	22160	51080	28920	14.46	9.04
9/28/2004	1515	25680	49760	24080	12.04	7.52
9/28/2004	1516	26240	43220	16980	8.49	5.31
9/28/2004	1517	24260	48520	22260	11.13	6.96
9/28/2004	1518	20940	35000	14060	7.03	4.39
9/28/2004	1519	25680	51020	25340	12.67	7.92
9/28/2004	1520	22160	44860	22700	11.35	7.10
9/28/2004	1521	24260	55620	31360	15.68	9.80
9/28/2004	1522	26240	40760	14520	7.26	4.54
9/28/2004	1523	20940	35040	14100	7.05	4.41
9/28/2004	1524	22160	44940	22780	11.39	7.12
9/28/2004	1525	24260	49340	25080	12.54	7.84
9/28/2004	1526	25680	47540	21860	10.93	6.83
9/28/2004	1527	26240	39180	11940	5.97	3.73
9/28/2004	1528	20940	30620	15680	7.84	4.90
9/28/2004	1529	22160	45580	23420	11.71	7.32
9/28/2004	1530	24260	51200	26940	13.47	8.42
9/28/2004	1531	26240	41960	15720	7.86	4.91
9/28/2004	1532	20940	42540	21600	10.8	6.75
Total =		1301700	2501180	1199480	599.74	374.84

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
9/29/2004	1535	22160	46580	24420	12.21	7.63
9/29/2004	1536	20940	40260	19320	9.67	6.04
9/29/2004	1537	20960	41160	20200	10.1	6.31
9/29/2004	1538	26240	41760	15520	7.76	4.85
9/29/2004	1539	25680	47800	22120	11.06	6.91
9/29/2004	1540	22160	49260	26160	13.08	8.17
9/29/2004	1541	20940	41760	20820	10.41	6.51
9/29/2004	1542	20960	39680	17760	8.88	5.55
9/29/2004	1543	26240	42260	16020	8.01	5.01
9/29/2004	1544	25680	49340	23760	11.88	7.43
9/29/2004	1545	22160	47440	25280	12.64	7.90
9/29/2004	1546	20940	38040	18300	9.15	5.72
9/29/2004	1547	20960	42520	21720	10.86	6.79
9/29/2004	1548	26240	40400	14160	7.08	4.43
9/29/2004	1549	25680	42360	16680	8.4	5.25
9/29/2004	1550	22160	45640	23480	11.74	7.34
9/29/2004	1551	20940	39620	18680	9.34	5.84
9/29/2004	1552	26240	46340	25540	12.52	7.83
9/29/2004	1553	25680	44200	18520	9.24	5.84
9/29/2004	1554	26240	42740	16500	8.25	5.16
9/29/2004	1555	22160	48740	26580	13.29	8.31
9/29/2004	1556	20940	42400	21460	10.73	6.71
9/29/2004	1557	20960	42700	21900	10.95	6.84
9/29/2004	1558	25680	57220	31540	15.62	9.89
9/29/2004	1559	26240	42840	16700	8.35	5.22
9/29/2004	1560	22160	49540	27380	13.69	8.56
9/29/2004	1561	20940	38720	17780	8.89	5.56
9/29/2004	1562	20960	43300	22340	11.28	7.05
9/29/2004	1563	26240	43300	17060	8.53	5.33
9/29/2004	1564	22160	47220	25060	12.53	7.83
9/29/2004	1565	20940	39540	18600	9.3	5.81
9/29/2004	1566	20960	42340	21380	10.77	6.73
9/29/2004	1567	25680	51100	25580	12.79	7.99
9/29/2004	1568	20940	40560	19620	9.81	6.13
9/29/2004	1569	20960	41640	20680	10.42	6.51
9/29/2004	1570	22160	46140	23980	11.99	7.49
9/29/2004	1571	26240	42600	16360	8.18	5.11
9/29/2004	1572	25680	50840	25160	12.58	7.86
9/29/2004	1573	20940	40860	20020	10.01	6.25
9/29/2004	1574	20960	44000	23040	11.5	7.25
9/29/2004	1575	22160	52100	29940	14.97	9.35
9/29/2004	1576	26240	41160	14920	7.47	4.67
9/29/2004	1577	25680	50460	24780	12.44	7.78
9/29/2004	1578	20940	35900	14960	7.48	4.68
9/29/2004	1579	20960	38240	17440	8.72	5.45
9/29/2004	1580	22160	51540	29380	14.69	9.18
9/29/2004	1581	26240	40920	14680	7.34	4.59
9/29/2004	1582	25680	54180	28500	14.3	8.94
9/29/2004	1583	20940	40800	19860	9.93	6.21
9/29/2004	1584	20960	42140	21180	10.67	6.67
9/29/2004	1585	22160	50220	28060	14.03	8.89
9/29/2004	1586	26240	37480	11240	5.62	3.51
9/29/2004	1587	25680	43100	17580	8.79	5.49
9/29/2004	1588	20940	35820	15880	8.29	5.61
9/29/2004	1589	20960	38040	17080	8.57	5.36
9/29/2004	1590	22160	49060	26900	13.45	8.41
9/29/2004	1591	26240	39920	13680	6.79	4.24
9/29/2004	1592	20940	37860	16940	8.47	5.29
9/29/2004	1593	25680	48520	22840	11.47	7.17
9/29/2004	1594	20960	40700	19900	9.95	6.22
Total =		1376560	2637140	1258580	629.29	393.31

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
9/30/2004	1595	22160	46500	24340	12.17	7.61
9/30/2004	1596	20940	40900	19960	9.98	6.24
9/30/2004	1597	25680	49400	23720	11.86	7.41
9/30/2004	1598	20960	41220	20260	10.13	6.33
9/30/2004	1599	20940	40240	19300	9.65	6.03
9/30/2004	1600	22160	49100	27240	13.62	8.51
9/30/2004	1601	26240	33460	13220	6.61	4.13
9/30/2004	1602	25680	49520	23840	11.92	7.45
9/30/2004	1603	20960	47340	26380	13.19	8.24
9/30/2004	1604	20940	35500	17560	8.78	5.61
9/30/2004	1605	22160	46560	24400	12.2	7.63
9/30/2004	1606	26240	42000	15760	7.88	4.93
9/30/2004	1607	25680	46160	20480	10.3	6.44
9/30/2004	1608	20960	38040	17240	8.62	5.39
9/30/2004	1609	20940	39740	17800	8.9	5.56
9/30/2004	1610	22160	44520	22360	11.18	6.99
9/30/2004	1611	26240	39180	12940	6.47	3.93
9/30/2004	1612	25680	45600	20020	10.01	6.26
9/30/2004	1613	20960	36320	15520	7.76	4.85
9/30/2004	1614	20940	37480	16540	8.26	5.16
9/30/2004	1615	22160	40240	18080	9.04	5.65
9/30/2004	1616	26240	40500	14260	7.13	4.46
9/30/2004	1617	25680	45740	20160	10.08	6.30
9/30/2004	1618	20960	36900	15940	8.1	5.06
9/30/2004	1619	20940	37140	16200	8.1	5.06
9/30/2004	1620	22160	47680	25500	12.75	7.97
9/30/2004	1621	26240	43640	17400	8.7	5.44
9/30/2004	1622	25680	55480	29800	14.89	9.31
9/30/2004	1623	20960	44320	23360	11.78	7.36
9/30/2004	1624	20940	41840	20900	10.45	6.47
9/30/2004	1625	22160	53280	31120	15.61	9.76
9/30/2004	1626	26240	42540	16300	8.15	5.09
9/30/2004	1627	25680	57780	32100	16.1	10.06
9/30/2004	1628	20960	49080	27260	13.64	8.53
9/30/2004	1629	20940	40220	19280	9.63	6.05
9/30/2004	1630	22160	48200	27040	13.52	8.45
9/30/2004	1631	20960	44440	23480	11.82	7.39
9/30/2004	1632	26240	41340	20100	10.2	6.38
9/30/2004	1633	25680	44480	18240	9.12	5.70
9/30/2004	1634	20960	43920	22960	11.48	7.18
9/30/2004	1635	22160	44340	22180	11.09	6.93
9/30/2004	1636	26240	37720	11480	5.73	3.58
9/30/2004	1637	25680	53280	27600	13.8	8.63
9/30/2004	1638	26240	40280	14040	7.02	4.39
9/30/2004	1639	20960	44620	23660	11.83	7.39
9/30/2004	1640	22160	49760	24600	12.3	7.69
9/30/2004	1641	20940	42320	21380	10.69	6.68
9/30/2004	1642	25680	51400	25720	12.86	8.07
9/30/2004	1643	26240	43960	17720	8.86	5.54
9/30/2004	1644	20960	43280	22320	11.16	7.00
9/30/2004	1645	22160	49180	27000	13.5	8.43
9/30/2004	1646	20940	37080	16140	8.07	5.04
9/30/2004	1647	25680	46080	20500	10.25	6.41
9/30/2004	1648	26240	44960	18720	9.36	5.85
9/30/2004	1649	22160	46100	23940	11.97	7.48
9/30/2004	1650	20960	42700	21900	10.95	6.84
9/30/2004	1651	20940	36180	15240	7.62	4.76
9/30/2004	1652	25680	39900	14220	7.11	4.44
9/30/2004	1653	26240	39680	13440	6.67	4.17
9/30/2004	1654	20960	39280	18320	9.24	5.78
Total =		1378560	2528500	1249940	624.97	390.61

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/1/2004	1655	20940	34000	13060	6.53	4.08
10/1/2004	1656	22160	40320	18160	9.08	5.68
10/1/2004	1657	25680	44880	19200	9.6	6.00
10/1/2004	1658	26240	39320	12780	6.39	3.99
10/1/2004	1659	20960	40520	19560	9.78	6.11
10/1/2004	1660	20940	35760	14820	7.41	4.63
10/1/2004	1661	20960	35680	14720	7.36	4.60
10/1/2004	1662	22160	47780	25620	12.81	8.01
10/1/2004	1663	26240	37740	11500	5.75	3.59
10/1/2004	1664	20960	34180	13220	6.61	4.13
10/1/2004	1665	20940	30920	9980	4.99	3.09
10/1/2004	1666	22160	43240	21080	10.54	6.59
10/1/2004	1667	26240	38980	12740	6.37	3.98
10/1/2004	1668	20960	38520	17560	8.78	5.54
10/1/2004	1669	20940	33520	12580	6.29	3.93
10/1/2004	1670	22160	37940	15780	7.89	4.93
10/1/2004	1671	26240	40400	14160	7.08	4.43
10/1/2004	1672	20960	30400	9440	4.71	2.95
10/1/2004	1673	20940	34340	13400	6.7	4.19
10/1/2004	1674	25680	43320	17640	8.17	5.73
10/1/2004	1675	22160	44940	22780	11.39	7.12
10/1/2004	1676	26240	39580	13340	6.67	3.86
10/1/2004	1677	20960	42120	21160	10.58	6.61
10/1/2004	1678	20940	38520	17580	8.79	5.53
10/1/2004	1679	25680	49060	23380	11.69	7.33
10/1/2004	1680	22160	41200	19040	9.52	5.95
10/1/2004	1681	26240	36940	10700	5.35	3.34
10/1/2004	1682	20960	43540	22580	11.29	7.11
10/1/2004	1683	20940	35280	14340	7.22	4.51
10/1/2004	1684	25680	33200	7520	3.81	2.38
10/1/2004	1685	22160	27100	4940	2.47	1.54
10/1/2004	1686	26240	30100	12260	6.13	4.04
10/1/2004	1687	20960	33500	13000	6.5	4.06
10/1/2004	1688	20940	37540	16600	8.3	5.19
10/1/2004	1689	20960	43380	22420	11.29	7.06
10/1/2004	1690	20940	40340	19400	9.7	6.06
10/1/2004	1691	26240	44960	18720	9.21	5.76
10/1/2004	1692	25680	53500	28020	14.01	8.76
10/1/2004	1693	22160	45100	22940	11.47	7.17
10/1/2004	1694	20960	44760	23340	11.67	7.29
10/1/2004	1695	20940	39280	18340	9.17	5.73
10/1/2004	1696	26240	42420	16180	8.09	5.06
10/1/2004	1697	25680	49520	24040	12.02	7.51
10/1/2004	1698	22160	44340	22180	11.09	6.93
10/1/2004	1699	20960	43280	22320	11.16	7.21
10/1/2004	1700	20940	37200	16260	8.13	5.08
10/1/2004	1701	25680	52480	26800	13.4	8.41
10/1/2004	1702	26240	43460	17220	8.61	5.38
10/1/2004	1703	22160	48480	26320	13.16	8.23
10/1/2004	1704	20960	47100	26300	13.15	8.22
10/1/2004	1705	20940	35280	14340	7.17	4.48
10/1/2004	1706	25680	51020	25340	12.67	8.14
10/1/2004	1707	26240	41480	15240	7.62	4.76
10/1/2004	1708	22160	51500	29340	14.67	9.17
10/1/2004	1709	20960	42340	21380	10.69	6.68
10/1/2004	1710	20940	41000	20060	10.03	6.27
10/1/2004	1711	25680	57940	32260	16.13	10.08
Total =		1335240	2347540	1042300	521.15	325.72

Grand Total for Week of 27 September 2004	3,032.74
	1,893.46

Table F-5
Soil Hauled to Asbestos Cell at Lincoln County Landfill
BNSF Libby Railyard Response Action 2004
Week of 4 October 2004

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
10/4/2004	1712	25720	57060	31340	15.67	9.79
10/4/2004	1713	26100	45640	19540	9.77	6.11
10/4/2004	1714	26100	43460	17360	8.68	5.43
10/4/2004	1715	25720	57460	31740	15.87	9.92
10/4/2004	1716	26100	44920	18820	9.41	5.88
10/4/2004	1717	25720	61040	35320	17.66	11.04
10/4/2004	1718	26100	44820	18720	9.36	5.85
10/4/2004	1719	25720	51340	25620	12.81	8.01
10/4/2004	1720	26100	41360	15260	7.63	4.77
10/4/2004	1721	25720	50960	25240	12.62	7.89
10/4/2004	1722	26100	42200	16100	8.05	5.03
10/4/2004	1723	25720	50120	24400	12.2	7.63
10/4/2004	1724	26100	39480	13380	6.69	4.18
10/4/2004	1725	25720	51320	25600	12.8	8.00
10/4/2004	1726	26100	42100	16000	8	5.00
10/4/2004	1727	25720	50480	24760	12.38	7.74
10/4/2004	1728	26100	40620	14520	7.26	4.54
10/4/2004	1729	25720	51060	25340	12.67	7.92
10/4/2004	1730	26100	42180	16080	8.04	5.03
Total		492480	907620	415140	207.57	**129.73**

Total loads = 19

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
10/8/2004	1873	22200	49820	27620	13.81	8.63
10/8/2004	1874	26260	51060	24800	12.4	7.75
10/8/2004	1875	25100	41840	16740	8.37	5.23
10/8/2004	1876	22200	49340	27140	13.57	8.48
10/8/2004	1877	26260	51340	25080	12.54	7.84
10/8/2004	1878	25100	43180	18080	9.04	5.65
10/8/2004	1879	22200	54380	32180	16.09	10.06
10/8/2004	1880	26260	55760	29500	14.75	9.22
10/8/2004	1881	25100	43160	18060	9.03	5.64
10/8/2004	1882	22200	53540	31340	15.67	9.79
10/8/2004	1883	26260	56960	30700	15.35	9.59
10/8/2004	1884	25100	42200	17100	8.55	5.34
10/8/2004	1885	22200	50980	28780	14.39	8.99
10/8/2004	1886	26260	55440	29180	14.59	9.12
10/8/2004	1887	25100	43420	18320	9.16	5.73
10/8/2004	1888	22200	55080	32880	16.44	10.28
10/8/2004	1889	26260	56660	30400	15.2	9.50
10/8/2004	1890	25100	42520	17420	8.71	5.44
10/8/2004	1891	22200	52500	30300	15.15	9.47
10/8/2004	1892	26260	55340	29080	14.54	9.09
10/8/2004	1893	25100	40980	15880	7.94	4.96
10/8/2004	1894	22200	52240	30040	15.02	9.39
10/8/2004	1895	26260	55620	29360	14.68	9.18
10/8/2004	1896	25100	41840	16740	8.37	5.23
10/8/2004	1897	22200	48440	26240	13.12	8.20
10/8/2004	1898	26260	53860	27600	13.8	8.63
10/8/2004	1899	25100	42480	17380	8.69	5.43
10/8/2004	1900	26260	56780	30520	15.26	9.54
10/8/2004	1901	25100	42420	17320	8.66	5.41
10/8/2004	1902	26260	55540	29280	14.64	9.15
10/8/2004	1903	22200	50380	28180	14.09	8.81
10/8/2004	1904	25100	43880	18780	9.39	5.87
10/8/2004	1905	26260	56000	29740	14.87	9.29
10/8/2004	1906	24920	54500	29580	14.79	9.24
10/8/2004	1907	22200	50740	28540	14.27	8.92
10/8/2004	1908	25100	42000	16900	8.45	5.28
10/8/2004	1909	26260	55320	29060	14.53	9.08
Total		911700	1847540	935840	467.92	**292.45**

Total loads = 37

	207.57	129.73
	467.92	292.45
Grand Total, Week of 4 October 2004	675.49	422.18
Grand Total Loads		56

Table F-6
Soil Hauled to Asbestos Cell at Lincoln County Landfill
BNSF Libby Railyard Response Action 2004
Week of 11 October 2004

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/11/2004	1910	24380	51980	27600	13.8	8.63
10/11/2004	1911	22180	50320	28140	14.07	8.79
10/11/2004	1912	25940	55360	29420	14.71	9.19
10/11/2004	1913	20660	39060	18160	9.08	5.68
10/11/2004	1914	25960	44280	18320	9.16	5.73
10/11/2004	1915	24380	53940	29560	14.78	9.24
10/11/2004	1916	22180	56660	34480	17.24	10.78
10/11/2004	1917	25940	56660	30720	15.36	9.60
10/11/2004	1918	20660	39060	18460	9.49	5.93
10/11/2004	1919	25960	44860	18920	9.46	5.91
10/11/2004	1920	24380	56820	32440	16.22	10.14
10/11/2004	1921	22180	57040	34860	17.43	10.89
10/11/2004	1922	25940	60920	34980	17.49	10.93
10/11/2004	1923	20660	40800	19920	9.96	6.23
10/11/2004	1924	25960	45040	19080	9.54	5.96
10/11/2004	1925	24380	58800	34420	17.21	10.76
10/11/2004	1926	22180	61300	39120	19.56	12.29
10/11/2004	1927	25040	57280	31340	15.67	9.79
10/11/2004	1928	20680	40620	19740	9.87	6.17
10/11/2004	1929	25960	44200	18240	9.12	5.70
10/11/2004	1930	24360	60420	36060	18.02	11.26
10/11/2004	1931	22180	53340	31160	15.58	9.74
10/11/2004	1932	25940	50660	24920	12.46	7.79
10/11/2004	1933	20680	40180	19500	9.75	6.09
10/11/2004	1934	25960	43600	17640	8.82	5.51
10/11/2004	1935	24380	49960	25580	12.79	7.99
10/11/2004	1936	22180	47380	25200	12.6	7.88
10/11/2004	1937	25940	53200	27260	13.63	8.52
10/11/2004	1938	20560	42340	21480	10.73	6.71
10/11/2004	1939	25960	45560	19600	9.8	6.13
10/11/2004	1940	24380	48480	24100	12.05	7.53
10/11/2004	1941	22180	49740	27560	13.78	8.61
10/11/2004	1942	25940	53100	27160	13.58	8.49
10/11/2004	1943	20680	40360	19500	9.75	6.09
10/11/2004	1944	25960	44820	18860	9.43	5.89
10/11/2004	1945	24380	49620	25240	12.62	7.89
10/11/2004	1946	22180	47960	25780	12.89	8.06
10/11/2004	1947	25940	52740	26800	13.4	8.38
10/11/2004	1948	20680	40260	19320	9.66	6.04
10/11/2004	1949	25960	45480	19440	9.72	6.08
10/11/2004	1950	24380	48640	24260	12.13	7.58
10/11/2004	1951	22180	50220	28040	14.02	8.76
10/11/2004	1952	20680	38960	18280	9.04	5.65
10/11/2004	1953	25940	54560	28620	14.31	8.94
10/11/2004	1954	25960	43400	17440	8.72	5.45
10/11/2004	1955	24380	52640	28260	14.13	8.83
10/11/2004	1956	22180	49540	27360	13.68	8.55
10/11/2004	1957	20680	40520	19640	9.82	6.14
10/11/2004	1958	25940	55160	29220	14.61	9.13
10/11/2004	1959	25960	44540	18580	9.29	5.81
10/11/2004	1960	24380	53120	28740	14.37	8.98
10/11/2004	1961	22180	54220	32040	16.02	10.01
10/11/2004	1962	20680	41420	20740	10.37	6.48
10/11/2004	1963	25940	55660	29720	14.86	9.29
10/11/2004	1964	25960	44460	18500	9.25	5.78
10/11/2004	1965	24380	53620	29240	14.62	9.14
10/11/2004	1966	22180	51960	29780	14.89	9.31
10/11/2004	1967	20680	40260	19580	9.63	6.06
10/11/2004	1968	25940	52960	27040	13.52	8.45
10/11/2004	1969	25960	43860	17920	8.96	5.60
10/11/2004	1970	24380	49820	25540	12.77	7.98
10/11/2004	1971	22180	50440	28260	14.13	8.83
10/11/2004	1972	20680	39860	19180	9.34	5.84
10/11/2004	1973	25940	55900	29960	14.98	9.36
10/11/2004	1974	25960	43520	17560	8.78	5.49
10/11/2004	1975	24380	53780	29400	14.7	9.19
10/11/2004	1976	22180	53240	31060	15.53	9.71
10/11/2004	1977	20680	41240	20560	10.28	6.38
10/11/2004	1978	25940	57560	31620	15.81	9.88
10/11/2004	1979	25960	44500	18540	9.27	5.79
10/11/2004	1980	24380	56520	32140	16.07	10.04
Total		1695140	3491240	1796100	898.05	561.28

Total loads - 71

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/12/2004	1981	20680	42760	21880	10.94	6.84
10/12/2004	1982	24380	49420	25040	12.52	7.83
10/12/2004	1983	22180	49700	27520	13.76	8.60
10/12/2004	1984	25940	53360	27440	13.72	8.58
10/12/2004	1985	25960	43500	17540	8.77	5.48
10/12/2004	1986	20680	40660	19980	9.89	6.18
10/12/2004	1987	24380	56620	31840	15.94	9.96
10/12/2004	1988	22180	53320	31340	15.67	9.79
10/12/2004	1989	24940	50640	25700	12.85	8.03
10/12/2004	1990	25960	43460	17500	8.75	5.47
10/12/2004	1991	20680	37500	16820	8.31	5.19
10/12/2004	1992	24380	50180	25800	12.9	8.06
10/12/2004	1993	22180	54400	32220	16.11	10.07
10/12/2004	1994	25040	51760	25820	12.91	8.07
10/12/2004	1995	25960	42380	16420	8.21	5.13
10/12/2004	1996	20680	37520	16840	8.32	5.20
10/12/2004	1997	24380	49240	24860	12.43	7.77
10/12/2004	1998	22180	47400	25220	12.61	7.88
10/12/2004	1999	25940	47640	21700	10.85	6.78
10/12/2004	2000	25960	43020	17060	8.53	5.33
10/12/2004	2001	20680	37640	16960	8.38	5.24
10/12/2004	2002	24380	46640	22260	11.13	6.96
10/12/2004	2003	22180	49920	27740	13.87	8.67
10/12/2004	2004	25940	53300	27360	13.68	8.55
10/12/2004	2005	25960	43840	17880	8.94	5.59
10/12/2004	2006	20680	38640	17960	8.98	5.61
10/12/2004	2007	24380	49880	25500	12.75	7.97
10/12/2004	2008	22180	48860	26680	13.34	8.34
10/12/2004	2009	25940	48420	22480	11.24	7.03
10/12/2004	2010	25960	44740	18780	9.39	5.87
10/12/2004	2011	20680	38800	17920	8.96	5.60
10/12/2004	2012	22180	46460	24280	12.14	7.59
10/12/2004	2013	25960	43480	17520	8.76	5.48
10/12/2004	2014	20680	38580	18100	9.05	5.66
10/12/2004	2015	25940	51920	25980	12.99	8.12
10/12/2004	2016	24380	48940	24560	12.28	7.68
10/12/2004	2017	22180	43980	21800	10.9	6.81
10/12/2004	2018	25960	43960	18000	9	5.63
10/12/2004	2019	20680	38680	17960	8.99	5.62
10/12/2004	2020	25940	50740	24800	12.4	7.75
10/12/2004	2021	24380	50060	25680	12.84	8.03
10/12/2004	2022	22180	50020	27840	13.92	8.70
10/12/2004	2023	25960	43440	17480	8.74	5.46
10/12/2004	2024	20680	38580	17700	8.85	5.53
10/12/2004	2025	25940	52480	26540	13.27	8.29
10/12/2004	2026	24380	52560	28180	14.09	8.81
10/12/2004	2027	22180	50680	28500	14.25	8.91
10/12/2004	2028	25960	44040	18080	9.04	5.65
10/12/2004	2029	20680	37080	16200	8.1	5.06
10/12/2004	2030	25940	50620	24680	12.34	7.71
10/12/2004	2031	24380	53380	29000	14.5	9.25
10/12/2004	2032	22180	51820	29640	14.82	9.26
10/12/2004	2033	20680	40380	19700	9.75	6.09
10/12/2004	2034	25940	54800	28860	14.43	9.02
10/12/2004	2035	24380	55000	30620	15.31	9.57
10/12/2004	2036	22180	49800	27620	13.81	8.63
10/12/2004	2037	20680	39080	18200	9.1	5.69
10/12/2004	2038	25940	55620	29680	14.84	9.09
Total		1375660	2722140	1346480	673.24	420.78

Total loads - 58

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/13/2004	3039	25960	44080	18120	9.06	5.66
10/13/2004	3040	24380	45920	21540	10.77	6.73
10/13/2004	3041	22180	52180	30000	15	9.38
10/13/2004	3042	20680	38460	18580	9.29	5.81
10/13/2004	3043	25940	50720	24780	12.39	7.74
10/13/2004	3044	24380	51680	27300	13.65	8.53
10/13/2004	3045	20680	42220	21340	10.67	6.67
10/13/2004	3046	22180	49920	27740	13.87	8.66
10/13/2004	3047	25960	42900	16940	8.47	5.29
10/13/2004	3048	25940	55040	29100	14.55	9.09
10/13/2004	3049	20680	41720	20840	10.42	6.51
10/13/2004	3050	24380	57380	33000	16.5	10.31
10/13/2004	3051	22180	50620	25440	14.22	8.89
10/13/2004	3052	25960	45140	19180	9.59	5.99
10/13/2004	3053	25940	50240	24300	12.15	7.59
10/13/2004	3054	20680	39120	18440	9.12	5.70
10/13/2004	3055	24380	48800	24420	12.21	7.63
10/13/2004	3056	22180	52800	30620	15.31	9.57
10/13/2004	3057	25960	43060	17100	8.55	5.34
10/13/2004	3058	25940	59940	34000	17	10.63
10/13/2004	3059	24380	51280	26900	13.45	8.41
10/13/2004	3060	20680	43320	22440	11.22	7.01
10/13/2004	3061	22180	49600	27420	13.71	8.57
10/13/2004	3062	25960	40780	14820	7.41	4.63
10/13/2004	3063	25940	53860	27920	13.96	8.73
10/13/2004	3064	20680	39320	18640	9.32	5.78
10/13/2004	3065	24380	53360	30980	15.49	9.68
10/13/2004	3066	22180	47800	25620	12.81	8.01
10/13/2004	3067	25960	45560	19600	9.8	6.13
10/13/2004	3068	25940	53180	27240	13.62	8.51
10/13/2004	3069	20680	51860	31180	15.59	9.72
10/13/2004	3070	24380	54800	30420	15.21	9.51
10/13/2004	3071	22180	52300	30120	15.06	9.41
10/13/2004	3072	25960	45420	19460	9.73	6.08
10/13/2004	3073	25940	54500	28560	14.28	8.93
10/13/2004	3074	20680	43060	22180	11.09	6.93
10/13/2004	3075	24380	54840	30460	15.23	9.52
10/13/2004	3076	25960	42860	17020	8.51	5.32
10/13/2004	3077	22180	50860	28620	14.31	8.94
10/13/2004	3078	25940	54700	28760	14.38	8.99
10/13/2004	3079	20680	41860	20980	10.49	6.56
10/13/2004	3080	24380	49720	25340	12.67	7.92
10/13/2004	3081	25960	44100	18140	9.07	5.67
10/13/2004	3082	25940	59040	33100	16.55	10.34
10/13/2004	3083	20680	42340	21660	10.83	6.86
10/13/2004	3084	22180	53900	31720	15.86	9.91
10/13/2004	3085	24380	53180	28760	14.38	8.99
10/13/2004	3086	25960	44540	18580	9.29	5.81
10/13/2004	3087	25940	60680	34740	17.47	10.92
10/13/2004	3088	20680	44720	23340	11.67	7.29
10/13/2004	3089	22180	51200	29020	14.51	9.07
10/13/2004	3090	24380	55540	31160	15.58	9.74
10/13/2004	3091	25960	44460	18500	9.25	5.78
10/13/2004	3092	25940	51400	25460	12.73	7.96
10/13/2004	3093	20680	40720	19840	9.92	6.20
10/13/2004	3094	22180	50560	28380	14.19	8.87
10/13/2004	3095	24380	57480	33100	16.55	10.34
10/13/2004	3096	25960	43860	17900	8.95	5.59
10/13/2004	3097	25940	59600	33720	16.86	10.54
10/13/2004	3098	20680	39820	18940	9.47	5.92
10/13/2004	3099	22180	52500	30320	15.16	9.48
10/13/2004	3100	24380	51680	27300	13.65	8.53
10/13/2004	3101	25960	39600	13640	6.82	4.26
10/13/2004	3102	20680	36580	15700	7.85	4.91
Total		1524180	3116700	1592520	796.26	497.66

Total loads - 64

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/14/2004	3106	22180	50000	27820	13.91	8.69
10/14/2004	3107	24380	45700	21320	10.66	6.66
10/14/2004	3108	25940	55320	29380	14.69	9.18
10/14/2004	3109	25960	44820	18860	9.43	5.89
10/14/2004	3110	20680	39280	18400	9.2	5.75
10/14/2004	3111	22180	51820	29640	14.82	9.26
10/14/2004	3112	24380	52500	28120	14.06	8.79
10/14/2004	3113	25940	55760	29840	14.92	9.33
10/14/2004	3114	25960	43500	17540	8.77	5.48
10/14/2004	3115	20680	38180	17500	8.65	5.41
10/14/2004	3116	22180	51700	29520	14.76	9.23
10/14/2004	3117	24380	52740	28360	14.18	8.86
10/14/2004	3118	25940	55600	29660	14.83	9.27
10/14/2004	3119	25960	43900	17940	8.97	5.61
10/14/2004	3120	20680	39860	19180	9.49	5.93
10/14/2004	3121	22180	51800	29620	14.81	9.26
10/14/2004	3122	24380	50400	26020	13.01	8.13
10/14/2004	3123	25940	53300	27360	13.68	8.55
10/14/2004	3124	25960	43980	18020	9.01	5.63
10/14/2004	3125	20680	42540	21860	10.93	6.77
10/14/2004	3126	22180	55480	33300	16.65	10.41
10/14/2004	3127	24380	52240	27860	13.93	8.71
10/14/2004	3128	25940	58100	32160	16.08	10.05
10/14/2004	3129	25960	44540	18580	9.29	5.81
10/14/2004	3130	20680	41220	20540	10.27	6.36
10/14/2004	3131	22180	45200	23020	11.51	7.19
10/14/2004	3132	24380	52560	28180	14.09	8.81
10/14/2004	3133	25960	43560	17620	8.81	5.51
10/14/2004	3134	25940	52120	26180	13.09	8.18
10/14/2004	3135	20680	39200	18520	9.16	5.73
10/14/2004	3136	22180	51800	29620	14.81	9.26
10/14/2004	3137	24380	51960	27420	13.71	8.57
10/14/2004	3138	25960	43380	17420	8.71	5.44
10/14/2004	3139	20680	41060	20200	10.1	6.31
10/14/2004	3140	24380	50800	26420	13.21	8.26
10/14/2004	3141	25940	53340	27400	13.7	8.56
10/14/2004	3142	22180	54060	32480	16.24	10.15
10/14/2004	3143	25960	43160	17200	8.6	5.38
10/14/2004	3144	20680	43040	22180	11.09	6.93
10/14/2004	3145	24380	55400	31020	15.51	9.69
10/14/2004	3146	25940	55560	29620	14.81	9.26
10/14/2004	3147	22180	50800	28620	14.31	8.94
10/14/2004	3148	25960	44580	18620	9.31	5.82
10/14/2004	3149	20680	39700	18820	9.41	5.88
10/14/2004	3150	24380	54380	30000	15	9.38
10/14/2004	3151	25940	52080	26140	13.07	8.17
10/14/2004	3152	22180	50260	28080	14.04	8.78
10/14/2004	3153	25960	44580	18620	9.31	5.82
10/14/2004	3154	20680	40700	19820	9.91	6.19
10/14/2004	3155	24380	57620	33240	16.62	10.39
10/14/2004	3156	25940	57640	31700	15.85	9.91
10/14/2004	3157	22180	53560	31480	15.74	9.84
10/14/2004	3158	25960	41820	15860	7.93	4.96
10/14/2004	3159	24380	54560	29700	14.85	9.28
10/14/2004	3160	20680	39560	18700	9.35	5.84
10/14/2004	3161	25940	52060	26120	13.06	8.16
10/14/2004	3162	22180	53440	31260	15.63	9.77
10/14/2004	3163	25960	44460	18500	9.25	5.78
10/14/2004	3164	24380	53400	29020	14.51	9.07
10/14/2004	3165	20680	42340	21660	10.83	6.77
10/14/2004	3166	25940	55200	29260	14.63	9.14
10/14/2004	3167	22180	50040	27860	13.93	8.71
10/14/2004	3168	25960	45980	20020	10.01	6.26
10/14/2004	3169	24380	55040	30660	15.33	9.58
10/14/2004	3170	20680	41900	21020	10.51	6.57
10/14/2004	3171	22180	53680	31500	15.75	9.84
10/14/2004	3172	25960	43880	17920	8.96	5.60
10/14/2004	3173	25940	54360	28420	19.21	12.01
10/14/2004	3174	20680	37280	16400	8.2	5.13
Total		1644820	3375520	1730700	865.35	540.84

Total loads - 68

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/15/2004	3175	25960	42820	16860	8.43	5.27
10/15/2004	3176	25940	47840	21900	10.95	6.84
10/15/2004	3177	22180	54840	32660	16.33	10.21
10/15/2004	3178	20680	43800	22920	11.46	7.16
10/15/2004	3179	25960	44820	18860	9.43	5.89
10/15/2004	3180	25940	56620	30680	15.34	9.59
10/15/2004	3181	22180	58660	36480	18.24	11.40
10/15/2004	3182	20680	40840	19960	9.98	6.24
10/15/2004	3183	25960	40460	14500	7.25	4.53
10/15/2004	3184	25940	56080	30140	15.07	9.42
10/15/2004	3185	22180	55440	33260	16.63	10.39
10/15/2004	3186	20680	40280	19380	9.69	6.06
10/15/2004	3187	25960	43760	17800	8.9	5.56
10/15/2004	3188	25940	60060	34120	17.06	10.66
10/15/2004	3189	20680	42100	21220	10.61	6.63
10/15/2004	3190	22180	50940	28760	14.38	8.99
10/15/2004	3191	25960	41540	15580	7.79	4.86
10/15/2004	3192	25940	50760	24820	12.41	7.76
10/15/2004	3193	22180	48040	25860	12.93	8.08
10/15/2004	3194	25960	40140	14180	7.09	4.43
10/15/2004	3195	25940	52340	26400	13.2	8.25
10/15/2004	3196	22180	45740	23560	11.78	7.36
10/15/2004	3197	25960	43800	17840	8.92	5.58
10/15/2004	3198	25940	50720	24780	12.39	7.74
10/15/2004	3199	22180	48500	26320	13.16	8.23
10/15/2004	3200	25960	41280	15320	7.66	4.79
10/15/2004	3201	25940	47220	21280	10.64	6.65
10/15/2004	3202	22180	49940	27760	13.88	8.68
10/15/2004	3203	25960	39460	13500	6.75	4.22
10/15/2004	3204	25940	52140	26200	13.1	8.19
10/15/2004	3205	25960	45220	19260	9.63	6.02
Total		754020	1476280	722260	361.13	225.71

Total loads - 30

	898.05	561.28
	673.24	420.78
	796.26	497.66
	865.35	540.84
	361.13	225.71
Grand Total Week of 11 October 2004	3594.03	2246.27
Grand Total Loads	291	

Table F-7
Soil Hauled to Asbestos Cell at Lincoln County Landfill
BNSF Libby Railyard Response Action 2004
Week of 18 October 2004

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
10/18/2004	3206	24260	58860	34600	17.3	10.81
10/18/2004	3207	25940	52480	26540	13.27	8.29
10/18/2004	3208	20520	42680	22160	11.08	6.93
10/18/2004	3209	21960	57700	35740	17.87	11.17
10/18/2004	3210	25200	45020	19820	9.91	6.19
10/18/2004	3211	24260	56420	32160	16.08	10.05
10/18/2004	3212	25940	52440	26500	13.25	8.28
10/18/2004	3213	20520	43880	23360	11.68	7.30
10/18/2004	3214	21960	52320	30360	15.18	9.49
10/18/2004	3215	25200	43380	18180	9.09	5.68
10/18/2004	3216	24260	55160	30920	15.46	9.66
10/18/2004	3217	25940	53440	27500	13.75	8.59
10/18/2004	3218	20520	40700	20180	10.09	6.31
10/18/2004	3219	21960	59300	37340	18.67	11.67
10/18/2004	3220	25200	45940	20740	10.37	6.48
10/18/2004	3221	24260	49120	24860	12.43	7.77
10/18/2004	3222	25940	49340	23400	11.7	7.31
10/18/2004	3223	20520	41960	21440	10.72	6.70
10/18/2004	1501	21960	59660	37700	18.85	11.78
10/18/2004	1502	25200	44820	19620	9.81	6.13
10/18/2004	1503	24260	51840	27580	13.79	8.62
10/18/2004	1504	25940	55040	29100	14.55	9.09
10/18/2004	1505	20520	40860	20340	10.17	6.36
10/18/2004	1506	21960	53020	31060	15.53	9.71
10/18/2004	1507	25200	44120	18920	9.46	5.91
10/18/2004	1508	24260	51980	27720	13.86	8.66
10/18/2004	1509	20520	43140	22620	11.31	7.07
10/18/2004	1510	24260	53860	29600	14.8	9.25
10/18/2004	1511	25200	44340	19140	9.57	5.98
10/18/2004	1512	25940	53580	27640	13.82	8.64
10/18/2004	1513	21960	51820	29860	14.93	9.33
10/18/2004	1514	20520	40600	20080	10.04	6.28
10/18/2004	1515	24620	56480	31860	15.93	9.96
10/18/2004	1516	25200	45780	20580	10.29	6.43
10/18/2004	1517	25940	55540	29600	14.8	9.25
10/18/2004	1518	21960	54320	32360	16.18	10.11
10/18/2004	1519	20520	43080	22560	11.28	7.05
10/18/2004	1520	24260	54400	30140	15.07	9.42
10/18/2004	1521	25200	44240	19040	9.52	5.95
10/18/2004	1522	25940	54280	28340	14.17	8.86
10/18/2004	1523	21960	55620	33660	16.83	10.52
10/18/2004	1524	20520	40600	20080	10.14	6.34
10/18/2004	1525	24260	60700	36440	18.22	11.39
10/18/2004	1526	25200	48020	22820	11.41	7.13
10/18/2004	1527	21960	55640	33680	16.84	10.53
10/18/2004	1528	25840	46000	20160	10.03	6.27
10/18/2004	1529	25200	50960	25760	12.88	8.05
Total		1110740	2354700	1243960	621.98	388.74

Total loads = 47

Dirty Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
10/19/2004	1530	25940	49980	24040	12.02	7.51
10/19/2004	1531	21960	52480	30520	15.26	9.54
10/19/2004	1532	25200	43340	18140	9.07	5.67
10/19/2004	1533	25940	46400	20460	10.23	6.39
10/19/2004	3224	21960	48240	26280	13.14	8.21
10/19/2004	3225	25200	40200	15000	7.5	4.69
10/19/2004	3226	25940	50480	24540	12.27	7.67
10/19/2004	3227	21960	52240	30280	15.14	9.46
10/19/2004	3228	25200	39400	14200	7.1	4.44
10/19/2004	3229	25940	54440	28500	14.25	8.91
10/19/2004	3230	21960	54980	33020	16.51	10.32
10/19/2004	3231	25200	42580	17380	8.69	5.43
10/19/2004	3232	25940	55660	29720	14.86	9.29
10/19/2004	3233	21960	51760	29800	14.9	9.31
10/19/2004	3234	25200	43740	18540	9.27	5.79
10/19/2004	3235	25940	54060	28120	14.06	8.79
10/19/2004	3236	21960	48820	26860	13.43	8.39
10/19/2004	3237	25200	43640	18440	9.22	5.76
10/19/2004	3238	25940	55580	29640	14.82	9.26
10/19/2004	3239	21960	50720	28760	14.38	8.99
10/19/2004	3240	25940	52640	26700	13.35	8.34
10/19/2004	3241	21960	50120	28160	14.08	8.80
10/19/2004	3242	25200	40980	15780	7.89	4.93
10/19/2004	3243	25940	50820	24880	12.44	7.78
10/19/2004	3244	21960	51740	29780	14.89	9.31
10/19/2004	3245	25200	42540	17340	8.67	5.42
Total		632700	1267580	634880	317.44	198.40

Total loads = 26

Dirty Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
10/20/2004	3246	25940	55080	29140	14.57	9.11
10/20/2004	3247	21960	52780	30820	15.41	9.63
10/20/2004	3248	25200	39660	14460	7.23	4.52
10/20/2004	3249	20520	40800	20280	10.14	6.34
10/20/2004	3250	25940	56820	30880	15.44	9.65
10/20/2004	1700	25200	42560	17360	8.68	5.43
10/20/2004	1701	21960	54320	32360	16.18	10.11
10/20/2004	1702	20520	42480	21960	10.98	6.86
10/20/2004	1703	25940	55940	30000	15	9.38
10/20/2004	1704	25200	45540	20340	10.17	6.36
10/20/2004	1705	21960	53080	31120	15.56	9.73
10/20/2004	1706	20520	41280	20760	10.38	6.49
10/20/2004	1707	25940	57360	31420	15.71	9.82
10/20/2004	1708	24260	56440	32180	16.09	10.06
10/20/2004	1709	25200	43540	18340	9.17	5.73
10/20/2004	1710	21960	53460	31500	15.75	9.84
10/20/2004	1711	20520	42620	22100	11.05	6.91
10/20/2004	1712	25940	58980	33040	16.52	10.33
10/20/2004	1713	24260	54540	30280	15.14	9.46
10/20/2004	1714	25200	43980	18780	9.39	5.87
10/20/2004	1715	21960	48480	26520	13.26	8.29
10/20/2004	1716	20520	40800	20280	10.14	6.34
10/20/2004	1717	25940	50760	24820	12.41	7.76
10/20/2004	1718	24260	56720	32460	16.23	10.14
10/20/2004	1719	25200	42780	17580	8.79	5.49
10/20/2004	1720	21960	53740	31780	15.89	9.93
10/20/2004	1721	20520	38460	17940	8.97	5.61
10/20/2004	1722	24260	56660	32400	16.2	10.13
10/20/2004	1723	25200	44760	19560	9.78	6.11
10/20/2004	1724	20520	41100	20580	10.29	6.43
10/20/2004	1725	25940	55620	29680	14.84	9.28
10/20/2004	1726	21960	55020	33060	16.53	10.33
10/20/2004	1727	24260	55380	31120	15.56	9.73
10/20/2004	1728	25200	45220	20020	10.01	6.26
10/20/2004	1729	20520	43100	22580	11.29	7.06
10/20/2004	1730	25940	58240	32300	16.15	10.09
10/20/2004	1731	21960	62200	40240	20.12	12.58
10/20/2004	1732	24260	53560	29300	14.65	9.16
10/20/2004	1733	25200	44260	19060	9.53	5.96
10/20/2004	1734	20520	41220	20700	10.35	6.47
10/20/2004	1735	25940	53600	27660	13.83	8.64
10/20/2004	1736	21960	53120	31160	15.58	9.74
10/20/2004	1737	24260	54860	30600	15.3	9.56
10/20/2004	1738	25200	42620	17420	8.71	5.44
10/20/2004	1739	20520	42940	22420	11.21	7.01
10/20/2004	1740	25940	66780	40840	20.42	12.76
10/20/2004	1741	21960	59980	38020	19.01	11.88
Total		1106020	2353240	1247220	623.61	389.76

Total loads = 47

Dirty Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
10/21/2004	1742	25940	55460	29520	14.76	9.23
10/21/2004	1743	25200	42300	17100	8.55	5.34
10/21/2004	1744	25940	60340	34400	17.2	10.75
10/21/2004	1745	25200	45260	20060	10.03	6.27
10/21/2004	1746	25940	61220	35280	17.64	11.03
10/21/2004	1747	25200	50100	24900	12.45	7.78
10/21/2004	1748	25940	56440	30500	15.25	9.53
10/21/2004	1749	25200	43620	18420	9.21	5.76
10/21/2004	1750	25200	36560	11360	5.68	3.55
10/21/2004	10372	25940	35560	9620	4.81	3.01
10/21/2004	10373	25200	44220	19020	9.51	5.94
10/21/2004	10374	25940	59580	33640	16.82	10.51
Total		306840	590680	283840	141.92	88.70

Total loads - 12

	621.98	388.74
	317.44	198.40
	623.61	389.76
	141.92	88.70
Grand Total Week of 18 October 2004	1704.95	1065.59
Grand Total Loads		132

Appendix G

Documentation of Imported Clean Backfill

TABLE G-1

Summary of Imported Clean Backfill From Remp Sand and Gravel BNSF Libby Yard Response Action 2004

Week	Weekly Tons	Weekly Cu. Yards
9/27/2004	2063.86	1289.91
10/4/2004	2,833.79	1,771.12
10/11/2004	3,032.74	1,895.46
10/18/2004	5,868.81	3,668.01
10/25/2004	3,814.75	2,384.22
11/1/2004	178.36	111.48
Total	**17,792.31**	**11,120.19**

TABLE G-2

Summary of Imported Clean Backfill
From Remp Sand and Gravel
BNSF Libby Yard Response Action 2004
Week of 27 September 2004

Sub-Ballast Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
9/28/2004	1751	24060	58180	34120	17.06	10.66
9/28/2004	1752	24060	58180	34120	17.06	10.66
9/28/2004	1753	24060	55800	31740	15.87	9.92
9/28/2004	1754	24060	57320	33260	16.63	10.39
9/28/2004	1755	24060	56760	32700	16.35	10.22
9/28/2004	1756	24060	56320	32260	16.13	10.08
9/28/2004	1757	24060	54660	30600	15.3	9.56
9/28/2004	1758	24060	55060	31000	15.5	9.69
9/28/2004	1759	24060	58000	33940	16.97	10.61
9/28/2004	1760	24060	58120	34060	17.03	10.64
9/28/2004	1761	24060	57720	33660	16.83	10.52
9/28/2004	1762	24060	57060	33000	16.5	10.31
9/28/2004	1763	24060	56200	32140	16.07	10.04
9/28/2004	1764	24060	53700	29640	14.82	9.26
9/28/2004	1765	24060	60380	36320	18.16	11.35
9/28/2004	1766	24060	62020	37960	18.98	11.86
Total =		384960	915480	530520	265.26	165.79

Sub-Ballast Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
9/29/2004	1767	24040	58600	34560	17.28	10.80
9/29/2004	1768	24040	51980	27940	13.97	8.73
9/29/2004	1769	24040	59780	35740	17.87	11.17
9/29/2004	1770	24040	59420	35380	17.69	11.06
9/29/2004	1771	24040	58760	34720	17.36	10.85
9/29/2004	1772	24040	61180	37140	18.57	11.61
9/29/2004	1773	24040	60680	36640	18.32	11.45
9/29/2004	1774	24040	58740	34700	17.35	10.84
9/29/2004	1775	24040	57760	33720	16.86	10.54
9/29/2004	1776	24040	57660	33620	16.81	10.51
9/29/2004	1777	24040	57580	33540	16.77	10.48
9/29/2004	1778	24040	58760	34720	17.36	10.85
9/29/2004	1779	24040	59020	34980	17.49	10.93
9/29/2004	1780	24040	60800	36760	18.38	11.49
9/29/2004	1781	24040	55900	31860	15.93	9.96
9/29/2004	1782	24040	56780	32740	16.37	10.23
9/29/2004	1783	24040	58120	34080	17.04	10.65
9/29/2004	1784	24040	58700	34660	17.33	10.83
9/29/2004	1785	24040	55400	31360	15.68	9.80
9/29/2004	1786	24040	50080	35040	17.52	10.95
9/29/2004	1787	24040	60900	36860	18.43	11.52
9/29/2004	1788	24040	55220	31180	15.59	9.74
9/29/2004	1789	24040	57140	33100	16.55	10.34
9/29/2004	1790	24040	59520	35480	17.74	11.09
9/29/2004	1791	24040	57940	33900	16.95	10.59
9/29/2004	1792	24040	59860	35820	17.91	11.19
9/29/2004	1793	24040	57580	33540	16.77	10.48
9/29/2004	1794	24040	58260	34220	17.11	10.69
9/29/2004	1795	24040	56560	32520	16.26	10.16
9/29/2004	1796	24040	57440	33400	16.7	10.44
9/29/2004	1797	24040	56880	32840	16.42	10.26
9/29/2004	1798	24040	57940	33900	16.95	10.59
9/29/2004	1799	24040	59120	35080	17.54	10.96
9/29/2004	1800	24040	57220	33180	16.59	10.37
Total =		817360	1976280	1158920	579.46	362.16

Sub-Ballast Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
9/30/2004	1801	24040	61040	37000	18.5	11.56
9/30/2004	1802	24040	58280	34240	17.12	10.70
9/30/2004	1803	24040	58320	34280	17.14	10.71
9/30/2004	1804	24040	59280	35240	17.62	11.01
9/30/2004	1805	24040	60620	36580	18.29	11.43
9/30/2004	1806	24040	58300	34260	17.13	10.71
9/30/2004	1807	24040	60380	36340	18.17	11.36
9/30/2004	1808	24040	59800	35760	17.88	11.18
9/30/2004	1809	24040	61620	37580	18.79	11.74
9/30/2004	1810	24040	59760	35720	17.86	11.16
9/30/2004	1811	24040	58600	34560	17.28	10.80
9/30/2004	1812	24040	56800	32760	16.38	10.24
9/30/2004	1813	24040	57840	33800	16.9	10.56
9/30/2004	1814	24040	58380	34340	17.17	10.73
9/30/2004	1815	24040	59380	35320	17.66	11.04
9/30/2004	1816	24040	53940	29900	14.95	9.34
9/30/2004	1817	24040	53580	29540	14.77	9.23
9/30/2004	1818	24040	58380	34340	17.17	10.73
9/30/2004	1819	24040	52760	28720	14.36	8.98
9/30/2004	1820	24040	58800	34760	17.38	10.86
9/30/2004	1821	24040	57820	33780	16.89	10.56
9/30/2004	1822	24040	58940	34900	17.45	10.91
9/30/2004	1823	24040	60500	36460	18.23	11.39
9/30/2004	1824	24040	56080	32040	16.02	10.01
9/30/2004	1825	24040	57280	33240	16.62	10.39
9/30/2004	1826	24040	59440	35400	17.7	11.06
9/30/2004	1827	24040	59320	35280	17.64	11.03
9/30/2004	1828	24040	59100	35060	17.53	10.96
9/30/2004	1829	24040	55360	31320	15.91	9.94
9/30/2004	1830	24040	55320	31280	15.64	9.78
9/30/2004	1831	24040	58660	34620	17.31	10.82
9/30/2004	1832	24040	58900	34860	17.43	10.89
9/30/2004	1833	24040	59420	35380	17.69	11.06
9/30/2004	1834	24040	59680	35640	17.82	11.14
9/30/2004	1835	24040	57140	33100	16.55	10.34
9/30/2004	1836	24040	57920	33880	16.94	10.59
9/30/2004	1837	24040	60560	36520	18.26	11.41
Total =		889480	2157780	1268300	634.15	396.34

Sub-Ballast Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/1/2004	1838	24040	60360	36320	18.16	11.35
10/1/2004	1839	24040	58700	34660	17.33	10.83
10/1/2004	1840	24040	58120	34080	17.04	10.65
10/1/2004	1841	24040	58260	34220	17.11	10.69
10/1/2004	1842	24040	57400	33360	16.68	10.43
10/1/2004	1843	24040	60440	36400	18.2	11.38
10/1/2004	1844	24040	61080	37040	18.52	11.58
10/1/2004	1845	24040	60240	36200	18.1	11.31
10/1/2004	1846	24040	60840	36800	18.4	11.50
10/1/2004	1847	24040	60140	36100	18.05	11.28
10/1/2004	1848	24040	58220	34180	17.09	10.68
10/1/2004	1849	24040	57740	33700	16.85	10.53
10/1/2004	1850	24040	63520	39480	19.74	12.34
10/1/2004	1851	24040	56340	32300	16.15	10.09
10/1/2004	1852	24040	57520	33480	16.74	10.46
10/1/2004	1853	24040	57700	33660	16.83	10.52
10/1/2004	1854	24040	56540	32500	16.25	10.16
10/1/2004	1855	24040	48020	23980	11.99	7.49
10/1/2004	1856	24040	60700	36660	18.33	11.46
10/1/2004	1857	24040	60160	36120	18.06	11.29
10/1/2004	1858	24040	58060	34020	17.01	10.63
10/1/2004	1859	24040	59320	35280	17.64	11.03
10/1/2004	1860	24040	57880	33840	16.92	10.58
10/1/2004	1861	24040	57640	33600	16.8	10.50
10/1/2004	1862	24040	58520	34480	17.24	10.81
10/1/2004	1863	24040	56360	32320	16.16	10.10
10/1/2004	1864	24040	59820	35780	17.89	11.18
10/1/2004	1865	24040	60420	36380	18.19	11.37
10/1/2004	1866	24040	57340	33300	16.65	10.41
10/1/2004	1867	24040	57780	33720	16.86	10.54
10/1/2004	1868	24040	57320	33280	16.64	10.40
10/1/2004	1869	24040	56540	32500	16.25	10.16
10/1/2004	1870	24040	61020	36980	18.49	11.56
10/1/2004	1871	24040	57200	33160	16.58	10.36
Total =		817360	1987340	1169980	584.99	365.62

Grand Total, week of 27 September 2004	2063.86	1289.91

TABLE G-3

Summary of Imported Clean Backfill
From Remp Sand and Gravel
BNSF Libby Yard Response Action 2004
Week of 4 October 2004

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
9/20/2004	1111	20840	36560	15720	7.86	4.91
9/20/2004	1113	24360	48460	24100	12.05	7.53
9/20/2004	1114	22520	46960	24440	12.22	7.64
9/20/2004	1115	24360	45700	21340	10.67	6.67
9/20/2004	1117	22560	47960	25400	12.7	7.94
9/20/2004	1118	20840	38140	17300	8.65	5.41
9/20/2004	1119	24360	49600	25240	12.62	7.89
9/20/2004	1120	22520	48160	25640	12.82	8.01
9/20/2004	1121	20840	38640	17800	8.9	5.56
9/20/2004	1122	24360	49100	24740	12.37	7.73
9/20/2004	1123	22520	45480	22960	11.48	7.18
9/20/2004	1124	20840	38700	17860	8.93	5.58
9/20/2004	1125	24360	46480	22120	11.06	6.91
9/20/2004	1126	22520	46700	24180	12.09	7.55
9/20/2004	1127	20840	36260	15420	7.71	4.82
9/20/2004	1128	24360	46600	22240	11.12	6.95
9/20/2004	1129	22520	46720	24200	12.1	7.56
9/20/2004	1130	20840	34760	13920	6.96	4.35
9/20/2004	1131	24360	45180	20820	10.41	6.51
9/20/2004	1132	22520	45700	23180	11.59	7.24
9/20/2004	1133	20840	34620	13780	6.89	4.31
9/20/2004	1134	24360	48900	24540	12.27	7.67
9/20/2004	1135	22520	45120	22600	11.3	7.06
9/20/2004	1136	20840	35220	14380	7.19	4.49
9/20/2004	1137	24360	46900	22540	11.27	7.04
9/20/2004	1138	22520	43660	21140	10.57	6.61
9/20/2004	1139	20840	33320	12480	6.24	3.90
9/20/2004	1140	24360	43860	19500	9.75	6.09
9/20/2004	1141	22520	44100	21580	10.79	6.74
9/20/2004	1142	20840	35480	14640	7.32	4.58
9/20/2004	1143	24360	45020	21260	10.63	6.64
9/20/2004	1144	22520	47820	25300	12.65	7.91
9/20/2004	1145	20840	36720	15880	7.94	4.96
9/20/2004	1146	24360	47840	23480	11.74	7.34
9/20/2004	1147	22520	48120	25600	12.8	8.00
9/20/2004	1148	22520	47300	24780	12.39	7.74
9/20/2004	1149	20840	36060	15220	7.61	4.76
9/20/2004	1150	24360	48680	24320	12.16	7.60
9/20/2004	1151	29300	40260	10960	5.48	3.43
9/20/2004	1152	20840	36000	15160	7.58	4.74
9/20/2004	1153	24360	48760	24400	12.2	7.63
9/20/2004	1154	22520	48120	25600	12.8	8.00
9/20/2004	1155	20840	37620	16780	8.39	5.24
9/20/2004	1156	29300	44900	15600	7.8	4.88
Total=		1006720	1906560	900140	450.07	281.29

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
9/21/2004	1157	24360	47160	22800	11.4	7.13
9/21/2004	1158	22520	43480	20960	10.48	6.55
9/21/2004	1159	20840	37600	16760	8.38	5.24
9/21/2004	1160	24360	47180	22820	11.41	7.13
9/21/2004	1161	22520	49300	23780	11.89	7.43
9/21/2004	1162	22520	47080	24560	12.28	7.68
9/21/2004	1163	20840	35660	15020	7.51	4.69
9/21/2004	1164	29300	42420	13120	6.56	4.10
9/21/2004	1165	24360	46340	21980	10.99	6.87
9/21/2004	1166	22520	45600	23080	11.64	7.28
9/21/2004	1167	20840	34240	13400	6.7	4.19
9/21/2004	1168	26600	39760	13160	6.58	4.11
9/21/2004	1169	22520	48380	22860	11.43	7.14
9/21/2004	1170	24360	49060	24700	12.35	7.72
9/21/2004	1171	22520	45260	22740	11.37	7.11
9/21/2004	1172	20840	36180	15340	7.67	4.79
9/21/2004	1173	26600	40480	13880	6.94	4.34
9/21/2004	1174	22520	49400	23880	11.94	7.46
9/21/2004	1175	24360	46080	21720	10.86	6.79
9/21/2004	1176	22520	46880	24360	12.17	7.61
9/21/2004	1177	20840	36220	15380	7.69	4.81
9/21/2004	1178	26600	41700	15100	7.55	4.72
9/21/2004	1179	22520	51700	26180	13.09	8.18
9/21/2004	1180	24360	48900	24540	12.27	7.67
9/21/2004	1181	22520	45960	23440	11.72	7.33
9/21/2004	1182	20840	36180	15340	7.67	4.79
9/21/2004	1183	26600	41100	14500	7.25	4.53
9/21/2004	1184	22520	46300	22780	11.39	7.12
9/21/2004	1185	24360	47180	22820	11.41	7.13
9/21/2004	1186	22520	46500	23980	11.99	7.49
9/21/2004	1187	20840	35740	14900	7.45	4.66
9/21/2004	1188	26600	40720	14120	7.06	4.41
9/21/2004	1189	22520	48280	22760	11.38	7.11
9/21/2004	1190	24360	46060	21700	10.85	6.78
9/21/2004	1191	20840	36300	15400	7.73	4.83
9/21/2004	1192	26600	40520	13920	6.96	4.35
9/21/2004	1193	22520	43300	20780	10.39	6.49
9/21/2004	1194	22520	46780	24260	10.63	6.64
9/21/2004	1195	24360	46020	21660	10.83	6.77
9/21/2004	1196	20840	37140	16300	8.15	5.09
9/21/2004	1197	26600	39440	12840	6.42	4.01
9/21/2004	1198	22520	45680	23160	11.58	7.24
9/21/2004	1199	22520	46240	20720	10.36	6.48
9/21/2004	1200	24360	46740	22380	11.19	6.99
9/21/2004	1201	20840	35600	14760	7.38	4.61
9/21/2004	1202	26600	39000	12400	6.2	3.88
9/21/2004	1203	22520	45450	22940	11.47	7.17
9/21/2004	1204	22520	45320	19800	9.9	6.19
9/21/2004	1205	24360	44920	20560	10.28	6.43
9/21/2004	1206	20840	34000	13160	6.58	4.11
9/21/2004	1207	26600	38700	12100	6.05	3.78
9/21/2004	1208	22520	44260	21740	10.87	6.79
9/21/2004	1209	22520	45840	20320	10.16	6.35
9/21/2004	1210	24360	43020	18660	9.33	5.83
9/21/2004	1211	20840	34500	13660	6.83	4.27
9/21/2004	1212	26600	38380	12780	6.39	3.99
9/21/2004	1213	22520	45360	22840	11.42	7.14
9/21/2004	1214	22520	47620	22100	11.05	6.91
9/21/2004	1215	24360	45540	21180	10.59	6.62
9/21/2004	1216	20840	32440	11600	5.8	3.63
9/21/2004	1217	26600	39580	12980	6.49	4.06
9/21/2004	1218	22520	43480	20960	10.48	6.55
9/21/2004	1219	22520	42540	17020	8.51	5.32
9/21/2004	1220	24360	42860	18500	9.25	5.78
9/21/2004	1221	20840	33620	12780	6.39	3.99
9/21/2004	1222	22520	44140	21620	10.81	6.76
9/21/2004	1223	26600	39400	12800	6.4	4.00
9/21/2004	1224	22520	43360	17840	8.92	5.58
Total=		1626340	2510560	1282220	641.11	400.69

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
9/22/2004	1225	20840	34940	14100	7.05	4.41
9/22/2004	1226	24360	44560	20200	10.1	6.31
9/22/2004	1227	22520	44940	19420	9.71	6.07
9/22/2004	1228	22520	41520	19000	9.5	5.94
9/22/2004	1229	20840	35780	14940	7.47	4.67
9/22/2004	1230	24360	44080	19720	9.86	6.16
9/22/2004	1231	22520	40940	21420	10.71	6.69
9/22/2004	1232	22520	44320	21800	10.9	6.81
9/22/2004	1233	20840	33740	12900	6.45	4.03
9/22/2004	1234	24360	45360	21000	10.5	6.56
9/22/2004	1235	22520	46040	20520	10.26	6.41
9/22/2004	1236	22520	42540	20020	10.01	6.26
9/22/2004	1237	20840	33580	12740	6.37	3.98
9/22/2004	1238	24360	46940	22580	11.29	7.06
9/22/2004	1239	26600	39700	13100	6.55	4.09
9/22/2004	1240	22520	46240	20720	10.36	6.48
9/22/2004	1241	22520	42100	19580	9.79	6.12
9/22/2004	1242	20840	34300	13460	6.73	4.21
9/22/2004	1243	24360	44520	20160	10.08	6.30
9/22/2004	1244	26600	40380	13780	6.89	4.31
9/22/2004	1245	22520	42440	19920	9.96	6.23
9/22/2004	1246	22520	45280	19760	9.88	6.18
9/22/2004	1247	20840	34720	13880	6.94	4.34
9/22/2004	1248	24360	44700	20400	10.2	6.38
9/22/2004	1249	26600	39640	13040	6.52	4.08
9/22/2004	1250	22520	42640	20120	10.06	6.29
9/22/2004	1251	20840	33860	13040	6.52	4.08
9/22/2004	1252	22520	45280	19760	9.88	6.18
9/22/2004	1253	24360	42320	17960	8.98	5.61
9/22/2004	1254	26600	41820	15220	7.61	4.76
9/22/2004	1255	22520	42700	20180	10.09	6.31
9/22/2004	1256	20840	35100	14260	7.13	4.46
9/22/2004	1257	22520	46800	21280	10.64	6.65
9/22/2004	1258	24360	43920	19560	9.78	6.11
9/22/2004	1259	20840	35180	14340	7.17	4.48
9/22/2004	1260	26600	39900	13300	6.65	4.16
9/22/2004	1261	22520	43380	20860	10.43	6.52
9/22/2004	1262	22520	43700	18180	9.09	5.68
9/22/2004	1263	24360	45160	20800	10.4	6.50
9/22/2004	1264	20840	36660	15820	7.91	4.94
9/22/2004	1265	26600	42120	15520	7.76	4.85
9/22/2004	1266	22520	45580	23060	11.53	7.21
9/22/2004	1267	22520	46300	20780	10.39	6.49
9/22/2004	1268	24360	45980	21220	10.61	6.63
9/22/2004	1269	20840	36280	15440	7.72	4.83
9/22/2004	1270	26600	40460	13860	6.93	4.33
9/22/2004	1271	22520	42950	20140	10.07	6.29
9/22/2004	1272	22520	44700	19180	9.59	5.99
9/22/2004	1273	24360	43960	19600	9.8	6.13
9/22/2004	1274	20840	36360	15520	7.76	4.85
9/22/2004	1275	26600	41400	14800	7.4	4.63
9/22/2004	1276	22520	43680	21160	10.58	6.61
9/22/2004	1277	22520	45440	19920	9.96	6.23
9/22/2004	1278	24360	43660	19300	9.65	6.03
9/22/2004	1279	20840	34180	13340	6.67	4.17
9/22/2004	1280	26600	40480	13880	6.94	4.34
9/22/2004	1281	22520	43460	20940	10.47	6.54
9/22/2004	1282	22520	45240	19720	9.86	6.16
9/22/2004	1283	24360	42820	18460	9.23	5.77
9/22/2004	1284	20840	34200	13360	6.68	4.18
9/22/2004	1285	26600	40620	14020	7.01	4.38
9/22/2004	1286	22520	43460	20940	10.47	6.54
9/22/2004	1287	22520	43000	20780	10.39	6.49
Total=		1495060	2623740	1127760	563.88	352.43

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
9/23/2004	1288	20840	37080	16240	8.12	5.08
9/23/2004	1289	24360	45600	21240	10.62	6.64
9/23/2004	1290	22520	43920	18400	9.2	5.75
9/23/2004	1291	22520	42840	20320	10.16	6.35
9/23/2004	1292	20840	33920	13080	6.54	4.09
9/23/2004	1293	26600	41360	14760	7.38	4.62
9/23/2004	1294	24360	47760	23420	11.71	7.32
9/23/2004	1295	22520	50060	24540	12.27	7.67
9/23/2004	1296	22520	45620	23100	11.55	7.22
9/23/2004	1297	20840	37820	16980	8.49	5.31
9/23/2004	1298	26600	43520	16920	8.46	5.29
9/23/2004	1299	24360	48560	24200	12.1	7.56
9/23/2004	1300	22520	45680	21160	10.58	6.61
9/23/2004	1301	22520	43660	21140	10.57	6.61
9/23/2004	1302	20840	34960	14120	7.06	4.41
9/23/2004	1303	26600	41620	15020	7.51	4.69
9/23/2004	1304	24360	46360	22000	11	6.88
9/23/2004	1305	22520	49400	23880	11.94	7.46
9/23/2004	1306	22520	42940	20420	10.21	6.38
9/23/2004	1307	20840	34560	13740	6.87	4.29
9/23/2004	1308	26600	41420	14820	7.41	4.63
9/23/2004	1309	24360	47020	22660	11.33	7.08
9/23/2004	1310	22520	45360	19840	9.92	6.20
9/23/2004	1311	22520	42760	20240	10.12	6.33
9/23/2004	1312	20840	33680	12840	6.42	4.01
9/23/2004	1313	24360	47560	23200	11.6	7.25
9/23/2004	1314	26600	39200	12600	6.3	3.94
9/23/2004	1315	22520	45680	23160	10.08	6.30
9/23/2004	1316	20840	33860	13020	6.51	4.07
9/23/2004	1317	22520	44280	21760	10.88	6.80
9/23/2004	1318	24360	47310	22950	11.48	7.18
9/23/2004	1319	26600	41860	15260	7.63	4.77
9/23/2004	1320	22520	46140	20620	10.31	6.44
9/23/2004	1321	20840	35960	15120	7.56	4.73
9/23/2004	1322	22520	43100	20580	10.29	6.43
9/23/2004	1323	24360	44740	20380	10.19	6.37
9/23/2004	1324	26600	41160	14560	7.28	4.55
9/23/2004	1325	20840	36020	15180	7.59	4.74
9/23/2004	1326	22520	45180	19660	9.83	6.14
9/23/2004	1327	22520	40860	18340	9.17	5.73
9/23/2004	1328	24360	42780	18420	9.21	5.76
9/23/2004	1329	26600	39640	13040	6.52	4.08
9/23/2004	1330	20840	35180	14340	7.17	4.48
9/23/2004	1331	22520	45000	20380	10.19	6.37
9/23/2004	1332	22520	40220	17700	8.85	5.53
9/23/2004	1333	24360	43180	18820	9.41	5.88
9/23/2004	1334	26600	40140	13540	6.77	4.23
9/23/2004	1335	20840	35560	14720	7.36	4.60
9/23/2004	1336	22520	45740	20220	10.11	6.32
9/23/2004	1337	22520	43820	21300	10.65	6.66
9/23/2004	1338	24360	44160	19800	9.9	6.19
9/23/2004	1339	26600	40040	13440	6.72	4.20
9/23/2004	1340	20840	35540	14700	7.35	4.59
9/23/2004	1341	22520	46060	20540	10.27	6.42
9/23/2004	1342	22520	42240	19720	9.86	6.16
9/23/2004	1343	24360	43560	19200	9.6	6.00
9/23/2004	1344	26600	38760	12160	6.08	3.80
9/23/2004	1345	20840	34540	13700	6.85	4.28
9/23/2004	1346	22520	44780	19260	9.63	6.02
9/23/2004	1347	22520	42620	20100	10.05	6.28
9/23/2004	1348	24360	46260	21900	10.95	6.84
9/23/2004	1349	26600	39180	12580	6.29	3.93
9/23/2004	1350	20840	34040	13200	6.6	4.13
9/23/2004	1351	22520	46480	20960	10.48	6.55
9/23/2004	1352	22520	41200	18680	9.34	5.84
9/23/2004	1353	24360	44460	20100	10.05	6.28
9/23/2004	1354	20840	35100	14260	7.13	4.46
9/23/2004	1355	26600	39720	13120	6.56	4.10
9/23/2004	1356	22520	45520	20000	10	6.25
9/23/2004	1357	24360	44240	19880	9.94	6.21
Total=		1673840	2942160	1268320	634.16	396.35

Soil Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
9/24/2004	1358	20840	35760	14940	7.47	4.67
9/24/2004	1359	22520	44200	21680	10.84	6.78
9/24/2004	1360	24360	44680	20320	10.16	6.35
9/24/2004	1361	26600	41100	14500	7.25	4.53
9/24/2004	1362	22520	44720	19200	9.6	6.00
9/24/2004	1363	20840	37240	16400	8.2	5.13
9/24/2004	1364	22520	42140	19620	9.81	6.13
9/24/2004	1365	24360	45120	20760	10.38	6.49
9/24/2004	1366	26600	38820	12220	6.11	3.82
9/24/2004	1367	22520	42120	16600	8.3	5.19
9/24/2004	1368	20840	35440	14600	7.3	4.56
9/24/2004	1369	22520	43000	20780	10.39	6.49
9/24/2004	1370	24360	45600	21240	10.62	6.64
9/24/2004	1371	26600	40420	13820	6.91	4.32
9/24/2004	1372	22520	46280	20760	10.38	6.49
9/24/2004	1373	20840	35100	14260	7.13	4.46
9/24/2004	1374	22520	42260	19740	9.87	6.17
9/24/2004	1375	24360	44120	19760	9.88	6.18
9/24/2004	1376	26600	39340	12740	6.37	3.98
9/24/2004	1377	22520	47540	22020	11.01	6.88
9/24/2004	1378	20840	38320	17480	8.74	5.46
9/24/2004	1379	22520	46620	24100	12.05	7.53
9/24/2004	1380	24360	48200	23840	11.92	7.45
9/24/2004	1381	26600	41080	14480	7.24	4.53
9/24/2004	1382	20840	37520	16680	8.34	5.21
9/24/2004	1383	22520	51300	25780	12.89	8.05
9/24/2004	1384	22520	46480	22960	11.48	7.18
9/24/2004	1385	24360	46660	22300	11.15	6.97
9/24/2004	1386	26600	41840	15040	7.52	4.70
9/24/2004	1387	22520	45400	20880	10.44	6.53
9/24/2004	1388	22520	45280	22760	11.38	7.11
9/24/2004	1389	24360	45060	20700	10.35	6.47
9/24/2004	1390	26600	40440	13840	6.92	4.33
9/24/2004	1391	22520	46700	21180	10.59	6.62
9/24/2004	1392	22520	42940	20420	10.21	6.38
9/24/2004	1393	24360	46300	21940	10.97	6.86
9/24/2004	1394	26600	38740	12140	6.07	3.79
9/24/2004	1395	22520	45540	20020	10.01	6.26
9/24/2004	1396	22520	43000	20480	10.24	6.40
9/24/2004	1397	24360	41300	16940	8.47	5.29
9/24/2004	1398	26600	38640	12040	6.02	3.76
9/24/2004	1399	22520	46260	20740	10.37	6.48
9/24/2004	1400	22520	43980	21460	10.73	6.71
9/24/2004	1401	24360	45880	21520	10.76	6.73
9/24/2004	1402	26600	42480	15880	7.94	4.96
9/24/2004	1403	22520	48180	22660	11.33	7.08
9/24/2004	1404	22520	46860	24340	12.17	7.61
9/24/2004	1405	24360	46300	23940	11.97	7.48
9/24/2004	1406	26600	44180	17580	8.79	5.49
9/24/2004	1407	22520	50340	24820	12.41	7.76
9/24/2004	1408	22520	46980	24460	12.23	7.64
9/24/2004	1409	24360	49420	25060	12.53	7.83
9/24/2004	1410	26600	42260	15660	7.83	4.89
9/24/2004	1411	22520	47640	22120	11.06	6.91
9/24/2004	1412	22520	46040	23520	11.76	7.35
9/24/2004	1413	24360	47760	23400	11.7	7.31
Total=		1359920	2449040	1089120	544.56	340.35

Grand Total, Week of 4 October 2004		
	2833.75	1771.12

TABLE G-4

Summary of Imported Clean Backfill
From Remp Sand and Gravel
BNSF Libby Yard Response Action 2004
Week of 11 October 2004

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
9/27/2004	1414	20940	38120	17180	8.59	5.37
9/27/2004	1415	24260	50680	26420	13.21	8.26
9/27/2004	1416	22160	45780	23620	11.81	7.38
9/27/2004	1417	20660	42280	21720	10.86	6.79
9/27/2004	1418	26240	41340	15100	7.55	4.72
9/27/2004	1419	25560	48760	23180	11.59	7.24
9/27/2004	1420	20940	36480	15540	7.77	4.86
9/27/2004	1421	24260	46160	21900	10.95	6.84
9/27/2004	1422	22160	46500	24340	12.17	7.61
9/27/2004	1423	20660	44220	23560	11.78	7.36
9/27/2004	1424	26240	42340	16100	8.05	5.03
9/27/2004	1425	25560	49120	23540	11.77	7.36
9/27/2004	1426	20940	40580	19640	9.82	6.14
9/27/2004	1427	24260	50020	25760	12.88	8.05
9/27/2004	1428	22160	47200	25040	12.52	7.83
9/27/2004	1429	20660	44200	23540	11.77	7.36
9/27/2004	1430	26240	39740	13500	6.75	4.22
9/27/2004	1431	25560	49960	23380	11.69	7.31
9/27/2004	1432	20940	38740	17800	8.9	5.56
9/27/2004	1433	24260	45440	21180	10.59	6.62
9/27/2004	1434	22160	44540	22380	11.19	6.99
9/27/2004	1435	20660	42440	21780	10.89	6.81
9/27/2004	1436	26240	42320	16080	8.04	5.03
9/27/2004	1437	25560	46640	21080	10.53	6.58
9/27/2004	1438	20940	37840	17000	8.5	5.31
9/27/2004	1439	24260	45480	21220	10.61	6.63
9/27/2004	1440	22160	44540	22380	11.19	6.99
9/27/2004	1441	20660	43940	23280	11.64	7.28
9/27/2004	1442	26240	42600	16420	8.21	5.13
9/27/2004	1443	25560	46960	21400	10.7	6.69
9/27/2004	1444	20940	38800	17860	8.93	5.58
9/27/2004	1445	24260	47980	23720	11.86	7.41
9/27/2004	1446	22160	43780	21620	10.81	6.76
9/27/2004	1447	20660	44500	23840	11.92	7.45
9/27/2004	1448	26240	41440	15200	7.6	4.75
9/27/2004	1449	25560	48060	22500	11.25	7.03
9/27/2004	1450	24260	47420	23160	11.58	7.24
9/27/2004	1451	22160	42680	20520	10.26	6.41
9/27/2004	1452	20940	37440	16500	8.25	5.16
9/27/2004	1453	20660	41280	20620	10.31	6.44
9/27/2004	1454	26240	42860	16620	8.31	5.19
9/27/2004	1455	25560	55140	29580	14.79	9.24
9/27/2004	1456	24260	46860	22600	11.3	7.06
9/27/2004	1457	22160	43400	21240	10.62	6.64
9/27/2004	1458	20940	39960	19020	9.51	5.94
9/27/2004	1459	20660	41400	20740	10.37	6.48
9/27/2004	1460	26240	40240	14000	7	4.38
9/27/2004	1461	25560	47620	22060	11.02	6.89
9/27/2004	1462	24260	47300	23040	11.52	7.20
9/27/2004	1463	22160	44340	22180	11.09	6.93
9/27/2004	1464	20940	36500	15560	7.78	4.86
9/27/2004	1465	20660	40400	19740	9.87	6.17
9/27/2004	1466	26240	38920	12680	6.34	3.96
9/27/2004	1467	25560	48960	23400	11.7	7.31
9/27/2004	1468	24260	45460	21200	10.6	6.63
9/27/2004	1469	22160	46200	24040	12.02	7.51
9/27/2004	1470	20940	37260	16340	8.17	5.11
9/27/2004	1471	20660	42420	21760	10.88	6.80
9/27/2004	1472	26240	40340	14100	7.05	4.41
9/27/2004	1473	25560	46820	21240	10.62	6.64
9/27/2004	1474	24260	45340	21080	10.54	6.59
9/27/2004	1475	20940	37000	16060	8.03	5.02
9/27/2004	1476	22160	46780	24620	12.31	7.69
9/27/2004	1477	25560	47320	21740	10.87	6.79
Total=		1491340	2806520	1315180	657.58	410.99

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
8/28/2004	1478	20940	39400	18460	9.23	5.77
8/28/2004	1479	24260	50240	25980	12.99	8.12
8/28/2004	1480	22160	48000	25840	12.92	8.08
8/28/2004	1481	26240	41740	15500	7.75	4.84
8/28/2004	1482	25560	48040	22480	11.23	7.02
8/28/2004	1483	20940	38700	17760	8.88	5.55
8/28/2004	1484	24260	49260	25000	12.5	7.81
8/28/2004	1485	22160	46060	23900	11.95	7.47
8/28/2004	1486	26240	39280	13040	6.52	4.08
8/28/2004	1487	25560	47740	22180	11.09	6.93
8/28/2004	1488	20940	37740	16800	8.4	5.25
8/28/2004	1489	24260	51440	27180	13.59	8.49
8/28/2004	1490	22160	47400	25240	12.62	7.89
8/28/2004	1491	26240	42620	16380	8.19	5.12
8/28/2004	1492	25560	49860	24280	12.14	7.59
8/28/2004	1493	20940	39800	18860	9.43	5.89
8/28/2004	1494	24260	52600	28340	14.17	8.86
8/28/2004	1495	22160	47060	24900	12.45	7.78
8/28/2004	1496	26240	40940	14700	7.35	4.59
8/28/2004	1497	25560	49400	23820	11.91	7.44
8/28/2004	1498	20940	37380	16440	8.22	5.14
8/28/2004	1499	24260	49360	25100	12.55	7.84
8/28/2004	1500	22160	46960	24800	12.4	7.75
8/28/2004	1501	26240	42840	16600	8.3	5.19
8/28/2004	1502	20940	42520	21580	10.79	6.74
8/28/2004	1503	25560	55260	29660	14.84	9.28
8/28/2004	1504	24260	50620	26360	13.18	8.24
8/28/2004	1505	22160	51360	29200	14.6	9.13
8/28/2004	1506	20940	40040	19100	9.55	5.97
8/28/2004	1507	26240	41660	15440	7.72	4.83
8/28/2004	1508	20940	43120	22180	11.09	6.93
8/28/2004	1509	22160	54320	32160	16.08	10.05
8/28/2004	1510	24260	48880	24620	12.31	7.69
8/28/2004	1511	25560	56840	31280	15.63	9.77
8/28/2004	1512	26240	40500	14260	7.13	4.46
8/28/2004	1513	20940	40360	19420	9.71	6.07
8/28/2004	1514	22160	51080	28920	14.46	9.04
8/28/2004	1515	25560	49780	24200	12.1	7.56
8/28/2004	1516	26240	43200	16960	8.49	5.31
8/28/2004	1517	24260	46520	22260	11.13	6.96
8/28/2004	1518	20940	35000	14060	7.03	4.39
8/28/2004	1519	25560	51020	25440	12.72	7.95
8/28/2004	1520	22160	44880	22720	11.36	7.10
8/28/2004	1521	24260	55520	31260	15.63	9.77
8/28/2004	1522	26240	40760	14520	7.26	4.54
8/28/2004	1523	20940	35040	14100	7.05	4.41
8/28/2004	1524	22160	44940	22780	11.39	7.12
8/28/2004	1525	24260	46840	22580	11.29	7.06
8/28/2004	1526	25560	47540	21980	10.99	6.86
8/28/2004	1527	26240	38160	11940	5.97	3.73
8/28/2004	1528	20940	36520	15580	7.79	4.86
8/28/2004	1529	22160	46680	24520	12.26	7.66
8/28/2004	1530	24260	51200	26940	13.47	8.42
8/28/2004	1531	26240	41960	15720	7.86	4.91
8/28/2004	1532	20940	42540	21600	10.8	6.75
Total=		1301700	2501180	1199480	599.74	374.84

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
8/29/2004	1535	22160	46680	24520	12.26	7.66
8/29/2004	1536	20940	40260	19340	9.67	6.04
8/29/2004	1537	20800	41160	20360	10.18	6.36
8/29/2004	1538	26240	41720	15480	7.74	4.84
8/29/2004	1539	25560	47900	22340	11.16	6.98
8/29/2004	1540	22160	46620	24460	12.23	8.27
8/29/2004	1541	20940	41760	20820	10.41	6.51
8/29/2004	1542	20800	38460	17660	8.83	5.52
8/29/2004	1543	26240	42260	16020	8.01	5.01
8/29/2004	1544	25560	49340	23780	11.89	7.43
8/29/2004	1545	22160	47440	25280	12.64	7.90
8/29/2004	1546	20940	39240	18300	9.15	5.72
8/29/2004	1547	20800	42520	21720	10.86	6.79
8/29/2004	1548	26240	40400	14160	7.08	4.43
8/29/2004	1549	25560	42380	16800	8.4	5.25
8/29/2004	1550	22160	45640	23480	11.74	7.34
8/29/2004	1551	20940	39620	18680	9.34	5.84
8/29/2004	1552	20800	46040	25240	12.62	7.89
8/29/2004	1553	25560	44260	18680	9.34	5.84
8/29/2004	1554	26240	42740	16500	8.25	5.16
8/29/2004	1555	22160	48740	26580	13.29	8.31
8/29/2004	1556	20940	42400	21460	10.73	6.71
8/29/2004	1557	20800	42700	21900	10.95	6.84
8/29/2004	1558	25560	57220	31640	15.82	9.89
8/29/2004	1559	26240	42940	16700	8.35	5.22
8/29/2004	1560	22160	49540	27380	13.69	8.56
8/29/2004	1561	20940	38720	17780	8.89	5.56
8/29/2004	1562	20800	43360	22560	11.28	7.05
8/29/2004	1563	26240	43300	17060	8.53	5.33
8/29/2004	1564	22160	47220	25060	12.53	7.83
8/29/2004	1565	20940	38540	17600	8.8	5.50
8/29/2004	1566	20800	42340	21540	10.77	6.73
8/29/2004	1567	25560	51160	25580	12.79	7.99
8/29/2004	1568	20940	40560	19620	9.81	6.13
8/29/2004	1569	20800	41640	20840	10.42	6.51
8/29/2004	1570	22160	46140	23980	11.99	7.49
8/29/2004	1571	26240	42600	16360	8.18	5.11
8/29/2004	1572	25560	50940	25380	12.69	7.93
8/29/2004	1573	20940	40960	20020	10.01	6.26
8/29/2004	1574	20800	44000	23200	11.6	7.25
8/29/2004	1575	22160	52100	29940	14.97	9.36
8/29/2004	1576	26240	41180	14940	7.47	4.67
8/29/2004	1577	25560	50460	24880	12.44	7.78
8/29/2004	1578	20940	35500	14560	7.28	4.55
8/29/2004	1579	20800	38240	17440	8.72	5.45
8/29/2004	1580	22160	51540	29380	14.69	9.18
8/29/2004	1581	26240	40820	14580	7.29	4.56
8/29/2004	1582	25560	54180	28600	14.3	8.94
8/29/2004	1583	20940	40800	19860	9.93	6.21
8/29/2004	1584	20800	42140	21340	10.67	6.67
8/29/2004	1585	22160	50620	28460	14.23	8.89
8/29/2004	1586	26240	37480	11240	5.62	3.51
8/29/2004	1587	25560	43160	17580	8.79	5.49
8/29/2004	1588	20940	39520	18580	9.29	5.81
8/29/2004	1589	20800	39940	19140	9.57	5.98
8/29/2004	1590	22160	49060	26900	13.45	8.41
8/29/2004	1591	26240	33820	13580	6.79	4.24
8/29/2004	1592	20940	37880	16940	8.47	5.29
8/29/2004	1593	25560	48520	22940	11.47	7.17
8/29/2004	1594	20800	40700	19900	9.95	6.22
Total=		1378560	2637140	1258580	629.29	393.31

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
9/30/2004	1595	22160	48500	26340	13.17	8.23
9/30/2004	1596	20940	40000	19060	9.53	5.96
9/30/2004	1597	25580	48400	22820	11.41	7.13
9/30/2004	1598	20800	41220	20420	10.21	6.38
9/30/2004	1599	20940	40240	19300	9.65	6.03
9/30/2004	1600	22160	49400	27240	13.62	8.51
9/30/2004	1601	26240	39460	13220	6.61	4.13
9/30/2004	1602	25580	49520	23940	11.97	7.48
9/30/2004	1603	20800	47340	26540	13.27	8.29
9/30/2004	1604	20940	38900	17960	8.98	5.61
9/30/2004	1605	22160	46560	24400	12.2	7.63
9/30/2004	1606	26240	42000	15760	7.88	4.93
9/30/2004	1607	25580	45180	20600	10.3	6.44
9/30/2004	1608	20800	38040	17240	8.62	5.39
9/30/2004	1609	20940	38740	17800	8.9	5.56
9/30/2004	1610	22160	44520	22360	11.18	6.99
9/30/2004	1611	26240	38480	12240	6.12	3.83
9/30/2004	1612	25580	45600	20020	10.01	6.26
9/30/2004	1613	20800	36320	15520	7.76	4.85
9/30/2004	1614	20940	37460	16520	8.26	5.16
9/30/2004	1615	22160	40240	18080	9.04	5.65
9/30/2004	1616	26240	40500	14260	7.13	4.46
9/30/2004	1617	25580	45740	20160	10.08	6.30
9/30/2004	1618	20800	39000	18200	9.1	5.69
9/30/2004	1619	20940	37140	16200	8.1	5.06
9/30/2004	1620	22160	47660	25500	12.75	7.97
9/30/2004	1621	26240	43640	17400	8.7	5.44
9/30/2004	1622	25580	55480	29900	14.95	9.34
9/30/2004	1623	20800	44320	23520	11.76	7.35
9/30/2004	1624	20940	41640	20700	10.35	6.47
9/30/2004	1625	22160	53380	31220	15.61	9.76
9/30/2004	1626	26240	43640	17400	8.8	5.50
9/30/2004	1627	25580	57780	32200	16.1	10.06
9/30/2004	1628	20800	48080	27280	13.64	8.53
9/30/2004	1629	20940	40320	19380	9.69	6.06
9/30/2004	1630	22160	49200	27040	13.52	8.45
9/30/2004	1631	20800	44440	23640	11.82	7.39
9/30/2004	1632	20940	41340	20400	10.2	6.38
9/30/2004	1633	26240	44460	18240	9.12	5.70
9/30/2004	1634	20800	43620	22820	11.41	7.13
9/30/2004	1635	22160	44340	22180	11.09	6.93
9/30/2004	1636	20940	37720	16780	8.39	5.24
9/30/2004	1637	25580	53380	27800	13.9	8.69
9/30/2004	1638	26240	40680	14440	7.22	4.51
9/30/2004	1639	20800	44620	23820	11.91	7.44
9/30/2004	1640	22160	46760	24600	12.3	7.69
9/30/2004	1641	20940	42320	21380	10.69	6.68
9/30/2004	1642	25580	51400	25820	12.91	8.07
9/30/2004	1643	26240	43960	17720	8.86	5.54
9/30/2004	1644	20800	43280	22480	11.24	7.03
9/30/2004	1645	22160	49460	27300	13.65	8.53
9/30/2004	1646	20940	37080	16140	8.07	5.04
9/30/2004	1647	25580	46080	20500	10.25	6.41
9/30/2004	1648	26240	44900	18720	9.36	5.85
9/30/2004	1650	22160	46100	23940	11.97	7.48
9/30/2004	1649	20800	42700	21900	10.95	6.84
9/30/2004	1651	20940	36180	15240	7.62	4.76
9/30/2004	1652	25580	39900	14320	7.16	4.48
9/30/2004	1653	26240	39580	13340	6.67	4.17
9/30/2004	1654	20500	39280	18480	9.24	5.78
Total=		1378580	2628500	1249940	624.97	390.61

Soil Haul Information						
Date	Ticket #	Tare	Gross	Net	Tons	CY
10/1/2004	1655	20940	34000	13060	6.53	4.08
10/1/2004	1656	22160	40320	18160	9.08	5.68
10/1/2004	1657	25580	44860	19300	9.65	6.03
10/1/2004	1658	26240	39020	12780	6.39	3.99
10/1/2004	1659	20800	40520	19720	9.86	6.16
10/1/2004	1660	20800	35760	14960	7.48	4.68
10/1/2004	1661	20940	35860	14920	7.46	4.66
10/1/2004	1662	22160	47780	25620	12.81	8.01
10/1/2004	1663	26240	37740	11500	5.75	3.59
10/1/2004	1664	20800	34180	13380	6.69	4.18
10/1/2004	1665	20940	30820	9880	4.94	3.09
10/1/2004	1666	22160	43240	21080	10.54	6.59
10/1/2004	1667	26240	38980	12740	6.37	3.98
10/1/2004	1668	20800	38520	17720	8.86	5.54
10/1/2004	1669	20940	33520	12580	6.29	3.93
10/1/2004	1670	22160	37940	15780	7.89	4.93
10/1/2004	1671	26240	40400	14160	7.08	4.43
10/1/2004	1672	20800	30420	9620	4.81	3.01
10/1/2004	1673	20940	34340	13400	6.7	4.19
10/1/2004	1674	25580	43920	18340	9.17	5.73
10/1/2004	1675	22160	44940	22780	11.39	7.12
10/1/2004	1676	26240	38580	12340	6.17	3.86
10/1/2004	1677	20800	42120	21320	10.66	6.66
10/1/2004	1678	20940	38620	17680	8.84	5.53
10/1/2004	1679	25580	49040	23460	11.73	7.33
10/1/2004	1680	22160	41200	19040	9.52	5.95
10/1/2004	1681	26240	36940	10700	5.35	3.34
10/1/2004	1682	20800	43540	22740	11.37	7.11
10/1/2004	1683	20940	35380	14440	7.22	4.51
10/1/2004	1684	25580	33200	7620	3.81	2.38
10/1/2004	1685	22160	27100	4940	2.47	1.54
10/1/2004	1686	26240	39160	12920	6.46	4.04
10/1/2004	1687	20800	33800	13000	6.5	4.06
10/1/2004	1688	20940	37540	16600	8.3	5.19
10/1/2004	1689	20800	43380	22580	11.29	7.06
10/1/2004	1690	20940	40340	19400	9.7	6.06
10/1/2004	1691	26240	44660	18420	9.21	5.76
10/1/2004	1692	25580	53600	28020	14.01	8.76
10/1/2004	1693	22160	45100	22940	11.47	7.17
10/1/2004	1694	20800	44740	23940	11.97	7.48
10/1/2004	1695	20940	39280	18340	9.17	5.73
10/1/2004	1696	26240	42420	16180	8.09	5.06
10/1/2004	1697	25580	49620	24040	12.02	7.51
10/1/2004	1698	22160	44340	22180	11.09	6.93
10/1/2004	1699	20800	43880	23080	11.54	7.21
10/1/2004	1700	20940	37200	16260	8.13	5.08
10/1/2004	1701	25580	52480	26900	13.45	8.41
10/1/2004	1702	26240	43460	17220	8.61	5.38
10/1/2004	1703	22160	48480	26320	13.16	8.23
10/1/2004	1704	20800	47100	26300	13.15	8.22
10/1/2004	1705	20940	38260	17320	8.66	5.41
10/1/2004	1706	25580	51620	26040	13.02	8.14
10/1/2004	1707	26240	41480	15240	7.62	4.76
10/1/2004	1708	22160	51500	29340	14.67	9.17
10/1/2004	1709	20800	42340	21540	10.77	6.73
10/1/2004	1710	20940	41000	20060	10.03	6.27
10/1/2004	1711	25580	57940	32360	16.18	10.11
Total=		1306240	2347540	1042300	521.15	325.72
Grand Total, Week of 11 October 2004					3032.74	1895.463

TABLE G-5

Summary of Imported Clean Backfill
From Remp Sand and Gravel
BNSF Libby Yard Response Action 2004
Week of 18 October 2004

Sub-Ballast Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/18/2004	3453	24040	61640	37600	18.8	11.75
10/18/2004	3454	23520	59100	35580	17.79	11.12
10/18/2004	3455	21060	57760	36700	18.35	11.47
10/18/2004	3456	24040	59100	35060	17.53	10.96
10/18/2004	3457	23520	56300	32780	16.39	10.24
10/18/2004	3458	21060	56000	35000	17.5	10.94
10/18/2004	3459	24040	59540	35500	17.75	11.09
10/18/2004	3460	23520	55700	32180	16.09	10.06
10/18/2004	3461	21060	54200	33140	16.57	10.36
10/18/2004	3462	24040	60500	36460	18.23	11.39
10/18/2004	3463	23520	54840	31320	15.66	9.79
10/18/2004	3464	21060	53500	32440	16.22	10.14
10/18/2004	3465	24040	57680	33640	16.82	10.51
10/18/2004	3466	23520	56560	33040	16.52	10.33
10/18/2004	3467	21060	55100	34040	17.02	10.64
10/18/2004	3468	24040	60100	36060	18.03	11.27
10/18/2004	3469	23520	55300	31780	15.89	9.93
10/18/2004	3470	21060	52420	31360	15.68	9.80
10/18/2004	3471	24040	57640	33600	16.8	10.50
10/18/2004	3472	21060	50620	29560	14.78	9.24
10/18/2004	3473	24040	59540	35500	17.75	11.09
10/18/2004	3474	21060	54740	33680	16.84	10.53
10/18/2004	3475	24040	58180	34140	17.07	10.67
10/18/2004	3476	21060	52520	31460	15.73	9.83
10/18/2004	3477	24040	57500	33560	16.78	10.49
10/18/2004	3478	21060	53360	32320	16.16	10.10
10/18/2004	3479	24040	58500	34460	17.23	10.77
10/18/2004	3480	21060	53260	32220	16.11	10.07
10/18/2004	3481	24040	58320	34280	17.14	10.71
10/18/2004	3482	21060	52700	31640	15.82	9.89
10/18/2004	3483	24040	59460	35420	17.71	11.07
10/18/2004	3484	21060	53140	32080	16.04	10.03
10/18/2004	3485	21060	52200	31140	15.57	9.73
10/18/2004	3486	21060	55600	35540	17.77	11.11
10/18/2004	3487	21060	55000	33940	16.97	10.61
10/18/2004	3488	24040	55540	31500	15.75	9.84
10/18/2004	3489	21060	51960	30900	15.45	9.66
10/18/2004	3490	24040	62640	38600	19.3	12.06
10/18/2004	3491	21060	57860	36800	18.41	11.51
10/18/2004	3492	24040	59020	34980	17.49	10.93
10/18/2004	3493	21060	51860	30800	15.41	9.63
10/18/2004	3494	24040	61200	37160	18.58	11.61
10/18/2004	3495	21060	54600	33540	16.77	10.48
10/18/2004	3496	21060	53920	32860	16.43	10.27
10/18/2004	3497	24040	58060	34020	17.01	10.63
10/18/2004	3498	21060	55640	34580	17.29	10.81
10/18/2004	3499	24040	56480	34440	17.22	10.76
10/18/2004	1534	21060	55580	34520	17.26	10.79
10/18/2004	1535	24040	58080	34040	17.02	10.64
10/18/2004	1536	21060	53660	32600	16.3	10.19
10/18/2004	1537	24040	50020	32500	16.25	10.16
10/18/2004	1538	21060	55840	34780	17.39	10.87
10/18/2004	1539	24040	59400	35360	17.68	11.05
10/18/2004	1540	21060	55760	34700	17.35	10.84
10/18/2004	1541	24040	58800	34760	17.38	10.86
10/18/2004	1542	21060	52980	31920	15.91	9.94
10/18/2004	1543	23520	50960	33440	16.72	10.45
10/18/2004	1544	24040	61460	37420	18.71	11.69
10/18/2004	1545	21060	53260	32200	16.1	10.06
10/18/2004	1546	23520	55400	31880	15.94	9.96
10/18/2004	1547	24040	62680	38640	19.32	12.08
10/18/2004	1548	21060	55020	33960	16.98	10.61
10/18/2004	1549	23520	56420	34900	17.45	10.91
10/18/2004	1550	24040	60860	36820	18.41	11.51
10/18/2004	1551	21060	55080	34020	17.01	10.63
10/18/2004	1552	23520	57440	33920	16.96	10.60
10/18/2004	1553	24040	57580	33540	16.77	10.48
10/18/2004	1554	21060	54760	33700	16.85	10.53

Total= 1537140 3845180 2308040 1154.02 721.26

Sub-Ballast Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/19/2004	1555	23520	54820	31300	15.65	9.78
10/19/2004	1556	21060	55840	34780	17.39	10.87
10/19/2004	1557	23780	60460	36680	18.34	11.46
10/19/2004	1558	23520	56900	33380	16.69	10.43
10/19/2004	1559	21060	52760	31700	15.85	9.91
10/19/2004	1560	23780	57960	34200	17.1	10.69
10/19/2004	1561	21060	50360	29300	14.65	9.16
10/19/2004	1562	23520	53700	30180	15.09	9.43
10/19/2004	1563	23780	59360	35580	17.79	11.12
10/19/2004	1564	21060	52000	30940	15.47	9.67
10/19/2004	1565	23520	56200	32680	16.34	10.21
10/19/2004	1566	23780	55720	31940	15.97	9.98
10/19/2004	1567	21060	55700	34640	17.32	10.83
10/19/2004	1568	23520	52040	28520	14.26	8.91
10/19/2004	1569	23780	56820	35040	17.52	10.95
10/19/2004	1570	21060	54780	33720	16.86	10.54
10/19/2004	1571	23520	54920	31400	15.7	9.81
10/19/2004	1572	23780	57860	34080	17.04	10.65
10/19/2004	1573	21060	53780	32720	16.36	10.23
10/19/2004	1574	23520	55500	31980	15.99	9.99
10/19/2004	1575	23780	59140	35360	17.68	11.05
10/19/2004	1576	21060	52360	31300	15.65	9.78
10/19/2004	1577	23780	56860	35080	17.54	10.96
10/19/2004	1578	21060	52540	31480	15.74	9.84
10/19/2004	1579	23520	56780	33260	16.63	10.39
10/19/2004	1580	23780	57240	33460	16.73	10.46
10/19/2004	1581	21060	57220	36160	18.08	11.30
10/19/2004	1582	23520	57800	34280	17.14	10.71
10/19/2004	1583	24040	64100	40060	20.03	12.52
10/19/2004	1584	23780	58300	34520	17.26	10.79
10/19/2004	1585	21060	54600	33540	16.77	10.48
10/19/2004	1586	23520	56400	32880	16.44	10.28
10/19/2004	1587	23780	55820	32040	16.02	10.01
10/19/2004	1588	21060	54460	33400	16.7	10.44
10/19/2004	1589	23520	54300	30780	15.39	9.62
10/19/2004	1590	23780	56340	35160	17.58	10.99
10/19/2004	1591	21060	51540	30480	15.24	9.53
10/19/2004	1592	23520	59240	35720	17.86	11.16
10/19/2004	1593	23520	56120	32600	16.3	10.19
10/19/2004	1594	23780	58460	34680	17.34	10.84
10/19/2004	1595	21060	54100	33040	16.52	10.33
10/19/2004	1596	23520	54880	31360	15.68	9.80
10/19/2004	1597	21060	56660	35600	17.8	11.13
10/19/2004	1598	23780	58280	34500	17.25	10.78
10/19/2004	1599	23520	54920	31400	15.7	9.81
10/19/2004	1600	21060	55080	34020	17.01	10.63
10/19/2004	1601	23780	59200	35480	17.74	11.09
10/19/2004	1602	23520	52720	29200	14.6	9.13
10/19/2004	1603	21060	54360	33300	16.65	10.41
10/19/2004	1604	23780	56460	31680	15.84	9.90
10/19/2004	1605	21060	52680	31620	15.81	9.88
10/19/2004	1606	23780	60380	36600	18.3	11.44
10/19/2004	1607	21060	53020	31960	15.98	9.99
10/19/2004	1608	23520	59420	35900	17.95	11.22
10/19/2004	1609	23780	55540	31760	15.88	9.93
10/19/2004	1610	21060	57840	36580	18.29	11.43
10/19/2004	1611	23520	55260	31740	15.87	9.92
10/19/2004	1612	23780	59420	35640	17.82	11.14
10/19/2004	1613	21060	53260	32200	16.1	10.06
10/19/2004	1614	23780	59740	35960	17.98	11.24
10/19/2004	1615	21060	53760	32700	16.35	10.22
10/19/2004	1616	23780	56840	33060	16.53	10.33
10/19/2004	1617	21060	52000	30940	15.47	9.67
10/19/2004	1618	23520	53400	29880	14.94	9.34
10/19/2004	1619	23780	56540	32760	16.38	10.24
10/19/2004	1620	21060	50800	29740	14.87	9.29
10/19/2004	1621	23520	52700	29180	14.59	9.12
10/19/2004	1622	23780	56440	32660	16.33	10.21
10/19/2004	1623	21060	52040	30980	15.49	9.68
10/19/2004	1624	23520	52980	29460	14.73	9.21
10/19/2004	1625	23780	60780	37000	18.5	11.56
10/19/2004	1626	21060	53080	32020	16.46	10.29
10/19/2004	1627	23520	52540	29020	14.51	9.07
10/19/2004	1628	23780	55080	31300	15.65	9.78
10/19/2004	1629	21060	50380	29320	14.66	9.16
10/19/2004	1630	23520	54320	30800	15.4	9.63

Total= 1728120 4232380 2504260 1252.13 782.58

Sub-Ballast Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/20/2004	1631	23520	55440	31920	15.96	9.98
10/20/2004	1632	23780	59020	35240	17.62	11.01
10/20/2004	1633	21060	59100	38040	19.02	11.89
10/20/2004	1634	23520	55120	31600	15.95	9.97
10/20/2004	1635	23780	54400	30620	15.31	9.57
10/20/2004	1636	21060	54940	33880	16.94	10.59
10/20/2004	1637	23520	58340	34820	17.41	10.88
10/20/2004	1638	23780	60200	36420	18.21	11.38
10/20/2004	1639	21060	55880	34820	17.41	10.88
10/20/2004	1640	23780	59500	35720	17.86	11.16
10/20/2004	1641	21060	55000	33940	16.97	10.61
10/20/2004	1642	23520	56400	32880	16.44	10.28
10/20/2004	1643	23780	60980	37200	18.6	11.63
10/20/2004	1644	21060	56700	35640	17.82	11.14
10/20/2004	1645	23520	57140	33620	16.81	10.51
10/20/2004	1646	23780	58200	34420	17.21	10.76
10/20/2004	1647	21060	52660	31600	15.8	9.88
10/20/2004	1648	23520	55840	36120	18.06	11.29
10/20/2004	1649	23780	60780	37000	18.5	11.56
10/20/2004	1650	21060	57720	36660	18.33	11.46
10/20/2004	1651	23520	58640	35120	17.56	10.98
10/20/2004	1652	23780	61160	37400	18.7	11.69
10/20/2004	1653	21060	59340	38280	19.14	11.96
10/20/2004	1654	23520	54660	31140	15.57	9.73
10/20/2004	1655	23780	58120	34340	17.17	10.73
10/20/2004	1656	21060	55240	34180	17.09	10.68
10/20/2004	1657	23520	56480	32960	16.48	10.30
10/20/2004	1658	23780	60320	36540	18.27	11.42
10/20/2004	1659	21060	56940	35880	17.94	11.21
10/20/2004	1660	23520	55580	32060	16.03	10.02
10/20/2004	1661	23780	62800	39020	19.51	12.19
10/20/2004	1662	21060	58500	37500	18.75	11.72
10/20/2004	1663	23520	56400	34880	17.44	10.90
10/20/2004	1664	23780	60780	37000	18.5	11.56
10/20/2004	1665	21060	57020	35960	17.98	11.24
10/20/2004	1666	23780	62620	38840	19.42	12.14
10/20/2004	1667	21060	56400	37340	18.67	11.67
10/20/2004	1668	23780	60380	36600	18.3	11.44
10/20/2004	1669	21060	56800	35740	17.87	11.17
10/20/2004	1670	23520	57720	34200	17.1	10.69
10/20/2004	1671	23780	58740	34960	17.48	10.93
10/20/2004	1672	21060	56760	35700	17.85	11.16
10/20/2004	1673	23520	57720	34200	17.1	10.69
10/20/2004	1674	23780	58740	34960	17.48	10.93
10/20/2004	1675	23520	60160	36640	18.32	11.45
10/20/2004	1676	23780	58780	35000	17.5	10.94
10/20/2004	1677	23520	58620	35100	17.55	10.97
10/20/2004	1678	23780	57920	34140	17.07	10.67
10/20/2004	1679	23520	55920	32400	16.2	10.13
10/20/2004	1680	23780	61020	37240	18.62	11.64
10/20/2004	1681	23520	55200	31680	15.84	9.90
10/20/2004	1682	23780	61460	37680	18.84	11.78
10/20/2004	1683	23520	55740	32220	16.11	10.07
10/20/2004	1684	23780	60340	36560	18.28	11.43
10/20/2004	1685	23520	54260	30740	15.37	9.61
10/20/2004	1686	23780	61920	38140	19.07	11.92
10/20/2004	1687	23520	57760	34240	17.12	10.70
10/20/2004	1688	23780	60320	36540	18.27	11.42
10/20/2004	1689	23520	57040	33520	16.76	10.48
10/20/2004	1690	23780	61900	38120	19.06	11.91
10/20/2004	1691	23520	57840	34320	17.16	10.73
10/20/2004	1692	23780	60660	36300	18.15	11.34
10/20/2004	1693	23520	55580	32060	16.03	10.02
10/20/2004	1694	23780	59600	36020	18.01	11.26
10/20/2004	1695	23520	55780	32260	16.13	10.08
10/20/2004	1696	23780	61600	37820	18.91	11.82
10/20/2004	1697	23520	57600	34080	17.04	10.65
10/20/2004	1698	23780	58220	34440	17.22	10.76
10/20/2004	1699	23520	56520	33000	16.5	10.31
10/20/2004	10251	23780	59120	35340	17.67	11.04
10/20/2004	10252	23520	55960	32440	16.23	10.14
10/20/2004	10253	23780	61940	38160	19.08	11.93
10/20/2004	10254	23520	56560	33040	16.52	10.33

Total= 1687560 4244380 2556520 1278.26 798.91

Sub-Ballast Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/21/2004	10255	23520	56520	33000	16.5	10.31
10/21/2004	10256	23780	56860	33080	16.54	10.34
10/21/2004	10257	23520	57020	33500	16.75	10.47
10/21/2004	10258	23780	60760	37000	18.5	11.56
10/21/2004	10259	23520	54100	30580	15.29	9.56
10/21/2004	10260	23780	59040	35260	17.63	11.01
10/21/2004	10261	23520	55800	32280	16.14	10.09
10/21/2004	10262	23780	63460	39680	19.84	12.40
10/21/2004	10263	23520	56680	33160	16.58	10.36
10/21/2004	10264	23780	62760	38980	19.49	12.18
10/21/2004	10265	23520	55420	31900	15.95	9.97
10/21/2004	10266	23780	61000	37220	18.61	11.63
10/21/2004	10267	23520	57400	33880	16.94	10.59
10/21/2004	10268	23780	61280	37500	18.75	11.72
10/21/2004	10269	23520	54800	31280	15.64	9.78
10/21/2004	10270	23780	60980	37200	18.6	11.63
10/21/2004	10271	23520	57640	34120	17.06	10.66
10/21/2004	10272	23780	56940	33160	17.58	10.99
10/21/2004	10273	23520	58140	34620	17.31	10.82
10/21/2004	10274	23780	59560	35780	17.89	11.18
10/21/2004	10275	23520	53900	30380	15.19	9.49
10/21/2004	10276	23780	59160	35380	17.69	11.06
10/21/2004	10277	23520	54040	30520	15.26	9.54
10/21/2004	10278	23780	58700	34920	17.46	10.91
10/21/2004	10279	23520	55260	31740	15.87	9.92
10/21/2004	10280	23780	60560	36780	18.39	11.49
10/21/2004	10281	23520	55560	32040	16.02	10.02
10/21/2004	10282	23780	60200	36420	18.21	11.38
10/21/2004	10283	23520	55100	31580	15.79	9.87
10/21/2004	10284	23780	59120	35340	17.67	11.04
10/21/2004	10285	23520	53600	30080	15.04	9.40
10/21/2004	10286	23780	60480	36700	18.35	11.47
10/21/2004	10287	23520	53820	30300	15.15	9.47
10/21/2004	10288	23780	56960	33180	17.59	10.99
10/21/2004	10289	23520	57060	33540	16.77	10.48
10/21/2004	10290	23780	61040	37260	18.63	11.64
10/21/2004	10291	23520	53240	29720	14.86	9.29
10/21/2004	10292	23780	59200	35420	17.71	11.07
10/21/2004	10293	23520	54460	30940	15.47	9.67
10/21/2004	10294	23780	59460	35680	17.84	11.15
10/21/2004	10295	23520	57520	34000	17	10.63
10/21/2004	10297	23780	62200	38480	19.24	12.03
10/21/2004	10298	23520	56840	33320	16.66	10.41
10/21/2004	10299	23780	60120	36340	18.17	11.36
10/21/2004	10000	23520	56760	33240	16.62	10.39
10/21/2004	10301	23780	60240	36460	18.23	11.39
10/21/2004	10302	23520	56740	33220	16.61	10.38
10/21/2004	10303	23780	62780	39000	19.5	12.19
10/21/2004	10304	23520	59040	35520	17.76	11.10
10/21/2004	10305	23780	60400	36620	18.31	11.44
10/21/2004	10306	23520	53820	30300	15.15	9.47
10/21/2004	10307	23780	59920	35140	17.57	10.98
10/21/2004	10308	23520	55800	32280	16.14	10.09
10/21/2004	10309	23780	56160	32380	16.19	10.12
10/21/2004	10310	23520	53760	30240	15.12	9.45
10/21/2004	10311	23780	61240	37460	18.73	11.71
10/21/2004	10312	23520	56560	33040	16.52	10.33
10/21/2004	10313	23780	61240	37460	18.73	11.71
10/21/2004	10314	23520	58420	34900	17.45	10.91
10/21/2004	10316	23520	55620	32100	16.05	10.03
10/21/2004	10317	23780	62700	38920	19.46	12.16
10/21/2004	10318	23520	56840	33320	16.66	10.41

Total= 1475040 3594900 2119920 1059.96 662.48

Sub-Ballast Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/22/2004	10319	23780	61380	37600	18.8	11.75
10/22/2004	10320	23520	58240	34720	17.36	10.85
10/22/2004	10321	23780	62440	38660	19.33	12.08
10/22/2004	10322	23520	57960	34440	17.22	10.76
10/22/2004	10323	23780	59100	35320	17.66	11.04
10/22/2004	10324	23520	56140	32620	16.31	10.19
10/22/2004	10325	23780	64520	40740	20.37	12.73
10/22/2004	10326	23520	59540	36020	18.01	11.26
10/22/2004	10327	23780	60120	36340	18.17	11.36
10/22/2004	10328	23520	57960	34440	17.22	10.76
10/22/2004	10329	23780	61300	37520	18.76	11.73
10/22/2004	10330	23520	52940	29420	14.71	9.19
10/22/2004	10331	23780	61760	37980	18.99	11.87
10/22/2004	10332	23520	54760	31240	15.62	9.76
10/22/2004	10333	23780	57740	33960	16.98	10.61
10/22/2004	10334	23780	58620	34840	17.42	10.89
10/22/2004	10335	21060	53500	32440	16.22	10.14
10/22/2004	10336	23780	61740	37960	18.98	11.86
10/22/2004	10337	23780	58220	34440	17.22	10.76
10/22/2004	10338	21060	54160	33100	16.55	10.34
10/22/2004	10339	23780	57880	34100	17.05	10.66
10/22/2004	10340	21060	55440	34380	17.19	10.74
10/22/2004	10341	23520	55300	31780	15.89	9.93
10/22/2004	10342	23780	59320	35540	17.77	11.11
10/22/2004	10343	23520	55700	32180	16.09	10.06
10/22/2004	10344	23780	60240	36460	18.23	11.39
10/22/2004	10345	23520	52820	29300	14.65	9.16
10/22/2004	10346	23780	61620	37840	18.92	11.83
10/22/2004	10347	23520	54360	30840	15.42	9.64
10/22/2004	10348	23780	60120	36340	18.17	11.36
10/22/2004	10349	23780	59720	35940	17.97	11.23
10/22/2004	10350	23520	52940	29420	14.71	9.19
10/22/2004	10351	23780	58200	35420	17.71	11.07
10/22/2004	10352	23520	56420	32900	16.45	10.28
10/22/2004	10353	23780	64420	40640	20.32	12.70
10/22/2004	10354	23520	55200	31680	15.84	9.90
10/22/2004	10355	23780	62580	38800	19.4	12.13
10/22/2004	10356	23520	58160	34640	17.32	10.83
10/22/2004	10357	23780	60220	36440	18.22	11.39
10/22/2004	10358	23520	55580	32060	16.03	10.02
10/22/2004	10359	23780	63380	39600	19.8	12.38
10/22/2004	10360	23520	54700	31180	15.59	9.74
10/22/2004	10361	23780	64400	40620	20.31	12.69
10/22/2004	10362	23520	54520	31000	15.5	9.69
10/22/2004	10363	23780	60000	36220	18.11	11.32
10/22/2004	10364	23520	55560	32040	16.02	10.01
10/22/2004	10365	23780	59000	35220	17.61	11.01
10/22/2004	10366	23520	54280	30760	15.38	9.61
10/22/2004	10367	23780	59220	35440	17.72	11.08
10/22/2004	10368	23520	57460	33940	16.97	10.61
10/22/2004	10369	23780	58400	34620	17.31	10.82
10/22/2004	10370	23520	56400	32880	16.44	10.28
10/22/2004	10371	23780	56440	32660	16.33	10.21
10/22/2004	10375	23520	56680	33160	16.58	10.36
10/22/2004	10376	23780	60520	36740	18.37	11.48
10/22/2004	10377	23520	52300	28780	14.39	8.99
10/22/2004	10378	23780	60020	36240	18.12	11.33
10/22/2004	10379	23520	55600	32140	16.07	10.04
10/22/2004	10380	23780	59920	36140	18.07	11.29
10/22/2004	10381	23520	55900	32380	16.19	10.12
10/22/2004	10382	23780	59760	35980	17.99	11.24
10/22/2004	10383	23520	56700	33180	16.59	10.37
10/22/2004	10384	23780	58000	34220	17.11	10.69
10/22/2004	10385	23520	58000	34480	17.24	10.78
10/22/2004	10386	23780	62540	38760	19.38	12.11

Total= 1590260 3779140 2248880 1124.44 702.78

Grand Total, Week of 18 October 2004		
	5868.81	3668.006

TABLE G-6

Summary of Imported Clean Backfill
From Remp Sand and Gravel
BNSF Libby Yard Response Action 2004
Week of 25 October 2004

Sub-Ballast Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/25/2004	10387	23520	59440	35920	17.96	11.23
10/26/2004	10388	23780	58720	34940	17.47	10.92
10/25/2004	10389	23520	58780	35260	17.63	11.02
10/25/2004	10390	23780	63840	40060	20.03	12.52
10/25/2004	10391	23520	53340	29820	14.91	9.32
10/25/2004	10392	23780	65180	41400	20.7	12.94
10/25/2004	10393	23520	56080	33160	16.58	10.36
10/25/2004	10394	23780	57860	34080	17.04	10.65
10/25/2004	10395	23520	55800	32280	16.14	10.09
10/25/2004	10396	23780	57240	33460	16.73	10.46
10/25/2004	10397	23520	56400	32880	16.44	10.28
10/26/2004	10398	23780	56900	33020	16.51	10.32
10/25/2004	10399	23520	56720	33200	16.6	10.38
10/25/2004	10400	23780	61600	37820	18.91	11.82
10/25/2004	10401	23520	53700	30180	15.09	9.43
10/25/2004	10402	23780	57860	34080	17.04	10.65
10/25/2004	10403	23520	57380	33860	16.93	10.58
10/25/2004	10404	23780	58700	34920	17.46	10.91
10/25/2004	10405	23520	56360	32840	16.42	10.26
10/25/2004	10406	23780	60040	36260	18.13	11.33
10/25/2004	10407	23520	54460	30940	15.47	9.67
10/25/2004	10408	23780	61500	37780	18.89	11.81
10/25/2004	10409	23780	61720	37940	18.97	11.86
10/25/2004	10410	23520	54960	31440	15.72	9.83
10/25/2004	10411	23780	60360	36580	18.29	11.43
10/25/2004	10412	23520	57660	34140	17.07	10.67
10/25/2004	10413	23780	61320	37540	18.77	11.73
10/25/2004	10414	23520	57100	33580	16.79	10.49
10/25/2004	10415	23780	60640	36860	18.43	11.52
10/25/2004	10416	23520	55220	31700	15.85	9.91
10/25/2004	10417	23780	60060	36280	18.14	11.34
10/25/2004	10418	23520	57780	34260	17.13	10.71
10/25/2004	10419	23780	60940	37160	18.58	11.61
10/25/2004	10420	23520	57400	33880	16.94	10.59
10/25/2004	10421	23780	57780	34000	17	10.63
10/25/2004	10422	23520	53580	30060	15.03	9.39
10/25/2004	10423	23780	61920	38140	19.07	11.92
10/25/2004	10424	23780	63460	39680	19.84	12.40
10/25/2004	10425	23520	56680	33160	16.58	10.36
10/25/2004	10426	23780	60480	36700	18.35	11.47
10/25/2004	10427	23520	56760	33240	16.62	10.39
10/25/2004	10428	23780	57120	33340	16.67	10.42
10/25/2004	10429	23520	55460	31940	15.97	9.98
10/25/2004	10430	23780	60100	36320	18.16	11.35
10/25/2004	10431	23520	55280	31760	15.88	9.93
10/25/2004	10432	23780	59340	35560	17.78	11.11
10/25/2004	10433	23520	55800	32280	16.14	10.09
10/25/2004	10434	23780	61960	38180	19.09	11.93
10/25/2004	10435	23520	57760	34240	17.12	10.70
10/25/2004	10436	23780	61440	37660	18.83	11.77
10/25/2004	10437	23520	55520	32000	16	10.00
10/25/2004	10438	23780	58420	34640	17.32	10.83
10/25/2004	10439	23520	55300	31780	15.89	9.93
10/25/2004	10440	23780	61380	37600	18.8	11.75
10/25/2004	10441	23520	55280	31760	15.88	9.93
10/25/2004	10442	23780	60640	36860	18.43	11.52
10/25/2004	10443	23520	57400	33880	16.94	10.59
10/25/2004	10444	23780	59140	35360	17.68	11.05
10/25/2004	10445	23520	58240	34720	17.36	10.85
10/25/2004	10446	23780	62880	39100	19.55	12.22
10/25/2004	10447	23520	58320	34800	17.4	10.88
10/25/2004	10448	23780	61740	37960	18.98	11.86
10/25/2004	10449	23520	56860	33340	16.67	10.42
Total=		1490080	3579660	2189580	1094.79	684.24

Sub-Ballast Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/26/2004	10450	23780	59640	35860	17.93	11.21
10/26/2004	10451	23520	56800	33280	17.64	11.03
10/26/2004	10452	23780	61800	38020	19.01	11.88
10/26/2004	10453	23520	58180	34660	17.33	10.83
10/26/2004	10454	23780	60060	36280	18.14	11.34
10/26/2004	10455	23520	57240	33720	16.86	10.54
10/26/2004	10456	23780	57040	33260	16.63	10.39
10/26/2004	10457	23780	61400	37620	18.81	11.76
10/26/2004	10458	23520	58180	32660	16.33	10.21
10/26/2004	10459	23780	61460	37700	18.85	11.78
10/26/2004	10460	23520	58940	35420	17.71	11.07
10/26/2004	10461	23780	58540	34760	17.38	10.86
10/26/2004	10462	23620	58680	35160	17.58	10.99
10/26/2004	10463	23780	60080	36300	18.15	11.34
10/26/2004	10464	23520	61020	37500	18.75	11.72
10/26/2004	10465	23780	59880	36100	18.05	11.28
10/26/2004	10466	23520	56800	33280	16.64	10.40
10/26/2004	10467	23780	58960	35180	17.59	10.99
10/26/2004	10468	23520	53800	30280	15.14	9.46
10/26/2004	10469	23780	58080	34300	17.15	10.72
10/26/2004	10470	23520	60040	36520	18.26	11.41
10/26/2004	10471	23780	59060	35280	17.79	11.12
10/26/2004	10472	23520	57580	34060	17.03	10.64
10/26/2004	10473	23780	58220	34440	17.22	10.76
10/26/2004	10474	23520	58520	35000	17.5	10.94
10/26/2004	10475	23780	58360	34580	17.29	10.81
10/26/2004	10476	23520	55080	31560	15.78	9.86
10/26/2004	10477	23520	51600	28080	14.04	8.78
10/26/2004	10478	23780	49020	25240	12.77	7.98
10/26/2004	10479	23520	53580	30060	15.03	9.39
10/26/2004	10480	23780	52120	28340	14.17	8.86
10/26/2004	10481	21060	51620	30560	15.28	9.55
10/26/2004	10482	23520	53080	29560	14.78	9.24
10/26/2004	10483	23780	53040	29260	14.63	9.14
10/25/2004	10484	21060	53000	31940	15.97	9.98
10/26/2004	10485	23520	50960	27440	13.72	8.58
10/26/2004	10486	21060	55000	34000	17	10.63
10/25/2004	10487	23780	55180	31400	15.7	9.81
10/26/2004	10488	23520	50120	26600	13.3	8.31
10/26/2004	10489	21060	54120	33060	16.53	10.33
10/26/2004	10490	23780	51120	27340	13.67	8.54
10/26/2004	10491	23520	52620	29100	14.55	9.16
10/25/2004	10492	21060	52680	31620	15.81	9.88
10/25/2004	10493	23780	57000	33220	16.61	10.38
10/26/2004	10494	21060	55580	34520	17.26	10.79
10/25/2004	10495	23520	53320	29800	14.9	9.31
10/26/2004	10496	23780	56400	32620	16.31	10.19
10/25/2004	10497	21060	50020	34960	17.48	10.93
10/26/2004	10498	23520	53300	29780	14.89	9.31
10/26/2004	10499	25020	49940	24920	12.46	7.79
10/26/2004	10500	23780	56180	32400	16.2	10.13
10/26/2004	10501	23520	55500	31980	15.99	9.99
10/26/2004	10502	21060	48000	26940	13.47	8.42
10/26/2004	10503	25020	46820	21800	10.9	6.81
10/26/2004	10504	21060	48280	27220	13.61	8.51
10/26/2004	10505	23520	53850	30360	15.18	9.49
10/26/2004	10506	23780	55520	31740	15.87	9.92
10/26/2004	10507	21060	46740	25680	12.84	8.03
10/25/2004	10508	25020	47060	22040	11.02	6.89
10/26/2004	10509	23520	54240	30720	15.36	9.60
10/26/2004	10510	23780	59200	35420	17.71	11.07
10/25/2004	10511	21060	45240	24180	12.09	7.56
10/26/2004	10512	23520	52980	29460	14.73	9.21
10/26/2004	10513	25020	47400	22380	11.19	6.99
10/25/2004	10514	23780	55780	32000	16	10.00
10/26/2004	10515	21060	46980	25920	12.96	8.10
10/26/2004	10516	23520	52660	29140	14.57	9.11
10/26/2004	10517	25020	49700	24680	12.34	7.71
10/26/2004	10518	23780	55600	31820	15.91	9.94
10/26/2004	10519	21060	46460	25400	12.7	7.94
10/26/2004	10520	23520	54720	31200	15.6	9.75
10/26/2004	10521	25020	46980	21960	10.98	6.86
10/26/2004	10522	21060	48740	27680	13.84	8.65
10/26/2004	10523	23780	58120	34340	17.17	10.73
10/26/2004	10524	23520	55340	31820	15.91	9.94
Total=		1745560	4092860	2347280	1173.64	733.53

Sub-Ballast Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/27/2004	10525	23780	58780	35000	17.5	10.94
10/27/2004	10526	23780	54220	30440	15.22	9.51
10/27/2004	10527	25020	45900	20880	10.44	6.53
10/27/2004	10528	23780	58040	34260	17.13	10.71
10/27/2004	10529	25020	48640	23620	11.81	7.38
10/27/2004	10530	23780	57240	33460	16.73	10.46
10/27/2004	10531	25020	46720	21700	10.85	6.78
10/27/2004	10532	23780	61740	37960	18.98	11.86
10/27/2004	10533	25020	46260	21240	10.62	6.64
10/27/2004	10534	23780	58480	34700	17.35	10.84
10/27/2004	10535	25020	48020	23000	11.5	7.19
10/27/2004	10536	23780	58380	34600	17.3	10.81
10/27/2004	10537	25020	45820	24800	12.4	7.75
10/27/2004	10538	23780	57480	33700	16.85	10.53
10/27/2004	10539	25020	49400	24380	12.19	7.62
10/27/2004	10540	23780	61700	37920	18.96	11.85
10/27/2004	10541	25020	43560	18540	9.27	5.79
10/27/2004	10542	23780	57240	33460	16.73	10.46
10/27/2004	10543	25020	45580	20560	10.28	6.43
10/27/2004	10544	23780	60680	36900	18.45	11.53
10/27/2004	10545	25020	45140	20120	10.06	6.29
10/27/2004	10546	23780	55840	32060	16.03	10.02
10/27/2004	10547	25020	47400	22440	11.22	7.01
10/27/2004	10548	23780	58740	34960	17.48	10.93
10/27/2004	10549	25020	48540	23520	11.76	7.35
10/27/2004	10550	23780	58100	34320	17.16	10.73
10/27/2004	10551	25020	47460	22440	11.22	7.01
10/27/2004	10552	23780	58440	34660	17.33	10.83
10/27/2004	10553	25020	42820	17800	8.9	5.56
10/27/2004	10554	23780	58480	34700	17.35	10.84
10/27/2004	10555	25020	44180	19160	9.58	5.99
10/27/2004	10556	23780	57420	33640	16.82	10.51
10/27/2004	10557	25020	49720	24700	12.35	7.72
10/27/2004	10558	23780	59580	35800	17.9	11.19
10/27/2004	10559	25020	45340	20320	10.16	6.35
10/27/2004	10560	23780	60320	36540	18.27	11.42
10/27/2004	10561	25020	48200	23180	11.59	7.24
10/27/2004	10562	23780	59520	35740	17.87	11.17
10/27/2004	10563	25020	52840	27820	13.91	8.69
10/27/2004	10564	23780	52160	28380	14.19	8.87
Total =		974760	2118180	1143420	571.71	357.32

Sub-Ballast Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/28/2004	10565	23780	61240	37460	18.73	11.71
10/28/2004	10566	25020	45360	20340	10.17	6.36
10/28/2004	10567	23780	59040	35260	17.63	11.02
10/28/2004	10568	25020	42200	17180	8.59	5.37
10/28/2004	10569	23780	59100	35320	17.66	11.04
10/29/2004	10570	25020	48420	23400	11.7	7.31
10/28/2004	10571	23780	58980	35200	17.6	11.00
10/28/2004	10572	25020	45640	20620	10.31	6.44
10/28/2004	10573	23780	58480	34700	17.35	10.84
10/28/2004	10574	25020	47820	22800	11.4	7.13
10/28/2004	10575	23780	58440	34660	17.33	10.83
10/28/2004	10576	25020	45220	21200	10.6	6.63
10/28/2004	10577	23780	62040	38260	19.13	11.96
10/28/2004	10578	25020	44800	19780	9.89	6.18
10/28/2004	10579	23780	59440	35660	17.83	11.14
10/28/2004	10580	25020	46640	21620	10.81	6.76
10/28/2004	10581	23780	56800	33020	16.51	10.32
10/28/2004	10582	25020	45460	20440	10.22	6.39
10/28/2004	10583	23780	55880	32080	16.04	10.03
10/28/2004	10584	25020	46160	21140	10.57	6.61
10/28/2004	10585	25020	45940	20920	10.46	6.54
10/28/2004	10586	23780	60820	37040	18.52	11.58
10/28/2004	10587	25020	45940	21920	10.96	6.85
10/28/2004	10588	23780	60300	36520	18.26	11.41
10/28/2004	10589	25020	48740	23720	11.86	7.41
10/28/2004	10590	23780	58700	34920	17.46	10.91
Total =		634400	1369580	735180	367.59	229.74

Sub-Ballast Haul Information

Date	Ticket #	Tare	Gross	Net	Tons	CY
10/29/2004	10591	23780	56640	32860	16.43	10.27
10/29/2004	10592	25500	46100	20600	10.3	6.44
10/29/2004	10593	23780	54300	30520	15.26	9.54
10/29/2004	10594	25500	48560	23060	11.53	7.21
10/29/2004	10595	23780	59400	35620	17.81	11.13
10/29/2004	10596	25500	47920	22420	11.21	7.01
10/29/2004	10597	23780	60800	37020	18.51	11.57
10/29/2004	10598	25500	47700	22200	11.1	6.94
10/29/2004	10599	23780	57820	34040	17.02	10.64
10/29/2004	10600	25500	47380	21880	10.94	6.84
10/29/2004	10601	23780	59320	35540	17.77	11.11
10/29/2004	10602	25500	45360	19860	9.93	6.21
10/29/2004	10603	23780	55300	31520	15.76	9.85
10/29/2004	10604	25500	45220	19720	9.86	6.16
10/29/2004	10605	23780	58400	34620	17.31	10.82
10/29/2004	10606	25500	47720	22220	11.11	6.94
10/29/2004	10607	23780	57600	33820	16.91	10.57
10/29/2004	10608	25500	45260	19760	9.88	6.18
10/29/2004	10609	23780	51500	27720	13.86	8.66
10/29/2004	10610	25500	44560	19060	9.53	5.96
10/29/2004	10611	23780	54200	30420	15.21	9.51
10/29/2004	10612	25500	45500	20000	10	6.25
10/29/2004	10613	23780	56200	32420	16.21	10.13
10/29/2004	10614	25500	42300	16800	8.4	5.25
10/29/2004	10615	23780	54920	31140	15.57	9.73
10/29/2004	10616	25500	45020	19520	9.76	6.10
10/29/2004	10617	25500	47260	21760	10.88	6.80
10/29/2004	10618	23780	59600	36020	18.01	11.26
10/29/2004	10619	25500	48300	22800	11.4	7.13
10/29/2004	10620	23780	60420	36640	18.32	11.45
10/29/2004	10621	25500	47880	22380	11.19	6.99
10/29/2004	10622	23780	55900	32120	16.06	10.04
10/29/2004	10623	25500	46900	21400	10.7	6.69
10/29/2004	10624	23780	53240	29460	14.73	9.21
10/29/2004	10625	25500	50060	24560	12.28	7.68
10/29/2004	10626	23780	58380	34600	17.3	10.81
10/29/2004	10627	25500	45960	20460	10.23	6.39
10/29/2004	10628	23780	57320	33540	16.77	10.48
10/29/2004	10629	25500	48860	23360	11.68	7.30
10/29/2004	10630	25500	50260	24760	12.38	7.74
10/29/2004	10631	25500	47400	21900	10.95	6.84
10/29/2004	10632	25500	46360	20860	10.43	6.52
10/29/2004	10633	25500	48160	22660	11.33	7.08
10/29/2004	10634	25500	48540	23040	11.52	7.20
10/29/2004	10635	25500	48500	23000	11.5	7.19
10/29/2004	10636	25500	49860	24360	12.18	7.61
Total =		1140320	2354360	1214040	607.02	379.39

Grand Total, Week of 25 October 2004	3814.75	2384.219

TABLE G-7

Summary of Imported Clean Backfill
From Remp Sand and Gravel
BNSF Libby Yard Response Action 2004
Week of 1 November 2004

Sub-Ballast Haul Information						
Date	**Ticket #**	**Tare**	**Gross**	**Net**	**Tons**	**CY**
11/1/2004	10637	25500	48440	22940	11.47	7.17
11/1/2004	10638	25500	47340	21840	10.92	6.83
11/1/2004	10639	25500	48580	23080	11.54	7.21
11/1/2004	10640	25500	48920	23420	11.71	7.32
11/1/2004	10641	25500	48740	23240	11.62	7.26
11/1/2004	10642	25500	49460	23960	11.98	7.49
11/1/2004	10643	25500	47220	21720	10.86	6.79
11/1/2004	10644	25500	50380	24880	12.44	7.78
11/1/2004	10645	25500	48340	22840	11.42	7.14
11/1/2004	10646	25500	49740	24240	12.12	7.58
11/1/2004	10647	25500	51200	25700	12.85	8.03
11/1/2004	10648	25500	50780	25280	12.64	7.90
11/1/2004	10649	25500	50640	25140	12.57	7.86
11/1/2004	10650	25500	50080	24580	12.29	7.68
11/1/2004	10651	25500	49360	23860	11.93	7.46
Total =		382500	739220	356720	178.36	111.48

Grand Total, Week of 1 November 2004	**178.36**	**111.48**

Appendix H

Applicable or Relevant and Appropriate Requirements

APPENDIX H
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS)
BNSF LIBBY RAILYARD RESPONSE ACTION 2004
BURLINGTON NORTHERN SANTA FE RAILWAY COMPANY
LIBBY, MONTANA

Citation	Requirement or Activity	Compliance Strategy
29 CFR 1910.134	Use of respiratory protection.	• Each employer was responsible for compliance with this standard. • Full-face PAPRs were used initially, with the possibility of downgrading to negative-pressure, half-face respirators.
29 CFR 1910.134, 29 CFR 1926.95, 29 CFR 1926.96, 29 CFR 1926.100, 29 CFR 1926.101, 29 CFR 1926.102, 29 CFR 1926.103	Site work requires the use of personal protective equipment.	• Personal protective equipment was worn onsite at all times. The minimum personal protective equipment included a hard hat, safety glasses, and safety boots. This equipment complied with applicable ANSI standards. • Additional personal protective equipment was required in the Contamination Reduction Zone and Exclusion Zone. This included respiratory protection, disposable suits, and protective gloves.
29 CFR 1910.151(b)	If an infirmary, clinic, or hospital for treating injured employees is not within close driving distance to the workplace, a person or persons shall be adequately trained to render first aid. Adequate first aid supplies shall be readily available.	• St John's Lutheran Hospital at 350 Louisiana Avenue in Libby, Montana, is less than 1 mile from the work areas. Therefore, this regulation is not applicable.

APPENDIX H
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS)
BNSF LIBBY RAILYARD RESPONSE ACTION 2004
BURLINGTON NORTHERN SANTA FE RAILWAY COMPANY
LIBBY, MONTANA

Citation	Requirement or Activity	Compliance Strategy
29 CFR 1926.1101 (29 CFR 1910.1001)	Worker protection measures to include engineering controls, worker training, labeling, respiratory protection, bagging of waste, 0.1 f/cc eight-hour time-weighted average and 1 f/cc 30-minute excursion permissible exposure limit.	• Requirements of these standards have been addressed in the project specification. Some of the worker protection measures are listed below. • Engineering controls included keeping the soil wet and providing decontamination facilities for personnel and equipment. • Workers were trained in accordance with federal asbestos abatement requirements before starting work at the site. Montana State certification is not required because the soils removal does not fit the definition of an asbestos project as defined by the Montana Department of Environmental Quality (MDEQ). A requirement of asbestos licensure is that they have proper training for their job designation. • All excavated soils were loaded directly into dump trucks for transport to Lincoln County Landfill, north of Libby. The truck beds were tarp-covered prior to transport, and the truck beds were covered in transit both to and from the landfill.. • Signs and/or warning tape and traffic cones were used at the site perimeter to keep unauthorized personnel out of the site and Exclusion Zone. • Waste generated from personal protective equipment and during decontamination was disposed of in asbestos warning-labeled 6-mil bags. The bags are to be leak-tight polyethylene bags labeled in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication standard. • Respiratory protection and protective clothing were worn by personnel entering the Exclusion Zone. • Worker breathing zone samples were collected from workers in the Exclusion Zone to document exposure. Additionally, area samples were collected at the Exclusion Zone perimeter. Decisions to upgrade respiratory protection were based on the airborne concentrations detected and the maximum use concentrations of the respirators being used.
40 CFR 61.154	Disposal of asbestos-containing waste	Potential asbestos-containing material generated with the project was disposed of in a landfill operated by Lincoln County, Montana.

APPENDIX H
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS)
BNSF LIBBY RAILYARD RESPONSE ACTION 2004
BURLINGTON NORTHERN SANTA FE RAILWAY COMPANY
LIBBY, MONTANA

Citation	Requirement or Activity	Compliance Strategy
40 CFR Part 763.90	The removal project is completed after visible hydrated biotite has been removed and the soil samples do not detect Libby amphibole.	• EMR collected soil samples to document Libby amphibole content of the soil following cleaning.
42 CFR Part 84	Respirator filter selection	Although other filters may provide adequate protection, P100 have been specified in the EMR Work Plan.
49 CFR parts 171 and 172	Regulates the transportation of asbestos-containing waste material. Requires waste containment and shipping papers.	A shipment record accompanied each shipment to the landfill. Dump truck beds were covered with tarps for waste transportation; the truck beds were covered while traveling to and from the landfill..
American National Standard for High-Visibility Safety Apparel ANSI/ISEA 107-1999	Exposure to vehicular equipment at the site.	Class 2 garments were worn since they were intended for use in activities where greater visibility is necessary during inclement weather conditions or in work environments with risks that exceed those for Class 1.
ARAR's for preventing damage to unique or sensitive areas, such as floodplains, historic places, wetlands, and fragile ecosystems, and for restricting other activities that are potentially harmful because of where they take place.	Site work	The project site is a BNSF Railroad Company right-of-way. Therefore, issues with respect to floodplains, historic places, wetlands, fragile ecosystems, or activities that may be potentially harmful are not applicable.
Backup Alarm - citable under Section 5(a) (1) of the Occupational Safety and Health Act.	Under Section 5(a)(1) of the Occupational Safety and Health Act (the General Duty Clause), employers must keep their workplaces free from recognized hazards	Backup alarms on heavy equipment are required.

Citation	Requirement or Activity	Compliance Strategy
Emission Control requirements of 40 CFR 61.145 and Waste handling provisions of 40 CFR 61.150	Prevent visible emissions during vacuuming, soil transfer, loading the soil into vessels for transfer to the landfill.	• Soils were wetted prior to handling and remained wet throughout handling so that no visible emissions were released from the site. • Each truckload of soil was manifested using a special waste manifest. Photocopies of the manifests will be retained by Kennedy/Jenks Consultants and the originals will be supplied to BNSF for their records. • Air sampling was conducted during loading and decontamination procedures in order to sample for potential airborne fibers.
	Asbestos-containing waste transportation and disposal at the approved landfill.	• Kennedy/Jenks Consultants on behalf of BNSF and the transporter ensured that a waste shipment record was appropriately completed and signed by the generator, and accompanied the waste to the disposal site. • A copy of the waste shipment record was provided to the landfill operator or owner. • A copy signed by the landfill owner or operator is to be returned to BNSF within 30 days.

Citation	Requirement or Activity	Compliance Strategy
29 Code of Federal Regulations 1910.145(d)(4)	Caution signs warning of asbestos-containing material and/or asbestos-related activity.	The perimeter of the exclusion zone was posted with asbestos warning signs. The posting must: (1) Be displayed in such a manner and location that a person can easily read the legend. (2) Conform to the requirements for twenty inch by fourteen-inch [50.8-centimeter by 35.56-centimeter] upright format signs specified in title 29 Code of Federal Regulations 1910.145(d)(4) and this paragraph; and (3) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified below. Legend — Notation DANGER — 2.5 cm [1 in.] Sans Serif, Gothic, or Block. ASBESTOS DUST HAZARD — 2.5 cm [1 in.] Sans Serif, Gothic, or Block. CANCER AND LUNG DISEASE HAZARD — 1.9 cm [3/4 in.] Sans Serif, Gothic, or Block. Authorized Personnel Only — 14 Point Gothic
Montana Title 75. Environmental Protection Chapter 2. Air Quality, Part 5. Asbestos Control	Montana Department of Environmental Quality (DEQ) asbestos-related regulations.	• Most of the Montana DEQ regulations are not applicable because the project does not involve asbestos-containing materials in building materials. • A courtesy notification was sent to Montana DEQ, but a permit is not required since the waste materials are soils.

Appendix I

Identification of Additional Work

EMR
INCORPORATED

December 1, 2004

Jim Christiansen
EPA Region VIII
999 18th St., Suite 300
Denver, CO 80202

RE: Libby Railyard Biotite Removal, Libby, Montana
EMR Project No. 5539.004
November 12, 2004 Weekly Progress Report

Dear Mr. Christiansen,

EMR, Inc. (EMR), on behalf of the Burlington Northern and Santa Fe Railway Company (BNSF), is providing this correspondence to summarize data which has been previously overlooked for the Libby Railyard, Montana, Libby Asbestos Site, Libby, Montana. In the course of reviewing the site's historical data some laboratory data was again reviewed to assure compliance with the work plan and prove completion of the project. It was discovered that three composite soil samples that were collected in October and November of 2001 exhibited impacts of less than one percent (<1%) actinolite. Upon farther review it was determined that these impacts had been identified in 2002 and a facsimile was sent to Mark Rainey of the Volpe Center on January 25, 2002 with the soil sampling log sheets associated with those three samples. A copy of that facsimile cover sheet is included as an attachment.

At a later date EMSL did analyze the discreet samples associated with the three composite samples which exhibited impacts. The three samples with impacts were BN-09000, BN-19000, and BN-20000. Volpe supplied EMR with an electronic copy of the analytical data for the discreet samples in November 2004. The attached Table includes the laboratory data for the composite samples and the discreet samples from that sampling event. Sample BN-09000 had detections of actinolite at a concentration of <1% in 4 of the 5 discreet samples; samples BN-19000 and BN-20000 each had a detection of <1% actinolite in 1 of the 5 discreet samples. EMR compared the sample results for these 6 impacts detected in the discreet samples with the 2004 work plan.

Upon review of this data it was determined that two areas which remain in place potentially contain impacts; these two areas are located south of the main line on the site. The discreet samples associated with those areas have been highlighted in boldface print in the table.

The first area is the southern half of grid 9 (samples BN-09003 and BN-09004) located on the west side of the site (Figure 2). The center sample closest to the main line (BN-09001) did not contain detectable Libby Amphibole (LA), and the two northern sample

RECEIVED
DEC 13 2004
K/J Federal

5301 E. River Road, Suite 114 ▼ Fridley, MN 55421-3778 ▼ (763) 277-5200 ▼ FAX (763) 277-5201

locations (BN-09002 and BN-09005) are located in areas excavated in 2004. The first area in grid 9 is approximately 50 feet by 100 feet.

The second area is located within grid 20 (Figure 1); this grid contained one discreet sample (BN-20004) with impacts located in the southeast quadrant. This area is approximately 50 feet by 50 feet.

The impact detected in grid 19 was from a sample collected north of the main line (BN-19003) in an area which was also excavated in 2004.

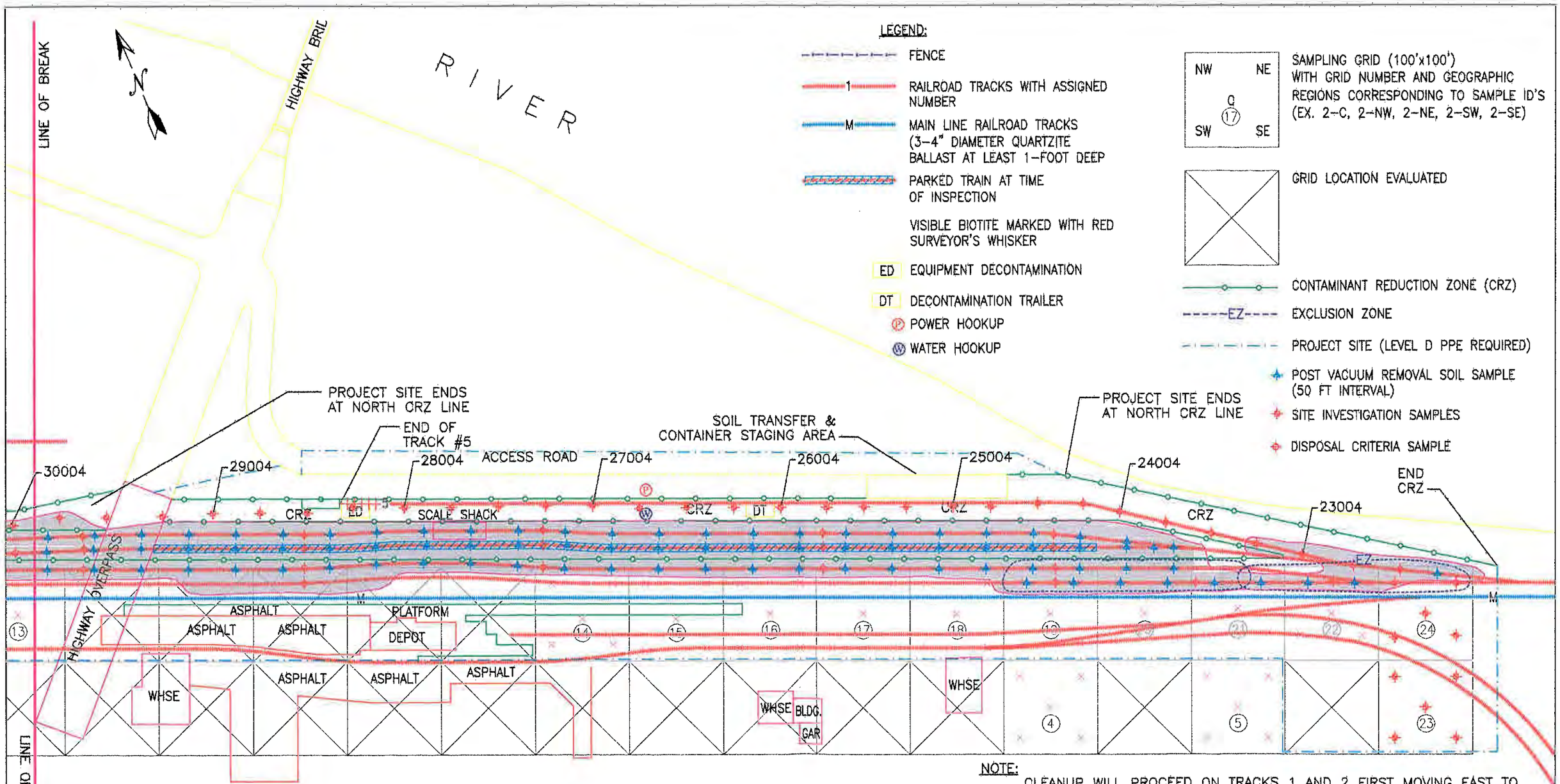
If you have any questions or require further explanation concerning the above information, please call Tanya Drake of EMR at (763) 277-5200, Chuck Soule of Kennedy/Jenks Consultants at (253) 874-0555, or David Smith of BNSF at (406) 447-2307.

Sincerely,
EMR, Inc.

Tanya Drake
Project Coordinator

cc: Mr. David Smith, BNSF Manager Environmental Remediation, Helena, Montana
Mr. Dave Diem, Kennedy/Jenks Consultants, Irvine, California
Mr. Chuck Soule, Kennedy/Jenks Consultants, Federal Way, Washington
Ms. Courtney Zamora, Volpe Federal Programs, Libby, Montana
Mr. Dan McCaskill, BNSF Industrial Hygiene, Ft. Worth, Texas

FIGURES



NOTE:

CLEANUP WILL PROCEED ON TRACKS 1 AND 2 FIRST MOVING EAST TO WEST AND THEN ON TRACKS 3 AND 4 MOVING EAST TO WEST. CRZ BOUNDARY WILL MOVE FROM BETWEEN TRACKS 2 AND 3 TO NORTH OF TRACK 4. EZ BOUNDARIES SHOWN ON MAP PORTRAY TWO EXAMPLE OVERLAPPING EZ BOUNDARIES. ADDITIONAL EZ BOUNDARIES WILL BE CONSTRUCTED IN SIMILAR FASHION TO WEST IN THE SAME CLEANUP PATH DESCRIBED ABOVE.

EMR INCORPORATED

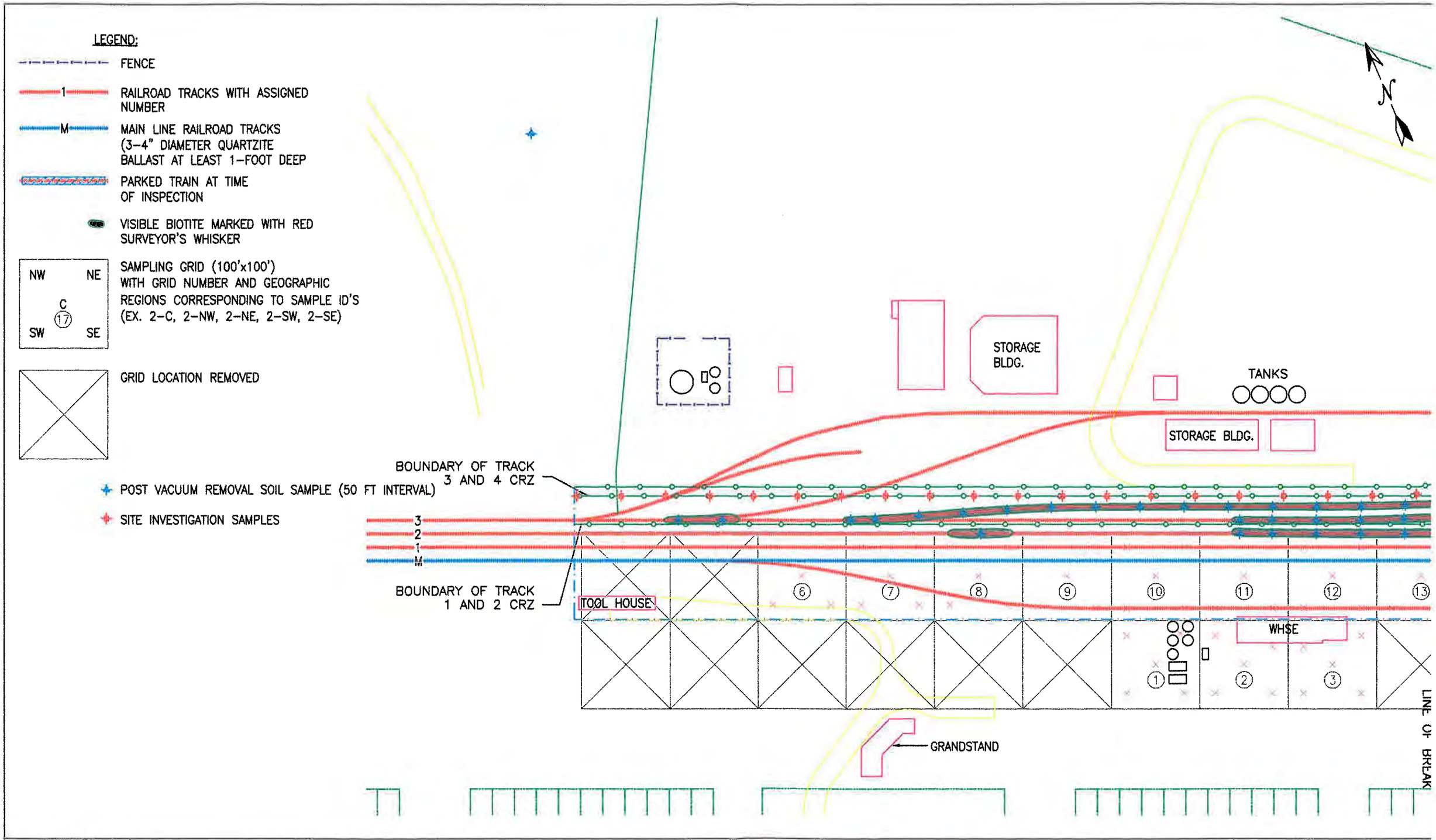
EAST AREA
FIELD SAMPLING PLAN/
MAP OF VISIBLE BIOTITE
BNSF RAIL YARD
LIBBY, MT.

0 100
APPROXIMATE SCALE IN FEET

BNSF RAILWAY STATION MAP
LIBBY, MT.

Drawn by : SES
Checked By : G.M.C.
Project No. : 5539.002-1
File Name : 5539002-REV3.DWG
Revision No. : 4
Date : 4/18/03
Scale : 1"=100'-0"

FIGURE
1



EMR INCORPORATED

WEST AREA
FIELD SAMPLING PLAN/
MAP OF VISIBLE BIOTITE
BNSF RAIL YARD
LIBBY, MT.

0 100
APPROXIMATE SCALE IN FEET

BNSF RAILWAY STATION MAP
LIBBY, MT.

Drawn by : SES
Checked By : G.M.C.
Project No. : 5539.002-1
File Name : 5539002-1.DWG
Revision No. : 2
Date : 10/14/02
Scale : 1"=100'-0"

FIGURE 2

TABLE

Table 1: 2001 Soil Sample Analytical Results

Sample ID	Matrix	Date	Method	Tremolite-Actinolite (%)	Sample Location
BN-01000	Surface soil	10/31/2001	PLM-9002	ND	Composite
BN-02000	Surface soil	10/31/2001	PLM-9002	ND	Composite
BN-03000	Surface soil	10/31/2001	PLM-9002	ND	Composite
BN-04000	Surface soil	10/31/2001	PLM-9002	ND	Composite
BN-05000	Surface soil	10/31/2001	PLM-9002	ND	Composite
BN-06000	Surface soil	10/31/2001	PLM-9002	ND	Composite
BN-07000	Surface soil	10/31/2001	PLM-9002	ND	Composite
BN-08000	Surface soil	10/31/2001	PLM-9002	ND	Composite
BN-09000	Surface soil	10/31/2001	PLM-9002	< 1	Composite
BN-09001	Surface soil	10/31/2001	PLM-9002	ND	Grid-9 Center
BN-09002	Surface soil	10/31/2001	PLM-9002	< 1	Grid-9 NW
BN-09003	**Surface soil**	**10/31/2001**	**PLM-9002**	**< 1**	**Grid-9 SE**
BN-09004	**Surface soil**	**10/31/2001**	**PLM-9002**	**< 1**	**Grid-9 SW**
BN-09005	Surface soil	10/31/2001	PLM-9002	< 1	Grid-9 NE
BN-10000	Surface soil	10/31/2001	PLM-9002	ND	Composite
BN-11000	Surface soil	10/31/2001	PLM-9002	ND	Composite
BN-12000	Surface soil	10/31/2001	PLM-9002	ND	Composite
BN-13000	Surface soil	11/1/2001	PLM-9002	ND	Composite
BN-14000	Surface soil	11/1/2001	PLM-9002	ND	Composite
BN-15000	Surface soil	11/1/2001	PLM-9002	ND	Composite
BN-16000	Surface soil	10/31/2001	PLM-9002	ND	Composite
BN-17000	Surface soil	11/1/2001	PLM-9002	ND	Composite
BN-18000	Surface soil	11/1/2001	PLM-9002	ND	Composite
BN-19000	Surface soil	11/1/2001	PLM-9002	< 1	Composite
BN-19001	Surface soil	11/1/2001	PLM-9002	ND	Grid-19 Center
BN-19002	Surface soil	11/1/2001	PLM-9002	ND	Grid-19 NW
BN-19003	Surface soil	11/1/2001	PLM-9002	< 1	Grid-19 NE
BN-19004	Surface soil	11/1/2001	PLM-9002	ND	Grid-19 SE
BN-19005	Surface soil	11/1/2001	PLM-9002	ND	Grid-19 SW
BN-20000	Surface soil	11/1/2001	PLM-9002	< 1	Composite
BN-20001	Surface soil	11/1/2001	PLM-9002	ND	Grid-20 Center
BN-20002	Surface soil	11/1/2001	PLM-9002	ND	Grid-20 NW
BN-20003	Surface soil	11/1/2001	PLM-9002	ND	Grid-20 NE
BN-20004	**Surface soil**	**11/1/2001**	**PLM-9002**	**< 1**	**Grid-20 SE**
BN-20005	Surface soil	11/1/2001	PLM-9002	ND	Grid-20 SW
BN-21000	Surface soil	11/1/2001	PLM-9002	ND	Composite
BN-22000	Surface soil	11/1/2001	PLM-9002	ND	Composite

ATTACHMENTS

5309

Facsimile
TRANSMITTAL

Name:	Mr. Mark Rainey
Organization:	Volpe Center
Fax:	[617-494-2789]
From:	Dave Welch, EMR, (425) 861- 4561, ext. 13
Date:	1-25-02
Subject:	Libby, MT Soil Sampling-BNSF Railyard
Pages:	21 (including cover)

Mark,

Per your request, here are sampling logs and maps which show location of the composite soil samples (9, 19 and 20) which contained detectable concentrations of actinolite asbestos in the BNSF Railyard in Libby, MT.

11" x 17" size maps will go out to you in the mail today.

From the desk of :
David L. Welch, Project Geologist
Environmental Management Resources, Inc.
2509 152nd Avenue NE, Suite E
Redmond, WA 98052
425-861-4561, ext. 13
fax 425-869-7820
e-mail: welch@emr-inc.com

Appendix B

Libby Railyard Response Action Construction Completion Report
Addendum (October 2006)

EMR
INCORPORATED

November 1, 2006

Francis Costanzi
EPA Region VIII
ERP-SR
999 18th Street, Ste 300
Denver, CO 80202

RE: Construction Completion Report Addendum 2005
BNSF Libby Railyard Biotite Removal
Libby, Montana
EMR Project Number: 5539

Dear Ms. Costanzi,

EMR, Inc. (EMR), on behalf of the BNSF Railway Company (BNSF), is providing the United States Environmental Protection Agency (EPA) with a Remedial Action Report Addendum for the asbestos impacted soils in Libby, Montana.

In November of 2005, EMR supervised the excavation of asbestos impacted soils previously identified by EMR and addressed in the September 2005 Work Plan Addendum.

Per discussions via electronic mail Volume 2, which contains the laboratory data for the duration of the project, is not being resubmitted at this time and was submitted as final in January 2006. The remainder of this Construction Completion Report Addendum is being submitted in triplicate with this correspondence.

Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please feel free to contact Mr. David Smith of BNSF at (406) 447-2307 me at (763) 277-5200 with any questions or comments related to this report or site.

Sincerely
EMR, Inc.

Tanya Drake
Project Coordinator

Enclosure

Cc: Mr. David Smith, Manager Environmental Remediation, BNSF Helena, Montana
Mr. Dan McCaskill, Manager Industrial Hygiene, BNSF, Fort Worth, Texas
Mr. Chuck Soule, Senior Hydrologist, Kennedy Jenks Consultants, Federal Way, Washington

5301 E. River Road, Suite 114 ▼ Fridley, MN 55421 ▼ (763) 277-5200 ▼ FAX (763) 277-5201 ▼ Lawrence@emr-inc.com

LIBBY RAILYARD RESPONSE ACTION CONSTRUCTION COMPLETION REPORT ADDENDUM

FILE

LIBBY RAILYARD

LIBBY, MONTANA

EMR Project Number: 5539

Prepared for:
Mr. David Smith
BNSF Railway Company
139 North Last Chance Gulch
Helena, Montana

Prepared by:

EMR, INC.
5301 East River Road, Suite 114
Minneapolis, Minnesota 55421

OCTOBER 2006

EMR
INCORPORATED

ENVIRONMENTAL MANAGEMENT RESOURCES

LIBBY RAILYARD RESPONSE ACTION CONSTRUCTION COMPLETION REPORT ADDENDUM

LIBBY RAILYARD

LIBBY, MONTANA

EMR Project Number: 5539

Prepared for:
Mr. David Smith
BNSF Railway Company
139 North Last Chance Gulch
Helena, Montana

Prepared by:

EMR, INC.
5301 East River Road, Suite 114
Minneapolis, Minnesota 55421

Table of Contents

1.0 INTRODUCTION 1
1.1 Purpose and Objectives 1
1.2 Project Reporting Requirements 1
2.0 DESCRIPTION OF WORK 2
2.1 Track Removal 2
2.2 Excavation 2
2.3 Soil Samples 3
2.4 Soil and Track Disposal 4
2.5 Health and Safety 4
2.6 Air Monitoring 5
3.0 QUANTITIES OF MATERIALS 6

Appendices

A. Soil Sample Location Drawings
B. Notification of Disposal to State Agency
C. Soil Disposal Manifests for Lincoln County Landfill
D. Analytical Data Tables
D1 Characterization Soil Samples
D2 Clearance Soil Samples
D3 TEM Air Monitoring Samples
D4 PCM Air Monitoring Samples
E. Health and Safety Plan Addendum and approval correspondence.
F. Laboratory Data (Volume II of Construction Completion Report)

THE BNSF RAILWAY COMPANY LIBBY MONTANA RAILYARD CONSTRUCTION COMPLETION REPORT ADDENDUM

1.0 INTRODUCTION

This construction completion report addendum provides a summary of the work conducted under the Work Plan Addendum submitted to the United States Environmental Protection Agency (USEPA) in September 2005. The Site is owned and operated by The BNSF Railway Company (BNSF). In a correspondence to Mr. Jim Christiansen on December 1, 2004, the BNSF notified the USEPA that soils which had been previously identified to contain Libby Amphibole were inadvertently left on site following the 2004 construction season. The primary objective of this remedial action was to remove surface soils at Libby Yard from the south half of Grid 9 and the southeast quarter of Grid 20 (Appendix A). Materials containing Libby amphibole can potentially be classified as asbestos containing material (ACM). The mitigation activities were conducted in accordance with the Revised Response Action Work Plan Addendum (Work Plan Addendum) prepared by EMR, Inc in September 2005. The USEPA approved The Work Plan Addendum as final on September 26, 2005.

EMR performed asbestos oversight, sampling, personal and perimeter monitoring on behalf of BNSF. EMR's oversight included air monitoring, visual inspection, confirmation soil sampling, and monitoring for visible dust or particle emissions. Project reporting requirements, including drawings, soil disposal manifests, laboratory data, state correspondence, and the Addendum to the Health and Safety Plan are provided in the appendices of this report.

1.1 Purpose and Objectives

The purpose of this additional Response Action at Libby Yard was to address the potential or actual threat to human health and environment posed by the release or threat of release of Libby amphibole in surface soil at the BNSF Libby Railyard in the areas identified in Grid 9 and Grid 20 of the Work Plan Addendum

1.2 Project Reporting Requirements

Project reporting requirements, including record drawings (sometimes called as-built drawings), the Addendum to the Health and Safety Plan (Appendix E), soil disposal manifests, and correspondence with state agencies are included as appendices to this report. The appendices include:

A. Soil Sample Location Drawings
B. Notification of Disposal to State Agency
C. Soil Disposal Manifests for Lincoln County Landfill
D. Analytical Data Tables
    - D1 Characterization Soil Samples
    - D2 Clearance Soil Samples
    - D3 TEM Air Monitoring Samples
    - D4 PCM Air Monitoring Samples
E. Health and Safety Plan Addendum and approval correspondence.
F. Laboratory Data

2.0 DESCRIPTION OF WORK

The additional remedial action occurred from November 2005. Most work was performed between the daylight hours of 7:00 a.m. and 5:30 p.m. The following Consultants and Contractors performed the construction and oversight:

Consultant/Contractor	Work Performed
EMR, Inc.	Construction Observation for asbestos issues
Envirocon, Inc.	General Contractor
U.S. Environmental Protection Agency	Regulatory Agency
Camp Dresser & McKee (CDM)	Agency Oversight
Volpe Center	Agency Oversight

EMR safety personnel conducted daily safety meetings at the beginning of each workday. Completion of the work required the use of a variety of heavy earth moving equipment to perform excavation, soil removal, and cap/backfill installation. Best management practices (BMPs) were used throughout the construction area and haul routes to help mitigate potential airborne Libby amphibole fibers, and address road dust control and storm water management.

The following sections describe more specifically the construction activities of the response actions for the relevant segments of Libby Yard. Soil sample maps are enclosed in Appendix A.

2.1 Track Area Sampling

Additional soil sampling conducted in October 2005 (samples BN-09006 and BN-20006) did not indicate the presence of Libby Amphibole above method detection limits in between the track and ties in the two areas scheduled for excavation. Sample locations are indicated on figures in Appendix A. As a result, the USEPA was contacted and it was determined that additional excavation would not be required in those areas.

2.2 Excavation

In areas of the Site identified in the Work Plan Addendum, soils which had been identified as containing detectable amounts of Libby amphibole were excavated. These areas were located in the southern half of Grid 9 and in the southeastern quadrant of Grid 20.

Soil within the specified areas of Grids 9 and 20 were excavated to a depth of approximately 10 - 18 inches below ground surface.

After acceptable clearance results were received from these areas, the Contractor performed additional excavation and backfilling (clean imported fill) to achieve design sub-grade elevation in these areas.

2.3 Soil Samples

2.3.1 Characterization Samples

Railroad bed characterization data was compiled from a variety of sample collection efforts undertaken by EMR from 2001 to 2004, and visual mapping of hydrated biotite in October 2001. Supplemental characterization soil sampling was conducted in July 2004 to identify the western limit of the excavation zone. EMR established a grid system for soil sampling, including metal stakes to assist in defining the boundaries of impacted areas. Surface soil samples were analyzed by a variety of methods between October 2001 and October 2004. Methods of analysis include polarized light microscopy (PLM) Method 9002, Issue 2 and PLM Method 9002-VE in accordance with the National Institute for Occupational Safety and Health (NIOSH) methods. Samples collected in early 2001 were submitted to Clayton Group Services for analysis by "EPA asbestos in soil method" which involved separating the course, medium and fine fractions of the samples and conducting a combination of Transmission Electron Microscopy (TEM) semi quantitative and PLM method 600 analyses on those fractions. Areas with impacts in these early samples were excavated or capped in 2004 except where noted in the December 1, 2004 correspondence and the Work Plan Addendum; areas identified in those documents were addressed during November 2005 and are included in this report.

Characterization soil sample locations for samples collected in 2001 were submitted to Mr. Mark Rainey in a 25 January 2002 facsimile transmittal. Characterization soil sample results are shown in Appendix D, Table D1. Laboratory reports for characterization soil samples collected prior to 2004 were submitted to EPA electronically form EMSL laboratories and via facsimile upon receipt by EMR. Final copies of those reports and all laboratory data collected for the project are included in Appendix F of this report (Volume II).

Two samples were collected from the track and tie areas in Grids 9 and 20. These samples were collected on October 21, 2005 and were analyzed by EMSL in Libby, Montana. Each sample was comprised of a four point composite sample taken along the length of the track at the 0-6 inch bgs sample interval. Neither sample result (samples BN-09006 and BN-20006) indicated the presence of asbestos above method detection limits in the track bed or switches in the portions of the grids sampled. Sample locations are depicted on the figures in Appendix A. As discussed in section 2.1 of this report, based on the results of these two soil samples, soils were not removed in the areas of the track and ties. Excavation was conducted from the end of the railroad tie to the edge of each grid quadrant.

In addition to the samples collected by EMR, several samples were collected by the EPA or its representatives in the vicinity of Grids 2, 3, 11, and 12 (also known as the Former Exxon site or former Venture Petroleum site). Upon initial sampling it was reported to BNSF by EPA representatives that additional excavation may be required as their composite samples had expressed Libby Amphibole at a level above detection limits. In an effort to narrow the scope of work the BNSF Project Manager requested that either the discreet samples or new samples from smaller areas be analyzed in order to determine the area of the impact. Since the EPA had not retained the discreet samples it was decided that they would resample the area. BNSF crews arranged track safety oversight for the EPA appointed sampling crew on November 8, 2005. Upon receipt of the samples by the EPA it was determined that no impacts were detected in the new batch of discreet samples. Based on the new sample results, on November 9, 2005 Ms.

Courtney Zamora of Volpe Center sent via electronic mail a copy of the laboratory data and notification that the EPA would not require amendment of the original approved Work Plan Addendum to address these areas since no impacts were detected during the confirmation sampling or during the 2001 sampling event conducted by EMR.

2.3.2 Clearance Samples

Following soil removal within the identified grids, a five point composite clearance soil was collected. The discrete samples making up the composite were retained by the laboratory pending receipt of composite sample test results (except BR-09001). Sample locations are shown in Appendix A. Soil samples were returned to EMR and will be archived at EMR until 2014.

The samples were collected from the surface of the excavation bottom and submitted to EMSL Laboratories located in Libby, Montana for asbestos analyses. One discreet sample, BR-09001 was collected at the beginning of excavation, after excavation was completed in that area to the prescribed depth, as an indicator of the future success of the excavation to the prescribed depth. Upon completion of excavation, samples BR-20000 and BR-09000 (each a five point composite) were collected and submitted for analysis. None of the clearance samples collected contained asbestos above method detection limits. As a result each area was cleared for backfill.

Prior to submittal, sample paperwork and sample nomenclature was reviewed and verified by CDM personnel. Sample coordinates were obtained utilizing a hand held global positioning system (gps) device. The soil samples were collected in accordance with USEPA 540-R-97-028 document titled *Superfund Method for the Determination of Releasable Asbestos in Soils and Bulk Materials*, Appendix 15 of the Quality Analysis and Program Plan (QAPP) for the USEPA Libby Mine project. The samples were analyzed for Libby Amphibole (tremolite/actinolite) by PLM method 9002, Issue 2. Clearance soil sample results are summarized in Appendix D, Table D2.

2.4 Soil Disposal

Soil potentially containing Libby amphibole was placed in dump trucks for transport to the Lincoln County Landfill. A canvas tarpaulin was placed over the load and secured during truck transit to and from the landfill. The excavation and loading of soil potentially containing Libby amphibole was conducted using frequent water application to control dust, and using proper respiratory and dermal protection. Equipment operators involved with loading contaminated soil onto trucks were equipped with Level C personal protective equipment (PPE) and personal monitoring equipment.

2.5 Health and Safety

Site Health and Safety requirements were identified in EMR's July 2004 Health and Safety Plan including amendments to the decontamination procedure submitted to and approved by the USEPA via electronic mail; the approval was received on November 8, 2005. A copy of the mail note is included in Appendix E along with a copy of the amended procedure. EMR and BNSF acted as the primary Health and Safety Observers. The Site contained an Exclusion Zone (EZ) where remedial work was conducted. The EZ was demarcated with safety cones and/or caution tape, including a sign indicating that respirators and PPE were required, prior to entrance. Site

personnel were required to wear level C PPE inside the EZ. Equipment used inside the EZ was washed with a pressure washer prior to leaving the EZ. No trucks entered the Exclusion Zone.

2.6 Air Monitoring

Ambient air samples were collected during remedial action at five perimeter monitoring stations per exclusion zone to verify asbestos fibers did not migrate outside the EZ. Ambient air samples were submitted for analysis by TEM Asbestos Schools Hazard Abatement Act (AHERA method). If airborne asbestos fibers were detected above 0.01 fibers per cubic centimeter (f/cc), work practices were examined and altered upon receipt of the sample results. Ambient air samples were submitted to EMSL laboratories for analysis after review and verification of the sample paperwork and nomenclature by CDM personnel; monitoring results are documented in Appendix D, Table D3.

Personnel air monitoring was conducted on approximately 25% of the work force. Chosen personnel inside the EZ were required to have personal air samples from the breathing zone with a low volume battery pump. The air samples were representative of a full shift (8-hours). EMR analyzed the majority of the personnel monitoring samples on site using an AIHA certified analyst; samples were analyzed using the NIOSH 7400 Phase Contrast Microscopy (PCM) method. During times when an AHIA certified analyst was not present on site, personnel air samples were submitted to the EMSL laboratory in Libby, Montana for the same analysis. If air samples inside the EZ exceeded 0.1 f/cc, the sample was submitted to EMSL for analysis by TEM AHERA. Respiratory protection was downgraded to half-face respirators based on the results of air monitoring during site activities and only with approval from the Certified Industrial Hygienist (CIH). Personal air monitoring results for samples analyzed by EMSL are documented in Appendix D, Tables D3 and D4.

3.0 QUANTITIES OF MATERIALS

A total of 374 cubic yards of impacted soil were transported to and disposed of at the Lincoln County Landfill. Manifests are included in Appendix C. Quantities were estimated on site based upon the volume of the truck. Soils were excavated to a depth of 10 to 18 inches below ground surface. This soil volume is approximately equivalent to the in place calculation of soil proposed to be removed after taking into account the soil volume expansion during excavation using a multiplier of 1.5.

APPENDIX A

SOIL SAMPLE LOCATION DRAWINGS

LEGEND:

FENCE

RAILROAD TRACKS WITH ASSIGNED NUMBER

MAIN LINE RAILROAD TRACKS (3–4" DIAMETER QUARTZITE BALLAST AT LEAST 1–FOOT DEEP

PARKED TRAIN AT TIME OF INSPECTION

VISIBLE BIOTITE MARKED WITH RED SURVEYOR'S WHISKER

HISTORIC SAMPLING GRID (100'x100') WITH GRID NUMBER AND GEOGRAPHIC REGIONS CORRESPONDING TO SAMPLE ID'S (EX. 2–C, 2–NW, 2–NE, 2–SW, 2–SE)

GRID LOCATION REMOVED

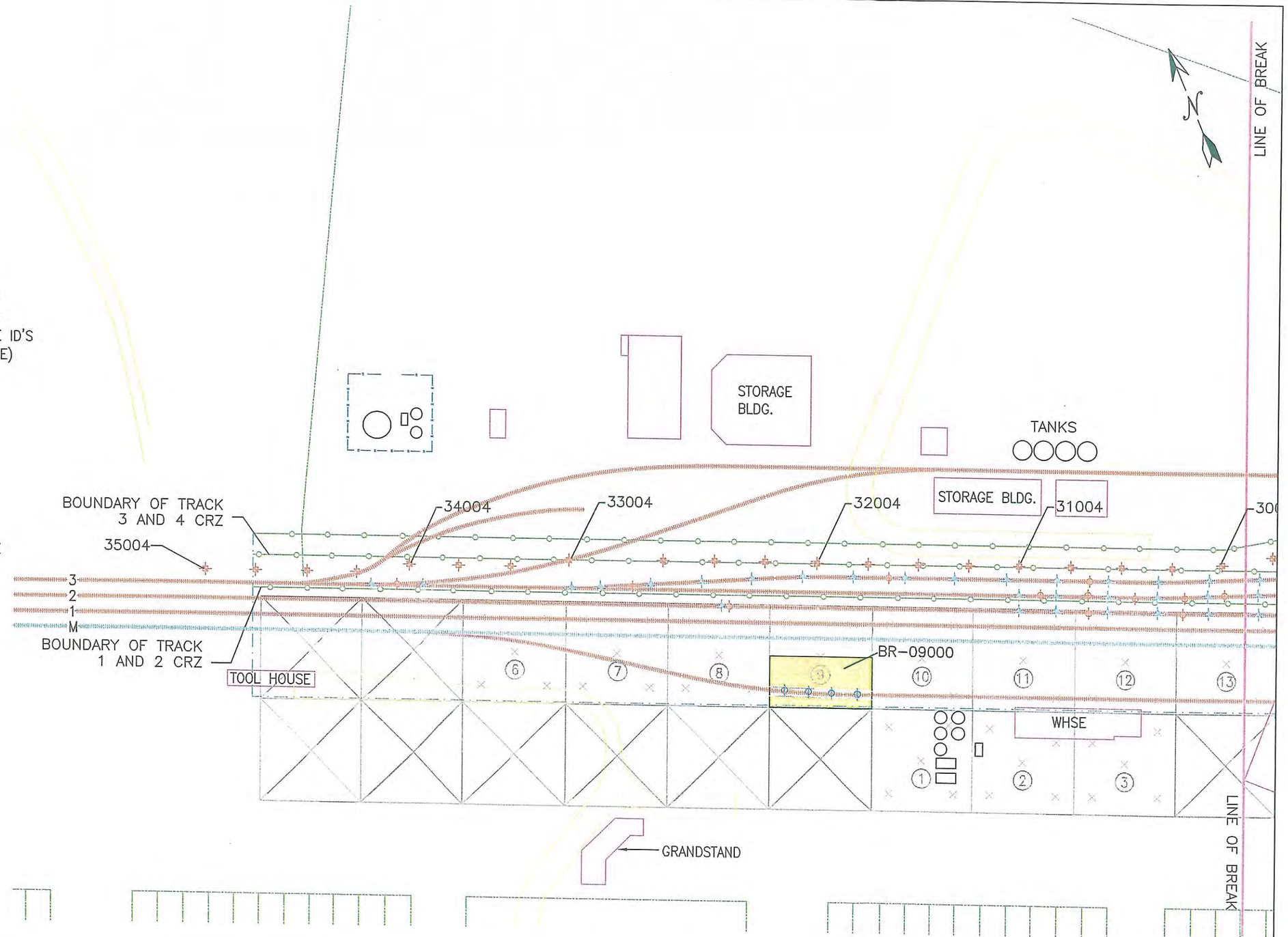
POST VACUUM REMOVAL SOIL SAMPLE (50 FT INTERVAL)

SITE INVESTIGATION SAMPLES

DISPOSAL CRITERIA SAMPLE

SOIL SAMPLE BN–09006 DISCREET SAMPLE LOCATIONS

2005 EXCAVATION AREA AND CONFIRMATION SAMPLE



EMR INCORPORATED

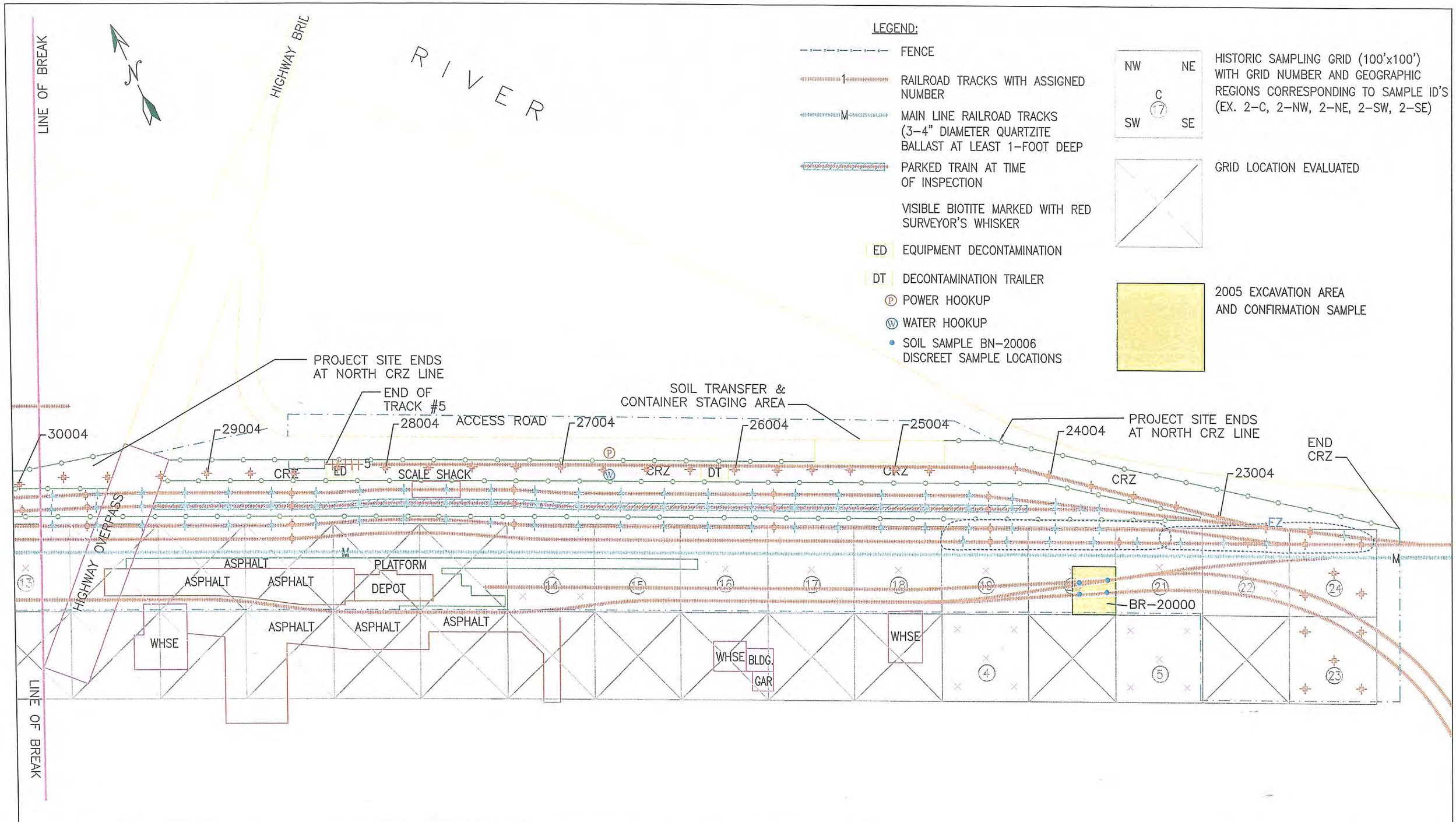
2005 REMEDIAL ACTION MAP
WEST SIDE
BNSF RAIL YARD
LIBBY, MT.

0 100
APPROXIMATE SCALE IN FEET

BNSF RAILWAY STATION MAP
LIBBY, MT.

Drawn by : SES
Checked By : G.M.C.
Project No. : 5539
File Name 2005RemedialActionMap
Revision No. : 4
Date : 9/16/2005

FIGURE 2



EMR INCORPORATED

2005 REMEDIAL ACTION MAP
EAST SIDE
BNSF RAIL YARD
LIBBY, MT.

0 100
APPROXIMATE SCALE IN FEET

BNSF RAILWAY STATION MAP
LIBBY, MT.

Drawn by : SES
Checked By : G.M.C.
Project No. : 5539
File Name 2005RemedialActionMap
Revision No. : 4
Date : 9/16/2005
Scale : 1"=100'–0"

FIGURE 1

APPENDIX B

NOTIFICATION OF DISPOSAL TO STATE AGENCY

November 4, 2005

Patrick Crowley
Montana Dept. of Environmental Quality
Solid Waste Division
POB 200901
Helena, Montana 59620

RE: Waste Material Shipment Notification
BNSF Libby Railyard Biotite Removal, Libby, MT
EMR Project Number: 5539

Dear Mr. Crowley,

Per the Administrative Order on Consent for Removal in the matter of The Burlington Northern and Santa Fe Railway Company (BNSF) – Libby Railyard, Montana, Libby Asbestos Site, Libby Montana issued by the United States Environmental Protection Agency (USEPA), EMR, Inc. (EMR) on behalf of the BNSF is providing this correspondence to notify the State of Montana that waste material will be shipped from the BNSF Libby Railyard to the Lincoln County Landfill in Libby, Montana beginning on or after November 9, 2005.

The waste material being shipped to the Lincoln landfill consists of soil potentially impacted with Libby Amphibole and asbestos. It is expected that less than 500 cubic yards of soil will be shipped to the landfill.

Please feel free to contact me in the office at 763-277-5200 with any questions or comments.

Sincerely
EMR, Inc.

Tanya Drake
Project Coordinator

Cc: Mr. Dave Smith (BNSF, Helena, MT)
Mr. Jim Christiansen (USEPA, Denver, CO)
Ms. Peggy Churchill (USEPA, Denver, CO)
Ms. Courtney Zamora (Volpe, Libby, MT)

APPENDIX C

SOIL DISPOSAL MANIFESTS FOR LINCOLN COUNTY LANDFILL

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil	Dump Truck	12
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/16/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature	Month /Day /Year 11/16/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/16/05

Asbestos Waste Shipment Record Form

Generator

1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
vermiculite containing soil	Dump Truck	12
8. Special handling instructions and additional information		
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/16/05

Transporter

10. Transporter 1 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature Laurie Dow	Month /Day /Year 11/16/05
11. Transporter 2 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year

Disposal site

12. Discrepancy indication space		
13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/16/05

Asbestos Waste Shipment Record Form

Generator

1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
vermiculite containing soil	Dump Truck	12
8. Special handling instructions and additional information		
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (812) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/16/05

Transporter

10. Transporter 1 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature	Month /Day /Year
11. Transporter 2 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year

Disposal site

12. Discrepancy indication space		
13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed/typed name & title Bill Neves, Supervisor MGS	Signature Bill Neves	Month/ Day/ Year 11/16/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st Street Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd 418 Mineral Ave Libby, MT 59923		WDS phone number (406)444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd. Suite 114, Fridley, MN 55421		(763) 277-5200
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil	Dump Truck	10
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817)371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MT 59923	Signature	Month /Day /Year 11/15/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Naves, Supervisor MCS	Signature Bill Naves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil	Dump Truck	10
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature [illegible]	Month /Day /Year 11/15/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil	Dump Truck	10
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature Laurie Dow	Month /Day /Year 11/15/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st Street Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd. Suite 114, Fridley, MN 55421		(763) 277-5200
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil	Dump Truck	10
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd. Libby, MT 59923	Signature	Month /Day /Year 11/15/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator

1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
2. Operator's name and address Enviroscon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
vermiculite containing soil	Dump Truck	10
8. Special handling instructions and additional information		
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05

Transporter

10. Transporter 1 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature	Month /Day /Year 11/15/05
11. Transporter 2 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year

Disposal site

12. Discrepancy indication space		
13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator

1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
vermiculite containing soil	Dump Truck	10
8. Special handling instructions and additional information		
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05

Transporter

10. Transporter 1 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature [illegible]	Month /Day /Year 11/15/05
11. Transporter 2 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year

Disposal site

12. Discrepancy indication space		
13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator

1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
vermiculite containing soil	Dump Truck	10
8. Special handling instructions and additional information		
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05

Transporter

10. Transporter 1 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature	Month /Day /Year
11. Transporter 2 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year

Disposal site

12. Discrepancy indication space		
13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil	Dump Truck	12
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature	Month /Day /Year 11/15/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor mcs	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil	Dump Truck	12
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature Laurie Dow	Month /Day /Year 11/15/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil	Dump Truck	12
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature	Month /Day /Year 11/15/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator

1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
vermiculite containing soil	Dump Truck	12
8. Special handling instructions and additional information		
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05

Transporter

10. Transporter 1 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature [illegible]	Month /Day /Year 11/15/05
11. Transporter 2 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year

Disposal site

12. Discrepancy indication space		
13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed/typed name & title Bill Neves, Supervisor mes	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator

1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
vermiculite containing soil	Dump Truck	12
8. Special handling instructions and additional information		
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05

Transporter

10. Transporter 1 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature Laurie Dow	Month /Day /Year 11/15/05
11. Transporter 2 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year

Disposal site

12. Discrepancy indication space		
13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil	Dump Truck	12
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature Josh Rud	Month /Day /Year 11/15/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day/ Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address	Owner's name BNSF	Owner's telephone number
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill		WDS phone number
	4. Name and address of responsible agency EMR		(812) 371-5946
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	Vermiculite soil	Dump Truck	12
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title Address and telephone no. EMR Scott Rher	Signature Scott Rher	Month /Day/ Year 11/14/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 549 Farmer Market Rd Libby, MT 59923	Signature	Month /Day /Year 11/14/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/14/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil	Dump Truck	10
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11-15-05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature	Month /Day /Year
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator

1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
vermiculite containing soil	Dump Truck	10
8. Special handling instructions and additional information		
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05

Transporter

10. Transporter 1 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature [illegible]	Month /Day /Year 11/15/05
11. Transporter 2 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year

Disposal site

12. Discrepancy indication space		
13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator

1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
2. Operator's name and address Enviroscon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
vermiculite containing soil	Dumptruck	10
8. Special handling instructions and additional information		
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05

Transporter

10. Transporter 1 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature Laurie Don	Month /Day /Year 11/15/05
11. Transporter 2 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year

Disposal site

12. Discrepancy indication space		
13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West Kt. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil		10
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature Laurie Don	Month /Day /Year 11/15/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st Street Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd Suite 114, Fridley, MN 55421		(763) 277-5200
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil	Dump Truck	12
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Thompson Contracting Address and telephone no. 501 Farm to Market Rd Libby, MT 59923	Signature Josh Rin	Month /Day /Year 11/15/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator

1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
vermiculite containing soil	Dump Truck	12
8. Special handling instructions and additional information		
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05

Transporter

10. Transporter 1 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature Lawrence Dow	Month /Day /Year 11/15/05
11. Transporter 2 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year

Disposal site

12. Discrepancy indication space		
13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st Street Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave, Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd. Suite 114 Fridley, MN 55421		(763) 277-5200
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil	Dump Truck	12
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Thompson Contracting Address and telephone no. 501 Farm to Market Rd. Libby, MT 59923	Signature	Month /Day /Year 11/15/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator

1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
vermiculite containing soil	Dump Truck	12 CY
8. Special handling instructions and additional information		
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05

Transporter

10. Transporter 1 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature	Month /Day /Year
11. Transporter 2 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year

Disposal site

12. Discrepancy indication space		
13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil	Dump Truck	12 CY
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature Lauri Dow	Month /Day /Year 11/15/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator

1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
vermiculite containing soil	Dump Truck	12
8. Special handling instructions and additional information		
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05

Transporter

10. Transporter 1 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature [illegible]	Month /Day /Year 11/15/05
11. Transporter 2 (Acknowledgement of receipt of materials)		
Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year

Disposal site

12. Discrepancy indication space		
13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st. St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil	Dump Truck	12
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/15/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MN 59923	Signature [illegible]	Month /Day /Year 11/15/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/15/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 W. 1st Street Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307 Dave Smith
	2. Operator's name and address Envirocon 101 International Way Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd. Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	Vermiculite containing soils	Dump Truck	12
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/14/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MT 59923	Signature	Month /Day /Year
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year 11/14/05
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/14/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 W. 1st Ave Libby MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307 Dave Smith
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil		12
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/14/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MT 59923	Signature Josh Rai	Month /Day /Year 11/14/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/14/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 W. 1st St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307 Dave Smith
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd 418 Mineral Ave, Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	Vermiculite containing soil		12
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title Address and telephone no. EMR Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/14/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MT 59923	Signature [illegible]	Month /Day /Year 11/14/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/14/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 West 1st St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406) 447-2307 Dave Smith
	2. Operator's name and address Enviroscon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406) 523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd 418 Mineral Ave, Libby, MT 59923		WDS phone number (406) 444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd, Suite 114, Fridley, MN 55421 (763) 277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil		12
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title Address and telephone no. EMR Scott Rhen Fridley, MN (817) 371-5946	Signature Scott Rhen	Month /Day/ Year 11/14/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no. Thompson Contracting 501 Farm to Market Rd Libby, MT 59923	Signature	Month /Day /Year 11/14/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill News, Supervisor MCS	Signature Bill News	Month/ Day/ Year 11/14/05

Asbestos Waste Shipment Record Form

Generator	1. Work site name and mailing address Libby Railyard 510 W. 1st St. Libby, MT 59923	Owner's name BNSF	Owner's telephone number (406)447-2307 Dave Smith
	2. Operator's name and address Envirocon 101 International Way, Missoula, MT 59808		Operator's telephone no. (406)523-1150
	3. Waste disposal site (WDS) name, mailing address, and physical site location Lincoln County Landfill on Pipe Creek Rd. 418 Mineral Ave, Libby, MT 59923		WDS phone number (406)444-3671
	4. Name and address of responsible agency EMR 5301 E. River Rd., Suite 114, Fridley, MN 55421 (763)277-5200		
	5. Description of materials	6. Containers No. Type	7. Total Quantity m^3 (yd^3)
	vermiculite containing soil		12
	8. Special handling instructions and additional information		
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
	Printed/typed name and title EMR Address and telephone no. Scott Rhen Fridley, MN (817)371-5946	Signature Scott Rhen	Month /Day/ Year 11/14/05
Transporter	10. Transporter 1 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Thompson Contracting Address and telephone no. 501 Farm to Market Rd Libby, MT 59923	Signature Laurie Dow	Month /Day /Year 11/14/05
	11. Transporter 2 (Acknowledgement of receipt of materials)		
	Printed/typed name and title Address and telephone no.	Signature	Month/ Day /Year
Disposal site	12. Discrepancy indication space		
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
	Printed/typed name & title Bill Neves, Supervisor MCS	Signature Bill Neves	Month/ Day/ Year 11/14/05

APPENDIX D

ANALYTICAL DATA TABLES

Table D-1
Characterization Soil Samples
BNSF Libby Response Action
EMR Project 5539

Index ID	Analytical Method	Date Received by Laboratory	Tremolite-Actinolite (%)[1]	Chrysotile (%)	Other Amphiboles (%)	Non- Asbestos Fibrous (%)	LAB	Stereo/PLM Result	PLM Result	PLM (%F) Result	TEM (%F) Result	Total Asbestos %	Lab ID	Comments
BN-09006	PLM 9002, Issue 2	10/21/2005	ND	ND	ND	NA	EMSL27	NA	NA	NA	NA	NA	270501229-0006	In the railbed between track and ties
BN-20006	PLM 9002, Issue 2	10/21/2005	ND	ND	ND	NA	EMSL27	NA	NA	NA	NA	NA	270501229-0001	In the railbed between track and ties

Table D-2
Clearance Soil Samples
BNSF Libby Yard Response Action

Sample ID	COC Number	Appearance	Analytical Method	Date Collected	Date Analyzed	Asbestos Percentage	Asbestos Type
BR-09001	B0117	Various, Non-Fibrous, Homogeneous	9002, Issue 2[1]	11/15/2005	11/15/2005	ND	NA
BR-20000	B0117	Tan, Non-Fibrous, Homogeneous	9002, Issue 2[1]	11/15/2005	11/15/2005	ND	NA
BR-09000	B0117	Various, Non-Fibrous, Homogeneous	9002, Issue 2[1]	11/15/2005	11/16/2005	ND	NA

[1] NIOSH Method 9002, Issue 2

[2] Sample BR-48000 was reported by the laboratory to be BX-48000. EMR has notified the labororatory of the error and requested a revised report.

ND- Not detected

NA- Not applicable

Table D-3
TEM Air Monitoring Samples
BNSF Libby Yard Response Action

Sample ID	Analytical Method	Sample Collection Date	Sample Analysis Date	COC Number	Asbestos Type	Structures ≥0.5 µ<5	Structures ≥0.5 µ	Volume (Liters)	S/mm^2	S/cc
BN-00482	TEM	11/14/2005	11/22/2005	B0119	NA	ND	ND	372	<7.7	<.008
BN-00484	TEM	11/14/2005	11/22/2005	B0119	NA	ND	ND	342	<7.7	<.0087
BN-00486	TEM	11/14/2005	11/18/2005	B0120	NA	ND	ND	473	<7.7	<.0063
BN-00487	TEM	11/14/2005	11/18/2005	B0120	NA	ND	ND	1358	<15.00	<.0044
BN-00489	TEM	11/15/2005	11/22/2005	B0119	NA	ND	ND	656	<7.7	<.0045
BN-00491	TEM	11/16/2005	11/18/2005	B0120	NA	ND	ND	1420	<15.00	<.0042
BN-00492	TEM	11/16/2005	11/18/2005	B0120	NA	ND	ND	1420	<15.00	<.0042
BN-00494	TEM	11/16/2005	11/22/2005	B0119	NA	ND	ND	60	<7.7	<.0049

ND - Not Detected above Method Detection Limits
NA- Not Available/ Not Applicable
S - Structures
cc - Cubic Centimeter
mm - Milllimeter

Table D-4
Personal Air Monitoring Samples
BNSF Libby Yard Response Action

Sample ID	Type	Sample Collection Date	Sample Analysis Date	COC Number	Number of Fibers	Volume (Liters)	F/ mm^2	F/cc
BN-00482	PCM	11/14/2005	11/18/2005	B0119	8.5	372	10.8	0.011
BN-00483	PCM	11/14/2005	11/18/2005	B0119	<5.5	0	<7.0	
BN-00484	PCM	11/14/2005	11/18/2005	B0119	10	342	12.7	0.014
BN-00485	PCM	11/14/2005	11/18/2005	B0119	<5.5	190	<7.0	<0.014
BN-00488	PCM	11/15/2005	11/18/2005	B0119	<5.5	0	7.0	
BN-00489	PCM	11/15/2005	11/18/2005	B0119	18	656	22.9	0.013
BN-00490	PCM	11/15/2005	11/18/2005	B0119	11.5	1124	14.6	0.005
BN-00493	PCM	11/16/2005	11/18/2005	B0119	<5.5	0	<7.0	
BN-00494	PCM	11/16/2005	11/18/2005	B0119	6	60	7.64	0.049
BN-00495	PCM	11/16/2005	11/18/2005	B0119	<5.5	184	<7.0	<.015

NA- Not applicable, Not available
mm^2 - square millimeter
F - Fibers
COC - Chain of Custody
PCM - Phase Contrast Microscopy
cc - cubic centimeter

APPENDIX E

HEALTH AND SAFETY PLAN ADDENDUM AND APPROVAL CORRESPONDENCE

Addendum to the Health and Safety Plan

For soil excavation work scheduled to take place during November, 2006 on the BNSF Rail Yard in Libby, Montana, the following additions and changes to the Health and Safety Plan are being requested.

All personnel involved in soil removal work will don two disposable Tyvek or similar suits during all soil removal activities. Gloves and boot requirements shall be the same as outlined in the Health and Safety Plan. All personnel supporting excavation, ie equipment operator, laborers in the EZ or CRZ, and personnel providing watering support, will wear respiratory protection unless the cab of the equipment they are in is equipped with a positive pressure HEPA filtration system. Respiratory protection shall consist of at least a half face respirator equipped with HEPA p100 cartridges.

A boot wash station and a station suitable for washing hands, faces, and respirators shall be available on site. Upon leaving the Contamination Reduction Zone (CRZ) or the Exclusion Zone (EZ) the worker shall wash boots in the boot wash station, a HEPA equipped vacuum cleaner will be utilized to remove dust and debris from the outside of the outer suit prior to removal. The inner suit will then be removed and the person shall proceed to the wash station where they will wash the outside of the respirator, their face, and their hands prior to removal of the respirator. Suits, gloves, boot covers, and spent respirator cartridges will be disposed of as asbestos impacted waste.

2.1.1 Personnel Decontamination

The contractor will furnish a HEPA equipped vacuum cleaner and set up portable decontamination wash stations at the site for workers to use upon entering and exiting the EZ or doing asbestos related work. Workers will don two Tyvek or equivalent disposable suits. All personnel supporting excavation, i.e. equipment operator, laborers in the EZ or CRZ, and personnel providing watering support, will wear respiratory protection unless the cab of the equipment they are in is equipped with a positive pressure HEPA filtration system. Respiratory protection shall consist of at least a half face respirator equipped with HEPA p100 cartridges.

A boot wash station and a station suitable for washing hands, faces, and respirators shall be available on site. Upon leaving the Contamination Reduction Zone (CRZ) or the Exclusion Zone (EZ) the worker shall wash boots in the boot wash station, a HEPA equipped vacuum cleaner will be utilized to remove dust and debris from the outside of the outer suit prior to removal. Upon removal of the outer suit and gloves, personnel shall proceed to the wash station where they will wash the outside of the respirator, their face, and their hands prior to removal of the respirator. Following the washing, the inner suit shall be removed. Suits, gloves, boot covers, and spent respirator cartridges will be disposed of as asbestos impacted waste.

Tanya Drake

From: Zamora, Courtney [Courtney.Zamora@volpe.dot.gov]
Sent: Tuesday, November 08, 2005 4:10 PM
To: Tanya Drake
Cc: Churchill.Peggy@epamail.epa.gov
Subject: FW: FW: Personnel Decontamination

Personnel
econtamination.doc

Tanya -
FYI.
Courtney

-----Original Message-----
From: Churchill.Peggy@epamail.epa.gov
[mailto:Churchill.Peggy@epamail.epa.gov]
Sent: Monday, November 07, 2005 3:33 PM
To: Zamora, Courtney
Cc: 'Oliveira, Shawn'
Subject: Re: FW: Personnel Decontamination

BNSF's plan is approved.

Peggy Churchill
US EPA (EPR-SR)
999 18th St. Suite 500
Denver, CO 80202
303-312-6137

From: Tanya Drake [mailto:drake@emr-inc.com]
Sent: Monday, November 07, 2005 9:02 AM
To: Zamora@VOLPE.DOT.GOV
Cc: Smith, David M
Subject: Personnel Decontamination

Courtney,

Attached is the proposed decontamination procedure for Envirocon's staff in Libby while conducting the BNSF soil removal project next week. As discussed, they do not plan on having anyone in the EZ during removal activities due to the very small area of the excavation. Personnel providing wetting, equipment operators, and anyone entering the EZ would follow these decontamination procedures which utilize a HEPA vac and wash stations. Air monitoring will be conducted on personnel and on the perimeter of the area. Personnel air samples will be read daily to assure that these procedures are providing adequate protection.

Please let me know if you have any questions or concerns regarding these procedures of if you have additional suggestions to the process. At this time Envirocon is planning to mobilize over the weekend and begin digging and hauling to the Landfill Monday AM.

Thank you,
Tanya Drake
763-277-5200
mobile 612-747-3068(See attached file: Personnel Decontamination.doc)

Appendix C

Solid Waste With Vermiculite Removal Project, Concrete Bunker Structure, Troy, Montana (October 2010)

FINAL REPORT

SOLID WASTE WITH VERMICULITE REMOVAL PROJECT

Concrete Bunker Structure
EMR Project No. 9458.001
Troy, MT

FOR
BNSF RAILWAY COMPANY
CORPORATE INDUSTRIAL HYGIENE
FORT WORTH, TEXAS

EMR INCORPORATED
INFRASTRUCTURE AND ENVIRONMENT

October 2010

TABLE OF CONTENTS

SECTION I	**PROJECT COMPLETION SHEET**
SECTION II	**SECTION 01010 – SCHEDULE OF WORK**
SECTION III	**SECTION 01013 – SUMMARY OF WORK**
SECTION IV	**AIR MONITORING DATA**
SECTION V	**ABATEMENT CONTRACTOR CLOSEOUT DOCUMENTS**

SECTION I

EMR PROJECT COMPLETION SHEET

EMR presents Section I to provide the project completion sheet, which identifies site location, listing of ACM & Vermiculite removed and waste disposal site at: Concrete Bunker Structure - EMR Project No. 9458.001, Troy, MT.

EMR ASBESTOS PROJECT COMPLETION SUMMARY SHEET

Project No.: 9458.001 Date of Completion: 10-11-2010 BNSF Work Order No.: _____

Project Name: SOLID WASTE CLEANUP W/ VERMICULITE DEBRIS

Address/Location: TROY, MT

EMR Project Site Manager (s): DAVID L. WELCH Signature: [signature]

Asbestos Removal Contractor: IRS ENVIRONMENTAL

Contractor Supervisor Name: SAM WANAMAKER Signature: [signature]

BNSF Site Contact Name: MICHAEL PERROUD Signature: _____

BNSF Site Contact Person Inspected Project Site Upon Completion? (check one): Yes: [ ] No: [X]

If not inspected, comments/reason: NOT AVAILABLE

ACM Waste Disposed at (Landfill name/location): FLATHEAD COUNTY SOLID WASTE DISTRICT, KALISPELL, MT

Dates of Work: 10-11-2010 No. of Work Days to Complete Project: 1

Listing of ACM Removed Removed (see Sections 01010 and 01013 from Specifications Documents; report in linear feet, square feet, no. of fittings, etc.)

Sample No.	Material Description	Location	Quantity Removed	Actual Quantity Remaining	Reason for Removal*
TRMT-CEB-900	SOIL W/ VERMICULITE	CONCRETE BUNKER FLOOR	4 CY	Ø	N/A

***Reasons for removal are: D=removal required for demolition of building (this does not include demolition of inactive systems in a building that will remain standing); R= removal required prior to renovation; P=removal as a part of the planned system-wide removal of ACM in the workplace.**

**** If material remains, list amount and place.**

ASBESTOS NOTICE POSTINGS: Removed (all ACM abated) Yes No

New Posting Required Yes No

Old Posting Removed Yes No

SECTION II

SECTION 01010 – SCHEDULE OF WORK

EMR presents Section II to provide the schedule of work for the asbestos & vermiculite removal project at: Concrete Bunker Structure - EMR Project No. 9458.001, Troy, MT.

Section 01010 – Schedule of Work

Part 1 – General

The BNSF Railway Company (BNSF) – Concrete Bunker structure is an abandoned concrete foundation structure. On the north end of the structure is a basement-like room that has been accessed by trespassing juveniles. The floor of the space is surfaced partially with concrete and partially with dirt. The dirt has some residual vermiculite debris. The areas beyond the work area control barriers may be occupied during the proposed asbestos removal project. The structure is located near the south end of the BNSF Rail Yard, east of St. Regis Haul Road and Old Mill Road intersection and the BNSF right-of-way in Troy, Montana. Restrict access to the area as required. Coordinate and cooperate with the owner and his staff to keep disruptions to a minimum. Schedule work activity to complete the projects as soon as possible. It is essential that asbestos removal projects be completed within the scheduled time period. The Owner's Representative is:

EMR, Inc.
Mr. Ric Cook, Project Manager
Mr. David L. Welch, Project Designer
Mr. David L. Welch, Project Site Manager 425-512-5510 (cell)
3200 Haskell Avenue, Suite 140
Lawrence, KS 66046-8945
☎ (785) 842-9013
Fax: (785) 560-2756

All project correspondence shall be forwarded through the above address. The project is being performed for BNSF Railway.

The company asbestos managers are:

Mr. Michael Perrodin
Manager Environmental Operations
BNSF Railway
235 Main Street
Havre, WA 59501
☎ (406) 265-0483
Fax (406) 265-0356

Dave Smith
Manager Environmental Remediation
BNSF Railway
139 Last Chance Gulch
Helena, MT 59601
☎ (406) 256-4046
Fax (406) 449-8610

The project is being performed under a Work Order Authorization to the Master Services Agreement between the successful bidder and BNSF Railway.

The site address is:

Concrete Bunker Structure
East of St. Regis Haul Road/Old Mill Road Intersection, East of BNSF track right-of-way
48°72'42.65"N Latitude
115°53'13.71" W Longitude
Troy, MT 59935

The railroad company site contacts (are):

Mr. Michael Perrodin
Manager Environmental Operations
BNSF Railway
235 Main Street
Havre, WA 59501
☎ (406) 265-0483
Fax (406) 265-0356

Dave Smith
Manager Environmental Remediation
BNSF Railway
139 Last Chance Gulch
Helena, MT 59601
☎ (406) 256-4046
Fax (406) 449-8610

Coordinate daily activities and building operations with the railroad company site contacts.

BNSF Railway may have personnel working in areas beyond the project perimeter during the course of this project. It is essential that the contractor coordinate daily activities with BNSF site personnel. The contractor shall provide all state and federal notifications required of the building owner and others as required. **The contractor shall comply with BNSF'S "Safety Rules and General**

Responsibilities" for all outside contractors. BNSF safety regulations while on company property include, but are not limited to using proper fall protection, wearing of approved hard hats, safety glasses, steel toe footwear & high visibility vest by all personnel on the work-site.

IMPORTANT ISSUE!!!!!!!!!! Supervisor and Workers will not be allowed on railroad property if not certified under the BNSF's Contractor Orientation Program (see below). If the contractor is found to be non-compliant, they will be told to leave the property. The contactor will incur all costs affecting the delay of the project.

All contract labor workers performing work on BNSF property must have undergone BNSF Contractor Orientation prior to working on any BNSF property. The presence of workers within 25 feet of any rail outside of a building must be specifically authorized by the local Roadmaster. All such authorizations should be coordinated by the Owner's Representative (EMR). All workers must possess an identification card documenting their individual completion of the orientation program. BNSF Contractor Orientation is available on the Worldwide Web at www.contractororientation.com .

In addition to Contractor Orientation, the BNSF Railway has implemented additional procedures to better control, secure and protect their operations. In order to meet the government security recommendation and directives, BNSF has initiated a 3-step process including a background screening program, security awareness training and photo identification badge for all qualified service providers. Participation in this program is required to operate on BNSF property. Your company must register with the e-RAILSAFE program. The web access is www.e-RAILSAFE.com. Each service provider will initiate an individual relationship with e-RAILSAFE and be responsible for all charges incurred as a result of the program.

Part 2 – Scope

1. The following asbestos-containing materials are known to be present at the work site and are included in the scope of this project. If any other materials are found which are suspected of containing asbestos, notify immediately the Owner's Representative. All of the identified asbestos-containing materials and debris are to be removed.

Troy, MT Concrete Bunker Cleanout (EMR Project Number 9458-001)

- Remove approximately 3-4 cubic yards (CY) of soil with vermiculite debris from concrete bunker room on north end of structure..
  Sample: TRMT-CCB-900 (Assumed Trace/<1% Tremolite Asbestos)

Friable Removal Procedures (Vinyl Sheet Flooring and Attached Wood Underlayment):

- *Unbolt steel plate from west side of structure*
- *Remove steel plate covering stairwell on top of structure*
- *Set up caution tape perimeter for work area*
- *Construct a remote 2-Stage decontamination unit/change facility*
- *Wet shovel soil with vermiculite debris and double bag*
- *Continuous misting using an airless sprayer during wet shoveling procedures.*
- *HEPA vacuum concrete floor areas and concrete steps into bunker room*
- *Perimeter air monitoring and personal air monitoring will be conducted. Air Clearance sampling not required.*
- *Visual inspection.*
- *After Removal Procedures, re-bolt steel plate to discourage access by juvenile trespassers and re-position steel plate over stairwell access.*

General Notes:

- Coordinate all activities with all EMR contacts.
- Power and water are not available. Contractor must have adequate power resources to operate the HEPA vacuum equipment, halogen lighting and the Owner's representative's high volume pumps for perimeter air sampling.
- Contractor will provide adequate lighting to aid in the removal process, final cleanup/detailing, and visual inspection.
- Pre-clean the work area per Section 01013, Part 1- General, Heading F-Preparation of Work Area and Pre-Work Area Cleaning, Title a-1: Pre-cleaning of Interior Areas.
- Isolate the work area per Section 01013, Part 1-General, Heading F-Preparation of Work Area and Pre-Work Area Cleaning, Title b-1: Isolation of Interior Areas.
- Prepare a work area enclosure per Section 01013, Part 1 – General, Heading F-Preparation of Work Area and Pre-Work Area Cleaning, Title c-1: Preparation of Interior Enclosures; Full Negative Pressure Enclosure.

- BNSF track protection is NOT REQUIRED for the project. Access the site from Old Mill Road on the east side of the BNSF right-of-way.

2. There are no notification requirements.

3. The quantity of material to be removed is to be verified by the contractor.

4. There is no pre-cleaning required. Concrete floors and steps will be cleaned with HEPA vacuums as part of the bunker cleanout activities.

5. Contractor shall conduct removal procedures in all functional areas in a "state-of-the-art manner." Critical barriers are not required. Waste will go to a landfill as non-ACM solid waste outside of Lincoln County.

6. Owner Representative will be on-site to oversee project to insure compliance with specification and regulations during removal activity.

7. Perimeter area and OSHA personal air monitoring is required for this project and will be provided by the owner's representative using phase contrast microscopy (PCM). Contractor will provide personal pumps for OSHA compliance sampling. Owner's Representative will do analysis of contractor's personal samples by PCM. No work shall be conducted without an air monitoring technician present on site.

8. Make sure all signs and project barriers are maintained throughout the duration of the project.

9. Contractor shall proceed in work areas as scheduled and/or authorized by Owner and Owner's Representative. Changes in the work schedule shall be made by written communication.

Remove all asbestos materials by the methods listed above following the state-of-the-art procedures of the asbestos industry (see Sections 01013, 01560, 01561, 01526, 01527). All asbestos-containing and/or contaminated materials shall be properly removed and disposed of as asbestos waste.

Part 3 – Schedules

The work will be scheduled during daylight hours Monday-Friday. The schedule for removal activities is to take place in October 2010.

Part 4 – Disposal

Disposal of all soil and vermiculite debris shall be disposed at a solid waste landfill as non-ACM outside of Lincoln County. All waste must be manifested to the licensed landfill and waste disposal records shall be a part of final reports submitted to EMR.

Part 5 – Project monitoring and air monitoring hours:

The Owner's Representative will provide third-party air monitoring services. Coordinate project activities with the Owner's Representative to facilitate air monitoring services. Air monitoring for this project shall include air sampling and monitoring of work activities, and work areas during project execution. The Owner's Representative will provide for air monitoring of project personnel and provide results to the contractor on a daily basis. However, the Contractor will provide personal pumps for OSHA compliance sampling. The Owner's Representative will do analysis of contractor's personal samples by PCM. No abatement work activity shall be allowed without air monitoring being conducted. The Owner's Representative will conduct the air sampling and monitoring during all hours that the Contractor's personnel are on the project site, during abatement activities. The daily project air sampling will be the responsibility of the Owner's Representative on a per shift basis.

The Owner's Representative has authority over daily scheduling and progression of work through completion of the project. The Contractor's work crew shall work shifts as necessary on the project site to complete the project on the prescribed time schedule. Provide the air monitoring service advance notice of anticipated work schedule.

PCM analysis by NIOSH method 7400 will be conducted on-site for all background, area, personal and clearance samples, unless otherwise directed by the state regulatory agency. Final air clearance for the project work area shall be a contamination level within the work area that is less than or equal to 0.01 fibers per cubic centimeter (0.01 f/cc) per the NIOSH 7400 method.

END OF SECTION 01010

SECTION III

SECTION 01013 – SUMMARY OF WORK

EMR presents Section III to provide the Summary of Work, which describes the work activity required as part of the asbestos & vermiculite removal at: Concrete Bunker Structure - EMR Project No. 9458.001, Troy, MT.

Section 01013 – Summary of work — asbestos abatement

Part 1 – General

Related documents:

Drawings, general provisions of the Contract, including Supplementary Conditions, and other Division-1 Specification sections, apply to work of this section.

Project/work identification:

General: Project name is Asbestos Removal Project, BNSF Railway, Concrete Bunker Structure, Project No. 9458.001, Troy, Montana as shown on Contract Documents prepared by David L. Welch, a Montana certified Project Designer (#MTA-1960-PD, exp. 11/30/10), Owner's asbestos abatement design representative, EMR, Inc., Lawrence, Kansas, Project Specifications.

Contract documents: Indicate the work of the contract and related requirements and conditions that have an impact on the project. Related requirements and conditions that are indicated on the Contract Documents include, but are not necessarily limited to the following:

Applicable codes and regulations
Montana Asbestos Control Program Regulations.
Notices and permits
Existing site conditions and restrictions on the use of the site
Work performed prior to work under this Contract
Work to be performed subsequent to work under this Contract
EMR, Inc. — Asbestos Abatement — General Specifications

The work includes removal of all identified ACM and disposal of all asbestos materials according to the following specifications in the sequence indicated.

General and Administrative Requirements: are set forth in the following specification sections:

01010 — Schedule of Work
01013 — Summary of Work
01043 — Project Coordination
01091 — Definitions and Standards
01301 — Submittal
01313 — Schedules and Reports
01601 — Materials and Equipment
01632 — Products Substitutions
01701 — Project Closeout

Abatement Work: requirements are set forth in the following sections, listed here according to the sequence of the work:

01092 — Applicable Codes, Asbestos Abatement: sets forth governmental regulations if more stringent and industry standards which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices that either must be applied for and received, or which must be given to governmental agencies before start of work.

SPECIAL NOTE: Federal and State asbestos regulations supersede any requirements of these specifications. The contractor's certified supervisor shall be required to have a copy of State regulations and project notice at the project site, as required.

01410 — Test Laboratory Services: describes air monitoring by owner so that the building beyond the work area will remain uncontaminated. Air Monitoring to determine required respiratory protection is the responsibility of the Contractor.
01503 — Temporary Facilities: sets forth the support facilities needed such as electrical and plumbing connections for the decontamination unit.

01513 — Negative Pressure System: A local exhaust system, utilizing HEPA filtration capable of maintaining a negative pressure inside the work area and a constant air flow from adjacent areas into the work area and exhausting that air outside the work area. sets forth the procedures to set up the negative air machines and ventilation of the work area.

01526 — Temporary Enclosures: describes sequence of work for building of an enclosure, control access, and extension of work area.

01527 — Local Area Protection: Preparing a work area for removal using glovebags, mini-enclosure, non-friable removal, and controlled access work environment.

01560 — Worker Protection: This section describes the equipment and procedures required for protecting workers against asbestos contamination and other workplace hazards except for respiratory protection.

01561 — Worker Protection, Repair & Maintenance: Describes the equipment and procedures for protecting workers against asbestos contamination and other workplace hazards in repair, maintenance, glovebag and non-friable asbestos material activities.

01562 — Respiratory Protection: Instruct and train each worker involved in asbestos abatement or maintenance and repair of friable asbestos-containing materials in proper respiratory use and require that each worker always wear a respirator, properly fitted on the face.

01563 — Decontamination Units: explains the setup and operation of the personnel and material decontamination units.

Asbestos Removal Work Procedures: are described in the following specification sections:

02081 — Removal of Asbestos-containing Materials
02084 — Disposal of Asbestos-containing Materials

Decontamination of the Work Area: after completion of abatement work is described in the following sections:

01701 — Project Closeout: details the closeout procedures to end the project once abatement work is complete including final paperwork requirements.

01711 — Project Decontamination: describes the sequence of cleaning and decontamination procedures to be followed during removal of the sheet plastic barriers isolating a work area. Provides for certificates of visual inspection documentation.

01712 — Cleaning and Decontamination Procedures: sets forth procedures to be used on contaminated objects and rooms that are not part of an abatement work area.

01714 — Work Area Clearance: describes the analytical methods used to determine if the work area has been successfully cleaned of contamination.

A. Personnel Submittal

1. The contractor and all workers must be trained and AHERA certified as evidenced by participation and successful completion of a training course, offered by an EPA or State endorsed educational institution. (Submittal of Copies of Certifications — Required — State Government issued Asbestos certifications will satisfy requirements of this section).

2. Submit certification to the Owner’s Representative indicating that each employee has had instruction on the hazards of asbestos exposure, the use and fitting of respirators, protective dress, use of showers, entry and exit from all work areas, and on all aspects of work procedures and protective measures as specified herein and that each employee understands this information. Use the "Certificate of Worker's Acknowledgment" located at the end of this section. (Submittal of the signed "Certificate of Worker's Acknowledgment" — Required unless State worker certifications are submitted).

3. Submit evidence of required physical examinations.

B. Respiratory Protection Systems

1. The Contractor will provide all his personnel, including workers, supervisors, and management personnel respiratory protection equipment. The equipment provided shall be approved by MSHA — NIOSH and accepted by OSHA for the use in atmospheres containing asbestos fibers. The contractor shall only allow those individuals that are licensed by the State and carrying an active state approved certification card and properly suited in protective clothing and respiratory protection as approved by the contractor to enter the project area.

2. Quantitative or qualitative fit tests and training is a requirement for the use of on site respiratory equipment.

3. The table RS-PF-I shall be utilized to determine the level of respiratory protection that shall be utilized during this project. At any time the maximum airborne fiber concentration outside the respirator is exceeded the next level of protection shall be required to be utilized immediately.

Required Minimum Respirator Selection for This Project

TABLE RS - PF - I

Respirator Selection	Protection Factor	Airborne fiber concentration outside respirator
High-efficiency cartridge filter type (half face)	**10**	**0.01 to 0.1 fiber/cc**
High-efficiency cartridge filter type (full face)	50	0.1 to 0.5 fibers/cc
Powered-air purifying (PAPR) (tight fit half or full face)	100	0.5 to 1.0 fiber/cc
Type C continuous flow supplied air half mask	100	0.5 to 1.0 fiber/cc
Type C continuous flow supplied air full face or hood	100	0.5 to 1.0 fiber/cc
Pressure-demand Type C (full face respirator)	1,000	0.5 to 2.0 fiber/cc

4. Powered Air Purifying Respirators are required for this project, note use on the daily log.

5. Maintain an average airborne fiber count in the work area of less that 0.5 fiber/cc. If the fiber counts rise above this figure for any sample taken, revise work procedures to lower fiber counts.

   At any time airborne fiber counts exceed 1.0 fiber/cc for any period of time, cease all work. Notify the Owner's Representative immediately. Do not recommence work until authorized by the Owner's Representative of changes in work procedures to lower fiber counts.

6. All personnel will be assigned individual face pieces and corresponding units with unique identification numbers.

7. Individuals will be thoroughly trained in maintenance, repair and decontamination of respirators utilized on this project.

8. All respirators used on this project shall comply with the requirements of Section 01562.

C. Personnel Protection

1. Provide workers with personally issued and marked respiratory equipment approved by NIOSH and accepted by OSHA. All work on this project shall be performed in compliance with the Table RS - PF - I in B - 3 this section.

2. Provide workers with sufficient sets of protective full body clothing (such as headgear, full body coveralls, footwear, etc.). Provide hard hats as required by applicable safety regulations. Reusable type protective clothing and footwear intended for reuse shall be left in the contaminated equipment room until the end of the asbestos abatement work, at which time such items shall be decontaminated and placed in sealed bags for transfer to the next work site. Disposable type protective clothing shall not be allowed to accumulate and shall be bagged and disposed of as asbestos contaminated waste. See Paragraph D-9.

3. Provide authorized visitors with suitable protective clothing, headgear, and footwear as described in Paragraph C-2, whenever they are required to enter the work area.

D. Material and Equipment

1. Deliver all materials in the original package, container, or bundles bearing the name of the manufacturer and the brand names.

2. Store all materials subject to damages off the ground, away from wet or damp surfaces and under cover sufficient to prevent damage or contamination.

3. Damaged or deteriorating materials shall not be used and shall be removed for the premises. Material that becomes contaminated with asbestos shall be disposed of in accordance with the applicable regulations.

4. Submit manufacture's certification that vacuums, negative air pressure equipment and other local exhaust ventilation equipment conforms to ANSI Z9.2-79 as applicable to this project. Non-certified and/or modified equipment is not acceptable. An automatic shutdown system must be incorporated in the event of leakage of rupture of the HEPA filter or blockage of air due to excess material on the filters.

5. POLYETHYLENE: A minimum 6 mil sheet polyethylene on floors, 6 mil sheet polyethylene on walls, and ceilings, unless otherwise specified, in sizes to minimize the frequency of joints. Reinforced polyethylene sheeting shall be used when removal techniques may cause damage to the containment enclosure. Spray polyethylene is an acceptable alternative to polyethylene sheeting.

   NOTE: Use fire retardant sheeting, if a fire hazard exists and in fire egress areas.

6. TAPE: Capable of sealing joints of adjacent sheets of polyethylene and for attachment of polyethylene sheet to finished or unfinished surfaces and capable of adhering under both dry and wet conditions, including the use of amended water.

7. SURFACTANT: Shall consist of 50% polyethylene ether and 50% of polyoxyethylene Ester, or equivalent, and shall be mixed with water to provide a concentration of one-ounce surfactant to 5 gallons water.

8. ENCAPSULANT: For post-removal lock-down treatment, to bind residual fibers on the abated surface and on the polyethylene sheeting of the containment area.

9. DISPOSAL CONTAINERS:

   a. Impermeable Containers: Suitable to receive and retain asbestos-containing or contaminated materials until disposal at an approved site. The containers shall be labeled in accordance with NIOSH and OSHA regulations. See paragraph D-10. Containers must be both air and water tight and must be resistant to damage and rupture. The containers shall be of two parts: (1) 6 mil polyethylene bags of a size to fit within the drum listed hereafter and capable of being sealed; (2) fiberglass containers with tight fitting lids, and/or heavy walled fiber containers with tight fitting lids. Impermeable containers shall be shipped to the dump site in a fully enclosed locking vehicle.

      NOTE: Asbestos Waste Containers shall have the generator's name and facility location clearly marked on the outside of each container.

   b. Disposal Bags: Suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an approved site. The bags must be air tight and water tight made of 6 mil polyethylene and/or asbestos materials may be wrapped in two separate layers of 6 mil polyethylene sheeting. Two disposal bags are required for disposal with asbestos waste material placed in one disposal bag and then placed into a second bag. Both bags must remain air and water tight. Disposal bags shall be labeled in accordance with OSHA and NIOSH regulations and transported to an approved dump site in a fully enclosed locking vehicle.

      NOTE: Asbestos Waste Containers shall have the generator's name and facility location clearly marked on the outside of each container.

10. WARNING LABELS and SIGNS: Signs as required by OSHA regulations to demarcate a work area should read as follows:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE
CLOTHING IS REQUIRED IN THIS AREA

Recommended label for waste containers:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

9

RQ WASTE ASBESTOS
9-NA2212-111

NOTE: Labels shall be printed in large bold letters on a contrasting background

Recommended label for transportation vehicle:

DANGER
ASBESTOS DUST HAZARD
CANCER AND LUNG DISEASE HAZARD

9

RQ WASTE ASBESTOS
9-NA2212-111

ASBESTOS, NA2212, RQ

11. Other Materials: Provide all other materials such as lumber, nails, and hardware that may be required to construct and dismantle the contamination area and the barriers that isolate the work area.

E. Commencement of Work

Asbestos abatement work shall not commence until:

1. Arrangements have been made for proper disposal of all asbestos wastes at an EPA/State approved disposal site. Arrangements must comply with Federal, State and local regulations, transportation arrangements of wastes shall be in compliance with 40 CFR Part 61. The contractor shall notify the State regulatory agency regarding the removal project and the transportation of asbestos waste materials to the approved landfill site.

2. General security and management of the asbestos project has been completed, to include decontamination containment systems in place and parts of the building required to remain in use are effectively segregated and the temporary enclosure in place. Demarcate the asbestos project perimeter by roping off work area perimeter and the placement of appropriate warning signs. Isolation of the buildings ventilation and electrical systems, using appropriate methods.

3. Tools, equipment, material and asbestos waste containers are on hand.

4. Arrangements have been made for building security.

5. All other preparatory steps have been taken and applicable notices posted and permits are obtained.

6. Owner's Consultant and/or Testing Laboratory have been notified and are on the project site.

7. Contractor has assigned a certified project supervisor to manage the asbestos project, comply with work safety requirements, control access and who is on project site. The Project Supervisor shall have daily logs responsibility at the work site, and the project supervisor shall have his current certification posted at the project site.

8. All pre-work submittal have been approved by the Owner’s Representative.

9. A project work site safety plan has been prepared by the Contractor and approved by the Owner’s Representative and is available at the work site, including all MSDS sheets of any chemicals to be used at the work site.

10. Perform any other pre-work activity that may be required by Federal, State and/or local agencies to prepare site for an asbestos project. Comply with Work Practices for General Security and Management of Asbestos Projects as a state-of-the-art removal project.

11. Conduct asbestos abatement following the state-of-the-art asbestos removal procedures.

F. Preparation of Work Area and Pre-Work Area Cleaning

The work area will be prepared and cleaned using the following procedures:

a. Clean work area as follows:

1. Remove all personnel from the area not directly involved in the cleaning operations, insure that all the proceeding steps of section E this section have been completed.

2. Wear an approved respirator and disposable suits for pre-cleaning operation, use dry decontamination methods, until decontamination units is completed.

3. Pre-clean the work area using HEPA vacuum device, disposable mops, wipes and/or cloths by wet cleaning method. A combination of wet cleaning and vacuuming shall be used to clean all surfaces with in the work area. All irregular surfaces shall be cleaned using the HEPA vacuum.

4. All items that are moveable and subject to contamination during the removal, shall be cleaned and removed from the work area. (If storage of movable items is an area with Friable ACM, re-clean items prior to returning to the cleaned work area.)

5. Dispose of all debris, mop heads, cloths, filters and disposable clothing as asbestos waste material, in accordance with asbestos disposal procedures.

6. Copies of Transportation Manifest and Disposal Receipts from the certified landfill are required to be turned into the Owner's Representative.

b. Isolate the work area as follows:

1. Shut down and lock out heating and ventilation system serving the work area, insure that airborne contamination from the work area cannot enter the ventilation systems.

2. Shut down and lock out electrical systems serving the work areas, and implement measures to minimize electrical hazards such as use of ground fault interrupters.

3. Install critical barriers seals at all doorways, windows, ventilation system openings and other openings using 6 mil thick polyethylene sheeting or reinforced sheet if high pressure water jets are used. Seal all seams, conduit and duct work passing through the work area.

4. Install a control curtain in the doorway between the work area and the decontamination facility.

5. This project will require the establishment of a temporary work area perimeter. Restrict access in the asbestos removal area in the building to asbestos project personnel during the course of this project.

c. Prepare a work area enclosure as follows:

(Not required for non-friable removal if products will remain non-friable.)

1. Complete all pre-cleaning and isolation procedures. Cover all non moveable furnishings, equipment and fixtures remaining in the work area, after pre-cleaning procedure, with one or more layers of 6 mil thick polyethylene sheeting.

2. Refer to drawing (see drawings at back of specifications) for building asbestos locations and building layout set up of Decontamination Unit, Entrance Hallway, Critical Barrier Seals, Load Out Area and Negative Air Set-up.

3. Walls, ceiling and floors will be covered with a minimum of two layers of 6 mil thick polyethylene sheeting, unless concrete to be cleaned and encapsulated in cleaning procedures, to form an air tight seal. Securely affix sheeting to ensure that it will remain in position throughout the length of the project. Floor sheeting shall extend up the wall at least 12 inches. Place wall sheeting to the interior of the work area, so that moisture is shed to the interior of the work area, and extends to the floor. An additional 6 mil thick layer of sheeting shall be placed on the floor area to be used as a drop cloth during the removal phase. Repair any tears or leaks noted in the protective sheeting immediately.

4. Install or construct the personnel and equipment decontamination facility at the entry area to the work area. Form an air tight seal between the decontamination facility and the work area. If a separate load out facility is required, built it in the same manner required for the decontamination facility leaving out the shower room.

5. Install only HEPA filter equipped ventilation fans in the work area for discharge of filtered air outside the work area. Pass the negative air exhaust piping through the critical barrier seals and form an air tight seal around the duct penetrating the critical barrier. Insure that the fans will replenish the entire volume of the work area every 15 minutes. Discharge the exhausted air outside the building in an area remote from the air intake, and not in an occupied area.

6. Start the negative air equipment. A negative pressure shall be maintained continuously (24 hours/day) from the start of work in the area until the area has been decontaminated and certified clean by on site testing personnel and the filtration fans have run for a 24 hour period following final clean up procedures or as required by state regulations.

G. Removal Notes

Concrete Bunker Site
Solid Waste with Vermiculite Debris
Troy, Montana
October 2010

The following asbestos-containing materials are known to be present at the work site and are included in the scope of this project. If any other materials are found which are suspected of containing asbestos, notify immediately the Owner's Representative. All of the identified asbestos-containing materials and debris are to be removed.

Troy, MT Concrete Bunker Cleanout (EMR Project Number 9458-001)

- Remove approximately 3-4 cubic yards (CY) of soil with vermiculite debris from concrete bunker room on north end of structure..
  Sample: TRMT-CCB-900 (Assumed Trace/<1% Tremolite Asbestos)

Friable Removal Procedures (Vinyl Sheet Flooring and Attached Wood Underlayment):

- *Unbolt steel plate from west side of structure*
- *Remove steel plate covering stairwell on top of structure*
- *Set up caution tape perimeter for work area*
- *Construct a remote 2-Stage decontamination unit/change facility*
- *Wet shovel soil with vermiculite debris and double bag*
- *Continuous misting using an airless sprayer during wet shoveling procedures.*
- *HEPA vacuum concrete floor areas and concrete steps into bunker room*
- *Perimeter air monitoring and personal air monitoring will be conducted. Air Clearance sampling not required.*
- *Visual inspection.*
- *After Removal Procedures, re-bolt steel plate to discourage access by juvenile trespassers and re-position steel plate over stairwell access.*

General Notes:

- Coordinate all activities with all EMR contacts.
- Power and water are not available. Contractor must have adequate power resources to operate the HEPA vacuum equipment, halogen lighting and the Owner's representative's high volume pumps for perimeter air sampling.
- Contractor will provide adequate lighting to aid in the removal process, final cleanup/detailing, and visual inspection.
- Pre-clean the work area per Section 01013, Part 1- General, Heading F-Preparation of Work Area and Pre-Work Area Cleaning, Title a-1: Pre-cleaning of Interior Areas.
- Isolate the work area per Section 01013, Part 1-General, Heading F-Preparation of Work Area and Pre-Work Area Cleaning, Title b-1: Isolation of Interior Areas.
- Prepare a work area enclosure per Section 01013, Part 1 – General, Heading F-Preparation of Work Area and Pre-Work Area Cleaning, Title c-1: Preparation of Interior Enclosures; Full Negative Pressure Enclosure.
- BNSF track protection is NOT REQUIRED for the project. Access the site from Old Mill Road on the east side of the BNSF right-of-way.

1. There are no notification requirements.

2. The quantity of material to be removed is to be verified by the contractor.

3. There is no pre-cleaning required. Concrete floors and steps will be cleaned with HEPA vacuums as part of the bunker cleanout activities.

4. Contractor shall conduct removal procedures in all functional areas in a "state-of-the-art manner." Critical barriers are not required. Waste will go to a landfill as non-ACM solid waste outside of Lincoln County.

5. Owner Representative will be on-site to oversee project to insure compliance with specification and regulations during removal activity.

6. Perimeter area and OSHA personal air monitoring is required for this project and will be provided by the owner's representative using phase contrast microscopy (PCM). Contractor will provide personal pumps for OSHA compliance sampling. Owner's Representative will do analysis of contractor's personal samples by PCM. No work shall be conducted without an air monitoring technician present on site.

7. Make sure all signs and project barriers are maintained throughout the duration of the project.

8. Contractor shall proceed in work areas as scheduled and/or authorized by Owner and Owner's Representative. Changes in the work schedule shall be made by written communication.

Remove all asbestos materials by the methods listed above following the state-of-the-art procedures of the asbestos industry (see Sections 01013, 01560, 01561, 01526, 01527). All asbestos-containing and/or contaminated materials shall be properly removed and disposed of as asbestos waste.

H. Clean-up and Final Air Clearance (NOT REQUIRED)

Final project cleaning and Air Clearance will be performed as follows:

1. After the work area is visibly clean and dry, begin the final work area cleaning. Remove the polyethylene sheeting from everything and insure that all surfaces are clean and free of any visible debris.

2. Clean all previously covered surfaces of debris.

3. Not less than 24 hours after the second cleaning, the contractor will initiate final work area air monitoring to determine if the area is in compliance with the air borne contamination level for this project of 0.01 fibers/cc by the NIOSH 7400 method.

4. The final project dismantling shall not occur until the HEPA air ventilation equipment has operated for 24 hours following the initiation of the air disturbance required as a part of the final air clearance testing and approval.

5. Treat all removed plastic sheeting, waste and debris as ACM and dispose of accordingly.

It shall be the contractor's responsibility to replace or repair to the Owner's satisfaction, prior to close out of this project, all items identified as missing or damaged by the Contractor and not proven otherwise.

I. References and Regulations

Compliance with all applicable Federal, State and Local regulations and use of the best available technology, procedures and methods for preparation, execution, clean-up, disposal and safety are absolutely required. This compliance is the sole responsibility of the removal Contractor.

The intent of the specifications is to accurately describe the work that is to be performed under this contract. The Owner and Owner's Representative assume no responsibility for the proper and safe execution of the work.

J. Air Monitoring and Testing (See Section 01010, Part 5)

END OF SECTION 01013

SECTION IV

AIR MONITORING DATA

EMR presents Section IV to provide Air Monitoring results of personnel, work area and final air clearance samples collected, documented and analyzed, which identifies the work site air conditions prior to, during and at the completion of the work required as part of the asbestos & vermiculite removal project at: Concrete Bunker Structure - EMR Project No. 9458.001, Troy, MT.

ASBESTOS AIR SAMPLING CHAIN-OF-CUSTODY

ENCLOSURE			
MINI-ENCLOSURE		PASS	
NO ENCLOSURE	X	OR	
GLOVEBAG		FAIL	

BLANK AVERAGE (FIBERS/100 FIELDS)	0.0
CLEARANCE SAMPLES	
CLEARANCE LEVEL	0.01

EMR INCORPORATED
INFRASTRUCTURE AND ENVIRONMENT

PROJECT NO.	9458-001	DATE:	10/11/2010
PROJECT TITLE:	Concrete Bunker Solid Waste	PROJ. SITE MGR.:	David L. Welch
CLIENT:	BNSF	WORK AREA:	Bunker with Concrete and Dirt Floor
			Removal of Vermiculite Debris

Sample Number	Pump Number	Time On	Time Off	Total Minutes	Flow Rate (l/m - avg.)	Volume (liters)	Sample Location/Description	Fibers (-blank)	Flds	**Fibers/cc**	**8 Hr. TWA Fibers/cc**
1							Open Blank	0.0	100		
2	--	--	--	--	--	--	Sealed Blank	0.0	100	**--**	--
3	P-1	13:30	14:00	30	2.5	75	IWA Personal Excursion Joshua Nixon	8.0	100	**0.052**	**0.010**
4	P-1	14:00	15:30	90	2.5	225	IWA Personal-PM Joshua Nixon	17.0	100	**0.037**	**0.010**
5	HV-1	13:00	16:00	180	6.0	1080	OWA Area Decon/Entry	3.0	100	**<0.002**	
6											
7											
8											

Samples Collected By (Name/Signature): David L. Welch	Date: 10/11/2010	Received by (Name/Signature):	Date: 10/11/2010
Received by (Name/Signature):	Date:	(Laboratory) Analyzed by (Name/Signature): David L. Welch	Date: 10/12/2010
Turnaround Time ( ) On-site ( ) Immediate ( ) 24 Hour ( ) Normal		Comments:	
Laboratory Receiving Notes:	Custody Seal Intact?	Sample Condition:	

Certification of Visual Inspection

Description of Work Area: CLEANUP OF CONCRETE BUNKER, ~3-4 CY OF SOLID WASTE W/ VERMICULITE DEBRIS.

Contractor Certificate of Visual Inspection:

In accordance with Section 01711 "Project Decontamination" the contractor hereby certifies that he has visually inspected the above work (all surfaces including pipes, beams, ledges, walls, ceiling, and floor, decontamination unit, sheet plastic, etc..) and has found no dust, debris, or residue.

By: (Signature): Sam Wannamaker — Company: TRS

(Print Name): SAM WANNAMAKER — Date: 10-13-10

(Print Title): C.A.S.

Project Site Manager Certification:

The Project Site Manager hereby certifies that he has accompanied the contractor on his visual inspection of the described work area and verifies that his inspection has been thorough and to the best of his/her knowledge and belief, the contractor's certification above is true and honest.

By: (Signature): [signature] — Company: EMR, Inc.

(Print Name): DAVID L. WELCH — Date: 10/11/2010

(Print Title): PROJECT SITE MANAGER

SECTION V

ABATEMENT CONTRACTOR CLOSEOUT DOCUMENTS

EMR presents Section V to provide closeout documents provided by the asbestos abatement contractor as part of the asbestos & vermiculite removal project at: Concrete Bunker Structure - EMR Project No. 9458.001, Troy, MT.

Asbestos Abatement Post Project Record
for
BNSF
Troy Bunker

Prepared by
Aimee Patrick
IRS Environmental of Washington, Inc.
IRS Project # 13025

Prepared for
Chris Patnode
EMR, Inc.

Table of Contents:

1. Permits and Notifications
2. Daily Project Logs
3. Air Monitoring Results
4. Disposal Documentation
5. Worker Certification
6. Worker Physical/Fit Test

Permits & Notifications

No permits or notifications were needed for this project.

Daily Project Logs

WASHINGTON – OREGON – IDAHO – MONTANA
P.O. BOX 15216 * SPOKANE VALLEY, WA 99215-5216
(509)927-7867 FAX (509)928-3933

ASBESTOS * LEAD
ENVIRONMENTAL SERVICES
SELECTIVE DEMOLITION

DAILY PROJECT LOG

Abatement Company: IRS Environmental of WA, Inc.
Address: 12415 E Trent Ave, Spokane Valley WA 99216/PO Box 15216, Spokane Valley, WA 99215

Project Name: BNSF Troy Montana
Project Address: Troy Montana
Job Number: 13025 Heat Stress Analysis: Forecasted Temperature 45°
Is heat stress a concern today? ☐ Yes ☒ No (Check yes if the work area will exceed 85°)
Waste Container: ☒ Drop off, ☐ Pick up, ☐ On site

Daily Report: Onsite with Dave Welch of EMR and did a job walk & developed a game plan.We removed steal plate from wall.We then regulated building via Danger Asbestos tape.Crew of 3 suited up in tyvek and half face respirators and removed approx 4 yds of soil using wet manual methods and bagged it up in feed bags.We final cleaned stairs via hepa vacuum.Dave Welch did a final inspection and liked what we did .We then tore down danger tape and loaded up all supplies, waste and equipment.We then reattached steal plate to wall.

Problems or change order work encountered today: We found that soil was contaminated with VCI-Dave decided to come back and apply a cement slurry later on in the week

Visitors & Conversations: The sherrif stopped by to see what we were up to.

Supervisors Signature: _____

Date: 10/11/2010 Day: Monday Page: 1 of 1

Air Monitoring Results

ASBESTOS AIR SAMPLING CHAIN-OF-CUSTODY

BLANK AVERAGE (FIBERS/100 FIELDS) 0.0
CLEARANCE SAMPLES
CLEARANCE LEVEL 0.01

ENCLOSURE
MINI-ENCLOSURE
NO ENCLOSURE X
GLOVEBAG

PASS
OR
FAIL

EMR INCORPORATED
INFRASTRUCTURE AND ENVIRONMENT

DATE: 10/11/2010
PROJ. SITE MGR.: David L. Welch
WORK AREA: Bunker with Concrete and Dirt Floor
Removal of Vermiculite Debris

PROJECT NO. 9458-001
PROJECT TITLE: Concrete Bunker Solid Waste
CLIENT: BNSF

Sample Number	Pump Number	Time On	Time Off	Total Minutes	Flow Rate (l/m - avg.)	Volume (liters)	Sample Location/Description	Fibers (-blank)	Flds	Fibers/cc	8 Hr. TWA Fibers/cc
1							Open Blank	0.0	100		
2	--	--	--	--	--	--	Sealed Blank	0.0	100	--	--
3	P-1	13:30	14:00	30	2.5	75	IWA Personal Excursion Joshua Nixon	8.0	100	**0.052**	**0.010**
4	P-1	14:00	15:30	90	2.5	225	IWA Personal-PM Joshua Nixon	17.0	100	**0.037**	**0.010**
5	HV-1	13:00	16:00	180	6.0	1080	OWA Area Decon/Entry	3.0	100	**<0.002**	
6											
7											
8											

Samples Collected By (Name/Signature): David L. Welch
Date: 10/11/2010

Received by (Name/Signature):
Date: 10/11/2010

Received by (Name/Signature):
Date:

(Laboratory) Analyzed by (Name/Signature): David L. Welch
Date: 10/12/2010

Turnaround Time ( ) On-site ( ) Immediate ( ) 24 Hour ( ) Normal

Comments:

Laboratory Receiving Notes:
Custody Seal Intact?
Sample Condition:

Disposal Documentation

Waste was disposed of as general construction debris.

Workers Certification

Sam Wannamaker

STATE CERTIFICATIONS

CERTIFIED AS PROVIDED BY LAW AS

ASBESTOS SUPERVISOR
CERTIFICATE NUMBER: 2011020849A
EXPIRATION DATE: 03/30/2011

WANNAMAKER, SAM J
1507 E VANETTA LN
SPOKANE, WA 99217

Signature Sam Wannamaker
Issued by DEPARTMENT OF LABOR AND INDUSTRIES

SAM J WANNAMAKER

has met the requirements of Montana Administrative Rule 17.74.362 and/or 17.74.363 for accreditation in the following asbestos-type occupation(s) as indicated by an expiration date(s).

MTA-2970

CS MP PD IN
03/19/2011
WK

MT DEQ Asbestos Control Program

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
Certified Supervisor for Asbestos Abatement Projects

NAME: Sam J. Wannamaker
CERTIFICATE NO.: S12042
EXPIRATION DATE: 1Mar11
TRAINING COURSE DATE: 1Mar10
EXAMINATION DATE: 1Mar10
TRAINER ADDRESS AND TELEPHONE NO.:
Asbestos Training Project
Workplace Resources, Inc.
1908 S.E. Pershing
Portland, OR 97202-2340
(503) 233-7707

The person assigned this certificate has completed the required training for asbestos certification and is certified by the Department of Environmental Quality under OAR Chapter 340, Division 248 and under TSCA Title II

Johnathon Houser

STATE CERTIFICATIONS

CERTIFIED AS PROVIDED BY LAW AS

ASBESTOS WORKER
CERTIFICATE NUMBER: 2010028517A
EXPIRATION DATE: 12/30/2010

HOUSER, JOHNATHAN
2596 N BRADLEY CT
POST FALLS, ID 83854

Signature
Issued by DEPARTMENT OF LABOR AND INDUSTRIES

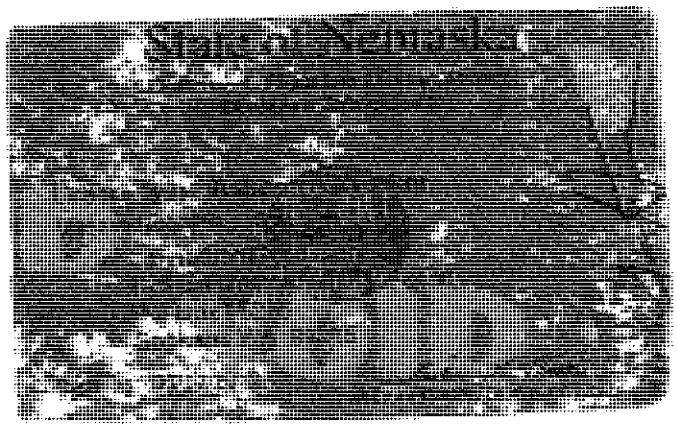
JOHNATHAN HOUSER
has met the requirements of Montana Administrative Rule 17.74.362 and/or 17.74.363 for accreditation in the following asbestos-type occupation(s) as indicated by an expiration date(s).

MTA-3641

CS MP PD IN

WK
11/13/2010

MT DEQ Asbestos Control Program



Josh Nixon

STATE CERTIFICATIONS

CERTIFIED AS PROVIDED BY LAW AS

ASBESTOS WORKER
CERTIFICATE NUMBER: 2011028077A
EXPIRATION DATE: 07/09/2011

NIXON, JOSHUA R
10103 E MORGAN RD
SPOKANE, WA 99217

Signature Joshua Nixon
Issued by DEPARTMENT OF LABOR AND INDUSTRIES

JOSHUA R NIXON

has met the requirements of Montana Administrative Rule 17.74.362 and/or 17.74.363 for accreditation in the following asbestos-type occupation(s) as indicated by an expiration date(s).

MTA-3540

CS MP PD IN

WK
06/11/2011

MT DEQ Asbestos Control Program

Environmental Safety Training Professionals, Ltd
3035 Prospect Park Drive #110
Rancho Cordova, CA 95670
916 638-5550

Joshua Nixon

Has successfully completed 8 Hours
Section 206 of TSCA Title II (AHERA)
Asbestos Worker Refresher

Course Date: 09/10/10
Exp. Date: 09/10/11
DIVISION APPROVAL #CA-006-02

I.D. #: 4632
CERT. #: 6863

Neta Snider
Authorized Signature

Worker Physical/Fit Test

Paula A. Lantsberger, MD, MPH, FACOEM
Terrence D. Rempel, MD, MPH
Royce F. Van Gerpen, MD, MPH
Margo Cockey, ARNP

323 East Second Avenue
Spokane, WA 99202

509.455.5555
509.455.4114 FAX

Occupational Medicine Associates

82,978
A526979
SAM J WANNAMAKER

CSH 10/23/09
05/06/67 42 M

IRS ENV
VAN GERPEN MD MPH, ROYCE

ASBESTOS CLEARANCE

Name: Sam Wannamaker **Date Examined:** 10/23/09

Results: There are/are not detected health conditions that would place this employee at an increased risk of material health impairment from exposure to asbestos:
Comments:

Limitations: Recommended restrictions on this employee or upon the use of personal protective equipment: None

Physician's statements: I have informed this employee of the results of the medical exam and of any medical conditions resulting from asbestos exposure that require further explanation or treatment.

I have also informed this employee of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos exposure.

10-23-09
Physician signature: Lantsberger, Rempel, Van Gerpen, Cockey

Examination: Height: 73" Weight: 207 B/P: 126/90 Pulse: 68

	Normal	Abnormal	
Ears:	☒	☐	TMs intact
	☒	☐	Canals clear
Mouth:	☒	☐	Clear / no obstruction
Neck:	☒	☐	Supple / no masses
Lungs:	☒	☐	Clear A + P
Heart:	☒	☐	Regular Rate / no murmur
Abdomen:	☒	☐	No mass / no organomegally
Lymphatics:	☒	☐	No lymphadenopathy

PFTs:	☒ Normal	☐ Abnormal	☐ Unacceptable	☒ No change
CXR:	☒ Normal	☐ Abnormal	☐ Unacceptable	☒ No change

FORM #27

WASHINGTON-OREGON-IDAHO-MONTANA
P.O. BOX 15216 * SPOKANE VALLEY, WA 99215-5216
(509) 927-7867 FAX (509) 928-3933

ASBESTOS*LEAD
ENVIRONMENTAL
SERVICES

CONT. REC. NO. IRSENWI033PN

QUALITATIVE FIT TEST RECORD

Name: SAM WANNAMAKER

Issue Date: 10-6-10

Soc. Sec. No.: On File

Expiration Date: 10-6-11

Test Operator: GREG BURGER

TYPE OF QUALITATIVE FIT TEST: **IRRITANT SMOKE**

RESPIRATOR

Respirator brand: North

NIOSH Approval #: TC-21C-152

Model: 7700

Wear at least 10 minutes: X

Size: Small ____ Med. X Lrg. ____

+/- Pressure fit check: X

TEST

	Pass	Fail
Each exercise is performed for one minute		
Normal Breathing-No talking	✓	
Deep breathing-be certain breaths are deep	✓	
Turn head side to side-Inhale on each side, do not bump the respirator against shoulders	✓	
Move head up and down-Inhale when head is in full up position, do not bump respirator against chest.	✓	
Reading-with eyes closed, repeat slowly and clearly after the conductor the "Rainbow Passage"	✓	
Jogging in place-Jog in place	✓	
Normal breathing-No talking	✓	

FINAL FIT: PASS

Supervisor Signature: [signature]

Employee Signature: [signature]

** Employee must have a current qualitative fit test before assigning them a task that requires a respirator to be worn.

Occupational Medicine Associates

Paula A. Lantsberger, MD MPH FACOEM
Terrence D. Rempel, MD,
Royce F. Van Gerpen, MD
Margo Cockey, ARNP

323 East Second Avenue
Spokane, WA 99202

509.455.5555
509.455.4114 FAX

JOHNATHON HOUSER 2/16/10 M
8/21/84 25

IRS ENVIRONMENTAL
DR. LANTSBERGER

ASBESTOS CLEARANCE

Name: Johnathon Houser **Date Examined:** 2/16/10

Results: There are/are not detected health conditions that would place this employee at an increased risk of material health impairment from exposure to asbestos:
Comments: _____

Limitations: Recommended restrictions on this employee or upon the use of personal protective equipment: _____

Physician's statements: I have informed this employee of the results of the medical exam and of any medical conditions resulting from asbestos exposure that require further explanation or treatment.

I have also informed this employee of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos exposure.

Physician signature: Lantsberger, Rempel, Van Gerpen, Cockey

Examination: Height: _____ Weight: _____ B/P: _____ Pulse: _____

	Normal	Abnormal	
Ears:	☑	☐	TMs intact
	☑	☐	Canals clear
Mouth:	☑	☐	Clear / no obstruction
Neck:	☑	☐	Supple / no masses
Lungs:	☑	☐	Clear A + P
Heart:	☑	☐	Regular Rate / no murmur
Abdomen:	☑	☐	No mass / no organomegally
Lymphatics:	☑	☐	No lymphadenopathy

PFTs:	☑ Normal	☐ Abnormal	☐ Unacceptable	☑ No change
CXR:	☐ Normal	☐ Abnormal	☐ Unacceptable	☐ No change

FORM #27

WASHINGTON-OREGON-IDAHO-MONTANA
P.O. BOX 15216 * SPOKANE VALLEY, WA 99215-5216
(509) 927-7867 FAX (509) 928-3933

IRS ENVIRONMENTAL

CONT. REG. NO. IRSENWI033PN

ASBESTOS*LEAD
ABATEMENT
SELECTIVE DEMOLITION

QUALITATIVE FIT TEST RECORD

Name: Johnathon Houser

Issue Date: 3/22/10

Soc. Sec. No.: ON file

Expiration Date: 3/22/11

Test Operator: Darin Dietz

TYPE OF QUALITATIVE FIT TEST: **IRRITANT SMOKE**

RESPIRATOR

Respirator brand: North

NIOSH Approval #: TC-21C-152

Model: 7700

Wear at least 10 minutes: yes

Size: Small ____ Med. ____ Lrg. X

+/- Pressure fit check: yes

TEST

Each exercise is performed for one minute	Pass	Fail
Normal Breathing-No talking	X	
Deep breathing-be certain breaths are deep	X	
Turn head side to side-Inhale on each side, do not bump the respirator against shoulders	X	
Move head up and down-Inhale when head is in full up position, do not bump respirator against chest.	X	
Reading-with eyes closed, repeat slowly and clearly after the conductor the "Rainbow Passage"	X	
Jogging in place-Jog in place	X	
Normal breathing-No talking	X	

FINAL FIT: Pass

Supervisor Signature: [signature]

Employee Signature: [signature]

** Employee must have a current qualitative fit test before assigning them a task that requires a respirator to be worn.

Paula A. Lantsberger, MD, MPH, FACOEM
Terrence D. Rempel, MD, MPH
Royce F. Van Gerpen, MD, M
Margo Cockey, ARNP

323 East Second Avenue
Spokane, WA 99202

509.455.5555
509.455.4114 FAX

oma

Occupational Medicine Associates

93,886
A526979 CSH 04/02/10
JOSHUA R NIXON 10/26/73 36 M

IRS ENVIRO
REMPEL, TERRENCE D

ASBESTOS CLEARANCE

Name: Josh Nixon **Date Examined:** 4/2/10

Results: There are/are not detected health conditions that would place this employee at an increased risk of material health impairment from exposure to asbestos:
Comments:

Limitations: Recommended restrictions on this employee or upon the use of personal protective equipment: Ø

Physician's statements: I have informed this employee of the results of the medical exam and of any medical conditions resulting from asbestos exposure that require further explanation or treatment.

(+) I have also informed this employee of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos exposure.

Physician signature: Lantsberger, Rempel, Van Gerpen, Cockey

Examination: Height: 60 Weight: 217 B/P: 118/80 Pulse: 74

	Normal	Abnormal	
Ears:	☐	☐	TMs intact
	☐	☐	Canals clear
Mouth:	☐	☐	Clear / no obstruction
Neck:	☐	☐	Supple / no masses
Lungs:	☐	☐	Clear A + P
Heart:	☐	☐	Regular Rate / no murmur
Abdomen:	☐	☐	No mass / no organomegally
Lymphatics:	☐	☐	No lymphadenopathy

Asbst 2yrs

discussed smoking cessation

PFTs: ☒ Normal ☐ Abnormal ☐ Unacceptable ☐ No change
decr FVC & FEV

CXR: ☒ Normal 2008 ☐ Abnormal ☐ Unacceptable ☐ No change

FORM #27

WASHINGTON-OREGON-IDAHO-MONTANA
P.O. BOX 15216 * SPOKANE VALLEY, WA 99215-5216
(509) 927-7867 FAX (509) 928-3933

ASBESTOS*LEAD
ENVIRONMENTAL
SERVICES

CONT. REG. NO. IRSENWI033PN

QUALITATIVE FIT TEST RECORD

Name: Josh Nixon

Soc. Sec. No.: on-file

Issue Date: 9/10/10

Expiration Date: 9/10/11

Test Operator: Rasmussen

TYPE OF QUALITATIVE FIT TEST: **IRRITANT SMOKE**

RESPIRATOR

Respirator brand: North

Model: 7700

Size: Small ____ Med. ____ Lrg. ✓

NIOSH Approval #: TC-21C-152

Wear at least 10 minutes: ✓

+/- Pressure fit check: good

TEST

Each exercise is performed for one minute	Pass	Fail
Normal Breathing-No talking	✓	
Deep breathing-be certain breaths are deep	✓	
Turn head side to side-Inhale on each side, do not bump the respirator against shoulders	✓	
Move head up and down-Inhale when head is in full up position, do not bump respirator against chest.	✓	
Reading-with eyes closed, repeat slowly and clearly after the conductor the "Rainbow Passage"	✓	
Jogging in place-Jog in place	✓	
Normal breathing-No talking	✓	

FINAL FIT: PASS

Supervisor Signature: [signature]

Employee Signature: Joshua Nixon

** Employee must have a current qualitative fit test before assigning them a task that requires a respirator to be worn.

Appendix D

Abandoned Concrete Structure, Troy, Montana (14 July 2011)

Olympus Technical Services, Inc.

July 14, 2011

Mr. David Smith
BNSF Railway Company
825 Great Northern Boulevard, Suite 105
Helena, MT 59601-3340

Re: Abandoned concrete structure, Troy, MT

Dear David:

The purpose of this letter is to summarize activities conducted by Olympus Technical Services, Inc. (Olympus) at the abandoned concrete structure known as the bunker in Troy, MT. The activities conducted included reattaching the steel plates covering the access points to the structure and pouring a layer of concrete over the floor.

A previous attempt to place a concrete cap on the floor of the bunker failed to cover the floor along the West wall of the structure. On June 13, 2011, Olympus poured 3 cubic yards of concrete through an opening on the west wall to complete the concrete cap. Photographs of the bunker showing site conditions before and after June 13th are attached.

Olympus attached two steel plates over the access points to the bunker in October 2009. The plates were subsequently torn loose from the structure. Olympus reattached the steel plates on June 13, 2011. The plates were attached by drilling holes in the concrete and using 3/8 inch diameter anchor bolts. The steel plates were bolted down and the nuts were rounded off using an angle grinder. The remainders of the anchor bolts were bent parallel to the walls of the structure in order to further prevent the plates from being removed. Photographs showing the anchor bolts are attached to this letter.

Olympus appreciates the opportunity to assist you with this project. Please contact me at (406)443-3087 if you have any questions regarding the work conducted at the site.

Sincerely,
Olympus Technical Services

John Driscoll

John Driscoll
Staff Engineer

Enclosures: Photographs

765 Colleen Street ● Helena, MT 59601
(406) 443-3087 ● Fax (406) 443-0232

Photograph 1. Floor of concrete bunker showing incomplete concrete cap. View to the West.

Photograph 2. Floor of concrete bunker showing completed concrete cap. View to the East.

Photograph 3. View of bunker showing reattached steel plates. View to the East

Photograph 4. Close up of anchor bolt.

Appendix E

Abatement and Clearance Air Monitoring Results – Libby, Montana Section House

Chain of Custody Record

Lab/Cor, Inc.
7619 6th Avenue NW
Seattle, WA 98117

(206) 781-0155 (office)
(206) 789-8424 (fax)
mail@labcor.net
www.labcor.net

Client: EMR, INC.
Address: 2509 152ND AVE NE SUITE E
City, State, Zip: REDMOND, WA 98052
Contact: DAVID L. WELCH
Phone: 425-861-4561 Fax: 425-869-7820
Other info/Special Instructions:
Cloudy, wind NW 5-15 mph Low 35° High 50°

Analytical Protocol:
- ____ AHERA
- ____ Mod. EPA II
- ____ TEM Bulk, Semi-quant.
- X NIOSH 7402
- ____ NIOSH 7500
- ____ ASTM Surface Dust
- Other ____

Requested Turnaround Time:
- ____ 7 days
- ____ 5 days
- ____ 3 days
- ____ 48 hours
- X 24 hours
- ____ 12 hours
- ____ 6 hours

Project Name: LIBBY, MT SECTION HOUSE Project No.: 5242.01 P.O. No.:

Sample No.	Sample Description	Date	Time On	Time Off	Time Total	LPM Begin	LPM End	LPM Avg	Volume	IWA?	OWA?	Blank?
1. 1	Blank	4-23-01	—	—	—	—	—	—	—	—	—	Yes
2. 2	Decon. chamber (clean room)	↓	0834	1711	517	6.5	9.3	7.9	4084		X	
3. 3	HEPA vac room	↓	0834	1711	517	5.5	5.5	5.5	2844		X	
4. 4	Storage garage	↓	0836	1713	517	6.0	6.0	6.0	3102		X	
5. 5	Negative air exhaust	↓	0835	1713	518	6.0	6.3	6.2	3212		X	
6. 6	Section office	↓	0832	1712	520	6.0	5.9	6.0	3120		X	
7. 7	Signal Maintainer's Office/Shop	↓	0832	1712	520	6.0	5.8	5.9	3068		X	
8. 8	Jake Graham - bagging vermiculite	↓	0813	0844	31	2.9	2.9	2.9	90	X		
9. 9	↓ ↓ ↓	↓	0844	1203	199	2.9	2.9	2.9	577	X		
10. 10			1321	1702	221	2.9	2.9	2.9	641	X		
11.												
12.												
13.												

Relinquished by:	Received by:	Date:	Time:
Scott Rhea		4-24-01	

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010462 *Report Date:* April 26, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242 01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	Apr 25, 2001	*By:*	DJ
Prep:	Apr 25, 2001	*By:*	MH
	Apr 26, 2001		MH
Verified:	Apr 25, 2001	*By:*	MH
Reviewed:	Apr 26, 2001	*By:*	DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010462-01 Outside	2	Decon Chamber (Clean Room)	ASBESTOS	<0.0005	0 - 0.002	0	0	0.0005	4084.0	40	385	0.2114	DW	4/25/01
			NON-ASBESTOS	0.015	0.010 - 0.020	34								
			Richterite	0.0005	0 - 0.002	1								
			Winchite	0.0005	0 - 0.002	1								
			TOTAL	0.016	0.010 - 0.024	36								
010462-02 Outside	3	HEPA Vac Room	ASBESTOS	NOT ANALYZED										
			NON-ASBESTOS											
			Richterite											
			Winchite											
			TOTAL											
010462-03 Outside	4	Storage Garage	ASBESTOS	<0.0003	0 - 0.001	0	0	0.0003	3102.0	40	385	0.4026	DW	4/25/01
			NON-ASBESTOS	0.002	0.001 - 0.004	7								
			Richterite	<0.0003	0 - 0.001	0								
			Winchite	<0.0003	0 - 0.001	0								
			TOTAL	0.002	0.001 - 0.004	7								
010462-04 Outside	5	Negative Air Exhaust	ASBESTOS	<0.0003	0 - 0.001	0	0	0.0003	3212.0	40	385	0.4028	DW	4/26/01
			NON-ASBESTOS	0.001	0.000 - 0.003	3								
			Richterite	<0.0003	0 - 0.001	0								
			Winchite	0.0003	0 - 0.002	1								
			TOTAL	0.001	0.000 - 0.005	4								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA – Yamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010462 *Report Date:* April 26, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	Apr 25, 2001	*By:*	DJ
Prep:	Apr 25, 2001	*By:*	MH
	Apr 26, 2001		MH
Verified:	Apr 25, 2001	*By:*	MH
Reviewed:	Apr 26, 2001	*By:*	DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010462-05	6	Section Office	ASBESTOS	<0.0003	0 - 0.001	0	0	0.0003	3120.0	40	385	0.4026	DW	4/26/01
			NON-ASBESTOS	0.005	0.003 - 0.008	15								
Outside			Richterite	<0.0003	0 - 0.001	0								
			Winchite	<0.0003	0 - 0.001	0								
			TOTAL	0.005	0.003 - 0.008	15								
010462-06	7	Signal Maintainer's Office/Shop	ASBESTOS	<0.0003	0 - 0.001	0	0	0.0003	3068.0	40	385	0.4026	DW	4/25/01
			NON-ASBESTOS	0.002	0.001 - 0.004	5								
Outside			Richterite	<0.0003	0 - 0.001	0								
			Winchite	0.0003	0 - 0.002	1								
			TOTAL	0.002	0.001 - 0.006	6								
010462-07	8	Jake Graham - Bagging Vermiculite	ASBESTOS	<0.021	0 - 0.078	0	0	0.021	90.0	20	385	0.2013	DW	4/26/01
			NON-ASBESTOS	0.425	0.239 - 0.611	20								
Inside			Richterite	<0.021	0 - 0.078	0								
			Winchite	0.170	0.073 - 0.335	8								
			TOTAL	0.595	0.312 - 0.946	28								
010462-08	9	Jake Graham - Bagging Vermiculite	ASBESTOS	0.003	0.000 - 0.018	1	5	0.003	577.0	20	385	0.2013	DW	4/25/01
			NON-ASBESTOS	0.070	0.040 - 0.099	21								
Inside			Richterite	0.003	0.000 - 0.018	1								
			Winchite	0.010	0.002 - 0.029	3								
			TOTAL	0.086	0.042 - 0.164	26								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010462 *Report Date:* April 26, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	Apr 25, 2001	*By:*	DJ
Prep:	Apr 25, 2001	*By:*	MH
	Apr 26, 2001		MH
Verified:	Apr 25, 2001	*By:*	MH
Reviewed:	Apr 26, 2001	*By:*	DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010462-09 Inside	10	Jake Graham - Bagging Vermiculite	ASBESTOS	<0.001	0 - 0.006	0	0	0.001	641.0	40	385	0.4026	DW	4/25/01
			NON-ASBESTOS	0.013	0.006 - 0.025	9								
			Richterite	<0.001	0 - 0.006	0								
			Winchite	0.003	0.000 - 0.011	2								
			TOTAL	0.018	0.006 - 0.036	11								
010462-10 Blank	1	Blank	ASBESTOS	0	NA - NA	0	0	0	0	40	385	0.4026	DW	4/25/01
			NON-ASBESTOS	0	NA - NA	1								
			Richterite	0	NA - NA	0								
			Winchite	0	NA - NA	0								
			TOTAL	0	NA - NA	1								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Chain of Custody Record

Lab/Cor, Inc.
7619 6th Avenue NW
Seattle, WA 98117

(206) 781-0155 (office)
(206) 789-8424 (fax)
mail@labcor.net
www.labcor.net

Client: EMR, INC
Address: 2509 152nd AVE NE SUITE E
City, State, Zip: REDMONDS WA 98052
Contact: DAVID L. WELCH
Phone: 425-861-4561 Fax: 425-869-7820
Other info/Special Instructions:
Partly cloudy, N wind 0-5 mph, Low 35, High 60

Analytical Protocol:
- ____ AHERA
- ____ Mod. EPA II
- ____ TEM Bulk, Semi-quant.
- X NIOSH 7402
- ____ NIOSH 7500
- ____ ASTM Surface Dust
- Other ____

Requested Turnaround Time:
- ____ 7 days
- ____ 5 days
- ____ 3 days
- ____ 48 hours
- X 24 hours
- ____ 12 hours
- ____ 6 hours

Project Name: LIBBY, MT Second House Project No.: 5242.01 P.O. No.:

Sample No.	Sample Description	Date	Time On	Time Off	Time Total	LPM Begin	LPM End	LPM Avg	Volume	IWA?	OWA?	Blank?
1. 11	Signal Shop/office	4-24-01	0740	1516	456	4.1	3.1	3.6	1642		X	
2. 12	Section Office		0740	1516	456	6.0	5.9	6.0	2736		X	
3. 13	Decon. chamber (clean room)		0742	1519	457	6.5	6.4	6.5	2971		X	
4. 14	HEPA vacuum room		0742	1519	457	5.5	5.3	5.4	2468		X	
5. 15	Negative air exhaust		0744	1522	458	6.4	6.5	6.5	2977		X	
6. 16	Storage Garage		0744	1522	458	6.4	6.5	6.5	2977		X	
7. 17	Blank		—	—	—	—	—	—	—	—	—	yes
8. 18	Tim Dyer - HEPA vacuum		0803	0833	30	2.2	2.2	2.2	66	X		
9. 19	Tim Dyer - HEPA vacuum		0833	1112	159	2.2	2.2	2.2	350	X		
10. 20	Tim Dyer - HEPA vacuum		1220	1447	147	2.2	2.2	2.2	323	X		
11.												
12.												
13.												

Relinquished by:	Received by:	Date:	Time:
Scott Kler		4-25-01	

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010470 *Report Date:* April 27, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Apr 26, 2001	*By:* DJ
Prep:	Apr 26, 2001	*By:* MH
Verified:	Apr 26, 2001	*By:* MH
Reviewed:	Apr 27, 2001	*By:* DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010470-01 Outside	11	Signal Shop / Office	ASBESTOS	<0.001	0 - 0.002	0	0	0.001	1642.0	40	385	0.4026	DW	4/26/01
			NON-ASBESTOS	0.005	0.002 - 0.010	9								
			Richterite	0.001	0.000 - 0.003	1								
			Winchite	<0.001	0 - 0.002	0								
			TOTAL	0.006	0.002 - 0.013	10								
010470-02 Outside	12	Section Office	ASBESTOS	<0.0004	0 - 0.001	0	0	0.0004	2736.0	40	385	0.4026	DW	4/26/01
			NON-ASBESTOS	0.003	0.002 - 0.006	10								
			Richterite	<0.0004	0 - 0.001	0								
			Winchite	0.001	0.000 - 0.003	3								
			TOTAL	0.004	0.002 - 0.009	13								
010470-03 Outside	13	Decon Chamber (Clean Room)	ASBESTOS	0.001	0.000 - 0.002	2	5	0.0003	2971.0	40	385	0.4026	DW	4/27/01
			NON-ASBESTOS	0.011	0.008 - 0.015	35								
			Richterite	<0.001	0.000 - 0.001	0								
			Winchite	0.001	0.000 - 0.002	2								
			TOTAL	0.012	0.008 - 0.019	39								
010470-04 Outside	14	HEPA Vacuum Room	ASBESTOS	NOT ANALYZED										
			NON-ASBESTOS											
			Richterite											
			Winchite											
			TOTAL											

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Vamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010470 *Report Date:* April 27, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	Apr 26, 2001	*By:*	DI
Prep:	Apr 26, 2001	*By:*	MH
Verified:	Apr 26, 2001	*By:*	MH
Reviewed:	Apr 27, 2001	*By:*	DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010470-05	15	Negative Air Exhaust	ASBESTOS	<0.0003	0 - 0.001	0	0	0.0003	2977.0	40	385	0.4026	DW	4/27/01
Outside			NON-ASBESTOS	0.002	0.001 - 0.004	6								
			Richterite	<0.0003	0 - 0.001	0								
			Winchite	<0.0003	0 - 0.001	0								
			TOTAL	0.002	0.001 - 0.004	6								
010470-06	16	Storage Garage	ASBESTOS	0.0003	0.000 - 0.002	1	4	0.0003	2977.0	40	385	0.4026	DW	4/27/01
Outside			NON-ASBESTOS	0.008	0.005 - 0.011	24								
			Richterite	<0.0003	0 - 0.001	0								
			Winchite	0.002	0.001 - 0.004	5								
			TOTAL	0.0103	0.006 - 0.017	30								
010470-07	17	Blank	ASBESTOS	0	NA - NA	0	0	NA	0	40	385	0.4026	DW	4/26/01
Blank			NON-ASBESTOS	0	NA - NA	1								
			Richterite	0	NA - NA	0								
			Winchite	0	NA - NA	0								
			TOTAL	0	NA - NA	1								
010470-08	18	Tim Dyer - HEPA Vacuum	ASBESTOS	<0.041	0 - 0.153	0	0	0.041	66.0	40	385	0.1409	DW	4/26/01
Inside			NON-ASBESTOS	0.497	0.257 - 0.868	12								
			Richterite	<0.041	0 - 0.153	0								
			Winchite	<0.041	0 - 0.153	0								
			TOTAL	0.497	0.257 - 0.868	12								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010470 *Report Date:* April 27, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Apr 26, 2001	*By:* DI
Prep:	Apr 26, 2001	*By:* MH
Verified:	Apr 26, 2001	*By:* MH
Reviewed:	Apr 27, 2001	*By:* DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min Aspect Ratio:	3:1
Min. Length:	5 µm
Min Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010470-09	18	Tim Dyer - HEPA Vacuum	ASBESTOS	<0.005	0 - 0.020	0	0	0.005	350.0	20	385	0.2013	DW	4/26/01
Inside			NON-ASBESTOS	0.115	0.066 - 0.164	21								
			Richterite	<0.005	0 - 0.020	0								
			Winchite	0.022	0.006 - 0.056	4								
			TOTAL	0.137	0.072 - 0.220	25								
010470-10	20	Tim Dyer - HEPA Vacuum	ASBESTOS	0.006	0.000 - 0.033	1	5	0.006	323.0	20	385	0.2013	DW	4/26/01
Inside			NON-ASBESTOS	0.107	0.063 - 0.168	18								
			Richterite	<0.006	0 - 0.020	0								
			Winchite	0.012	0.000 - 0.043	2								
			TOTAL	0.125	0.063 - 0.244	21								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Chain of Custody Record

Lab/Cor, Inc.
7619 6th Avenue NW
Seattle, WA 98117

(206) 781-0155 (office)
(206) 789-8424 (fax)
mail@labcor.net
www.labcor.net

Client: EMR, Inc.
Address: 2509 152nd AVE NE SUITE E
City, State, Zip: REDMOND, WA 98052
Contact: DAVID L. WELCH
Phone: 425-861-4561 Fax: 425-867-7820
Other info/Special Instructions:
Mostly clear, wind S 0-20mph, Low 40°, High 80°.

Analytical Protocol:
- ____ AHERA
- ____ Mod. EPA II
- ____ TEM Bulk, Semi-quant.
- X NIOSH 7402
- ____ NIOSH 7500
- ____ ASTM Surface Dust
- Other ____

Requested Turnaround Time:
- ____ 7 days
- ____ 5 days
- ____ 3 days
- ____ 48 hours
- X 24 hours
- ____ 12 hours
- ____ 6 hours

Project Name: LIBBY, MT SECTION HOUSE Project No.: 5242.01 P.O. No.: ____

Sample No.	Sample Description	Date	Time			LPM			Volume	IWA?	OWA?	Blank?
			On	Off	Total	Begin	End	Avg				
1. 21	Blank	4-25-01	—	—	—	—	—	—	—	—	—	Yes
2. 22	Section office		0623	1438	495	5.5	5.3	5.4	2673		X	
3. 23	Signal office/shop		0623	1438	495	4.0	3.6	3.8	1881		X	
4. 24	Decon chamber (clean room)		0625	1449	504	5.6	5.0	5.3	2671		X	
5. 25	HEPA vacuum room		0625	1449	504	5.6	5.2	5.4	2722		X	
6. 26	Storage garage		0628	1439	471	6.1	5.3	5.7	2799		X	
7. 27	Negative air exhaust		0628	1439	491	6.3	6.0	6.2	3044		X	
8. 28	Jake Graham – HEPA vacuum		0617	0647	30	2.2	2.2	2.2	66	X		
9. 29	Jake Graham – HEPA vacuum		0647	1106	259	2.2	2.2	2.2	570	X		
10. 30	Jake Graham – HEPA vacuum		12:23	1436	133	2.2	2.2	2.2	293	X		
11.												
12.												
13.												

Relinquished by:	Received by:	Date:	Time:
Scott Rhen	4-26-01	4-26-01	

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010479

Report Date: April 29, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Apr 27, 2001	*By:* DJ
Prep:	Apr 27, 2001	*By:* MH
Verified:	Apr 27, 2001	*By:* MH
Reviewed:	Apr 29, 2001	*By:* DN

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

LabCor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (fibers/cc)	95% Confidence Interval (fibers/cc)	Fibr. Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (fibers/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010479-10	21	Blank	ASBESTOS	NA	NA - NA	0	NA	NA		40	385	0.4026	DN	4/28/01
			NON-ASBESTOS	NA	NA - NA	0								
Blank			Richterite	NA	NA - NA	0								
			Winchite	NA	NA - NA	0								
			TOTAL	NA	NA - NA	0								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010479 *Report Date:* April 29, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Apr 27, 2001	*By:* DI
Prep:	Apr 27, 2001	*By:* MH
Verified:	Apr 27, 2001	*By:* MH
Reviewed:	Apr 29, 2001	*By:* DN

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (fibers/cc)	95% Confidence Interval (fibers/cc)	Fibr. Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (fibers/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010479-01	22	Section Office	ASBESTOS	0.001	0.000 - 0.003	2	8	0.000	2873.0	40	385	0.4026	DW	4/27/01
			NON-ASBESTOS	0.008	0.005 - 0.012	21								
Outside			Richterite		0.000 - 0.003	0								
			Winchite	0.001	0.000 - 0.003	2								
			TOTAL	0.009	0.006 - 0.012	25								
010479-02	23	Signal Office/Shop	ASBESTOS	<0.001	0 - 0.002	0	0	0.001	1881.0	40	385	0.4026	DW	4/27/01
			NON-ASBESTOS	0.006	0.003-0.011	12								
Outside			Richterite	0.001	0.000 - 0.003	1								
			Winchite		0 - 0.002	0								
			TOTAL	0.007	0.004 - 0.011	13								
010479-03	24	Decon Chamber (Clean Room)	ASBESTOS	<0.000	0 - 0.001	0	0	0.000	2671.0	40	386	0.4026	DW	4/27/01
			NON-ASBESTOS	0.003	0.001 - 0.006	9								
Outside			Richterite		0 - 0.001	0								
			Winchite		0 - 0.001	0								
			TOTAL	0.003	0.001 - 0.006	9								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010479 *Report Date:* April 29, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	Apr 27, 2001	*By:*	DJ
Prep:	Apr 27, 2001	*By:*	MH
Verified:	Apr 27, 2001	*By:*	MH
Reviewed:	Apr 29, 2001	*By:*	DN

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concen-tration (fibers/cc)	95% Confidence Interval (fibers/cc)	Fibr. Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (fibers/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010479-04 Outside	25	HEPA Vacuum Room	ASBESTOS	NOT ANALYZED										
			NON-ASBESTOS											
			TOTAL											
010479-05 Outside	26	Storage Garage	ASBESTOS	0.000	0.000 - 0.002	1	7	0.000	2799.0	40	385	0.4026	DW	4/27/01
			NON-ASBESTOS	0.004	0.002 - 0.006	12								
			Richterite		0.000 - 0.002	0								
			Winchite	0.001	0.000 - 0.002	2								
			TOTAL	0.005	0.003 - 0.008	15								
010479-06 Outside	27	Negative Air Exhaust	ASBESTOS	<0.000	0 - 0.001	0	0	0.000	3044.0	40	385	0.4026	DW	4/27/01
			NON-ASBESTOS	0.000	0.000 - 0.002	1								
			Richterite		0 - 0.001	0								
			Winchite		0 - 0.001	0								
			TOTAL	0.000	0.000 - 0.002	1								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010479 *Report Date:* April 29, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	Apr 27, 2001	*By:*	DJ
Prep:	Apr 27, 2001	*By:*	MH
Verified:	Apr 27, 2001	*By:*	MH
Reviewed:	Apr 29, 2001	*By:*	DN

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (fibers/cc)	95% Confidence Interval (fibers/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (fibers/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010479-07	28	Jake Graham - HEPA Vacuum	ASBESTOS	<0.014	0 - 0.053	0	0	0.014	66.0	40	385	0.4026	DN	4/28/01
Inside			NON-ASBESTOS	0.043	0.009 - 0.127	3								
			Richterite		0 - 0.053	0								
			Winchite		0 - 0.053	0								
			TOTAL	0.043	0.009 - 0.127	3								
010479-08	29	Jake Graham - HEPA Vacuum	ASBESTOS	0.002	0.000 - 0.009	1	7	0.002	570.0	40	385	0.4326	DN	4/28/01
Inside			NON-ASBESTOS	0.011	0.007 - 0.027	7								
			Richterite	0.003	0.000 - 0.012	2								
			Winchite	0.006	0.002 - 0.016	4								
			TOTAL	0.022	0.012 - 0.037	14								
010479-09	30	Jake Graham - HEPA Vacuum	ASBESTOS	0.003	0.000 - 0.015	1	4	0.003	293.0	40	385	0.4731	DN	4/28/01
Inside			NON-ASBESTOS	0.036	0.028 - 0.077	13								
			Richterite	0.014	0.005 - 0.033	5								
			Winchite	0.011	0.003 - 0.029	4								
			TOTAL	0.064	0.038 - 0.090	23								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Chain of Custody Record

Lab/Cor, Inc.
7619 6th Avenue NW
Seattle, WA 98117

(206) 781-0155 (office)
(206) 789-8424 (fax)
mail@labcor.net
www.labcor.net

Client: EMR, Inc.
Address: 2509 152nd Ave NE, Suite E
City, State, Zip: Redmond, WA 98502
Contact: David Welch
Phone: (425) 861-4561 Fax: (425) 869-7820
Other info/Special Instructions:

Analytical Protocol:
- ____ AHERA
- ____ Mod. EPA II
- ____ TEM Bulk, Semi-quant.
- X NIOSH 7402
- ____ NIOSH 7500
- ____ ASTM Surface Dust
- Other ____

Requested Turnaround Time:
- ____ 7 days
- ____ 5 days
- ____ 3 days
- ____ 48 hours
- X 24 hours
- ____ 12 hours
- ____ 6 hours

Project Name: Libby, MT Section House Project No.: 5242.01 P.O. No.:

Sample No.	Sample Description	Date	Time			LPM			Volume	IWA?	OWA?	Blank?
			On	Off	Total	Begin	End	Avg				
1. 31	Blank	4-26-01	—	—	—	—	—	—	—	—	—	Yes
2. 32	Section Office		0638	1133	295	7.0	7.4	7.2	2124		X	
3. 33	Signal Office/shop		0638	1133	295	3.5	3.8	3.7	1092		X	
4. 34	Decon. chamber (clean room)		0640	1138	298	9.0	10.0	9.5	2831		X	
5. 35	HEPA vacuum room		0640	1138	298	9.3	10.0	9.7	2891		X	
6. 36	Storage garage		0641	1131	290	7.0	7.8	7.4	2146		X	
7. 37	Negative air exhaust		0641	1131	290	6.4	6.4	6.4	1856		X	
8. 38	T. Dyer - clean		0651	0721	30	2.2	2.2	2.2	66	X		
9. 39	T. Dyer - clean		0721	1107	226	2.2	2.2	2.2	497	X		
10.												
11.												
12.												
13.												

Relinquished by:	Received by:	Date:	Time:
Scott Rhu		4-30-01	

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010490

Report Date: May 2, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.01
P. O No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	May 1, 2001	*By:*	DJ
Prep:	May 1, 2001	*By:*	MH
Verified:	May 1, 2001	*By:*	MH
Reviewed:	May 2, 2001	*By:*	DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010490-09	31	Blank	ASBESTOS	0	NA - NA	0	0	NA	0	40	385	0.4026	DW	5/2/01
			NON-ASBESTOS	0	NA - NA	0								
Blank			Richterite Winchite	0	NA - NA	0								
			TOTAL											

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010490

Report Date: May 2, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	May 1, 2001	*By:* DJ
Prep:	May 1, 2001	*By:* MH
Verified:	May 1, 2001	*By:* MH
Reviewed:	May 2, 2001	*By:* DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010490-01 Outside	32	Section Office	ASBESTOS	<0.0004	0 - 0.002	0	0	0.0004	2124.0	40	385	0.4328	DN	5/1/01
			NON-ASBESTOS	0.004	0.002 - 0.006	10								
			Richterite	0.0004	0 - 0.002	1								
			Winchite	<0.0004	0 - 0.002	0								
			TOTAL	0.0044	0.002 - 0.010	11								
010490-02 Outside	33	Signal Office / Shop	ASBESTOS	<0.001	0 - 0.003	0	0	0.001	1092.0	40	385	0.4026	DN	5/1/01
			NON-ASBESTOS	0.002	0.000 - 0.006	2								
			Richterite	<0.001	0 - 0.003	0								
			Winchite	<0.001	0 - 0.003	0								
			TOTAL	0.002	0.000 - 0.006	2								
010490-03 Outside	34	Decon Chamber (Clean Room)	ASBESTOS	<0.0003	0 - 0.001	0	0	0.0003	2831.0	40	385	0.4127	DN	5/1/01
			NON-ASBESTOS	0.003	0.002 - 0.006	10								
			Richterite	<0.0003	0 - 0.001	0								
			Winchite	<0.0003	0 - 0.001	0								
			TOTAL	0.003	0.002 - 0.006	10								
010490-04 Outside	35	HEPA Vacuum Room	ASBESTOS	0.001	0.000 - 0.003	3	21	0.0003	2891.0	40	385	0.4026	JH	5/1/01
			NON-ASBESTOS	0.004	0.002 - 0.007	11								
			Richterite	0.0003	0.000 - 0.002	2								
			Winchite	0.002	0.001 - 0.004	6								
			TOTAL	0.0073	0.003 - 0.016	22								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010490

Report Date: May 2, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	May 1, 2001	*By:* DI
Prep:	May 1, 2001	*By:* MH
Verified:	May 1, 2001	*By:* MH
Reviewed:	May 2, 2001	*By:* DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010490-05 Outside	36	Storage Garage	ASBESTOS	<0.0005	0 - 0.002	0	0	0.0005	2146.0	40	385	0.4026	JH	5/2/01
			NON-ASBESTOS	0.002	0.000 - 0.005	4								
			Richterite	<0.0005	0 - 0.002	0								
			Winchite	<0.0005	0 - 0.002	0								
			TOTAL	0.002	0.000 - 0.005	4								
010490-06 Outside	37	Negative Air Exhaust	ASBESTOS	<0.001	0 - 0.002	0	0	0.001	1856.0	40	385	0.4026	JH	5/2/01
			NON-ASBESTOS	0.001	0.000 - 0.004	2								
			Richterite	<0.001	0 - 0.002	0								
			Winchite	<0.001	0 - 0.002	0								
			TOTAL	0.001	0.000 - 0.004	2								
010490-07 Inside	38	T Dyer - Clean	ASBESTOS	<0.014	0 - 0.053	0	0	0.014	68.0	40	385	0.4026	DW	5/2/01
			NON-ASBESTOS	0.072	0.023 - 0.169	5								
			Richterite	<0.014	0 - 0.053	0								
			Winchite	0.029	0.004 - 0.105	2								
			TOTAL	0.101	0.027 - 0.274	7								
010490-08 Inside	39	T Dyer - Clean	ASBESTOS	<0.002	0 - 0.007	0	0	0.002	497.0	40	385	0.4026	DW	5/2/01
			NON-ASBESTOS	0.010	0.003 - 0.022	5								
			Richterite	<0.002	0 - 0.007	0								
			Winchite	<0.002	0 - 0.007	0								
			TOTAL	0.010	0.003 - 0.022	5								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Chain of Custody Record

Lab/Cor, Inc.
7619 6th Avenue NW
Seattle, WA 98117

(206) 781-0155 (office)
(206) 789-8424 (fax)
mail@labcor.net
www.labcor.net

Client: EMR, Inc
Address: 2509 152nd Ave NE, Suite E
City, State, Zip: Redmond, WA 98052
Contact: David Welch
Phone: (425) 861-4561 Fax: (425) 867-7820
Other info/Special Instructions:

Analytical Protocol:
- ____ AHERA
- ____ Mod. EPA II
- ____ TEM Bulk, Semi-quant.
- X NIOSH 7402
- ____ NIOSH 7500
- ____ ASTM Surface Dust
- Other ____

Requested Turnaround Time:
- ____ 7 days
- ____ 5 days
- ____ 3 days
- ____ 48 hours
- ____ 24 hours
- ____ 12 hours
- X 6 hours

Project Name: Libby, MT Section House Project No.: 5242.01 P.O. No.:

Sample No.	Sample Description	Date	Time			LPM			Volume	IWA?	OWA?	Blank?
			On	Off	Total	Begin	End	Avg				
1. 40	Clearance - North center of attic	4-26-01	1153	1423	150	10.3	10.0	10.2	1530	X		
2. 41	Clearance - West end of attic		1153	1423	150	10.5	10.1	10.3	1545	X		
3. 42	Clearance - Southwest side of attic		1153	1423	150	10.1	9.9	10.0	1500	X		
4. 43	Clearance - South center of attic		1153	1423	150	10.0	10.0	10.0	1500	X		
5. 44	Clearance - Southeast corner, attic		1153	1423	150	10.0	9.9	10.0	1500	X		
6. 45	Blank		–	–	–	–	–	–	–	–	–	Yes
7.												
8.												
9.												
10.												
11.												
12.												
13.												

Relinquished by:	Received by:	Date:	Time:
Scott [illegible]		4-26-01	

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010478 *Report Date:* April 27, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Apr 27, 2001	*By:* DJ
Prep:	Apr 27, 2001	*By:* MH
Verified:	Apr 27, 2001	*By:* MH
Reviewed:	Apr 27, 2001	*By:* DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010478-01 Inside	40	Clearance	ASBESTOS	<0.001	0 - 0.002	0	0	0.001	1530.0	40	385	0.4026	JH	4/27/01
			NON-ASBESTOS	0.004	0.001 - 0.008	6								
			Richterite	<0.001	0 - 0.002	0								
			Winchite	<0.001	0 - 0.002	0								
			TOTAL	0.004	0.001 - 0.008	6								
010478-02 Inside	41	Clearance	ASBESTOS	<0.001	0 - 0.002	0	0	0.001	1545.0	40	385	0.4026	JH	4/27/01
			NON-ASBESTOS	0.004	0.001 - 0.008	6								
			Richterite	<0.001	0 - 0.002	0								
			Winchite	<0.001	0 - 0.002	0								
			TOTAL	0.004	0.001 - 0.008	6								
010478-03 Inside	42	Clearance	ASBESTOS	<0.001	0 - 0.002	0	0	0.001	1600.0	40	385	0.4026	DW	4/27/01
			NON-ASBESTOS	0.006	0.003 - 0.012	10								
			Richterite	<0.001	0 - 0.002	0								
			Winchite	<0.001	0 - 0.002	0								
			TOTAL	0.006	0.003 - 0.012	10								
010478-04 Inside	43	Clearance	ASBESTOS	<0.001	0 - 0.002	0	0	0.001	1500.0	40	385	0.4026	DW	4/27/01
			NON-ASBESTOS	0.001	0.000 - 0.005	2								
			Richterite	<0.001	0 - 0.002	0								
			Winchite	<0.001	0 - 0.002	0								
			TOTAL	0.001	0.000 - 0.005	2								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010478

Report Date: April 27, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Apr 27, 2001	*By:* DJ
Prep:	Apr 27, 2001	*By:* MH
Verified:	Apr 27, 2001	*By:* MH
Reviewed:	Apr 27, 2001	*By:* DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010478-05	44	Clearance	ASBESTOS	<0.001	0 - 0.002	0	0	0.001	1500.0	40	385	0.4026	DW	4/27/01
Inside			NON-ASBESTOS	0.006	0.003 - 0.011	9								
			Richterite	<0.001	0 - 0.002	0								
			Winchite	<0.001	0 - 0.002	0								
			TOTAL	0.006	0.003 - 0.011	9								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Chain of Custody Record

Lab/Cor, Inc.
7619 6th Avenue NW
Seattle, WA 98117

(206) 781-0155 (office)
(206) 789-8424 (fax)
mail@labcor.net
www.labcor.net

Client: EMR, Inc.
Address: 2509 152nd Ave NE, Suite E
City, State, Zip: Redmond, WA 98502
Contact: David Welch
Phone: (425) 861-4561 Fax: (425) 869-7820
Other info/Special Instructions:

Analytical Protocol:
- ____ AHERA
- ____ Mod. EPA II
- ____ TEM Bulk, Semi-quant.
- X NIOSH 7402
- ____ NIOSH 7500
- ____ ASTM Surface Dust
- Other ____

Requested Turnaround Time:
- ____ 7 days
- ____ 5 days
- ____ 3 days
- ____ 48 hours
- X 24 hours
- ____ 12 hours
- ____ 6 hours

Project Name: Libby, MT Section House Project No.: 5242.03 P.O. No.:

Sample No.	Sample Description	Date	Time			LPM			Volume	IWA?	OWA?	Blank?
			On	Off	Total	Begin	End	Avg				
1. 1	Brian Burnhard	4-26-01	1513	1628	75	2.2	2.2	2.2	165	X		
2. 2	Center of west storage room	↓	1516	1628	72	9.8	10.0	9.9	713	X		
3. 3	Blank	↓	—	—	—	—	—	—	—			Yes
4.												
5.												
6.												
7.												
8.												
9.												
10.												
11.												
12.												
13.												

Relinquished by:	Received by:	Date:	Time:
Scott Rler		4-30-01	

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010487 *Report Date:* May 2, 2001

Client Information	
Project Name:	BNSF Libby, MT Section House
Project No.:	5242.03
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	May 1, 2001	*By:* DJ
Prep:	May 1, 2001	*By:* MH
Verified:	May 1, 2001	*By:* MH
Reviewed:	May 2, 2001	*By:* DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010487-01	1	Brian Burnhand	ASBESTOS	<0.006	0 - 0.021	0	0	0.006	165.0	40	385	0.4026	DW	5/1/01
			NON-ASBESTOS	0.064	0.032 - 0.114	11								
Test			Richterite	<0.006	0 - 0.021	0								
			Winchite	<0.006	0 - 0.021	0								
			TOTAL	0.064	0.032 - 0.114	11								
010487-02	2	Center of West Storage Room	ASBESTOS	<0.003	0 - 0.010	0	0	0.003	713.0	39	385	0.2013	DW	5/1/01
			NON-ASBESTOS	0.070	0.043 - 0.097	26								
Test			Richterite	<0.003	0 - 0.010	0								
			Winchite	<0.003	0 - 0.010	0								
			TOTAL	0.070	0.043 - 0.097	26								
010487-03	3	Blank	ASBESTOS	0	NA - NA	0	0	NA	0	40	385	0.4026	DW	5/1/01
			NON-ASBESTOS	0	NA - NA	1								
Blank			Richterite	0	NA - NA	0								
			Winchite	0	NA - NA	0								
			TOTAL	0	NA - NA	1								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

01048700.tem

Chain of Custody Record

Lab/Cor, Inc.
7619 6th Avenue NW
Seattle, WA 98117

(206) 781-0155 (office)
(206) 789-8424 (fax)
mail@labcor.net
www.labcor.net

Client: EMR, Inc.
Address: 2509 152nd Ave NE, Suite E
City, State, Zip: Redmond, WA 98502
Contact: David Welch
Phone: (425) 861-4561 Fax: (425) 869-7820
Other info/Special Instructions:

Analytical Protocol:
- ____ AHERA
- ____ Mod. EPA II
- ____ TEM Bulk, Semi-quant.
- X NIOSH 7402
- ____ NIOSH 7500
- ____ ASTM Surface Dust
- Other ____

Requested Turnaround Time:
- ____ 7 days
- ____ 5 days
- ____ 3 days
- ____ 48 hours
- X 24 hours
- ____ 12 hours
- ____ 6 hours

Project Name: Libby, MT Section House Project No.: 5242.03 P.O. No.:

Sample No.	Sample Description	Date	Time			LPM			Volume	IWA?	OWA?	Blank?
			On	Off	Total	Begin	End	Avg				
1. 4	Blank	4-27-01	–	–	–	–	–	–	–			yes
2. 5	Koll Carlsteen - clean	↓	0750	1138	228	2.3	2.3	2.3	524	x		
3. 6	Koll Carlsteen - clean	↓	1246	1625	219	2.3	2.3	2.3	504	x		
4. 7	Center of west storage room	↓	0750	1139	229	7.0	6.9	7.0	1603	x		
5. 8	Center of west storage room	↓	1249	1625	216	6.9	6.9	6.9	1490	x		
6. 9	Dan Broderius - clean sweeper and tamper	↓	1319	1611	172	2.5	2.5	2.5	430	x		
7.												
8.												
9.												
10.												
11.												
12.												
13.												

Relinquished by:	Received by:	Date:	Time:
Scott Rker		4-30-01	

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010488 *Report Date:* May 2, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.03
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	May 1, 2001	*By:*	DJ
Prep:	May 1, 2001	*By:*	MH
Verified:	May 1, 2001	*By:*	MH
Reviewed:	May 2, 2001	*By:*	DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

LabCor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010488-01	5	Koll Carlsleen - clean	ASBESTOS	<0.002	0 - 0.007	0	0	0.002	524.0	40	385	0.4026	DW	5/1/01
			NON-ASBESTOS	0.009	0.003 - 0.021	5								
Test			Richterite	<0.002	0 - 0.007	0								
			Winchite	<0.002	0 - 0.007	0								
			TOTAL	0.009	0.003 - 0.021	5								
010488-02	6	Koll Carlsleen - clean	ASBESTOS	<0.002	0 - 0.007	0	0	0.002	504.0	40	385	0.4026	DW	5/1/01
			NON-ASBESTOS	<0.002	0 - 0.007	0								
Test			Richterite	<0.002	0 - 0.007	0								
			Winchite	<0.002	0 - 0.007	0								
			TOTAL	<0.002	0 - 0.007	0								
010488-03	7	Center of West Storage Room	ASBESTOS	<0.001	0 - 0.002	0	0	0.001	1603.0	40	385	0.4026	DW	5/1/01
			NON-ASBESTOS	0.008	0.005 - 0.014	14								
Test			Richterite	<0.001	0 - 0.002	0								
			Winchite	<0.001	0 - 0.002	0								
			TOTAL	0.008	0.005 - 0.014	14								
010488-04	8	Center of West Storage Room	ASBESTOS	<0.001	0 - 0.002	0	0	0.001	1499.0	40	385	0.4026	DW	5/1/01
			NON-ASBESTOS	0.003	0.001 - 0.007	4								
Test			Richterite	<0.001	0 - 0.002	0								
			Winchite	<0.001	0 - 0.002	0								
			TOTAL	0.003	0.001 - 0.007	4								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010488

Report Date: May 2, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.03
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	May 1, 2001	*By:* DJ
Prep:	May 1, 2001	*By:* MH
Verified:	May 1, 2001	*By:* MH
Reviewed:	May 2, 2001	*By:* DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010488-05	9	Dan Broderius - Clean Sweeper	ASBESTOS	<0.002	0 - 0.008	0	0	0.002	430.0	40	385	0.4026	DW	5/1/01
			NON-ASBESTOS	0.013	0.005 - 0.029	6								
Test			Richterite	<0.002	0 - 0.008	0								
			Winchite	<0.002	0 - 0.008	0								
			TOTAL	0.013	0.005 - 0.029	6								
010488-06	4	Blank	ASBESTOS	0	NA - NA	0	0	NA	0	40	385	0.4026	DW	5/1/01
			NON-ASBESTOS	0	NA - NA	1								
Blank			Richterite	0	NA - NA	0								
			Winchite	0	NA - NA	0								
			TOTAL	0	NA - NA	1								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Chain of Custody Record

Lab/Cor, Inc.
7619 6th Avenue NW
Seattle, WA 98117

(206) 781-0155 (office)
(206) 789-8424 (fax)
mail@labcor.net
www.labcor.net

Client: EMR, Inc.
Address: 2509 152nd Ave NE, Suite E
City, State, Zip: Redmond, WA 98502
Contact: David Welch
Phone: (425) 861-4561 Fax: (425) 869-7820
Other info/Special Instructions:

Analytical Protocol:
- ____ AHERA
- ____ Mod. EPA II
- ____ TEM Bulk, Semi-quant.
- X NIOSH 7402
- ____ NIOSH 7500
- ____ ASTM Surface Dust
- Other ____

Requested Turnaround Time:
- ____ 7 days
- ____ 5 days
- ____ 3 days
- ____ 48 hours
- X 24 hours
- ____ 12 hours
- ____ 6 hours

Project Name: Libby, MT Section House Project No.: 5242.03 P.O. No.:

Sample No.	Sample Description	Date	Time On	Time Off	Time Total	LPM Begin	LPM End	LPM Avg	Volume	IWA?	OWA?	Blank?
1. 10	center of west storage room	4-28-01	0734	1622	528	7.4	7.8	7.6	4013	X		
2. 11	Brian Burnhard - clean	↓	0734	1414	400	2.5	2.5	2.5	1000	X		
3. 12	center of section office	↓	0752	1623	511	8.5	8.8	8.7	4446	X		
4. 13	Blank	↓	—	—	—	—	—	—	—			Yes
5.												
6.												
7.												
8.												
9.												
10.												
11.												
12.												
13.												

Relinquished by:	Received by:	Date:	Time:
Scott Klem		4-30-01	

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010489 *Report Date:* May 2, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.03
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	May 1, 2001	*By:* DJ
Prep:	May 1, 2001	*By:* MH
Verified:	May 1, 2001	*By:* MH
Reviewed:	May 2, 2001	*By:* DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed [mm²]	Analyst	Analysis Date
010489-01	10	Center of West Storage Room	ASBESTOS	<0.0002	0 - 0.001	0	0	0.0002	4013.0	40	385	0.4026	DW	5/1/01
			NON-ASBESTOS	0.004	0.003 - 0.007	18								
Test			Richterite	<0.0002	0 - 0.001	0								
			Winchite	<0.0002	0 - 0.001	0								
			TOTAL	0.004	0.003 - 0.007	18								
010489-02	11	Brian Burnhand - Clean	ASBESTOS	<0.001	0 - 0.004	0	0	0.001	1000.0	40	385	0.4026	DW	5/1/01
			NON-ASBESTOS	0.010	0.005 - 0.018	10								
Test			Richterite	<0.001	0 - 0.004	0								
			Winchite	<0.001	0 - 0.004	0								
			TOTAL	0.010	0.005 - 0.018	10								
010489-03	12	Center Section of Office	ASBESTOS	<0.0002	0 - 0.001	0	0	0.0002	4446.0	40	385	0.4026	DW	5/1/01
			NON-ASBESTOS	0.002	0.001 - 0.003	7								
Test			Richterite	<0.0002	0 - 0.001	0								
			Winchite	<0.0002	0 - 0.001	0								
			TOTAL	0.002	0.001 - 0.003	7								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Chain of Custody Record

Lab/Cor, Inc.
7619 6th Avenue NW
Seattle, WA 98117

(206) 781-0155 (office)
(206) 789-8424 (fax)
mail@labcor.net
www.labcor.net

Client: EMR, Inc.
Address: 2509 152nd Ave NE, Suite E
City, State, Zip: Redmond, WA 98502
Contact: David Welch
Phone: (425) 861-4561 Fax: (425) 869-7820
Other info/Special Instructions:

Analytical Protocol:
- ____ AHERA
- ____ Mod. EPA II
- ____ TEM Bulk, Semi-quant.
- X NIOSH 7402
- ____ NIOSH 7500
- ____ ASTM Surface Dust
- Other ____

Requested Turnaround Time:
- ____ 7 days
- ____ 5 days
- ____ 3 days
- ____ 48 hours
- X 24 hours
- ____ 12 hours
- ____ 6 hours

Project Name: Libby, MT Section House Project No.: 5242.03 P.O. No.:

Sample No.	Sample Description	Date	Time On	Time Off	Time Total	LPM Begin	LPM End	LPM Avg	Volume	IWA?	OWA?	Blank?
1. 14	Blank	4-30-01	—	—	—	—	—	—	—	—	—	Yes
2. 15	Center of signal office/shop	↓	0738	1625	527	2.0	2.8	2.4	3900	X		
3. 16	Dan Broderius - clean	↓	0740	1630	530	2.5	2.5	2.5	1325	X		
4. 17	Dan Broderius - clean	↓	1600	1630	30	2.5	2.5	2.5	75	X		
5.												
6.												
7.												
8.												
9.												
10.												
11.												
12.												
13.												

Relinquished by:	Received by:	Date:	Time:
Scott Rhen		5-2-01	

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010499 *Report Date:* May 3, 2001

Client Information	
Project Name:	Libby, MT Section House
Project No.:	5242.03
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	May 3, 2001	*By:* RS
Prep:	May 3, 2001	*By:* MH
Verified:	May 3, 2001	*By:* MH
Reviewed:	May 3, 2001	*By:* DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010499-01	14	Blank	ASBESTOS	0	NA - NA	0	0	NA	0	40	385	0.4026	DW	5/3/01
			NON-ASBESTOS	0	NA - NA	1								
Blank			Richterite	0	NA - NA	0								
			Winchite	0	NA - NA	0								
			TOTAL	0	NA - NA	1								
010499-02	15	Center of Signal Office	ASBESTOS	0.0003	0.000 - 0.001	1	5	0.0003	3900.0	40	385	0.4026	DW	5/3/01
			NON-ASBESTOS	0.005	0.003 - 0.007	21								
Test			Richterite	<0.0003	0.000 - 0.001	0								
			Winchite	<0.0003	0.000 - 0.001	0								
			TOTAL	0.0053	0.003 - 0.008	22								
010499-03	16	Dan Broderius-Jean	ASBESTOS	<0.0007	0.000 - 0.002	0	8	0.0007	1325.0	40	385	0.4026	DW	5/3/01
			NON-ASBESTOS	0.009	0.004 - 0.016	12								
Test			Richterite	0.0007	0.000 - 0.004	1								
			Winchite	<0.0007	0.000 - 0.002	0								
			TOTAL	0.0097	0.004 - 0.019	13								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable: For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010499

Report Date: May 3, 2001

Client Information	
Project Name:	Libby, MT Section House
Project No.:	5242.03
P. O No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	May 3, 2001	*By:* RS
Prep.	May 3, 2001	*By:* MH
Verified:	May 3, 2001	*By:* MH
Reviewed:	May 3, 2001	*By:* DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – *Air Sample Analysis*

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010499-04	17	Dan Broderius-Jean	ASBESTOS	<0.013	0 - 0.047	0	0	0.013	75.0	40	385	0.4026	DW	5/3/01
Test			NON-ASBESTOS	0.013	0.000 - 0.071	1								
			Richterite	<0.013	0 - 0.047	0								
			Winchite	<0.013	0 - 0.047	0								
			TOTAL	0.013	0.000 - 0.071	1								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

01049901.tem

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010500

Report Date: May 4, 2001

Client Information	
Project Name:	Libby, MT Section House
Project No.:	5242.01
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	May 3, 2001	*By:* RS
Prep:	May 3, 2001	*By:* MH
Verified:	May 3, 2001	*By:* MH
Reviewed:	May 4, 2001	*By:* DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010500-01 Blank	18	Blank	ASBESTOS	0	NA - NA	0	0	NA	0	40	385	0.4026	DW	5/3/01
			NON-ASBESTOS	0	NA - NA	1								
			Richterite	0	NA - NA	0								
			Winchite	0	NA - NA	0								
			TOTAL	0	NA - NA	1								
010500-02 Test	19	Center of Signal Office/Shop	ASBESTOS	<0.0005	0 - 0.002	0	0	0.0005	1939.0	40	385	0.4026	DW	5/4/01
			NON-ASBESTOS	0.013	0.008 - 0.018	27								
			Richterite	<0.0005	0 - 0.002	0								
			Winchite	<0.0005	0 - 0.002	0								
			TOTAL	0.013	0.008 - 0.018	27								
010500-03 Test	20	Koll Carlstoen	ASBESTOS	<0.001	0 - 0.003	0	0	0.001	1300.0	40	385	0.4026	DW	5/4/01
			NON-ASBESTOS	0.009	0.005 - 0.015	12								
			Richterite	<0.001	0 - 0.003	0								
			Winchite	<0.001	0 - 0.003	0								
			TOTAL	0.009	0.005 - 0.015	12								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the *representative* fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a *factor to determine* asbestos concentrations from PCM counts in similar sampling areas.

NA – *Not* Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as *would other* TEM airborne analysis methods (AHERA, EPA - Yamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010500

Report Date: May 4, 2001

Client Information	
Project Name:	Libby, MT Section House
Project No.:	5242.03
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	May 3, 2001	*By:* RS
Prep:	May 3, 2001	*By:* MH
Verified:	May 3, 2001	*By:* MH
Reviewed:	May 4, 2001	*By:* DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No	Client Sample No.	Description	Fiber Type	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010500-04	21	Koll Carlsteen	ASBESTOS	<0.170	0 - 0.627	0	0	0.170	75.0	40	385	0.0302	DW	5/4/01
			NON-ASBESTOS	0.340	0.041 - 1.227	2								
Test			Richterite	<0.170	0 - 0.627	0								
			Winchite	<0.170	0 - 0.627	0								
			TOTAL	0.340	0.041 - 1.227	2								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

010517

Chain of Custody Record

Lab/Cor, Inc.
7619 6th Avenue NW
Seattle, WA 98117

(206) 781-0155 (office)
(206) 789-8424 (fax)
mail@labcor.net
www.labcor.net

Client: EMR, Inc.
Address: 2509 152nd Ave NE, Suite E
City, State, Zip: Redmond, WA 98502
Contact: David Welch
Phone: (425) 861-4561 Fax: (425) 869-7820
Other info/Special Instructions:

Analytical Protocol:
- ____ AHERA
- ____ Mod. EPA II
- ____ TEM Bulk, Semi-quant.
- X NIOSH 7402
- ____ NIOSH 7500
- ____ ASTM Surface Dust
- Other ____

Requested Turnaround Time:
- ____ 7 days
- ____ 5 days
- ____ 3 days
- ____ 48 hours
- X 24 hours
- ____ 12 hours
- ____ 6 hours

Project Name: Libby, MT Section House Project No.: 5242.03 P.O. No.:

	Sample No.	Sample Description	Date	Time On	Time Off	Time Total	LPM Begin	LPM End	LPM Avg	Volume	IWA?	OWA?	Blank?
-03	1. 22	Blank	5-2-01	—	—	—	—	—	—	—			Yes
-01	2. 23	Center of signal office/shop	↓	0732	1628	536	5.5	6.2	5.9	3162	X		
-02	3. 24	Kell Carlstom - clean	↓	0732	1628	536	2.5	2.5	2.5	1340	X		
	4.												
	5.												
	6.												
	7.												
	8.												
	9.												
	10.												
	11.												
	12.												
	13.												

Relinquished by:	Received by:	Date:	Time:
Scott Kler		5-9-01	
	DJ	5:8:01	9:30

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010517 *Report Date:* May 8, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.03
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	May 8, 2001	*By:*	DJ
Prep:	May 8, 2001	*By:*	MH
Verified:	May 8, 2001	*By:*	MH
Reviewed:	May 8, 2001	*By:*	DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010517-01	23	Center of Signal Office / Shop	ASBESTOS	<0.0003	0 - 0.001	0	0	0.0003	3162.0	39	385	0.3926	DW	5/8/01
Inside			NON-ASBESTOS	0.004	0.002 - 0.007	12								
			Richterite	0.0003	0 - 0.002	1								
			Winchite	<0.0003	0 - 0.001	0								
			TOTAL	0.004	0.002 - 0.009	13								
010517-02	24	Koll Carlsteen - Clean	ASBESTOS	<0.001	0 - 0.003	0	0	0.001	1340.0	40	385	0.4026	DW	5/8/01
Inside			NON-ASBESTOS	0.011	0.007 - 0.019	16								
			Richterite	<0.001	0 - 0.003	0								
			Winchite	<0.001	0 - 0.003	0								
			TOTAL	0.011	0.007 - 0.019	16								
010517-03	22	Blank	ASBESTOS	0	NA - NA	0	0	NA	0	40	385	0.4026	DW	5/8/01
Blank			NON-ASBESTOS	0	NA - NA	2								
			Richterite	0	NA - NA	0								
			Winchite	0	NA - NA	0								
			TOTAL	0	NA - NA	2								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Chain of Custody Record

Lab/Cor, Inc.
7619 6th Avenue NW
Seattle, WA 98117

(206) 781-0155 (office)
(206) 789-8424 (fax)
mail@labcor.net
www.labcor.net

Client: EMR, Inc.
Address: 2509 152nd Ave NE, Suite E
City, State, Zip: Redmond, WA 98502
Contact: David Welch
Phone: (425) 861-4561 Fax: (425) 869-7820
Other info/Special Instructions:

Analytical Protocol:
- ____ AHERA
- ____ Mod. EPA II
- ____ TEM Bulk, Semi-quant.
- X NIOSH 7402
- ____ NIOSH 7500
- ____ ASTM Surface Dust
- Other ____

Requested Turnaround Time:
- ____ 7 days
- ____ 5 days
- ____ 3 days
- ____ 48 hours
- X 24 hours
- ____ 12 hours
- ____ 6 hours

Project Name: Libby, MT Section House Project No.: 5242.03 P.O. No.:

Sample No.	Sample Description	Date	Time			LPM			Volume	IWA?	OWA?	Blank?
			On	Off	Total	Begin	End	Avg				
1. 25	Blank	5-3-01	08—	—	—	—	—	—	—	—	—	Yes
2. 26	Center of signal office/shop	↓	0836	1623	467	5.9	6.0	5.9	2755	X		
3. 27	Mike Carlson - clean		0837	0907	30	2.8	2.8	2.8	84	X		
4. 28	Mike Carlson - clean		0907	1150	163	2.8	2.8	2.8	456	X		
5. 29	Mike Carlson - clean	↓	1256	1624	208	2.8	2.8	2.8	582	X		
6.												
7.												
8.												
9.												
10.												
11.												
12.												
13.												

Relinquished by:	Received by:	Date:	Time:
Scott Klar		5-4-01	

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010518

Report Date: May 8, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.03
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	May 8, 2001	*By:*	DJ
Prep:	May 8, 2001	*By:*	MH
Verified:	May 8, 2001	*By:*	MH
Reviewed:	May 8, 2001	*By:*	DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concen-tration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
010518-05	25	Blank	ASBESTOS	0	NA - NA	0	0	NA	0	40	385	0.4026	OW	5/8/01
			NON-ASBESTOS	0	NA - NA	0								
Blank			Richterite	0	NA - NA									
			Winchite	0	NA - NA									
			TOTAL	0	NA - NA	0								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010518 *Report Date:* May 8, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.03
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	May 8, 2001	*By:*	DJ
Prep:	May 8, 2001	*By:*	MH
Verified:	May 8, 2001	*By:*	MH
Reviewed:	May 8, 2001	*By:*	DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concen-tration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010518-01	26	Center of Signal Office / Shop	ASBESTOS	0.001	0.000 - 0.003	2	12	0.0004	2755.0	40	385	0.4026	DW	5/8/01
Inside			NON-ASBESTOS	0.005	0.003 - 0.009	15								
			Richterite	0.0004	0.000 - 0.001	0								
			Winchite	0.0004	0.000 - 0.001	0								
			TOTAL	0.006	0.003 - 0.009	17								
010518-02	27	Mike Carlson - Clean	ASBESTOS	<0.011	0 - 0.041	0	0	0.011	84.0	41	385	0.4127	DW	5/8/01
Inside			NON-ASBESTOS	0.056	0.018 - 0.130	5								
			Richterite	<0.011	0 - 0.041	0								
			Winchite	<0.011	0 - 0.041	0								
			TOTAL	0.056	0.018 - 0.130	5								
010518-03	28	Mike Carlson - Clean	ASBESTOS	<0.002	0 - 0.008	0	0	0.002	456.0	40	385	0.4026	DW	5/8/01
Inside			NON-ASBESTOS	0.013	0.005 - 0.027	6								
			Richterite	<0.002	0 - 0.008	0								
			Winchite	<0.002	0 - 0.008	0								
			TOTAL	0.013	0.005 - 0.027	6								
010518-04	29	Mike Carlson - Clean	ASBESTOS	<0.002	0 - 0.006	0	0	0.002	582.0	40	385	0.4026	DW	5/8/01
Inside			NON-ASBESTOS	0.003	0.000 - 0.012	2								
			Richterite	<0.002	0 - 0.006	0								
			Winchite	<0.002	0 - 0.006	0								
			TOTAL	0.003	0.000 - 0.012	2								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Chain of Custody Record

Lab/Cor, Inc.
7619 6th Avenue NW
Seattle, WA 98117

(206) 781-0155 (office)
(206) 789-8424 (fax)
mail@labcor.net
www.labcor.net

Client: EMR, Inc.
Address: 2509 152nd Ave NE, Suite E
City, State, Zip: Redmond, WA 98502
Contact: David Welch
Phone: (425) 861-4561 Fax: (425) 869-7820
Other info/Special Instructions:

Analytical Protocol:
- ____ AHERA
- ____ Mod. EPA II
- ____ TEM Bulk, Semi-quant.
- X NIOSH 7402
- ____ NIOSH 7500
- ____ ASTM Surface Dust
- Other ____

Requested Turnaround Time:
- ____ 7 days
- ____ 5 days
- ____ 3 days
- ____ 48 hours
- X 24 hours
- ____ 12 hours
- ____ 6 hours

Project Name: Libby, MT Section House Project No.: 5242.03 P.O. No.:

Sample No.	Sample Description	Date	Time On	Time Off	Time Total	LPM Begin	LPM End	LPM Avg	Volume	IWA?	OWA?	Blank?
1. 30	Blank	5-4-01	–	–	–	–	–	–	–			Yes
2. 31	Center of East storage room	↓	0845	1625	460	3.8	4.1	4.0	1840	X		
3. 32	Andy Ernesons – clean	↓	0843	1205	202	2.8	2.8	2.8	566	X		
4. 33	Andy Ernesons – clean	↓	1307	1627	200	2.8	2.8	2.8	560	X		
5.												
6.												
7.												
8.												
9.												
10.												
11.												
12.												
13.												

Relinquished by:	Received by:	Date:	Time:
Scott Rhen		5-7-01	

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010519

Report Date: May 9, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.03
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	May 8, 2001	*By:*	DJ
Prep:	May 8, 2001	*By:*	MH
Verified:	May 8, 2001	*By:*	MH
Reviewed:	May 9, 2001	*By:*	DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concen-tration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010519-04	30	Blank	ASBESTOS	0	NA - NA	0	0	NA	0	40	385	0.4026	DN	5/8/01
			NON-ASBESTOS	0	NA - NA	0								
Blank			Richterite	0	NA - NA	0								
			Winchite	0	NA - NA	0								
			TOTAL	0	NA - NA	0								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010519 *Report Date:* May 9, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.03
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	May 8, 2001	*By:*	DJ
Prep:	May 8, 2001	*By:*	MH
Verified:	May 8, 2001	*By:*	MH
Reviewed:	May 9, 2001	*By:*	DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concen-tration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010519-01	31	Center of East Storage Room	ASBESTOS	<0.001	0 - 0.002	0	0	0.001	1840.0	40	385	0.4026	DN	5/8/01
			NON-ASBESTOS	0.001	0.000 - 0.004	2								
Inside			Richterite	<0.001	0 - 0.002	0								
			Winchite	<0.001	0 - 0.002	0								
			TOTAL	0.001	0.000 - 0.004	2								
010519-02	32	Andy Emesons - Clean	ASBESTOS	<0.002	0 - 0.006	0	0	0.002	566.0	40	385	0.4026	DN	5/8/01
			NON-ASBESTOS	0.002	0 - 0.006	0								
Inside			Richterite	<0.002	0 - 0.006	0								
			Winchite	0.002	0.000 - 0.009	1								
			TOTAL	0.002	0.000 - 0.009	1								
010519-03	33	Andy Emesons - Clean	ASBESTOS	<0.002	0 - 0.006	0	0	0.002	560.0	40	385	0.4026	DN	5/8/01
			NON-ASBESTOS	0.002	0.000 - 0.010	1								
Inside			Richterite	<0.002	0 - 0.006	0								
			Winchite	<0.002	0 - 0.006	0								
			TOTAL	0.002	0.000 - 0.010	1								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

010520

Chain of Custody Record

Lab/Cor, Inc.
7619 6th Avenue NW
Seattle, WA 98117

(206) 781-0155 (office)
(206) 789-8424 (fax)
mail@labcor.net
www.labcor.net

Client: EMR, Inc.
Address: 2509 152nd Ave NE, Suite E
City, State, Zip: Redmond, WA 98502
Contact: David Welch
Phone: (425) 861-4561 Fax: (425) 869-7820
Other info/Special Instructions:

Analytical Protocol:
- ____ AHERA
- ____ Mod. EPA II
- ____ TEM Bulk, Semi-quant.
- X NIOSH 7402
- ____ NIOSH 7500
- ____ ASTM Surface Dust
- Other ____

Requested Turnaround Time:
- ____ 7 days
- ____ 5 days
- ____ 3 days
- ____ 48 hours
- X 24 hours
- ____ 12 hours
- ____ 6 hours

Project Name: Libby, MT Section House Project No.: 5242.03 P.O. No.:

	Sample No.	Sample Description	Date	Time On	Time Off	Time Total	LPM Begin	LPM End	LPM Avg	Volume	IWA?	OWA?	Blank?
-03	1. 34	Blank	5-5-01	—	—	—	—	—	—	—			Yes
-01	2. 35	Center of signal office/shop	↓	0818	1228	250	6.2	6.4	6.3	1575	X		
-02	3. 36	Center of west storage room	↓	0820	1220	240	7.0	7.3	7.2	1728	X		
	4.												
	5.												
	6.												
	7.												
	8.												
	9.												
	10.												
	11.												
	12.												
	13.												

Relinquished by:	Received by:	Date:	Time:
Scott Rhodes		5-7-01	
	DJ	5-8-01	9:30

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 010520

Report Date: May 9, 2001

Client Information	
Project Name:	BNSF Libby MT Section House
Project No.:	5242.03
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	May 8, 2001	*By:*	DJ
Prep:	May 8, 2001	*By:*	MH
Verified:	May 8, 2001	*By:*	MH
Reviewed:	May 9, 2001	*By:*	DW

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

PRELIMINARY TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concen-tration (Fiber/cc)	95% Confidence Interval (Fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (Fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
010520-01	35	Center of Signal Office / Shop	ASBESTOS	0.001	0.000 - 0.003	1	6	0.001	1575.0	40	385	0.4026	DW	5/9/01
Inside			NON-ASBESTOS	0.009	0.005 - 0.015	15								
			Richterite	<0.001	0.000 - 0.002	0								
			Winchite	<0.001	0.000 - 0.002	0								
			TOTAL	0.010	0.006 - 0.016	16								
010520-02	36	Center of West Storage Room	ASBESTOS	<0.001	0 - 0.002	0	0	0.001	1728.0	40	385	0.4026	DW	5/9/01
Inside			NON-ASBESTOS	0.005	0.002 - 0.009	9								
			Richterite	<0.001	0 - 0.002	0								
			Winchite	<0.001	0 - 0.002	0								
			TOTAL	0.005	0.002 - 0.009	9								
010520-03	34	Blank	ASBESTOS	0	NA - NA	0	0	NA	0	40	385	0.4026	DW	5/9/01
Blank			NON-ASBESTOS	0	NA - NA	1								
			Richterite	0	NA - NA	0								
			Winchite	0	NA - NA	0								
			TOTAL	0	NA - NA	1								

% Optically Visible Asbestos Fibers = (#Asbestos / #Total Fibers). This number indicates the representative fraction of asbestos to total fibers as defined by NIOSH 7400 standards and can be used as a factor to determine asbestos concentrations from PCM counts in similar sampling areas.

NA – Not Applicable. For samples in which no fiber types are found, percentage values do not apply.

NOTE: These counting rules are intended to coincide with NIOSH 7400 counting rules and do not measure smaller asbestos fiber populations below 5.0 µm lengths as would other TEM airborne analysis methods (AHERA, EPA - Yamate).

Appendix F

BNSF Asbestos-Containing Materials Database – Libby, Montana, Query

BUILDING INFORMATION

Facility	LIBBY		
Building Name	DEPOT	Number of Floors	1
Client Code	BNRR	Approx Floor Are	2944
Construction Date	1940S	Bldg Const Type	WOOD FRAME
Original Owner	BNRR	Floor Const Matl	CONCRETE
Building Number		Floor Covering	9" FLOOR TILE
Bldg Address		Roofing Material	ASPHALT SHINGLE
Latitude	48.39454	Roof Construction	WOOD
Longitude	115.5488	Ceiling Materia	1' X 2' CEILING TILE
Bldg Status	SOLD	Exterior Wall	PLASTER
Existing Plan	FIELD SKETCH	Interior Wall	WOOD & PLASTER

INSPECTION HISTORY

Start Date	End Date	Project Name	Project Number	Inspector Name
10/20/1994	10/20/1994	INITIAL INSPECTION		
9/22/1997	9/22/1997	REINSPECTION	2662.07	JANET WILSON
1/15/2001	1/15/2001	REINSPECTION	5053.01	DAVID WELCH
11/6/2001	11/6/2001	VERMICULITE INSPECTION	5410.001-2	CLYDE CORKILL

Back

Samples | Insulation | Uses | Next | Previous

Notices | Renovations | Owners | Add Building | Delete Building

BUILDING INFORMATION

Facility	LIBBY
Building Name	SCALE HOUSE
Client Code	BNRR
Construction Date	UNKNOWN
Original Owner	BNRR
Building Number	
Bldg Address	BNSF YARD UNDER OVERPASS
Latitude	48.39518
Longitude	115.54829
Bldg Status	DEMO
Existing Plan	FIELD SKETCH

Number of Floors	1
Approx Floor Are	96
Bldg Const Type	WOOD FRAME
Floor Const Matl	CONCRETE
Floor Covering	NONE
Roofing Material	ASPHALT SHINGLE
Roof Construction	WOOD
Ceiling Materia	PLYWOOD
Exterior Wall	WOOD
Interior Wall	PLYWOOD

INSPECTION HISTORY

Start Date	End Date	Project Name	Project Number	Inspector Name
10/20/1994	10/20/1994	INITIAL INSPECTION		
11/6/2001	11/6/2001	VERMICULITE INSPECTION	5410.001-2	CLYDE CORKILL
9/2/2004	9/2/2004	DESIGN	5539.005	SCOTT RHEN
9/20/2004	9/20/2004	REMOVAL	5539.005	SCOTT RHEN

Back

Samples | Insulation | Uses | Next | Previous

Notices | Renovations | Owners | Add Building | Delete Building

BUILDING INFORMATION

Facility	LIBBY
Building Name	SECTION HOUSE
Client Code	BNSF
Construction Date	1950S
Original Owner	BNRR
Building Number	
Bldg Address	510 WEST 1ST STREET
Latitude	48.3964
Longitude	115.55384
Bldg Status	IN-PLACE
Existing Plan	FIELD SKETCH

Number of Floors	1
Approx Floor Are	1316
Bldg Const Type	STEEL FRAME
Floor Const Matl	CONCRETE
Floor Covering	NONE
Roofing Material	METAL
Roof Construction	METAL
Ceiling Materia	METAL
Exterior Wall	METAL
Interior Wall	METAL

INSPECTION HISTORY

Start Date	End Date	Project Name	Project Number	Inspector Name
3/21/2001	3/21/2001	INITIAL INSPECTION	5242.01	DAVID WELCH
4/26/2001	4/26/2001	REMOVAL	5242.01	SCOTT RHEN
11/6/2001	11/6/2001	VERMICULITE INSPECTION	5410.001-2	CLYDE CORKILL

Back

Samples | Insulation | Uses | Next | Previous

Notices | Renovations | Owners | Add Building | Delete Building

BUILDING INFORMATION

Facility	LIBBY
Building Name	TOOL HOUSE
Client Code	BNRR
Construction Date	1950S
Original Owner	BNRR
Building Number	
Bldg Address	510 WEST 1ST STREET
Latitude	48.39647
Longitude	115.55417
Bldg Status	IN-PLACE
Existing Plan	FIELD SKETCH

Number of Floors	1
Approx Floor Are	90
Bldg Const Type	METAL
Floor Const Matl	CONCRETE
Floor Covering	NONE
Roofing Material	METAL
Roof Construction	METAL
Ceiling Materia	WOOD
Exterior Wall	METAL
Interior Wall	WOOD

INSPECTION HISTORY

Start Date	End Date	Project Name	Project Number	Inspector Name
10/20/1994	10/20/1994	INITIAL INSPECTION		
11/6/2001	11/6/2001	VERMICULITE INSPECTION	5410.001-2	CLYDE CORKILL

Back

Samples | Insulation | Uses | Next | Previous

Notices | Renovations | Owners | Add Building | Delete Building

BUILDING INFORMATION REPORT

Facility:	**LIBBY**	**Building Name:**	**DEPOT**
City:	LIBBY, MT	**Building Number:**	

Construction Date:	1940S		
Original Owner:	BNRR	**Bldg Const Type:**	WOOD FRAME
Location Marker:		**Floor Const Matl:**	CONCRETE
Latitude:	48.39454	**Floor Covering:**	9" FLOOR TILE
Longitude:	115.5488	**Roofing:**	ASPHALT SHINGLE
Bldg Status:	SOLD	**Roof Construction:**	WOOD
Existing Plans:	FIELD SKETCH	**Ceiling:**	1' X 2' CEILING TILE
Number of Floors:	1	**Exterior Wall:**	PLASTER
Approx Floor Area:	2944	**Interior Wall:**	WOOD & PLASTER

BUILDING INSULATION

BUILDING USES

Use	Percent of Total Area
OFFICES	50
STORAGE	50

BUILDING RENOVATIONS

BUILDING OWNERS

INSPECTION HISTORY

Start Date	End Date	Project Name	Project No.	Inspector Name	Inspection Reason
10/20/1994	10/20/1994	INITIAL INSPECTION			
9/22/1997	9/22/1997	REINSPECTION	2662.07	JANET WILSON	
1/15/2001	1/15/2001	REINSPECTION	5053.01	DAVID WELCH	
11/6/2001	11/6/2001	VERMICULITE INSPECTI	5410.001-2	CLYDE CORKILL	SYSTEM-WIDE INSPECTION

HOMOGENEOUS AREAS

Number	Description	General Area	ACM Type	Percent
LIB-DP-01	9" FLOOR TILE/MASTIC	PASSENGER AND CLERK AREA	CHRYSOTILE	15
LIB-DP-02	9" FLOOR TILE/MASTIC	PASSENGER & CLERK AREA	CHRYSOTILE	9
LIB-DP-03	12" X 24" CEILING TILE	PASSENGER & CLERK AREA	NON-ACM	
LIB-DP-04	PLASTER	EXTERIOR (UPPER HALF)	NON-ACM	

BUILDING INFORMATION REPORT

Facility:	**LIBBY**	**Building Name:**	**DEPOT**
City:	LIBBY, MT	**Building Number:**	

LIB-DP-05	ASPHALT SHINGLES	ROOF	NON-ACM
LIB-DP-06	VINYL FLOORING	ROOM NEXT TO BOILER ROOM	NON-ACM
LIB-DP-900	INSULATION	BOILER JACKET	ASSUMED ACM
LIMT-DPB-701	PLASTER	EXTERIOR	NON-ACM
LIMT-DPB-702	PLASTER	EXTERIOR	NON-ACM

Homogeneous Physical Assessment Report

Location

State: MT **Facility:** LIBBY **Building Name:** DEPOT

Homogeneous Area Description

Description: 9" FLOOR TILE/MASTIC
General Area: PASSENGER AND CLERK AREA
Category: MISC **Class:** N.F. I
Color: RED **Amount:** 720 S.F.
Material Status: SOLD **Date Removed:**

Damage Assessment

Condition Assessment: DAMAGED
Percent Damage: <10%
Extent Damage: DISTRIBUTED
Physical Damage: LIGHT
Water Damage: NONE
Deterioration: LIGHT
Vibration: LIGHT

Exposure Factors

Visible: >10%
Accessibility: NONE
Barriers: NO
Activity: HEAVY
Ventilation: NO
Air Erosion: NO

Sample Result

Sample Number: LIB-DP-01 **Sample Date:** 10/20/1994
Asbestos Type: CHRYSOTILE **Percent:** 15

Signed:		AHERA No.:
		State Certification No.:
Signed:		AHERA No.:
		State Certification No.:

Homogeneous Physical Assessment Report

Location

State: MT **Facility:** LIBBY **Building Name:** DEPOT

Homogeneous Area Description

Description: 9" FLOOR TILE/MASTIC
General Area: PASSENGER & CLERK AREA
Category: MISC **Class:** N.F. I
Color: WHITE **Amount:** 720 S.F.
Material Status: SOLD **Date Removed:**

Damage Assessment

Condition Assessment: DAMAGED
Percent Damage: <10%
Extent Damage: DISTRIBUTED
Physical Damage: LIGHT
Water Damage: NONE
Deterioration: LIGHT
Vibration: LIGHT

Exposure Factors

Visible: >10%
Accessibility: NONE
Barriers: NO
Activity: HEAVY
Ventilation: NO
Air Erosion: NO

Sample Result

Sample Number: LIB-DP-02 **Sample Date:** 10/20/1994
Asbestos Type: CHRYSOTILE **Percent:** 9

Signed:		AHERA No.:
		State Certification No.:
Signed:		AHERA No.:
		State Certification No.:

Homogeneous Physical Assessment Report

Location

State: MT **Facility:** LIBBY **Building Name:** DEPOT

Homogeneous Area Description

Description: INSULATION
General Area: BOILER JACKET
Category: TSI **Class:** FRI.
Color: WHITE **Amount:** 20 L.F.
Material Status: SOLD **Date Removed:**

Damage Assessment

Condition Assessment: GOOD
Percent Damage:
Extent Damage:
Physical Damage:
Water Damage:
Deterioration:
Vibration:

Exposure Factors

Visible:
Accessibility:
Barriers:
Activity:
Ventilation:
Air Erosion:

Sample Result

Sample Number: LIB-DP-900 **Sample Date:** 10/20/1994
Asbestos Type: ASSUMED ACM **Percent:**

Signed:		AHERA No.:
		State Certification No.:
Signed:		AHERA No.:
		State Certification No.:

ASBESTOS CONTAINING MATERIALS SUMMARY

State: MT **City: LIBBY** **Facility: LIBBY**

Building Name: DEPOT

Latitude: 48.39454 **Longitude: 115.5488**

Inspection Date: 10/20/1994

Sample Number	Description	General Area	Class	Amount	Units	Condition	Asbestos Type	Status
LIB-DP-01	9" FLOOR TILE/MASTIC	PASSENGER AND CLERK AREA	N.F. I	720	S.F.	DAMAGED	CHRYSOTILE	SOLD
LIB-DP-02	9" FLOOR TILE/MASTIC	PASSENGER & CLERK AREA	N.F. I	720	S.F.	DAMAGED	CHRYSOTILE	SOLD
LIB-DP-03	12" X 24" CEILING TILE	PASSENGER & CLERK AREA	N/A	0	S.F.	N/A	NON-ACM	SOLD
LIB-DP-04	PLASTER	EXTERIOR (UPPER HALF)	N/A	0	S.F.	N/A	NON-ACM	SOLD
LIB-DP-05	ASPHALT SHINGLES	ROOF	N/A	0	S.F.	N/A	NON-ACM	SOLD
LIB-DP-06	VINYL FLOORING	ROOM NEXT TO BOILER ROOM	N/A	0	S.F.	N/A	NON-ACM	SOLD
LIB-DP-900	INSULATION	BOILER JACKET	FRI.	20	L.F.	GOOD	ASSUMED ACM	SOLD

Inspection Date: 9/22/1997

Sample Number	Description	General Area	Class	Amount	Units	Condition	Asbestos Type	Status
LIMT-DPB-701	PLASTER	EXTERIOR	N/A	0	S.F.	N/A	NON-ACM	SOLD
LIMT-DPB-702	PLASTER	EXTERIOR	N/A	0	S.F.	N/A	NON-ACM	SOLD

BUILDING INFORMATION REPORT

Facility:	**LIBBY**	**Building Name:**	**SCALE HOUSE**
City:	LIBBY, MT	**Building Number:**	

Construction Date:	UNKNOWN		
Original Owner:	BNRR	**Bldg Const Type:**	WOOD FRAME
Location Marker:	BNSF YARD UNDER OVERP	**Floor Const Matl:**	CONCRETE
Latitude:	48.39518	**Floor Covering:**	NONE
Longitude:	115.54829	**Roofing:**	ASPHALT SHINGLE
Bldg Status:	DEMO	**Roof Construction:**	WOOD
Existing Plans:	FIELD SKETCH	**Ceiling:**	PLYWOOD
Number of Floors:	1	**Exterior Wall:**	WOOD
Approx Floor Area:	96	**Interior Wall:**	PLYWOOD

BUILDING INSULATION

HVAC Code	HVAC Insulation
ELECTRIC HEATER	NONE

BUILDING USES

Use	Percent of Total Area
SCALES	100

BUILDING RENOVATIONS

BUILDING OWNERS

INSPECTION HISTORY

Start Date	End Date	Project Name	Project No.	Inspector Name	Inspection Reason
9/2/2004	9/2/2004	DESIGN	5539.005	SCOTT RHEN	
9/20/2004	9/20/2004	REMOVAL	5539.005	SCOTT RHEN	
10/20/1994	10/20/1994	INITIAL INSPECTION			
11/6/2001	11/6/2001	VERMICULITE INSPECTI	5410.001-2	CLYDE CORKILL	SYSTEM-WIDE INSPECTION

HOMOGENEOUS AREAS

Number	Description	General Area	ACM Type	Percent
LBMT-SCH-001	FIBERBOARD	NORTH INTERIOR WALL	NON-ACM	
LBMT-SCH-003	ASPHALT SHEETING	ROOFING TOP LAYER	NON-ACM	
LBMT-SCH-004	TAR PAPER	ROOF MIDDLE LAYER	NON-ACM	
LBMT-SCH-005	ASPHALT SHEETING	ROOF BOTTOM LAYER	NON-ACM	

BUILDING INFORMATION REPORT

Facility:	**LIBBY**	**Building Name:**	**SCALE HOUSE**
City:	LIBBY, MT	**Building Number:**	

LBMT-SCH-006	ASPHALT SEALANT	ROOF	NON-ACM	
LBMT-SCH-007	TAR SEALANT	ROOF	CHRYSOTILE	12
LBMT-SHB-002	WINDOW CAULKING	EXTERIOR WINDOWS	CHRYSOTILE	3
LIB-SC-01	SHINGLES	ROOF	NON-ACM	

Homogeneous Physical Assessment Report

Location

State: MT **Facility:** LIBBY **Building Name:** SCALE HOUSE

Homogeneous Area Description

Description: TAR SEALANT
General Area: ROOF
Category: MISC **Class:** N.F. I
Color: BLACK **Amount:** 40 S.F.
Material Status: REMOVED-DEMO **Date Removed:** 9/20/2004

Damage Assessment

Condition Assessment: DAMAGED
Percent Damage:
Extent Damage:
Physical Damage:
Water Damage:
Deterioration:
Vibration:

Exposure Factors

Visible:
Accessibility:
Barriers:
Activity:
Ventilation:
Air Erosion:

Sample Result

Sample Number: LBMT-SCH-007 **Sample Date:** 9/2/2004
Asbestos Type: CHRYSOTILE **Percent:** 12

Signed:		AHERA No.:
		State Certification No.:
Signed:		AHERA No.:
		State Certification No.:

Homogeneous Physical Assessment Report

Location

State: MT **Facility:** LIBBY **Building Name:** SCALE HOUSE

Homogeneous Area Description

Description: WINDOW CAULKING
General Area: EXTERIOR WINDOWS
Category: MISC **Class:** N.F. I
Color: WHITE **Amount:** 30 L.F.
Material Status: REMOVED/DEMO **Date Removed:** 9/20/2004

Damage Assessment

Condition Assessment: DAMAGED
Percent Damage:
Extent Damage:
Physical Damage:
Water Damage:
Deterioration:
Vibration:

Exposure Factors

Visible:
Accessibility:
Barriers:
Activity:
Ventilation:
Air Erosion:

Sample Result

Sample Number: LBMT-SHB-002 **Sample Date:** 9/2/2004
Asbestos Type: CHRYSOTILE **Percent:** 3

Signed:		AHERA No.:
		State Certification No.:
Signed:		AHERA No.:
		State Certification No.:

ASBESTOS CONTAINING MATERIALS SUMMARY

State: MT **City: LIBBY** **Facility: LIBBY**

Building Name: SCALE HOUSE

Latitude: 48.39518 **Longitude: 115.54829**

Inspection Date: 10/20/1994

Sample Number	Description	General Area	Class	Amount	Units	Condition	Asbestos Type	Status
LIB-SC-01	SHINGLES	ROOF	N/A	0	S.F.	N/A	NON-ACM	DEMO

Inspection Date: 7/11/2004

Sample Number	Description	General Area	Class	Amount	Units	Condition	Asbestos Type	Status
LBMT-SCH-003	ASPHALT SHEETING	ROOFING TOP LAYER	N/A	0	S.F.	N/A	NON-ACM	DEMO
LBMT-SCH-005	ASPHALT SHEETING	ROOF BOTTOM LAYER	N/A	0	S.F.	N/A	NON-ACM	DEMO
LBMT-SCH-006	ASPHALT SEALANT	ROOF	N/A	0	S.F.	N/A	NON-ACM	DEMO

Inspection Date: 9/2/2004

Sample Number	Description	General Area	Class	Amount	Units	Condition	Asbestos Type	Status
LBMT-SCH-001	FIBERBOARD	NORTH INTERIOR WALL	N/A	0	S.F.	N/A	NON-ACM	DEMO
LBMT-SCH-004	TAR PAPER	ROOF MIDDLE LAYER	N/A	0	S.F.	N/A	NON-ACM	DEMO
LBMT-SCH-007	TAR SEALANT	ROOF	N.F. I	40	S.F.	DAMAGED	CHRYSOTILE	REMOVED-DEMO 9/20/2004
LBMT-SHB-002	WINDOW CAULKING	EXTERIOR WINDOWS	N.F. I	30	L.F.	DAMAGED	CHRYSOTILE	REMOVED/DEMO 9/20/2004

BUILDING INFORMATION REPORT

Facility:	**LIBBY**	**Building Name:**	**SECTION HOUSE**
City:	LIBBY, MT	**Building Number:**	

Construction Date:	1950S		
Original Owner:	BNRR	**Bldg Const Type:**	STEEL FRAME
Location Marker:	510 WEST 1ST STREET	**Floor Const Matl:**	CONCRETE
Latitude:	48.3964	**Floor Covering:**	NONE
Longitude:	115.55384	**Roofing:**	METAL
Bldg Status:	IN-PLACE	**Roof Construction:**	METAL
Existing Plans:	FIELD SKETCH	**Ceiling:**	METAL
Number of Floors:	1	**Exterior Wall:**	METAL
Approx Floor Area:	1316	**Interior Wall:**	METAL

BUILDING INSULATION

HVAC Code	HVAC Insulation
FORCED AIR	FIBERGLASS

BUILDING USES

Use	Percent of Total Area
OFFICES	25
STORAGE	55
SHOP	20
BREAK/LOCKER ROOM	10

BUILDING RENOVATIONS

BUILDING OWNERS

INSPECTION HISTORY

Start Date	End Date	Project Name	Project No.	Inspector Name	Inspection Reason
3/21/2001	3/21/2001	INITIAL INSPECTION	5242.01	DAVID WELCH	
4/26/2001	4/26/2001	REMOVAL	5242.01	SCOTT RHEN	
11/6/2001	11/6/2001	VERMICULITE INSPECTI	5410.001-2	CLYDE CORKILL	SYSTEM-WIDE INSPECTION

HOMOGENEOUS AREAS

Number	Description	General Area	ACM Type	Percent
LIMT-SHB-001	VERMICULITE	ATTIC	NON-ACM	
LIMT-SHB-001A	VERMICULITE	ATTIC EAST END	ACTINOLITE	0.005
LIMT-SHB-002	VERMICULITE	ATTIC	NON-ACM	

BUILDING INFORMATION REPORT

Facility:	**LIBBY**	**Building Name:**	**SECTION HOUSE**
City:	LIBBY, MT	**Building Number:**	

LIMT-SHB-002A	VERMICULITE	FURNACE ROOM	TREMOLITE	0.03
LIMT-SHB-003	VERMICULITE	ATTIC	NON-ACM	
LIMT-SHB-003A	VERMICULITE	ATTIC CRAWL SPACE WEST END	NON-ACM	

Homogeneous Physical Assessment Report

Location

State: MT **Facility:** LIBBY **Building Name:** SECTION HOUSE

Homogeneous Area Description

Description: VERMICULITE
General Area: ATTIC EAST END
Category: N/A **Class:** N/A
Color: TAN **Amount:** 1008 S.F.
Material Status: REMOVED **Date Removed:** 4/26/2001

Damage Assessment

Condition Assessment:
Percent Damage:
Extent Damage:
Physical Damage:
Water Damage:
Deterioration:
Vibration:

Exposure Factors

Visible:
Accessibility:
Barriers:
Activity:
Ventilation:
Air Erosion:

Sample Result

Sample Number: LIMT-SHB-001A **Sample Date:** 3/13/2001
Asbestos Type: ACTINOLITE **Percent:** 0.005

Signed:		AHERA No.:
		State Certification No.:
Signed:		AHERA No.:
		State Certification No.:

Homogeneous Physical Assessment Report

Location

State: MT **Facility:** LIBBY **Building Name:** SECTION HOUSE

Homogeneous Area Description

Description: VERMICULITE
General Area: FURNACE ROOM
Category: N/A **Class:** N/A
Color: TAN **Amount:** 1008 S.F.
Material Status: REMOVED **Date Removed:** 4/26/2001

Damage Assessment

Condition Assessment:
Percent Damage:
Extent Damage:
Physical Damage:
Water Damage:
Deterioration:
Vibration:

Exposure Factors

Visible:
Accessibility:
Barriers:
Activity:
Ventilation:
Air Erosion:

Sample Result

Sample Number: LIMT-SHB-002A **Sample Date:** 3/13/2001
Asbestos Type: TREMOLITE **Percent:** 0.03

Signed:		AHERA No.:
		State Certification No.:
Signed:		AHERA No.:
		State Certification No.:

ASBESTOS CONTAINING MATERIALS SUMMARY

State: MT **City: LIBBY** **Facility: LIBBY**

Building Name: SECTION HOUSE

Latitude: 48.3964 **Longitude: 115.55384**

Inspection Date: 3/13/2001

Sample Number	Description	General Area	Class	Amount	Units	Condition	Asbestos Type	Status
LIMT-SHB-001	VERMICULITE	ATTIC	N/A	1008	S.F.	SIGNIFICANTLY DAMAGED	NON-ACM	REMOVED 4/26/2001
LIMT-SHB-001A	VERMICULITE	ATTIC EAST END	N/A	1008	S.F.		ACTINOLITE	REMOVED 4/26/2001
LIMT-SHB-002	VERMICULITE	ATTIC	N/A	1008	S.F.	SIGNIFICANTLY DAMAGED	NON-ACM	REMOVED 4/26/2001
LIMT-SHB-002A	VERMICULITE	FURNACE ROOM	N/A	1008	S.F.		TREMOLITE	REMOVED 4/26/2001
LIMT-SHB-003	VERMICULITE	ATTIC	N/A	1008	S.F.	SIGNIFICANTLY DAMAGED	NON-ACM	REMOVED 4/26/2001
LIMT-SHB-003A	VERMICULITE	ATTIC CRAWL SPACE WEST END	N/A	1008	S.F.		NON-ACM	REMOVED 4/26/2001

BUILDING INFORMATION REPORT

Facility:	**LIBBY**	**Building Name:**	**TOOL HOUSE**
City:	LIBBY, MT	**Building Number:**	

Construction Date:	1950S		
Original Owner:	BNRR	**Bldg Const Type:**	METAL
Location Marker:	510 WEST 1ST STREET	**Floor Const Matl:**	CONCRETE
Latitude:	48.39647	**Floor Covering:**	NONE
Longitude:	115.55417	**Roofing:**	METAL
Bldg Status:	IN-PLACE	**Roof Construction:**	METAL
Existing Plans:	FIELD SKETCH	**Ceiling:**	WOOD
Number of Floors:	1	**Exterior Wall:**	METAL
Approx Floor Area:	90	**Interior Wall:**	WOOD

BUILDING INSULATION

HVAC Code	HVAC Insulation
	FIBERGLASS

BUILDING USES

Use	Percent of Total Area
STORAGE	100

BUILDING RENOVATIONS

BUILDING OWNERS

INSPECTION HISTORY

Start Date	End Date	Project Name	Project No.	Inspector Name	Inspection Reason
10/20/1994	10/20/1994	INITIAL INSPECTION			
11/6/2001	11/6/2001	VERMICULITE INSPECTI	5410.001-2	CLYDE CORKILL	SYSTEM-WIDE INSPECTION

HOMOGENEOUS AREAS

Number	Description	General Area	ACM Type	Percent
LIMT-THB-000	NO SUSPECT MATERIALS	N/A	N/A	

Appendix G

BNSF Asbestos-Containing Materials Database – Troy, Montana, Query

BUILDING INFORMATION

Facility	TROY		
Building Name	SECTION/COMMUNICATION BUILDI	Number of Floors	1
Client Code	BNRR	Approx Floor Are	
Construction Date	UNKNOWN	Bldg Const Type	STEEL FRAME
Original Owner	BNRR	Floor Const Matl	CONCRETE
Building Number		Floor Covering	NONE
Bldg Address	YAAK AVENUE	Roofing Material	METAL
Latitude	48.46056	Roof Construction	METAL
Longitude	115.88779	Ceiling Materia	METAL
Bldg Status	IN-PLACE	Exterior Wall	METAL
Existing Plan	FIELD SKETCH	Interior Wall	METAL

INSPECTION HISTORY

Start Date	End Date	Project Name	Project Number	Inspector Name
10/20/1994	10/20/1994	INITIAL INSPECTION		
3/13/2001	3/13/2001	REINSPECTION	5243.01	DAVID WELCH
4/16/2001	4/16/2001	REMOVAL	5243.02	DAVID WELCH
11/6/2001	11/6/2001	VERMICULITE INSPECTION	5410.001-2	CLYDE CORKILL

Back

Samples | Insulation | Uses | Next | Previous

Notices | Renovations | Owners | Add Building | Delete Building

BUILDING INFORMATION

Facility	TROY		
Building Name	STORAGE (EAST)	Number of Floors	1
Client Code	BNRR	Approx Floor Are	96
Construction Date	1950S	Bldg Const Type	MASONRY
Original Owner	BNRR	Floor Const Matl	METAL & WOOD
Building Number		Floor Covering	NONE
Bldg Address	YAAK AVENUE	Roofing Material	METAL
Latitude	48.46023	Roof Construction	METAL
Longitude	115.88772	Ceiling Materia	METAL
Bldg Status	IN-PLACE	Exterior Wall	METAL
Existing Plan	FIELD SKETCH	Interior Wall	WOOD & METAL

INSPECTION HISTORY

Start Date	End Date	Project Name	Project Number	Inspector Name
10/20/1994	10/20/1994	INITIAL INSPECTION		
9/22/1997	9/22/1997	REINSPECTION	2662.07	JANET WILSON
1/15/2001	1/15/2001	REINSPECTION	5053.01	DAVID WELCH
11/6/2001	11/6/2001	VERMICULITE INSPECTION	5410.001-2	CLYDE CORKILL

Back

Samples | Insulation | Uses | Next | Previous

Notices | Renovations | Owners | Add Building | Delete Building

BUILDING INFORMATION

BUILDING INFORMATION REPORT

Facility:	**TROY**	**Building Name:**	**SECTION/COMMUNICATION BUILDING**
City:	TROY, MT	**Building Number:**	

Construction Date:	UNKNOWN		
Original Owner:	BNRR	**Bldg Const Type:**	STEEL FRAME
Location Marker:	YAAK AVENUE	**Floor Const Matl:**	CONCRETE
Latitude:	48.46056	**Floor Covering:**	NONE
Longitude:	115.88779	**Roofing:**	METAL
Bldg Status:	IN-PLACE	**Roof Construction:**	METAL
Existing Plans:	FIELD SKETCH	**Ceiling:**	METAL
Number of Floors:	1	**Exterior Wall:**	METAL
Approx Floor Area:		**Interior Wall:**	METAL

BUILDING INSULATION

HVAC Code	HVAC Insulation
	FIBERGLASS

BUILDING USES

Use	Percent of Total Area
STORAGE	100
OFFICES	100

BUILDING RENOVATIONS

BUILDING OWNERS

INSPECTION HISTORY

Start Date	End Date	Project Name	Project No.	Inspector Name	Inspection Reason
10/20/1994	10/20/1994	INITIAL INSPECTION			
3/13/2001	3/13/2001	REINSPECTION	5243.01	DAVID WELCH	
11/6/2001	11/6/2001	VERMICULITE INSPECTI	5410.001-2	CLYDE CORKILL	SYSTEM-WIDE INSPECTION
4/16/2001	4/16/2001	REMOVAL	5243.02	DAVID WELCH	

HOMOGENEOUS AREAS

Number	Description	General Area	ACM Type	Percent
TRMT-SHB-001A	VERMICULITE	W END OF ATTIC	ACTINOLITE	0.03
TRMT-SHB-001A	VERMICULITE	W END OF ATTIC	WINCHITE	0.31
TRMT-SHB-002A	VERMICULITE	CENTRAL ATTIC	WINCHITE	0.11

BUILDING INFORMATION REPORT

Facility:	**TROY**	**Building Name:**	**SECTION/COMMUNICATION BUILDING**
City:	TROY, MT	**Building Number:**	

TRMT-SHB-003A	VERMICULITE	EAST END OF ATTIC	ACTINOLITE	0.11
TROY-SS-01	TRANSITE	CEILING	CHRYSOTILE	35
TROY-SS-701	VERMICULITE	ABOVE CEILING	NON-ACM	
TROY-SS-702	VERMICULITE	ABOVE CEILING	NON-ACM	
TROY-SS-703	VERMICULITE	ABOVE CEILING	NON-ACM	

Homogeneous Physical Assessment Report

Location

State: MT **Facility:** TROY **Building Name:** SECTION/COMMUNICATION BUIL

Homogeneous Area Description

Description: VERMICULITE
General Area: W END OF ATTIC
Category: MISC **Class:** FRI.
Color: TAN **Amount:** 469 S.F.
Material Status: REMOVED **Date Removed:** 4/16/2001

Damage Assessment

Condition Assessment: N/A
Percent Damage:
Extent Damage:
Physical Damage:
Water Damage:
Deterioration:
Vibration:

Exposure Factors

Visible:
Accessibility:
Barriers:
Activity:
Ventilation:
Air Erosion:

Sample Result

Sample Number: TRMT-SHB-001A **Sample Date:** 3/13/2001
Asbestos Type: WINCHITE **Percent:** 0.31

Sample Result

Sample Number: TRMT-SHB-001A **Sample Date:** 3/13/2001
Asbestos Type: ACTINOLITE **Percent:** 0.03

Signed:		AHERA No.:
		State Certification No.:
Signed:		AHERA No.:
		State Certification No.:

Homogeneous Physical Assessment Report

Location

State: MT **Facility:** TROY **Building Name:** SECTION/COMMUNICATION BUIL

Homogeneous Area Description

Description: VERMICULITE
General Area: CENTRAL ATTIC
Category: MISC **Class:** FRI.
Color: TAN **Amount:** 469 S.F.
Material Status: REMOVED **Date Removed:** 4/16/2001

Damage Assessment

Condition Assessment: N/A
Percent Damage:
Extent Damage:
Physical Damage:
Water Damage:
Deterioration:
Vibration:

Exposure Factors

Visible:
Accessibility:
Barriers:
Activity:
Ventilation:
Air Erosion:

Sample Result

Sample Number: TRMT-SHB-002A **Sample Date:** 3/13/2001
Asbestos Type: WINCHITE **Percent:** 0.11

Signed:		AHERA No.:
		State Certification No.:
Signed:		AHERA No.:
		State Certification No.:

Homogeneous Physical Assessment Report

Location

State: MT **Facility:** TROY **Building Name:** SECTION/COMMUNICATION BUIL

Homogeneous Area Description

Description: VERMICULITE
General Area: EAST END OF ATTIC
Category: MISC **Class:** FRI.
Color: TAN **Amount:** 469 S.F.
Material Status: REMOVED **Date Removed:** 4/16/2001

Damage Assessment

Condition Assessment: N/A
Percent Damage:
Extent Damage:
Physical Damage:
Water Damage:
Deterioration:
Vibration:

Exposure Factors

Visible:
Accessibility:
Barriers:
Activity:
Ventilation:
Air Erosion:

Sample Result

Sample Number: TRMT-SHB-003A **Sample Date:** 3/13/2001
Asbestos Type: ACTINOLITE **Percent:** 0.11

Signed:		AHERA No.:
		State Certification No.:
Signed:		AHERA No.:
		State Certification No.:

Homogeneous Physical Assessment Report

Location

State: MT **Facility:** TROY **Building Name:** SECTION/COMMUNICATION BUIL

Homogeneous Area Description

Description: TRANSITE
General Area: CEILING
Category: MISC **Class:** N.F. II
Color: GREY **Amount:** 88 S.F.
Material Status: REMOVED **Date Removed:** 4/26/2001

Damage Assessment

Condition Assessment: DAMAGED
Percent Damage: <10%
Extent Damage:
Physical Damage: LIGHT
Water Damage: LIGHT
Deterioration: LIGHT
Vibration: LIGHT

Exposure Factors

Visible: >10%
Accessibility: ACCESSIBLE
Barriers: NO
Activity: LIGHT
Ventilation: NO
Air Erosion: NO

Sample Result

Sample Number: TROY-SS-01 **Sample Date:** 10/20/1994
Asbestos Type: CHRYSOTILE **Percent:** 35

Signed:		AHERA No.:
		State Certification No.:
Signed:		AHERA No.:
		State Certification No.:

ASBESTOS CONTAINING MATERIALS SUMMARY

State: MT **City: TROY** **Facility: TROY**

Building Name: SECTION/COMMUNICATION BUILDING

Latitude: 48.46056 **Longitude: 115.88779**

Inspection Date: 10/20/1994

Sample Number	Description	General Area	Class	Amount	Units	Condition	Asbestos Type	Status
TROY-SS-01	TRANSITE	CEILING	N.F. II	88	S.F.	DAMAGED	CHRYSOTILE	REMOVED 4/26/2001

Inspection Date: 12/26/2000

Sample Number	Description	General Area	Class	Amount	Units	Condition	Asbestos Type	Status
TROY-SS-701	VERMICULITE	ABOVE CEILING	FRI.	469	S.F.	DAMAGED	NON-ACM	REMOVED 4/16/2001
TROY-SS-702	VERMICULITE	ABOVE CEILING	FRI.	469	S.F.	DAMAGED	NON-ACM	REMOVED 4/16/2001
TROY-SS-703	VERMICULITE	ABOVE CEILING	FRI.	469	S.F.	DAMAGED	NON-ACM	REMOVED 4/16/2001

Inspection Date: 3/13/2001

Sample Number	Description	General Area	Class	Amount	Units	Condition	Asbestos Type	Status
TRMT-SHB-001A	VERMICULITE	W END OF ATTIC	FRI.	469	S.F.	N/A	WINCHITE	REMOVED 4/16/2001
TRMT-SHB-001A	VERMICULITE	W END OF ATTIC	FRI.	469	S.F.	N/A	ACTINOLITE	REMOVED 4/16/2001
TRMT-SHB-002A	VERMICULITE	CENTRAL ATTIC	FRI.	469	S.F.	N/A	WINCHITE	REMOVED 4/16/2001
TRMT-SHB-003A	VERMICULITE	EAST END OF ATTIC	FRI.	469	S.F.	N/A	ACTINOLITE	REMOVED 4/16/2001

BUILDING INFORMATION REPORT

Facility:	**TROY**	**Building Name:**	**STORAGE (EAST)**
City:	TROY, MT	**Building Number:**	

Construction Date:	1950S		
Original Owner:	BNRR	**Bldg Const Type:**	MASONRY
Location Marker:	YAAK AVENUE	**Floor Const Matl:**	METAL & WOOD
Latitude:	48.46023	**Floor Covering:**	NONE
Longitude:	115.88772	**Roofing:**	METAL
Bldg Status:	IN-PLACE	**Roof Construction:**	METAL
Existing Plans:	FIELD SKETCH	**Ceiling:**	METAL
Number of Floors:	1	**Exterior Wall:**	METAL
Approx Floor Area:	96	**Interior Wall:**	WOOD & METAL

BUILDING INSULATION

HVAC Code	HVAC Insulation
NONE	NONE

BUILDING USES

Use	Percent of Total Area
STORAGE	100

BUILDING RENOVATIONS

BUILDING OWNERS

INSPECTION HISTORY

Start Date	End Date	Project Name	Project No.	Inspector Name	Inspection Reason
10/20/1994	10/20/1994	INITIAL INSPECTION			
9/22/1997	9/22/1997	REINSPECTION	2662.07	JANET WILSON	
1/15/2001	1/15/2001	REINSPECTION	5053.01	DAVID WELCH	
11/6/2001	11/6/2001	VERMICULITE INSPECTI	5410.001-2	CLYDE CORKILL	SYSTEM-WIDE INSPECTION

BUILDING INFORMATION REPORT

Facility:	**TROY**	**Building Name:**	**STORAGE (WEST)**
City:	TROY, MT	**Building Number:**	

Construction Date:	1950S		
Original Owner:	BNRR	**Bldg Const Type:**	
Location Marker:	YAAK AVENUE	**Floor Const Matl:**	METAL & WOOD
Latitude:	48.46015	**Floor Covering:**	NONE
Longitude:	115.88783	**Roofing:**	METAL
Bldg Status:	IN-PLACE	**Roof Construction:**	METAL
Existing Plans:	FIELD SKETCH	**Ceiling:**	METAL
Number of Floors:	1	**Exterior Wall:**	METAL
Approx Floor Area:	91	**Interior Wall:**	WOOD & METAL

BUILDING INSULATION

BUILDING USES

BUILDING RENOVATIONS

BUILDING OWNERS

INSPECTION HISTORY

Start Date	End Date	Project Name	Project No.	Inspector Name	Inspection Reason
10/20/1994	10/20/1994	INITIAL INSPECTION			
11/6/2001	11/6/2001	VERMICULITE INSPECTI	5410.001-2	CLYDE CORKILL	SYSTEM-WIDE INSPECTION

HOMOGENEOUS AREAS

Number	Description	General Area	ACM Type	Percent
TRMT-SWS-000	NO SUSPECT MATERIALS	N/A	N/A	

Appendix H

Figures from *Activity Based Sampling Summary Report – Public Receptors*

N
W E
S

Figure 6
MP 1331
Sampling Location
September 19, 2008

Activity Based Sampling
Summary Report
--
Public Receptors

BNSF Kootenai River Sub
Libby, Montana

Legend

- Met Station
- Stationary Air Samples (BA Prefix)
- Soil Samples (RR Prefix)
- BNSF Railway

0 75 150 300
Scale In Feet

0 0.02 0.04
Scale In Miles

Project Number: 5539-140
Date: March 8, 2010
Drafted By: KLA
Reviewed By: SJC
Reference: 2006 Lincoln Aerial

EMR
INCORPORATED
INFRASTRUCTURE AND ENVIRONMENT
11 E. Superior St. Suite #260
Duluth, MN 55802
Phone: 218.625.2332
Fax:218.625.2337

N
W E
S

Figure 7
MP 1331.5
Sampling Location
September 18, 2008

Activity Based Sampling
Summary Report
--
Public Receptors

BNSF Kootenai River Sub
Libby, Montana

Legend

- Met Station
- Stationary Air Samples (BA Prefix)
- Soil Samples (RR Prefix)
- BNSF Railway

0 50 100 200
Scale In Feet

0 0.01 0.02
Scale In Miles

Project Number: 5539-140
Date: March 8, 2010
Drafted By: KLA
Reviewed By: SJC
Reference: 2006 Lincoln Aerial

EMR INCORPORATED
INFRASTRUCTURE AND ENVIRONMENT
11 E. Superior St. Suite #260
Duluth, MN 55802
Phone: 218.625.2332
Fax:218.625.2337