CORRECTIVE ACTION PLAN (CAP)

FOR THE

BASIC REMEDIATION COMPANY (BRC)

COMMON AREAS REMEDIATION PROJECT

SEPTEMBER 2006

Basic Remediation
COMPANY

I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all applicable federal, state and local statutes, regulations and ordinances. I hereby certify that all laboratory analytical data was generated by a laboratory certified by the NDEP for each constituent and media presented herein.

Ranajit Sahu 9-21-06

Dr. Ranajit Sahu, C.E.M. (No. EM-1699, Exp. 10/07/2007)

BRC Project Manager

I hereby certify that I have subjected this document to Quality Control review.

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ABSTRACT

Pursuant to the *Nevada Division of Environmental Protection Settlement Agreement and Administrative Order on Consent: BMI Common Areas, Phase 3*, Basic Remediation Company (BRC) has prepared this revised Corrective Action Plan (CAP) to present the procedures for implementing the preferred remedy that has been selected by the Nevada Division of Environmental Protection (NDEP) in its Record of Decision to address impacted soils at Basic Environmental Company (BEC) property in Clark County, Nevada. The revised CAP addresses all prior NDEP (and, in one case Clark County Department of Air Quality and Environmental management, CCDAQEM) Comments that were made pursuant to previous submittals of the CAP. Responses to these Comments, dated December 2, 2005 (by NDEP), March 24, 2006 (by NDEP), August 7, 2006 (by CCDAQEM), August 8, 2006 (by NDEP), and September 8, 2006 (by NDEP) are attached to this revised CAP in Appendix E.

The property represents a portion of what is known as the BMI Common Areas, and consists of approximately 2,330 acres. The remedy, as stated in the NDEP's Record of Decision (ROD) dated November 2, 2001, consists of:

i) Excavation of impacted soils and associated material containing chemical concentrations in excess of the site-specific cleanup goals as defined in BRC's draft Closure Plan (submitted by BRC in August 2006 and in NDEP review);

ii) Transportation of the impacted soils and associated material for permanent off-site disposal at a Corrective Action Management Unit (CAMU) located on and adjacent to the former Basic Management, Inc., (BMI) landfill; and

iii) Interment and containment within the CAMU.

This Corrective Action Plan describes the activities involved in excavating contaminated materials from their current locations, transporting the materials to the CAMU, and unloading the contaminated materials into the CAMU. The design, placement, maintenance, and other parameters of the CAMU will be described in the Remedial Action Plan (RAP),[1] that is under revision and will be submitted by BRC to the NDEP under separate cover.

Following completion of the soil excavation activities, closure sampling and post-remediation risk assessment will be performed to assess whether remediation has been adequately completed at the Site, in accordance with the procedures and goals presented in the Closure Plan and the Statistical Methodology document.

[1] The RAP is being revised pursuant to NDEP suggestions and is expected to be resubmitted in October 2006.

During remediation activities at the Site, BRC will submit daily logs and monthly status reports to the NDEP, in writing. The twin purpose of the monthly status reports will be to document the progress of the remedial activities at the Site and to keep the NDEP informed of the progress. At the conclusion of the project, a remedial action completion report will be prepared documenting completion of the remediation and the procedures followed.

A proposed schedule for implementing the remediation and reporting activities at the Site is presented at the end of this CAP.

1.0 INTRODUCTION

BRC has prepared this CAP to present the procedures for implementing the remedy that has been approved by the NDEP to address impacted soils at property in Clark County, Nevada owned variously by Basic Environmental Company (BEC) or its affiliates. This section describes the subject site, presents the project background and history, and summarizes the scope and purpose of the CAP. The section concludes with a description of the scope and organization of the CAP.

1.1 SITE LOCATION, HISTORY, AND DESCRIPTION

As more particularly described in the Closure Plan, the subject site is near the BMI Industrial Complex, in Clark County, Nevada, approximately 13 miles south of Las Vegas (Figures A and B). The property represents a portion of what is known as the BMI Common Areas; the total extent of the Site including the Eastside Area and the CAMU Area as delineated in Figure A is approximately 2,330 acres. The Eastside Area covers approximately 2,200 contiguous acres, and the CAMU area covers the balance of 130 acres. The Eastside Area consists of:

i) land on which unlined wastewater effluent evaporation ponds (and associated conveyance ditches) were built and into which various plant wastewaters were discharged from 1942 through 1976;

ii) land on which lined wastewater effluent ponds were constructed and into which effluent from the Titanium Metals Company plant was discharged from 1976 to 2005;

iii) land on which the City of Henderson constructed municipal wastewater infiltration basins (i.e., the Southern Rapid Infiltration Basins (RIBs);

iv) land on which unlined wastewater effluent ponds were constructed but which were never used; and,

v) land which has remained virgin desert.

The CAMU area consists primarily of land which contains:

i) the closed BMI Landfill,

ii) a series of trenches (the "Slit Trenches") into which various wastes were deposited, and

iii) vacant land.

Over the past 15 years, a multi-phased investigation has been conducted under the oversight of the NDEP to identify the nature and extent of chemical occurrence in the Site soils and ground water. As part of this investigative effort, the Site's geology, hydrology, and other physical attributes have been measured and defined. Sediments and soils believed to warrant remediation for protection of human health and the environment have been identified based on the results of these and other historical investigations conducted throughout the Site. A Conceptual Site Model (CSM) summarizing the Site conditions is presented in the Closure Plan that has been developed for the Site.[2] That CSM includes discussions of the Site features, including climate, stratigraphy and hydrogeology, and the nature and extent of chemical occurrence in soils and ground water.

The ownership and leasing history of the Site and the history of operations for the federal, state, and municipal agencies and private industries located at the BMI Complex are also summarized in the Closure Plan. Although use of all unlined ponds was permanently discontinued in 1976, Titanium Metals Company (TIMET), until recently (May 12, 2005), continued to use certain lined ponds built on ground within the Site once occupied by unlined ponds (identified as "TIMET Active Ponds Area" on Figure B); use of these "TIMET active" ponds was permanently discontinued on May 12, 2005. These TIMET ponds will be fully removed and the area remediated along with the rest of the used and unused ponds and their associated conveyance ditches.

After remediation, BRC plans to restore the property to a higher and beneficial use via implementation of an organized, multi-phased development program. To accommodate potential changes in land use in the future, and to properly respond to the Site's proximate location to rapidly growing residential areas and a large drinking water source, the remediation approach presumes residential land use for the entire Eastside Area except in one specific instance (i.e., in designated wetlands and in adjoining areas, where no development is planned). This area is delineated in the Closure Plan and is also shown on Figures I-1 and I-2.

1.2 PROJECT HISTORY

The Henderson Industrial Site Steering Committee (HISSC) members and the NDEP entered into a Consent Agreement dated 25 April 1991 (hereinafter "1991 Consent Agreement") that addressed a multi-phased approach to the assessment and if necessary, remediation, of environmental conditions at the Common Areas. The following three phases were identified in the 1991 Consent Agreement:

- Phase I - development of Phase I Environmental Conditions Assessment (ECA) reports for each "Individual Company Site" and the Common Areas;

[2] This Eastside CSM is currently being revised to incorporate NDEP comments, and is scheduled to be resubmitted in revised form. A summary of the CSM is provided in the Closure Plan, under NDEP review.

- Phase II - if determined necessary by the NDEP, performance of an Environmental Conditions Investigation (ECI) to fill any data gaps identified in Phase I, and identification of appropriate remedial measures to address conditions identified in Phases I and II; and
- Phase III - if determined necessary by the NDEP, implementation of remedial measures, as identified in Phase II.

Pursuant to Liability Transfer and Assumption Agreements (December 1999 and 2002), BRC assumed the HISSC companies' Consent Agreement responsibilities regarding Common Areas soils and (with respect to certain of the HISSC companies) the ground water[3]. The NDEP agreed to these Liability Transfer and Assumption Agreements.

Phase I was completed and the results were presented in the *Phase I Environmental Conditions Assessment for the Basic Management, Inc., Industrial Complex – Clark County, Nevada* (Geraghty & Miller, April 1993; hereinafter, the "Phase I ECA Report"). Following its review of the Phase I ECA Report, the NDEP identified the need for a Phase II ECI for portions of the Common Areas. Phase II was completed in accordance with the NDEP-approved *Project Workplan - BMI Common Areas - Environmental Conditions Investigation - Henderson, Nevada* (ERM-West, February 1996). The investigation results were presented in the *Draft Environmental Conditions Investigation Report - BMI Common Areas - Henderson, Nevada* (ERM-West, August 1996). As described in detail in the Closure Plan, several field investigations were subsequently conducted to augment the 1996 body of data and to close data gaps, particularly with respect to subsurface hydrogeology. The CSM provided in the Closure Plan incorporates the results of these investigations and the results of investigations carried out historically by BRC and others.

Based on the 1996 ECI results, the NDEP requested that HISSC conduct a remedial alternatives study (RAS) for the Site to address elevated levels of site-related chemicals. The *Draft Remedial Alternatives Study for Soils in the Upper and Lower Ponds* (ERM, March 2000; hereinafter "RAS report") was subsequently submitted to the NDEP. As specified more particularly in that document, five remedial approaches were presented. The NDEP selected the alternative that calls for remediation of impacted soil/sediment as follows:

i) Excavation of all impacted soils/sediments;

[3] Although certain HISSC member companies did not formally transfer liability to BRC for ground water through a Liability Transfer and Assumption Agreement, BRC has assumed primary responsibility for the clean-up of both soils and ground water for the Site. This assumption of responsibility is recognized in the *Nevada Division of Environmental Protection Settlement Agreement and Administrative Order on Consent, BMI Common Areas, Phase 3* (NDEP, February 2006), and, accordingly, the HISSC companies are not expected to play an active role in the clean-up of the BMI Common Areas.

ii) Transport of the excavated materials for permanent disposal off site at a private Corrective Action Management Unit (CAMU) located on and adjacent to the former, closed, Basic Magnesium, Inc. (BMI) landfill (Figure 1-2); and

iii) Interment and containment within the CAMU. Design details for the CAMU were provided in the Remedial *Action Plan* (Parsons Engineering Science, Inc., January 2000; hereinafter "RAP").

As noted above, the NDEP formally approved this remedy in the *Record of Decision – Remediation of Soils and Sediments in the Upper and Lower Ponds at the BMI Complex* (NDEP, November 2001) (hereinafter, "ROD"). The ROD referenced the CAP, RAP, and Closure Work Plan as additional in-progress documents that would provide specific details regarding the remediation process, and that would be submitted by BRC and approved by NDEP prior to remediation implementation.

Subsequent to the ROD's issuance, the NDEP and BRC *et alia* entered into an agreement that governs and specifies the performance and completion of the actions contemplated by Phase III, physical remediation. This agreement is the *Nevada Division of Environmental Protection Settlement Agreement and Administrative Order on Consent: BMI Common Areas, Phase 3* (hereinafter, "AOC3") (NDEP and BRC et al., 2006). The AOC3 provides the steps and sequence by which the remediation is to be performed. These steps are defined in the *Scope of Work*, which is part of the AOC3, and the steps are elaborated in a suite of planning and other documents, of which this Corrective Action Plan is one.

To help provide context for this CAP document, the specific aspects of the remediation identified in the ROD are described in these following documents:

Remedial Aspect Specified in ROD	Relevant Document
Liner and leachate collection system	RAP
Final cover	RAP
Monitoring	RAP
Soil Excavation	CAP
Confirmation sampling	CAP, Closure Plan, Statistical Methodology
Soil transportation and management	CAP/RAP
Reporting	RAP, CAP, and Closure Plan

As noted above, specific procedures relative to soil excavation, transportation and management, and reporting are addressed by this CAP; other issues pertaining to the remediation process are addressed in either the RAP or the Closure Plan, or one of the ancillary plans specified in the AOC3's Scope of Work, as appropriate. A prior *draft Corrective Action Plan (CAP) for Beta Ditch, Upper Ponds, and Lower Ponds, BMI Common Areas* (ERM, April 2000) submitted to NDEP by BRC reflected the design elements of the 1999 RAP. The NDEP advised BRC of its desire that the RAP be refreshed, given the lapse of time between submission of the RAP in 1999 and the draft CAP submittal in 2005. BRC provided NDEP a refreshed RAP on March 15, 2006 and has received informal comments on this document. It is being revised and is expected to be resubmitted in October 2006.

The previous CAPs drafted in 2000, 2005, March 2006, July 2006 and August 2006 are superseded in their entirety by this CAP. A decision by BRC has been made to elect one of the two transportation options specified in the RAS (i.e., hauling excavated soils entirely by truck to the CAMU as opposed to using a conveyor system for partial transport) subsequent to the ROD; this mode of transportation has been publicized in BRC's open meetings with the Restoration Advisory Committee (RAC) and via BRC's May 2006 Fact Sheet, in accordance with the Scope of Work appended to the NDEP *Settlement Agreement and Order on Consent: BMI Common Areas, Phase 3*, dated 15 February 2006 (hereinafter "AOC3"). The Fact Sheet was mailed to over 73,000 postal addresses in five surrounding ZIP codes and to over 400 stakeholders identified in BRC's *Community Involvement Plan*. No adverse comments were received in this regard.

1.3 DOCUMENT PURPOSE AND ORGANIZATION

As stated above, the purpose of this CAP is to present and describe in detail each and all of the activities necessary to excavate, transport, and unload the contaminated soils from their current locations into the CAMU.

After this introductory section, this CAP document is organized into five sections, as follows:

- Section 2 – describes the site preparation procedures that will be performed prior to implementing the approved remedial alternative;
- Section 3 – describes the remediation activities that will be performed, including excavation, transportation, and interment;
- Section 4 – describes the internal and external reporting procedures and summarizes the community involvement process for the project;
- Section 5 – presents a proposed schematic schedule for performing remediation activities; and
- Section 6 - References.

The main text is followed by tables, figures, and appendices. Appendix A contains all of the figures and Appendix B contains a copy of the Perimeter Air Monitoring Plan. Appendix C contains a copy of the Clark County Dust Permit application along with a Dust Mitigation Plan required as part of that permit. Appendix D contains a copy of the Table of Contents of the Health and Safety Plan (HSP) that will be developed by the contractor(s) selected for this project. Finally, Appendix E contains responses to previous Agency comments - NDEP's 2 December 2005 comments on BRC's April 2005 draft submittal of the CAP (Appendix E1); responses to NDEP's 24 March 2006 comments on BRC's March 15, 2006 submittal of the CAP (Appendix E2); responses to CCDAQEM's 7 August 2006 comments and NDEP's 8 August 2006 comments on BRC's July 2006 submittal of the CAP (Appendix E3); and responses to NDEP's 8 September 2006 comments on BRC's August 2006 submittal of the CAP (Appendix E4).

2.0 SITE PREPARATION

This section describes the site preparation activities that will be performed prior to undertaking excavation and transportation. These include excavation area clearing and grubbing, well abandonment, documentation of pre-excavation Site conditions, permitting, and establishment of site controls.

2.1 WORK AREA PREPARATION

Prior to performing soil excavation activities, the following remediation support features will be established/constructed. These features are delineated in Figure F-3.

- Access routes for authorized visitor and contractor site ingress and egress;
- Haul roads to the CAMU (see Section 3.2);
- Dust-control water pond(s);
- Visitor area;
- Management/engineering trailers;
- Refueling, repair and lubrication pads;
- Staging area for vacuum trucks;
- Excavation and hauling vehicle parking area;
- Vehicular and personnel decontamination areas (Section 3.4);
- Sanitary facilities; and
- The CAMU facility.

Berms that are contaminated will be excavated along with other contaminated soils and sediments, transported to the CAMU, and there interred. As necessary, portions of the soil berms present between ponds will also be removed to facilitate the ingress/egress of equipment and transportation of excavated soils throughout the Site.

Vegetation will be removed from excavation areas and access routes. Soil attached to plant roots will be shaken loose and left on the ground surface in the pond in which the vegetation was present, to be collected with the other soils in that pond. The vegetation will be relocated and temporarily stockpiled within the HDPE-lined Debris Storage Area (Figure F-3), where it will be tested to determine whether chemicals within site soils have bioaccumulated within plant material at levels that would cause it to be unsuitable for disposal at a municipal landfill. In the event that vegetation, after testing, meets disposal requirements in municipal landfills, they will

be so disposed. In the event that contaminant levels in vegetation dictate that they be disposed in hazardous waste landfills they will be so disposed. The testing will be consistent with requirements from potential disposal sites. Due to the potential for decomposition, settling, and leachate generation, vegetation will not be disposed in the CAMU.

Household trash and other debris (i.e., tree and lawn cuttings, scrap metal parts, car and motorcycle engines or other metal parts, concrete rubble, used bricks/cinder blocks, used appliances, and wooden and paper waste material, among other things including an abandoned dragline) have been observed throughout the Eastside Area. This debris is the result of anonymous, unauthorized dumping that occurred despite the presence of perimeter fencing erected in 1990-1991 along Site boundaries. Figure K shows a map with all identified debris locations. These locations were mapped using GPS. To date, BRC has found no evidence of releases of hazardous materials associated with the debris. However, these activities cannot be ruled out as a potential source of chemicals in Eastside Area soils. In the case of abandoned vehicles, underlying soils will be tested for TPH (total petroleum hydrocarbons), glycol, and pH, and, if contaminated, will be removed and interred in the CAMU. The nature of the other debris (e.g., paper trash, abandoned household appliances) suggests that it is not hazardous, and would require no special handling. Debris present in excavation areas will be removed from those areas and relocated in the HDPE-lined Debris Storage Area (Figure F-3). This area is a rectangular plot approximately 60 ft. x 150 ft. Debris will be removed from this area promptly and long term accumulation is not expected. If debris shows evidence of containing potentially hazardous materials (e.g., tanks with TPH products), it will be stockpiled separately within the Debris Storage Area. Small dirt berms will be created in order to provide containment of any contamination and in order to avoid storm water run-on onto and run-off from this lined area. Sampling of the adjacent soils will be performed as discussed in Section 2.4.

All underground pipes, electrical conductors, water and sewer lines in the remediation areas have been identified and located to the extent they exist; these will be de-energized, locked out, or blinded off prior to commencement of excavation, as appropriate. The location of these features is shown on Figure G.

2.2 WELL ABANDONMENT

As discussed in the Closure Plan, a number of monitoring wells have been installed in the Upper and Lower Ponds as part of historical field investigations. Locations of existing monitoring wells are depicted in Figure H. The earth-moving activities planned as part of remediation, and ultimately development, threaten the integrity of these wells. Damage to existing wells is costly; moreover, it poses a potential threat to ground water quality.

Therefore, BRC has evaluated whether the existing monitoring wells are suitably located and constructed such that they are appropriate and necessary for current and future ground water monitoring. The results of this evaluation are provided in Table 1 for wells within the planned

excavation area and along access routes; Table 1 also provides the results of this analysis for wells outside the planned excavation area and access routes.

Prior to initiation of soil excavation activities, BRC will abandon the wells identified in Table 1: these wells pose logistical challenges for the cleanup and therefore need to be abandoned. BRC acknowledges that similar wells may need to be reinstalled after the remediation work is completed, in order to continue groundwater characterization and remediation activities, as needed. Wells located outside excavation areas and access routes and that have been determined as no longer necessary for monitoring will be abandoned before or after remediation is performed. All well abandonment procedures will be performed in accordance with Nevada Department of Water Resource (NDWR) requirements.

Wells determined to be necessary or desirable for on-going monitoring (see Table 1) will be clearly marked, and BRC will instruct the remediation contractor to employ measures to protect these wells from damage during remediation. Protective measures will include the use of flags and/or barricades or protective fencing. Excavation in the vicinity of these wells will be conducted carefully (using hand removal techniques, as appropriate) to avoid adverse effects to the wells' integrity. If it is determined that the protective measures are not adequate for a given well, it will be abandoned in accordance with NDWR requirements, and replaced if necessary.

BRC recognizes that additional monitoring locations beyond those proposed in this CAP (including locations at which wells currently exist and are proposed for abandonment) may be required to address future monitoring and (if necessary) remediation needs for the Site.

2.3 ESTABLISH PRE-EXCAVATION CONDITIONS

Pre-excavation conditions have been assessed and documented. The purpose of this effort prior to initiation of excavation activities was two-fold:

- To identify potential "hot spot areas" that may require further characterization and/or remediation; and
- To establish initial grade for use in calculating volumes of material removed and to meet grading plan permit requirements.

The site has been surveyed, visually inspected during multiple walks, and photographed. A Site Atlas of 3-acre sub-plots has been assembled for the entire Site in order to provide a systematic analytical framework for the cleanup. The entire Site has been topographically mapped, using 1-foot elevation contours. These contours are depicted as elevations above the standard North American Vertical Datum (NAVD) (1988)[4]. This is shown in Figure D. The measurement

[4] The NAVD is the standard reference for depicting topographical surfaces and will be used on this project.

against the NAVD thereby provides a benchmark for precisely locating surface topography, and subsurface lithography and hydrology data in the future, irrespective of changes to the surface topography.

Hot spots can exist in large- or in small-scale, and this information has been reviewed to identify areas with visual or other evidence of contamination. This evidence may in some cases be associated with the presence of debris, as noted in Section 2.1 and as shown in Figure K. Each such area will be verified by GPS coordinates and checked against Figure K before removal of any remaining debris. As described in the Closure Plan, if soils in any given area of apparent contamination have not been sampled historically, by design BRC will either: i) perform soil sampling to characterize pre-remediation conditions and determine the need for remediation, or alternatively ii) deem the area contaminated and perform excavation without further characterization, whether or not the area is located within an otherwise planned excavation area. All of these apparent contamination areas will be sampled post-remediation, irrespective of whether such an area is generated for sampling by statistical protocol. Figure J provides a decision tree that illustrates and will guide the iterative remediation/confirmation sampling process.

Prior to the commencement of excavation, individual rows/ponds as well as ditches and other areas requiring remediation will be staked in the field and posted with weatherproof signage with the pond ID/ditch section location or other identifiers and initial excavation depth(s) (per Figure G-1). The aerial extents of waste areas shown in Figure G-1 are based on visual observations. The initial estimated depths of excavation shown in Figure G-1 are based on: (a) prior intrusive investigations of pond sediment depths for the non-TIMET ponds based on visual indicators of contaminated sediments (i.e., discoloration, see Table 2); (b) knowledge of sediment depths in certain non-TIMET ponds based on storage of IRM materials in those ponds; (c) estimated depth of sediments (based on visual discoloration) in the ditches based on IRMs conducted in a section of the Beta Ditch and also in the Western and Northwestern Ditches; (d) depth of sediment in portions of the Spray Wheel (based on discoloration) based on previous investigations in the Spray Wheel; and (e) depth of sediments in the TIMET ponds (including the OPW ponds) based on discussions with TIMET personnel and review of TIMET pond construction drawings in historic TIMET documents. It should be emphasized that the various factors (a) through (e) and the depths shown in Figure G-1 provide the initial estimate of the depth of contamination at each location. Because the initial depth of contamination is a starting point in the iterative remediation process (see also Figure J), BRC is assuming the risk of excavating some material that might not warrant remediation. Based on this approach, contaminated materials will not be left behind, but will be addressed during subsequent iterations as provided in Figure J. The pond nomenclature used in prior reports will be used to identify excavation areas (e.g., PUA-09 to represent pond #9 in Upper Pond row A).

2.4 PERMITTING

Prior to commencing soil excavation activities, required permits will be obtained from the associated oversight agency. The following permits are anticipated for this project.

- A Dust Control Permit will be obtained from the Air Pollution Control Division of the Clark County Health District. A copy of this is provided in Appendix C. It includes a Dust Control Mitigation Plan. In accordance with Dust Control Permit requirements and as specified in the Perimeter Air Monitoring Plan provided in Appendix B, air monitoring will be conducted at various locations throughout the Site during the course of removal activities to ensure that off-site dust transport is adequately controlled. In addition, particulate concentrations at the Site perimeter will be measured using a MiniRam sampler. All sampling results will be included in the Corrective Action Completion Report (described in Section 4.2) to be submitted to NDEP following completion of remedial activities.
- A permit will be obtained from the NDEP under the HWIR-media rule prior to construction of the CAMU landfill. This permit is the Remedial Action Plan or RAP.
- Prior to well abandonment, BRC will submit to NDWR a completed Affidavit of Intent to Abandon Monitoring Well for each such well.
- A permit to remediate asbestos-containing materials will be obtained from the Clark County Environmental Health Department.
- If deemed appropriate by the Bureau of Water pollution, "Zero Discharge" permits will be obtained to address temporary ponds associated with remediation (i.e., decontamination rinse water, TIMET pond dewatering).
- Permits are required and have been obtained from NDOT for allowing material haulage across Boulder Highway and along the necessary portions of Warm Springs Road to the CAMU Area. BRC is awaiting City of Henderson concurrence on this. It is planned that this haulage will occur in the evening and overnight hours when the normal traffic on Boulder highway is light. Traffic at Boulder Highway will be controlled during truck crossings. The City of Henderson, Clark County, and the Nevada Department of Transportation have approved this at-grade crossing, subject to final details of roadbed restoration and crossing times. Permits will be supported with a Traffic Control Plan as necessary. The Traffic Control Plan will describe changes to the signaling procedures at the Boulder Highway/Warm Springs interchange, as well as the presence of flagmen and other temporary traffic control procedures as necessary.
- Preparation of one or more Stormwater Pollution Prevention Plans (SWPPP) and approval of such Plans by the NDEP to manage stormwater during the entire construction project at the Eastside and at the CAMU area. It is expected that the contractor chosen for the construction project will prepare the SWPPP(s).
- No additional permits are anticipated for the disposal of effluents produced during sludge dewatering of the TIMET Ponds because these effluents will be contained within the TIMET

Ponds, where they will either 1) naturally evaporate, or 2) be subjected to a variety of other strategies, including commingling with dry soils. Upon achieving an acceptably low moisture content (see Section 3.1.2), the sediments within these ponds will be transported for interment into the CAMU.

2.5 SITE CONTROLS

Currently, a fence line around the perimeter of the Upper Ponds with locking gates limits unauthorized access to the Site. BRC expects that it will be necessary to breach this fence during the course of remedial activities. Therefore, as part of the remedial activities, the perimeter fence line will be rerouted, as necessary, to prevent unauthorized entry to the Site. BRC has long maintained a monitoring program to identify and repair breaches in the perimeter fence line. This program, which would include any new fence installed as part of remedial activities, will continue until after completion of final remediation. The gates will be kept locked except during periods of continuous ingress/egress (i.e., during transport of soils to the CAMU).

Additional site controls will be employed to control traffic flow, including pedestrian traffic, within the Site during remediation. These site controls are necessary to direct the following:

- Remediation workers;
- Vendors and subcontractors (e.g., equipment mechanics, materials delivery, trucking subcontractors, laboratory couriers);
- Site visitors (e.g., agency staff, elected or appointed government officials, journalists).

The visitor exclusion zone for the soil remediation project consists of the Upper and Lower Ponds proper. Visitors will not be allowed access to this exclusion zone. A work support area has been established just south of the TIMET ponds (Figure F-3) , within which are located all of the features identified in Section 2.1.

Signs posted on the fencing will warn visitors against unauthorized entry into the exclusion zone. Visitors will not be allowed to enter the exclusion zone, unless they provide documented proof of current training in accordance with Title 29 of the Code of Federal Regulations (CFR) Part 1910.120, and they “sign in” as authorized visitors. All personnel will be required to attend a tailgate health and safety briefing before entering the exclusion zone.

Security personnel will be present 24 hours per day, seven days a week, during the length of the remediation project.

3.0 REMEDIATION

This section describes the remediation activities, including excavation procedures, the methods for transporting soils to the CAMU, air monitoring procedures, decontamination procedures, and documentation. One primary assumption inherent in these procedures is that the entire volume of impacted soils present at the Eastside Area will be excavated and transported to the CAMU, where it will be permanently interred. The CAMU has been sized to hold approximately 3.0 million cubic yards of material which is in excess of the volume of material calculated to be disposed in it. However, as noted in the ROD, in the event that impacted soils exceeding even this maximum CAMU volume are generated, those excess soils will be disposed of off-site, at a properly-licensed facility. In the event that this does occur, BRC will submit a supplemental Transportation Plan to the NDEP describing the transportation routes to be followed and procedures for preventing accidental releases of the material during transport. BRC has been in contact since early 2004 with the company in Texas to which TIMET has recently sent soils from its plant site. This company is licensed to receive hazardous wastes, including radioactive wastes, and has indicated to BRC that it can and would receive such wastes from the Site, if encountered and required. Locally, Apex has expressed a desire to dispose of materials from BRC in the past and, if needed, BRC will pursue this option.

To minimize effects on Boulder Highway traffic, remediation will occur during two distinct phases: during daylight hours, work will be restricted to the Site proper; during evening hours, the contaminated soils excavated during the day from the Eastside Area will be transported across Boulder Highway via the haulage road and then interred into the CAMU.

3.1 SOIL EXCAVATION

The areas planned for the initial excavation phases, as shown in Figure G-1, were identified as discussed in Section 2.3 earlier. In addition, the debris locations shown in Figure K will also be excavated.

It should be noted that, consistent with the iterative nature of the cleanup (as shown in Figure J), Figure G-1 shows the initial excavation areas. The ultimate extent of soil excavation will be based on evidence observed during Site excavation (including whether PID readings exceed background levels by 1 ppm, in which case samples will be collected for laboratory analyses) and on closure sampling results (see Figure J). Should follow-up confirmation sampling indicate the presence of unacceptable levels of contaminants (i.e., higher than required to meet project risk goals as discussed in the Closure Plan), additional excavation will occur in that area as discussed in Section 3.1.1 and Figure J until such risk goals are met.

3.1.1 Excavation Procedures

A BRC contractor will complete the excavations in accordance with the plans and specifications developed for this work, under the direction of the BRC Project Manager. Prior to initiation of excavation, the ponds (or ditches or other areas, as the case may be) to be excavated will be marked in the field by a licensed land surveyor. As noted in Section 2.1, the area IDs and planned excavation depths will be marked on weatherproof signage for reference during excavation.

The contractor will use construction equipment (e.g., scrapers, dozers, excavators, etc.) as appropriate, to remove the surface soil containing elevated concentrations of site-related contaminant chemicals. The equipment specifically planned for each phase of remediation is listed in Table 3. Within a given pond or ditch, the soils being excavated will first be scraped into daily stockpiles within that pond or ditch segment (to take place during daylight hour activities). During the transport phase, these stockpiled soils will be loaded onto dedicated trucks for direct disposal at the CAMU (Section 3.2). Weather and time permitting, the soils may also be excavated and loaded directly onto dedicated trucks for transport, omitting the stockpiling stage. BRC anticipates that approximately 7,500 cubic yards of soil will be excavated, transported, and interred each day,[5] with the actual volume dependent on equipment used, and daily conditions.

A minimum of 6 inches of soil will be excavated from each location determined to require remediation. Excavation within each pond cell/ditch segment requiring remediation will be performed in 6-inch lifts until the excavation floor and sidewalls exhibit no visual evidence of contamination[6]. In addition, as appropriate, field screening performed as part of Health and Safety monitoring may also be used as an indication of the presence of volatile constituents in the soils.

Actual attainment of cleanup goals will be assessed by confirmation sampling and risk assessment procedures as shown in Figure J and as described in the Closure Plan. As discussed in Figure J, if confirmation sampling and risk assessment indicate that in-place concentrations

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[5] As noted in Table 3, large Athey trucks are proposed for transporting soils to the CAMU. These trucks are capable of transporting 75 cubic yards of soil at one time. Based on all activities necessary (i.e., loading on soil onto trucks, covering trucks, wheel washing, travel to the CAMU, unloading of soils at the CAMU, wheel washing of returning empty trucks, and travel back from the CAMU), BRC (with input from likely project contractor/bidders) has estimated that one round trip will take approximately 50 minutes or less. Although a maximum of 12 such trucks can be used, BRC assumes that 10 trucks will be used at any one time. Thus, roughly 750 cubic yards of materials will be transported every hour. Assuming 10 hours of nighttime transport of soils each day, the approximate rate of soils movement is 7,500 cubic yards per day. BRC can also move additional soils using smaller trucks during the day and this is not included in the present calculation.

[6] Historical Site investigations demonstrate that visual indications of contamination in surface soils (e.g., gray, discolored sediment) are readily observed in many ponds. However, many site-related chemicals do not have visual indicators, and the remediation will not rely solely on visual evidence.

remaining after excavation constitute an unacceptable risk to human health and the environment, BRC will return to that area and expand the excavation vertically and/or horizontally until cleanup goals are attained. Lab turn-around for this project will be expedited to the extent possible: Turn-around is expected to be approximately 10 days for most analytes, with the exception of radionuclides, which will require approximately 28 days. Because the data evaluation procedures have been established in advance, BRC will be able to quickly assess resultant data to determine its reliability and associated risks, such that if it is necessary to expand excavation in a given area, it can occur during the overall excavation project, and will likely not require re-mobilization.

Under certain circumstances (such as if ground water is encountered or if the excavation potentially extends to greater depths), it may be necessary to cease remediation prior to attainment of cleanup goals. Excavation areas terminated because of either of these conditions (or in the event of other unexpected conditions) will be identified in the field notes and described in the interim status and corrective action completion reports (Section 4.1 and 4.2). If closure sampling indicates that impacted soils are present in the excavation floor in any such areas, the reported results will be evaluated in conjunction with the exposure routes and receptors associated with those depths to determine whether leaving those concentrations in place constitutes an unacceptable risk to human health and the environment.[7] If so, alternative remedial approaches will be considered and discussed with the NDEP. A decision tree that will guide this process is shown in Figure J.

When excavation in a given area ceases, it will be graded to reduce safety hazards. Excavations will be benched and sloped in accordance with the Occupational Safety and Health Administration (OSHA) guidelines presented in 29 CFR 1926, Subpart P – Excavations. Specifically, sloping and benching guidelines are presented in Appendix B of 1926 Subpart P, with supporting soil classification guidelines in Appendix A of the same subpart. Sloping or benching for excavation deeper than 20 feet (expected only in certain TIMET ponds) will be designed by a registered professional civil engineer. All excavations will be inspected by a licensed professional civil engineer, whose task it shall be to insure that excavations are being carried out in conformity to the grading plan. Furthermore, as noted in Section 3.1.5, a licensed surveyor will conduct a post-excavation topographic survey. In addition to the sloping requirement, temporary fencing will be placed along the perimeter of excavations deeper than 5 feet. Portions of the excavation sidewalls may also be flattened or the excavation partially backfilled to facilitate vehicle traffic or soil handling activities.

Excavation and hauling equipment will be fueled directly from a fuel truck brought on site for that purpose; equipment fueling will be conducted only within a designated and lined fueling area.

[7] This evaluation will be performed in accordance with the risk assessment methodologies for human and ecological health as presented in the Closure Plan.

3.1.2 Dewatering Procedures for Active Ponds

In addition to excavated materials from the Upper and Lower Ponds and their associated conveyance ditches, remediation activities will also address the materials within the TIMET Ponds. Recognizing the importance of limiting the amount of liquid being disposed of in the CAMU (to reduce the potential for leachate generation), the moisture content of these materials will be reduced to acceptable levels prior to disposal. The goal is that the moisture content of this material be comparable to that of the excavated soils after dust suppression, approximately 20 to 40% by volume, depending on the type of soil and ambient conditions. Currently, some of the TIMET Ponds contain material with moisture content higher than this range, and dewatering may necessary.

BRC has conducted extensive pilot testing for options to dewater the TIMET Active Ponds. Based on these studies, BRC plans to dewater the material in the ponds using a combination of 1) air drying (facilitated by mechanically breaking the surface crusts if present), 2) draining of liquid through geotextile bag filters, and 3) mixing with other dry materials destined for the CAMU. Any residual material from this evaporation process will be transported to the CAMU after the moisture content noted above is achieved. The specific dewatering techniques to be used are dependent on the moisture status of a given pond, as summarized below:

(a) Dry sediments: No dewatering will be required, and the materials can be transported to the CAMU with no further treatment;

(b) Sludges and aqueous effluent: Filter material using geotextile bag approach described below, and/or mix sludges with other CAMU-ready soil excavated from elsewhere on the site.

(c) Sludges and aqueous effluent: Place material into geotextile bag, let stand for 1 to 2 weeks, during which free liquid will filter through the bag and collect in the lined pond for further evaporation; cut open the bag and air dry until target moisture content achieved. As needed, mix wet sludges with dry CAMU-ready soil excavated from elsewhere on the site.

3.1.3 Health and Safety

All remediation activities will be performed in accordance with a Health and Safety Plan(s) (HSP) developed for Site remediation activities by the contractor(s) selected for the project. These HSP(s) shall apply to the contractor's employees and subcontractors. The parameters of this HSP shall contain the items noted in the Table of Contents shown in Appendix D. Briefly, the HSP shall include the following:

- Identification of chemical and physical hazards associated with the remediation activities;
- Minimum training requirements for site workers;

- Minimum Personal Protective Equipment (PPE) for site workers and visitors and criteria for upgrades;
- Air monitoring requirements for workers' breathing zone and site perimeter (for public protection);
- Emergency information, such as emergency telephone numbers and directions to the nearest hospital; and
- Administrative requirements, such as documentation of training, daily health and safety tailgate meetings, and documentation of air monitoring.

3.1.4 Dust Control

Specific dust control procedures and requirements are presented in the Dust Control and Mitigation Plan provided in Appendix C. Basically, these procedures consist of wetting surface soil in the immediate excavation areas and along transport routes prior to and during excavation activities. The soil excavation activities will be conducted under a water spray applied as needed to mitigate airborne dust. The water used for this purpose will be potable water obtained from the City of Henderson water supply system. Dust control on the haul roads may be effected by using the magnesium chloride which is present in TIMET ponds HP-2, HP-3, HP-4, and HP-5. BRC is analyzing these ponds and if the magnesium chloride is found suitable, BRC will use this material as a dust palliative for the haul roads if the NDEP concurs.

As described in Section 3.3, during excavation activities, air monitoring will be conducted in accordance with the Perimeter Air Monitoring Plan (Appendix B) to ensure that site workers are protected and off-site dust transport is controlled.

3.1.5 Post-Excavation Grade Survey

After excavation is deemed complete[8], BRC will direct a licensed surveyor to conduct a post-excavation topographic survey. BRC will use the information from this survey to prepare a detailed topographic map representing post-remediation conditions; this map will use a 0.5-foot elevation interval. In addition, the post-excavation map will be prepared using colored contours that depict the depths excavated.

3.2 SOIL TRANSPORTATION TO CAMU

After soils are excavated, they will be loaded onto dedicated trucks for direct transportation to the CAMU area, shown in Figure A. Air monitoring during these loading activities will be

[8] Excavation completeness will be established by the Closure Sampling program and risk assessment procedures described in the Closure Plan and in the Statistical Methodology document.

performed as discussed in Section 3.3 to evaluate the effectiveness of dust suppression measures. As described below, soils excavated from the Site will be transported in a covered truck to the CAMU approximately 1.5 to 2 miles away from the Site. Even though the soils to be transported are not hazardous waste, the haulers will possess a valid hazardous waste hauler license and will be certified to handle hazardous waste.

Access and haul routes will be clearly marked in the field with weatherproof signage. Prior to reaching Boulder Highway the access roads from the site will have gravel track-out aprons to minimize any carry-on transport of materials onto Boulder Highway. These track-out aprons will be routinely refreshed to maintain efficacy.

Spillage of soils from trucks during transport will be minimized by not overloading the transport vehicles, by grading smooth haul roads, and by employing trucks with enclosed or covered cargo bays. Dust will be controlled by water or magnesium chloride (as discussed in Section 3.1.4, in accordance with the Dust Control and Mitigation Plan (Appendix C). Because the access routes will be "wetted" to suppress dust, some mud may be generated, and it is likely that this mud would be transferred to truck tires and the vehicle body. When needed, prior to crossing Boulder Highway, the transport trucks will be decontaminated by scraping and/or a water spray to avoid transfer of dirt to the road pavement. Furthermore, decontamination will be undertaken as needed to reduce the potential for re-contamination by transport vehicles of areas that have already been remediated. Decontamination will occur in a dedicated personnel/vehicle decontamination area, depicted in Appendix A Figure F-3, in accordance with the procedures presented in Section 3.4.

In the event of an accidental release to Boulder Highway of soils being transported, the road surface will be immediately swept and vacuumed by the remediation contractor to remove such soils, as discussed in Section 3.2.1. A vacuum truck will be stationed for this purpose for the length of the soils excavation process. At a minimum, after excavation/transport operations cease for a given day, the affected portion of Boulder Highway will be cleaned to remove any soils from the roadway (see Section 3.4). As further described in Section 3.4, any soils removed from the Highway surface during these activities will be disposed of in the CAMU.

To minimize the disruption of public traffic on Boulder Highway, hauling will be performed at night. BRC anticipates that approximately 7,500 cubic yards of soil will be loaded and transported each day (the actual volume being dependent on the number of trucks used and daily conditions). Assuming the use of 75-ton capacity trucks, an estimated average of 100 truckloads will be transported each day. As noted in the project schedule presented in Section 5.0 and assuming these volumes, the duration of transportation activities is expected to be around 18 months.

3.2.1 Transportation Routes

Transportation routes (visitor and contractor ingress/egress and haul road) to be employed during remediation are depicted in Figures F-1 and F-2. The routes are on private land owned by BRC, with the exception of the section of Boulder Highway and Warm Springs Road that is traversed on the CAMU haul road. A one-way trip to the CAMU is estimated to take around 25 to 30 minutes (dependent on the specific excavation location within the Site) and a round trip is expected to be 50 minutes or less.

In the event of an accident resulting in release of the soils being transported, the truck driver will immediately contact the BRC field representative overseeing remediation activities. The BRC representative will immediately inspect the site of the accident and notify the remediation project Health and Safety Officer (HSO) and the local emergency management agencies. The potential for immediate threat to workers and people nearby will be evaluated, and the BRC representative, with input from the HSO, will instruct the remediation contractor to immediately take appropriate corrective steps to rectify the problem[9]. Any spilled material will be returned to the truck (or another truck, if the original truck is disabled) and transport to the CAMU will be completed. If the spill occurred on a public roadway (i.e., on Boulder Highway), the spill material will be removed, and the road surface will be immediately vacuumed to remove any remaining materials. Because the material will be disposed of in the CAMU by the remediation contractor, no characterization of the spilled material is needed or planned.

3.2.2 Soil Unloading

The soil will be transported to and unloaded at the CAMU, which will be constructed within a 113-acre area northwest of the active plants within the BMI Complex (see Figures A and C). The former BMI landfill occupies approximately 66 acres of this area.

There is little or no overlap between the footprint of the CAMU and the former BMI landfill footprint. The relationship between the CAMU, the BMI Landfill, and the slit trenches is as follows: the CAMU will overlay the slit trench area, which has been delineated to the best of BRC's ability (relying on aerial photographs, non-intrusive field investigations, and intrusive field investigations - no documentary evidence of slit trench actual construction exists). It appears from the photographic and field evidence that some of the slit-trenches lie in very close proximity to boundaries of the BMI Landfill. Thus, portions of the CAMU liner may overlay small portions of the "toe" of the BMI Landfill, but it is not BRC's intent to otherwise have the CAMU overlap the BMI Landfill to any significant extent. The location, construction, and monitoring of the proposed CAMU are described in detail in the RAP. Further details and discussion concerning the juxtaposition of the slit trenches to the CAMU are found in the RAP.

[9] The contractor conducting the excavation activities will handle all emergency response actions associated with spillage of excavated materials.

Discussion and details concerning the location, contents, and proposed management of the slit trenches will be discussed in a separate document (Slit Trench RAS).

Trucks hauling waste materials from the Eastside Area will enter the CAMU Area from the eastern site ingress/egress at 4th Street. Trucks will then travel along site access roads adjacent to the CAMU lined landfill area and enter into the CAMU lined landfill area at dedicated access points or ramps. Once in the CAMU lined landfill area, the trucks will travel directly on the operations layer above the liner system or above previously placed waste materials. Each truck will be directed to a "working face" where the contents of the truck will be uncovered and dumped. Trucks will then travel off of the lined landfill area at 4th Street. They will proceed along the haul road, across "rumble strips," track-out aprons, and wheel washing stations before crossing Boulder Highway.

The waste material at the working face will be spread by a bulldozer in a lift no greater than two feet in thickness and compacted using standard earthworks construction equipment. The compacted waste material will be tested using a moisture/density gauge to determine the estimated in situ moisture content and density of the waste material. The moisture content will be compared to the optimum moisture content results from previously performed moisture/density laboratory testing, approximately 20 to 40% by volume depending on soil type and ambient conditions. Ideally, the in situ moisture content will be less than the optimum moisture content, thereby minimizing the potential for liquids to "squeeze out" of the waste material upon placement of overlying materials that will increase the normal static pressure and thus the "squeezing" of the underlying waste material.

Periodically, undisturbed samples of the in situ waste materials will be collected using thin wall samplers (Shelby Tubes) and will be subjected to laboratory one-dimensional consolidation testing. The one-dimensional consolidation testing will utilize a normal stress equivalent to 1.25 times the maximum anticipated final overburden stress on the tested sample (i.e., 1.25 times the height of waste and cover system placed overlying the sample times the anticipated unit weight of the overlying waste materials and cover system materials). Each sample will be contained between two paper filters within a dry one-dimensional consolidation testing device. The results of the testing will document change in mass of the samples (indicating potential loss of moisture during the consolidation process) and the condition of filter paper placed on either side of the sample (moisture indicates potential loss of moisture during the consolidation process).

If the results of testing indicate that the moisture content of the waste materials is too high, the material will be spread in a thin lift (e.g., 6-inches thick) to allow for evaporation of excess moisture or mixed with drier waste materials to achieve the desired moisture content.

Because the CAMU disposal routes will be "wetted" with either water or magnesium chloride to suppress dust, some mud may be generated, and it is likely that this mud would be transferred to truck tires and the vehicle body. Prior to crossing Boulder Highway, the transport trucks will be decontaminated by scraping and/or a water spray to avoid transfer of dirt to the road pavement.

These decontamination activities will be performed in the vicinity of the Vacuum Truck Station (Appendix A, Figure F-2) and the contaminated soils and rinsate handled as specified in §3.4, below.

Air quality during these unloading and redistribution activities will be monitored as discussed in Section 3.3 to evaluate the efficiency of dust control measures.

3.2.3 Dust Control During Transport

As noted in Section 3.1.3, soil excavation will be conducted using a water spray as needed for dust suppression. This moisture is not likely to evaporate during the short time/distance of travel to the CAMU (i.e., approximately 2 miles at roughly 10 miles per hour). Fugitive dust from contaminated soils during trucking to the CAMU will thereby be prevented. Furthermore, all truck contents will be covered during transport. In light of these mitigation measures, air monitoring along the transport route will not be conducted.

Dust creation along the haul roads will be mitigated by periodic and regular application of water and/or magnesium chloride to minimize dust generation.

3.3 AIR MONITORING

Site and perimeter air monitoring will be performed in accordance with the Perimeter Air Monitoring Plan (Appendix B) for fugitive dust emissions and volatile chemical emissions, as described in the HSP, to evaluate the effectiveness of dust control measures in mitigating emissions, such that the potential for unacceptable exposures to site workers and visitors, the off-site general public, and the environment is limited.

3.3.1 Site Monitoring

The types of air monitoring to be conducted within active areas undergoing excavation, loading, and unloading include monitoring of the breathing zone and personal air monitoring. The description of these types of air monitoring is provided below.

3.3.1.1 Breathing Zone Monitoring

Breathing zone monitoring will only be required for personnel working in active excavation zones where they may be exposed above the exposure action levels as noted in the HSP. The “breathing zone” refers to the area from the top of the shoulders to the top of the head. The protocol for conducting breathing zone monitoring is outlined in the HSP.

Prior to entering an excavation area, the HSO will have established the appropriate level of Personal Protective Equipment (PPE) based on either the previous experience with similar

activities conducted elsewhere at the Site, or the results of the personal air monitoring program discussed below. Once work has commenced, breathing zone monitoring will be conducted by collecting discrete air samples every 30 minutes for Total Organic Vapor (TOV) and dust. Decisions to modify PPE will be made by comparing sustained breathing zone TOV (based on photo-ionization detector (PID) or flame-ionization detector (FID) readings) and total dust levels (based on MiniRAM readings) to the criteria presented in the HSP. The HSO may make recommendations to the contractor regarding breathing zone monitoring and appropriate respiratory and personal protection for their workers.

3.3.1.2 Personal Air Monitoring

Personal air monitoring will only be required if breathing zone or work zone monitoring results indicate that exposures over the action level may have occurred. Because there is no reliable method for determining real-time concentrations of most of the site-related chemical classes, their concentrations in airborne dust will be determined based on personal sampling results. The protocol for personal air monitoring is outlined in the HSP. The results of the personal air monitoring will be evaluated each day to determine if changes in PPE are necessary.

3.3.2 Perimeter Air Monitoring

A program for monitoring airborne dusts at points upwind and downwind of active excavation and remediation areas is detailed in the Perimeter Air Monitoring Plan (Appendix B). The results of this monitoring program will be used to determine the effectiveness of the dust control measures being employed, and to indicate whether it is necessary to implement changes to those measures.

3.4 DECONTAMINATION PROCEDURES

The specific equipment decontamination procedures that will be conducted during the remediation of Site soils are described in this section. Equipment decontamination will include the following:

- Sampling equipment decontamination (e.g., hand trowel, shovel, hand auger, mixing bowl) will be conducted between individual sampling points to avoid potential cross-contamination as described in the soil sampling SOP as provided in the BRC Field Sampling Procedures/SOP document.
- Minor decontamination such as scraping off of residual soils (i.e., those caked onto equipment) may be conducted as deemed necessary within the work site.
- Construction equipment decontamination will be conducted at the equipment decontamination pad prior to equipment leaving the Site.

The following steps will be used to decontaminate construction equipment.

1. Personnel will dress in proper personal protective equipment to reduce personal exposure.
2. Equipment heavily caked with soil and/or other material will be scraped off with a flat-bladed scraper. The scrapings will be placed in the soil staging area for disposal with the excavated soils.
3. Equipment will be decontaminated using steam cleaning equipment prior to departure from the work site. The condensate will be managed as set forth below.

As noted in Section 3.2, prior to crossing Boulder Highway, the transport trucks will be driven across gravel track out aprons, with scraping off of mud and/or use of a water spray to be performed at the dedicated decontamination area as needed to mitigate the potential for Site soils to be released to off-site areas. In addition, in response to releases, and, at minimum, after excavation/transport operations cease for a given day, the affected portion of Boulder Highway will be cleaned to remove any soils from the roadway. A dedicated vacuum truck will be stationed at the crossing for this purpose. The track out aprons will be refreshed regularly.

Excavation equipment decontamination will primarily be performed at the designated decontamination area east of Boulder Highway (Figure F-2, Appendix A). This area will consist of a concrete pad that drains into a collection area. Decontamination water will be pumped from the collection area into a storage tank, which will be periodically sampled and analyzed to determine appropriate disposal. As noted in Section 3.2.2, decontamination will also be performed at the vacuum truck station west of Boulder Highway, when truck decontamination is needed prior to a given truck crossing Boulder Highway from the western side. Some additional decontamination areas may also need to be established within a specific area or work unit, based on the type of activity performed. Supplemental decontamination stations, if any, will be designed to contain waste water and soils generated during decontamination (i.e., bermed, sloped, and lined with plastic sheeting). Rinse water generated at those supplemental stations will be added to the storage tank for the main decontamination area, and disposed of with that waste water. Soils scraped off equipment or the road will be collected, and retained at the Site, until they can be added to truck loads of soils being transported for disposal at the CAMU.

4.0 REPORTING, DOCUMENTATION, AND PUBLIC PRESENTATION ACTIVITIES

Daily logs, field notes, and digital photographs will be prepared to document each day's field activities and relevant observations of Site conditions and remediation progress. During and following completion of the remedial actions at the Site, BRC will prepare reports to the NDEP to document the progress of remedial activities and the proper completion of remediation. In addition, reporting will be performed in accordance with the various permitting requirements of other involved agencies. The following is a listing of all reports that BRC anticipates will be generated during the remediation project:

- Daily Progress Reports (to be prepared by the selected remediation contractor) documenting all daily activities. This report will be faxed (or e-mailed) to the NDEP at a designated time on the following day. In addition to this summary daily report, the contractor will also keep detailed field notes and daily logs. The logs will note where any special control measures (except dust control, which is a routine measure) needed to be implemented and/or where work has had to be terminated for any reason along with the associated reason(s).;

- Daily photographic and video record. This record will be kept by BRC documenting all remediation activities. It will consist of photographs and video footage;

- Interim Status Reports as described in Section 4.1;

- Corrective Action Completion Report as described in Section 4.2.

These documents and all other reports will be retained by BRC for the period of time consistent with that specified in Section XXIX *Retention of Records* in the AOC3.

Furthermore, as more particularly set forth in the *Community Involvement Plan – Former BMI Common Areas – Henderson, Nevada* (BRC, 2006) (CIP), public involvement activities are to be performed in support of the Common Areas investigation and remediation process.

4.1 INTERIM STATUS REPORTS

During remediation activities at the Site, BRC will submit monthly status reports to the NDEP. The purpose of the monthly status reports will be to keep the NDEP informed of the progress of remedial activities at the Site. The reports will present a summary of the remediation progress during the previous month, including as appropriate:

- Significant milestones in CAMU construction;

- Pond and ditch locations where excavation has been completed (including graphical format);
- Pond and ditch locations where special control measures (except dust control, which is a routine measure) were necessary and/or where excavation had to be prematurely terminated due to the presence of ground water or based on any of the other “stopping rules” discussed in Figure J; and
- Estimates of volumes of soil excavated and placed in the CAMU (monthly and cumulative).

Other information (e.g., discovery of significant environmental conditions previously unidentified) will be provided in the monthly status reports as warranted. Interim status meetings will also be conducted by telephone to supplement these written reports.

4.2 CORRECTIVE ACTION COMPLETION REPORT

At the conclusion of each sub-area of the project for which an NFAD will be requested in accordance with the AOC3, a Corrective Action Completion Report will be prepared, documenting completion of the remediation and the procedures followed. This report will include a description of the remediation activities performed, including data collection procedures and a summary of post-remediation site conditions based on those data. Copies of all the daily logs, field notes, site maps, surveying results (including plan and cross-sectional maps comparing pre-and post-excavation conditions), and analytical results associated with the Closure Plan sampling program will be provided. The report will also include a summary of any pond and ditch locations where excavation was prematurely terminated due to the presence of ground water or any of the other “stopping rules” discussed in Figure J. The results of the closure risk assessment will be included as appendices to this report.

4.3 COMMUNITY INVOLVEMENT ACTIVITIES

BRC's Community Involvement Plan ("CIP") presents the means by which remediation activities will be presented to stakeholders. BRC will communicate the CAP contents to the public by the means established in the CIP.

5.0 SCHEDULE

Given the residential development rapidly encroaching upon the Site, and given the fact that the TIMET active ponds have begun to dry since May 2005, BRC plans to initiate soil remediation activities upon completion of activities (and NDEP approval of reports) specified by the AOC3, including (but not limited to) the Closure Plan, this CAP, and the RAP.

The first task will be to obtain the pertinent permitting for the remediation activities; this will be done as soon as approval of those documents is received. Site preparation (well abandonment, construction of access routes/decontamination pads/re-fueling pads, etc.) will then be performed. These tasks will be performed prior to, or concurrently with, the CAMU's construction. Soil excavation and transport will not occur until after CAMU construction has proceeded to the point where it is ready to receive materials, including adequate completion of gravel mining operations in the area. Closure sampling and risk assessment as described in the Closure Plan will be performed after excavation is deemed complete, with iterative excavation phases as needed.

Once initiated, BRC presently estimates the duration of the excavation, hauling, and interment activities at around 18 months. Operations will be conducted 24 hours/day, 7 days per week. BRC will present a detailed project schedule to the NDEP for the remediation effort.

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APPENDIX A

FIGURES

LIST OF FIGURES

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AND

7 AUGUST 2006 DAQEM COMMENTS

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RESPONSE TO 8 SEPTEMBER 2006 NDEP COMMENTS

CORRECTIVE ACTION PLAN (CAP)

FOR THE

BASIC REMEDIATION COMPANY (BRC)

COMMON AREAS REMEDIATION PROJECT

SEPTEMBER 2006

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Basic Remediation
COMPANY

I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all applicable federal, state and local statutes, regulations and ordinances. I hereby certify that all laboratory analytical data was generated by a laboratory certified by the NDEP for each constituent and media presented herein.

_____

Dr. Ranajit Sahu, C.E.M. (No. EM-1699, Exp. 10/07/2007)

BRC Project Manager

I hereby certify that I have subjected this document to Quality Control review.

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Dr. Ranajit Sahu, C.E.M. (No. EM-1699, Exp. 10/07/2007)

BRC Project Manager

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ABSTRACT

Pursuant to the *Nevada Division of Environmental Protection Settlement Agreement and Administrative Order on Consent: BMI Common Areas, Phase 3,* Basic Remediation Company (BRC) has prepared this revised Corrective Action Plan (CAP) to present the procedures for implementing the preferred remedy that has been selected by the Nevada Division of Environmental Protection (NDEP) in its Record of Decision to address impacted soils at Basic Environmental Company (BEC) property in Clark County, Nevada. The revised CAP addresses all prior NDEP (and, in one case Clark County Department of Air Quality and Environmental management, CCDAQEM) Comments that were made pursuant to previous submittals of the CAP. Responses to these Comments, dated December 2, 2005 (by NDEP), March 24, 2006 (by NDEP), August 7, 2006 (by CCDAQEM), August 8, 2006 (by NDEP), and September 8, 2006 (by NDEP) are attached to this revised CAP in Appendix E.

The property represents a portion of what is known as the BMI Common Areas, and consists of approximately 2,330 acres. The remedy, as stated in the NDEP's Record of Decision (ROD) dated November 2, 2001, consists of:

i) Excavation of impacted soils and associated material containing chemical concentrations in excess of the site-specific cleanup goals as defined in BRC's draft Closure Plan (submitted by BRC in August 2006 and in NDEP review);

ii) Transportation of the impacted soils and associated material for permanent off-site disposal at a Corrective Action Management Unit (CAMU) located on and adjacent to the former Basic Management, Inc., (BMI) landfill; and

iii) Interment and containment within the CAMU.

This Corrective Action Plan describes the activities involved in excavating contaminated materials from their current locations, transporting the materials to the CAMU, and unloading the contaminated materials into the CAMU. The design, placement, maintenance, and other parameters of the CAMU will be described in the Remedial Action Plan (RAP),[1] that is under revision and will be submitted by BRC to the NDEP under separate cover.

Following completion of the soil excavation activities, closure sampling and post-remediation risk assessment will be performed to assess whether remediation has been adequately completed at the Site, in accordance with the procedures and goals presented in the Closure Plan and the Statistical Methodology document.

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[1] The RAP is being revised pursuant to NDEP suggestions and is expected to be resubmitted in October 2006.

During remediation activities at the Site, BRC will submit daily logs and monthly status reports to the NDEP, in writing. The twin purpose of the monthly status reports will be to document the progress of the remedial activities at the Site and to keep the NDEP informed of the progress. At the conclusion of the project, a remedial action completion report will be prepared documenting completion of the remediation and the procedures followed.

A proposed schedule for implementing the remediation and reporting activities at the Site is presented at the end of this CAP.

1.0 INTRODUCTION

BRC has prepared this CAP to present the procedures for implementing the remedy that has been approved by the NDEP to address impacted soils at property in Clark County, Nevada owned variously by Basic Environmental Company (BEC) or its affiliates. This section describes the subject site, presents the project background and history, and summarizes the scope and purpose of the CAP. The section concludes with a description of the scope and organization of the CAP.

1.1 SITE LOCATION, HISTORY, AND DESCRIPTION

As more particularly described in the Closure Plan, the subject site is near the BMI Industrial Complex, in Clark County, Nevada, approximately 13 miles south of Las Vegas (Figures A and B). The property represents a portion of what is known as the BMI Common Areas; the total extent of the Site including the Eastside Area and the CAMU Area as delineated in Figure A is approximately 2,330 acres. The Eastside Area covers approximately 2,200 contiguous acres, and the CAMU area covers the balance of 130 acres. The Eastside Area consists of:

i) land on which unlined wastewater effluent evaporation ponds (and associated conveyance ditches) were built and into which various plant wastewaters were discharged from 1942 through 1976;

ii) land on which lined wastewater effluent ponds were constructed and into which effluent from the Titanium Metals Company plant was discharged from 1976 to 2005;

iii) land on which the City of Henderson constructed municipal wastewater infiltration basins (i.e., the Southern Rapid Infiltration Basins (RIBs);

iv) land on which unlined wastewater effluent ponds were constructed but which were never used; and,

v) land which has remained virgin desert.

The CAMU area consists primarily of land which contains:

i) the closed BMI Landfill,

ii) a series of trenches (the "Slit Trenches") into which various wastes were deposited, and

iii) vacant land.

Over the past 15 years, a multi-phased investigation has been conducted under the oversight of the NDEP to identify the nature and extent of chemical occurrence in the Site soils and ground water. As part of this investigative effort, the Site's geology, hydrology, and other physical attributes have been measured and defined. Sediments and soils believed to warrant remediation for protection of human health and the environment have been identified based on the results of these and other historical investigations conducted throughout the Site. A Conceptual Site Model (CSM) summarizing the Site conditions is presented in the Closure Plan that has been developed for the Site.[2] That CSM includes discussions of the Site features, including climate, stratigraphy and hydrogeology, and the nature and extent of chemical occurrence in soils and ground water.

The ownership and leasing history of the Site and the history of operations for the federal, state, and municipal agencies and private industries located at the BMI Complex are also summarized in the Closure Plan. Although use of all unlined ponds was permanently discontinued in 1976, Titanium Metals Company (TIMET), until recently (May 12, 2005), continued to use certain lined ponds built on ground within the Site once occupied by unlined ponds (identified as "TIMET Active Ponds Area" on Figure B); use of these "TIMET active" ponds was permanently discontinued on May 12, 2005. These TIMET ponds will be fully removed and the area remediated along with the rest of the used and unused ponds and their associated conveyance ditches.

After remediation, BRC plans to restore the property to a higher and beneficial use via implementation of an organized, multi-phased development program. To accommodate potential changes in land use in the future, and to properly respond to the Site's proximate location to rapidly growing residential areas and a large drinking water source, the remediation approach presumes residential land use for the entire Eastside Area except in one specific instance (i.e., in designated wetlands and in adjoining areas, where no development is planned). This area is delineated in the Closure Plan and is also shown on Figures I-1 and I-2.

1.2 PROJECT HISTORY

The Henderson Industrial Site Steering Committee (HISSC) members and the NDEP entered into a Consent Agreement dated 25 April 1991 (hereinafter "1991 Consent Agreement") that addressed a multi-phased approach to the assessment and if necessary, remediation, of environmental conditions at the Common Areas. The following three phases were identified in the 1991 Consent Agreement:

- Phase I - development of Phase I Environmental Conditions Assessment (ECA) reports for each "Individual Company Site" and the Common Areas;

[2] This Eastside CSM is currently being revised to incorporate NDEP comments, and is scheduled to be resubmitted in revised form. A summary of the CSM is provided in the Closure Plan, under NDEP review.

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- Phase II - if determined necessary by the NDEP, performance of an Environmental Conditions Investigation (ECI) to fill any data gaps identified in Phase I, and identification of appropriate remedial measures to address conditions identified in Phases I and II; and
- Phase III - if determined necessary by the NDEP, implementation of remedial measures, as identified in Phase II.

Pursuant to Liability Transfer and Assumption Agreements (December 1999 and 2002), BRC assumed the HISSC companies' Consent Agreement responsibilities regarding Common Areas soils and (with respect to certain of the HISSC companies) the ground water[3]. The NDEP agreed to these Liability Transfer and Assumption Agreements.

Phase I was completed and the results were presented in the *Phase I Environmental Conditions Assessment for the Basic Management, Inc., Industrial Complex – Clark County, Nevada* (Geraghty & Miller, April 1993; hereinafter, the "Phase I ECA Report"). Following its review of the Phase I ECA Report, the NDEP identified the need for a Phase II ECI for portions of the Common Areas. Phase II was completed in accordance with the NDEP-approved *Project Workplan - BMI Common Areas - Environmental Conditions Investigation - Henderson, Nevada* (ERM-West, February 1996). The investigation results were presented in the *Draft Environmental Conditions Investigation Report - BMI Common Areas - Henderson, Nevada* (ERM-West, August 1996). As described in detail in the Closure Plan, several field investigations were subsequently conducted to augment the 1996 body of data and to close data gaps, particularly with respect to subsurface hydrogeology. The CSM provided in the Closure Plan incorporates the results of these investigations and the results of investigations carried out historically by BRC and others.

Based on the 1996 ECI results, the NDEP requested that HISSC conduct a remedial alternatives study (RAS) for the Site to address elevated levels of site-related chemicals. The *Draft Remedial Alternatives Study for Soils in the Upper and Lower Ponds* (ERM, March 2000; hereinafter "RAS report") was subsequently submitted to the NDEP. As specified more particularly in that document, five remedial approaches were presented. The NDEP selected the alternative that calls for remediation of impacted soil/sediment as follows:

i) Excavation of all impacted soils/sediments;

[3] Although certain HISSC member companies did not formally transfer liability to BRC for ground water through a Liability Transfer and Assumption Agreement, BRC has assumed primary responsibility for the clean-up of both soils and ground water for the Site. This assumption of responsibility is recognized in the *Nevada Division of Environmental Protection Settlement Agreement and Administrative Order on Consent, BMI Common Areas, Phase 3* (NDEP, February 2006), and, accordingly, the HISSC companies are not expected to play an active role in the clean-up of the BMI Common Areas.

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ii) Transport of the excavated materials for permanent disposal off site at a private Corrective Action Management Unit (CAMU) located on and adjacent to the former, closed, Basic Magnesium, Inc. (BMI) landfill (Figure 1-2); and

iii) Interment and containment within the CAMU. Design details for the CAMU were provided in the Remedial *Action Plan* (Parsons Engineering Science, Inc., January 2000; hereinafter "RAP").

As noted above, the NDEP formally approved this remedy in the *Record of Decision – Remediation of Soils and Sediments in the Upper and Lower Ponds at the BMI Complex* (NDEP, November 2001) (hereinafter, "ROD"). The ROD referenced the CAP, RAP, and Closure Work Plan as additional in-progress documents that would provide specific details regarding the remediation process, and that would be submitted by BRC and approved by NDEP prior to remediation implementation.

Subsequent to the ROD's issuance, the NDEP and BRC *et alia* entered into an agreement that governs and specifies the performance and completion of the actions contemplated by Phase III, physical remediation. This agreement is the *Nevada Division of Environmental Protection Settlement Agreement and Administrative Order on Consent: BMI Common Areas, Phase 3* (hereinafter, "AOC3") (NDEP and BRC et al., 2006). The AOC3 provides the steps and sequence by which the remediation is to be performed. These steps are defined in the *Scope of Work*, which is part of the AOC3, and the steps are elaborated in a suite of planning and other documents, of which this Corrective Action Plan is one.

To help provide context for this CAP document, the specific aspects of the remediation identified in the ROD are described in these following documents:

Remedial Aspect Specified in ROD	Relevant Document

Liner and leachate collection system	RAP
Final cover	RAP
Monitoring	RAP
Soil Excavation	CAP
Confirmation sampling	CAP, Closure Plan, Statistical Methodology
Soil transportation and management	CAP/RAP
Reporting	RAP, CAP, and Closure Plan

As noted above, specific procedures relative to soil excavation, transportation and management, and reporting are addressed by this CAP; other issues pertaining to the remediation process are addressed in either the RAP or the Closure Plan, or one of the ancillary plans specified in the AOC3's Scope of Work, as appropriate. A prior *draft Corrective Action Plan (CAP) for Beta Ditch, Upper Ponds, and Lower Ponds, BMI Common Areas* (ERM, April 2000) submitted to NDEP by BRC reflected the design elements of the 1999 RAP. The NDEP advised BRC of its desire that the RAP be refreshed, given the lapse of time between submission of the RAP in 1999 and the draft CAP submittal in 2005. BRC provided NDEP a refreshed RAP on March 15, 2006 and has received informal comments on this document. It is being revised and is expected to be resubmitted in October 2006.

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The previous CAPs drafted in 2000, 2005, March 2006, July 2006 and August 2006 are superseded in their entirety by this CAP. A decision by BRC has been made to elect one of the two transportation options specified in the RAS (i.e., hauling excavated soils entirely by truck to the CAMU as opposed to using a conveyor system for partial transport) subsequent to the ROD; this mode of transportation has been publicized in BRC's open meetings with the Restoration Advisory Committee (RAC) and via BRC's May 2006 Fact Sheet, in accordance with the Scope of Work appended to the NDEP *Settlement Agreement and Order on Consent: BMI Common Areas, Phase 3*, dated 15 February 2006 (hereinafter "AOC3"). The Fact Sheet was mailed to over 73,000 postal addresses in five surrounding ZIP codes and to over 400 stakeholders identified in BRC's *Community Involvement Plan*. No adverse comments were received in this regard.

1.3 DOCUMENT PURPOSE AND ORGANIZATION

As stated above, the purpose of this CAP is to present and describe in detail each and all of the activities necessary to excavate, transport, and unload the contaminated soils from their current locations into the CAMU.

After this introductory section, this CAP document is organized into five sections, as follows:

- Section 2 – describes the site preparation procedures that will be performed prior to implementing the approved remedial alternative;
- Section 3 – describes the remediation activities that will be performed, including excavation, transportation, and interment;
- Section 4 – describes the internal and external reporting procedures and summarizes the community involvement process for the project;
- Section 5 – presents a proposed schematic schedule for performing remediation activities; and
- Section 6 - References.

The main text is followed by tables, figures, and appendices. Appendix A contains all of the figures and Appendix B contains a copy of the Perimeter Air Monitoring Plan. Appendix C contains a copy of the Clark County Dust Permit application along with a Dust Mitigation Plan required as part of that permit. Appendix D contains a copy of the Table of Contents of the Health and Safety Plan (HSP) that will be developed by the contractor(s) selected for this project. Finally, Appendix E contains responses to previous Agency comments - NDEP's 2 December 2005 comments on BRC's April 2005 draft submittal of the CAP (Appendix E1); responses to NDEP's 24 March 2006 comments on BRC's March 15, 2006 submittal of the CAP (Appendix E2); responses to CCDAQEM's 7 August 2006 comments and NDEP's 8 August 2006 comments on BRC's July 2006 submittal of the CAP (Appendix E3); and responses to NDEP's 8 September 2006 comments on BRC's August 2006 submittal of the CAP (Appendix E4).

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2.0 SITE PREPARATION

This section describes the site preparation activities that will be performed prior to undertaking excavation and transportation. These include excavation area clearing and grubbing, well abandonment, documentation of pre-excavation Site conditions, permitting, and establishment of site controls.

2.1 WORK AREA PREPARATION

Prior to performing soil excavation activities, the following remediation support features will be established/constructed. These features are delineated in Figure F-3.

- Access routes for authorized visitor and contractor site ingress and egress;
- Haul roads to the CAMU (see Section 3.2);
- Dust-control water pond(s);
- Visitor area;
- Management/engineering trailers;
- Refueling, repair and lubrication pads;
- Staging area for vacuum trucks;
- Excavation and hauling vehicle parking area;
- Vehicular and personnel decontamination areas (Section 3.4);
- Sanitary facilities; and
- The CAMU facility.

Berms that are contaminated will be excavated along with other contaminated soils and sediments, transported to the CAMU, and there interred. As necessary, portions of the soil berms present between ponds will also be removed to facilitate the ingress/egress of equipment and transportation of excavated soils throughout the Site.

Vegetation will be removed from excavation areas and access routes. Soil attached to plant roots will be shaken loose and left on the ground surface in the pond in which the vegetation was present, to be collected with the other soils in that pond. The vegetation will be relocated and temporarily stockpiled within the HDPE-lined Debris Storage Area (Figure F-3), where it will be tested to determine whether chemicals within site soils have bioaccumulated within plant material at levels that would cause it to be unsuitable for disposal at a municipal landfill. In the event that vegetation, after testing, meets disposal requirements in municipal landfills, they will

be so disposed. In the event that contaminant levels in vegetation dictate that they be disposed in hazardous waste landfills they will be so disposed. The testing will be consistent with requirements from potential disposal sites. Due to the potential for decomposition, settling, and leachate generation, vegetation will not be disposed in the CAMU.

Household trash and other debris (i.e., tree and lawn cuttings, scrap metal parts, car and motorcycle engines or other metal parts, concrete rubble, used bricks/cinder blocks, used appliances, and wooden and paper waste material, among other things including an abandoned dragline) have been observed throughout the Eastside Area. This debris is the result of anonymous, unauthorized dumping that occurred despite the presence of perimeter fencing erected in 1990-1991 along Site boundaries. Figure K shows a map with all identified debris locations. These locations were mapped using GPS. To date, BRC has found no evidence of releases of hazardous materials associated with the debris. However, these activities cannot be ruled out as a potential source of chemicals in Eastside Area soils. In the case of abandoned vehicles, underlying soils will be tested for TPH (total petroleum hydrocarbons), glycol, and pH, and, if contaminated, will be removed and interred in the CAMU. The nature of the other debris (e.g., paper trash, abandoned household appliances) suggests that it is not hazardous, and would require no special handling. Debris present in excavation areas will be removed from those areas and relocated in the HDPE-lined Debris Storage Area (Figure F-3). This area is a rectangular plot approximately 60 ft. x 150 ft. Debris will be removed from this area promptly and long term accumulation is not expected. If debris shows evidence of containing potentially hazardous materials (e.g., tanks with TPH products), it will be stockpiled separately within the Debris Storage Area. Small dirt berms will be created in order to provide containment of any contamination and in order to avoid stormwater run-on onto and run-off from this lined area. Sampling of the adjacent soils will be performed as discussed in Section 2.4.

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All underground pipes, electrical conductors, water and sewer lines in the remediation areas have been identified and located to the extent they exist; these will be de-energized, locked out, or blinded off prior to commencement of excavation, as appropriate. The location of these features is shown on Figure G.

2.2 WELL ABANDONMENT

As discussed in the Closure Plan, a number of monitoring wells have been installed in the Upper and Lower Ponds as part of historical field investigations. Locations of existing monitoring wells are depicted in Figure H. The earth-moving activities planned as part of remediation, and ultimately development, threaten the integrity of these wells. Damage to existing wells is costly; moreover, it poses a potential threat to ground water quality.

Therefore, BRC has evaluated whether the existing monitoring wells are suitably located and constructed such that they are appropriate and necessary for current and future ground water monitoring. The results of this evaluation are provided in Table 1 for wells within the planned

excavation area and along access routes; Table 1 also provides the results of this analysis for wells outside the planned excavation area and access routes.

Prior to initiation of soil excavation activities, BRC will abandon the wells identified in Table 1: these wells pose logistical challenges for the cleanup and therefore need to be abandoned. BRC acknowledges that similar wells may need to be reinstalled after the remediation work is completed, in order to continue groundwater characterization and remediation activities, as needed. Wells located outside excavation areas and access routes and that have been determined as no longer necessary for monitoring will be abandoned before or after remediation is performed. All well abandonment procedures will be performed in accordance with Nevada Department of Water Resource (NDWR) requirements.

Wells determined to be necessary or desirable for on-going monitoring (see Table 1) will be clearly marked, and BRC will instruct the remediation contractor to employ measures to protect these wells from damage during remediation. Protective measures will include the use of flags and/or barricades or protective fencing. Excavation in the vicinity of these wells will be conducted carefully (using hand removal techniques, as appropriate) to avoid adverse effects to the wells' integrity. If it is determined that the protective measures are not adequate for a given well, it will be abandoned in accordance with NDWR requirements, and replaced if necessary.

BRC recognizes that additional monitoring locations beyond those proposed in this CAP (including locations at which wells currently exist and are proposed for abandonment) may be required to address future monitoring and (if necessary) remediation needs for the Site.

2.3 ESTABLISH PRE-EXCAVATION CONDITIONS

Pre-excavation conditions have been assessed and documented. The purpose of this effort prior to initiation of excavation activities was two-fold:

- To identify potential "hot spot areas" that may require further characterization and/or remediation; and
- To establish initial grade for use in calculating volumes of material removed and to meet grading plan permit requirements.

The site has been surveyed, visually inspected during multiple walks, and photographed. A Site Atlas of 3-acre sub-plots has been assembled for the entire Site in order to provide a systematic analytical framework for the cleanup. The entire Site has been topographically mapped, using 1-foot elevation contours. These contours are depicted as elevations above the standard North American Vertical Datum (NAVD) (1988)[4]. This is shown in Figure D. The measurement

[4] The NAVD is the standard reference for depicting topographical surfaces and will be used on this project.

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against the NAVD thereby provides a benchmark for precisely locating surface topography, and subsurface lithography and hydrology data in the future, irrespective of changes to the surface topography.

Hot spots can exist in large- or in small-scale, and this information has been reviewed to identify areas with visual or other evidence of contamination. This evidence may in some cases be associated with the presence of debris, as noted in Section 2.1 and as shown in Figure K. Each such area will be verified by GPS coordinates and checked against Figure K before removal of any remaining debris. As described in the Closure Plan, if soils in any given area of apparent contamination have not been sampled historically, by design BRC will either: i) perform soil sampling to characterize pre-remediation conditions and determine the need for remediation, or alternatively ii) deem the area contaminated and perform excavation without further characterization, whether or not the area is located within an otherwise planned excavation area. All of these apparent contamination areas will be sampled post-remediation, irrespective of whether such an area is generated for sampling by statistical protocol. Figure J provides a decision tree that illustrates and will guide the iterative remediation/confirmation sampling process.

Prior to the commencement of excavation, individual rows/ponds as well as ditches and other areas requiring remediation will be staked in the field and posted with weatherproof signage with the pond ID/ditch section location or other identifiers and initial excavation depth(s) (per Figure G-1). The aerial extents of waste areas shown in Figure G-1 are based on visual observations. The initial estimated depths of excavation shown in Figure G-1 are based on: (a) prior intrusive investigations of pond sediment depths for the non-TIMET ponds based on visual indicators of contaminated sediments (i.e., discoloration, see Table 2); (b) knowledge of sediment depths in certain non-TIMET ponds based on storage of IRM materials in those ponds; (c) estimated depth of sediments (based on visual discoloration) in the ditches based on IRMs conducted in a section of the Beta Ditch and also in the Western and Northwestern Ditches; (d) depth of sediment in portions of the Spray Wheel (based on discoloration) based on previous investigations in the Spray Wheel; and (e) depth of sediments in the TIMET ponds (including the OPW ponds) based on discussions with TIMET personnel and review of TIMET pond construction drawings in historic TIMET documents. It should be emphasized that the various factors (a) through (e) and the depths shown in Figure G-1 provide the initial estimate of the depth of contamination at each location. Because the initial depth of contamination is a starting point in the iterative remediation process (see also Figure J), BRC is assuming the risk of excavating some material that might not warrant remediation. Based on this approach, contaminated materials will not be left behind, but will be addressed during subsequent iterations as provided in Figure J. The pond nomenclature used in prior reports will be used to identify excavation areas (e.g., PUA-09 to represent pond #9 in Upper Pond row A).

2.4 PERMITTING

Prior to commencing soil excavation activities, required permits will be obtained from the associated oversight agency. The following permits are anticipated for this project.

- A Dust Control Permit will be obtained from the Air Pollution Control Division of the Clark County Health District. A copy of this is provided in Appendix C. It includes a Dust Control Mitigation Plan. In accordance with Dust Control Permit requirements and as specified in the Perimeter Air Monitoring Plan provided in Appendix B, air monitoring will be conducted at various locations throughout the Site during the course of removal activities to ensure that off-site dust transport is adequately controlled. In addition, particulate concentrations at the Site perimeter will be measured using a MiniRam sampler. All sampling results will be included in the Corrective Action Completion Report (described in Section 4.2) to be submitted to NDEP following completion of remedial activities.
- A permit will be obtained from the NDEP under the HWIR-media rule prior to construction of the CAMU landfill. This permit is the Remedial Action Plan or RAP.
- Prior to well abandonment, BRC will submit to NDWR a completed Affidavit of Intent to Abandon Monitoring Well for each such well.
- A permit to remediate asbestos-containing materials will be obtained from the Clark County Environmental Health Department.
- If deemed appropriate by the Bureau of Water pollution, "Zero Discharge" permits will be obtained to address temporary ponds associated with remediation (i.e., decontamination rinse water, TIMET pond dewatering).
- Permits are required and have been obtained from NDOT for allowing material haulage across Boulder Highway and along the necessary portions of Warm Springs Road to the CAMU Area. BRC is awaiting City of Henderson concurrence on this. It is planned that this haulage will occur in the evening and overnight hours when the normal traffic on Boulder highway is light. Traffic at Boulder Highway will be controlled during truck crossings. The City of Henderson, Clark County, and the Nevada Department of Transportation have approved this at-grade crossing, subject to final details of roadbed restoration and crossing times. Permits will be supported with a Traffic Control Plan as necessary. The Traffic Control Plan will describe changes to the signaling procedures at the Boulder Highway/Warm Springs interchange, as well as the presence of flagmen and other temporary traffic control procedures as necessary.
- Preparation of one or more Stormwater Pollution Prevention Plans (SWPPP) and approval of such Plans by the NDEP to manage stormwater during the entire construction project at the Eastside and at the CAMU area. It is expected that the contractor chosen for the construction project will prepare the SWPPP(s).

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- No additional permits are anticipated for the disposal of effluents produced during sludge dewatering of the TIMET Ponds because these effluents will be contained within the TIMET

Ponds, where they will either 1) naturally evaporate, or 2) be subjected to a variety of other strategies, including commingling with dry soils. Upon achieving an acceptably low moisture content (see Section 3.1.2), the sediments within these ponds will be transported for interment into the CAMU.

2.5 SITE CONTROLS

Currently, a fence line around the perimeter of the Upper Ponds with locking gates limits unauthorized access to the Site. BRC expects that it will be necessary to breach this fence during the course of remedial activities. Therefore, as part of the remedial activities, the perimeter fence line will be rerouted, as necessary, to prevent unauthorized entry to the Site. BRC has long maintained a monitoring program to identify and repair breaches in the perimeter fence line. This program, which would include any new fence installed as part of remedial activities, will continue until after completion of final remediation. The gates will be kept locked except during periods of continuous ingress/egress (i.e., during transport of soils to the CAMU).

Additional site controls will be employed to control traffic flow, including pedestrian traffic, within the Site during remediation. These site controls are necessary to direct the following:

- Remediation workers;
- Vendors and subcontractors (e.g., equipment mechanics, materials delivery, trucking subcontractors, laboratory couriers);
- Site visitors (e.g., agency staff, elected or appointed government officials, journalists).

The visitor exclusion zone for the soil remediation project consists of the Upper and Lower Ponds proper. Visitors will not be allowed access to this exclusion zone. A work support area has been established just south of the TIMET ponds (Figure F-3) , within which are located all of the features identified in Section 2.1.

Signs posted on the fencing will warn visitors against unauthorized entry into the exclusion zone. Visitors will not be allowed to enter the exclusion zone, unless they provide documented proof of current training in accordance with Title 29 of the Code of Federal Regulations (CFR) Part 1910.120, and they “sign in” as authorized visitors. All personnel will be required to attend a tailgate health and safety briefing before entering the exclusion zone.

Security personnel will be present 24 hours per day, seven days a week, during the length of the remediation project.

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3.0 REMEDIATION

This section describes the remediation activities, including excavation procedures, the methods for transporting soils to the CAMU, air monitoring procedures, decontamination procedures, and documentation. One primary assumption inherent in these procedures is that the entire volume of impacted soils present at the Eastside Area will be excavated and transported to the CAMU, where it will be permanently interred. The CAMU has been sized to hold approximately 3.0 million cubic yards of material which is in excess of the volume of material calculated to be disposed in it. However, as noted in the ROD, in the event that impacted soils exceeding even this maximum CAMU volume are generated, those excess soils will be disposed of off-site, at a properly-licensed facility. In the event that this does occur, BRC will submit a supplemental Transportation Plan to the NDEP describing the transportation routes to be followed and procedures for preventing accidental releases of the material during transport. BRC has been in contact since early 2004 with the company in Texas to which TIMET has recently sent soils from its plant site. This company is licensed to receive hazardous wastes, including radioactive wastes, and has indicated to BRC that it can and would receive such wastes from the Site, if encountered and required. Locally, Apex has expressed a desire to dispose of materials from BRC in the past and, if needed, BRC will pursue this option.

To minimize effects on Boulder Highway traffic, remediation will occur during two distinct phases: during daylight hours, work will be restricted to the Site proper; during evening hours, the contaminated soils excavated during the day from the Eastside Area will be transported across Boulder Highway via the haulage road and then interred into the CAMU.

3.1 SOIL EXCAVATION

The areas planned for the initial excavation phases, as shown in Figure G-1, were identified as discussed in Section 2.3 earlier. In addition, the debris locations shown in Figure K will also be excavated.

It should be noted that, consistent with the iterative nature of the cleanup (as shown in Figure J), Figure G-1 shows the initial excavation areas. The ultimate extent of soil excavation will be based on evidence observed during Site excavation (including whether PID readings exceed background levels by 1 ppm, in which case samples will be collected for laboratory analyses) and on closure sampling results (see Figure J). Should follow-up confirmation sampling indicate the presence of unacceptable levels of contaminants (i.e., higher than required to meet project risk goals as discussed in the Closure Plan), additional excavation will occur in that area as discussed in Section 3.1.1 and Figure J until such risk goals are met.

3.1.1 Excavation Procedures

A BRC contractor will complete the excavations in accordance with the plans and specifications developed for this work, under the direction of the BRC Project Manager. Prior to initiation of excavation, the ponds (or ditches or other areas, as the case may be) to be excavated will be marked in the field by a licensed land surveyor. As noted in Section 2.1, the area IDs and planned excavation depths will be marked on weatherproof signage for reference during excavation.

The contractor will use construction equipment (e.g., scrapers, dozers, excavators, etc.) as appropriate, to remove the surface soil containing elevated concentrations of site-related contaminant chemicals. The equipment specifically planned for each phase of remediation is listed in Table 3. Within a given pond or ditch, the soils being excavated will first be scraped into daily stockpiles within that pond or ditch segment (to take place during daylight hour activities). During the transport phase, these stockpiled soils will be loaded onto dedicated trucks for direct disposal at the CAMU (Section 3.2). Weather and time permitting, the soils may also be excavated and loaded directly onto dedicated trucks for transport, omitting the stockpiling stage. BRC anticipates that approximately 7,500 cubic yards of soil will be excavated, transported, and interred each day,[5] with the actual volume dependent on equipment used, and daily conditions.

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A minimum of 6 inches of soil will be excavated from each location determined to require remediation. Excavation within each pond cell/ditch segment requiring remediation will be performed in 6-inch lifts until the excavation floor and sidewalls exhibit no visual evidence of contamination[6]. In addition, as appropriate, field screening performed as part of Health and Safety monitoring may also be used as an indication of the presence of volatile constituents in the soils.

Actual attainment of cleanup goals will be assessed by confirmation sampling and risk assessment procedures as shown in Figure J and as described in the Closure Plan. As discussed in Figure J, if confirmation sampling and risk assessment indicate that in-place concentrations

[5] As noted in Table 3, large Athey trucks are proposed for transporting soils to the CAMU. These trucks are capable of transporting 75 cubic yards of soil at one time. Based on all activities necessary (i.e., loading on soil onto trucks, covering trucks, wheel washing, travel to the CAMU, unloading of soils at the CAMU, wheel washing of returning empty trucks, and travel back from the CAMU), BRC (with input from likely project contractor/bidders) has estimated that one round trip will take approximately 50 minutes or less. Although a maximum of 12 such trucks can be used, BRC assumes that 10 trucks will be used at any one time. Thus, roughly 750 cubic yards of materials will be transported every hour. Assuming 10 hours of nighttime transport of soils each day, the approximate rate of soils movement is 7,500 cubic yards per day. BRC can also move additional soils using smaller trucks during the day and this is not included in the present calculation.

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[6] Historical Site investigations demonstrate that visual indications of contamination in surface soils (e.g., gray, discolored sediment) are readily observed in many ponds. However, many site-related chemicals do not have visual indicators, and the remediation will not rely solely on visual evidence.

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remaining after excavation constitute an unacceptable risk to human health and the environment, BRC will return to that area and expand the excavation vertically and/or horizontally until cleanup goals are attained. Lab turn-around for this project will be expedited to the extent possible: Turn-around is expected to be approximately 10 days for most analytes, with the exception of radionuclides, which will require approximately 28 days. Because the data evaluation procedures have been established in advance, BRC will be able to quickly assess resultant data to determine its reliability and associated risks, such that if it is necessary to expand excavation in a given area, it can occur during the overall excavation project, and will likely not require re-mobilization.

Under certain circumstances (such as if ground water is encountered or if the excavation potentially extends to greater depths), it may be necessary to cease remediation prior to attainment of cleanup goals. Excavation areas terminated because of either of these conditions (or in the event of other unexpected conditions) will be identified in the field notes and described in the interim status and corrective action completion reports (Section 4.1 and 4.2). If closure sampling indicates that impacted soils are present in the excavation floor in any such areas, the reported results will be evaluated in conjunction with the exposure routes and receptors associated with those depths to determine whether leaving those concentrations in place constitutes an unacceptable risk to human health and the environment.[7] If so, alternative remedial approaches will be considered and discussed with the NDEP. A decision tree that will guide this process is shown in Figure J.

When excavation in a given area ceases, it will be graded to reduce safety hazards. Excavations will be benched and sloped in accordance with the Occupational Safety and Health Administration (OSHA) guidelines presented in 29 CFR 1926, Subpart P – Excavations. Specifically, sloping and benching guidelines are presented in Appendix B of 1926 Subpart P, with supporting soil classification guidelines in Appendix A of the same subpart. Sloping or benching for excavation deeper than 20 feet (expected only in certain TIMET ponds) will be designed by a registered professional civil engineer. All excavations will be inspected by a licensed professional civil engineer, whose task it shall be to insure that excavations are being carried out in conformity to the grading plan. Furthermore, as noted in Section 3.1.5, a licensed surveyor will conduct a post-excavation topographic survey. In addition to the sloping requirement, temporary fencing will be placed along the perimeter of excavations deeper than 5 feet. Portions of the excavation sidewalls may also be flattened or the excavation partially backfilled to facilitate vehicle traffic or soil handling activities.

Excavation and hauling equipment will be fueled directly from a fuel truck brought on site for that purpose; equipment fueling will be conducted only within a designated and lined fueling area.

[7] This evaluation will be performed in accordance with the risk assessment methodologies for human and ecological health as presented in the Closure Plan.

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3.1.2 Dewatering Procedures for Active Ponds

In addition to excavated materials from the Upper and Lower Ponds and their associated conveyance ditches, remediation activities will also address the materials within the TIMET Ponds. Recognizing the importance of limiting the amount of liquid being disposed of in the CAMU (to reduce the potential for leachate generation), the moisture content of these materials will be reduced to acceptable levels prior to disposal. The goal is that the moisture content of this material be comparable to that of the excavated soils after dust suppression, approximately 20 to 40% by volume, depending on the type of soil and ambient conditions. Currently, some of the TIMET Ponds contain material with moisture content higher than this range, and dewatering may necessary.

BRC has conducted extensive pilot testing for options to dewater the TIMET Active Ponds. Based on these studies, BRC plans to dewater the material in the ponds using a combination of 1) air drying (facilitated by mechanically breaking the surface crusts if present), 2) draining of liquid through geotextile bag filters, and 3) mixing with other dry materials destined for the CAMU. Any residual material from this evaporation process will be transported to the CAMU after the moisture content noted above is achieved. The specific dewatering techniques to be used are dependent on the moisture status of a given pond, as summarized below:

(a) Dry sediments: No dewatering will be required, and the materials can be transported to the CAMU with no further treatment;

(b) Sludges and aqueous effluent: Filter material using geotextile bag approach described below, and/or mix sludges with other CAMU-ready soil excavated from elsewhere on the site.

(c) Sludges and aqueous effluent: Place material into geotextile bag, let stand for 1 to 2 weeks, during which free liquid will filter through the bag and collect in the lined pond for further evaporation; cut open the bag and air dry until target moisture content achieved. As needed, mix wet sludges with dry CAMU-ready soil excavated from elsewhere on the site.

3.1.3 Health and Safety

All remediation activities will be performed in accordance with a Health and Safety Plan(s) (HSP) developed for Site remediation activities by the contractor(s) selected for the project. These HSP(s) shall apply to the contractor's employees and subcontractors. The parameters of this HSP shall contain the items noted in the Table of Contents shown in Appendix D. Briefly, the HSP shall include the following:

- Identification of chemical and physical hazards associated with the remediation activities;
- Minimum training requirements for site workers;

- Minimum Personal Protective Equipment (PPE) for site workers and visitors and criteria for upgrades;
- Air monitoring requirements for workers' breathing zone and site perimeter (for public protection);
- Emergency information, such as emergency telephone numbers and directions to the nearest hospital; and
- Administrative requirements, such as documentation of training, daily health and safety tailgate meetings, and documentation of air monitoring.

3.1.4 Dust Control

Specific dust control procedures and requirements are presented in the Dust Control and Mitigation Plan provided in Appendix C. Basically, these procedures consist of wetting surface soil in the immediate excavation areas and along transport routes prior to and during excavation activities. The soil excavation activities will be conducted under a water spray applied as needed to mitigate airborne dust. The water used for this purpose will be potable water obtained from the City of Henderson water supply system. Dust control on the haul roads may be effected by using the magnesium chloride which is present in TIMET ponds HP-2, HP-3, HP-4, and HP-5. BRC is analyzing these ponds and if the magnesium chloride is found suitable, BRC will use this material as a dust palliative for the haul roads if the NDEP concurs.

As described in Section 3.3, during excavation activities, air monitoring will be conducted in accordance with the Perimeter Air Monitoring Plan (Appendix B) to ensure that site workers are protected and off-site dust transport is controlled.

3.1.5 Post-Excavation Grade Survey

After excavation is deemed complete[8], BRC will direct a licensed surveyor to conduct a post-excavation topographic survey. BRC will use the information from this survey to prepare a detailed topographic map representing post-remediation conditions; this map will use a 0.5-foot elevation interval. In addition, the post-excavation map will be prepared using colored contours that depict the depths excavated.

3.2 SOIL TRANSPORTATION TO CAMU

After soils are excavated, they will be loaded onto dedicated trucks for direct transportation to the CAMU area, shown in Figure A. Air monitoring during these loading activities will be

[8] Excavation completeness will be established by the Closure Sampling program and risk assessment procedures described in the Closure Plan and in the Statistical Methodology document.

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performed as discussed in Section 3.3 to evaluate the effectiveness of dust suppression measures. As described below, soils excavated from the Site will be transported in a covered truck to the CAMU approximately 1.5 to 2 miles away from the Site. Even though the soils to be transported are not hazardous waste, the haulers will possess a valid hazardous waste hauler license and will be certified to handle hazardous waste.

Access and haul routes will be clearly marked in the field with weatherproof signage. Prior to reaching Boulder Highway the access roads from the site will have gravel track-out aprons to minimize any carry-on transport of materials onto Boulder Highway. These track-out aprons will be routinely refreshed to maintain efficacy.

Spillage of soils from trucks during transport will be minimized by not overloading the transport vehicles, by grading smooth haul roads, and by employing trucks with enclosed or covered cargo bays. Dust will be controlled by water or magnesium chloride (as discussed in Section 3.1.4, in accordance with the Dust Control and Mitigation Plan (Appendix C). Because the access routes will be "wetted" to suppress dust, some mud may be generated, and it is likely that this mud would be transferred to truck tires and the vehicle body. When needed, prior to crossing Boulder Highway, the transport trucks will be decontaminated by scraping and/or a water spray to avoid transfer of dirt to the road pavement. Furthermore, decontamination will be undertaken as needed to reduce the potential for re-contamination by transport vehicles of areas that have already been remediated. Decontamination will occur in a dedicated personnel/vehicle decontamination area, depicted in Appendix A Figure F-3, in accordance with the procedures presented in Section 3.4.

In the event of an accidental release to Boulder Highway of soils being transported, the road surface will be immediately swept and vacuumed by the remediation contractor to remove such soils, as discussed in Section 3.2.1. A vacuum truck will be stationed for this purpose for the length of the soils excavation process. At a minimum, after excavation/transport operations cease for a given day, the affected portion of Boulder Highway will be cleaned to remove any soils from the roadway (see Section 3.4). As further described in Section 3.4, any soils removed from the Highway surface during these activities will be disposed of in the CAMU.

To minimize the disruption of public traffic on Boulder Highway, hauling will be performed at night. BRC anticipates that approximately 7,500 cubic yards of soil will be loaded and transported each day (the actual volume being dependent on the number of trucks used and daily conditions). Assuming the use of 75-ton capacity trucks, an estimated average of 100 truckloads will be transported each day. As noted in the project schedule presented in Section 5.0 and assuming these volumes, the duration of transportation activities is expected to be around 18 months.

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3.2.1 Transportation Routes

Transportation routes (visitor and contractor ingress/egress and haul road) to be employed during remediation are depicted in Figures F-1 and F-2. The routes are on private land owned by BRC, with the exception of the section of Boulder Highway and Warm Springs Road that is traversed on the CAMU haul road. A one-way trip to the CAMU is estimated to take around 25 to 30 minutes (dependent on the specific excavation location within the Site) and a round trip is expected to be 50 minutes or less.

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In the event of an accident resulting in release of the soils being transported, the truck driver will immediately contact the BRC field representative overseeing remediation activities. The BRC representative will immediately inspect the site of the accident and notify the remediation project Health and Safety Officer (HSO) and the local emergency management agencies. The potential for immediate threat to workers and people nearby will be evaluated, and the BRC representative, with input from the HSO, will instruct the remediation contractor to immediately take appropriate corrective steps to rectify the problem[9]. Any spilled material will be returned to the truck (or another truck, if the original truck is disabled) and transport to the CAMU will be completed. If the spill occurred on a public roadway (i.e., on Boulder Highway), the spill material will be removed, and the road surface will be immediately vacuumed to remove any remaining materials. Because the material will be disposed of in the CAMU by the remediation contractor, no characterization of the spilled material is needed or planned.

3.2.2 Soil Unloading

The soil will be transported to and unloaded at the CAMU, which will be constructed within a 113-acre area northwest of the active plants within the BMI Complex (see Figures A and C). The former BMI landfill occupies approximately 66 acres of this area.

There is little or no overlap between the footprint of the CAMU and the former BMI landfill footprint. The relationship between the CAMU, the BMI Landfill, and the slit trenches is as follows: the CAMU will overlay the slit trench area, which has been delineated to the best of BRC's ability (relying on aerial photographs, non-intrusive field investigations, and intrusive field investigations - no documentary evidence of slit trench actual construction exists). It appears from the photographic and field evidence that some of the slit-trenches lie in very close proximity to boundaries of the BMI Landfill. Thus, portions of the CAMU liner may overlay small portions of the "toe" of the BMI Landfill, but it is not BRC's intent to otherwise have the CAMU overlap the BMI Landfill to any significant extent. The location, construction, and monitoring of the proposed CAMU are described in detail in the RAP. Further details and discussion concerning the juxtaposition of the slit trenches to the CAMU are found in the RAP.

[9] The contractor conducting the excavation activities will handle all emergency response actions associated with spillage of excavated materials.

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Discussion and details concerning the location, contents, and proposed management of the slit trenches will be discussed in a separate document (Slit Trench RAS).

Trucks hauling waste materials from the Eastside Area will enter the CAMU Area from the eastern site ingress/egress at 4th Street. Trucks will then travel along site access roads adjacent to the CAMU lined landfill area and enter into the CAMU lined landfill area at dedicated access points or ramps. Once in the CAMU lined landfill area, the trucks will travel directly on the operations layer above the liner system or above previously placed waste materials. Each truck will be directed to a "working face" where the contents of the truck will be uncovered and dumped. Trucks will then travel off of the lined landfill area at 4th Street. They will proceed along the haul road, across "rumble strips," track-out aprons, and wheel washing stations before crossing Boulder Highway.

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The waste material at the working face will be spread by a bulldozer in a lift no greater than two feet in thickness and compacted using standard earthworks construction equipment. The compacted waste material will be tested using a moisture/density gauge to determine the estimated in situ moisture content and density of the waste material. The moisture content will be compared to the optimum moisture content results from previously performed moisture/density laboratory testing, approximately 20 to 40% by volume depending on soil type and ambient conditions. Ideally, the in situ moisture content will be less than the optimum moisture content, thereby minimizing the potential for liquids to "squeeze out" of the waste material upon placement of overlying materials that will increase the normal static pressure and thus the "squeezing" of the underlying waste material.

Periodically, undisturbed samples of the in situ waste materials will be collected using thin wall samplers (Shelby Tubes) and will be subjected to laboratory one-dimensional consolidation testing. The one-dimensional consolidation testing will utilize a normal stress equivalent to 1.25 times the maximum anticipated final overburden stress on the tested sample (i.e., 1.25 times the height of waste and cover system placed overlying the sample times the anticipated unit weight of the overlying waste materials and cover system materials). Each sample will be contained between two paper filters within a dry one-dimensional consolidation testing device. The results of the testing will document change in mass of the samples (indicating potential loss of moisture during the consolidation process) and the condition of filter paper placed on either side of the sample (moisture indicates potential loss of moisture during the consolidation process).

If the results of testing indicate that the moisture content of the waste materials is too high, the material will be spread in a thin lift (e.g., 6-inches thick) to allow for evaporation of excess moisture or mixed with drier waste materials to achieve the desired moisture content.

Because the CAMU disposal routes will be "wetted" with either water or magnesium chloride to suppress dust, some mud may be generated, and it is likely that this mud would be transferred to truck tires and the vehicle body. Prior to crossing Boulder Highway, the transport trucks will be decontaminated by scraping and/or a water spray to avoid transfer of dirt to the road pavement.

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These decontamination activities will be performed in the vicinity of the Vacuum Truck Station (Appendix A, Figure F-2) and the contaminated soils and rinsate handled as specified in §3.4, below.

Air quality during these unloading and redistribution activities will be monitored as discussed in Section 3.3 to evaluate the efficiency of dust control measures.

3.2.3 Dust Control During Transport

As noted in Section 3.1.3, soil excavation will be conducted using a water spray as needed for dust suppression. This moisture is not likely to evaporate during the short time/distance of travel to the CAMU (i.e., approximately 2 miles at roughly 10 miles per hour). Fugitive dust from contaminated soils during trucking to the CAMU will thereby be prevented. Furthermore, all truck contents will be covered during transport. In light of these mitigation measures, air monitoring along the transport route will not be conducted.

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Dust creation along the haul roads will be mitigated by periodic and regular application of water and/or magnesium chloride to minimize dust generation.

3.3 AIR MONITORING

Site and perimeter air monitoring will be performed in accordance with the Perimeter Air Monitoring Plan (Appendix B) for fugitive dust emissions and volatile chemical emissions, as described in the HSP, to evaluate the effectiveness of dust control measures in mitigating emissions, such that the potential for unacceptable exposures to site workers and visitors, the off-site general public, and the environment is limited.

3.3.1 Site Monitoring

The types of air monitoring to be conducted within active areas undergoing excavation, loading, and unloading include monitoring of the breathing zone and personal air monitoring. The description of these types of air monitoring is provided below.

3.3.1.1 Breathing Zone Monitoring

Breathing zone monitoring will only be required for personnel working in active excavation zones where they may be exposed above the exposure action levels as noted in the HSP. The "breathing zone" refers to the area from the top of the shoulders to the top of the head. The protocol for conducting breathing zone monitoring is outlined in the HSP.

Prior to entering an excavation area, the HSO will have established the appropriate level of Personal Protective Equipment (PPE) based on either the previous experience with similar

activities conducted elsewhere at the Site, or the results of the personal air monitoring program discussed below. Once work has commenced, breathing zone monitoring will be conducted by collecting discrete air samples every 30 minutes for Total Organic Vapor (TOV) and dust. Decisions to modify PPE will be made by comparing sustained breathing zone TOV (based on photo-ionization detector (PID) or flame-ionization detector (FID) readings) and total dust levels (based on MiniRAM readings) to the criteria presented in the HSP. The HSO may make recommendations to the contractor regarding breathing zone monitoring and appropriate respiratory and personal protection for their workers.

3.3.1.2 Personal Air Monitoring

Personal air monitoring will only be required if breathing zone or work zone monitoring results indicate that exposures over the action level may have occurred. Because there is no reliable method for determining real-time concentrations of most of the site-related chemical classes, their concentrations in airborne dust will be determined based on personal sampling results. The protocol for personal air monitoring is outlined in the HSP. The results of the personal air monitoring will be evaluated each day to determine if changes in PPE are necessary.

3.3.2 Perimeter Air Monitoring

A program for monitoring airborne dusts at points upwind and downwind of active excavation and remediation areas is detailed in the Perimeter Air Monitoring Plan (Appendix B). The results of this monitoring program will be used to determine the effectiveness of the dust control measures being employed, and to indicate whether it is necessary to implement changes to those measures.

3.4 DECONTAMINATION PROCEDURES

The specific equipment decontamination procedures that will be conducted during the remediation of Site soils are described in this section. Equipment decontamination will include the following:

- Sampling equipment decontamination (e.g., hand trowel, shovel, hand auger, mixing bowl) will be conducted between individual sampling points to avoid potential cross-contamination as described in the soil sampling SOP as provided in the BRC Field Sampling Procedures/SOP document.
- Minor decontamination such as scraping off of residual soils (i.e., those caked onto equipment) may be conducted as deemed necessary within the work site.
- Construction equipment decontamination will be conducted at the equipment decontamination pad prior to equipment leaving the Site.

The following steps will be used to decontaminate construction equipment.

1. Personnel will dress in proper personal protective equipment to reduce personal exposure.
2. Equipment heavily caked with soil and/or other material will be scraped off with a flat-bladed scraper. The scrapings will be placed in the soil staging area for disposal with the excavated soils.
3. Equipment will be decontaminated using steam cleaning equipment prior to departure from the work site. The condensate will be managed as set forth below.

As noted in Section 3.2, prior to crossing Boulder Highway, the transport trucks will be driven across gravel track out aprons, with scraping off of mud and/or use of a water spray to be performed at the dedicated decontamination area as needed to mitigate the potential for Site soils to be released to off-site areas. In addition, in response to releases, and, at minimum, after excavation/transport operations cease for a given day, the affected portion of Boulder Highway will be cleaned to remove any soils from the roadway. A dedicated vacuum truck will be stationed at the crossing for this purpose. The track out aprons will be refreshed regularly.

Excavation equipment decontamination will primarily be performed at the designated decontamination area east of Boulder Highway (Figure F-2, Appendix A). This area will consist of a concrete pad that drains into a collection area. Decontamination water will be pumped from the collection area into a storage tank, which will be periodically sampled and analyzed to determine appropriate disposal. As noted in Section 3.2.2, decontamination will also be performed at the vacuum truck station west of Boulder Highway, when truck decontamination is needed prior to a given truck crossing Boulder Highway from the western side. Some additional decontamination areas may also need to be established within a specific area or work unit, based on the type of activity performed. Supplemental decontamination stations, if any, will be designed to contain waste water and soils generated during decontamination (i.e., bermed, sloped, and lined with plastic sheeting). Rinse water generated at those supplemental stations will be added to the storage tank for the main decontamination area, and disposed of with that waste water. Soils scraped off equipment or the road will be collected, and retained at the Site, until they can be added to truck loads of soils being transported for disposal at the CAMU.

4.0 REPORTING, DOCUMENTATION, AND PUBLIC PRESENTATION ACTIVITIES

Daily logs, field notes, and digital photographs will be prepared to document each day's field activities and relevant observations of Site conditions and remediation progress. During and following completion of the remedial actions at the Site, BRC will prepare reports to the NDEP to document the progress of remedial activities and the proper completion of remediation. In addition, reporting will be performed in accordance with the various permitting requirements of other involved agencies. The following is a listing of all reports that BRC anticipates will be generated during the remediation project:

- Daily Progress Reports (to be prepared by the selected remediation contractor) documenting all daily activities. This report will be faxed (or e-mailed) to the NDEP at a designated time on the following day. In addition to this summary daily report, the contractor will also keep detailed field notes and daily logs. The logs will note where any special control measures (except dust control, which is a routine measure) needed to be implemented and/or where work has had to be terminated for any reason along with the associated reason(s).;

- Daily photographic and video record. This record will be kept by BRC documenting all remediation activities. It will consist of photographs and video footage;

- Interim Status Reports as described in Section 4.1;

- Corrective Action Completion Report as described in Section 4.2.

These documents and all other reports will be retained by BRC for the period of time consistent with that specified in Section XXIX *Retention of Records* in the AOC3.

Furthermore, as more particularly set forth in the *Community Involvement Plan – Former BMI Common Areas – Henderson, Nevada* (BRC, 2006) (CIP), public involvement activities are to be performed in support of the Common Areas investigation and remediation process.

4.1 INTERIM STATUS REPORTS

During remediation activities at the Site, BRC will submit monthly status reports to the NDEP. The purpose of the monthly status reports will be to keep the NDEP informed of the progress of remedial activities at the Site. The reports will present a summary of the remediation progress during the previous month, including as appropriate:

- Significant milestones in CAMU construction;

- Pond and ditch locations where excavation has been completed (including graphical format);
- Pond and ditch locations where special control measures (except dust control, which is a routine measure) were necessary and/or where excavation had to be prematurely terminated due to the presence of ground water or based on any of the other “stopping rules” discussed in Figure J; and
- Estimates of volumes of soil excavated and placed in the CAMU (monthly and cumulative).

Other information (e.g., discovery of significant environmental conditions previously unidentified) will be provided in the monthly status reports as warranted. Interim status meetings will also be conducted by telephone to supplement these written reports.

4.2 CORRECTIVE ACTION COMPLETION REPORT

At the conclusion of each sub-area of the project for which an NFAD will be requested in accordance with the AOC3, a Corrective Action Completion Report will be prepared, documenting completion of the remediation and the procedures followed. This report will include a description of the remediation activities performed, including data collection procedures and a summary of post-remediation site conditions based on those data. Copies of all the daily logs, field notes, site maps, surveying results (including plan and cross-sectional maps comparing pre-and post-excavation conditions), and analytical results associated with the Closure Plan sampling program will be provided. The report will also include a summary of any pond and ditch locations where excavation was prematurely terminated due to the presence of ground water or any of the other “stopping rules” discussed in Figure J. The results of the closure risk assessment will be included as appendices to this report.

4.3 COMMUNITY INVOLVEMENT ACTIVITIES

BRC's Community Involvement Plan ("CIP") presents the means by which remediation activities will be presented to stakeholders. BRC will communicate the CAP contents to the public by the means established in the CIP.

5.0 SCHEDULE

Given the residential development rapidly encroaching upon the Site, and given the fact that the TIMET active ponds have begun to dry since May 2005, BRC plans to initiate soil remediation activities upon completion of activities (and NDEP approval of reports) specified by the AOC3, including (but not limited to) the Closure Plan, this CAP, and the RAP.

The first task will be to obtain the pertinent permitting for the remediation activities; this will be done as soon as approval of those documents is received. Site preparation (well abandonment, construction of access routes/decontamination pads/re-fueling pads, etc.) will then be performed. These tasks will be performed prior to, or concurrently with, the CAMU's construction. Soil excavation and transport will not occur until after CAMU construction has proceeded to the point where it is ready to receive materials, including adequate completion of gravel mining operations in the area. Closure sampling and risk assessment as described in the Closure Plan will be performed after excavation is deemed complete, with iterative excavation phases as needed.

Once initiated, BRC presently estimates the duration of the excavation, hauling, and interment activities at around 18 months. Operations will be conducted 24 hours/day, 7 days per week. BRC will present a detailed project schedule to the NDEP for the remediation effort.

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6.0 REFERENCES

Remedial Alternatives Study for Soils and Sediments in the Upper and Lower Ponds at the BMI Complex, ERM, March 2000.

Record of Decision, Remediation of Soils and Sediments in the Upper and Lower Ponds at the BMI Complex, Henderson, Nevada, Bureau of Correction Actions, Nevada Division of Environmental Protection, November 02, 2001.

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Remedial Action Plan (RAP), Permit Application for Corrective Action Management Unit (CAMU), Henderson, Nevada, Parsons Engineering Science, January 2000, refreshed by BRC March, 2006.

Community Involvement Plan (CIP), BRC, November 2005, revised final June 2006.

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BRC Field Sampling and Standard Operating Procedures, BMI Common Areas, Clark County, Nevada. BRC and MWH, May 2006.

BRC Quality Assurance Project Plan, BMI Common Areas, Clark County, Nevada. BRC and MWH, April 2006.

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APPENDIX A

FIGURES

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APPENDIX B

PERIMETER AIR MONITORING PLAN

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DUST CONTROL PERMIT AND MITIGATION PLAN

APPENDIX D

HEALTH AND SAFETY PLAN CONTENTS

APPENDIX E1

RESPONSE TO 2 DECEMBER 2005 NDEP COMMENTS

APPENDIX E2

RESPONSE TO 24 MARCH 2006 NDEP COMMENTS

APPENDIX E3

RESPONSES TO 8 AUGUST 2006 NDEP COMMENTS

AND

7 AUGUST 2006 DAQEM COMMENTS

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APPENDIX E4

RESPONSE TO 8 SEPTEMBER 2006 NDEP COMMENTS

Table 1
Analysis Results for Retaining/Abandoning Monitoring Wells
BRC CAP

WELL	GRID ID	ABANDON?	SCREEN INTERVAL	NOTES
MCF-02A	Y17 X23	no	360-380	new well; located in Parcel 4A/B NFA
MCF-02B	Y17 X23	no	215-235	new well; located in Parcel 4A/B NFA
HMWWT-09	Y18 X21	no	40-55	located in Parcel 4A/B NFA where CA excavation is not planned
AA-27	Y18 X22	no	61.5-81.5	new well; located in Parcel 4A/B NFA
MCF-27	Y18 X22	no	361.5-381.5	new well; located in Parcel 4A/B NFA where CA excavation is not planned
WTB-05	Y18 X22	no	na	located in Parcel 4A/B NFA where CA excavation is not planned
AA-01	Y19 X21	no	29-49	new well; not in area expected to have CA excavation
BEC-01	Y19 X21	no	25-40	not located in area expected to have CA excavation; downgradient of AA-01 so could be abandoned to eliminate redundancy
HMWWT-10	Y19 X21	no	39-54	located in area not expected to have CA excavation
LG025	Y19 X21	no	19-23	appears to be in new roadway; not in area where CA excavation activities are expected; possibly in paleochannel
LG026	Y19 X21	no	87-90	appears to be in new roadway; not in area where CA excavation activities are expected; possibly in paleochannel
MCF-01A	Y19 X21	no	335-355	new well; not in area expected to have CA excavation
MCF-01B	Y19 X21	no	55-85	new well; not in area expected to have CA excavation
PG203	Y19 X21	no	na	Well is not located in area of expected CA excavation; TD= 28 feet, installed in 1982,additional well construction data not available
PG204	Y19 X21	no	10-30	appears to be in new roadway; installed in 1982 and other newer wells in vicinity
WTB-01	Y19 X21	no	na	located in area not expected to have CA excavation. Near paleochannel.
WTB-04	Y19 X22	no	na	located in Parcel 4A/B NFA where CA excavation is not planned
HMWWT-08	Y19 X23	no	56-71	located in Parcel 4A/B NFA where CA excavation is not planned
WTB-06	Y19 X23	no	na	located in Parcel 4A/B NFA where CA excavation is not planned
MCF-03A	Y19 X25	no	364-384	new well; located in Parcel 4A/B NFA where CA excavation is not planned
MCF-03B	Y19 X25	no	57-77	new well; located in Parcel 4A/B NFA where CA excavation is not planned
PG206	Y20 X21	yes	16-36	located in alpha ditch
POU3	Y20 X21	no	35-65	located in area expected to have CA excavation (UA-17)
DM-01	Y20 X22	no	30-55	located in area expected to have CA excavation (UA-15)
HMW18	Y20 X22	no	na	not owned by BRC; located in southern RIBs
HMWWT-04	Y20 X22	no	36-51	not in area expected to have CA excavation
POU1	Y20 X22	no	48-58	not located in area expected to have CA excavation
DM-02	Y20 X23	yes	30-65	located in area expected to have CA excavation (UA-14)
HB-01	Y20 X23	yes	na	located in area expected to have CA excavation (near beta ditch at UA-13)
HMW17	Y20 X23	no	na	not owned by BRC; located in southern RIBs adjacent to beta ditch
HMW20	Y20 X23	no	na	not owned by BRC; located in southern RIBs away from areas expected to have CA excavation
WTB-02	Y20 X23	no	na	located in southern RIBs; well completion data not available; well installed in 1990
HB-02	Y20 X24	no	na	located in southern RIBs
HMW21	Y20 X24	no	na	not owned by BRC; not located in area expected to have CA excavation
HMWWT-06	Y20 X26	no	36-51	located in Parcel 4A/B NFA where CA excavation is not planned

Table 1
Analysis Results for Retaining/Abandoning Monitoring Wells
BRC CAP

WELL	GRID ID	ABANDON?	SCREEN INTERVAL	NOTES
WTB-07	Y20 X26	no	na	located in Parcel 4A/B NFA but near a well that is not to be abandoned; well completion data not available, installed in 1990
AA-09	Y21 X21	no	30-65	new well but located in area with potential for CA excavation (ESPEY staging and test pit area)
BEC-04	Y21 X21	no	25-40	located in UH-15
MCF-09A	Y21 X21	no	270-290	located in area with likelihood for CA excavation (ESPEY staging and test pit area)
MCF-09B	Y21 X21	no	105-125	located in area with likelihood for CA excavation (ESPEY staging and test pit area)
PG242	Y21 X21	yes	21-41	located in area with likelihood for CA excavation (ESPEY staging and test pit area); nearby wells to be kept with similar screen interval
POD5	Y21 X21	yes	31-36	located in area with likelihood for CA excavation (ESPEY staging and test pit area), nearby well to be kept with similar screen interval
POD5-R	Y21 X21	no	na	located in area with likelihood for CA excavation (ESPEY staging and test pit area) but well is not owned by BRC, installed in 1982
POD6	Y21 X22	yes	61-66	located near area with likelihood for CA excavation (ESPEY staging and test pit area); nearby wells with similar screen interval to be kept
POD6-R	Y21 X22	no	na	not owned by BRC but well is located adjacent to TIMET active ponds and ESPEY staging area where CA excavation could be conducted
POD7-R	Y21 X22	no	na	not located in area with anticipated CA excavation but well completion data is not available
AA-13	Y21 X23	yes	38-58	new well but located in area expected to have CA excavation (UA-13/14)
HB-04	Y21 X23	yes	na	located in area expected to have CA excavation (UA-13)
HMW-10	Y21 X24	yes	38-53	located adjacent to beta ditch in area expected to have CA excavation
HMW-11	Y21 X24	yes	40-55	located adjacent to beta ditch in area expected to have CA excavation
HMWWT-02	Y21 X24	no	32-47	not located in an area expected to have CA excavation
HMWWT-07	Y21 X24	no	41-56	not located in an area expected to have CA excavation
PG219	Y21 X24	yes	22-52	located in beta ditch in area expected to have CA excavation (adjacent to UB-10)
POU2	Y21 X24	yes*	33-38	located in area expected to have CA excavation (UA-12); TIMET well; well was dry in October 1998
HB-05	Y21 X26	no	na	located in Parcel 4A/B NFA but near new well that is not to be abandoned; well construction details are not available
MCF-04	Y21 X26	no	379-399	new well; located in Parcel 4A/B NFA where CA excavation is not planned
POD1	Y22 X21	no	41.5-51.5	not located in area expected to have CA excavation; located between two newer wells to be kept with similar screen intervals
POD1-R	Y22 X21	no	na	not located in area expected to have CA excavation; no well construction information
DM-03	Y22 X22	no	29-64	not located in area expected to have CA excavation; installed in 1992
POD2	Y22 X22	no	41-46	not located in area expected to have CA excavation; installed in 1982
POD2-R	Y22 X22	no	45-65	not located in area expected to have CA excavation
POD2-R2	Y22 X22	no	na	not located in area expected to have CA excavation; not owned by BRC
POD7	Y22 X22	no	48-53	located adjacent to Spray Wheel area, CA excavation not anticipated in this area but well was installed in 1982 and other nearby newer well w/ similar well screen interval is to be kept
AA-14	Y22 X23	no	33-58	new well; located within Spray Wheel area
BEC-05	Y22 X23	yes	54-69	located in beta ditch in Spray Wheel area - expected to have CA excavation in this area
LG023	Y22 X23	yes	43-44	complete well construction details not available; possible area of CA excavation
LG024	Y22 X23	yes	1-30	complete well construction details not available; possible area of CA excavation; poor well construction based on available info

Table 1
Analysis Results for Retaining/Abandoning Monitoring Wells
BRC CAP

WELL	GRID ID	ABANDON?	SCREEN INTERVAL	NOTES
POD3	Y22 X23	yes*	65.5-75.5	located in Spray Wheel area in area with likelihood of CA excavation; installed in 1980 and other newer wells are nearby to be kept; owned by TIMET; well was dry in October 1998
POD3-R	Y22 X23	yes*	na	located in Spray Wheel area in area with likelihood of CA excavation; other newer wells are nearby to be kept; well owned by TIMET
POD4	Y22 X23	yes*	47-52	located in spray wheel area near beta ditch where likelihood of CA excavation; well installed in 1982
POD4-R	Y22 X23	yes*	na	well construction details not available; located in spray wheel area near beta ditch; well was dry in October 1998
POD8	Y22 X23	no	42.5-72.5	located in area with likelihood of CA excavation but is within a paleochannel; newer well with similar well screen interval is located nearby that will be kept; in paleochannel
LG013	Y22 X24	yes	241-243	complete well construction details not available; located in area with likelihood of CA excavation (UD-8); likely installed in early 1980s; sediment approximately 2-3 feet thick in this area**
LG014	Y22 X24	yes	na	located in area with likelihood of CA excavation (UD-8); likely installed in early 1980s; sediment is approx. 2-3 feet thick in this area**
PG220	Y22 X24	yes	26-66	complete well construction details not available; located adjacent to beta ditch in area likely to have CA excavation (UE-7); well was dry in October 1998
BEC-06	Y22 X25	yes	65-80	located in area expected to have CA excavation (UA-9/UB-9); sediment thickness is approx. 3 feet thick in this area**
WTB-03	Y22 X25	yes	na	located in area expected to have CA excavation (UA-8)
AA-11	Y23 X21	no	9-29	new well; not in area expected to have CA excavation
MCF-11	Y23 X21	no	93.5-103.5	new well; not in area expected to have CA excavation
PG210	Y23 X21	no	10-20	complete well construction data not availalble; not located In area with expected CA excavation but located near wells not to be abandoned
PG211	Y23 X21	no	15-35	complete well construction data not availalble; not located In area with expected CA excavation but located near wells not to be abandoned
AA-15	Y23 X22	no	20-40	new well; not in area expected to have CA excavation
BEC-07	Y23 X22	no	45-60	not located in area expected to have CA excavation
PG222	Y23 X22	no	20-40	not located in area expected to have CA excavation
PG221	Y23 X23	yes	27.6-37.6	located immediately adjacent to beta ditch
DM-09	Y23 X25	yes	40-60	located in area expected to have CA excavation (UE-5) and near new wells to be kept; dry in October 1998
MCF-16A	Y23 X25	no	364.5-384.5	new well located in area with likelihood of CA excavation (UG-5) but in "shelf" area of cell
MCF-16B	Y23 X25	no	283.7-313.7	new well located in area with likelihood of CA excavation (UG-5) but in "shelf" area of cell
MCF-16C	Y23 X25	no	53-73	new well located in area with likelihood of CA excavation (UG-5) but in "shelf" area of cell
AA-19	Y24 X22	no	22-42	new well located adjacent to beta ditch and blackened soil excavation area
BEC-09	Y24 X23	no	44-59	not located in area expected to have CA excavation but is near beta ditch
AA-18	Y24 X25	no	44.5-64.5	new well; not in area expected to have CA excavation
BEC-10	Y24 X25	no	73-88	not located in area expected to have CA excavation
MCF-12 A	Y24 X28	no	349.5-369.5	new well; located in Parcel 4A/B NFA
MCF-12 B	Y24 X28	no	64-84	new well; located in Parcel 4A/B NFA
MCF-12 C	Y24 X28	no	155-175	new well; located in Parcel 4A/B NFA
B2-14	Y25 X21	no	na	not owned by BRC; located in CoH WRC
DM-04	Y25 X21	no	8.1-23.1	not in area expected to have CA excavation

Table 1
Analysis Results for Retaining/Abandoning Monitoring Wells
BRC CAP

WELL	GRID ID	ABANDON?	SCREEN INTERVAL	NOTES
LG021	Y25 X21	no	37-39	complete well construction details not available; installation date unknown; located in CoH WRC
LG022A	Y25 X21	no	na	well construction details not available; located in CoH WRC near beta ditch
PG214	Y25 X21	no	10-20	not in area expected to have CA excavation but well was installed in 1982 and is located near newer well that is to be kept
PG215	Y25 X21	no	5-20	not in area expected to have CA excavation but well was installed in 1982 and is located near new well that is to be kept
AA-20	Y25 X22	no	10-30	new well; located in area not expected to have CA excavation
DW-01	Y25 X22	no	na	well construction details not available; not located in area expected to have CA excavation but is located near new well that is to be kept
MCF-05	Y25 X22	no	221-231	new well; located in area not expected to have CA excavation
PG231	Y25 X22	no	7-17	located in area not expected to have CA excavation; complete well construction details are not available; installed in 1982; located near newer shallow well to be kept (DM-05)
DM-05	Y25 X23	no	6.9-21.9	located in area not expected to have CA excavation; installed in 1995
PG232	Y25 X23	no	7-17	complete well construction details not available; well installed in 1982; located in area not expected to have CA excavation but located near newer shallow well that is to be kept
PG233	Y25 X23	no	20-30	not in area anticipated to have CA excavation activities; good location but old well (installed 1982) and complete well construction details are not available.
MCF-06B	Y25 X24	no	67-82	new well; located in area not expected to have CA excavation
MCF-06C	Y25 X24	no	44-59	new well; located in area not expected to have CA excavation
BEC-12	Y25 X28	no	45-60	located in Parcel 4A/B NFA
ESE-B7	Y25 X28	no	na	located in Parcel 4A/B where CA excavation activities arent anticipated but well construction details are not available
AA-10	Y26 X17	no	10-40	new well; located in area not expected to have CA excavation
MCF-10A	Y26 X17	no	365-385	new well; located in area not expected to have CA excavation
MCF-10B	Y26 X17	no	84-104	new well; located in area not expected to have CA excavation
B2-03	Y26 X21	no	na	not owned by BRC; located in CoH WRC
B2-06	Y26 X21	no	na	not owned by BRC; located in CoH WRC
B2-08	Y26 X21	no	na	not owned by BRC; located in CoH WRC
B2-10	Y26 X21	no	na	not owned by BRC; located in CoH WRC
PC-001	Y26 X21	no	na	not owned by BRC; located in CoH WRC
PC-002	Y26 X21	no	na	not owned by BRC; located in CoH WRC
PC-003	Y26 X21	no	na	not owned by BRC; located in CoH WRC
PC-004	Y26 X21	no	na	not owned by BRC; located in CoH WRC
PC-005	Y26 X21	no	na	not owned by BRC; located in CoH WRC
PC-006	Y26 X21	no	na	not owned by BRC; located in CoH WRC
PC-007	Y26 X21	no	na	not owned by BRC; located in CoH WRC
PC-008	Y26 X21	no	na	not owned by BRC; located in CoH WRC
PG225	Y26 X21	no	15-28	complete well construction data not available; located in CoH WRC
PG223	Y27 X18	no	na	located adjacent to ditch in "hook"
PG228	Y27 X21	no	0-8	complete well construction data not available; located in CoH WRC; appears to be inproperly installed based on available data

Table 1
Analysis Results for Retaining/Abandoning Monitoring Wells
BRC CAP

WELL	GRID ID	ABANDON?	SCREEN INTERVAL	NOTES
LG027	Y28 X18	no	57-62	complete well construction data not available; located adjacent to Sunset North IRM area and near new wells to be kept
LG028A	Y28 X18	no	10-25	complete well construction data not available; located adjacent to Sunset North IRM area and near new wells to be kept
MW-T	Y28 X18	no	na	not owned by BRC;located immediately west of Sunset North IRM area
PC-110	Y28 X18	no	na	not owned by BRC;located immediately west of Sunset North IRM area
PC-111	Y28 X18	no	na	not owned by BRC;located immediately west of Sunset North IRM area
PC-108	Y28 X19	no	9.7-44.7	not owned by BRC; located within Sunset North IRM area
PC-109	Y28 X19	no	na	not owned by BRC; located within Sunset North IRM area
PC-112	Y28 X19	no	na	not owned by BRC; located immediately east of Sunset North IRM area
PC-059	Y28 X20	no	4.8-34.8	not owned by BRC
PC-062	Y28 X20	no	7.6-37.6	not owned by BRC
PC-063	Y28 X20	no	na	not owned by BRC; no well completion data
PC-068	Y28 X20	no	10-55	not owned by BRC
PC-069	Y28 X20	no	na	not owned by BRC; no well completion data
PC-113	Y28 X20	no	5-30	not owned by BRC
PC-114	Y28 X20	no	5-30	not owned by BRC
PG226	Y28 X20	no	na	no well completion data; located in area where CA excavation is not anticipiated
PG229	Y28 X20	no	10-20	complete well construction details not available; located near wetlands in area not anticipated to have CA excavation
PG230	Y28 X20	no	1-10	complete well construction details not available; located in area not expected to have CA excavation
LG019	Y28 X21	no	63-67	complete well construction details not available; located near wetlands in area not anticipated to have CA excavation
PC-056	Y28 X21	no	48-54.8	not owned by BRC; located in area not anticipated to have CA excavation
PC-057	Y28 X21	no	na	not owned by BRC; well construction details not available
PC-058	Y28 X21	no	7.8-32.8	not owned by BRC; located in area not anticipated to have CA excavation
PC-060	Y28 X21	no	5-39.5	not owned by BRC; located near wetlands in area not anticipated to have CA excavation
PC-061	Y28 X21	no	7.6-37.6	not owned by BRC; located in area not anticipated to have CA excavation
PC-099	Y28 X21	no	na	not owned by BRC; located near wetlands in area not anticipated to have CA excavation
PC-099R2/R3	Y28 X21	no	na	not owned by BRC; located near wetlands in area not anticipated to have CA excavation
PC-115R	Y28 X21	no	10-50	not owned by BRC; located near wetlands
MW-K8	Y28 X22	no	17.5-50	not owned by BRC; located in area not anticipated to have CA excavation
PC-091	Y28 X22	no	26.5-36.5	not owned by BRC; located in area not anticipated to have CA excavation
PC-092	Y28 X22	no	11.5-21.5	not owned by BRC; located in area not anticipated to have CA excavation
PC-093	Y28 X22	no	27.5-37.5	not owned by BRC; located in area not anticipated to have CA excavation
PC-094	Y28 X22	no	9-19.5	not owned by BRC; located in area not anticipated to have CA excavation
W04	Y28 X22	no	25-30	not owned by BRC; located in area not anticipated to have CA excavation
MW-U	Y29 X17	no	23-42.5	not owned by BRC; located in area not anticipated to have CA excavation
MW-V	Y29 X17	no	na	not owned by BRC; located in area not anticipated to have CA excavation

Table 1
Analysis Results for Retaining/Abandoning Monitoring Wells
BRC CAP

WELL	GRID ID	ABANDON?	SCREEN INTERVAL	NOTES
AA-08	Y29 X18	no	5-35	new well; located in area not expected to have CA excavation
MCF-08A	Y29 X18	no	350-370	new well; located in area not expected to have CA excavation
MCF-08B	Y29 X19	no	107.5-137.5	new well; located in area not expected to have CA excavation
MW-K6	Y29 X20	no	na	not owned by BRC; located near wetlands in area not anticipated to have CA excavation
PC-079	Y29 X20	no	na	not owned by BRC; located near wetlands in area not anticipated to have CA excavation
PC-080	Y29 X20	no	na	not owned by BRC; located near wetlands in area not anticipated to have CA excavation
PC-081	Y29 X20	no	na	not owned by BRC; located near wetlands in area not anticipated to have CA excavation
PC-082	Y29 X20	no	na	not owned by BRC; located near wetlands in area not anticipated to have CA excavation
PC-083	Y29 X20	no	na	not owned by BRC; located near wetlands in area not anticipated to have CA excavation
PC-084	Y29 X20	no	na	not owned by BRC; located near wetlands in area not anticipated to have CA excavation
LG020	Y29 X21	no	14-18	located near wetlands; complete well construction details not available
MW-K7	Y29 X21	no	na	not owned by BRC
PC-085	Y29 X21	no	na	not owned by BRC
PC-086	Y29 X21	no	na	not owned by BRC
PC-087	Y29 X21	no	na	not owned by BRC
PC-088	Y29 X21	no	na	not owned by BRC
PC-089	Y29 X21	no	na	not owned by BRC
PC-090	Y29 X21	no	na	not owned by BRC
PC-102	Y29 X21	no	na	not owned by BRC
PC-116R	Y29 X21	no	na	not owned by BRC
PC-117	Y29 X21	no	na	not owned by BRC
PC-118	Y29 X21	no	na	not owned by BRC
PC-119	Y29 X21	no	na	not owned by BRC
PC-120	Y29 X21	no	na	not owned by BRC
PC-121	Y29 X21	no	na	not owned by BRC

Notes:
* well proposed for abandonment that is not owned by BRC; third-party owner approval will be required in order to abandon well
** Based on field measurements in 2001

Table 2
Summary of Sediment Depths in Non-TIMET Ponds based on Discoloration
BRC CAP

		Depth of Sediment (inches)																											
Row ID		UA				UB				UC				UD				UE				UF				UG			
		North	South	East	West	North	South	East	West	North	South	East	West	North	South	East	West	North	South	East	West	North	South	East	West	North	South	East	West
Cell ID	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0
	4	0	0	0	0	0	0	0	0	8	10	2	11	0	0	0	0	4	2	1	3	3	0	0	4	3	0	3	0
	5	0.5	0	0.5	0.5	2	1	2	1	36	18	25	28	1	1	0.5	2	8	10	9	4	6	6	6	9	5	3	2	3
	6	7.5	0	6.5	2	5	3	2	6	37	30	35	28	8	5	3	4	27	22	10	11	19	17	6	6	10	6	4	3
	7	6	0	1	6	8	26	7	28	44	34	36	36	24	17	11	9	26	30	20	20	20	20	22	16	17	25	18	30
	8	6	1	6	4.5	38	36	36	40	38	25	20	24	30	27	17	13	-	-	-	-	-	-	-	-	-	-	-	-
	9	35	0	11	8	42	36	40	39	-	-	-	-	40	36	18	17	-	-	-	-	-	-	-	-	-	-	-	-
	10	18	8	10	30	36	18	32	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note:

Sediment thicknesses were measured using shovel and measuring tape. Field staff dug down to native soils to the extent possible and measured the depth to that interface at four locations in each pond (on the north, south, east, and west centers). In some of the ponds with anomalously thick sediment accumulation, such as rows A-F adjacent to the Beta Ditch, it was necessary to estimate the depth because of difficulties associated with keeping the hole open to depth.

Table 3
Anticipated Remediation Equipment
BRC CAP

Equip Type		#	Length	Width
Load-Out Operation (Eastside Area)				
D-8	Dozer	1	25'	12'
D-10	Dozer	2	31'	15'
988	Loader	1	35'	12'
992	Loader	2	35'	12'
621	Waterpull	2	50'	12'
631	Scraper	7	50'	12'
623	P/W Scraper	2	45'	12'
16G	Blade	2	35'	10'
365/385	Excavator	2	30'	12'
776	Athey Wagon w/ tracktor	10	61'	17'
773	Off-Road Dump Truck			
	End Dump	2	60'	10'
	Lube Truck	1	20'	9'
	Crew Truck	2	18'	9'
	Water Stand Tank	1	25'	12'
Boulder Highway Crossing Operation				
	Sweepers	2	20'	10'
950	Loader	1	30'	11'
	Light Plant	4	5'	5'
	Traffic Reader Boards	2	12'	5'
Haul Route Operation (Hwy. Crossing to CAMU Area)				
14G	Blade	1	35'	10'
621	Waterpull	1	50'	12'
	Water Stand Tank	1	25'	12'
	Light Plant	10	5'	5'

Perimeter Air Monitoring Plan

For

Soil Remediation Activities
BMI Upper and Lower Ponds
and Ditches
Clark County, Nevada

August 2006

Basic Remediation
COMPANY

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TABLE 1 – PRELIMINARY PROJECT SCREENING LEVELS

ATTACHMENT A – EXAMPLE FORMS

LIST OF ACRONYMS

AIHA	American Industrial Hygiene Association
BRC	Basic Remediation Company
CAMU	Corrective Action Management Unit
CAP	Corrective Action Plan
CCDAQM	Clark County Department of Air Quality Management
CFM	Cubic feet per minute
COC	Constituent of concern
GC	Gas chromatography
HSP	Health and Safety Plan
ICP	Inductively coupled plasma
LPM	Liters per minute
$\mu g/m^3$	Micrograms per cubic meter
MD	Multi-detector detection
MS	Mass spectrometry
NDEP	Nevada Department of Conservation and Natural Resources, Division of Environmental Protection
NIOSH	National Institute for Occupational Safety and Health
PAH	Polynuclear aromatic hydrocarbon
PAMP	Perimeter Air Monitoring Plan
PCB	Polychlorinated biphenyl
PM10	Particulate matter, aerodynamic diameter of 10 microns or less
PUF	Polyurethane foam
OSHA PEL	Occupational Safety and Health Administration Permissible Exposure Limits
PRG	USEPA Region IX Preliminary Remediation Goals
QAPP	Quality Assurance Project Plan
RBC	Risk-Based Concentrations, USEPA Region III
SRC	Site-related chemical
SVOC	Semi-volatile organic compounds
TSP	Total suspended particulate
USEPA	United States Environmental Protection Agency
VFC	Volumetric flow controller
VOC	Volatile organic compound

1.0 INTRODUCTION

As part of the revised *Corrective Action Plan for the Basic Remediation Company (BRC) Common Areas Remediation Project* (BRC, July 2006) (CAP), Basic Remediation Company (BRC) has developed this *Perimeter Air Monitoring Plan* (PAMP) to be implemented during the soil remediation at the Basic Environmental Company property, located in Clark County, Nevada. The site consists of the Eastside Area (from where contaminated sediments and soils will be excavated) and the Corrective Action Management Unit or CAMU Area (wherein contaminated sediments or soils will be interred and capped). This PAMP has been developed to establish the procedures by which the project team will monitor the effectiveness of the engineering controls for mitigating off-site airborne emissions of particulate matter (and thereby, associated chemicals) found in the soil at the site.

The planned soil remediation activity includes the following tasks:

- Excavation of surface soil and potential stockpiling at the Eastside Area of the site;
- Loading of soil at the Eastside Area and transportation to the CAMU for disposal, and unloading of the soils at that CAMU; and
- Implementation of mitigation measures as required by local ordinances and in order to effectuate dust control. The planned dust control procedures are described in CAP Section 3.1.4 and Appendix C (*Dust Control and Mitigation Plan*).

It is anticipated that these activities will be performed for the duration of the remediation project, presently estimated to be roughly an eighteen-month period.

This PAMP has been developed to meet the requirements of interested governmental agencies such as the Clark County Department of Air Quality Management (CCDAQM) and the Nevada Division of Environmental Protection (NDEP). This PAMP establishes requirements for monitoring and sampling airborne constituents at the site perimeter and for controlling exposures to the general public. This PAMP consists of the following:

- Identification of constituents of concern (COCs);
- Air monitoring program;
- Action levels; and
- Reporting requirements.

Dust suppression controls shall be implemented during the project to comply with the air quality regulations administered and enforced by the CCDAQM, Sections 90-94 and to impede the generation of airborne dust due to intrusive on-site activities. These control measures are discussed in Appendix C of the CAP. Emission of particulate matter from the site will be monitored by BRC as described in this PAMP to assess the effectiveness of these dust control measures in mitigating potential impacts to the off-site general public. The BRC Project Manager will designate a Dust Control Monitor as required by Section 94. This individual shall have full authority to provide that dust suppression is implemented, including inspections, record keeping, deployment of resources, and shutdown of construction activities as needed. The Dust Control Monitor shall be present at all times that construction activities occur on the project site and shall devote the majority of his or her time specifically to managing dust prevention and control on the site. This individual will have successfully completed the required DAQM classes necessary to maintain certification as a Dust Control Monitor.

2.0 IDENTIFICATION OF CONSTITUENTS OF CONCERN

As previously stated, this PAMP has been developed to establish procedures for monitoring the effectiveness of dust control measures during remediation by mitigating the impact of potential airborne COCs on the general public located in the vicinity of the Eastside and CAMU locations. Exposure of on-site workers to COCs will be addressed in the site-specific Health and Safety Plan (HSP) to be developed by the contractor (the contents of this HSP are provided in Appendix D to the CAP). The following site-related chemicals have been identified at the site, and have been considered in the development of this PAMP:

- Metals;
- Semi-volatile organic compounds (SVOCs);
- Volatile organic compounds (VOCs);
- Polychlorinated biphenyls (PCBs);
- Pesticides;
- Dioxins and furans;
- Perchlorate;
- Radionuclides;
- Asbestos; and
- Airborne particulate.

As noted earlier, several of the chemical classes listed above (i.e., metals, PCBs, pesticides, dioxins/furans, SVOCs, perchlorate, and radionuclides) adhere to soil particles that could become airborne and be transported off-site with the prevailing wind if dust mitigation were not implemented or were not effective. Asbestos has a fibrous composition and is present in some site soils to be remediated. Unmitigated, it may become airborne and be transported off-site. Dust suppression measures will be implemented to suppress dust and fiber emissions during excavation, loading, and disposal activities, as described in the Dust Control and Mitigation Plan (see Appendix C of the CAP). These measures involve a significant amount of particulate mitigation (such as watering and vacuuming of releases off of roadways etc.) to be implemented in conjunction with the remediation activities, which will lead to little or no emissions of fibers, particulates and associated COCs.

Volatile emissions are not expected during remediation. Despite this, if volatile constituents are in fact present in Eastside Area soils, Health and Safety direct

read-out monitoring will identify whether volatile compounds are released to the atmosphere during remediation activities. No additional monitoring of volatile emissions is proposed as part of this PAMP.

3.0 AIR MONITORING PROGRAM

This section covers the air monitoring program to be implemented at the site. To assist in implementing this program, the following elements are addressed:

- Air monitoring strategy;
- Monitoring locations;
- Monitoring and sampling methods;
- Monitoring schedule;
- Notification requirements; and
- Quality assurance and control measures.

3.1 AIR MONITORING STRATEGY

Air monitoring and sampling will be performed continuously during soil remediation activities at the site to assess the potential exposure of the general public in the neighboring communities due to airborne emissions. Specifically, this PAMP pertains to air monitoring at stations established at the site perimeters (both Eastside and CAMU Areas) as well as at individual soil management zones (defined below). The methodology by which this air monitoring strategy will be implemented is briefly summarized below and then discussed in greater detail in the following sections.

- Three "permanent" air monitoring stations each will be established along the perimeter of the Eastside Area and at the CAMU to measure upwind and downwind airborne emissions. In addition, if BRC elects to use the contingent haul road that abuts the residential neighborhood on Pabco Road (see Figure F-1), an additional monitoring station will be situated along that route on BRC property. In addition, two air monitoring stations will be established daily at up- and downwind locations from the soil management zone for that day.
- Periodic VOC monitoring will be performed with a direct read-out organic vapor analyzer (i.e., flame or photo ionization detector) as part of the Health and Safety monitoring.
- Meteorological conditions, especially wind direction and velocity, will be monitored during the work to assist in determining the proper location of the monitoring stations.

- Air monitoring for particulates will be performed on the site during the project activities. This monitoring will be performed by the Dust Control Monitor or Health and Safety Officer using a direct-reading instrument, such as a DataRAM dust monitor equipped with the necessary accessories (omnidirectional inlet, and a temperature conditioning heater).
- Air sampling for particulate (PM10) will be performed using United States Environmental Protection Agency (USEPA) Compendium Method IO-2.1.
- At the start of remediation activities at a given sub-area, BRC will collect additional samples, namely total suspended particulate (TSP) and polyurethane foam (PUF) samples for chemical analysis (see discussion below at 3.3.2.3). The analytes chosen will depend on the chemicals known or suspected of being present in the subject area, and the human toxicity of those chemicals (i.e., chemicals with a low human health exposure threshold. See discussion below at 3.3.2.3).
- Air sampling for asbestos will be performed using Method 7400, which was developed by the National Institute for Occupational Safety and Health (NIOSH) or an alternate method to attain the required action level.
- A laboratory certified by the NDEP and NELAC and/or accredited by the American Industrial Hygiene Association (AIHA) will perform analysis of the samples, as appropriate.

Quality assurance and control measures will be implemented to provide proper calibration of instrumentation, confirm that appropriate sample collection and handling procedures are used, and assess if additional air monitoring and sampling at the site perimeter stations are necessary.

3.2 MONITORING LOCATIONS

3.2.1 Air Monitoring Stations

This PAMP includes the establishment of three "permanent" air monitoring stations each at the CAMU and Eastside areas. The locations of these air monitoring stations are presented in Figure 1, and are based on an assumed typical wind flow from the southwest. As noted in that figure, two alternate locations have been established for the upwind monitoring station at the CAMU area. Only one of these will be operational during a given day. The specific monitoring station location will be determined based on the wind conditions for a given day, and will reflect the optimal upwind location. Similarly, two alternate downwind locations have been established for the Eastside area; only one of these will be operational for a given day.

In addition, as noted in Section 3.1, two air monitoring stations (one upwind, one downwind) will be established at each soil management zone for each day at the Eastside. A soil management zone is defined as the area on the site where soil excavation (i.e., remediation activities such as creation of load-out piles or consolidation piles) is being performed during the day in question. Specific monitoring station locations will be based on the prevailing wind direction and site-specific meteorological conditions. An example soil management zone, and the anticipated local air monitoring stations associated with that zone (assuming typical wind flow from the southwest) are depicted in Figure 1.

The location of the stations will be chosen on the basis of where intrusive activities are being performed on-site relative to wind direction. This approach is intentionally designed to provide a realistic representation of impacts to the air by the activities being performed at the soil management zones and CAMUs and not by the site alone (e.g., undisturbed areas) or due to non-site related factors (such as activities by others, including traffic, at the site boundary.

It is important to note that PM10 monitoring has been selected to provide a reasonable indication of particulate burdens being contributed to the ambient environment by intrusive activities in these areas. The measurement of these burdens at the soil management zone perimeters will provide an indication of the success and/or failure of the dust suppression program being employed on-site. Such monitoring is not intended to address VOCs, as these will be addressed by the employment of direct read-out organic vapor analyzers during site operations (see below) as part of Health and Safety monitoring. Rather, the PM10 monitoring is intended to address the potential for exposure to chemicals and elements that are not volatile, but attenuate to soil particles, as exposure would only likely occur if the impacted particles became airborne and were either inhaled or ingested.

3.2.2 Site-Specific Meteorological Conditions

The prevailing wind direction at the site is from the southwest. However, local, daily meteorological conditions (wind direction, wind speed) will be obtained from the BRC wind station located west of 14th Street adjacent to the employee parking lot at the TIMET plant entrance. The meteorological conditions will be collected continuously and recorded in real-time by computer throughout the workday, including the monitoring time. In addition, the locations of the monitoring stations will be established and precisely recorded by GPS prior to each day's excavation based on the scheduled work and associated wind direction.

3.3 AIR MONITORING AND SAMPLING METHODS

Air monitoring and sampling will be performed during the soil remediation activities performed at the Site (Eastside and CAMU Areas). These activities are expected to last up to eighteen months. The sampling monitors or collection media will be placed at a height of approximately 5 feet above ground surface to represent the breathing zone. Air monitoring and sampling will be performed daily during remediation activities (up to 24-hour duration). As such, the following monitoring and sampling will be performed during this work using the prescribed methods.

3.3.1 Real-Time Air Monitoring

Respirable fractions of dust will be monitored using real-time DataRAM monitors. These monitors have a detection limit of 0.1 micrograms of dust per cubic meter of air. However, to avoid erroneous results, the monitors will be equipped with an omni-directional inlet, and a temperature conditioning heater unit.

Monitoring will be performed continuously at the monitoring locations and the results will be logged approximately every 10 minutes. A record of the monitoring results will be maintained by BRC for a period consistent with the terms of the NDEP *Settlement Agreement and Order on Consent: BMI Common Areas, Phase 3*, dated 15 February 2006 ("AOC3") (Section XXIX *Retention of Records*). This record shall include the collection time, monitoring location, and the associated results. Calibration of instrumentation will be performed according to the manufacturer's specifications. The calibration requirements are discussed below at Section 3.6.

As described above, the dust monitoring on-site will provide an indication of the effectiveness of the dust suppression activities being employed on-site. Dust levels in excess of the action levels will result in a modification of the dust suppression controls – i.e., in their enhancement until levels are lower than the action levels (see Section 4.0).

In addition, air monitoring for volatile compounds will be performed by, and at the discretion of, the on-site Health and Safety Officer as part of the Health and Safety program. This monitoring will be performed using a direct read-out organic vapor analyzer (i.e., flame or photo ionization detector), and measurements will be taken in the site workers' typical breathing zones. Factors influencing the monitoring will be the location and type of excavation activity being performed, data regarding the presence, or suspected presence of VOCs, indicators of impact, including odors or soil staining, and weather. Monitoring may be biased by these aforementioned factors or may be randomly performed

(i.e., w/o bias). In the unlikely event that an area of elevated VOCs is encountered, personal protective equipment will be modified as appropriate in accordance with the project HSP, and work activities will be modified to reduce VOC emissions to the atmosphere.

3.3.2 Air Sampling

As noted above in Section 3.1, air samples will be collected for analysis of particulate, asbestos fibers, and site-related chemicals attenuated to particulates. These sampling and analysis procedures are summarized below. For all sample types, consistent with the project QAPP, field blanks on a frequency of 5 percent (one in 20 samples) will be collected and submitted for analysis for quality control purposes. The air samples will be submitted to a laboratory using proper chain-of-custody procedures. A laboratory certified by NDEP and NELAC, or accredited by AIHA will perform analysis of the samples, as appropriate.

3.3.2.1 Airborne Particulate

Air samples for particulate will be collected once per day at the monitoring stations. Each air sample will be collected using a high-volume PM10 sampler at a flow rate of approximately 40 cubic feet per minute (CFM), controlled by a volumetric flow controller (VFC). A quartz glass filter with an area of 8 inches by 10 inches will be used as the sampling medium. Laboratory analysis will be performed using USEPA Method IO-2.1.

Upon completion of the sampling event, the samples and the associated information will be recorded on a chain-of-custody sheet (see example provided in Attachment A). This form will require a record of the sample identification number, pump number, sample location, sampling time, and flow rate to calculate the total sample volume and the required analysis.

3.3.2.2 Asbestos

Air samples for asbestos fibers will be collected once per day at each of the monitoring stations. Upon completion of the sampling, the samples and the completed chain-of-custody sheet shall be submitted to a laboratory for analysis. These samples will be analyzed by NIOSH Method 7400. Per NIOSH Method 7400, the sampling train shall consist of a low-flow pump attached to a 25-millimeter diameter filter, which has a mixed cellulose ester membrane. The air samples will be collected at a flow rate of 5 liters per minute (LPM) using a low-flow pump. The sampling will be performed for a minimum of eight hours.

3.3.2.3 *Site-Related Chemicals*

At the start of remediation at a given sub-area, BRC will modify the sampling approach for the first five days of excavation of soils/sediments to accommodate additional sampling of TSP for subsequent chemical analyses at both the upwind and downwind sampling locations. In addition to the TSP samplers, two polyurethane foam (PUF) samplers will be employed at each monitoring location for sampling and subsequent analysis of:

- Dioxins/furans,
- SVOCs/PAHs,
- PCBs, and
- Organochlorine/organophosphorus pesticides.

The PUF samplers operate at a flow rate of approximately 20 CFM and incorporate a 4-inch diameter quartz glass filter followed by a polyurethane foam plug contained in a glass cartridge. One set of PUF samples (filter plus PUF plug) from each location will be analyzed for dioxins/furans and PAHs using gas chromatography/mass spectrometry (GC/MS) in accordance with EPA Methods TO-9A and TO-13A. The other set of PUF samples from each location will be analyzed for pesticides and PCBs using GC/Multi-Detector Detection (GC/MD) in accordance with EPA Method TO-4A.

The TSP samples are collected in a similar manner as the PM10 samples following USEPA method IO-2.1, at a nominal flow rate of 40 CFM, only without the PM10 size-selective inlet mounted on the sampler. Following gravimetric analysis, each TSP sample will be analyzed for the multiple metals of interest using Inductively Coupled Plasma (ICP) spectroscopy in accordance with EPA Method IO-3.4, as well as radionuclides (Gross Alpha and Gross Beta) using 40 CFR 61, Appendix B, Method 114: Method A-4 (Gross Alpha) and Method B-4 (Gross Beta).

These classes of compounds represent those chemicals on the BRC Site Related Chemicals (SRC) list with low health thresholds as defined by Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs), ambient USEPA Region IX ambient air Preliminary Remediation Goals (PRGs), and USEPA Region III ambient air Risk-Based Concentrations (RBCs) (Table 1, shaded entries). Soluble chlorine is also indicated in Table 1 as being a low threshold constituent, however, that assignment is based on the gaseous form, which does not pertain to the dry soils and sediments present on site. Therefore, this constituent will not be included in the analyses.

It is assumed that focusing on the low health threshold chemicals listed in Table 1 will provide an indication of exposure risk associated with excavation activities for any other compounds likely to be present in the dust. Based on these results, BRC will attempt to determine a correlation between these results and the concurrent results for PM10.

3.4 AIR MONITORING AND SAMPLING SCHEDULE

3.4.1 Monitoring Schedule

At each of the monitoring locations, sampling will be performed during each day and all hours when work activity is occurring during that day. Samples collected during each day will be analyzed for airborne particulate and asbestos fibers on a turnaround time of roughly five business days.

As noted above, chemical analyses will be performed on TSP samples collected during the first five days of active disturbance of surficial materials in a given sub-area. Turnaround time for the chemical analyses will be approximately five business days for all analyses except that for radionuclides, which has a longer turnaround (approximately 28 days). If the sampling results indicate that particulate matter produced during excavation activities contains levels of chemicals at concentrations below those that could pose an unacceptable threat to human health, there will be no further need for additional chemical analyses of TSP samples in that sub-area. Maintenance of PM10 levels at or below those measured during those five days will be considered sufficiently protective of human health. If PM10 levels increase appreciably relative to levels measured during those first five days, additional chemical analyses will be considered if the initial results indicate an unacceptable risk to human health could be posed by such an increase.

3.4.2 Control Measures Governing Sampling Frequency

If at any time during the monitoring and sampling activities the airborne concentrations exceed the action levels as prescribed in Section 4.0 of the PAMP, the BRC Project Manager or his designee will immediately stop work and modify dust control measures. Furthermore, in accordance with the requirements of the dust control permit, work will be halted at the site if wind speed exceeds the specified value in the dust control permit, as measured by the site's meteorological station. Work will only resume once the wind speeds are below that specified in the dust control permit.

Dust control measures to be implemented during the soil remediation activities shall comply with applicable air quality regulations as administered and enforced

by the CCDAQM, specifically Sections 90-94. Measures to be implemented to control dust emissions are described in the Dust Control and Mitigation Plan (Appendix C to the CAP).

3.5 NOTIFICATION REQUIREMENTS

Air monitoring and/or sampling results detected above the action levels will prompt notification of the BRC Project Manager or his designee. This notification will be performed within four hours of the assessment, and it will include a summary of any revisions to the control measures that were implemented in response to the exceedance and air monitoring/sampling completed to confirm that these revised control measures were effective in reducing emissions to below the action levels.

3.6 QUALITY ASSURANCE AND CONTROL MEASURES

Quality control and assurance measures will be implemented to ensure proper calibration of instrumentation, confirm that appropriate sample collection and handling procedures are used, and assess if additional air monitoring and sampling at the site perimeter is necessary.

All real-time instrumentation will be calibrated according to the manufacturer's specifications prior to and after use each day. A record of this calibration will be logged on an appropriate form and this information will include: equipment manufacturer and model, serial number, factory calibration date and time, methodology, and results of the daily field calibration. The meteorological monitoring instrumentation will be calibrated at project initiation and at least every six months thereafter in accordance with EPA's *Quality Assurance Handbook for Air Pollution measurement Systems, Volume IV: Meteorological Measurements.*

Air sampling will be performed using approved NIOSH and/or USEPA methods as discussed previously. Prior to sampling each day, the asbestos air sampling pumps will be properly calibrated to collect an adequate volume of air. As a consequence, a record of the calibration will be maintained and the information will include: equipment manufacturer, pump or canister identification number, calibrator type, time of calibration, and pre- and post-calibration results to assure the flow rate was maintained. The PM10/TSP/PUF samplers will be calibrated using NIST-certified calibration orifices prior to initiation of the program and at least quarterly thereafter. Prior to sampling each day, the sampling flow rate will be verified to be operating at the proper set-point and the flow rate indicator reading will be recorded at the beginning and end of each day's sampling.

The air samples will be submitted to the appropriate laboratory using proper chain-of-custody procedures. A laboratory certified by NDEP and NELAC or accredited by AIHA will perform chemical analyses of the samples. As noted above, consistent with the project QAPP field blanks will be collected and analyzed for quality control purposes on a frequency of 5 percent (one in 20 samples).

4.0 ACTION LEVELS

Specific limits have been established to monitor potential impacts to general public during soil excavation activities. Direct-read monitoring and continuous air sampling data will be compared to measured upwind levels and the perimeter action levels presented below for airborne particulate and asbestos. Additional dust and/or emission control measures will be necessary if the downwind perimeter monitoring results exceed the perimeter action levels.

The action level for inhalable particulate (PM10) is 50 micrograms per cubic meter of air (μg/m3) based on the difference between the highest downwind sampler result and the upwind sampler result. This value represents the recommended maximum impact attributable to site activities in the soil management zone. Air sampling for airborne particulate will be performed at the site perimeter using a high-flow pump and associated filter as described in Section 3.3, and monitoring will be completed using direct-reading instrumentation such as the MIE DataRAM. In addition, the chemical-specific action levels presented in Table 1 also apply. Multiple criteria are listed for this purpose in Table 1, including USEPA Region IX Ambient Air PRGs, USEPA Region III Ambient Air RBCs, and OSHA PELs; of these, the lowest value serves as the target screening level, unless otherwise noted.

The action level for asbestos is 100 fibers per day. The action level represents the exposure dose that does not pose a significant risk to the general public. A dose that does not pose a significant risk to the general public is also termed a safe harbor number.

4.1 APPLICATION OF ACTION LEVELS

Based on the action levels developed for the scope of work, the BRC project manager will use these levels to implement measures to reduce airborne emissions to below these levels or to cease work activities. Appropriate air sampling and monitoring will be performed to ensure that such measures have effectively reduced potential off-site emissions to acceptable limits. Work will only resume once the emissions meet the required action levels.

4.2 REPORTING

A daily log or set of logs of the monitoring results will be maintained (see examples provided in Attachment A). The logs shall include a map of the

monitoring locations, calibration information as specified in Section 3.6, a copy of the sampling collection record as specified in Section 3.6 (chain-of-custody sheet), and the monitoring results.

As described in the main body of the CAP (Section 4.0), BRC will submit daily and monthly reports to NDEP regarding remediation progress. These reports will include information regarding any circumstances associated with perimeter air monitoring that required the implementation of control measures and/or termination of work.

At the conclusion of the soil remediation activities, a report of the air monitoring program will be prepared. This report shall provide a compilation of all of the monitoring and sampling data, comparison of the data to the action levels, circumstances requiring the implementation of control measures and/or termination of work, and any observed discrepancies between the field and laboratory documentation. This report will be submitted as an appendix to the Corrective Action Plan Completion Report (see Section 4.2 of the CAP).

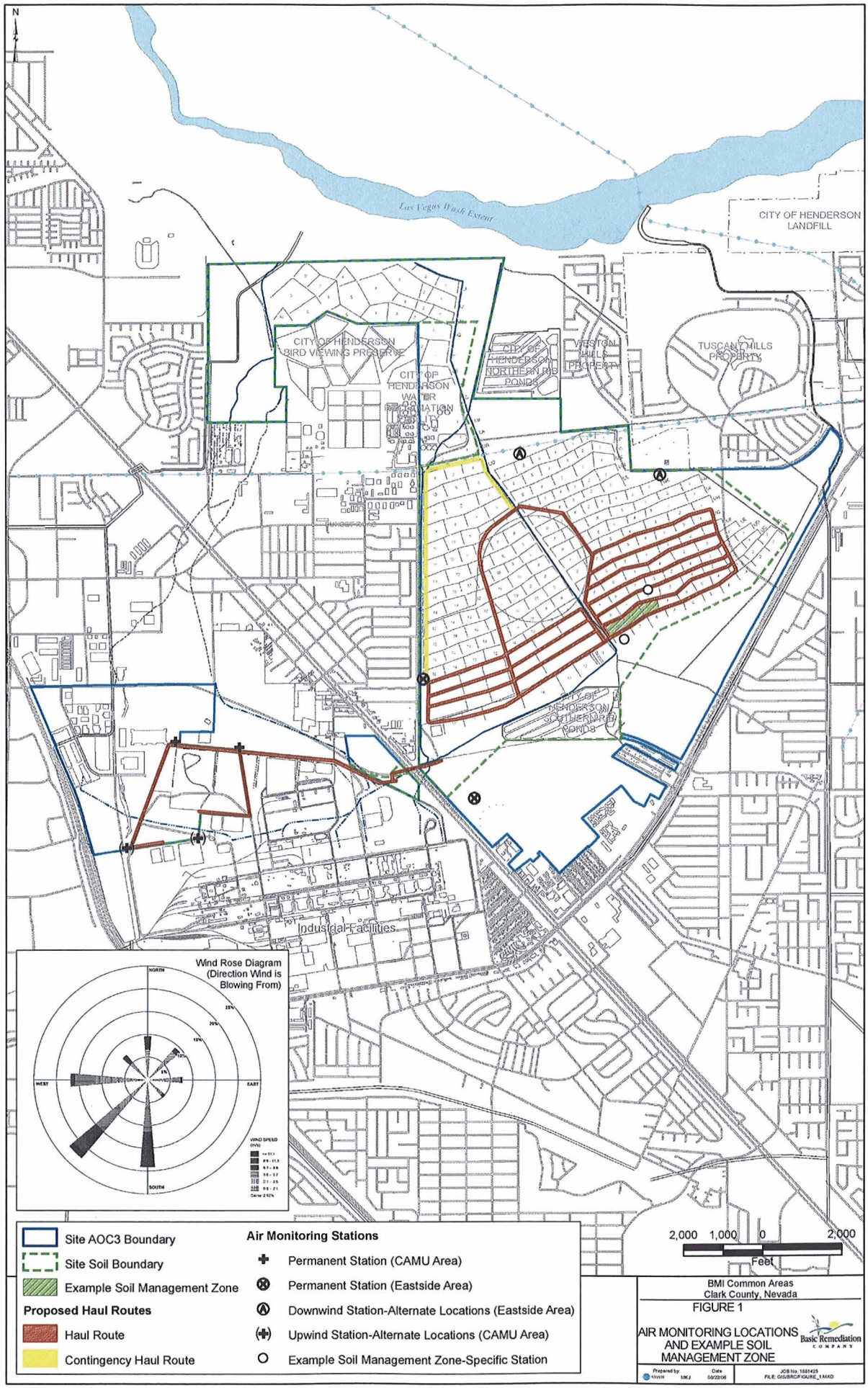
N
Las Vegas Wash Extent
CITY OF HENDERSON LANDFILL
CITY OF HENDERSON BIRD VIEWING PRESERVE
CITY OF HENDERSON WATER RECLAMATION FACILITY
CITY OF HENDERSON NORTHERN RD PONDS
WESTON HILLS PROPERTY
TUSCANY HILLS PROPERTY
CITY OF HENDERSON SOUTHERN RD PONDS
Industrial Facilities
Wind Rose Diagram (Direction Wind is Blowing From)
NORTH
SOUTH
WEST
EAST
WIND SPEED (m/s)
Calms 2.92%
Site AOC3 Boundary
Site Soil Boundary
Example Soil Management Zone
Proposed Haul Routes
Haul Route
Contingency Haul Route
Air Monitoring Stations
Permanent Station (CAMU Area)
Permanent Station (Eastside Area)
Downwind Station-Alternate Locations (Eastside Area)
Upwind Station-Alternate Locations (CAMU Area)
Example Soil Management Zone-Specific Station
2,000 1,000 0 2,000
Feet
BMI Common Areas
Clark County, Nevada
FIGURE 1
AIR MONITORING LOCATIONS AND EXAMPLE SOIL MANAGEMENT ZONE
Basic Remediation COMPANY
Prepared by: MKJ
Date 05/22/06
JOB No. 1881425
FILE: GIS/BRC/FIGURE_1.MXD

TABLE 1
PRELIMINARY PROJECT SCREENING LEVELS
PERIMETER AIR MONITORING PLAN
(Page 1 of 8)

Parameter of Interest	Compound List	CAS Number	Ambient Air PRG[1] (µg/m^3)	Basis	Ambient Air RBC[3] (µg/m^3)	Basis	OSHA PELs[2] (ppm / mg/m^3)	Reporting Limit (µg/m^3)
Ions	Bromide	24959-67-9	--	--	--	--	--	--
	Bromine	7726-95-6	--	--	--	--	0.1 / 0.7	--
	Chlorate	14866-68-3	--	--	--	--	--	--
	Chloride	16887-00-6	--	--	--	--	--	--
	Chlorine (soluble)	7782-50-5	0.21	NC	--	--	(C)1 / (C)3	--
	Chlorite	14998-27-7	--	--	--	--	--	--
	Fluoride	16984-48-8	--	--	--	--	-- / 2.5	--
	Nitrate (as N)	14797-55-8	--	--	5,800	NC	--	--
	Nitrite (as N)	14797-65-0	--	--	372	NC	--	--
	Orthophosphate	14265-44-2	--	--	--	--	--	--
	Sulfate	14808-79-8	--	--	--	--	--	--
	Sulfite	14265-45-3	--	--	--	--	--	--
	Perchlorate	14797-73-0	--	--	2.6	NC	--	--
Dissolved Gases	Ethane	74-84-0	--	--	--	--	--	--
	Ethylene	74-85-1	--	--	--	--	--	--
	Methane	74-82-8	--	--	--	--	--	--
Chlorinated Compounds	Chloral	75-87-6	--	--	--	--	--	--
	Dichloroacetaldehyde	79-02-7	--	--	--	--	--	--
PCDDs/PCDFs	OCDF (see 2,3,7,8-TCDD TEQ)	39001-02-0	--	--	--	--	--	--
	OCDD (see 2,3,7,8-TCDD TEQ)	3268-87-9	--	--	--	--	--	--
	1,2,3,4,6,7,8-HpCDF (see 2,3,7,8-TCDD TEQ)	67562-39-4	--	--	--	--	--	--
	1,2,3,4,6,7,8-HpCDD (see 2,3,7,8-TCDD TEQ)	35822-46-9	--	--	--	--	--	--
	1,2,3,4,7,8,9-HpCDF (see 2,3,7,8-TCDD TEQ)	55673-89-7	--	--	--	--	--	--
	1,2,3,4,7,8-HxCDF (see 2,3,7,8-TCDD TEQ)	70648-26-9	--	--	--	--	--	--
	1,2,3,4,7,8-HxCDD (see 2,3,7,8-TCDD TEQ)	39227-28-6	--	--	--	--	--	--
	1,2,3,6,7,8-HxCDF (see 2,3,7,8-TCDD TEQ)	57117-44-9	--	--	--	--	--	--
	1,2,3,6,7,8-HxCDD (see 2,3,7,8-TCDD TEQ)	57653-85-7	--	--	--	--	--	--
	1,2,3,7,8,9-HxCDF (see 2,3,7,8-TCDD TEQ)	72918-21-9	--	--	--	--	--	--
	1,2,3,7,8,9-HxCDD (see 2,3,7,8-TCDD TEQ)	19408-74-3	--	--	--	--	--	--
	1,2,3,7,8-PeCDF (see 2,3,7,8-TCDD TEQ)	57117-41-6	--	--	--	--	--	--
	1,2,3,7,8-PeCDD (see 2,3,7,8-TCDD TEQ)	40321-76-4	--	--	--	--	--	--
	2,3,4,6,7,8-HxCDF (see 2,3,7,8-TCDD TEQ)	60851-34-5	--	--	--	--	--	--
	2,3,4,7,8-PeCDF (see 2,3,7,8-TCDD TEQ)	57117-31-4	--	--	--	--	--	--
	2,3,7,8-TCDF (see 2,3,7.8-TCDD)	51207-31-9	--	--	--	--	--	--
	2,3,7,8-TCDD (TEQ)	1746-01-6	4.5 E-8	C	--	--	--	--
Asbestos	Asbestos	1332-21-4	--	--	--	--	1 f per cc	--
General Chemistry Parameters	Ammonia (as N)	7664-41-7	104	NC	100	NC	50 / 35	--
	Cyanide (Total)	57-12-5	--	--	73	NC	-- / 5	--
	Iodine	7553-56-2	--	--	--	--	(C)0.1 / (C)1	--
	pH in soil	pH	--	--	--	--	--	--
	pH in water	pH	--	--	--	--	--	--
	Sulfide	18496-25-8	--	--	--	--	--	--
	Total inorganic carbon	7440-44-0	--	--	--	--	--	--
	Total Kjeldahl nitrogen (TKN)	TKN	--	--	--	--	--	--
	Total organic carbon (TOC)	7440-44-0	--	--	--	--	--	--
Metals	Aluminum	7429-90-5	5.1	NC	--	--	-- / 15(5)	--
	Antimony	7440-36-0	--	--	1.5	NC	-- / 0.5	--
	Arsenic	7440-38-2	0.0004	C	0.00041	C	-- / 0.01	--
	Barium	7440-39-3	0.52	NC	0.51	NC	-- / 0.5	--
	Beryllium	7440-41-7	0.0008	C	0.00075	C	-- / 0.002	--
	Boron	7440-42-8	21	NC	21	NC	--	--
	Cadmium	7440-43-9	0.0011	C	0.00099	C	-- / 0.2	--
	Calcium	7440-70-2	--	--	--	--	--	--
	Chromium	7440-47-3	--	--	--	--	-- / 0.5	--

TABLE 1
PRELIMINARY PROJECT SCREENING LEVELS
PERIMETER AIR MONITORING PLAN
(Page 2 of 8)

Parameter of Interest	Compound List	CAS Number	Ambient Air PRG[1] (µg/m^3)	Basis	Ambient Air RBC[3] (µg/m^3)	Basis	OSHA PELs[2] (ppm / mg/m^3)	Reporting Limit (µg/m^3)
Metals (Continued)	Cobalt	7440-48-4	0.0007	C	--	--	-- / 0.1	--
	Copper	7440-50-8	--	--	150	NC	-- / 1	--
	Iron	7439-89-6	--	--	1100	NC	--	--
	Lead	7439-92-1	--	--	--	--	-- / 0.05	--
	Lithium	1313-13-9	--	--	--	--	--	--
	Magnesium	7439-95-4	--	--	--	--	--	--
	Manganese	7439-96-5	0.051	NC	0.052	NC	-- / (C)5	--
	Molybdenum	7439-98-7	--	--	18	NC	-- / 15	--
	Nickel	7440-02-0	--	--	73	NC	-- / 1	--
	Niobium	7440-03-1	--	--	--	--	--	--
	Palladium	7440-05-3	--	--	--	--	--	--
	Phosphorus	7723-14-0	--	--	0.073	NC	-- / 0.1	--
	Platinum	7440-06-4	--	--	--	--	-- / 0.002	--
	Potassium	7440-09-7	--	--	--	--	--	--
	Selenium	7782-49-2	--	--	18	NC	-- / 0.2	--
	Silicon	7440-21-3	--	--	--	--	-- / 15(5)	--
	Silver	7440-22-4	--	--	18	NC	-- / 0.01	--
	Sodium	7440-23-5	--	--	--	--	--	--
	Strontium	7440-24-6	--	--	2200	NC	--	--
	Sulfur	7704-34-9	--	--	--	--	--	--
	Thallium	7440-28-0	--	--	0.26	NC	-- / 0.1	--
	Tin	7440-31-5	--	--	2200	NC	-- / 2	--
	Titanium	7440-32-6	31	NC	--	--	--	--
	Tungsten	7440-33-7	--	--	--	--	--	--
	Uranium	7440-61-1	--	--	11	NC	-- / 0.05(0.25)	--
	Vanadium	7440-62-2	--	--	3.7	NC	-- / (C)0.5	--
	Zinc	7440-66-6	--	--	1100	NC	-- / 15(5)	--
	Zirconium	7440-67-7	--	--	--	--	-- / 5	--
	Chromium (VI)	18540-29-9	0.00002	C	0.00015	C	--	--
	Mercury	7439-97-6	--	--	0.31	NC	0.1 / --	--
Organophosphorous Pesticides	Azinphos-ethyl	264-27-19	--	--	--	--	--	--
	Azinphos-methyl	86-50-0	--	--	--	--	-- / 0.2	--
	Carbophenothion	786-19-6	--	--	--	--	--	--
	Chlorpyrifos	2921-88-2	11	NC	11	NC	--	--
	Coumaphos	56-72-4	--	--	--	--	--	--
	Demeton-O	298-03-3	0.15	NC	--	--	-- / 0.1	--
	Demeton-S	126-75-0	0.15	NC	--	--	-- / 0.1	--
	Diazinon	333-41-5	3.3	NC	3.3	NC	--	--
	Dichlorvos	62-73-7	0.023	C	0.022	C	-- / 1	--
	Dimethoate	60-51-5	0.73	NC	--	--	--	--
	Disulfoton	298-04-4	0.15	NC	0.15	NC	--	--
	EPN	2104-64-5	0.037	NC	--	--	-- / 0.5	--
	Ethoprop	13194-48-4	--	--	--	--	--	--
	Ethyl parathion	56-38-2	22	NC	--	--	-- / 0.1	--
	Fampphur	52-85-7	--	--	--	--	--	--
	Fenthion	55-38-9	--	--	--	--	--	--
	Malathion	121-75-5	73	NC	73	NC	-- / 15	--
	Methyl carbophenothion	953-17-3	--	--	--	--	--	--
	Methyl parathion	298-00-0	0.91	NC	0.91	NC	--	--
	Mevinphos	7786-34-7	--	--	--	--	-- / 0.1	--
	Naled	300-76-5	7.3	NC	7.3	NC	-- / 3	--
	O,O,O-Triethyl phosphorothioate (TEPP)	297-97-2	--	--	--	--	-- / 0.05	--
	Phorate	298-02-2	0.73	NC	--	--	--	--
	Phosmet	732-11-6	73	NC	--	--	--	--

TABLE 1
PRELIMINARY PROJECT SCREENING LEVELS
PERIMETER AIR MONITORING PLAN
(Page 3 of 8)

Parameter of Interest	Compound List	CAS Number	Ambient Air PRG[1] (µg/m^3)	Basis	Ambient Air RBC[3] (µg/m^3)	Basis	OSHA PELs[2] (ppm / mg/m^3)	Reporting Limit (µg/m^3)
Organophosphorous Pesticides (Continued)	Ronnel	299-84-3	183	NC	--	--	-- / 15	--
	Stirophos (Tetrachlorovinphos)	22248-79-9	0.28	C	--	--	--	--
	Sulfotep	3689-24-5	1.8	NC	--	--	-- / 0.2	--
Chlorinated Herbicides	2,4,5-T	93-76-5	37	NC	37	NC	-- / 10	--
	2,4,5-TP (Silvex)	93-72-1	29	NC	29	NC	--	--
	2,4-D	94-75-7	37	NC	37	NC	-- / 10	--
	2,4-DB	94-82-6	29	NC	29	NC	--	--
	Dalapon	75-99-0	110	NC	110	NC	--	--
	Dicamba	1918-00-9	110	NC	110	NC	--	--
	Dichloroprop	120-36-5	--	--	--	--	--	--
	Dinoseb	88-85-7	3.7	NC	3.7	NC	--	--
	MCPA	94-74-6	1.8	NC	1.8	NC	--	--
	MCPP	93-65-2	3.7	NC	3.7	NC	--	--
Organic Acids	4-Chlorobenzene sulfonic acid	98-66-8	--	--	--	--	--	--
	Benzenesulfonic acid	98-11-3	--	--	--	--	--	--
	O,O-Diethylphosphorodithioic acid	298-06-6	--	--	--	--	--	--
	O,O-Dimethylphosphorodithioic acid	756-80-9	--	--	--	--	--	--
Nonhalogenated Organics	Ethylene glycol	107-21-1	7,300	NC	7,300	NC	--	--
	Ethylene glycol monobutyl ether	111-76-2	13,505	NC	14,000	NC	50 / 240	--
	Methanol	67-56-1	1,825	NC	1,800	NC	200 / 260	--
	Propylene glycol	57-55-6	3.1	NC	--	--	--	--
Organochlorine Pesticides	2,4-DDD	53-19-0	--	--	--	--	--	--
	2,4-DDE	3424-82-6	--	--	--	--	--	0.10*
	4,4-DDD	72-54-8	0.028	C	0.026	C	--	0.10*
	4,4-DDE	72-55-9	0.020	C	--	--	--	0.10*
	4,4-DDT	50-29-3	0.020	C	--	--	-- / 1	0.10*
	Aldrin	309-00-2	0.0004	C	0.00037	C	-- / 0.25	0.10*
	alpha-BHC	319-84-6	0.0011	C	0.00099	C	--	0.10*
	alpha-Chlordane	5103-71-9	0.019	C	--	--	-- / 0.5	0.10*
	beta-BHC	319-85-7	0.0037	C	0.0035	C	--	0.10*
	Chlordane	57-74-9	0.019	C	0.018	C	-- / 0.5	--
	delta-BHC	319-86-8	--	--	--	--	--	0.10*
	Dieldrin	60-57-1	0.0004	C	0.00039	C	-- / 0.25	0.10*
	Endosulfan I	959-98-8	22	NC	--	--	--	0.10*
	Endosulfan II	33213-65-9	22	NC	--	--	--	0.10*
	Endosulfan sulfate	1031-07-8	--	--	--	--	--	0.10*
	Endrin	72-20-8	1.1	NC	1.1	NC	-- / 0.1	0.10*
	Endrin aldehyde	7421-93-4	--	--	--	--	--	0.10*
	Endrin ketone	53494-70-5	--	--	--	--	--	0.10*
	gamma-BHC (Lindane)	58-89-9	0.0052	C	0.0048	C	-- / 0.5	0.10*
	gamma-Chlordane	5103-74-2	0.019	C	--	--	-- / 0.5	0.10*
	Heptachlor	76-44-8	0.0015	C	0.0014	C	-- / 0.5	0.10*
	Heptachlor epoxide	1024-57-3	0.0007	C	0.00069	C	--	0.10*
	Methoxychlor	72-43-5	18	NC	18	NC	-- / 15	1.0*
	Toxaphene	8001-35-2	0.0060	C	0.0057	C	-- / 0.5	1.0*
Polychlorinated Biphenyls	Aroclor 1016	12674-11-2	0.10	C	0.089	C	--	1.0*
	Aroclor 1221	11104-28-2	0.0034	C	0.0031	C	--	1.0*
	Aroclor 1232	11141-16-5	0.0034	C	0.0031	C	--	1.0*
	Aroclor 1242	53469-21-9	0.0034	C	0.0031	C	-- / 1	1.0*
	Aroclor 1248	12672-29-6	0.0034	C	0.0031	C	--	1.0*
	Aroclor 1254	11097-69-1	0.0034	C	0.0031	C	-- / 0.5	1.0*
	Aroclor 1260	11096-82-5	0.0034	C	0.0031	C	--	1.0*
	PCB-77 (see 2,3,7,8-TCDD TEQ)	32598-13-3	--	--	--	--	--	--
	PCB-81 (see 2,3,7,8-TCDD TEQ)	70362-50-4	--	--	--	--	--	--

TABLE 1
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PERIMETER AIR MONITORING PLAN

Parameter of Interest	Compound List	CAS Number	Ambient Air PRG[1] (µg/m^3)	Basis	Ambient Air RBC[3] (µg/m^3)	Basis	OSHA PELs[2] (ppm / mg/m^3)	Reporting Limit (µg/m^3)
Polychlorinated Biphenyls (Continued)	PCB-105 (see 2,3,7,8-TCDD TEQ)	32598-14-4	--	--	--	--	--	--
	PCB-114 (see 2,3,7,8-TCDD TEQ)	74472-37-0	--	--	--	--	--	--
	PCB-118 (see 2,3,7,8-TCDD TEQ)	31508-00-6	--	--	--	--	--	--
	PCB-123 (see 2,3,7,8-TCDD TEQ)	65510-44-3	--	--	--	--	--	--
	PCB-126 (see 2,3,7,8-TCDD TEQ)	57465-28-8	--	--	--	--	--	--
	PCB-156 (see 2,3,7,8-TCDD TEQ)	38380-08-4	--	--	--	--	--	--
	PCB-157 (see 2,3,7,8-TCDD TEQ)	69782-90-7	--	--	--	--	--	--
	PCB-167 (see 2,3,7,8-TCDD TEQ)	52663-72-6	--	--	--	--	--	--
	PCB-169 (see 2,3,7,8-TCDD TEQ)	32774-16-6	--	--	--	--	--	--
	PCB-189 (see 2,3,7,8-TCDD TEQ)	39635-31-9	--	--	--	--	--	--
Polynuclear Aromatic Hydrocarbons	Acenaphthene	83-32-9	219	NC	220	NC	-- / 0.2[5]	1.0*
	Acenaphthylene	208-96-8	--	--	--	--	-- / 0.2[5]	1.0*
	Anthracene	120-12-7	1,095	NC	1,100	NC	-- / 0.2[5]	1.0*
	Benzo(a)anthracene	56-55-3	0.0092	C	0.0086	C	-- / 0.2[5]	--
	Benzo(a)pyrene	50-32-8	0.0009	C	0.002	C	-- / 0.2[5]	--
	Benzo(b)fluoranthene	205-99-2	0.0092	C	0.0086	C	-- / 0.2[5]	--
	Benzo(g,h,i)perylene	191-24-2	--	--	--	--	-- / 0.2[5]	1.0*
	Benzo(k)fluoranthene	207-08-9	0.092	C	0.086	C	-- / 0.2[5]	--
	Chrysene	218-01-9	0.92	C	0.86	C	-- / 0.2[5]	1.0*
	Dibenzo(a,h)anthracene	53-70-3	0.0009	C	0.00086	C	-- / 0.2[5]	1.0*
	Indeno(1,2,3-cd)pyrene	193-39-5	0.0092	C	0.0086	C	-- / 0.2[5]	--
	Phenanthrene	85-01-8	--	--	--	--	-- / 0.2[5]	--
	Pyrene	129-00-0	110	NC	110	NC	-- / 0.2[5]	--
Radionuclides	Gross alpha [4]	G_Alpha	--	--	--	--	1.25 rem/qtr	--
	Gross beta [4]	G_Beta	--	--	--	--		--
	Actinium-228	14331-83-0	--	--	--	--		--
	Bismuth-212	14913-49-6	--	--	--	--		--
	Bismuth-214	14733-03-0	--	--	--	--		--
	Cobalt-57	13981-50-5	--	--	--	--		--
	Cobalt-60	10198-40-0	--	--	--	--		--
	Lead-210	14255-04-0	--	--	--	--		--
	Lead-211	015816-77-0	--	--	--	--		--
	Lead-212	15092-94-1	--	--	--	--		--
	Lead-214	15067-28-4	--	--	--	--		--
	Potassium-40	13966-00-2	--	--	--	--		--
	Thallium-208	14913-50-9	--	--	--	--		--
	Thorium-227	15623-47-9	--	--	--	--		--
	Thorium-234	15065-10-8	--	--	--	--		--
	Thorium-232	7440-29-1	--	--	--	--		--
	Thorium-228	14274-82-9	--	--	--	--		--
	Thorium-230	14269-63-7	--	--	--	--		--
	Uranium-233/234	13966-29-5	--	--	--	--		--
	Uranium 235/236	15117-96-1	--	--	--	--		--
	Uranium-238	7440-61-1	--	--	--	--		--
	Radium-226	13982-63-3	--	--	--	--		--
	Radium-228	15262-20-1	--	--	--	--		--
	Actinium-227 (from Th-227)	14952-40-0	--	--	--	--		--
	Bismuth-210 (from Pb-210)	14331-79-4	--	--	--	--		--
	Bismuth-211 (from Pb-211)	15229-37-5	--	--	--	--		--
	Polonium-210 (from Pb-210)	13981-52-7	--	--	--	--		--
	Polonium-212 (from Bi-212)	13981-52-7	--	--	--	--		--
	Polonium-214 (from Bi-214)	15735-67-8	--	--	--	--		--
	Polonium-216 (from Pb-212)	15756-58-8	--	--	--	--		--
	Polonium-218 (from Pb-214)	15422-74-9	--	--	--	--		--
	Protactinium-231 (from U-235)	14331-85-2	--	--	--	--		--

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PERIMETER AIR MONITORING PLAN

Parameter of Interest	Compound List	CAS Number	Ambient Air PRG[1] (µg/m^3)	Basis	Ambient Air RBC[3] (µg/m^3)	Basis	OSHA PELs[2] (ppm / mg/m^3)	Reporting Limit (µg/m^3)
Radionuclides (Continued)	Protactinium-234 (from Th-234)	15100-28-4	--	--	--	--	1.25 rem/qtr	--
	Radium-223 (from Th-227)	15623-45-7	--	--	--	--		--
	Radium-224 (from Pb-212)	13233-32-4	--	--	--	--		--
	Thallium-207 (from Pb-211)	14133-67-6	--	--	--	--		--
	Thorium-231 (from U-235)	14932-40-2	--	--	--	--		--
Radon	Radon-220	22481-48-7	--	--	--	--	4 pCi/L (EPA)	--
	Radon-222	14859-67-7	--	--	--	--		--
Aldehydes	Acetaldehyde	75-07-0	0.87	C	0.81	C	200 / 360	0.10*
	Chloroacetaldehyde	107-20-0	--	--	--	--	(C)1 / (C)3	--
	Dichloroacetaldehyde	79-02-7	--	--	--	--	--	--
	Formaldehyde	50-00-0	0.15	C	0.14	C	0.75 / --	0.050*
	Trichloroacetaldehyde	75-87-6	--	--	--	--	--	--
Semivolatile Organic Compounds	1,2,4,5-Tetrachlorobenzene	95-94-3	1.1	NC	1.1	NC	--	--
	1,2-Diphenylhydrazine	122-66-7	0.0084	C	0.0078	C	--	--
	1,4-Dioxane	123-91-1	0.61	C	0.57	C	100 / 360	0.37
	2,2'/4,4'-Dichlorobenzil (see 4,4'-Dichlorobenzil)	3457-46-3	--	--	--	--	--	--
	2,4,5-Trichlorophenol	95-95-4	365	NC	370	NC	--	5.0*
	2,4,6-Trichlorophenol	88-06-2	0.37	NC	0.63	C	--	5.0*
	2,4-Dichlorophenol	120-83-2	11	NC	11	NC	--	5.0*
	2,4-Dimethylphenol	105-67-9	73	NC	73	NC	--	5.0*
	2,4-Dinitrophenol	51-28-5	7.3	NC	73	NC	--	20*
	2,4-Dinitrotoluene	121-14-2	0.0099	C	7.3	NC	-- / 1.5	5.0*
	2,6-Dinitrotoluene	606-20-2	0.0099	C	3.7	NC	-- / 1.5	5.0*
	2-Chloronaphthalene	91-58-7	292	NC	290	NC	--	1.0*
	2-Chlorophenol	95-57-8	18	NC	18	NC	--	5.0*
	2-Methylnaphthalene	91-57-6	--	--	15	NC	--	1.0*
	2-Nitroaniline	88-74-4	0.11	NC	--	--	--	10*
	2-Nitrophenol	88-75-5	--	--	--	--	--	5.0*
	3,3-Dichlorobenzidine	91-94-1	0.015	C	0.014	C	--	20*
	3-Nitroaniline	99-09-2	0.32	C	--	--	--	10*
	4,4'-Dichlorobenzil	3457-46-3	--	--	--	--	--	--
	4-Bromophenyl phenyl ether	101-55-3	--	--	--	--	--	1.0*
	4-Chloro-3-methylphenol	59-50-7	--	--	--	--	--	5.0*
	4-Chlorophenyl phenyl ether	7005-72-3	--	--	--	--	--	1.0*
	4-Chlorothioanisole	123-09-1	--	--	--	--	--	--
	4-Chlorothiophenol	106-54-7	--	--	--	--	--	--
	4-Nitroaniline	100-01-6	0.32	C	--	--	1 / 6	10*
	4-Nitrophenol	100-02-7	--	--	--	--	--	20*
	Acenaphthene (see Method 8310)	83-32-9	--	--	220	NC	--	1.0*
	Acenaphthylene (see Method 8310)	208-96-8	--	--	--	--	--	1.0*
	Acetophenone	98-86-2	--	--	370	NC	--	--
	Aniline	62-53-3	1.0	NC	1.1	NC	5 / 19	--
	Anthracene (see Method 8310)	120-12-7	--	--	1,100	NC	--	1.0*
	Azobenzene	103-33-3	0.062	C	--	--	--	--
	Benzo(a)anthracene (see Method 8310)	56-55-3	--	--	0.0086	C	--	1.0*
	Benzo(a)pyrene (see Method 8310)	50-32-8	--	--	0.002	C	--	1.0*
	Benzo(b)fluoranthene (see Method 8310)	205-99-2	--	--	0.0086	C	--	1.0*
	Benzo(g,h,i)perylene (see Method 8310)	191-24-2	--	--	--	--	--	1.0*
	Benzo(k)fluoranthene (see Method 8310)	207-08-9	--	--	0.086	C	--	1.0*
	Benzoic acid	65-85-0	14,600	NC	15,000	NC	--	30*
	Benzyl alcohol	100-51-6	1,095	NC	1,800	NC	--	--
	Benzyl butyl phthalate	85-68-7	730	NC	730	NC	--	5.0*
	bis(2-Chloroethoxy)methane	111-91-1	--	--	--	--	--	1.0*
	bis(2-Chloroethyl) ether	111-44-4	0.0061	C	0.0057	C	(C)15 / (C)90	1.0*
	bis(2-Chloroisopropyl) ether	108-60-1	0.19	C	0.18	C	--	1.0*
	bis(2-Ethylhexyl) phthalate	117-81-7	0.48	C	0.45	C	-- / 5	5.0*

TABLE 1
PRELIMINARY PROJECT SCREENING LEVELS
PERIMETER AIR MONITORING PLAN

Parameter of Interest	Compound List	CAS Number	Ambient Air PRG[1] (µg/m^3)	Basis	Ambient Air RBC[3] (µg/m^3)	Basis	OSHA PELs[2] (ppm / mg/m^3)	Reporting Limit (µg/m^3)
Semivolatile Organic Compounds (Continued)	bis(Chloromethyl) ether	542-88-1	0.00003	C	0.000028	C	--	--
	bis(p-Chlorophenyl) sulfone	80-07-9	--	--	--	--	--	--
	bis(p-Chlorophenyl)disulfide	1142-19-4	--	--	--	--	--	--
	Carbazole	86-74-8	0.34	C	0.31	C	--	--
	Chrysene (see Method 8310)	218-01-9	--	--	0.86	C	--	1.0*
	Dibenzo(a,h)anthracene (see Method 8310)	53-70-3	--	--	0.00086	C	--	1.0*
	Dibenzofuran	132-64-9	7.3	NC	--	--	--	1.0*
	Dichloromethyl ether	542-88-1	--	--	0.000028	C	--	--
	Diethyl phthalate	84-66-2	2,920	NC	2,900	NC	--	5.0*
	Dimethyl phthalate	131-11-3	36,500	NC	--	--	-- / 5	5.0*
	Di-n-butyl phthalate	84-74-2	365	NC	370	NC	-- / 5	5.0*
	Di-n-octyl phthalate	117-84-0	146	NC	--	--	--	5.0*
	Diphenyl disulfide	882-33-7	--	--	--	--	--	--
	Diphenyl sulfide	139-66-2	--	--	--	--	--	--
	Diphenyl sulfone	127-63-9	11.0	NC	--	--	--	--
	Fluoranthene	206-44-0	146	NC	150	NC	--	1.0*
	Fluorene	86-73-7	146	NC	150	NC	--	1.0*
	Hexachlorobenzene	118-74-1	0.0042	C	0.0039	C	--	1.0*
	Hexachlorobutadiene	87-68-3	0.086	C	0.08	C	--	5.4
	Hexachlorocyclopentadiene	77-47-4	0.21	NC	0.21	NC	--	20*
	Hexachloroethane	67-72-1	0.48	C	0.45	C	1 / 10	1.0*
	Hydroxymethyl phthalimide	118-29-6	--	--	--	--	--	--
	Indeno(1,2,3-cd)pyrene (see Method 8310)	193-39-5	--	--	0.0086	C	--	1.0*
	Isophorone	78-59-1	7.1	C	6.6	C	25 / 140	1.0*
	m,p-Cresol	106-44-5	18	NC	18	NC	5 / 22	--
	Naphthalene	91-20-3	3.1	NC	3.3	NC	10 / 50	1.0*
	Nitrobenzene	98-95-3	2.1	NC	2.2	NC	1 / 5	1.0*
	N-nitrosodi-n-propylamine	621-64-7	0.0010	C	0.00089	C	--	1.0*
	N-nitrosodiphenylamine	86-30-6	1.4	C	1.3	C	--	10*
	o-Cresol	95-48-7	183	NC	180	NC	5 / 22	5.0*
	Octachlorostyrene	29082-74-4	--	--	--	--	--	--
	p-Chloroaniline (4-Chloroaniline)	106-47-8	15	NC	15	NC	--	10*
	p-Chlorobenzenethiol (see 4-Chlorothiophenol)	106-54-7	--	--	--	--	--	--
	Pentachlorobenzene	608-93-5	2.9	NC	2.9	NC	--	--
	Pentachlorophenol	87-86-5	0.056	C	0.052	C	-- / 0.5	20*
	Phenanthrene (see Method 8310)	85-01-8	--	--	--	--	--	1.0*
	Phenol	108-95-2	1,095	NC	1,100	NC	5 / 19	5.0*
	Phthalic acid	88-99-3	3,650	NC	--	--	--	--
	Pyrene (see Method 8310)	129-00-0	--	--	110	NC	--	1.0*
	Pyridine	110-86-1	3.7	NC	3.7	NC	5 / 15	--
	Thiophenol	108-98-5	--	--	0.037	NC	--	--
	Tentatively Identified Compounds (TICs)		--	--	--	--	--	--
Volatile Organic Compounds	1,1,1,2-Tetrachloroethane	630-20-6	0.26	C	0.24	C	--	3.5
	1,1,1-Trichloroethane	71-55-6	2,300	NC	1,000	NC	350 / 1900	0.55
	1,1,2,2-Tetrachloroethane	79-34-5	0.033	C	0.031	C	5 / 35	0.14
	1,1,2-Trichloroethane	79-00-5	0.12	C	0.11	C	10 / 45	0.11
	1,1-Dichloroethane	75-34-3	521	NC	510	NC	100 / 400	0.41
	1,1-Dichloroethene	75-35-4	208	NC	220	NC	--	0.40
	1,1-Dichloropropene	563-58-6	--	--	--	--	--	2.3
	1,2,3-Trichlorobenzene	87-61-6	--	--	--	--	--	--
	1,2,3-Trichloropropane	96-18-4	0.0034	C	0.0031	C	50 / 300	3.1
	1,2,4-Trichlorobenzene	120-82-1	3.7	NC	37	NC	--	3.8
	1,2,4-Trimethylbenzene	95-63-6	6.2	NC	--	--	--	0.50
	1,2-Dichlorobenzene	95-50-1	209	NC	150	NC	(C)50 / (C)300	0.61
	1,2-Dichloroethane	107-06-2	0.074	C	0.069	C	50 / --	0.082
	1,2-Dichloroethene (see cis-, trans-)	540-59-0	--	--	33	NC	200 / 790	--

TABLE 1
PRELIMINARY PROJECT SCREENING LEVELS
PERIMETER AIR MONITORING PLAN
(Page 7 of 8)

Parameter of Interest	Compound List	CAS Number	Ambient Air PRG[1] (µg/m^3)	Basis	Ambient Air RBC[3] (µg/m^3)	Basis	OSHA PELs[2] (ppm / mg/m^3)	Reporting Limit (µg/m^3)
Volatile Organic Compounds (Continued)	1,2-Dichloropropane	78-87-5	0.10	C	0.092	C	75 / 350	0.094
	1,3,5-Trichlorobenzene	108-70-3	--	--	--	--	--	--
	1,3,5-Trimethylbenzene	108-67-8	6.2	NC	--	--	--	0.50
	1,3-Dichlorobenzene	541-73-1	110	NC	11	NC	--	0.61
	1,3-Dichloropropene (see cis-, trans-)	542-75-6	--	--	0.63	C	--	--
	1,3-Dichloropropane	142-28-9	73	NC	--	--	--	--
	1,4-Dichlorobenzene	106-46-7	0.31	C	0.28	C	75 / 450	0.12
	2,2-Dichloropropane	594-20-7	--	--	--	--	--	--
	2,2-Dimethylpentane	590-35-2	--	--	--	--	--	--
	2,2,3-Trimethylbutane	464-06-2	--	--	--	--	--	--
	2,3-Dimethylpentane	565-59-3	--	--	--	--	--	--
	2,4-Dimethylpentane	108-08-7	--	--	--	--	--	--
	2-Chlorotoluene	95-49-8	73	NC	73	NC	--	2.6
	2-Hexanone	591-78-6	--	--	--	--	100 / 410	2.1
	2-Methylhexane	591-76-4	--	--	--	--	--	--
	2-Nitropropane	79-46-9	0.00072	C	0.00067	C	25 / 90	--
	3,3-Dimethylpentane	562-49-2	--	--	--	--	--	--
	3-Ethylpentane	617-78-7	--	--	--	--	--	--
	3-Methylhexane	589-34-4	--	--	--	--	--	--
	4-Chlorobenzene (see Chlorobenzene)	108-90-7	--	--	51	NC	75 / 350	--
	4-Chlorotoluene	106-43-4	--	--	260	NC	--	2.6
	4-Methyl-2-pentanone (MIBK)	108-10-1	3,139	NC	3,100	NC	100 / 410	2.1
	Acetone	67-64-1	3,285	NC	3,300	NC	1000 / 2400	1.2
	Acetonitrile	75-05-8	62	NC	62	NC	40 / 70	--
	Benzene	71-43-2	0.25	C	0.23	C	10 / --	0.16
	Bromobenzene	108-86-1	10	NC	--	--	--	3.3
	Bromodichloromethane	75-27-4	0.11	C	0.1	C	--	0.68
	Bromoform	75-25-2	1.7	C	1.6	C	0.5 / 5	5.2
	Bromomethane	74-83-9	5.2	NC	5.1	NC	(C)20 / (C)80	0.39
	Carbon disulfide	75-15-0	730	NC	730	NC	20 / --	1.6
	Carbon tetrachloride	56-23-5	0.13	C	0.12	C	10 / --	0.13
	Chlorobenzene	108-90-7	62	NC	51	NC	75 / 350	0.47
	Chlorobromomethane	74-97-5	--	--	--	--	200 / 1050	--
	Chlorodibromomethane (see Dibromochloromethane)	124-48-1	--	--	0.075	C	--	--
	Chloroethane	75-00-3	2.3	C	2.2	C	1000 / 2600	0.27
	Chloroform	67-66-3	0.083	C	0.077	C	(C)50 / (C)240	0.099
	Chloromethane	74-87-3	95	NC	95	NC	100 / --	0.21
	cis-1,2-Dichloroethene	156-59-2	37	NC	--	--	--	0.40
	cis-1,3-Dichloropropene	10061-01-5	0.5	C	--	--	--	0.46
	Cymene (Isopropyltoluene)	99-87-6	--	--	--	--	--	2.8
	Dibromochloroethane	73506-94-2	--	--	--	--	--	--
	Dibromochloromethane	124-48-1	0.080	C	0.075	C	--	0.86
	Dibromochloropropane	96-12-8	0.21	NC	0.21	NC	0.001 / --	--
	Dibromomethane	74-95-3	37	NC	37	NC	--	3.6
	Dichloromethane (Methylene chloride)	75-09-2	4.1	C	3.8	C	25 / --	0.71
	Dimethyldisulfide	624-92-0	--	--	--	--	--	--
	Ethanol	64-17-5	--	--	--	--	1000 / 1900	0.96
	Ethylbenzene	100-41-4	1,059	NC	1,100	NC	100 / 435	0.44
	Freon-11 (Trichlorofluoromethane)	75-69-4	730	NC	730	NC	1000 / 5600	0.57
	Freon-113 (1,1,2-Trifluoro-1,2,2-trichloroethane)	76-13-1	31,281	NC	31,000	NC	1000 / 7600	0.78
	Freon-12 (Dichlorodifluoromethane)	75-71-8	209	NC	180	NC	1000 / 4950	0.50
	Heptane	142-82-5	--	--	--	--	500 / 2000	2.1
	Isoheptane	31394-54-4	--	--	--	--	--	--
	Isopropylbenzene	98-82-8	402	NC	400	NC	50 / 245	2.5
	m,p-Xylene (see Xylenes (total))	mp-XYL	--	--	110	NC	--	0.44
	Methyl ethyl ketone (2-Butanone)	78-93-3	5,110	NC	5,100	NC	200 / 590	1.5

TABLE 1
PRELIMINARY PROJECT SCREENING LEVELS
PERIMETER AIR MONITORING PLAN
(Page 8 of 8)

Parameter of Interest	Compound List	CAS Number	Ambient Air PRG[1] (µg/m^3)	Basis	Ambient Air RBC[3] (µg/m^3)	Basis	OSHA PELs[2] (ppm / mg/m^3)	Reporting Limit (µg/m^3)
Volatile Organic Compounds (Continued)	Methyl iodide	74-88-4	--	--	--	--	5 / 28	--
	MTBE (Methyl tert-butyl ether)	1634-04-4	3.7	C	1.6	C	--	0.37
	n-Butylbenzene	104-51-8	146	NC	--	--	--	2.8
	n-Propylbenzene	103-65-1	146	NC	--	--	--	--
	Nonanal	124-19-6	--	--	--	--	--	
	o-Xylene (see Xylenes (total))	95-47-6	--	--	--	--	--	0.44
	sec-Butylbenzene	135-98-8	146	NC	--	--	--	2.8
	Styrene	100-42-5	1,059	NC	1,000	NC	100 / --	0.43
	tert-Butylbenzene	98-06-6	146	NC	--	--	--	2.8
	Tetrachloroethene	127-18-4	0.32	C	0.31	C	100 / --	0.14
	Toluene	108-88-3	402	NC	5,100	NC	200 / --	0.38
	trans-1,2-Dichloroethene	156-60-5	73	NC	73	NC	--	0.40
	trans-1,3-Dichloropropene	10061-02-6	0.5	C	--	--	--	0.46
	Trichloroethene	79-01-6	0.017	C	0.016	C	100 / --	0.016
	Vinyl acetate	108-05-4	209	NC	210	NC	--	--
	Vinyl chloride	75-01-4	0.11	C	0.072	C	1 / --	0.026
	Xylenes (total)	1330-20-7	106	NC	110	NC	100 / 435	--
	Tentatively Identified Compounds (TICs)		--	--	--	--	--	--
Water Quality Parameters	Conductivity	COND	--	--	--	--	--	--
	Hardness, total	Hardness	--	--	--	--	--	--
	Total dissolved solids	TDS	--	--	--	--	--	--
	Total suspended solids	TSS	--	--	--	--	--	--
	Alkalinity, Total (as $CACO_3$)	ALK	--	--	--	--	--	--
	Bicarbonate alkalinity	71-52-3	--	--	--	--	--	--
	Carbonate alkalinity	3812-32-6	--	--	--	--	--	--
	Hydroxide alkalinity	OH-ALK	--	--	--	--	--	--
Flashpoint	Flammables	NA	--	--	--	--	--	--
Total Petroleum Hydrocarbons	Diesel	64742-46-7	--	--	--	--	--	--
	Gasoline	8006-61-9	--	--	--	--	--	--
	Grease	68153-81-1	--	--	--	--	--	--
	Mineral Spirits	NA	--	--	--	--	--	--
White Phosphorus	White phosphorus	12185-10-3	--	--	--	--	--	--
Methyl Mercury	Methyl mercury	22967-92-6	--	--	0.37	NC	-- / 0.01	--

[1]From USEPA Region 9 preliminary remediation goals (PRG) table, October 2004 (and August 2004 for radionuclides).

[2]Occupational Safety and Health Administration (OSHA) permissible exposure limits (PELs) are from Tables Z-1 and Z-2 of 29 CFR 1910.1000. The values given are 8-hour time weighted averages (TWAs) in ppm and/or mg/m^3. A (C) designation denotes a ceiling limit value. PAH values are for coal tar pitch.

[3]From USEPA Region 3 risk-based concentrations (RBC) table, April 2006.

[4] For Gross Alpha and Gross Beta, the action levels are set at 25 millirem per year above background.

*In units of µg, for an unknown sample volume.

The specific action level for a given constituent shall be the more conservative of the listed criteria.

Cells with shading reflect those entries with relatively low risk thresholds, as discussed in the main text

Basis: C = carcinogenicity; NC = non-carcinogenicity; SAT = soil saturation (see USEPA Region 9 PRG Table); MAX = ceiling limit (see USEPA Region 9 PRG Table).

-- = Not applicable or no value has been established.
NE = No toxicity criteria established.

Attachment A

Example Forms

AIR MONITORING RECORD FOR DAILY AIR SAMPLES

CLIENT	LOCATION	JOB NUMBER
DATE COLLECTED	COLLECTED BY	CONTAMINANT
SAMPLING STATION	NAME OF CURRENT ACTIVE EXCAVATION OR REMEDIATION AREA	
SAMPLING METHOD OR MEDIA	CALIBRATION METHOD/DATE	

SAMPLE I.D.	EQUIPMENT MAKE/I.D.	TIME ON	TIME OFF	TOTAL TIME	START FLOW	END FLOW	AVG. FLOW	VOLUME	RESULTS

COMMENTS

SAMPLER

DATE

AIR MONITORING RECORD
RAM/MiniRAM MEASUREMENTS

Time	Date	LOCATION (upwind/downwind, reference figure for station location)	INSTRUMENT RAM/MiniRAM	Concentration (mg/m^3)	Recorded by

EQUIPMENT CALIBRATION RECORD

(Per Manufacturer's Instructions)

INSTRUMENT MANUFACTURER/NAME:

MODEL:

SERIAL NUMBER:

CALIBRATION GAS OR STANDARD:

DATE	CALIBRATED BY	STANDARD (±)	READING	INITIALS	COMMENTS

Note: Dust monitor only requires that the instrument be zeroed prior to each days use.

DAQM Use Only

Protecting the air we share

Air Quality

APPLICATION
DUST CONTROL PERMIT FOR CONSTRUCTION ACTIVITIES

Blank spaces must be completed for the application to be processed. If not applicable, enter N/A.

1. **Applicant/Permittee:**

☑ Property Owner ☐ Developer ☐ Prime Contractor ☐ Other _____

Name: Basic Remediation Company

Address: 875 W. Warm Springs Road

City: Henderson State: NV Zip: 89015

Telephone: (702) 567-0400 Ext: _____ Fax: (702) 567-0473

E-mail Address: rmills@landwellco.com

2. **Project:**

Name: Eastside Remediation Project

Address: _____ City: Henderson

Nearest major cross-streets: Boulder Highway and Lake Mead Parkway

Township(s): _____ Range(s): _____ Section(s): _____

Assessor's Parcel number(s) (Attach map): _____

Project Description: Remove impacted soils from site.

Project Acreage: 2,200.0 acres (rounded to the nearest 0.1 acre, minimum fee 1 acre, all land to be disturbed must be included in project acreage: project site, new unpaved access roads, stockpile, and staging areas)

You must select one of the following three choices.

☑ This project does not require any off-site street or utility development.

☐ This project requires off-site street/utility development that is not included in this application's acreage, and will be added at a later date by modification or additional permit.

☐ This application includes off-site street/utility development. (Area must be marked on the accompanying parcel map)

3. **Property Owner (if not applicant):**

Name: Basic Environmental Company

If applicant is NOT the Property Owner, applicant must complete the Owner's Designee form DCP05, see Attachment 1: Dust Control Permit Forms. The signature on the Owner's Designee form must be the same person that signs this application.

4. **Point of Contact for dust control matters and to whom a NOTICE OF VIOLATION should be sent if necessary:**

Name: Rick Mills Company: Basic Environmental Company

Address: 875 W. Warm Springs Road

City: Henderson State: NV Zip: 89015

Telephone: (702) 567-0400 Ext: ____ Fax: (702) 567-0473

Cell/Pager: (702) 806-0046 After Hours Phone: (702) 806-0046

5. **On-site Superintendent/Supervisor/Foreman contact:**

Name: Rick Mills Company: Basic Environmental Company

On-site phone: (702) 806-0046 Cellular/Pager: (702) 806-0046

DAQM Dust Class Certification/Card #: ____ Expiration date: ____

Have all other on-site supervisory personnel attended the DAQM Dust Class? [x] Yes [ ] No

If no, all on-site supervisory personnel must attend a DAQM Dust Class within 30 days.

6. **Storm Water Advisory:** Be advised that all land disturbances that exceed one (1) acre or which are adjacent to a waterway must submit a "Notice of Intent" to the Nevada Division of Environmental Protection (NDEP) that certifies that a Storm Water Pollution Plan has been developed and is maintained for the site. For information contact NDEP at (775) 687-9429. Applications and instructions are available at www.ndep.nv.gov/bwpc/storm01.htm

7. **By signing this permit application I certify that:**

A. **I am authorized, on behalf of the individual or company listed in Section 1, as Applicant/Permittee, to apply for their Dust Control Permit and to commit to all of the terms and conditions of the requested permit.**

B. **Construction activities will be limited to lands that the applicant/permittee either owns or is authorized to use for construction activities. The permit issued subsequent to this application is not a substitute for obtaining the property owners permission to use his land. Issuance of a Dust Control Permit is intended only for the purpose of controlling emissions of air pollutants and assuring compliance with Air Quality Regulations. The applicant/permittee agrees to hold harmless, indemnify, and defend Clark County, its employees and assigns from any claims that may arise due to any unauthorized use of land for construction activities.**

C. **The permittee accepts responsibility for assuring that all contractors, subcontractors, and all other persons on the construction site covered by this permit, comply with the terms and conditions of the permit, the dust mitigation plan and all applicable Air Quality Regulations.**

D. **The applicant/permittee understands that it is a condition of the permit that the permittee agrees to allow the inspection of the site for compliance with the terms and conditions of the permit and Air Quality Regulations at any time during the permittee's hours of operation by a DAQM officer without prior notice or at any time pursuant to the investigation of a complaint or upon direct observation of emission and/or failure to maintain Best Management Practices.**

E. **I understand that any material misrepresentation made in this application may invalidate the permit and that Clark County may pursue enforcement action against me. In addition, I understand any willful misrepresentation may result in criminal penalties. I declare under penalty of perjury that the foregoing is true and correct.**

Executed on:

____ ____

DATE SIGNATURE

____ ____

PRINTED NAME TITLE AND COMPANY NAME

Application completed by, if not completed by signatory (Please Print):

_____ Ext._____
Name Phone Number

FOR DAQM USE ONLY

PERMIT NUMBER	ISSUE DATE	ISSUED BY	
DATE PAID	$_____ AMOUNT	CHECK #	COMPANY NAME
RECEIVED BY			$_____ BALANCE DUE

DAQM REVIEW:_____ DATE:_____

BLASTING APPROVAL (if applicable):_____ DATE:_____

DEMOLITION APPROVAL (if applicable):_____ DATE:_____

COMPLIANCE AREA ASSIGNMENT:_____ Hydrographic Area: _____

☐ Airport ☐ Blasting ☐ Commercial ☐ Demo-Structure ☐ Demo–Other ☐ Staging/Stockpiling

☐ Highway ☐ Schools ☐ Residential ☐ Public Works ☐ Flood Detention ☐ Utilities ☐ Misc.

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DUST MITIGATION PLAN FOR ALL PROJECTS

Project Name: Eastside Remediation Project

Permittee Name: Basic Remediation Company

Identify the Project Soil "Particulate Emission Potential" (check all that apply):

Using silt and optimum moisture content to determine the particulate emission potential (PEP) is the preferred method.

☑ PEP determined using generalized PEP determination maps included in the Dust Control Handbook.

☐ PEP determined using silt vs. optimum moisture table in Figure 2 of the Dust Control Handbook.

Percentage of silt through a #200 sieve: ___% Optimum moisture content: ___%

PEP for this project is determined to be:

☐ High ☐ Moderate High ☑ Moderate Low ☐ Low

Water source: ☑ Hydrant with Jones Valve ☐ Fire hose ☑ Water trucks/pulls ☐ Well ☑ Stand tanks ☑ Ponds ☐ Other:_____

PROJECT ACTIVITIES CHECKLIST

Instructions:

Place a check mark in the box to the right of each Project Activity that will occur on your project. If additional soil disturbing activities that are not on the checklist are to be included in the project, list them on a separate page and provide a description. For a more complete description of the listed activities, see the Control Measures Selection Pages (Form DCP03) that follow or refer to the Best Management Practices for dust control in the Dust Control Handbook.

BMP 10 Disturbed Soil and BMP 20 Trackout Prevention and Cleanup must be marked for every Dust Mitigation Plan.

CONTROL MEASURES SELECTION PAGES

Instructions:

For each project activity that you have selected on the Project Activities Checklist you must include the corresponding Control Measures Selection Page. Read and understand each item listed as a "Requirement" on these included pages. Where control measure options are listed, place a check in the box in front of the control measure you will use to meet that requirement. You must select at least one control measure where a choice is listed. In addition you must select the control measure that corresponds to your PEP as listed above, if applicable.

NOTE: PROJECTS 10 ACRES AND LARGER MUST COMPLETE A SUPPLEMENT TO THE DUST MITIGARTION PLAN (APPENDIX B-1 AND B-2).

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PROJECT ACTIVITIES CHECKLIST

Project Name: Eastside Remediation Project

Permittee Name: Basic Remediation Company

PLACE A CHECK MARK NEXT TO EVERY ACTIVITY THAT WILL BE CONDUCTED ON THIS SITE, FOR EACH CHECKED ACTIVITY COMPLETE THE CORRESPONDING CONTROL MEASURES SELECTION PAGE AND INCLUDE WITH APPLICATION.

BMP	Project Activity	Check All That Apply
01	Backfilling Filling area previously excavated or trenched.	☐
02	Blasting - Abrasive Sandblasting and/or abrasive blasting.	☐
03	Blasting Soil & Rock Explosive blasting of soil and rock.	☐
04	Clearing & Grubbing Clearing and grubbing for site preparation and vacant land cleanup.	✓
05	Clearing Forms, Foundations and Slabs Clearing and cleaning of forms, foundations and slabs prior to pouring concrete.	✓
06	Crushing Crushing of construction and demolition debris, rock and soil.	☐
07	Cut and/or Fill Cut and/or fill soils for site grade preparation.	✓
08	Demolition - Implosion Implosive demolition of a structure, using explosives.	☐
09	Demolition - Mechanical/Manual Mechanical and manual demolition of walls, stucco, concrete, freestanding structures, buildings, load-bearing walls and/or removal of transit pipe	☐
10	Disturbed Soil **THIS ACTIVITY MUST BE SELECTED FOR ALL PROJECTS** Disturbed soil throughout project including between structures.	✓
11	Disturbed Land - Long Term Stabilization Large tracts of disturbed land that will not have continuing activity for more than 30 days.	✓
12	Dust Suppressants - Selection and Use Selection and use of chemical and organic dust suppressing agents and other dust palliatives.	☐
13	Importing/Exporting Materials Importing or exporting of soil, aggregate, decorative rock, debris, Type II and other bulk material.	✓
14	Landscaping Installation of sod, decorative rock, desert or other landscape material.	☐
15	Paving/Subgrade Preparation Subgrade preparation for paving streets, parking lots, etc.	✓
16	Sawing/Cutting Material Sawing or cutting materials such as concrete, asphalt, block or pipe.	☐
17	Screening Screening of rock, soil or construction debris.	☐
18	Staging Areas Staging areas, equipment storage, vehicle parking lots, and material storage areas.	✓
19	Stockpiles Stockpiling of materials, such as Type II, other soils, rock or debris, for future use or export.	✓
20	Trackout Prevention and Cleanup **THIS ACTIVITY MUST BE SELECTED FOR ALL PROJECTS** Prevention and cleanup of mud, silt and soil tracked out onto paved roads.	✓
21	Traffic - Unpaved Routes and Parking Construction related traffic on unpaved interior and/or access roads and unpaved employee/worker parking areas.	✓
22	Trenching Trenching with track or wheel mounted excavator, shovel, backhoe or trencher.	☐
23	Truck Loading Loading trucks with materials including construction and demolition debris, rock and soil.	✓

Eastside Remediation Project

CLEARING AND GRUBBING

BMP 04

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- [✓] 04-1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- [ ] 04-2 Apply and maintain a dust palliative on surface soils where support equipment and vehicles will operate.

Requirement: Stabilize soil during clearing and grubbing activities.

- [✓] 04-3 **L & ML:** Apply water during clearing and grubbing activities.
- [ ] 04-4 **MH:** Apply water and tackifier mixture during clearing and grubbing activities.
- [ ] 04-5 **H:** Apply water and surfactant mixture during clearing and grubbing activities.

Requirement: Stabilize disturbed soil immediately after clearing and grubbing activities.

- [✓] 04-6 Water disturbed soils to form crust immediately following clearing and grubbing activities.
- [ ] 04-7 Apply and maintain a dust palliative on disturbed soils to form crust immediately following clearing and grubbing activities.

Recommendations: Maintain live perennial vegetation and desert pavement where possible.

See also: BMP 11: DISTURBED LAND – Long-Term Stabilization, if no continuing activity will occur within 30 days.

Eastside Remediation Project

CLEARING FORMS, FOUNDATIONS AND SLABS

BMP 05

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Limit visible emissions to no more than an average of 20% opacity for any period aggregating 3 minutes in any 60-minute period pursuant to Air Quality Regulations.

- ☑ 05-1 Use single stage pours, unless prohibited by engineering design or building code, to minimize clearing.

Note: At least one of the following must be selected.

- ☐ 05-2 Use water spray to clear forms, foundations and slabs.
- ☐ 05-3 Use sweeping and water spray to clear forms, foundations and slabs.
- ☐ 05-4 Use industrial vacuum to clear forms, foundations and slabs prior to the use of high pressure air to blow soil and debris.
- ☐ 05-5 Use industrial vacuum to clear forms, foundations and slabs.

Recommendations: Verify Building Code Restrictions for use of water on slabs.

Avoid use of high pressure air to blow soil and debris from forms, foundations and slabs.

Eastside Remediation Project

CUT AND FILL

BMP 07

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- ☑ 07-1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- ☐ 07-2 Apply and maintain a dust palliative to surface soils where support equipment and vehicles will operate.

Requirement: Pre-water soils.

- ☐ 07-3 Dig a test hole to depth of cut or equipment penetration to determine if soils are moist at depth. Continue to pre-water if not moist to depth of cut.
- ☐ 07-4 **L & ML:** Pre-water with sprinklers or wobblers to allow time for penetration.
- ☑ 07-5 **L & ML:** Pre-water with water trucks or water pulls to allow time for penetration.
- ☐ 07-6 **MH:** Pre-water with a water and tackifier mixture using sprinklers or wobblers to allow time for penetration.
- ☐ 07-7 **MH:** Pre-water with a water and tackifier mixture using water trucks or water pulls to allow time for penetration.
- ☐ 07-8 **H:** Pre-water with a water and surfactant mixture using sprinklers or wobblers to allow time for penetration.
- ☐ 07-9 **H:** Pre-water with a water and surfactant mixture using water trucks or water pulls to allow time for penetration.

Requirement: Stabilize soil during cut activities.

- ☑ 07-10 Apply water, using water truck or water pull, to depth of cut prior to subsequent cuts.
- ☐ 07-11 No cut activities fill only.

Requirement: Stabilize soil after cut and fill activities.

- ☑ 07-12 Water disturbed soils to form crust following fill and compaction.
- ☐ 07-13 Apply and maintain a dust palliative on disturbed soils to form crust following fill and compaction.

See also: BMP 11: DISTURBED LAND – Long-Term Stabilization if no continuing activity will occur within 30 days.

Eastside Remediation Project

DISTURBED SOIL

BMP 10

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: For each non-linear project to be permitted for 5 acres or less; install perimeter wind barrier 3 feet or more in height made of material with a porosity of 50% or less.

Requirement: Limit vehicle traffic and disturbance of soils where possible.

☑ 10-1 Limit vehicle traffic and disturbance of soils with the use of fencing, barriers, barricades, and/or wind barriers.

Requirement: Stabilize and maintain stability of all disturbed soil throughout construction site.

Note: You must choose one or more of the following.

☑ 10-2 Apply water to stabilize disturbed soils. Soils must be kept in a sufficiently damp, crusted or covered condition.

☐ 10-3 Apply and maintain a dust palliative based on soil type and future plans.

Requirement: Soil conditions, including preventive and corrective measures, must be recorded every day the construction project is active.

☑ 10-4 Record soil conditions and dust control actions in daily project records.

Recommendations: If interior block walls are planned, install as early in the construction as possible.

See also: BMP 11: DISTURBED LAND – Long-Term Stabilization, if no continuing activity will occur within 30 days.

Eastside Remediation Project

DISTURBED LAND – Long-Term Stabilization

BMP 11

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Stabilize soil to meet standards required by Air Quality Regulation Section 90.

- ☐ 11-1 Apply and maintain a dust palliative on disturbed soils for long-term stabilization.
- ☐ 11-2 Stabilize disturbed soil with vegetation for long-term stabilization.
- ☐ 11-3 Pave or apply surface rock for long-term stabilization.
- ☐ 11-4 Use wind breaks in accordance with a site-specific plan approved by the Control Officer and Region IX Administrator of the EPA.
- ☐ 11-5 Apply water and maintain soils in a visible damp or crusted condition for temporary stabilization.

Requirement: Prevent access to limit soil disturbance.

- ☑ 11-6 Prevent access by fencing, ditches, vegetation, berms or other suitable barrier or means approved by the Control Officer.

Recommendations: Plant perimeter vegetation early. Use of native and drought-tolerant plants with greater than 50 % silhouette area is encouraged.

See also: BMP 12: DUST SUPPRESSANT, DUST PALLIATIVE AND SURFACTANT – Selection and Use.

Eastside Remediation Project

IMPORTING/EXPORTING SOIL, ROCK AND OTHER BULK MATERIAL

BMP 13

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Limit visible dust opacity from vehicular operations.

- ☑ 13-1 Apply water and limit vehicle speeds to 15 mph on the work site.
- ☑ 13-2 Apply and maintain dust suppressant on haul routes.

Requirement: Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage.

Requirement: Maintain 3-6 inches of freeboard to minimize spillage.

Requirement: Stabilize materials during transport on site.

- ☑ 13-3 Use tarps or other suitable enclosures on haul trucks.
- ☑ 13-4 Stabilize materials with water.

Requirement: Clean wheels and undercarriage of haul trucks prior to leaving construction site.

Recommendations: Verify State and local laws, concerning the hauling of bulk materials on public roadways.

See also: BMP 20: TRACKOUT PREVENTION AND CLEANUP
BMP 23: TRUCK LOADING.

Eastside Remediation Project

PAVING/SUBGRADE PREPARATION

BMP 15

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Stabilize soils prior to activities.

- ☑ 15-1 Pre-water subgrade surface until optimum moisture content is reached and maintained.

Requirement: Stabilize soils during activities.

- ☑ 15-2 Maintain at least 70% of optimum moisture content for Type II material while aggregate is being applied.

Requirement: Stabilize soils following activities.

- ☐ 15-3 Place tack coat on Type II aggregate base immediately after it is applied.
- ☐ 15-4 Apply water to Type II aggregate base immediately after it is applied.

Requirement: Stabilize adjacent disturbed soils following paving activities.

- ☐ 15-5 Stabilize adjacent disturbed soils following paving activities by crusting with water.
- ☐ 15-6 Stabilize adjacent disturbed soils following paving activities by applying a dust palliative.
- ☐ 15-7 Stabilize adjacent disturbed soils following paving activities with immediate landscaping activity or installation of vegetative or rock cover.
- ☐ 15-8 There are no soils adjacent to paving activities.

Eastside Remediation Project

STAGING AREAS

BMP 18

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Limit visible dust opacity from vehicular operations.

- ☑ 18-1 Limit vehicle speeds to 15 mph in the staging area and on all unpaved access routes.
- ☐ 18-2 Apply and maintain dust suppressant on all vehicle traffic areas in the staging areas and unpaved access routes.

Requirement: Stabilize staging area soils during use.

- ☑ 18-3 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- ☐ 18-4 Apply and maintain a dust palliative to surface soils where support equipment and vehicles will be operated.

Requirement: Stabilize staging area soils at project completion.

- ☐ 18-5 Apply a dust palliative.
- ☑ 18-6 Apply screened or washed Type II aggregate.
- ☐ 18-7 Use wind breaks in accordance with a site-specific plan approved by the Control Officer and Region IX Administrator of the EPA.
- ☐ 18-8 Pave with thin paving.
- ☐ 18-9 Completed project will cover staging area with buildings, paving, and/or landscaping.
- ☐ 18-10 Apply water to form adequate crust and prevent access.

Recommendations: Limit size of staging areas.

Limit ingress and egress points.

See also: BMP 20: TRACKOUT PREVENTION AND CLEANUP

Eastside Remediation Project

STOCKPILING — BMP 19

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: To the extent possible, maintain stockpile to avoid steep sides or faces.

Requirement: Stockpile location and height must be maintained pursuant to Air Quality Regulations. Stockpiles located within 100 yards of occupied buildings must not be constructed over 8 feet in height.

- ☑ 19-1 Stockpiles will not be constructed over 8 feet in height.
- ☐ 19-2 Stockpiles will be constructed over 8 feet high and must have a road bladed to the top to allow water truck access or must have a sprinkler irrigation system installed, used and maintained

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- ☑ 19-3 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- ☐ 19-4 Apply and maintain a dust palliative on surface soils where support equipment and vehicles will operate.

Requirement: Stabilize stockpile materials during handling.

- ☑ 19-5 Maintain stockpile materials with at least 70% optimum moisture content.
- ☐ 19-6 Remove material from the downwind side of the stockpile, when safe to do so.

Note: Select at least one of the above; in addition the appropriate control measure for your soil type must be selected from the following.

- ☑ 19-7 **L & ML:** Apply water during stacking, loading and unloading operations.
- ☐ 19-8 **MH:** Apply a water and tackifier mixture during stacking, loading and unloading operations.
- ☐ 19-9 **H:** Apply a water and surfactant mixture during stacking, loading and unloading operations.

(Continued on next page)

Requirement: Stabilize stockpiles at completion of activity.

- [x] 19-10 Water stockpiles to form a crust immediately at the completion of activity.
- [ ] 19-11 Apply and maintain a dust palliative to all outer surfaces of the stockpiles.
- [ ] 19-12 Provide and maintain wind barriers on 3 sides of the pile, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and made of material with a porosity of 50% or less.
- [ ] 19-13 Apply a cover or screen to stockpiles.

Eastside Remediation Project

TRACKOUT PREVENTION AND CLEANUP

BMP 20

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: In soils that have a PEP classification of "High", pave construction activities roadways as early as possible.

Requirement: Use of soil to create a ramp for vehicle access over a curb is prohibited.

Requirement: Trackout conditions, including preventive and corrective measures, must be recorded daily for every day that the construction project access is used by vehicles.

- ☑ 20-1 Record soil conditions and dust control actions in daily project records.

Requirement: Prevent dust from trackout.

- ☑ 20-2 Immediately clean trackout from paved surfaces to maintain dust control. Trackout must not extend 50 feet or more.
- ☐ 20-3 Maintain dust control during working hours and clean trackout from paved surfaces at the end of the work shift/day. Trackout must not extend 50 feet or more and must be cleaned daily, at minimum.

Requirement: Install and maintain trackout control devices in effective condition at all access points where paved and unpaved access or travel routes intersect.

- ☑ 20-4 Install gravel pad(s) consisting of 1" to 3" rough diameter, clean, well-graded gravel or crushed rock. Minimum dimensions must be 30 feet wide by 3 inches deep, and, at minimum, 50' or the length of the longest haul truck, whichever is greater. Re-screen, wash or apply additional rock in gravel pad to maintain effectiveness.
- ☐ 20-5 Install wheel shakers. Clean wheel shakers on a regular basis to maintain effectiveness.
- ☐ 20-6 Install wheel washers. Maintain wheel washers on a regular basis to maintain effectiveness.
- ☐ 20-7 Install wheel shakers in the event that trackout cannot be controlled with gravel pads.
- ☐ 20-8 Install wheel washer in the event that trackout cannot be controlled with gravel pads and wheel shakers.
- ☐ 20-9 Motorized vehicles will only operate on paved surfaces.

(Continued on next page)

CONTROL MEASURES SELECTION PAGES

Requirement: All exiting traffic must be routed over selected trackout control device(s).

- [x] 20-10 Clearly establish and enforce traffic patterns to route traffic over selected trackout control device(s).
- [ ] 20-11 Limit site accessibility to routes with trackout control devices in place by installing effective barriers on unprotected routes.

Eastside Remediation Project

TRAFFIC – Unpaved Routes and Parking Areas

BMP 21

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Limit visible dust opacity from vehicular operations.

- ☑ 21-1 Limit vehicle speeds to 15 mph on all unpaved routes and parking areas.
- ☐ 21-2 Apply and maintain dust palliative on all vehicle travel areas.

Requirement: Stabilize all haul routes.

- ☐ 21-3 Apply water to haul routes and maintain in a stabilized condition.
- ☐ 21-4 Apply a dust palliative to haul routes and maintain in a stabilized condition.
- ☑ 21-5 Apply gravel to haul routes and maintain in a stabilized condition.
- ☐ 21-6 Supplement dust palliative or aggregate applications with watering, if necessary.

Requirement: Stabilize all off-road and parking areas.

- ☐ 21-7 Apply water to off-road traffic and parking areas and maintain in a stabilized condition.
- ☑ 21-8 Apply gravel to off-road traffic and parking areas and maintain in a stabilized condition.
- ☐ 21-9 Apply recycled asphalt (or other suitable material) to off-road traffic and parking areas and maintain in a stabilized condition.
- ☐ 21-10 Apply and maintain a dust palliative (designed for vehicle traffic) to off-road traffic and parking areas and maintain in a stabilized condition.

Recommendations: Use of bumps or dips for speed control is encouraged.

Apply paving as soon as possible to all future roadway areas for PEP categories other than "High".

Eastside Remediation Project

TRUCK LOADING

BMP 23

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Ensure all loads are covered prior to leaving the construction site and traveling on public roadways.

Requirement: Stabilize surface soils where loaders, support equipment and vehicles will operate.

- ☑ 23-1 Pre-water and maintain surface soils in a stabilized condition where loaders, support equipment and vehicles will operate.
- ☐ 23-2 Apply and maintain a dust palliative on surface soils where loaders, support equipment and vehicles will operate.

Requirement: Stabilize material during loading.

- ☑ 23-3 Empty loader bucket slowly and keep loader bucket close to the truck to minimize the drop height while dumping.

Note: You must selected 23-3 if PEP is greater than LOW, in addition one of the following must be selected.

- ☑ 23-4 **L & ML:** Mix material with water prior to loading.
- ☐ 23-5 **L & ML:** Spray material with water while loading.
- ☐ 23-6 **MH:** Mix material with a water and tackifier mixture prior to loading.
- ☐ 23-7 **MH:** Spray material with a water and tackifier mixture while loading.
- ☐ 23-8 **H:** Mix material with a water and surfactant mixture prior to loading.
- ☐ 23-9 **H:** Spray material with a water and surfactant mixture while loading.

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Air Quality

OWNER'S DESIGNEE FORM
DUST CONTROL PERMIT for CONSTRUCTION ACTIVITIES

An Excavation / Encroachment / Offsite permit for government owned land may be submitted in lieu of this form.

1. **DESIGNEE INFORMATION:**

   Applicant/Permittee: Basic Remediation Company

   Project Name: Eastside Remediation Project

2. **PROPERTY OWNER INFORMATION:**

   ☐ Property Owner ☐ Easement / Right of Way Holder

   Name: Basic Environmental Company

   Address: _____

   City: _____ State: _____ ZIP: _____

   Phone: _____ Ext: _____ Fax: _____

I certify that the property owner and/or easement/right-of-way holder has given me permission to act as the Designee and to act on his/her behalf in all matters regarding the issuance, modification, closure and all requirements of the DUST CONTROL PERMIT for Construction Activities. I understand that I am responsible for dust control on the property listed on this application until such time that the permit is closed in accordance with Air Quality Regulations. I have completed the Dust Control Class or will complete the Class, no later than thirty (30) days from today's date. Furthermore, I understand that I am responsible for ensuring the contractor(s), subcontractor(s), and all other persons associated with the Project comply with the "Conditions of Permit" and "Dust Mitigation Plan".

I declare under penalty of perjury that the foregoing is true and correct.

Executed on:

_____ _____

Date Applicants/Permittee Signature

_____ _____

Printed Name Title and Company

EXAMPLE HEALTH AND SAFETY PLAN

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RESPONSE TO NDEP COMMENTS ON BRC'S APRIL 2005 CORRECTIVE ACTION PLAN SUBMITTAL (COMMENTS DATED 2 DECEMBER 2005)

1. NDEP Comments issued March 30, 2005 on the table of contents have not been addressed. This includes previous comments: 3a, 3b, 3c, and 9.

Response: *BRC does not agree with the generalization made by the first sentence of the above comment. BRC did address each and every of the NDEP's March 30, 2005 comments to the draft CAP table of contents. For example, please see below the manner in which we endeavored to address NDEP's March 30, 2005 comments including Comments 2, 3, 4, 5, 6, 7, 9, 10, and 11. All references in the response to Item 1 below are to the April 2005 Draft CAP:*

NDEP's March 30, 2005 comment #2— §4.0 of the draft CAP states that the Community Involvement Plan presents the various modes by which the Corrective Action Plan is to be communicated to the public. The NDEP has now approved the Community Involvement Plan.

#3a—Per the NDEP's request, BRC will be producing a stand-alone Sampling and Analysis Plan for Soils by Sub-Area. BRC's understanding is that this plan subsumes what would have otherwise been included in the CAP. This Sampling and Analysis Plan addresses comment 3a directly.

#3b—There are repeated references in the draft Corrective Action Plan and other project documents (including the Closure Work Plan (now Closure Plan)) referencing the iterative nature of the remediation/confirmatory sampling/risk assessment loop. Even so, the NDEP appears to disregard this fundamental iterative aspect by requiring in its comment 3b some form of concrete documentation as to when physical remediation is to stop and confirmatory is to begin. If by documentation, the NDEP means "judgment made in the field based on visual inspection," then this can and will be documented in the daily field log. If, however, the NDEP requires some other form of documentation, then BRC requests guidance as to how to document the decision to proceed with confirmatory sampling, which will be made in the field, before the sampling has occurred which produces documentable results. The sampling results provide written data, the analysis of which drives the decision to either continue excavation or to submit the area to risk assessment, and, if the latter, the risk assessment then provides documentation as to cleanliness.

#3c—BRC thought that the statement in §3.1, ¶3, "Excavation within each pond cell requiring remediation will continue until the excavation floor and sidewalls exhibit no visual evidence of contamination," made clear the mechanic of its decision-making with respect to excavation depth. BRC thus admits to being unable to understand the NDEP's statement that it has failed to address this point in the draft CAP. BRC's rationale for determination of initial excavation depths is provided in §2.3, ¶4.

#3d—As stated in §3.1.1 of the draft CAP, "Actual attainment of cleanup goals will be assessed by confirmation sampling and risk assessment procedures as described in the Closure Work Plan. As discussed in the Closure Work Plan, if confirmation sampling and risk assessment indicate that in-place concentrations remaining after excavation constitute an unacceptable risk to human health and the environment, BRC will return to that area and expand the excavation vertically and/or

horizontally until cleanup goals are attained." Implicit in this statement is remobilization, as necessary.

#4—BRC has acknowledged in this and in subsequent submittals that reference to a draft document does not imply approval by the NDEP. See, e.g., the Abstract to the draft CAP, footnote 1.

#5—BRC addressed the issue of bioaccumulation in grubbed vegetation in §2.1, ¶3.

#6—The dust control water source is specified in §3.1.4, third sentence.

#7—As stated in §2.3, all elevations have been expressed relative to the North American Vertical Datum (NAVD).

#9—BRC believed that the statement made in §3.1.2(c) of the draft CAP, "...free liquid will filter through the bag and collect in the lined pond for further evaporation..." answered this comment #9 directly.

#10— §3.1.5 of the draft CAP responds to this comment directly.

#11—§§3.2, 3.2.1, and 3.4 respond to this comment directly.

2. Section 1.1, page 3, BRC references the "Site Model summarizing actual Site conditions". As noted throughout the July 11, 2005 comments on the *Closure Plan*, this is not appropriate or acceptable terminology.

Response:** BRC has acceded to the NDEP's desired nomenclature. Note that the draft April 2005 CAP was submitted before this desired nomenclature was communicated on July 11, 2005. Note also that, in the draft April 2005 CAP, BRC was following the specific guidance on this point received from the Administrator on April 14, 2004 (cf.,* **Memorandum to Allen Biaggi, re: telephone call 4/14/04 minutes). In the revised CAP and in future documents, BRC has and will use the term* **Conceptual Site Model** *or* **CSM.**

3. Section 1.2, pages 4 through 6, the NDEP has the following comments:
   a. BRC provides some discussion regarding the assumption of liability for soils and groundwater (partial) at the site. Please provide additional discussion on the significance of this partial assumption of liability in terms of the clean up.
   b. As discussed previously with BRC, please note that a public notice regarding the change in the site remedy will be issued.

***Response:** All HISSC members transferred liability for soils clean-up to BRC through the 1999 Liability Transfer and Assumption Agreement, but certain HISSC member companies did not formally transfer liability to BRC for ground water through a sister agreement executed in 2001. However, BRC has assumed primary responsibility for the clean-up of both soils and ground water for the Site. This assumption of responsibility is explicitly recognized in the* **Nevada Division of Environmental Protection Settlement Agreement and Administrative Order on Consent, BMI Common Areas, Phase 3 (NDEP,**

February 2006). *Accordingly, the HISSC companies are not expected to play an active role in the clean-up of the BMI Common Areas.*

BRC disagrees that hauling excavated soils completely overland to the CAMU rather than partially by conveyor constitutes a "change in the site remedy." As noted, however, in the Scope of Work *appended to the* "Nevada Division of Environmental Protection Settlement Agreement and Order on Consent: BMI Common Areas, Phase 3" *(hereinafter the* "AOC3") *dated February 15, 2006, BRC has agreed to make public notice via its March 2006 Factsheet that excavated soils will be transported across Boulder Highway by truck rather than under the highway by conveyor. BRC is also working with the NDOT and the City of Henderson to obtain the necessary permits to effect this. This is now noted in the CAP at §1.2, last paragraph.*

4. Section 2.1, page 8, BRC is proposing to segregate and sample vegetation to see if it should be disposed of in the CAMU or a municipal landfill. Depending on the quantity of vegetation and the analytical requirements, this may not be a cost-effective proposal. It may be more prudent to dispose of this material in the CAMU since BRC anticipates that the CAMU will have excess capacity.

Response: *BRC prefers not to dispose of decomposable, organic matter, such as vegetation, within the CAMU due to the potential for decomposition, settling, and leachate generation. Therefore, BRC will dispose of such materials in a municipal landfill as discussed in §2.1, ¶3.*

5. Section 2.1, page 9, areas beneath abandoned vehicles should also be tested for glycol and pH

Response: *BRC agrees to test the soil beneath abandoned vehicles for pH and for evidence of glycol spillage, and has added these to the associated text in the revised CAP at §2.1, ¶4.*

6. Section 2.3, page 10, BRC implies that "small-scale contamination" is synonymous with a "hot spot". This is not correct. A hot spot can exist amongst large-scale contamination, and small-scale contamination is not necessarily a hot spot.

Response: *BRC agrees with the NDEP that a hot spot can exist in large- or in small-scale, and the language in this section has been reworked to remove the confusion.*

7. Section 3.0, page 14, BRC should discuss which permitted facilities have been contacted to receive materials from the Site in the event that the CAMU should become full. Materials impacted with radionuclides will need special consideration. TIMET has contacted a number of facilities regarding the disposal of material impacted by radionuclides and it may be helpful for BRC to discuss this matter with TIMET.

Response: *BRC has reworded the section to disclose "which permitted facilities have been contacted to receive materials from the Site in the event the CAMU should become full." Note further that BRC has been in contact since early 2004 with a company in Texas to which TIMET has recently sent soils from its plant site. This company is licensed to receive radioactive wastes and has indicated to BRC that it can and would receive such wastes from the Site, if encountered and required. Locally, Apex has*

expressed a desire to dispose of materials from BRC in the past and, if needed, BRC can pursue this option.

8. Section 3.1, page 14, the NDEP has the following comments:
   a. It is still not clear how the extents of excavation were determined. Very specific depths are presented on Figure G-2 through G-5 and the basis for these depths and extents has never been presented. This issue was discussed somewhat in the NDEP's August 10 – 11, 2005 meetings with BRC, however, this delineation must be completely transparent in the revised report.
   b. It is not clear how the depths and extents presented for the ditch or ponds will be sufficient to achieve the remedial goals.
   c. BRC notes that the process will be iterative, however, the process of determining the depth and extent of excavation is never discussed.
   d. BRC references the reviewer to Section 3.1.2 of the Closure Plan. This section is a description of site features and it is not clear how this was used to determine the depth and extents of excavation.

Response: *The language of this section has been reworked to make plain that the commencing iteration of excavation is based on knowledge of historical use and physical evidence of contamination, either by visual inspection or prior sampling or both. This is also discussed in §2.3 of the current CAP. Excavation of pond sediments in pond bottoms and sidewalls will continue in roughly 2-6 inch lifts until no further visual evidence of contamination is encountered, after which the area is sampled for confirmation that all contamination has been removed. If sampling shows contaminants remain, then excavation resumes in lifts, depending on the concentrations of the residual pollutants and to the extent needed to remove such contaminants or reduce their levels to background or deminimus risk values. At that point sampling will be conducted again. The process repeats until either the area tests clean or a practical impediment to further excavation (e.g., groundwater) is encountered.*

BRC has made no claim in the draft CAP that "the depths presented for the ditch or ponds will be sufficient to achieve the remedial goals," but the NDEP's statement infers that it has. What BRC has presented, however, is a process that it believes will be sufficient to achieve remedial goals, and this process starts with excavating ponds and ditches to certain depths based on knowledge of historical use, prior sampling data, and visual inspection. The iterative process has a starting point, and this starting point is excavation. Nowhere in the draft CAP does BRC claim or imply that the starting point is also the ending point. The CAP text has been revised to clarify the approach as stated in this comment response.

9. Section 3.1.1, pages 15 and 16, the NDEP has the following comments:
   a. BRC states that visual evidence and field screening will be used during excavation to determine the extents of excavation. BRC should reference another section of the report that details the types of field screening that are proposed. Appropriate use of field screening techniques could result in significant cost-savings for the project. It is suggested that these techniques (and the associated confirmatory sampling) be discussed further.

Response: *At the time the draft CAP was submitted, BRC anticipated the possible use of field screening techniques to determine the limits of excavation. Having further pursued this option, BRC has*

determined that current field screening techniques are of limited use and has elected not to perform field screening during excavation activities, except as required for Health & Safety monitoring. The readily available and demonstrably-reliable field screening techniques are only feasible for a subset of site-related chemicals, and, as such, will not provide a thorough assessment of conditions in the excavation area (i.e., whether remediation goals have been met). Therefore, confirmatory laboratory analysis would be required even if field screening were to indicate remediation is complete. Furthermore, certain field screening techniques do not provide results that are directly translatable to concentrations (e.g., radioactivity meters). BRC currently envisions that upon achieving excavation limits believed to be complete, confirmation samples will be collected and directly analyzed by a fixed-base certified laboratory. The revised CAP includes no references to field screening techniques other than those associated with Health and Safety monitoring, the discussion of which has been expanded.

b. BRC indicates that expedited lab turn-around will be approximately 1 week. The NDEP can only assume that this means that radionuclide analysis is not proposed. This is not acceptable without further justification and discussion.

***Response:** The NDEP's presumption is incorrect. BRC intends to include radionuclide analysis, and the text has been amended in §3.1.1, ¶4 accordingly to reflect the longer turn-around times associated with radionuclide analysis.*

c. BRC indicates that areas which cannot be fully remediated due to depth of groundwater will be identified in the field notes. The NDEP requires that these areas be specifically identified and summarized in the corrective action completion reports. In addition, these areas should be discussed in the interim status reports.

***Response:** BRC concurs, and the CAP text (§3.1.1, §4.1 and §4.2) has been revised to indicate that such areas would be included in the field notes and identified in the interim status and corrective action completion reports.*

d. BRC indicates that a licensed professional engineer will ensure that the excavations are being carried out in conformity with the grading plan. It appears to the NDEP that this task might be better accomplished by a licensed surveyor.

***Response:** BRC disagrees and believes a licensed professional civil engineer is more appropriate to the task of ensuring that the grading plan is being carried out faithfully. BRC has revised the CAP text in §3.1.5 to include a requirement for a licensed surveyor to conduct the post-excavation topographic survey.*

e. BRC indicates that "detections will be evaluated to determine whether leaving those concentrations in place constitutes an unacceptable risk to human health and the environment." It should be noted that elevated detection limits (SQLs) for non-detects can be a driving factor in a risk assessment and BRC must ensure that appropriate detection limits are provided by the laboratories. The statement above implies that only detections will be evaluated. The NDEP

would like to note that non-detects should be evaluated at ½ the detection limit unless adequate justification can be provided to suggest that zero is more appropriate.

Response: *BRC recognizes the importance of achieving sufficiently low detection limits and including non-detections in the risk evaluation that will be performed. The cited text has been revised to include the term "reported results" in place of "detections," and a reference to the use of non-detections in this evaluation.*

The revised text also includes a reference to the risk assessment methodologies for human and ecological health that will be provided in the Closure Plan, to be approved by NDEP in some form prior to implementation, which includes the manner in which non-detections will be handled. Specifically, the revised draft CAP §3.1.1, N6 states the following "Based on USEPA (1989) guidance, non detects for COPCs will be assigned a value of one-half the detection limit. For uncensored data, such as radionuclide analytical results, the actual reported value will be used, unless the reported value is negative. Negative values are reported, but a zero will be substituted for any reported negative value in the 95 percent UCL calculation. Other methods for addressing non-detects may be considered."

10. Section 3.1.2, pages 16 and 17, the NDEP has the following comments:
    a. Please discuss the specific moisture content that is desired for these materials. What are the "acceptable levels"?
    b. BRC references the "extensive pilot testing" that has been completed to dewater the TIMET ponds. Does BRC anticipate submitting these test results to the NDEP?
    c. This section does not discuss what will be done with the liquid effluent from the bag filters. It is the belief of the NDEP that this liquid may take a very long time to evaporate and BRC should have a plan in place to address this issue.

Response: *The text of §3.1.2 has been amended to state that acceptable moisture content for these materials is roughly 20-40% by volume depending on the type of soil and ambient conditions.*

BRC will submit a copy of the pilot testing results to the NDEP, if so desired. Please note that BRC may use a variety of strategies to manage the TIMET ponds soils and sludges, including commingling dry and moist soils prior to transportation to the CAMU.

BRC does not share NDEP's belief "that this liquid may take a very long time to evaporate." It has been BRC's experience that evaporation proceeds rapidly at the Site, with more than 90 inches per year being normal. For the example at hand, the liquid level within the TIMET active ponds has, in fact, dropped more than 6 feet in the eight months since these ponds were taken out of service. Note that the text at §3.1.2(c) does state "what will be done with the liquid effluent from the bag filters, viz.: "...free liquid will filter through the bag and collect in the lined pond for further evaporation." The text has been expanded to clarify that any residual material from this evaporation process will be transported to the CAMU.

11. Section 3.2, page 18, the NDEP has the following comments:
    a. BRC should discuss a street sweeping program and the analytical requirements for the program. Also, it should be noted that based on the volume estimates presented in this document it will

take between 150 and 500 working days to complete the transport of soil from the excavation area to the CAMU (assuming no delays in the project).

Response: *The text in §3.2 has been expanded to include a reference to the "street sweeping program," which was (and remains) also described in §3.4, ¶3. No "analytical requirements for the program" are necessary, because as stated in the same section, ¶4, last sentence: "Soils scraped off equipment or the road will be collected, and retained at the Site, until they can be added to truck loads of soils being transported for disposal at the CAMU."*

The text in §3.2 has been expanded to include a reference to the anticipated project schedule, as already summarized in §5.0, which states: "Once initiated, BRC presently estimates the duration of the excavation, hauling, and interment activities at less than 18 months. Operations will be conducted 24 hours/day, 7 days per week."

b. Please note that truck decontamination activities should take place in a dedicated station which will minimize the transmission of impacted soils and liquids to the soils. Water generated during decontamination procedures should be collected and a reference to Section 3.3 would be helpful.

Response: *The text in §3.2 has been expanded to include references to*
1) the dedicated truck decontamination area, which is depicted in Appendix A, Figure F-3;
2) decontamination procedures, including rinsate handling, as discussed in §3.4, last paragraph; and
3) air monitoring procedures, as discussed in §3.3.

Concerning the handling of decontamination rinsate, note the text at §3.4, which states: "Decontamination water will be pumped from the collection area into a storage tank, which will be periodically sampled and analyzed to determine appropriate disposal. Some additional decontamination areas may also need to be established within a specific area or work unit, based on the type of activity performed. Supplemental decontamination stations, if any, will be designed to contain waste water and soils generated during decontamination (i.e., bermed, sloped, and lined with plastic sheeting). Rinse water generated at those supplemental stations will be added to the storage tank for the main decontamination area, and disposed of with that waste water."

c. BRC should discuss the necessity of decontamination of trucks within the Site. BRC must ensure that trucks are decontaminated (as necessary) so as not to recontaminate areas of the site that have already been remediated.

Response: *BRC agrees and directs the NDEP'S attention to the existing draft CAP at §§3.2 (¶¶2 and 3), and 3.4 (¶2). The text in §3.2 has been expanded to underscore the necessity for truck decontamination within the Site.*

d. It appears that BRC has proposed to clean the affected portion of Boulder Highway one time per day. The NDEP suggests that Boulder Highway be cleaned "as necessary" and a minimum of one time per day.

Response: *BRC has proposed to clean the affected portion of Boulder Highway at least once per day and otherwise immediately as and when spills occur. The text has been modified to make this clear in §3.4, ¶3.*

e. Please note that any materials vacuumed up by the Contractor should be disposed of in the CAMU or characterized and disposed of appropriately.

Response: *The text in §3.2 has been expanded to refer the reader to the existing §3.4 for a description of the manner in which this material will be addressed, including disposal. As presented in the April 2005 draft CAP, §3.4, ¶3 states that these materials will be disposed in the CAMU.*

12. Section 3.2.1, page 19, the material being transported to the CAMU will not be fully characterized. Please provide additional detail on the methods that will be used to address a spill of such material given the fact that the hazards associated with the material may be unknown.

Response: *The reader's attention is directed to the draft CAP at §§3.2.1 and 3.4, which state that any and all spilled soils will be transported to the CAMU. The text in §3.2.1 has been expanded to state that the contractor conducting the excavation will also handle all emergency response activities and that all spilled materials will be disposed of in the CAMU. Thus, BRC does not believe that any additional characterization of spill materials is necessary.*

13. Section 3.2.2, pages 19 and 20, the NDEP has the following comments:
    a. BRC states that the CAMU does not overlap the existing BMI landfill. The NDEP is not certain that this statement is accurate. It is the understanding of the NDEP that BRC does not know the exact extents of the former BMI landfill. BRC needs to discuss the extents of the historic landfill in relation to the location of the slit trenches and future CAMU.

Response: *The cited text in §3.2.2 has been modified to state that BRC's proposed CAMU footprint will result in "little or no overlap" between the CAMU footprint and the existing BMI landfill. The relationship between the CAMU, the BMI Landfill, and the slit trenches is as follows: the CAMU will overlay the slit trench area, which has been delineated to the best of BRC's ability (relying on aerial photographs, non-intrusive field investigations, and intrusive field investigations— no documentary evidence of the slit trench actual construction exists). It appears from the photographic and field evidence that some of the slit-trenches lie in very close proximity to boundaries of the BMI Landfill. Thus, portions of the CAMU liner may overlay small portions of the "toe" of the BMI Landfill; but it is not BRC's intent to otherwise have the CAMU overlap the BMI Landfill to any significant extent.*

    b. BRC should also discuss decontamination of trucks prior to crossing Boulder Highway (if necessary).

Response: *The text of the revised CAP in §3.2.2, ¶7 has been expanded to include truck decontamination west of Boulder Highway.*

c. Please specify what the "optimum moisture content" is.

***Response:** The text of the CAP has been amended at §3.2.2 to specify the optimum moisture content, which is 20-40% by volume depending on soil type and ambient conditions.*

14. Section 3.2.3, page 20, all trucks must be covered during transport.

***Response:** BRC agrees, and the cited text in §3.2.3 has been modified to include this requirement.*

15. Section 3.3, pages 20 and 21, please note that the NDEP will not provide comments on health and safety issues for site workers.

***Response:** Comment noted.*

16. Section 3.4, pages 21 and 22, please note that driving over a "track out" area may not be sufficient for vehicles crossing Boulder Highway. It may necessary to decontaminate the tires and lower portion of each vehicle prior to crossing Boulder Highway.

***Response:** BRC recognizes that track-out pads may not always be sufficient to remove soils from truck tires and underbodies prior to crossing Boulder Highway. Therefore, the NDEP's attention is directed to the April 2005 draft CAP at §3.2, ¶3, which states as follows: "Because the access routes will be wetted to suppress dust, some mud will be generated, and it is likely that this mud would be transferred to truck tires and the vehicle body. When needed, prior to crossing Boulder Highway, the transport trucks will be decontaminated by scraping and/or by water spray to avoid transfer of dirt to the road pavement." The text in §3.4 has been expanded to direct the reader to §3.2.*

17. Section 4.0, page 23, it is suggested that the retention time for documents reference the Phase III Settlement Agreement and Administrative Order on Consent (Settlement Agreement).

***Response:** The text of the CAP at §4.0 has been amended to include a retention time consistent with the AOC3.*

18. Section 4.1, page 23, it is requested that interim status meetings be conducted by telephone to supplement the written reports. These meeting could be part of the bi-weekly calls held between NDEP and BRC. In addition, it is requested that the status reports also include the cumulative volume of material placed in the CAMU to date.

***Response:** BRC agrees, and the text of the CAP at §4.1 has been amended accordingly.*

19. Section 4.2, page 24, in addition to the items listed in this section, the corrective action completion reports should include a text which describes the activities and data collected.

Response: *BRC agrees, and the text of §4.2 of the CAP has been amended to make clear that the Correction Action Completion Reports will include a description of the activities completed, including data collection.*

20. Section 4.3, page 24, it is requested that a public meeting(s) be scheduled (after the approval of this document) to discuss the CAP with the public (outside of the RAC meetings).

Response: *BRC concurs with the NDEP that, upon approval, the CAP be communicated to the public. The Community Involvement Plan provides various means for effecting this communication, including means outside of the mechanism of RAC meetings. Other community meetings may be used as means to communicate the CAP. BRC believes, however, that a RAC meeting (or meetings), suitably publicized, provides the best forum for discussion of the CAP.*

21. Section 5.0, page 25, this section does not address the need for the gravel mining operation to occur prior to the construction of the CAMU. Also, the submittal of the CAMU CSM is not included as part of this schedule. Data gaps may be identified in the CAMU area CSM that need to be addressed. This will also impact the schedule.

Response: *BRC notes that the schedule presented in §5.0 was stated as being conditioned upon the NDEP's approval of the Closure Plan, the Corrective Action Plan, and the Remedial Action Plan, all of which presuppose the NDEP's approval of the CAMU area CSM including the Borrow Area workplan and results therefrom. In response to NDEP's comment, the text in §5.0 has been revised to state the need for gravel mining operations prior to CAMU construction.*

22. Table 1, the NDEP has the following comments:
    a. The NDEP would like to note that some of these wells might need to be replaced to address future monitoring and (if necessary) remediation needs for the site.

Response: *BRC agrees with the NDEP's comment, and the text in §2.2 has been revised to reflect this potential.*

    b. Well POU3 is listed as not being abandoned. However, the rationale is listed as "located in an area expected to have significant CA excavation". This same rationale is used to justify the abandoning of other wells. This same comment applies to other wells, including: MCF-09A, MCF-09B, POD5-R, etc. Please clarify.

Response: *Despite the fact that the wells cited in the NDEP's comment are located in areas where significant remediation activity is expected, the project team has determined that these wells would be useful for future monitoring use; therefore, it is BRC's intent to protect these wells to the extent possible during those activities, and no abandonment is planned. To alleviate confusion, the word "rationale" has been removed from the 5th column header, so that the information will be interpreted as a note of interest instead of rationale for abandonment.*

c. The footnote "*" is not consistently applied on this table.

***Response:** The footnote "*" is applied to all wells proposed for abandonment that are owned by entities other than BRC, for which third-party owner approval will be required. The symbol is not applied to wells that are not planned for abandonment. The footnote definition has been revised for clarification.*

23. Figure F-3, it appears that the vehicle decontamination area is not arranged in a fashion that is convenient for access to the haul roads. Driving over a "track out" area may not be sufficient for vehicles crossing Boulder Highway. It may necessary to decontaminate the tires and lower portion of each vehicle prior to crossing Boulder Highway.

***Response:** BRC respectfully disagrees but is willing to discuss this further at the site with the NDEP, with maps in hand. The last two sentences of the comment are duplicative of prior comments and have been answered above.*

24. Figures G-1 through G-5, it is not clear how the depths of excavation were determined for these figures. In addition, based on what is shown in these figures it appears that large portions of the site are not proposed for excavation. It is the expectation of the NDEP that future iterations of this workplan will include additional remediation as well as justification for the proposed remediation..

***Response:** The first sentence is duplicative of Comment #8.*
The NDEP is correct in noting that "...large portions of the site are not proposed for excavation." There is no point in excavating land that is not known to have been impacted, and the excavation plan is designed accordingly. BRC notes, though, that the entirety of the Site will be subjected to confirmatory sampling, and not just areas that have been subjected to soils excavation. BRC does acknowledge, as it has done repeatedly, that additional excavation may be indicated if confirmatory sampling shows that remediation goals have not been attained.

25. Figure G-3, this figure is listed as "Spray Wheel Remediation", however, the Spray Wheel is not depicted. It appears that the topographic base map that has been used is not current.

***Response:** A revised figure is provided.*

26. Figure G-4, this figure shows "fill" as part of the CAP. Please explain this and any other instances of "fill".

***Response:** The figure and each of the other similar G-series figures have been corrected.*

27. Appendix B, the NDEP has the following comments:
    a. General comment, please provide a figure in this appendix that presents the referenced "soil management zones".

***Response:** BRC believes that a separate figure for this is not practical since the "soil management zone" is the same as the active remediation area, which will change over time.*

b. General comment, please note that since the site is more than 2,000 acres in size, one downwind sample location is not sufficient to characterize the potential off-site releases at the perimeter. Please clarify if the downwind samplers will be placed downwind of the site or downwind of the soil management zone.

***Response:** The text of the PAMP has been revised in response to the NDEP's comment requesting a revised monitoring approach. Considering meteorological dynamics, including periodic changes in prevailing wind direction, two downwind monitors are probably more prudent, especially relative to the size of the site. The location of downwind monitors will be at the perimeter of the soil management zone (i.e., active work area). This approach is intentionally designed to monitor air/wind crossing the soil management zone as opposed to Site-wide conditions outside of the influence of the intrusive activities on-site (i.e., the "soil management zone" or area of current excavation).*

c. General comment, there is insufficient documentation that PM10 is an appropriate indicator of exposure to the individual chemicals in the soil. There are several hundred site-related chemicals (SRCs) and many of them have action levels that are lower than the PM10 action level. BRC should demonstrate that maintaining the PM10 concentration below its action level is health protective for the remaining SRCs. This could be accomplished in several ways.

***Response:** In order to address NDEP's concern reflected in the comment, BRC has proposed a revised approach in Section 3.3.2.3.*

d. General comment, radionuclides, BRC should demonstrate that potential radiation exposure to the public from dispersal of dust does not exceed 25 millirems per year above background. This could be accomplished in several ways.

***Response:** Analysis for radionuclides will be a component of the above-referenced sample analysis in 27(c) – i.e., will be included in the low health threshold constituent category.*

e. Table of Contents, this page needs to be reformatted and resubmitted.

***Response:** The Tables of Contents has been revised.*

f. Section 2.0, pages 3 and 4, the NDEP has the following comments:
   i. BRC lists a number of site-related chemicals that may be of concern in respirable dust, however, Section 3.1 indicates that particulate matter and asbestos are the only two compounds that will be analyzed for. Please discuss how this approach is protective of human health and the environment.

***Response:** Please see the response to 27c.*

ii. BRC states that it is "unlikely that VOCs or volatile SVOCs are present in Eastside Area soils, Health and Safety direct read out monitoring will identify whether volatile compounds are released to the atmosphere". This issue does not appear to be addressed in Section 3.0, please explain. Also, please explain what BRC's approach will be if an area of high volatile concentrations is encountered.

***Response:** BRC does consider it unlikely that volatiles will be encountered in material quantities in the soils, and the text in §3.0 has been expanded to provide further foundation for this belief. Also, the revised text includes the response that will be undertaken if and upon encountering an area of high volatile concentrations.*

g. Section 3.2, page 6, the NDEP has the following comments:
   i. It is suggested that an off-site, air monitoring station(s) be established in a location that is representative of conditions that are unaffected by site operations. This data should be compared to data collected on-site in the work area. It is also suggested that BRC consider establishing air monitoring stations in surrounding neighborhoods.

***Response:** The upwind perimeter monitor is designed for this very purpose, and the results reflected in downwind monitors will be compared against the results of samples from the upwind monitors. While all scientific assessments prefer the benefit of more data points than less, the addition of such has to be justified by actual, as opposed to remotely possible, conditions and/or voids (i.e., reasonable vs. conservative basis). BRC is opposed to establishing a downwind station at or near the Weston Hills location due to the large volumes of imported and untested fill of unknown origin placed there.*

h. Section 3.3.1, page 7, please note that the records retention policy should coincide with the Phase III Settlement Agreement.

***Response:** BRC concurs, and the text has been modified accordingly at §4, penultimate paragraph.*

i. Section 3.3.2.1, page 7, please specify the number and type of field blanks to be collected.

***Response:** The text in §3.3.2 of the PAMP has been expanded to include specifics regarding the field blanks. These requirements are consistent with the project QAPP.*

j. Section 3.5, pages 8 and 9, BRC states "Air monitoring and/or sampling results detected above the action levels will prompt notification of the BRC Project Manager. This notification will be performed within 12 hours of the assessment…" It is the belief of the NDEP that this will not be protective of human health and the environment. It is suggested that the data being collected be reviewed in the field and BRC implement additional dust control measure or halt work as needed.

***Response:** BRC concurs, and the text has been changed accordingly.*

28. Appendix D, it is the understanding of the NDEP that BRC will generate a *Health and Safety Plan* under separate cover for BRC workers on the site.

Response: *The understanding is correct; BRC has a HSP for BRC workers.*

Attachment A

1. Section 1.2, page 6, in a chart format BRC notes that the issue of confirmatory sampling will be addressed in the Closure Plan. NDEP believes that the iterative process of sampling and remediation is directly related to the activities that are outlined in the CAP. It is not clear to the NDEP what is intended and it would be helpful if this issue could be discussed with the NDEP in the aforementioned meeting. Additional comments are provided below on this subject.

Response: *BRC and NDEP had further discussions on this issue per the comment above. As a result, BRC has included a Decision Tree (Figure J) in the revised CAP, which presents the iterative steps in confirmatory sampling.*

2. Section 2.1, page 9, BRC references a "Site Atlas" that presents the location and character of debris found at the site. The NDEP believes that this information would be useful for the CAP and requests that a figure be generated and inserted into the CAP to address this issue. It is suggested that this figure present locations in a numbered fashion. These numbered locations could track to a table which describes the nature of the debris and provides location information (GPS coordinates or the like). This issue was discussed with BRC on March 22, 2006 and should be discussed further (if necessary) in the aforementioned meeting.

Response: *BRC has included the figure requested. Please see Figure K.*

3. Section 2.3, page 11, the NDEP has the following comments:
   a. BRC describes factors (a) through (g) to explain how the depths of the initial excavation were determined. It is not clear to the NDEP how these factors translated into the specific depths shown on the figures. There is no apparent way that the NDEP can correlate the description of the factors in this section to the Figures presented in Appendix A.

Response: *This referenced discussion was provided in response to previous NDEP comments. As noted, BRC considered these factors but not all of the factors were mathematically factored into the specific depths. BRC relied upon field measurements and visual observations for its professional judgment in order to define waste areas for initial remediation. The G-1 through G-5 figures in the previous version of the CAP in Appendix A have been replaced by a revised Figure G-1 defining the waste areas.*

   b. It is not clear to the NDEP how factor (b) – presence of elevated levels of various contaminants relates to the figures presented in Appendix A.

Response: *The visual extent of contamination encompassed areas of elevated contamination in most cases. For all areas, the iterative remediation-confirmation sampling approach discussed in the CAP will ensure that elevated areas of contamination are removed from the Site.*

   c. Additional comments are provided below on this subject under the heading of Appendix A.

Response: *Comment noted.*

d. It is suggested that this topic be addressed in a meeting.

Response: *Comment noted.*

4. Section 3.4, page 23, BRC states "as described in the soil sampling SOP (see project QAPP as provided in the Closure Plan)." Please note that SOPs are contained in the project FSP/SOP document and the QAPP is submitted under separate cover.

Response: *Comment noted. BRC has corrected the text accordingly.*

5. Section 4.0, it is requested that a copy of the daily progress report be faxed to the NDEP each day at a designated time, to be determined by BRC and NDEP.

Response: *The text has been changed accordingly.*

6. Section 5.0, please note that per the NDEP's July 11, 2005 letter, Figure 1-3, there are several steps that are required prior to the initiation of soil removal activities. These include, but are not limited to, Site-Wide CSM; Site-Wide DQOs (steps 1 and 2); and a variety of sub-area specific work plans and other reports. Please note that this figure is also part of the Scope of Work as appended to the Phase 3 Settlement Agreement and Administrative Order on Consent. Additionally, there are other documents which must be completed to complete the above-listed documents. Examples include (but are not limited to): the background soils report, the revision to the FSP/SOP; and approved version of the QAPP; and a variety of data validation reports.

Response: *Comment noted. The text has been revised to address this comment.*

7. Appendix A, the NDEP has the following comments:
   a. Figure G-2, it appears remediation in the Beta Ditch is only planned for a certain segment. Please explain the basis for the south west terminus of the excavation.

Response: *The remainder of the Beta Ditch has been excavated in a previous IRM (the "College Site" IRM). The entire Beta Ditch, therefore, will have been excavated and is subject to confirmatory sampling.*

   b. Figure H, it would be helpful if this figure correlated to Table 1, specifically showing which wells are slated to be abandoned.

Response: *The Figure has been revised as suggested.*

8. Appendix B, the NDEP has the following comments:

a. General comment, it is requested that BRC consider installation of an air monitor in the vicinity of the proposed haul route (per Figure F-1) which abuts a residential neighborhood on Pabco Road.

Response: *In response to NDEP's comment, BRC will establish an air monitoring station in this area, to be operated only during use of the haul road in the vicinity. It should be noted that this haul road is intended only as a contingency, and BRC does not expect to use it on a regular basis.*

Please note that BRC remains concerned about the feasibility of this location and the value of associated data. First, there would be no way to attribute any detectable concentrations to BRC trucks rather than general traffic on the roadway or other potential sources of emissions in the area. Second, it is unlikely that any detectable concentrations could be measured based on the sporadic passing of trucks (especially given the fact that their loads would be covered), even if there were emissions from them.

b. Section 2.0, page 3, BRC states that "It is highly unlikely that VOCs or volatile SVOCs are present in Eastside soils due to a) the long elapsed time since these sediments have been deposited, and b) the typical climate during summer months in this part of Clark County…" The NDEP disagrees and requests that this statement be stricken. Please provide analytical data or applicable reference material to support this assertion. During a site visit with NDEP personnel, City of Henderson outside counsel, NDEP consultants and others chemical odors were noted in the upper eight rows of ponds. Please explain this phenomena in light of BRC's above statement.

Response: *In response to NDEP's comment, the sentence has been stricken from the revised CAP.*

The observations of odors during the site visit can be explained in several ways. First, BRC staff present during the referenced site visit do not recall any specific odors. Second, chemical odors are not solely associated with VOCs (a class of compounds that includes a specific list of chemicals as defined in the analytical program for the project). While it is true that an odorous substance has a volatile (gaseous) component, that's not to say it is a VOC, per se. Most substances exist in equilibrium with different phases. For example, dirt can certainly have an odor naturally. Pesticides, which are known to be present in the upper eight rows of ponds, are considered semi-volatile in most cases, and can be volatilized. It may have been pesticide odors that were observed during the site walk. Odors could also have resulted from the fact that just prior to the site visit mentioned above; heavy rains produced a vegetation bloom.

It should be noted that odor detection thresholds by humans (i.e. the concentration at which a substance is just detectable to 50% of the population, meaning half½ the people can smell it and half½ cannot) for many chemical compounds are well below the measurable detection limits, often by several orders of magnitude. The olfactory sense is far more sensitive to many compounds than the analytical techniques for these compounds, sometimes at the part per trillion level, which is why detectable odor is no definitive indication of health risk.

c. Section 3.1 - 6th bullet (page 6), BRC indicates that the PM10 samples will only be subjected for metals constituent analysis if "the sample yields enough material to accommodate the analysis." In air sampling, the reliable reporting limit of detection is primarily a function of air volume that has been sampled. Therefore, if BRC collects the PM10 sample in accordance with EPA Method IO-2.1 (i.e., flow rate of 40 ft3/min over a time period of 24-hrs) sufficient air volume will have been sampled to allow the laboratory to reach limits of detection (using Method IO-3.4) that are lower than the Ambient Air Region 9 PRGs specified on Table B-1. In some cases such as cobalt, the PRGs are lower than the method detection limit; therefore, the appropriate screening level would be the MDL.

Response: *The clause in question was inadvertently included and is not correct. It has been removed. All samples will be collected and analyzed by the appropriate reference method.*

d. Section 3.4.1, BRC indicates that sampling will be performed for a minimum of eight hours each day. The NDEP requires that sampling be conducted at the same interval as the work being conducted, 24 hours per day, seven days per week. Further the PM10 method (IO-2.1) and the ambient air method for metals (IO-3.4) require a sample volume that can only be obtained over the course of a 24-hr sample. Also, the ambient air action levels are applicable to a 24-hr exposure period.

Response: *The PAMP has been revised to clarify that sampling will only be conducted during hours when work activity is occurring. When site work is conducted 24 hours per day (i.e. three shifts), sampling will occur during the full 24-hour period. However, if site work occurs for a shorter period, sampling will only be conducted during that period. The analytical detection limit is the determining factor for detecting target compounds on the sample. The objective of the monitoring is to quantify target compounds that may be traveling off-site during site activities. Sampling when no site activities are occurring would serve to artificially lower (dilute) the measured concentrations. For example, if one microgram of a target compound is deposited on the filter during 8 hours of site work, the analytical method will measure one microgram, whether the sampler is run for the 8 hours or for 24 hours. In the latter case, the apparent concentration in air will be three times lower than what actually occurred during the site activity.*

The 24-hour sampling cited in the reference method is for establishing background ambient air concentrations and forms the basis for the reported MDL with regard to concentration per cubic meter of air sampled.

e. Table B-1, Action levels for nickel, vanadium and zinc are available from EPA's Region 3 Risk-Based Concentration (RBC) table dated 10/05. The levels are fairly high compared to some of the others on the table, but should be included for completeness. The values could be noted as coming from Region 3, not the Region 9 PRGs. Also, it might be helpful to list the analytical method detection limits for each constituent so that it is easy to see whether there might be a conflict in the established action levels.

Response: *BRC has revised the table to include RBC values for any constituents without Region 9 PRGs, with the source properly identified. In addition, BRC has added method detection limits to the table for comparison purposes.*

9. Appendix E, Response-to-Comments (RTC) letter, the NDEP has the following comments:
   a. RTC #1, the NDEP has the following comments:
      i. The NDEP comment from December 2, 2005 stated "NDEP Comments issued March 30, 2005 on the table of contents have not been addressed. This includes previous comments: 3a, 3b, 3c, and 9." Italics and bold have been added for emphasis. BRC then chooses to respond by stating that BRC has addressed comments 2, 3, 4, 5, 6, 7, 9, 10, and 11. It is not clear why BRC has responded to comments 2, 4, 5, 6, 7, 10 and 11. NDEP will not respond to BRC's responses on comments 2, 4, 5, 6, 7, 10 and 11 as part of this letter.

Response: *Comment noted. BRC read NDEP's December 2, 2005 comment to mean that BRC had failed to address* any *of the March 30, 2005 NDEP comments on the table of contents.*

      ii. RTC #1, response to December 2, 2005 comment #3a, BRC states that stand-alone sampling and analysis plans for soils by sub-area will be produced…and this subsumes what would have otherwise been included in the CAP. This does not address the NDEP's concern and perhaps the original comment was not clear. As recent as February 23, 2006, in the bi-weekly meeting between NDEP and BRC, NDEP indicated that "Discussed the content of the CAP. BRC noted that maps will be included that delineate the extents of contamination. NDEP noted that it is expected that the document will specifically explain why the extents of delineation were chosen." Please note that bold and italics have been added for emphasis. This issue is separate from individual sampling and analysis plans that will be submitted for post-remediation rounds of sampling and excavation.

Response: *Comment noted. BRC now believes that this issue has been addressed via the revised Figure G-1.*

   b. RTC #1, response to December 2, 2005 comment #3b, to clarify the NDEP's expectations the NDEP provides the following examples and additional discussions or questions:
      i. The NDEP understands that the remediation and sampling process may be iterative, what is not clear is how the iterations are determined.

Response: *Please see the Decision Tree (Figure J) provided in the revised CAP.*

      ii. A decision tree, or similar, is requested to explicitly demonstrate BRC's thought process for starting and stopping of excavation and/or confirmatory sampling.

Response: *BRC has provided a Decision Tree (Figure J) in response to this Comment.*

iii. First round(s) of excavation, as detailed in the CAP, following the excavation, as outlined on the figures shown in the CAP, how will the field personnel determine if additional excavation is warranted versus confirmatory sampling? The NDEP assumes that this is based on visual evidence alone.

Response: *NDEP is correct in assuming that first round of excavation will be based on visual means primarily. Thereafter, confirmation data will be used, as shown in the Decision Tree (Figure J), for additional excavation.*

iv. Subsequent rounds of excavation, if BRC completes confirmatory sampling, how will the depth and a real extent of excavations be determined? This issue was explicitly raised at the technical meetings following the July 2005 letters from the NDEP on the Closure Plan. NDEP provided visual examples of what might be expected. It is not clear that BRC has answered this question yet and the CAP would be the appropriate place to detail the logic that will be used for the project.

Response: *Please see the Decision Tree (Figure J).*

v. Subsequent round(s) of excavation, if groundwater is encountered, how will BRC proceed? The NDEP acknowledges that this is stated in the text and this is included herein as an example of a decision that would be made and included in the decision tree.

Response: *Comment noted. Please see the Decision Tree (Figure J) as well.*

vi. Subsequent round(s) of excavation, will the PID screening for health and safety purposes relate to excavation in any way? If so, please discuss cut off levels for PID screening that will be used to justify additional excavation.

Response: *BRC intends to use PID screening for health and safety purposes and to guide additional sampling. Typically, samples will be collected when the PID reading exceeds background levels by 1 ppm. Excavation decisions will be made based on sampling data.*

vii. Subsequent round(s) of excavation, will there be a maximum depth of excavation?

Response: *Please see the Decision Tree (Figure J).*

viii. The NDEP is attempting to make the process of remediating the site transparent and traceable. Based on the responses in this Appendix, It is not clear to the NDEP that the CAP addresses these concerns.

Response: *BRC shares this goal. In addition to the text of the CAP, the Decision Tree (Figure J) has been prepared to help make clear the process of remediation.*

c. RTC #2, the NDEP has the following comments:

i. Please note that acceding to the NDEP's request is not the underlying issue being raised here, technical defensibility is. It is the belief of the NDEP that utilization of terminology that is not industry-standard, USEPA-approved or logical is a defensibility issue.

Response: *BRC has agreed to use EPA-approved terminology. BRC therefore believes that this issue is moot.*

ii. Additionally, NDEP has reviewed the referenced 4/14/04 memorandum. The memorandum stated that the NDEP would like the model to be "as real world as possible". Given that, there is no statement in the memorandum that shows that the NDEP requested the terminology "actual site model" be used.

Response: *Comment noted. This issue is now moot since BRC is using the term Conceptual Site Model.*

d. RTC #10, the NDEP has the following comments,

i. Please note that it is known that as the pond liquid evapo-concentrates the TDS concentrations will increase. As these concentrations increase the evaporation rate will decrease. It is the understanding of the NDEP that concentrations in some pond liquids is already in the range of hundred's of thousands of parts per million.

Response: *NDEP is correct.*

ii. BRC references an evaporation rate of "more than 90 inches per year being normal", it is the understanding of the NDEP that published climatological data supports a pan elevation of 84 inches per year. Please provide a reference for the "more than 90 inches per year being normal" and any such statement in the future. In addition, this pan elevation rate will be affected by the concentration of the salts in the liquid. Please provide additional discussion on this issue.

Response: *BRC will use 84 inches in the future. Pan evaporation rate can indeed be affected by the concentration of salts in the liquid. Dry solids will be mixed in with residual liquids before being transported to the CAMU.*

iii. Furthermore, as evaporation progresses a salt crust tends to form on the pond surface which thereby limits evaporation further. Since the CAP is intended to describe the remediation process it is important for the NDEP to understand how these issues will be addressed.

Response: *All salt crusts formed will be periodically broken to continue to enable further evaporation to the extent practicable. It is not essential for the solids to be completely dry since semi-dry solids or wet solids in the ponds will be mixed with dry solids taken from other portions of the Site before these pond materials are transported to the CAMU.*

iv. Additionally, the NDEP is attempting to pre-emptively address issues that may become apparent once field work is initiated.

Response: *Comment noted. BRC agrees with the NDEP and has attempted to therefore clarify these issues as much as possible.*

v. Furthermore, documents submitted to the NDEP may be reviewed by other stakeholders; this is an issue that the NDEP believes requires additional transparency.

Response: *Comment noted. BRC agrees with the NDEP. Hopefully, BRC's responses to the issues raised have provided this additional transparency.*

vi. It appears to the NDEP that the strategy is to mix the liquid with dry soils.

Response: *NDEP is correct. This is noted in the text. Note that the dry soils will be brought to the ponds and mixed with the liquids, not vice-versa.*

e. RTC #27.g., BRC states that "BRC is opposed to establishing a downwind monitor at or near the Weston Hills location…". Please explain where the downwind monitor will be placed when BRC is working in the area of the Upper Ponds directly adjacent the Weston Hills site.

Response: *BRC will locate a temporary monitor at this boundary when work is conducted in the Upper Ponds. BRC is opposed to placing a permanent monitor at this location because the soils at Weston Hill are imported and the chemical composition of same is therefore unknown.*

1. General comment, the NDEP does not necessarily concur with language as presented in the sections titled "Abstract", "Introduction" and other sections within the document. These sections largely provide a framework for the activties to be completed and the NDEP has attempted to focus our comments on technical aspects of the document.

Response: *Comment noted. These sections were provided as background for a public, non-NDEP reader, who may not have familiarity with other elements of the clean-up.*

2. General comment, please incorporate the comments provided by Clark County Department of Air Quality and Environmental Management dated August 7, 2006 and provided under separate cover.

Response: *The BRC Response-to-Comment addressing the Clark County DAQEM comments are provided in Appendix E3. BRC has incorporated Clark County's comments in the updated Dust Mitigation Plan.*

3. Section 1.1, page 4, BRC indicates that the "Sediments and soils believed to warrant remediation for protection of human health and the environment have been identified based on the results of these and historical investigations conducted throughout the Site and on preliminary risk assessment." Please note that the referenced preliminary risk assessment has not been approved by the NDEP and it is not clear which document is being referenced. In addition, it is not clear to the NDEP that chemical data have been used to guide this remediation. This is further evidenced through BRC's statements in Section 2.3 on page 12. BRC lists items (a) through (e) which justify the removal of materials. None of these items include chemical data.

Response: *BRC recognizes that the preliminary risk assessment has not been approved, and BRC has removed the reference to the "preliminary risk assessment."*

4. Section 2.1, page 10, please discuss the construction of the debris storage area. Please explain if this area will be lined, bermed or otherwise protected. A reference to a figure would be helpful as well.

Response: *The debris area is shown in Figure F-3. It will be lined with a HDPE liner. The text and figure have been updated accordingly.*

5. Section 2.2, page 11, BRC notes that certain wells will be abandoned and "these wells have fulfilled their primary purpose and are no longer useful for the overall Site monitoring program." The NDEP does not necessarily concur. Some of these wells may need to be abandoned due to logistical reasons and this is irrespective of their usefulness. Upon review of Table 1 it is noted that the primary reason for abandonment of wells is due to logistical concerns. Please note that as

characterization of the Site ground water proceeds, the NDEP may require re-installation of some of these wells.

Response: *BRC has restated the rationale for removal of the wells – namely logistical reasons. BRC acknowledges that some of these wells may need to be reinstalled in the future.*

6. Section 3.1.1, page 16, it is recommended that a minimum of six inch lifts be utilized.

Response: *The text has been changed accordingly.*

7. Section 3.1.4, page 19, it is the understanding of the NDEP that water may not be the best choice for dust suppression. This is especially true on haul roads. BRC should discuss other alternatives that are being considered and the process for approval of these alternatives. It is the understanding of the NDEP that magnesium chloride may be used. BRC should also discuss how these dust palliatives can affect the chemical analyses being conducted at the site. This comment carries through to a number of sections of the CAP.

Response: *BRC has added discussion that magnesium chloride may be used as a dust palliative.*

8. Section 3.1.5, page 19, and other references throughout the document, please discuss how the 1' surveying and mapping intervals relate to the two to six inch lifts that are referenced. It appears that the surveying and mapping intervals should be somewhat consistent with the resolution of excavation. At a minimum, spot elevations to the highest reasonable resolution should be posted on the figures. Limits of excavation should be hand contoured as necessary to accurately represent the limits of remediation.

Response: *BRC has reconciled the surveying accuracy and the lift depths – both to 6 inches.*

9. Section 4, pages 26 and 27, it is assumed that where ever BRC references premature termination due to the presence of groundwater that the other stopping rules as laid out in the "decision tree" also apply. Please clarify.

Response: *NDEP is correct. The text has been clarified accordingly.*

10. Table 1, in a number of instances BRC notes that a well is to be abandoned due to "significant excavation". Based upon a review of figures G-1 and H this does not appear to be an accurate statement. The NDEP will not provide detailed comments on this issue as future characterization of groundwater may necessitate reinstallation

of these wells. If wells have been prematurely destroyed by BRC these wells will need to be replaced. Approval of the CAP shall in no way provide justification for limitation of future investigation (or remediation) of groundwater.

Response: *Comment noted and BRC concurs.*

11. Figure F-2, it appears that there is no decontamination area planned for the west side of Boulder Highway. This appears to contradict the text. Please explain.

Response: *The figure has been revised to show a decontamination area for the west side.*

12. Figure 2.1-A, the NDEP continues to have concerns regarding the proposed layout of this area. Specifically, the orientation and layout of the decontamination area as discussed with BRC. It is anticipated that this issue can be resolved via another face-to-face discussion, if necessary.

Response: *BRC has revised the location/orientation/layout of the decontamination area per discussions with the NDEP, and Figure F-3 has been revised accordingly.*

13. Appendix B, the NDEP has the following comments:

a. This section could benefit from a figure which shows the locations of the CAMU-area air monitors and a figure which shows a typical layout for a "soil management zone".

Response: *In response to NDEP's comment, the PAMP has been expanded to include a new figure (Figure 1) depicting the CAMU-area and Eastside air monitors, and an example "soil management zone."*

b. NDEP believes that the project would benefit from at least one air monitor on the downwind portion of the property near the boundary with the "Radio Nevada Site".

Response: *BRC concurs with the NDEP's comment and plans to employ a downwind air monitor situated near the "Radio Nevada Site." The proposed monitoring locations are shown in Figure 1 in the PAMP, and the text discussion has been expanded for clarification.*

c. NDEP believes that the project would benefit from one (or several) upwind monitors that could serve as a "background" type of monitor.

Response: *BRC concurs with the NDEP's comment and plans to employ several upwind air monitors at the CAMU area and Eastside portion of the Site. The proposed upwind monitoring stations are shown in Figure 1 in the PAMP, and the main text has been expanded for clarification.*

d. Section 3.1, the definition of "soil management zone" is not evident.

Response: *The "soil management zone" is the active working area where contaminated soils and sediments are being gathered prior to transport to the CAMU. As such, such as "zone" is expected to "move" as remediation progresses. This has been clarified in the PAMP text. Figure 1 shows a typical soil management zone as well as proposed locations of local upwind/downwind air monitors associated with that example soil management zone.*

e. Section 3.3.2.3, the sampling and the results obtained from this sampling discussed by BRC in this section will need to be discussed with NDEP. NDEP and BRC will need to discuss what the sampling results demonstrate and how this affects the project moving forward. It is anticipated that these discussions will need to occur on a sub-area specific basis.

Response: *BRC concurs. BRC will share the results of any sampling with the NDEP and, based on discussions thereafter, will move forward appropriately.*

f. Section 3.3.2.3, page 10, 2nd paragraph, please provide the analytical method for radionuclides. Also, please note that the radionuclide analysis is typically completed on a sample that has collected total suspended particulate, not PM10.

Response: *The PAMP text has been expanded to include a reference to the radionuclide analytical analysis (i.e., 40 CFR 61, Appendix B, Method 114: Method A-4 [gross alpha] and Method B-4 [gross beta]). In addition, the revised PAMP text clarifies that the radionuclide analysis will be performed on collected total suspended particulate (TSP) samples, collected using a separate TSP sampler. This distinction also applies to the metals analyses.*

g. Section 3.3.2.3, page 10, 4th paragraph, the NDEP requests that the following statement be stricken: "which by itself reflects the success or failure of dust control measures".

Response: *In response to NDEP's comment, the referenced phrase has been stricken from the revised PAMP text.*

h. Section 3.4.1, page 11, 2nd paragraph, BRC states "…BRC may wish to modify the monitoring and sampling schedule, and will request concurrence of the NDEP to modify the sampling approach." The NDEP is unsure as to what in the schedule would need to be modified. The plan calls for chemical specific sampling for the first 5 days in each sub-area and it will take 5 days to get back the results of the first day's sampling. Therefore, sampling on days 2-5 will already have been conducted. Please clarify.

Response: *The referenced sentence has been stricken from the revised PAMP text.*

i. Section 4.0, page 13, there is no mention of action levels for the specific chemicals listed on Table B-1. Is it inherent that the PRGs or RBCs listed on that table will be the default action levels? It does not appear that the action level for the radionuclides is correct. BRC has listed the OSHA level of 1.25 rem/qrt. This is an occupational standard that is not appropriate for the general public. The NDEP has previously suggested for the radionuclides that the analyses for gross alpha and gross beta radioactivity would be appropriate and that the action level should be set at 25 millirem per year above background. Please explain.

Response: *The text on Section 4.0 of the revised PAMP text has been expanded to include references to the action levels listed in Table B-1. As suggested by NDEP, BRC has agreed to use an action level of 25 millirem per year above background for gross alpha and beta radioactivity.*

j. Section 4.2, the daily and monthly reports provided to NDEP as described in the main body of the CAP should discuss any circumstances which required the "implementation of control measures and/or termination of work".

Response: *The text in the PAMP and in the main body of the CAP has been revised to specify that any such circumstances will be included in the daily and monthly reports.*

14. Appendix E-1, the NDEP has no comments as these were provided in a previous version of the CAP.

Response: *Comment noted.*

15. Appendix E-2, the NDEP has the following comments:
    a. Response-to-comment (RTC) 8b, the NDEP does not wish to debate this issue any further and does not concur with BRC's response. NDEP considers BRC's response inappropriate and false.

Response: *Comment noted*

    b. RTC 9.b.vi., it is not evident to the NDEP that the PID screening discussed in the response has been translated to the CAP. Please verify and provide the citation.

Response: *BRC has included PID screening along with other tools that will be used to guide iterative remediation in the Decision Tree (Figure J). However, the specific 1 ppm threshold to collect additional samples was not provided in Figure J. This is now discussed in the CAP in Section 3.1.*

BRC RESPONSES TO DAQEM COMMENTS DATED AUGUST 7 2006

1. Ensure all requirements stated in the Dust Mitigation Plan of the Dust Control Permit are implemented. Permit forms must be submitted to DAQEM for processing.

Response: *BRC will implement all requirements in the Dust Control Permit. BRC will submit the forms for processing.*

2. Ensure the Perimeter Air Monitoring Plan (PAMP) is properly executed, including the Clark County Air Quality Regulations (AQRs) on pages 1 and 2.

Response: *BRC will implement the PAMP, including the referenced Clark County Regulations.*

3. **Page 2, Project Activities Checklist.** BMP 5 needs to be checked properly. Use a selection for Clearing Form, Foundations and Slabs.

Response: *BMP5 has been checked.*

4. **Page 2, Project Activities Checklist.** BMP 11 must be checked. A Section 90 AQR requirement is needed.

Response: *BMP11 has been checked*

5. **Page 2, Project Activities Checklist.** BMP 13 must have a check, and BRC must state the measures it will use. Chapter 3, page 22 of the CAP appears to contain measures to minimize transport impacts (reverts back to AQR Section 94 and the Handbook).

Response: *BMP13 has been checked and the measures to be used have been noted.*

6. **Page 2, Project Activities Checklist.** BMP 15 must have a check mark. Provide control measures for each requirement.

Response: *BMP15 has been checked along with necessary measures.*

7. DAQEM encourages employee ride-sharing programs.

Response: *BRC will inform its contractors on the project that this is DAQEM's preference.*

8. BRC must implement the provisions of AQR 45 pertaining to idling diesel.

Response: *BRC will let all project contractors know of AQR 45 requirements.*

9. **Page13, Permitting.** The CAP does not include the application for an Authority to Construct certificate for nonmajor soil and groundwater remediation systems.

Response: *BRC is not planning a groundwater system at this time. Regarding soil remediation, the "system" is the construction of the CAMU – i.e., landfill along with the SVE system. Once the design of the SVE system is complete, BRC will apply for an Authority to Construct the SVE system, in compliance with applicable rules.*

1. General comment, it is necessary for the original copy of the subject document (the copy that should be provided to the NDEP case officer, Brian Rakvica) to contain a wet signature and date on the jurat page. Based on the continuing errors cited below it is not clear to the NDEP that a thorough quality check was performed on the document.

Response: *Comment noted. BRC is providing the NDEP case officer with the requested wet signature and dated copy. BRC did conduct a quality check on the document and regrets the errors noted.*

2. General comment, it is expected the BRC will comply with all applicable storm water pollution prevention plan (SWPPP) requirements and that these issues will be addressed as part of the implementation of the plan. Please address this issue in an appropriate section of the CAP. Section 2.4 of the CAP may be an appropriate place to address this issue.

Response: *NDEP is correct with regards to the SWPPP – namely that it will be addressed as part of implementation of the plan. This is noted in Section 2.4.*

3. Abstract, page 1, 1st paragraph, BRC fails to address the NDEP's most recent set of comments dated August 8, 2006 as part of this section. Based on a review of the red-line version of the document it is apparent that no changes were made to update this section of the report.

Response: *The abstract now notes the August 8, 2006 and this set of comments.*

4. Section 1.2, pages 7 and 8, this section (similar to the comment on the Abstract section above) fails to address all of the versions of the CAP that have been submitted.

Response: *Section 1.2 now notes the August 8, 2006 and this set of comments.*

5. Section 2.1, page 10, please note that it is necessary to control run-off and run-on water for the lined debris storage area.

Response: *This is noted in Section 2.1.*

6. Section 3.1.1, page 16, BRC estimates that 6,000 to 20,000 cubic yards (cy) of material will be transported to the CAMU each day. Assuming a maximum truck size of 70 cy this represents 86-286 truck trips per night. Assuming an average "night" length of 10 hours this represents 9-29 truck trips per hour. This translates into a truck trip every 2-7 minutes (in each direction). It should be noted that this assumes a 70 cy (ton) truck capacity, some trucks may be smaller which will require additional truck trips. It is not clear to the NDEP that this is feasible. The NDEP suggests that this issue be discussed further with the NDEP prior to resubmittal of the CAP.

Response: *BRC has reevaluated soils transport parameters in consultation with likely contractors/bidders for this project. The text revisions reflect these updated discussions.*

7. Table 3, based on this table it appears that a total of two dump trucks will be employed. Given the estimated travel times between the Eastside and the CAMU (10-30 minutes each way) as well as the plan to move 6,000 – 20,000 cy of material each night; this is not feasible. In addition, it is not evident that the travel times account for the loading and decontamination of the vehicles. It is suggested that BRC review and revise this table to be representative of the remainder of the CAP.

Response: *The Table 3 indicated that 6 trucks (Athey Wago w/tracktor) will be used. However, in conjunction with recent consultations with likely contractors/bidders, BRC has revised the equipment list in this Table. A revised Table 3 is provided in the CAP.*

8. Figure F-1, the NDEP would like to be present when BRC field verifies the feasibility of installation of a 50' wide haul road between the ponds. Please advise when this can be arranged.

Response: *BRC has confirmed with its civil engineering consultants that the haul road between ponds does not need to support two-way haul truck traffic – thus, it can be 25 feet in width to support one-way traffic. Figure F-1 has been appropriately revised. BRC has also expanded the haul road network into the northern portion of the TIMET ponds area and the southern portion of the Spray Wheel area.*

9. Figure F-2, it is not evident that a road exists for the vehicles to reach the new decontamination area.

Response: *The empty haul trucks decontamination area has been relocated closer to Boulder Highway and Figure F-2 has been revised.*

10. Figure F-3, BRC has made several changes to this figure which concern the NDEP. Examples are as follows:

a. A new decontamination area has been added, however, the old decontamination area has not been removed. It is not clear what the purpose of the old decontamination area is. In addition, no road exists for the new decontamination area and it appears that the trucks would need to drive through vegetation to reach the new decontamination area.

Response: *The old decontamination area will be used for decontamination of visitor vehicles, if needed. The access for the new decontamination area for haul trucks has been revised. BRC notes that this figure (like the others) is a schematic diagram and not an engineering as-built drawing.*

b. A similar comment applies for the new "lined debris storage area". The old area has not been removed from the figure. Please explain what is planned.

Response: *The old area has been removed. The new lined debris storage area will be used.*

c. The track out pad located at the "haul entrance" appears to be outside the fence line (as well as the "work area" and appears to be separated from the road via K-rails. Please explain the feasibility of this layout.

Response: *Figure F-3 has been revised to show that the track out pad is within the fence line. The K-rails have been repositioned as shown in the Figure.*

11. Appendix A, in the next submittal, for the NDEP-Las Vegas copy of the CAP, please provide copies of all of the figures on larger sized paper (similar to previous submittals).

Response: *Comment noted. Larger size figures are provided for the NDEP Las Vegas copy.*

12. Appendix B, the NDEP has the following comments:

a. Section 3.1, page 5, BRC states "individual soil management zones (define below)", however, it is not evident to the NDEP that the soil management zone is ever defined. This is the same comment as #13.d provided by NDEP in the August 8, 2006 letter. BRC discusses this in the response-to-comments (RTC) letter, however, it is not evident that this discussion was ever carried through to the text.

Response: *The soil management zone is defined in Section 3.2.1 of Appendix B. The text has therefore not been revised.*

b. Section 3.4.1, page 11, BRC states that the turn around time for chemical analyses is five days (except for radionuclides which is 28 days). To be as protective as possible it is requested that BRC investigate the feasibility of expedited analyses for these samples.

Response: *BRC will use expedited samples to the extent feasible. For radionuclides, 28 days is the most expedited time possible due to laboratory procedures.*

13. Clark County Department of Air Quality and Environmental Management (CCDAQEM) provided comments to BRC via an electronic mail dated August 23, 2006.
    a. BRC should review these comments and provide a RTC as part of the next submittal. Perhaps some of these comments would be better addressed through a meeting with CCDAQEM. If this meeting is held, the NDEP would like to attend.

Response: *BRC respectfully disagrees with the NDEP on how these comments should be addressed. BRC has reviewed the comments. Some of the comments were identical to those provided prior (dealing with the Dust Mitigation Application) and have been addressed. BRC*

feels that it is better to address the remaining CCDAQEM comments in a meeting and has offered to have such a meeting with the CCDAQEM and is awaiting their response. It is expected that such a meeting may occur, now that the field visit requested by the CCDAQEM has already taken place. NDEP will be invited to this meeting when it occurs.

b. NDEP anticipates that some of these comments will be addressed as a function of the application process for a dust permit for the project.

Response: *BRC agrees.*

c. Regarding the CCDAQEM's suggestion for a site visit with applicable City and County officials, it is suggested that BRC conduct a similar meeting with the NDEP's Bureau of Water Pollution Control (NDEP-BWPC) for SWPPP issues. This meeting can be coordinated through the NDEP's case officer, Brian Rakvica.

Response: *BRC will request such a meeting with NDEP's BWPC staff pertaining to SWPPP issues. It should be noted that NDEP-BWPC staff did attend the September 18, 2006 field visit.*