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SAMPLING AND ANALYSIS PLAN

APN: 161-16-402-003 North of Cabana Drive and Flamingo Road Las Vegas Clark County Nevada NDEP Contract #10-008-03 Task M01-13

Prepared for:

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Corrective Actions 901 S. Stewart Street, Suite 4001 Carson City, Nevada 89701-5249

On behalf of:

Clark County School District

February 6, 2013

Sampling and Analysis Plan for:

Limited Phase II Environmental Site Assessment for APN: 161-16-402-003 Las Vegas, Nevada

February 6, 2013

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1. INTRODUCTION

McGinley and Associates, Inc. (MGA) has prepared this Sampling and Analysis Plan (SAP) for assessment activities to be conducted on vacant property located in Las Vegas, Nevada. These assessment activities are being funded by the State of Nevada Brownfields Program. This SAP was prepared in accordance with the Nevada Division of Environmental Protection (NDEP) Quality Assurance Program Plan (QA Program Plan) for the Nevada Brownfields Program (NBP) (NDEP, 2007).

This SAP addresses the field sampling, analytical, quality control, and data review procedures for the collection and analysis of soil samples to evaluate the potential for soil contamination due to uncontrolled dumping activities at the site.

1.1 Site Name

Vacant Property: Cabana and Flamingo.

1.2 Site Location and Description

The vacant property is located north of the intersection of Cabana Road and Flamingo Road, Clark County, Nevada (Figure 1). The property lies within commercial and residential properties and consists of one parcel of land that is listed with Clark County, Nevada as Assessor's Parcel Number (APN) 161-16-402-003. The parcel is comprised of vacant, undeveloped land totaling 10.84 acres in size. Although the site is currently undeveloped, it appears to have been graded in the past. Surface soils appear to contain debris of unknown origin. Several trees were observed in the central portion of the property. At the time of the site visit, the entire parcel was surrounded by chain-link fencing with one gate providing access. The layout of the site is presented on Figure 2.

1.3 Responsible Agency

This project is being conducted for the NDEP through State of Nevada Brownfields program (NBP). The investigation will conform to the NBP's QA Program Plan (NDEP, 2007).

1.4 **Project Organization**

Title/Responsibility	Name	Phone		
Clark County School District				
Site Contact	Tracy Murphy	(702) 799-5214		
NDEP				
Program Coordinator for the Nevada	Jeff Collins	(775) 687-9381		
Brownfields Program – Project				
coordination, liaison with City of Ely				
Case Officer – Review SAP, quality	David Friedman	(775) 687-9385		
assurance				
Quality Coordinator for the Nevada	Mary Siders	(775) 687-9496		
Brownfields Program – Review SAP,				
quality assurance				
USEPA				
USEPA Project Manager – Work plan	Eugenia Chow	(415) 415-972-3160		
review				
USEPA QA Manager	Gail Morison	(415) 972-3807		

McGinley and Associates, Inc.					
Principal – Senior review	Brian Rakvica	(702) 260-4961			
Project Manager – Project management,	Brett Bottenberg	(702) 260-4961			
regulatory liaison, coordinate field					
activities, data review, report preparation.					
Quality Manager – Oversee	Brett Bottenberg	(702) 260-4961			
implementation of SAP, review QA/QC					
procedures, data validation.					
Environmental Scientist – Conduct	Devin Gordon	(702) 260-4961			
sampling activities					
GIS Services – Mapping support	Mike Parenti	(702) 260-4961			
Administrative Assistant – Administrative	Linda Comstock	(775) 829-2245			
support					
Contractors/Vendors					
ESC Lab Sciences	Dave Veratti	(615) 758-5858			

1.5 Statement of the Specific Problem

The Clark County School District has proposed to construct a school on the subject property. Due to the proposed use as a school, a Phase I Environmental Site Assessment (ESA) was performed.

The Phase I ESA performed by MGA on the subject property discovered the following recognized environmental condition (REC):

• It appears that debris has been brought onto the property and mixed with surface soils prior to grading activities. The debris appears to be related to staging activities for a construction project that took place in 2008 and 2009. However, the exact origin of the debris is unknown.

This REC will need to be addressed prior to initiation of construction activities on the parcel.

2. BACKGROUND

According to Clark County Assessor's information, the site has been owned by the Clark County School Board of Trustees since 2000 when it was purchased from the Housing Authority of Clark County. The site is currently vacant and undeveloped. In addition, it appears that the site has been subjected to grading activities in the past.

Aerial photographs from 2007 to 2008 appear to show the subject property as a possible staging area for a local construction project. Heavy construction equipment and stockpiled construction materials can be seen in those photos. Subsequent years show a transformation back to the vacant, graded property currently observed.

2.1 Sampling Area Description

The study area (the Site) occupies 10.84 acres in Las Vegas, Nevada (Figure 1). The area is bounded on the north by a modular home neighborhood, the south by a county maintenance building and an apartment complex, the east by Cabana Road with residential homes beyond, and to the west by a mobile home residential neighborhood. As shown on Figure 2, the Site is a vacant parcel that is surrounded by chain-link fencing.

2.2 Operational History

Based on available historical information, it appears that the site has always been vacant and undeveloped. Between 2007 and 2008, aerial photography suggests that the site was utilized as a staging area for a local construction project.

2.3 Previous Investigations/Regulatory Involvement

In April of 2011, MGA conducted a Phase I ESA on the study area. The ESA was conducted in compliance with the American Society for Testing and Materials (ASTM) Standard E-1527-05 to identify any recognized environmental conditions (RECs) at the Site. The proposed sampling assessment is based on the findings of this Phase I ESA which are previously presented in Section 1.5 of this Sampling and Analysis Plan.

2.4 Geological Information

The geology of the subject property has been mapped as Quaternary Alluvium. The deposits are described as thin alluvial deposits of uncemented and unweathered cobble to small pebble gravel, gravelly sand, sand, and silt (Bingler, 1977). The majority of surface soils at the subject site have been mapped as Bluepoint fine sandy loam with slopes ranging from zero to two percent. The soil unit is described as somewhat excessively drained with high permeability and low water capacity (Natural Resources Conservation Service, 2011). MGA estimates that depth to groundwater at the subject property is approximately six to 20 feet below ground surface (fbgs). Groundwater flow direction is estimated to be generally towards the east-southeast.

2.5 Environmental and/or Human Impact

No adverse human health effects associated with potential contamination at this site have been reported or documented. However, the potential exists for receptors to interact with the soils once disturbed.

3. PROJECT DATA QUALITY OBJECTIVES

3.1 **Project Task and Problem Definition**

The purpose of this investigation is to assess the soil for contamination from historical site use. Definitive data will be collected to determine the extent of soil contamination, if any.

3.2 Data Quality Objectives (DQOs)

The DQO process (EPA 2006) is a systematic planning tool that is used to establish performance or acceptance criteria. These criteria, in turn, serve as the basis for designing a plan for collecting data of sufficient quality and quantity to support the goals of a study. The DQO process consists of seven iterative steps, as described in the following sections and summarized in Table 1.

3.2.1 Step 1: State the Problem

Historical use of the Site for dumping and as a construction project staging area may have imparted contamination to soils within the study area. However, the nature and extent of contamination in the soils is not known. Additional data are needed to define the nature and extent, if any, of contamination within these soils. In addition, the concentrations of chemicals present in the soils need to be evaluated and compared to Action Levels based on the anticipated future uses of the site.

3.2.2 Step 2: Identify Decisions

Analytical data for collected samples will be evaluated to determine if concentrations of contaminants of concern (COC) exceed laboratory reporting limits. If COCs are found to exist above laboratory reporting limits, the analytical data will be compared to reportable concentrations (RCs) as published in the State of Nevada Division of Environmental Protection (NDEP) Draft Guidelines for Discovery Events (Soil RCs) document (NAC 445A.345 to 445A.348 as modified by adopted regulation R-189-08). Results of the investigation will be used to determine if additional assessment and/or regulatory notification with subsequent clean-up are required.

3.2.3 Step 3: Identify Inputs

Information required to address project objectives includes historical data, proposed quantitative data to be collected under this study, and soil RCs. Analytical testing of soil samples shall be conducted by ESC Lab Sciences (ESC) of Mount Juliet, Tennessee. ESC's DQOs for the analytical testing are provided in Appendix A.

3.2.4 Step 4: Define Study Boundaries

The proposed investigation of soils shall extend from the surface to a depth of six inches below ground surface. The duration of the assessment activities described in this SAP is approximately one week.

3.2.5 Step 5: Develop Decision Rules

Decision rules are specified in Table 1, and describe actions based on qualitative and definitive data. Laboratory analytical data for the sampled media (soil) will be compared to soil RCs. For contaminants detected above soil RCs, Nevada statutes require that site-specific action levels be an appropriate level of concentration that is based on the protection of public health and safety and the environment as determined through the use of the Integrated Risk Information System (IRIS) adopted by the USEPA, to be used when inhalation, ingestion, or dermal exposure is the primary exposure pathway; or a background concentration.

3.2.6 Step 6: Specify Tolerable Limits on Decision Errors

This is not a statistically based study; therefore, sampling locations will be selected based on professional judgment and site knowledge.

3.2.7 Step 7: Optimize the Sampling Design

Optimization was completed via discussions with the project team and by reviewing historical information indicating locations of potential contamination. The number of samples selected is believed to be adequate to complete an initial assessment of site conditions.

The DQOs are summarized in Table 1. Analytical testing of soil samples shall be conducted by ESC, as noted above. ESC's DQOs for the analytical testing are provided in Appendix A.

3.3 Data Quality Indicators (DQIs)

Data quality indicators (precision, accuracy, representativeness, completeness, comparability and sensitivity [i.e., PARCCS parameters]) refer to quality control criteria established for various aspects of data gathering, sampling, and/or analyses. Precision is the degree of mutual agreement between or among independent measurements of a similar property (usually reported as standard deviation (SD) or relative percent difference) and relates to the analysis of duplicate laboratory or field samples. Accuracy is the degree of agreement of a measurement with a known or true value and is determined by comparing the reported laboratory value for a sample to a known or true concentration (i.e. matrix spikes, surrogate spikes, laboratory control samples and performance samples). Representativeness is the expression of the degree to which data accurately and precisely represent a characteristic of an environmental condition or population and relates to the

method of collecting samples and determining sampling locations. Completeness is expressed as the percent of valid usable data obtained compared to the amount that was expected. Comparability expresses the degree of confidence with which one data set can be compared to another. Sensitivity is defined by the laboratory detection limits and are generally expressed in terms of method detection limits (MDLs) or reporting limits (RLs).

<u>Precision and Accuracy:</u> The measurement quality objectives (MQOs) for precision and accuracy for the analyses of the specific COCs are summarized in Table 3.

<u>Representativeness</u>: Sample locations will be selected using professional judgment and knowledge of site history. Sample locations will adequately represent site conditions in the area being investigated.

<u>**Completeness:**</u> Data collection may be inhibited by geologic conditions and/or underground utilities. The project goal is to obtain at least 90% of the soil samples outlined in this SAP.

<u>Comparability:</u> The laboratory that will be used for analytical testing of soil samples collected during this investigation (ESC) is certified by the State of Nevada for standard analyses under the Clean Water Act and the Safe Drinking Water Act as described in Appendix A of the NBP QA Program Plan (NDEP, 2007). Relevant SOPs from ESC for the analyses to be conducted during this investigation are provided in Appendix B.

<u>Sensitivity:</u> The laboratory reporting limit for each analyte is summarized in Table 2. The reporting limits are well below the action levels and provisional action levels and are adequate for this investigation

3.4 Data Review and Validation

Data verification is the process of evaluating the completeness, correctness, conformance, and compliance of a specific data set against the method, procedural, or contractual requirements. Data verification evaluates whether sampling protocols, SOPs, and analytical methods were followed during data generation. Verification also involves examining the data for errors or omissions. Field and laboratory staff will verify that the work is producing appropriate outputs.

Data validation is a systematic process for reviewing a body of data against a pre-established set of acceptance criteria defined in this plan. Data validation is an analyte- and sample-specific process that extends the evaluation of data beyond data verification and is performed to determine the analytical quality of a specific data set. Validation involves a detailed examination of the data package to determine whether MQOs for precision, accuracy, and sensitivity have been met. For this environmental assessment, the intent of the data review and validation process is to verify that the specified levels of precision, accuracy, reproducibility, completeness, comparability, and analytical sensitivity of the final results are achieved, with respect to the project MQOs, and that the data fulfill project DQOs.

MGA's QA officer will supervise or perform data quality assessment tasks. MGA will consistently evaluate and document measurement data to monitor consistency with MQOs, to quantitatively assess data quality, and to identify potential limitations to data use. MGA will review field and analytical laboratory data generated for this project, including the following:

- Chain of custody documentation;
- Laboratory batch QC frequency; and,
- Results of batch and field QC analyses;

<u>Laboratory Data</u>: The laboratory will generate and review all laboratory data. Each data point will be assessed as non-qualified or qualified based upon the acceptance criteria. Data may be

qualified as "estimated" (J-qualified); these data are used as is. Some data may be qualified as "rejected" (R-qualified) if critical QC parameters are not met; these data are unusable for any purpose. Sample re-analysis, for data not meeting MQOs, will be considered as a possible corrective action. Third-party data validation will not be performed.

3.5 Data Management

Sampling will be conducted in accordance with MGA's standard operating procedures (SOPs). A unique identification number will be assigned to each sample. The number will be an alphanumeric sequence that serves as an acronym to identify the sample. The following format will be used for the sample designation:

Soil Samples:

Sample ID: LVBRN016-SS-01 LVBRN014 - MGA Project Number SS-01 – Soil Sample Number (i.e., #1)

Field logs shall be maintained throughout the project. The following information shall be included on the field logs: description of activities conducted, dates and times, field observations, deviations from sampling program, names of on-site personnel, sampling locations.

Soil samples shall be preserved or cooled as required for each laboratory analysis. Samples shall be delivered or shipped to the laboratory under chain-of-custody protocol.

3.6 Assessment Oversight

Prior to commencing with field activities, the SAP will be reviewed by the Project Team. The MGA QA Officer will oversee QC of all field activities. If modifications to the proposed sampling program are required due to field conditions, the Project Manager shall be notified for direction. Any modifications to the sampling plan will be documented in the field logs and in the project report as "deviations from the sampling plan."

4. SAMPLING RATIONALE

Soil samples shall be collected from locations where contaminants are suspected to be present, based on visual observations. An adequate number of samples shall be collected to initially assess site conditions. Professional judgment shall be used to select sampling locations that are likely to provide data to address project DQOs (Table 1). Decision statements formulated in the project DQOs are largely concerned with delineating the extent and magnitude of contamination. It is estimated that a maximum of five samples will be collected for this assessment.

4.1 Soil Sampling

If visual evidence of staining is present, a designated sampling location will be moved to collect a sample at the stained location. If no staining is evident, judgmental sampling locations will be used. Samples will be collected between the surface and six inches below ground surface.

4.2 Sediment Sampling

Sampling of sediments is not included in the scope of this investigation.

4.3 Water Sampling

Sampling of water/groundwater is not included in the scope of this investigation.

4.4 Biological Sampling

Biological sampling is not included in the scope of this investigation.

5. REQUEST FOR ANALYSIS

Laboratory analyses are discussed in Section 5.1 below.

5.1 Analyses Narrative

5.1.1 Soil Samples

It is anticipated that approximately four locations will be selected to collect soil samples for analytical testing. The soil samples will be collected as described in Section 4.1 and analyzed for the following:

- Semi-volatile organic compounds (SVOCs): EPA Method 8270C;
- Volatile organic compounds (VOCs): EPA Method 8260B; and
- Total petroleum hydrocarbons (TPH) full range: EPA Method 8015.

5.2 Analytical Laboratory

All analytical testing shall be conducted by ESC. Analytical testing and sample handling shall be conducted in accordance with ESC's SOPs (Appendices A and B).

6. FIELD METHODS AND PROCEDURES

6.1 Field Equipment

6.1.1 List of Equipment Needed

- Field logbook and field data sheets;
- Personal protective equipment (Level D);
- Tape measure;
- Camera;
- 4-oz glass sample containers;
- Cooler and ice;
- Sample labels;
- Pick axe;
- Shovel;
- Stainless steel bowls and scoops; and
- Decontamination supplies;

6.1.2 Calibration of Field Equipment

All field equipment will be calibrated according to the manufacturer's guidelines and specifications. Calibration records will be logged in field notebooks.

6.2 Field Screening

Field screening will not be utilized in this investigation.

6.3 Soil Sampling

6.3.1 Surface Samples

Surface soil sampling will be conducted in accordance with MGA's SOP as presented in Appendix C.

6.3.2 Sub-surface Samples

Not applicable as sub-surface soil sampling is not included in the scope of this investigation.

6.4 Sediment Sampling

Not applicable as sediment sampling is not included in the scope of this investigation.

6.5 Water Sampling

Not applicable as water sampling is not included in the scope of this investigation.

6.6 Decontamination Procedures

All field equipment which comes in contact with potentially contaminated soil will be decontaminated in accordance with MGA's SOP as presented in Appendix C. Decontamination will occur prior to and after each use of a piece of equipment.

7. SAMPLE CONTAINERS, PRESERVATION AND STORAGE

7.1 Soil Sample Containers

Soil samples will be collected in dedicated sample containers provided by the analytical laboratory. The soil samples will be delivered to the laboratory within an acceptable period of time. Appendix C provides MGA's SOPs for sampling.

7.2 Soil Sample Preservation and Storage

Collected soil samples will be chilled to 4°C within a laboratory supplied cooler upon collection and during transport to the laboratory.

8. DISPOSAL OF RESIDUAL MATERIALS

No investigation-derived waste is anticipated to be generated during this investigation. However, if any investigation-derived waste is generated during sampling activities, it will be disposed of properly.

9. SAMPLE DOCUMENTATION AND SHIPMENT

9.1 Field Notes

9.1.1 Field Logbooks

Field logs will be completed describing all field activities. The following information will be included in the field logs:

- Project name and location;
- Sampling location and description utilizing a survey- or mapping-grade GPS unit;
- Site plan showing sample locations;
- Sampler's name (s);
- Date and time of sample collection;
- Type of sample (e.g., soil);
- Type of sampling equipment used;
- Field instrument readings and calibration;
- Field observations and details related to analysis or integrity of samples (e.g., noticeable

- Sample preservation;
- Lot number of the sample containers, sample identification numbers and explanatory codes, and chain-of-custody form numbers; and
- Name of recipient laboratory.

9.1.2 Photographs

Photographs will be taken at select sampling locations. They will serve to verify information entered in the field logbook. For each photograph taken, the following information, at a minimum, will be written in the logbook:

- Time, date, location, and weather conditions;
- Description of the subject photographed; and
- Name of person taking the photograph.

9.2 Labeling

All samples collected will be labeled in a clear and precise manner for proper identification in the field and for tracking in the laboratory. The samples will have pre-assigned, identifiable, and unique numbers. At a minimum, the sample labels will contain the following information:

- Sample location;
- Date and time of collection;
- Analytical parameter(s) requested; and
- Method of preservation.

9.3 Sample Chain-of-Custody Forms and Custody Seals

All samples shall be delivered to the laboratory under chain-of-custody protocol. All chain-ofcustody forms and sample labels will be signed and dated. A copy of ESC's chain-of-custody form is provided in Appendix D. Laboratory supplied custody seals shall be used to seal the screw lid of each sample container.

9.4 Packaging and Shipment

Samples shall be placed in a sturdy cooler. Bubble wrap shall be placed in the bottom of the cooler. Sample containers shall be placed in containers provided by the laboratory. Ice shall be packed in zipper locked, double plastic bags. Empty space in the cooler shall be filled with bubble wrap. Appendix C provides MGA's SOP for sample packaging and shipping.

10. QUALITY CONTROL

10.1 Field Quality Control Samples

Samples will be collected in accordance with industry standard procedures. No equipment blanks will be collected during this investigation.

10.2 Background Samples

No background samples are anticipated to be collected during this investigation.

10.3 Field Screening and Confirmation Samples

No confirmation samples will be collected during this investigation.

10.4 Assessment of Field Variability (Field Duplicates or Co-located Samples)

The scope of this project only includes the collection of soil samples. As soils and sediments are generally too heterogeneous to assess the precision of sample collection, field-duplicate samples will not be collected for this project.

10.5 Laboratory Quality Control Samples

Laboratory QC (e.g., matrix spike/matrix spike duplicate samples) samples will be analyzed to monitor the precision and accuracy of its analytical procedures.

11. FIELD VARIANCES

As conditions in the field may vary, it may become necessary to implement minor modifications to sampling as presented in this SAP. Modifications to the approved SAP will be documented in the sampling project report.

12. FIELD HEALTH AND SAFETY PROCEDURES

A site-specific Health and Safety Plan is provided in Appendix E. The HASP shall be reviewed by all onsite personnel prior to commencing with field activities.

13. SCHEDULE FOR SAMPLING ACTIVITIES

MGA will commence with the activities proposed herein upon receiving NDEP approval of this SAP. It is anticipated that field activities will be completed within three weeks of receiving SAP approval. It is anticipated that a draft report of findings will be submitted prior to January 31, 2013.

14. REFERENCES

Final Nevada Brownfields Program Quality Assurance Program Plan, May 20, 2007, Nevada Division of Environmental Protection.

US EPA. 2006. *Guidance on Systematic Planning using the Data Quality Objectives Process*. February. EPA QA/G-4, EPA/240/B-06/001

Table 1. DQO Summary Table for Environmental Sampling, APN: 161-16-402-003, Las Vegas, Nevada

STEP 1

State the Problem

Historical use of the Site for dumping and as a construction project staging area may have imparted contamination to soils within the study area. However, the nature and extent of contamination in the soils is not known. Additional data are needed to define the nature and extent, if any, of contamination within these soils. In addition, the concentrations of chemicals present in the soils need to be evaluated and compared to Action Levels based on the anticipated future uses of the site.

STEP 2

Identify the Decisions

1) If concentrations for COCs exceed laboratory reporting limits, do the levels reported exceed Nevada reportable concentrations (RCs)?

2) If concentrations for COCs exceed RCs, does the extent of the concentration of the COCs appear to be greater than three cubic yards?

3) Is further assessment required to determine the nature and extent of contamination within the study area?

4) Is regulatory notification required?

STEP 3 Identify the Inputs to the Decisions

• Analytical data for collected samples (quantitative data)

• Soil RCs as published in the State of Nevada Division of Environmental Protection (NDEP) Draft Guidelines for Discover Events (Soil RCs) document (NAC 445A.345 to 445A.348 as modified by adopted regulation R-189-08)

STEP 4 Define Study Boundaries Samples shall be collected from 0 to 6 inches below ground surface in soils found within the study area. The duration of the assessment activities described in this SAP is approximately one week. **STEP 5 Develop Decision Rules** 1) NDEPs "Draft Guidelines for Discovery Events" will be utilized to determine State of Nevada soil RCs for COCs. The RCs will be checked against concentrations determined by the laboratory for each COC. 2) If the concentration exceeds the RC, then a calculation to determine an approximate volume of contaminated soil will be performed. 3) If data received from the analytical laboratory suggests that the extent of contamination within the study area is still not determined, another round of soil sampling shall be proposed. 4) If contaminated soil quantities exceed 3 cubic yards, the discovery will be reported to the NDEP. **STEP 6 Specify Tolerable Limits on Errors** The number of samples to be collected is not statistically based and will be determined in the field based using professional judgment. MQOs and DQIs established for analytical data are described in the NBP QA Program Plan. **STEP 7 Optimize Sampling Design** The quantity of samples is believed to be adequate to complete an initial assessment of site conditions.

Table 2: Method Precision and Accuracy Goals for Select COCs					
Matrix Spile Company	Soi	l			
	Recovery (%)	RPD (%)			
TPH Gas Range (GRO)	67-135	20			
TPH Diesel Range (DRO)	50-150	<20			
Benzene	65-128	20			
Toluene	70-120	20			
Ethylbenzene	74-128	20			
Total Xylenes	74-127	20			
Acenaphthene	22-139	36			
Acenaphthylene	33-118	35			
Anthracene	65-119	20			
Benzo(a)anthracene	77-123	20			
Benzo(a)pyrene	68-118	20			
Benzo(b)fluoranthene	68-110	20			
Benzo(g,h,i)perylene	57-118	28			
Benzo(k)fluoranthene	70-124	20			
Chrysene	79-125	20			
Dibenzo(a,h)anthracene	64-121	25			
Fluoranthene	76-121	20			
Fluorene	47-126	28			
Indeno(1,2,3-c,d)pyrene	62-121	26			
Naphthalene	11-104	49			
Phenanthrene	63-118	20			
Pyrene	77-125	20			

RPD: Relative Percent Difference

Table 3. Reporting Limits and Nevada RCs for Contaminants of Concern						
	Laboratory Reporting Limit (RDL)	Nevada RCs				
Contaminant of Concern	Soil (mg/Kg)	Soil ¹ (mg/Kg)				
TPH Gas Range (GRO)	1	100				
TPH Diesel Range (DRO)	40	100				
Benzene	0.001	0.03				
Toluene	0.005	12				
Ethylbenzene	0.001	5.7				
Total Xylenes	0.003	210				
Acenaphthene	0.006	570				
Acenaphthylene	0.006	NA				
Anthracene	0.006	1,200,000				
Benzo(a)anthracene	0.006	0.15				
Benzo(a)pyrene	0.006	0.015				
Benzo(b)fluoranthene	0.006	0.15				
Benzo(g,h,i)perylene	0.006	NA				
Benzo(k)fluoranthene	0.006	1.5				
Chrysene	0.006	15				
Dibenzo(a,h)anthracene	0.006	0.015				
Fluoranthene	0.006	2,300				
Fluorene	0.006	560				
Indeno(1,2,3-c,d)pyrene	0.006	0.15				
Naphthalene	0.006	3.9				
Phenanthrene	0.006	NA				
Pyrene	0.006	1,700				

¹ NDEP, 2010

NA: Not Applicable (no RC provided)





APPENDIX A

Laboratory Data Quality Objectives and Sample Handling Procedures

SEE ACCOMPANYING APPENDIX A (CD-Rom)

APPENDIX B MGA SOPs

SEE ACCOMPANYING APPENDIX B (CD-Rom)

APPENDIX C

Chain-of-Custody Forms

			Billing Information:				Analysis/Container/Preservative				eservativ	/e	Chain of Custody	
		Rep Ema	ort to: il to:										L · A · B · S · C · 12065 Lebo Mt. Juliet,	I · E · N · C · E · S anon Road TN 37122
Description:			Collected										Phone: (615) 758-5858
Phone:	Client Project	#:	ESC Key	:									Fax: (615) 758-5859
FAX:													`	,
Collected by:	Site/Facility ID)#:	P.O.#:									_		
Collected by (signature):		ab MUST Be N ame Day ext Day	Iotified) Date Results Needed: .200%		No.							CoCode Template/Prelogin	(lab use only)	
Immediately Packed on Ice N Y	T	nree Dav		FAX? _	_NoYes	Cotro							Shipped Via:	
Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	Chus						F	Remarks/Contaminant	Sample # (lab only)
*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Wate			king Water	OT - Other	1		1				pH	Ter	ıp	
Remarks:				5								Flow	Oth	er
Relinquished by: (Signature) Date: Tin		Time:	me: Received by: (Signature)			Samples returned via: UPS			UPS	Condition:	(lab use only)			
Relinquished by: (Signature) Date:		Time:	Received by: (Signature)				Temp: Bottles Receiv		s Received:	1				
Relinquished by: (Signature)		Time:	Recei	Received for lab by: (Signature)				Date: Time:			pH Checked:	NCF:		

APPENDIX D Sample Labels



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APPENDIX E Site Health and Safety Plan



 Reno Office

 815 Maestro Drive

 Reno, Nevada 89511

 Ph:
 775.829.2245

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 775.829.2213

Las Vegas Office 6280 South Valley View Boulevard Suite 604 Las Vegas, Nevada 89118 Ph: 702.260.4961 Fax: 702.260.4968

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- UST Services
- GIS and GPS Project Interfacing
- Litigation Support/Expert Witness
- TRI Reporting

HEALTH AND SAFETY PLAN

APN: 161-16-402-003 North of Cabana Drive and Flamingo Road Las Vegas Clark County Nevada NDEP Contract #10-008-03 Task M01-13

Prepared for:

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Corrective Actions 901 S. Stewart Street, Suite 4001 Carson City, Nevada 89701-5249

On behalf of:

Clark County School District

December 24, 2012

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FIGURES

Figure 1 **Project Location Map**

APPENCDICES

- Appendix A Statement of Compliance Appendix B Route to Nearest Medical Facility

1. INTRODUCTION

McGinley & Associates Inc. (MGA) is pleased to submit this Health and Safety Plan (HASP) detailing personal safety precautions being performed on behalf of the Nevada Division of Environmental Protection (NDEP). This HASP addresses activities associated with collection of soil samples. The sampling activities will be conducted on a vacant parcel located north of the intersection of Cabana Drive and Flamingo Drive in Las Vegas, Nevada. Planned site activities will include:

- Site reconnaissance;
- Collection of soil samples for laboratory analysis.

1.1 Scope and Applicability of the Site Health and Safety Plan

The purpose of this HASP is to define the requirements and designate protocols to be followed for the site sampling activities. Applicability extends to all MGA employees, contractors and subcontractors. Each person will also be expected to provide his or her own protective equipment.

All on-site personnel shall be informed of the site emergency response procedures and any potential fire, explosion, health, or safety hazards of the operation. This HASP summarizes hazards and defines protective measures planned for the site. This plan must be reviewed and signed by all site personnel prior to commencing with field activities. An agreement of compliance is provided in Appendix A.

During development of this plan, consideration was given to current safety standards as defined by EPA/OSHA/NIOSH, health effects and standards for known contaminants, and procedures designed to account for the potential for exposure to unknown substances. Specifically, the following reference sources have been consulted:

- OSHA 29 CFR parts 1910.120, 1910.134, 1926.350 and 1926.650;
- U.S. EPA, OERR ERT Standard Operating Safety Guides
- NIOSH/OSHA/USCG/EPA Occupational Health and Safety Guidelines
- (ACGIH) Threshold Limit Values

1.2 On-Site Personnel

All personnel entering the designated work areas at the Site are responsible for the following:

- Taking all reasonable precautions to prevent injury to themselves and to their fellow employees, and being alert to potentially harmful situations;
- Obeying all applicable laws and regulations relating to health and safety;
- Ensuring that activities do not impact the neighboring community;
- Performing only those tasks that they have been trained to complete and can do safely;
- Notifying their supervisor of any special medical conditions (i.e., allergies, contact lenses, diabetes) that may affect their ability to perform certain tasks;
- Notifying their supervisor of any prescription and/or non-prescription medication that they may be taking that might cause drowsiness, anxiety, or other unfavorable side-

affects;

- Learning and complying with Site security requirements;
- Complying with the Site's prohibition on drug and alcohol use, smoking, horseplay, and restricted eating/drinking areas;
- Practicing good housekeeping by keeping the work areas neat, clean and orderly;
- Immediately reporting all injuries, incidents and near-misses to the HSO;
- Properly using PPE specified by this HASP.
- Properly maintaining their designated PPE per manufacturers' recommendations.
- Complying with the HASP and all health and safety recommendations and precautions.

In the event that a person does not adhere to the provisions of the HASP, he/she will be requested to leave the work area. All non-conformance incidents will be recorded in the site log.

2. KEY PERSONNEL

The Site Health and Safety Officer (HSO) is fully responsible for ensuring the provisions of this HASP are adequate and implemented in the field. Changing field conditions may require decisions to be made concerning adequate protection programs. Therefore, it is vital that personnel assigned as HSO be experienced and meet the additional training requirements specified by OSHA in 29 CFR 1910.120. The following personnel are critical to the planned activities at the Site. The organizational structure will be reviewed and updated periodically by the site supervisor.

Title/Responsibility	Name	Phone		
Clark County School District				
Site Contact	Tracy Murphy	(702) 799-5214		
McGinley and Associates, Inc.				
Project Manager – Project management, regulatory liaison, coordinate field activities, site safety, data review, report preparation.	Brett Bottenberg	(702) 232-5247		
Environmental Scientist – Collect soil samples.	Devin Gordon	(702) 371-7864		
Contractors/Vendors				
Alpha Analytical – Analysis of soil samples	Tammy Brace	(775) 355-1044		

2.1 Site Specific Health and Safety Personnel

The HSO is also responsible for conducting site inspections on a regular basis in order to ensure the effectiveness of this plan. The HSO at the site is Brett Bottenberg, Project Manager for MGA. The designated alternate is Devin Gordon, Staff Technician for MGA.

2.2 Organizational Responsibility

Clark County School District:	Party initiating investigation of soil impacts from previous dumping and staging activities.
MGA:	Primary agent for the Clark County School District providing field services and project oversight of soil sampling.
Subcontractors:	Various companies and organizations providing services or skilled trades.

3. TASK/OPERATION SAFETY AND HEALTH RISK ANALYSIS

3.1 Historical Overview of Site

Currently, the site is a vacant and undeveloped parcel. In 2000, the Clark County School District (CCSD) purchased the property from the Housing Authority of Clark County with plans future school construction. Based on available historical information, it appears that the site has always been vacant and undeveloped. Between 2007 and 2008, aerial photography suggests that the site was utilized as a staging area for a local construction project. Subsequent photos indicate that the site was graded as currently observed. The CCSD has secured the perimeter of the site with chain-link fencing and does not currently utilize the property.

The purpose of this project is to assess the soils for contamination from former dumping and construction staging activities. The CCSD is also concerned that potential contamination of soils within the site may be a health hazard to future construction workers as well as children and employees attending the school.

3.2 Chemical Hazards

The following sections provide descriptions of the principal health hazards of the potential contaminants affecting this investigation and include:

- Volatile Organic Compounds (VOCs);
- Semi-VOCs (SVOCs); and/or
- Total Petroleum Hydrocarbons (TPH).

3.2.1 Organic Compounds

Volatile Organic Compounds (VOCs) and Semi Volatile Organic Compounds (SVOCs) are commonly found in oils, fuels, paints, solvents, and other chemicals that may have been

disposed improperly during construction activities. Exposure to the vapors of these compounds above their respective OSHA permissible exposure limits (PELs) may produce irritation of the mucous membranes of the upper respiratory tract, nose, and mouth. Symptoms of such exposure include drowsiness, headache, fatigue, and "drunken-like" behaviors. Chronic and prolonged overexposure to the vapors of benzene may cause damage to the blood-forming organs and is known to cause leukemia in humans. In addition, these compounds may also present hazards through dermal absorption. As field activities normally involve subsurface disturbance for generally short periods of time, these pathways should be considered. Planning, development, and implementation of specific sampling protocol should be conducted to mitigate these potential concerns.

3.2.2 Petroleum Hydrocarbons

Petroleum hydrocarbons such as gasoline and diesel fuel are comprised of a wide range of substances, some of which may pose substantive human health hazards. Constituents including benzene, toluene, ethyl benzenes, and xylenes (BTEX) are generally a greater concern due to their potential exposure pathway through the lungs. In moderate exposures, BTEX compounds all produce similar acute effects including headaches, narcosis, and anesthesia. Among these compounds, benzene is the primary substance of concern due to its status as a known carcinogen and its association with leukemia and aplastic anemia in chronic exposure situations.

As field activities normally involve subsurface disturbance for generally short periods of time, these pathways should be considered. Planning, development, and implementation of specific sampling protocol should be conducted to mitigate these potential concerns.

3.3 **Biological Hazards**

The vacant parcel may contain spiders, snakes, and other types of natural hazards. Boots and protective clothing should be inspected for spiders prior to putting them on. Snakes should be avoided to prevent snakebites. If a spider or snake bit occurs, the Field Safety Officer shall be notified immediately and the victim should be transported to Desert Springs Hospital in Las Vegas, Nevada.

3.4 General Hazards

General hazards that may be encountered during sampling activities and preventative measures are described in the following sections and include:

- Slips, trips, and falls
- Elevated noise levels
- Hazards associated with lifting and carrying

3.4.1 Slips, Trips, and Falls

Falls are a leading cause of occupational fatalities. These fatalities are considered preventable with the use of fall protection systems. The following is a list of common fall hazards:

- Elevated work at > 6 feet above lower level with unprotected sides or edges
- Wall openings > 4 feet above lower level
- Floor/Roof openings (hatches)

- Floor/Roof holes (deterioration), i.e. failing roof
- Ramps, walkways, bridges
- Excavations

Protection from fall hazards can be achieved in one of three ways: 1) fixed position systems, 2) personal fall protection, and 3) safety monitoring systems. A combination of these three protection systems is often used to ensure the safety of site workers. Fixed position systems consist of guardrails, safety nets, and floor covers. Personal fall protection will consist of a full-body harness with a 6-foot shock-absorbing lanyard. Good housekeeping, proper PPE, and daily safety meetings can minimize injuries from falls.

3.4.2 Elevated Noise Levels

During on-site activities requiring the use of power equipment, hearing protection may be required to be worn for certain tasks or in designated areas where noise levels reach > 85 dBA. Training on proper use of hearing protection will be conducted prior to initiation of specified onsite work.

3.4.3 Hazards Associated with Lifting and Carrying

The human body is subject to severe damage in the form of back injury and/or hernia if caution is not observed in the handling process. General rules for minimizing injuries from manual lifting are:

- Get good footing.
- Place feet shoulder width apart.
- BEND AT KNEES to grasp object.
- Keep back straight.
- Get a good grip on object.
- Lift gradually by straightening the legs.
- GET HELP if object is too heavy for you to lift (usually 50-60 lbs lifting limit).

3.5 Task Hazard Analysis

3.5.1 Collection of Soil Samples

If sampling activities disturb the soil in such a way that causes dust to become airborne, then the risk of respiratory exposure goes up. In addition, dermal contact may occur if care is not taken to avoid contact with skin. Care should be taken to avoid the previously stated actions.

4. PERSONNEL TRAINING REQUIREMENTS

Consistent with OSHA's 29 CFR 1910.120, regulation covering Hazardous Waste Operations and Emergency Response and OSHA's 29 CFR 1926 Construction Industry Standards, workers are required to be trained in accordance with those standards. At a minimum, all personnel are required to be trained to recognize the hazards on-site and the provisions of this HASP.

4.1 Pre-assignment and Annual Refresher Training

Prior to arrival on site, each employer will be responsible for certifying that his/her employees meet the requirements of training, consistent with OSHA 29 CFR 1910.120

paragraph (e)(3) or (e)(9). The employer should be able to provide a document certifying that each general site worker has received 40 hours of instruction off the site, and 24 hours of training for any workers who are on site only occasionally for a specific task. If an individual employee has work experience and/or training that is equivalent to that provided in the initial training, an employer may waive the 40-hour training so long as that equivalent experience is documented or certified. All personnel must also receive 8 hours of refresher training annually.

4.2 Training and Briefing Topics

The following items may be discussed by a qualified individual at the site pre-entry briefing(s) and at periodic tailgate safety meetings.

Physical Hazards	Chemical Hazards
Emergency Response Plan	Air Monitoring
Training Requirements	Animal Bites and Stings
Respiratory Protection	Medical Surveillance
Site Control	Personal Protective Equipment
Heavy Machinery	

5. PERSONAL PROTECTIVE EQUIPMENT TO BE USED

This section describes the general requirements of the EPA designated Levels of Protection (A-D), and the specific levels of protection required for each task at the site.

5.1 Levels of Protection

Personnel wear protective equipment when response activities involve known or suspected atmospheric contamination vapors, gases, or particulate that may be generated by site activities, or when direct contact with skin-affecting substances may occur. The specific levels of protection and necessary components for each have been divided into four categories according to the degrees of protection afforded:

- Level A: Should be worn when the highest level of respiratory, skin, and eye protection is needed.
- Level B: Should be worn when the highest level of respiratory protection is needed, but a lesser level of skin protection. Level B is the primary level of choice when encountering unknown environments.
- <u>Level C:</u> Should be worn when the criteria for using air-purifying respirators are met, and a lesser level of skin protection is needed.
- Level D: Should be worn only as a work uniform and not in any area with respiratory or skin hazards. It provides minimal protection against chemical hazards.

Modifications of these levels are permitted, and routinely employed during site work activities to maximize efficiency. For example, Level C respiratory protection and Level D skin protection may be required for a given task. Likewise the type of chemical protective ensemble (i.e., material, format) will depend upon contaminants and degrees of contact. The Level of Protection selected is based upon the following:

- Type and measured concentration of the chemical substance in the ambient atmosphere and its toxicity.
- Potential for exposure to substances in air, liquids, or other direct contact with material due to work being done.
- Knowledge of chemicals on-site along with properties such as toxicity, route of exposure, contaminant matrix, and adequate warning properties.

In situations where the type of chemical, concentration, and possibilities of contact are not known, the appropriate Level of Protection must be selected based on professional experience and judgment until the hazards can be better identified. For all unknown situations on this site, Level D is the highest level anticipated.

5.2 Recommended Levels of Protection – Task Specific

The following specific personal protective ensembles are recommended for the site:

Soil Sampling - (Level D)

- Outer Gloves Nitrile
- Outer Garment/Coveralls Tyvek
- Hardhat
- Safety Glasses
- Steel-toed Boots

5.3 Reassessment of Protection Program

The level of Protection provided by PPE selection shall be upgraded or downgraded based upon a change in site conditions or findings of investigations. When a significant change occurs, the hazards should be reassessed and the HASP updated. Some indicators of the need for reassessment are:

- Commencement of a new work phase, such as the start of unexpected sampling or work that begins on a different portion of the site;
- Change in job tasks during a work phase;
- Contaminants other than those previously identified are encountered;
- Change in ambient levels of contaminants;
- Change in work scope which affects the degree of contact with contaminants.

5.4 SOP for Personal Protective Equipment

Proper inspection of PPE features several sequences of inspection depending upon specific

articles of PPE and its frequency of use. The different levels of inspection are as follows:

- Inspection and operational testing of equipment received from the factory or distributor;
- Inspection of equipment as it is issued to workers;
- Inspection after use or training and prior to maintenance;
- Periodic inspection of stored equipment; and
- Periodic inspection when a question arises concerning the appropriateness of the selected equipment, or when problems with similar equipment arise.

The primary inspection of PPE in use for activities at the site will occur prior to immediate use and will be conducted by the user. This ensures that the specific device or article has been checked-out by the user and that the user is familiar with its use.

6. MEDICAL SURVEILLANCE REQUIREMENTS

Medical monitoring programs are designed to track the physical condition of employees on a regular basis as well as survey pre-employment or baseline conditions prior to potential exposures. The medical surveillance program is a part of each employers Health and Safety program. Exposure to toxic materials is not anticipated at the Site.

6.1 Exposure/Injury/Medical Support

As a follow-up to an injury or possible exposure above established exposure limits, all employees are entitled to and encouraged to seek medical attention and physical testing. Depending upon the type of exposure, it is critical to perform follow-up testing within 24-28 hours. It will be up to the employer's medical consultant to advise the type of test required to accurately monitor for exposure effects.

7. EXPOSURE MONITORING/AIR MONITORING

Exposure monitoring will not take place at the Site.

8. SITE CONTROL MEASURES

The following section defines measures and procedures for maintaining site control. Site control is an essential component in the implementation of the site health and safety program.

8.1 Site Communications Plan

Successful communications between field teams and contact with personnel in the support zone is essential. The following communications systems will be available during activities at the site.

- Hand Signals
- Verbal
- Honk Vehicle Horn Evacuate immediately

Signal

<u></u>	<u></u>
Hands on top of head	Need assistance
Thumbs up	OK/I am all right/I understand
Thumbs down	No/negative
Arms waving upright	Send backup support
Grip partners wrist	Exit area immediately

8.2 Safe Work Practices

The following is a list of standing orders for the duration of the project.

• No smoking, eating, or drinking in areas where there is a potential of cross contamination or risk of fire or explosion.

Definition

- No horse play.
- Implement the communications system.
- Line of sight must be in position.
- Wear the appropriate level of protection as defined in the Safety Plan.
- No unauthorized entry into hazardous work areas by unauthorized personnel l

9. DECONTAMINATION PLAN

Consistent with the levels of protection required, the decontamination process provides a step by step representation of the personnel decontamination steps for level D and C. These procedures should be modified to suit site conditions and protective ensembles in use. Decontamination involves the orderly controlled removal of contaminants. All site personnel should minimize contact with contaminants in order to minimize the need for extensive decontamination.

9.1 Personnel Decontamination

All workers exposed to COCs will be required to enact an orderly removal of contaminated PPE. This can be accomplished through repeated change of disposable garments and or PPE wash at the end of the shift. Workers shall be instructed to the importance of decontamination to prevent cross contamination.

9.2 Sampling Equipment Decontamination

Sampling equipment and heavy equipment may be decontaminated in accordance with procedures as defined in the work plan or as follows:

- Sampling equipment will be rinsed using water and a 5% tri-sodium phosphate solution (or an acceptable substitute).
- Sampling equipment will be decontaminated between sample collections to prevent cross contamination.

Disposable sampling equipment shall be utilized wherever practical to minimize employee exposure and possible cross contamination between sampling events.

10. EMERGENCY RESPONSE/CONTINGENCY PLAN

This section describes contingencies and emergency planning procedures to be implemented at the Site. This plan is compatible with local, state, and federal disaster and emergency management plans as appropriate.

10.1 Pre-Emergency Planning

A field pre-construction / field activities meeting will be conducted at the project site prior to implementation of field services. The meeting will include personnel from MGA and selected contractors, if applicable. Each of the activities and procedures presented will be reviewed during this meeting.

In addition, tailgate site safety discussions will be held daily. All employees will be trained in and reminded of provisions of the emergency response plan, communication systems, and evacuation routes. The plan will be reviewed and revised if necessary, on a regular basis by the HSO. This will ensure that the plan is adequate and consistent with prevailing site conditions.

10.2 Emergency Recognition/Prevention

Section 3 provides a listing of chemical hazards onsite. Additional hazards as a direct result of site activities are listed in Section 3.2 as are prevention and control techniques/mechanisms. Personnel will be familiar with techniques of hazard recognition from pre-assignment training and site specific briefings. The HSO is responsible for ensuring that prevention devices or equipment is available to personnel.

10.3 Evacuation Routes/Procedures

Since all individuals sampling will be within shouting distance, no special alarm system is anticipated as necessary. Contact appropriate emergency authorities. No other situation calling for site evacuation is reasonably anticipated.

10.4 Emergency Contact/Notification System

The following list provides names and telephone numbers for emergency contact personnel. In the event of a medical emergency, personnel will take direction from the HSO and notify the appropriate emergency organization. In the event of a fire or spill, the site supervisor will notify the appropriate local, state, and federal agencies.

<u>Organization</u>	Telephone
Ambulance:	911
Police:	911
Fire:	911
Desert Springs Hospital	(702) 733-8800
NDEP	(775) 687-4670
Regional EPA:	(415) 744-1500
EPA Emergency Response Team:	(908) 321-6660
National Response Center:	(800) 424-8802
Center for Disease Control:	(404) 488-4100
Chemtrec:	(800) 424-9555

10.5 Nearest Medical Assistance

The nearest medical facility is Desert Springs Hospital Hospital. The facility is located at 2075 East Flamingo Road, Las Vegas, Nevada. A map of the route to this facility which can provide emergency care for individuals who may experience an injury or exposure on site is included in Appendix C of this HASP. The route to the facility should be verified by the HSO prior to sampling activities, and should be familiar to all site personnel.

10.6 Emergency Medical Treatment Procedures

Any person who becomes ill or injured in the work area must be decontaminated to the maximum extent possible. If the injury or illness is minor, full decontamination should be completed and first aid administered prior to transport. If the patient's condition is serious, at least partial decontamination should be completed (i.e., complete disrobing of the victim and redressing in clean coveralls or wrapping in a blanket.) First aid should be administered while awaiting an ambulance or paramedics. All injuries and illnesses must immediately be reported to the project manager.

10.7 Fire or Explosion

In the event of a fire or explosion, the local fire department should be summoned immediately. Upon their arrival, the project manager or designated alternate will advise the fire commander of the location, nature, and identification of the hazardous materials on site. If it is safe to do so, site personnel may:

- Use fire-fighting equipment available on site to control or extinguish the fire; and
- Remove or isolate flammable or other hazardous materials which may sustain a fire.

10.8 Emergency Equipment/Facilities

All emergency equipment will be located in the command post and/or support zone and shall include:

- First aid kit;
- Fire extinguisher;
- Mobile telephone;
- Eye wash station.

11. HAZARD COMMUNICATION

In order to comply with 29 CFR 1910.1200, Hazard Communication, the following written Hazard Communication Program has been established. All employees will be briefed on this program and have a written copy for review.

11.1 Container Labeling

All containers received on site will be inspected to ensure the following:

- All containers will be clearly labeled as to the contents;
- The appropriate hazard warnings will be noted; and
- The name and address of the manufacturer will be listed.

All secondary containers will be labeled with either an extra copy of the original manufacturer's label or with generic labels which have a block for identify and blocks for the hazard warning.

11.2 Employee Training and Information

Prior to starting work, each employee will attend a health and safety orientation and will receive information and training on the following:

- An overview of the requirements contained in the Hazard Communication Standard, 29 CFR 1910.1200;
- Chemicals present in their workplace operations;
- Location and availability of a written hazard program;
- Physical and health effects of the hazardous chemicals;
- Methods and observation techniques used to determine the presence or release of hazardous chemicals;
- How to lessen or prevent exposure to these hazardous chemicals through usage of control/work practices and personal protective equipment;
- Emergency procedures to follow if they are exposed to these chemicals;
- How to read labels and review MSDSs to obtain appropriate hazard information;
- Specialized hot work and tank processing techniques.



APPENDIX A Statement of Compliance

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HASP

Statement of Compliance

I have read and understand the HASP for the site soils investigation at Clark County Assessor's Parcel Number (APN) 161-16-402-003, Nevada.

I agree to comply with the contents of the HASP and understand that not doing so may be reason for discharge from the site.

Signature:	Date:
Signature:	Date:

APPENDIX B

•

Route to Nearest Medial Assistance

Google

Directions to Desert Springs Hospital 2075 East Flamingo Road, Las Vegas, NV 89119 4.2 mi – about 14 mins





1.	Head northeast on Austin John Ct toward Cabana Dr	go 489 ft total 489 ft
F ^{2.}	Turn right onto Cabana Dr About 48 secs	go 0.2 mi total 0.3 mi
۲ ^{3.}	Turn right onto E Flamingo Rd About 11 mins	go 3.5 mi total 3.8 mi
4.	Continue straight to stay on E Flamingo Rd About 48 secs	go 0.4 mi total 4.2 mi
ᡗ ⁵.	Make a U-turn at S Bruce St Destination will be on the right About 2 mins	go 187 ft total 4.2 mi
P De 20	e sert Springs Hospital 175 East Flamingo Road, Las Vegas, NV 89119	

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2012 Google

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.