



# PETROLEUM CONTAMINATED SOIL (PCS) MANAGEMENT

Uniquely qualified to consult  
mine operators with PCS  
management



# PETROLEUM CONTAMINATED SOIL (PCS) MANAGEMENT CAPABILITY STATEMENT



Working with industry, the Nevada Mining Association, and the Nevada Division of Environmental Protection (NDEP), Broadbent designed the framework for PCS management at mines in Nevada which was used by NDEP to prepare their Guidance for Mine-Site Petroleum-Contaminated Soil (PCS) Management Plans. Broadbent is uniquely qualified to consult mine operators with PCS management based on this experience.

Among our many solutions, Broadbent developed a tool specifically designed for mine operators to manage PCS. This tool is available to our clients and is used to track PCS analytical data, compare data with screening levels, calculate cumulative risk, and simplify decisions related to PCS placement.

## SERVICES

- Disposal location evaluation and closure
- Hazardous waste determination
- Management plans
- Risk assessment
- Screening level development
- Source evaluation and sampling
- Spreadsheet tracking tool



Carcinogenic Risk UNDER Target		Units									
Site Carcinogenic Risk: 5.3E-05											
Target Carcinogenic Risk: 1.0E-04											
Hazard Quotient OVER Target		mg/kg									
Site Hazard Quotient: 1.10											
Target Hazard Quotient: 1											
Disposal Location 1		1,1,1,2-Tetrachloroethane (Carcinogen and Hazard)	1,1,1-Trichloroethane (Carcinogen)	1,1,2,2-Tetrachloroethane (Carcinogen and Hazard)	1,1,2-Trichloroethane (Hazard)	1,1-Dichloroethane (Carcinogen and Hazard)	1,1-Dichloroethane (Carcinogen and Hazard)	1,1-Dichloroethane (Carcinogen and Hazard)	1,1-Dichloropropane (Hazard)	1,1,2,2-Tetrachloroethane	
Sample ID	Carcinogenic Weight	Screening Level	1.0E+01	2.7E+01	1.6E+01	1.0E+00	1.0E+03	3.4E+02	9.0E+00	4.0E	
Sample ID	Hazardous Weight	Carcinogenic Risk	3.3E-05	1.1E-06	7.9E-07	7.9E-03	5.3E-01	2.5E-10	7.3E-10	6.3	
Sample ID	Sample Date	Hazard Quotient	3.3E-01							6.3	
Sample ID	Sample Date	Method Used	95% Conf	95% Conf	95% Conf	95% Conf	Max Value	Max Value	95% Conf	Max	
Sample ID	Sample Date	Method Used	95% Conf	95% Conf	95% Conf	95% Conf	Max Value	Max Value	95% Conf	Max	
Sample 1	2/2/2011		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Sample 2	5/6/2011		<0.005	1	0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Sample 3	7/7/2011		<0.005	1	0.25	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Sample 4	10/3/2011		<0.005	<0.005	0.25	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Sample 5	12/9/2011		<0.005	<0.005	<0.005	0.9	<0.005	<0.005	<0.005	<0.005	<0.005
Sample 6	1/6/2012		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Sample 7	1/19/2012		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Sample 8	2/15/2012		<0.005	6	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Sample 9	3/9/2012		<0.005	4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Sample 10	6/7/2012		<0.005	4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Broadbent's PCS Management Tool



## CONTACT INFORMATION

Randy Miller, PE, CEM  
Principal Engineer  
Phone: 775.322.7969  
Email: rlmiller@broadbentinc.com