Remedial Investigation

Former Cement Manufacturing Plant
Holcim Site
12207 East Empire Way
Spokane Valley, Washington

for
Holcim (US) Inc.

April 29, 2013

GeoEngineers
Earth Science + Technology

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File No. 16316-001-02

April 29, 2013

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LIST OF ACRONYMS

BGS – Below Ground Surface

BTEX – Benzene, Toluene, Ethylbenzene, and Total Xylenes

CAP – Cleanup Action Plan

CKD – Cement Kiln Dust

COPC – Contaminants of Concern

cPAH – Carcinogenic Polycyclic Aromatic Hydrocarbons

CSM – Conceptual Site Model

CRBG – Columbia River Basalt Group

DRPH – Diesel Range Petroleum Hydrocarbons

EPA – Environmental Protection Agency

FS – Feasibility Study

GRPH – Gasoline-Range Petroleum Hydrocarbons

MSL – Mean Sea Level

MTCA – Model Toxics Control Act

NRCS – United States Department of Agriculture Natural Resources Conservation Service

PID – Photoionization Detector

RI – Remedial Investigation

SVRP – Spokane Valley/Rathdrum Prairie

TEE – Terrestrial Ecological Evaluation

USGS – United States Geological Survey

ORPH – Heavy Oil Range Petroleum Hydrocarbons

1.0 INTRODUCTION

This report presents the objectives and results of remedial investigation (RI) activities conducted in 2012 and 2013 at and near a former cement manufacturing plant located in Spokane Valley, Washington (herein referred to as the "Site"). Holcim (US) Inc. (herein referred to as "Holcim") owns the approximate 21.5-acre former cement plant property, located at 12207 East Empire Way (herein referred to as the "Holcim property"). The Holcim property was developed and operated as a cement manufacturing plant from 1910 through 1967 and utilized as a cement distribution terminal from 1967 until 2002. During operational history, cement kiln dust (CKD), a by-product of the cement manufacturing process, was deposited on the Site. The approximate location of the Site is shown in Figure 1. An aerial photograph/map of the Site showing approximate property boundaries and tax parcels is shown on Figure 2.

In addition to the investigations conducted in 2012 and 2013, this RI summarizes and incorporates data from prior investigations conducted between 2007 and 2011.

Holcim has conducted this RI in accordance with Agreed Order No. 8549 (Agreed Order) dated August 22, 2011 with the Washington State Department of Ecology and City of Spokane Valley and the RI/Feasibility Study (FS) Work Plan approved by Ecology pursuant to that Agreed Order. Holcim is required to prepare and submit an RI/FS for the Site as part of the Agreed Order Scope of Work and the RI/FS Work Plan; this document fulfills the RI component. This RI report was prepared in general accordance with the requirements defined by the Model Toxics Control Act (MTCA) Regulation (Washington Administrative Code [WAC] 173-340-350) for submittal to Ecology.

1.1. RI Objective

The objective of this RI was to collect, develop and evaluate sufficient information to determine what, if any, areas at the Site require environmental cleanup under MTCA and should be analyzed in the FS. This RI report also references summaries of previous investigations conducted at the Site.

1.2. Report Organization

Section 2.0 of this report describes Site history, environmental setting, current land uses and regulatory framework. Section 3.0 describes results of prior investigations. The 2012 and 2013 soil and groundwater investigation activities and results are presented in Section 4.0. Analytical results from the 2012 and 2013 investigations are presented in Section 5.0. Section 6.0 presents an estimate of contaminant mass. Section 7.0 presents cleanup standards development and Section 8.0 presents a conceptual site model based on existing data. Section 9.0 presents a summary of the areas requiring evaluation for potential cleanup action in the FS, based on the results of the RI and Section 10.0 summarizes the results of the RI. Section 11.0 lists report references. Tables, figures and appendices supporting the text are provided at the end of the report.

2.0 SITE DESCRIPTION, HISTORY AND REGULATORY FRAMEWORK

2.1. Property Description

The Site includes the property owned by Holcim and portions of the properties owned by the City of Spokane Valley (City), Neighborhood, Inc. (the Coyote Rock residential development), and Spokane County (sewer pump station). The Site is bordered by the City property, Centennial Trail and Spokane River to the east and north, Neighborhood, Inc. and Spokane County to the west, and commercial and industrial properties to the south. The Site in relation to nearby properties is shown in Figure 2. The Holcim property comprises most of the Site area. The Spokane River flows northwest on the east side of the Site, abruptly turns southwest on the north side of the Site and generally flows west downstream of the Site. Ground surface elevations on the Holcim property are roughly 20 to 50 feet higher than elevations on the City and Neighborhood Inc. properties. Most of the Site is vacant and covered with low brush or trees. A rail spur, formerly used during plant operations, is located on the southern half of the Holcim property; the rail spur currently is not connected to any operating rail lines. The Centennial Trail, an asphalt-paved recreational trail, is located on the City property parallel to the river.

The cement plant layout is presented as it appeared in 2006 (prior to demolition in 2006) in Figure 3. Figure 3 shows several former site buildings on the Holcim property, present property boundaries, and adjacent property tax parcel boundaries and current ownership. Although vegetation covers most of the area of CKD deposition (north of the rail spur), some CKD is visible in the aerial photograph background (primarily on the City property) and appears as a light tan color.

The properties to the west of the Holcim property formerly were owned and operated by the Spokane Sand and Gravel Company, which mined aggregate from the area; these properties currently are being developed into single- and multi-family residential units. Based on historical photographs of the area, the ground elevation west of the Site was higher than current conditions. Excavation of these properties during aggregate mining and grading activities conducted during recent residential development has resulted in a steep grade along boundaries of the Holcim property.

The City of Spokane Valley owns the undeveloped land to the north and east of the Holcim property, also referred to as Myrtle Point. The Centennial Trail courses through the land and generally is aligned parallel to both the Spokane River and the eastern and northern Holcim property boundaries. Historic aerial photographs also indicate that Myrtle Point was mined for aggregate at one time. A deposit of CKD, measuring about 300 to 400 feet long (east-west) and 100 feet wide, is located on the City property directly north of the Holcim property, likely in a formerly excavated area. Elevation differences between the northern Holcim property boundary and the off-site CKD deposit range from about 15 to 30 feet.

The properties south of the Holcim property (from east to west) include: Meidling Concrete, Inc., a concrete construction company (parcels owned by Meidling/Wills PRTN and Hawkins, J.L. and S.); Road Products, Inc. (parcels owned by Lawless LLC), which manufactures paints and other road surfacing materials; the Irvin Water District #6, which includes a water supply well; T-2 Services, Inc., a welding shop; the Spokane County Division of Engineering and Roads; and the Empire

Industrial Park, LLC. These properties formerly were part of the cement manufacturing plant property.

The Holcim property lies approximately 1,985 feet above mean sea level (MSL), although elevations drop to the north to about 1,940 feet above MSL and, to a lesser extent, to the east and west. The Holcim property and the CKD deposit on the City property are currently surrounded by chain-link fences, except for the extreme western strip of land (the former rail spur is sometimes referred to as the "flag pole" due to its shape) on the Holcim property (see Figures 2 and 3).

2.2. Historical Operations and Site Use

Numerous cement companies, several of which were successors to predecessor companies, have operated at and/or owned the Holcim property including: International Portland Cement Company (1910–1932), Spokane Portland Cement Company (1933–1954), Ideal Cement Company (1955–1977), Ideal Basic Industries Cement Division (1978–1992), Holnam Inc. (1993–2000), Holnam Trucking Terminal Facility (2001), Holnam Cement Hydraulic (2002) and Holcim (2003–present). Several structures were located at the Holcim property including a crushing mill and rotary kiln, offices and laboratory, coal and clinker storage buildings and sheds, precipitator building, packhouse, machine shop, crusher building, numerous storehouses and storage sheds, silos, truck wash and wash house, and a water tower. Rail spurs, sidings, and lines were located at and adjacent to the Holcim property; and at least two elevated rail spurs terminated on the west portion of the plant. No records from the cement manufacturing timeframe are known to exist.

Several buildings were demolished between 1970 and 1974 including the mill and kiln, the office and laboratory, coal storage building, precipitator building, and crusher building. During the operating period as a cement distribution terminal, powdered cement was delivered via rail, stored in silos, and loaded onto trucks. Remaining buildings primarily were used for storing powdered cement. In 2006, the remaining structures were demolished.

Based on a review of historical aerial photographs, CKD was landfilled in the north portion of the Site during the latter operating period as a cement manufacturing plant (from about the mid-1950s to 1967). A review of historical topographic maps and aerial photographs indicates CKD was placed on naturally-occurring lower grades, gradually filling the north portion of the Site until it was roughly level with the overall plant grade. Landfilling activities stopped upon cessation of cement manufacturing in 1967.

2.3. Environmental Setting

2.3.1. Geologic Setting and Soil Conditions

Geologic maps indicate the Site is underlain by Glacial Flood-Channel Deposits, predominantly gravel (Qfcg). This geologic unit was deposited during prehistoric catastrophic ice-age flooding at the end of the last ice age, on the order of about 10,000 years ago. The Qfcg geologic unit is described as a thickly-bedded to massive mixture of boulders, cobbles, gravel and sand with localized beds and lenses of sand and silt. Boulders can be more than 5 feet diameter. The color is typically gray to yellowish gray or light brown.

Basement rocks near the subject Site generally consist of metasedimentary rocks of the Precambrian (greater than about 570 million years ago [MA]) Belt Supergroup and the Priest River Complex. Precambrian rocks were intruded by granitic plutonic rocks during the Mesozoic (245 to 65 MA) and Tertiary (65 to 1.5 MA).

Basement rocks are stratigraphically overlain by basalt flows associated with the Columbia River Basalt Group (CRBG). The CRBG was deposited during an extended period of Miocene (23 to 5 MA) volcanism that extruded a series of very fluid lava flows. The lava flowed from north-northwest trending fissures as much as 90 miles long which were located primarily in northeastern Oregon and southeast Washington (Hooper, 1982). The resulting basalt deposits are hundreds to thousands of feet thick in some areas of eastern Washington and extend throughout the Columbia Plateau. As the basalt flowed into the Spokane area (which is situated near the eastern terminus of the CRBG), it filled preexisting depressions, lapping onto elevated areas of older, uplifted metamorphic and igneous rocks. Steptoes (vertical formations extending above the surrounding surface) were formed where knobs of the underlying "basement" rock were completely encircled by the Columbia River Basalt flows.

The CRBG has been subdivided into five formations that include, from oldest to youngest, the Imnaha Basalt, Picture Gorge Basalt, Grande Ronde Basalt, Wanapum Basalt, and Saddle Mountains Basalt. Two of these formations, the Grande Ronde and Wanapum, have been identified within the Spokane area (Drost and Whiteman, 1986). The area surrounding the Site was situated near the eastern margin of the area inundated by CRBG basalt flows. As a result, the CRBG near the Site occurs as relatively thin and discontinuous outcroppings of Wanapum Formation. CRBG flows are interbedded with sedimentary rocks associated with the Latah Formation.

Near the Site, bedrock primarily is overlain by Pleistocene glaciofluvial (flood) deposits, which consist of unsorted mixtures of silt, sand, gravel, cobbles and boulders. Flood deposits reach thicknesses of up to 1,000 feet and form the Spokane Valley/Rathdrum Prairie (SVRP) Aquifer. Near the Site, depth to bedrock is thought to be on the order of 200 feet below ground surface (Kahle and Bartolino, 2007).

As indicated above, in general, surface soil conditions consist of gravel and/or crushed rock surfacing. According to the United States Department of Agriculture Natural Resources Conservation Service (NRCS), the Site is underlain by the Garrison Gravelly Loam, 0 to 5 percent slopes (Unit GgA). The NRCS describes the GgA soil unit as "very deep, somewhat excessively drained soil situated on nearly level to gently sloping terraces. It formed in glacial outwash mixed with volcanic ash in the upper part. Typically the surface layer is gravelly loam 15 inches thick. The subsoil is very gravelly loam, 29 inches thick. The substratum is very gravelly loamy coarse sand to a depth of 60 inches."

2.3.2. Hydrogeologic Setting

The Site is underlain by at least two aquifers. These aquifers occur within: (1) unconsolidated glaciofluvial sediments; and (2) basement rocks. Groundwater within unconsolidated sediments near the Site generally occurs within glaciofluvial sediments associated with the SVRP Aquifer, which covers a land area of about 408 square miles in Idaho and Washington. The SVRP Aquifer is

a prolific, sole-source aquifer that is unconfined throughout much of its length and reaches a saturated thickness of as much as 500 feet within the Spokane Valley (CH2M Hill, 1998).

Overall, hydraulic conductivity estimates in the SVRP Aquifer range from 0.01 to 0.07 feet per second, transmissivity estimates range from 0.05 to 70 square feet per second, and groundwater velocity estimates range from 0.01 to 80 feet per day. The SVRP Aquifer recharge area includes the drainage basins of the St. Maries River, the St. Joe River, and the Coeur d'Alene River. Smaller recharge volumes are attributed to direct infiltration of precipitation, outdoor water use, septic discharge, and stormwater infiltration. The SVRP Aquifer primarily discharges to the Spokane River, the Little Spokane River, vertically to underlying bedrock aquifers, and to water supply wells.

2.3.2.1. BASEMENT ROCK AQUIFER

Groundwater occurs in basement rocks in fractured and/or weathered zones. Porosity, hydraulic conductivity, and transmissivity generally are low. Water wells penetrating the basement rock aquifer typically can be expected to yield several gallons per minute.

2.3.2.2. GROUNDWATER CONDITIONS

Groundwater elevations in the unconsolidated SVRP Aquifer underlying the Site typically are highest in late spring months and decrease to their lowest elevations in late summer and fall. Spring increases in groundwater elevation typically result from snowmelt and associated groundwater recharge in upgradient recharge areas. Historic water level data, as well as sediment composition, suggest that groundwater beneath the Site is in hydraulic connection with the Spokane River and groundwater levels are primarily controlled by river stage. As a result, groundwater elevations measured in Site wells have fluctuated seasonally more than 16 feet in conjunction with river stage. Depth to groundwater, as measured in groundwater monitoring wells located on the higher elevation Holcim portion of the Site, has ranged from about 43 to 74 feet below ground surface (bgs) and averaged about 63 feet bgs through the most recent monitoring event in August 2012. Depth to groundwater, as measured in groundwater monitoring wells located in the lower elevation -- City and Neighborhood, Inc. -- portions of the Site, has ranged from about 10 to 32 feet bgs and averaged 21 feet bgs through the most recent monitoring event in August 2012.

The interpreted groundwater flow direction beneath the Site is complex and reflects the Site's location on the inside of a meander within a losing portion of the Spokane River. As a result, Site groundwater flow typically is directed away from the Spokane River. Groundwater generally flows to the west-northwest in the east portion of the Site; to the south -southeast in the central portion of the Site; and to the southwest in the west portion of the Site. Although shallow groundwater elevations vary seasonally beneath the Site, the distribution in hydraulic gradient and the interpreted groundwater flow regime remains generally consistent throughout the year. See Figure 4 for a depiction of the interpreted groundwater flow beneath the Site.

2.4. Current and Likely Future Land Use

The Holcim property currently is vacant and fenced. The City property is parkland and used for recreational purposes; the portion of the City property on the Site is fenced. The Centennial Trail is located along the river and there are several access points for recreational river users (primarily kayakers) in the vicinity of Myrtle Point. The Neighborhood, Inc. property is residential, and

properties south of the Holcim property are commercial or industrial in nature. Site use on properties surrounding the Holcim property is unlikely to change. The Holcim property and adjacent properties to the west and south currently are zoned Mixed Use Center, and the City property currently is zoned Parks Open Space according to the City of Spokane Valley.

2.5. Regulatory Framework

As previously mentioned, in August 2011, Holcim and the City entered into Agreed Order 8549 with the Washington State Department of Ecology under MTCA. Work to be performed under the Agreed Order includes: (1) project planning including a RI Work Plan and a Sampling and Analysis Plan; (2) complete RI field activities based on the Ecology approved Work Plan; (3) complete the FS based on the RI results; and (4) prepare RI and FS reports for submittal to Ecology.

3.0 PREVIOUS INVESTIGATIONS

Two environmental site characterization investigations have been conducted at the Site since 2007; additionally, quarterly groundwater monitoring has been performed since 2007 and a pilot test on the viability of CKD for soil stabilization was conducted at the Site in 2010. Previous soil and groundwater sampling locations and locations where evidence of contaminated soil or groundwater have been observed or detected are presented in Appendix A.

In 2007, site investigation activities were initiated to assess site conditions; seventy-one (71) subsurface explorations at the Site were part of the initial investigation and included direct-push borings, sonic borings, test pits, and hand-auger borings. Groundwater monitoring wells (MW-1 through MW-4) were installed in four borings. Thirty-eight (38) explorations were located on the Holcim property and thirty-three (33) were located on the City property. The initial investigation also included surface debris sample collection, three groundwater monitoring/sampling events, and two surface water sampling events. Results of the investigation revealed the presence of two CKD deposits with preliminary estimates of a collective volume at about 165,000 cubic yards with most of the CKD (about 150,000 cubic yards) on the Holcim property. Geochemical analyses of past soil samples demonstrated that some areas beneath and adjacent to the CKD deposits contained arsenic, cadmium, and lead at concentrations greater than the MTCA unrestricted land use cleanup criteria. Several CKD samples contained pH levels higher than 12.5, which characterize some of the CKD deposits as dangerous waste, if excavated, based on the corrosivity characteristic. Results of the initial site assessment are provided in *Site Assessment Report* (GeoEngineers, March 21, 2008).

In November 2007, about 300 cubic yards of arsenic-contaminated soil were removed from the southwest portion of the Holcim property to facilitate installation of a Spokane County sanitary sewer line. Several soil samples were collected and submitted for arsenic analysis both before and after sewer trench excavation activities to maintain safe working conditions, guide soil management, and document final conditions. Arsenic-contaminated soil typically was encountered in the top 5 feet of the trench, appeared to be fill material, and was darker than native soil. These activities were documented in Appendix C of the *Site Assessment Report*.

In 2008, a supplemental site characterization investigation was conducted on the City property. Soil samples were collected from four borings drilled outside of the City CKD deposit and submitted

for laboratory analysis. Groundwater monitoring wells (MW-5 through MW-8) were installed in the borings. Investigation results are provided in *Groundwater Well Installation and Monitoring report, May 2008 to August 2008* (GeoEngineers, November 6, 2008).

Groundwater and surface water monitoring activities have been conducted at generally quarterly intervals since May 2007; results are documented in numerous groundwater monitoring reports. In summary, groundwater samples collected from most of the site wells during these events have not contained detectable concentrations of cadmium or lead. However, samples from a few wells (MW-2, MW-3, MW-4, and MW-8) typically have contained detectable total and dissolved arsenic and occasionally, samples from these wells, particularly well MW-2, have contained arsenic concentrations greater than MTCA Method A cleanup levels. Samples collected from the Spokane River both upstream and downstream of the Site consistently have not contained detectable arsenic or cadmium. Lead concentrations in river samples collected at the upstream and downstream sampling locations generally have ranged from non-detect (less than 1 microgram per Liter [µg/L]) to about 5 µg/L. Lead concentrations from samples at both sampling locations likely reflect background concentrations near the Site. Levels of groundwater and surface water pH typically range between 6.0 and 8.0, although pH levels exceeding 9.0 were observed in May and July 2008 in wells MW-1 through MW-3. See Section 9.0 for a full list of reports.

Holcim collaborated with Waste Management, Inc. to perform a pilot test on a CKD samples collected from the Site (City and Holcim properties) to assess the viability of using Site CKD as a means to stabilize metals-contaminated soil at their Chem Waste landfill in Arlington, Oregon. The test revealed the CKD could not be used as stabilizing agent, primarily because of the CKD large particle size which could not be mixed thoroughly within the soil matrix and the CKD soil did not maintain the high pH necessary to stabilize metals-contaminated soil when subjected to the US Environmental Protection Agency's (EPA) Toxic Characteristic Leaching Procedure extraction Method 1311. Results of the pilot test are included in *Pilot Test Results* (GeoEngineers, November 22, 2010).

Appendix A includes tabulated results of soil and water samples collected during prior investigations. Appendix A also includes figures presenting the locations of monitoring wells, borings, and other sample locations from prior investigations.

4.0 2012 AND 2013 INVESTIGATIONS

4.1. Scope of Services

The RI evaluated new and existing soil and groundwater data from the Site to further delineate the nature and extent of contamination. Additional data was collected as described below to complete the characterization of the Site for the purpose of developing and evaluating cleanup action alternatives and selecting a cleanup action. Draft cleanup levels for contaminants of concern (COPC) were developed based on MTCA guidance for soil and groundwater and are presented in Tables 1 and 2. Final cleanup levels will be determined during development of the Cleanup Action Plan.

The RI field activities were conducted in three phases to support contaminant delineation at the Site. Phase I consisted of soil sampling as outlined in the first nine bullets below. Phase I was

conducted in several parts: assessment of the Holcim property was conducted from February 7 through 10, 2012; assessment of the Neighborhood, Inc. and City properties was conducted from April 2, 3, and 20, 2012; and two hand auger samples north of the Spokane River were collected on April 5, 2012. On July 25 and 26, 2012, Phase II included drilling four additional borings on the Neighborhood, Inc. property. Groundwater monitoring wells MW-9 and MW-10 were installed in two of those borings and groundwater sampling was conducted in each of the Site wells, as outlined in the last two bullets below. Phase III was conducted in February 2013; eleven additional borings were conducted on the Neighborhood, Inc. property to further delineate contamination in this area. The 2012 and 2013 RI exploration locations, groundwater monitoring wells, surface water sample locations, and previous boring/hand auger locations, are shown in Figure 5.

4.1.1. Phase I

- Delineated the northeast and east extent of CKD contamination on the Holcim property using twelve (12) direct-push borings (DP-45 through DP-52, DP-55, DP-56, DP-68, and DP-69). Eleven (11) soil samples were submitted for laboratory analysis of arsenic, cadmium, lead, and pH.
- Assessed subsurface soil conditions beneath the former plant area on the Holcim property, focusing on areas not previously assessed during the initial investigation and the area near the prior sample G-1 which contained petroleum, benzene, and carcinogenic polycyclic aromatic hydrocarbons (cPAH) greater than MTCA Method A cleanup criteria. Nine (9) direct-push borings (DP-41 through DP-44, DP-64, DP-65, and DP-70 through DP-72) were advanced in this area; eleven (11) samples were submitted for laboratory analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX), cPAH, and/or petroleum hydrocarbons; thirteen (13) samples were analyzed for arsenic, cadmium, lead, and pH.
- Assessed subsurface soil conditions in the southwest portion of the Holcim property along the former rail spur east of boring DP-25. Shallow soil samples previously collected directly west of this area contained arsenic concentrations greater than MTCA Method A cleanup criteria. Two direct-push borings (DP-66 and DP-67) were advanced in this area; three samples were submitted for laboratory analysis of arsenic and pH.
- Assessed the former rail spur extending southwest on the Holcim property towards the entrance of the Neighborhood, Inc. property. This area was not assessed during previous investigations. Four (4) direct-push borings (DP-57 through DP-60) were advanced in this area; five (5) samples were submitted for laboratory analysis of BTEX, cPAH, and petroleum hydrocarbons, arsenic, cadmium, lead, and pH.
- Assessed the area near well MW-3; one boring (DP-54) was advanced north of MW-3 near a low point where it appeared miscellaneous garbage had been disposed, and four (4) borings (DP-53 and DP-61 through DP-63) were advanced southwest of MW-3 along the rail spur. Four (4) direct-push borings were advanced in this area; six (6) samples were submitted for laboratory analysis of five (5) samples were analyzed for arsenic, cadmium, lead, and pH.
- Delineated the western extent of CKD contamination. Historical aerial photographs and field reconnaissance observations indicate CKD might have extended west of the western Holcim property boundary. Three (3) direct-push borings (DP-78 through DP-80) were advanced at the

base of the steep hillside (eastern boundary) of the Neighborhood, Inc. property; three (3) samples were submitted for laboratory analysis of arsenic, cadmium, lead, and pH. Seventeen (17) direct-push (DP-73 through DP-77, DP-82 through DP-86, and DP-92 through DP-98) were advanced within the road loop on the Neighborhood, Inc. property; 19 samples were submitted for laboratory analysis of arsenic, cadmium, lead, and pH.

- Assessed the potential for CKD on the Neighborhood, Inc. property north and northwest of the sewer pump house. Historical aerial photographs indicate CKD might have been deposited in this area. Five (5) direct-push borings (DP-87 through DP-91) were advanced in this area; four samples were submitted for laboratory analysis of arsenic, cadmium, lead, and pH.
- Assessed the potential for CKD north of the CKD deposit already delineated on the City property. One (1) direct-push boring (DP-81) was advanced in this area; two samples were submitted for laboratory analysis of arsenic, cadmium, lead, and pH.
- Assessed the potential for wind-borne CKD contamination on the north side of the Spokane River generally northwest of the Site. Two (2) shallow soil borings (HA-16 and HA-17) were hand augered. A representative sample was collected from each boring and submitted for laboratory analysis of arsenic, cadmium, lead, and pH.

4.1.2. Phase II

- Advanced one (1) air rotary boring (B-1) to groundwater within the road loop on the Neighborhood, Inc. property. This boring was installed to assess for the presence of CKD below the depths reached by direct-push methods; no CKD was observed and no samples were submitted for analysis from this boring.
- Advanced one (1) air rotary boring (B-2) to groundwater northwest of the sewer pump house. This boring was installed to assess for the presence of CKD below the depths reached by direct-push methods; no CKD was observed and no samples were submitted for analysis from this boring.
- Installed two (2) groundwater monitoring wells (MW-9 and MW-10) in the west (downgradient) portion of the Site, one (1) located on the inside eastern edge of the road loop and one (1) on the hillside south of the road loop, using air rotary drilling equipment. Four (4) unsaturated soil samples were submitted for laboratory analysis of arsenic, cadmium, lead, and pH. These samples were collected between 5 and 30 feet bgs.
- Conducted three (3) groundwater and surface water monitoring/sampling events. Samples were collected from MW-1 through MW-8 and the two surface water sampling stations during the first, second and third quarter 2012 sampling events. In addition, samples were collected from MW-9 and MW-10 during the third quarter 2012 sampling event. Samples from all three events were submitted for laboratory analysis of arsenic, cadmium, lead, and pH. Groundwater and surface water have been monitored and sampled quarterly since 2007; data is available for all seasons over several years and includes periods of high and low groundwater levels.

4.1.3. Phase III

- Delineated the extent of metals contamination south of MW-9 using three (3) direct-push borings (DP-99, DP-102, and DP-105). One sample from DP-99 was submitted for laboratory analysis of arsenic, cadmium, lead, and pH.

- Delineated the extent of CKD containing COC greater than cleanup levels or pH greater than 12.5 southeast of DP-83 using three (3) direct-push borings (DP-100, DP-103, and DP-106). One sample from DP-100 was submitted for laboratory analysis of arsenic, cadmium, lead, and pH.
- Delineated the extent of CKD containing COC greater than cleanup levels or pH greater than 12.5 south-southeast of DP-93 using five (5) direct-push borings (DP-101, DP-104, DP-107, DP-107B, and DP-108). One sample from DP-101 was submitted for laboratory analysis of arsenic, cadmium, lead, and pH.

4.2. Site Conditions

Surface and subsurface soil and groundwater conditions were assessed during reconnaissance, drilling, and monitoring activities conducted between February 2012 and February 2013. Soil borings DP-41 through DP-72 were drilled from February 7 through 10, 2012. Soil borings DP-73 through DP-91 were drilled on April 2 and 3, 2012, soil borings DP-92 through DP-98 were drilled on April 20, 2012, and soil borings DP-99 through DP-108 were drilled on February 28, 2013. Soil borings HA-1 and HA-2 were hand augered on April 5, 2012 and borings B-1 and B-2 and monitoring wells MW-9 and MW-10 were drilled on July 25-26, 2012. Groundwater samples, groundwater level measurements and surface water (Spokane River) samples were collected on February 27, May 25, and August 29, 2012.

Figure 4 presents the approximate locations of monitoring wells and surface water sample locations. Figure 5 presents the approximate locations of borings, wells, and hand auger sample locations. Field methods, boring logs, and monitoring well as-builts are included in Appendix B.

4.2.1. Surface Soil Conditions

4.2.1.1. HOLCIM PROPERTY SURFACE CONDITIONS

Surface conditions at the Holcim property primarily consist of vegetated areas, concrete and asphalt pavement, and unvegetated soil. Most of the northern portion of the Site is vegetated with grasses and native plants; grasses, native plants, and a few small trees cover the eastern and southwestern portions of the Site. Unvegetated soil is located in areas where CKD is present at the ground surface and where former buildings were located. Much of the southern portion of the Site is paved, although the asphalt and concrete is broken in many locations.

An abandoned rail spur is located roughly in the center of the Site; the spur arcs east-west directly south of the CKD deposit and north of the paved areas. The rail spur has been dismantled in the west portion of the Site, although several wooden railroad ties remain. Remnants of an elevated rail spur and associated berm, including wooden railroad ties, are located in the south-southwest portion of the Site. Much of the extreme western portion of the Site and the area near the rail spur includes demolition debris (concrete), bricks, rubble, and other building materials. The north-facing and western-facing boundaries of the Holcim property are fairly steep hillsides that are either vegetated with grasses, native plants, and a few small trees or covered with basalt cobbles and boulders.

4.2.1.2. NEIGHBORHOOD, INC. PROPERTY SURFACE CONDITIONS

Surface conditions at the Neighborhood, Inc. property primarily consist of unvegetated gravel, concrete and asphalt pavement, and vegetated soil. Most of the central portion of the

Neighborhood, Inc. property is unvegetated gravel which is bounded by a concrete sidewalk, a vegetated swale, and an asphalt-paved road.

4.2.1.3. CITY PROPERTY SURFACE CONDITIONS

Surface conditions on the City property include an approximately 400-foot by 100-foot area of unvegetated soil, primarily where CKD is present at the ground surface, surrounded by areas vegetated with grasses, native plants, and small trees. The southern margin of the unvegetated area is bound by small trees growing at the base of a steep approximately 15- to 30-foot topographic rise that ends near the northern Holcim property boundary. The unvegetated area generally is flat with the exception of an approximately 3-foot sloping decrease in elevation approximately 100 feet from its eastern edge. The northwestern margin of the unvegetated area is bound by an approximately 2- to 3-foot topographic rise likely associated with the excavated area where the CKD was deposited. Basalt outcroppings are present on the northern and southern margins of the CKD deposit.

4.2.1.4. SURFACE CONDITIONS NORTH OF THE SPOKANE RIVER

Surface conditions north of East Empire Drive on the north side of the Spokane River included an open rock face with loose gravel and cobbles near HA-16 and a gently sloping area vegetated with grasses, native plants, and trees near HA-17. In general, the area north of the Spokane River between HA-16 and 17 is vegetated with grasses, native plants, and trees, with large natural rock outcroppings.

4.2.2. Subsurface Soil Conditions

4.2.2.1. HOLCIM PROPERTY SUBSURFACE SOIL CONDITIONS

Subsurface soil conditions included CKD and soil without obvious indications of CKD. In general, the CKD was contiguous and deposited over the course of several years. For the purposes of this report, soil without CKD is referred to as native soil, although some of the native soil might have been re-worked during site development and operations, and cement kiln dust is referred to either as CKD or CKD fill.

Subsurface native soil conditions consisted of brown and gray, medium dense to dense, fine to coarse gravel, with varying amounts of silt, sand, and cobbles; the cobble content and percentage of coarse soil tended to increase with depth. Silty fine sand occasionally was encountered in shallow soil at several locations across the Site. The subsurface soil conditions encountered are indicative of sediments deposited in a glaciofluvial environment.

Subsurface conditions where CKD was encountered generally consisted of medium stiff to stiff silt with gravel. CKD was encountered in 6 of the 32 borings advanced on the Holcim property during the 2012 activities; these borings included DP-41, DP-43, and DP-53 through DP-56. The color of the CKD fill varied considerably (light and dark brown, light and dark gray, pink, white, blue, purple, and tan) and was readily distinguished from surrounding native soil. Field measurements indicated the moisture content and pH of the CKD fill were generally greater than native soil. Moisture content in samples collected in the CKD generally ranged from 7.7 to 24.6 percent. Field pH measurements within CKD fill typically ranged from 9.86 to 12.53 (see field-screening results presented on boring logs in Appendix B); subsequent analytical pH tests indicated a strong correlation between field-measured and laboratory-tested pH levels. Field pH measurements indicated pH levels typically decreased three to four orders of magnitude (to pH 8 to 9.5) within

about 2 to 5 feet below the CKD fill/native soil contact. The pH levels were consistent within the CKD fill; no statistically significant vertical stratification of pH levels was observed within CKD fill. The thickness of CKD fill, where observed in the 2012 explorations, typically ranged from about 1 to 16 feet on the Holcim property. A distinct visual contact between CKD fill and underlying native soil was observed in most borings where CKD fill was encountered; soil moisture content also decreased at the contact.

Continuous core samples were obtained from each soil boring drilled using direct-push techniques. Soil samples were screened, typically at 5-foot depth intervals or less, and pH was field-measured. In selected borings (DP-41 through DP-44, DP-57 through DP-60, DP-64, and DP-65), soil samples also were field-screened using water sheen methods to assess the potential presence of petroleum hydrocarbons. In borings DP-41 through DP-44, DP-57 through DP-60, DP-64, and DP-65 soil samples were also field-screened with a photoionization detector (PID).

4.2.2.2. NEIGHBORHOOD, INC. PROPERTY SUBSURFACE SOIL CONDITIONS

Subsurface soil conditions included CKD fill and soil without obvious indications of CKD. In general, the CKD fill occurred in discontinuous lenses or pockets ranging from 0.5 to 6 feet thick, probably because soil in this area has been reworked multiple times.

Subsurface native soil conditions generally consisted of brown and gray, medium dense to dense, fine to coarse gravel, with varying amounts of silt, sand, and cobbles; the cobble content and percentage of coarse soil tended to increase with depth.

Subsurface conditions where pockets of CKD were encountered generally consisted of medium stiff to stiff silt with sand and gravel (native fill material interbedded with CKD). CKD was encountered in 12 of the 40 borings advanced on the Neighborhood, Inc. property during the 2012 and 2013 activities; these borings included DP-76, DP-77, DP-82, DP-83, DP-84, DP-87, DP-93, DP-101, DP-104, DP-105, DP-108, and MW-9. The color of the CKD fill varied considerably (pink, white, light and dark gray, blue, and tan) and was readily distinguished from surrounding native soil. Field measurements indicated the moisture content and pH of the CKD fill was generally higher than native soil. Moisture content in samples collected in the CKD generally ranged from 6.1 to 43 percent. Field pH measurements within CKD fill typically ranged from 7.99 to 13.52; subsequent analytical pH tests indicated a strong correlation between field-measured and laboratory-tested pH levels. Field pH measurements indicated pH levels typically decreased three to four orders of magnitude (to pH 8 to 9.5) within about 2 to 5 feet below the CKD fill/native soil contact. The pH levels were consistent within the CKD fill; no statistically significant vertical stratification of pH levels was observed within CKD fill. A distinct visual contact between CKD fill and underlying native soil was observed in most borings where CKD fill was encountered; soil moisture content also decreased at the contact.

Continuous core samples were obtained from each soil boring drilled using direct-push techniques. Soil samples were screened, typically at 5-foot depth intervals or less, and pH was field-measured.

4.2.2.3. CITY PROPERTY SUBSURFACE SOIL CONDITIONS

Subsurface native soil conditions on the City property generally consisted of brown, dense, fine to coarse gravel, with varying amounts of silt and sand.

No CKD was observed in the direct-push soil boring advanced in 2012 on the City property.

Continuous core samples were obtained from the soil boring drilled using direct-push techniques. Soil samples were screened, typically at 5-foot depth intervals or less, and pH was field measured.

4.2.2.4. SUBSURFACE SOIL CONDITIONS NORTH OF THE SPOKANE RIVER

Subsurface soil conditions north of the Spokane River (north of the Site) were observed in two hand-auger borings (HA-16 and HA-17). Native soil conditions in hand-augered boring HA-16 consisted of brown, medium dense, fine to coarse gravel with silt and sand and occasional cobbles. Groundwater was encountered at approximately 4 inches. HA-16 was placed at the bottom of a very steep rock slope, just above the bottom of a drainage ditch north of East Upriver Drive.

Native soil conditions in hand-auger boring HA-17 consisted of brown, medium dense, silty fine sand with occasional gravel, cobbles, and organics (roots). HA-17 was placed at the bottom of a very steep rock slope north of East Upriver Drive.

No CKD was observed in either hand auger location north of the Spokane River. Hand auger samples were obtained from each location with a shovel. A representative sample was taken approximately every three inches and combined to make a composite sample for each hand auger location; pH was field-measured for these samples.

4.2.3. Groundwater Conditions

Groundwater elevations beneath the Site ranged from a low of 1,910.68 feet above MSL in MW-10 on August 28, 2012 to a high of 1,919.82 feet above MSL in MW-4 on May 23, 2012. Groundwater elevation measurements are presented in Table 3.

Seasonal groundwater table elevations across the Site historically have varied by as much as 16.46 feet, as observed in MW-1 between September 2007 and May 2008. Groundwater elevations in the SVRP Aquifer typically are highest in spring during snowmelt runoff combined with seasonal increases in precipitation, and lowest in late summer and early fall following the typically dry summer season.

Hydraulic gradient is relatively shallow and varies across the Site in response to variations in hydraulic conductivity and/or proximity to hydraulic boundaries such as the Spokane River. Hydraulic conductivity ranged from about 8×10^{-4} feet per foot in the central portion of the Site to about 5×10^{-3} feet per foot in the northwest portion of the Site over the three monitoring events. The inferred groundwater flow direction generally is away from the Spokane River and varies from west to south-southeast as a function of position with respect to the adjacent meander in the Spokane River. Figure 4 presents the general interpreted groundwater flow direction for the Site in August 2012.

4.2.4. Surface Water Conditions

Shallow groundwater underlying the Site is hydraulically connected to the Spokane River. Previous United States Geological Survey (USGS) and Ecology publications have suggested the Spokane River is a gaining reach near the Site, particularly during the summer months (Kahle, 2007;

Hsieh, 2007; Gregory, 2006), but transitions to a losing reach downstream of the Site. Data collected during the RI and prior assessment data collected at and near the Site since 2007, however, indicates the transition point from a gaining to losing reach on the Spokane River occurs upstream of the Site. The Spokane River has been documented to be in a losing reach along the Site boundaries during each quarterly monitoring event conducted at the Site since 2007, including the summer monitoring events.

Temperature of the Spokane River relative to ambient groundwater temperature was measured between Barker Road and the Centennial Trail Bridge. A sharp decrease in river temperature was noted near Mirabeau Park (approximately 1.5 miles upstream of the Site), indicating significant discharge of aquifer water to the river. Less prominent cooling was noted in the river adjacent to the Site.

During times of the year other than late summer, the relationship between gains and losses to groundwater from the Spokane River are relatively unknown. The portion of the Spokane River between Greenacres (about 5 river miles upstream of the Site) and downtown Spokane (about 8 river miles downstream of the Site) generally is a gaining reach throughout the year, although trends show that the river loses more water to the aquifer with an increase in discharge (Hsieh, 2007, p. 31).

Surface water samples are collected from the Spokane River during each quarterly monitoring event and submitted for laboratory analysis of dissolved metals. The Upriver sample is collected downstream of the Trent Street Bridge on the southwest bank of the river and upstream of the Site; the Downriver sample is collected downstream of Myrtle Point on the southeast bank of the river and downstream of the Site (see locations on Figure 4). These samples are analyzed to assess whether there is a measurable relationship between dissolved metal concentrations observed in groundwater beneath the Site and the Spokane River. Section 5.3 discusses the analytical results obtained from these samples.

5.0 ANALYTICAL RESULTS

5.1. General

Two-hundred-fourty-four (244) soil samples were collected from 75 explorations, of which 75 samples were submitted for chemical analysis of metals (arsenic, cadmium, lead) and pH. Sample selection was conducted in general accordance with the Work Plan and generally was based on results of field-screening (visual observation and field pH measurements). The purpose of sample analysis was to delineate the extent of potential contamination and to assess the range of COPC concentrations in selected areas of the Site. Fifteen (15) of the 75 samples submitted for analysis were also analyzed for petroleum hydrocarbons, BTEX, and/or cPAHs. Additionally, moisture content was reported for the 75 soil samples.

Soil analytical results indicated 62 of the 75 analyzed samples did not contain concentrations of COPC greater than the MTCA Method A unrestricted land use (residential) cleanup criteria. The COPCs exceeding cleanup criteria were limited to arsenic (8 of 75 samples), cadmium (3 of 75 samples), lead (3 of 75 samples), gasoline-range petroleum hydrocarbons (GRPH) (1 of 15 samples), benzene (1 of 15), and cPAHs (1 of 15 samples). Each COPC is described below in

subsequent sections. Other COPCs were either not detected or detected at concentrations less than cleanup criteria. Analytical results for soil samples are included in Tables 4 through 6.

Groundwater samples were collected from MW-1 through MW-8 and the two surface water sampling stations during first, second, and third quarter 2012 sampling events. In addition, samples were collected from MW-9 and MW-10 during the third quarter 2012 sampling event. Samples were submitted for analysis of pH and total and dissolved arsenic, cadmium, and lead. Total and dissolved arsenic was detected at concentrations greater than the MTCA Method A cleanup level in MW-2 during the first, second, and third quarter events, in MW-5 during the second quarter event, and in MW-9 during the third quarter event. Total and dissolved arsenic were not detected or were detected at concentrations less than cleanup level in all other site wells during the first, second, and third quarter events. Total and dissolved cadmium and lead were not detected or were detected at concentrations less than cleanup level in all site wells during the first, second and third quarter events. Groundwater analytical results are included in Table 3.

Sample locations are shown on Figures 4 and 5; laboratory analytical certificates, and review of laboratory QA/QC, are presented in Appendix C.

5.2. Holcim Property Soil Analytical Results

A total of 38 samples were collected from the Holcim property most of which were analyzed for arsenic, cadmium, and lead, and some of which were analyzed for BTEX, GRPH, Diesel Range Petroleum Hydrocarbons (DRPH), and cPAH.

5.2.1. Arsenic Results

Of the 38 soil samples collected from the Holcim property:

- Five (5) samples exceeded the MTCA Method A unrestricted land use soil cleanup standard of 20 mg/kg for Arsenic. The five samples were collected from the southern portion of the Holcim property: two from the former railroad spur extending south-southwest on the Holcim property towards the entrance of the Neighborhood, Inc. property (DP-57 and DP-60), one from the former plant area (DP-65), and two along the former rail spur east of DP-25 (DP-66 and DP-67). Sample depths for four samples were less than about 2.5 feet; the sample depth in boring DP-60 was approximately 8 to 9 feet bgs. These five samples were collected from soil that exhibited no indication of CKD other than an elevated pH level (11.60) in the sample from DP-65. Arsenic concentrations in these five samples ranged from 21.5 to 61.3 mg/kg.
- Thirty-three (33) samples contained measurable arsenic concentrations, but those concentrations were less than the MTCA Method A unrestricted land use criterion.

5.2.2. Cadmium Results

Of the 38 soil samples collected from the Holcim property:

- None of the samples exceeded the MTCA Method A unrestricted land use soil cleanup cadmium standard of 2 mg/kg.
- Three (3) samples contained measurable cadmium concentrations, but those concentrations were less than the MTCA Method A unrestricted land use criterion cleanup criterion.

- Thirty-one (31) samples did not have detectable levels of cadmium.
- Four (4) samples were not analyzed for cadmium.

5.2.3. Lead Results

Of the 38 soil samples collected from the Holcim property:

- One (1) sample exceeded the MTCA Method A unrestricted land use soil cleanup criterion lead standard of 250 mg/kg. This sample was collected from boring DP-42 from possible CKD fill beneath the former plant area. The lead concentration in this sample was 307 mg/kg and the depth of the sample was approximately 0 to 2 feet bgs
- Thirty-three (33) samples contained measurable lead concentrations, but those concentrations were less than the MTCA Method A unrestricted land use criterion.
- Four (4) samples were not analyzed for lead.

5.2.4. BTEX, GRPH, DRPH, and cPAH Results

Fifteen (15) soil samples from Holcim property were analyzed for petroleum hydrocarbons and BTEX. See Table 5 for details.

- None of the 15 samples exceeded the MTCA Method A unrestricted land use cleanup criteria for DRPH, Heavy Oil Range Petroleum Hydrocarbons (ORPH), Toluene, Ethylbenzene, or Xylenes.
- Gasoline Range Petroleum Hydrocarbons (GRPH) was detected at a concentration greater than the MTCA unrestricted land use cleanup criteria in one of the 15 samples analyzed. The GRPH concentration was 416 mg/kg in DP-70, collected from a shallow depth (approximately 0 to 1 feet bgs) south of the former plant area. This sample was not collected from CKD fill. (Note: the GRPH cleanup criterion is 30 mg/kg if benzene is present and 100 mg/kg if benzene is not present).
- Benzene was detected at a concentration greater than the MTCA Method A unrestricted land use cleanup criteria of 0.03 mg/kg in one of the 15 samples analyzed. The concentration of benzene was 0.0327 mg/kg in DP-59, collected from a shallow depth (approximately ½ to 1½ feet bgs) along the former rail spur extending south-southwest on the Holcim property towards the entrance of the Neighborhood, Inc. property. This sample was not collected from CKD fill.

Fourteen (14) of the soil samples were analyzed for cPAHs. The toxic equivalency of cPAHs is the sum of the cPAHs detected in the sample multiplied by a carcinogenic potency factor as outlined in Washington Administrative Code (WAC) 173-340-708(8). See Table 6 for details.

- The toxic equivalency of cPAHs was less than the MTCA Method A unrestricted land use cleanup criteria of 0.1 mg/kg for 13 of the samples. The toxic equivalency of cPAHs was 0.1845 mg/kg in the sample collected from DP-44 at a depth from ground surface to about 1½ feet bgs. The concentration of benzo(a)pyrene in this sample (0.132 mg/kg) also exceeded the MTCA unrestricted land use cleanup criteria of 0.1 mg/kg.

5.2.5. pH and Moisture Content Results

Thirty-eight (38) soil samples were analyzed for pH. The five samples collected from apparent CKD fill [DP-41(1-2), DP-43(0-2), DP-53(8-8.5), DP-53(8.5-9), DP-54(4-5)] soil had pH levels ranging from 10.13 to 12.38, with a median pH of 12.09. The 33 samples collected from apparently native soil (with no indications of CKD fill present) had pH levels ranging from 7.87 to 11.73, with a median pH of 9.08.

In soil samples collected from native soil directly beneath CKD fill, pH levels were slightly less than the pH levels observed in CKD fill and greater than pH levels observed in samples collected about 2 to 5 feet below the CKD fill/native soil contact and in other samples collected distant from CKD fill.

Soil moisture content in the five samples collected from apparent CKD fill ranged from 7.7 to 24.6 percent, with a median soil moisture content of 17.5 percent. The 33 samples collected from apparently native soil had soil moisture content ranging from 3.6 to 26.4 percent, with a median soil moisture content of 9.6 percent.

5.3. Neighborhood, Inc. Soil Analytical Results

A total of thirty-three (33) soil samples from the Neighborhood, Inc. property were analyzed.

5.3.1. Arsenic Results

Of the 33 soil samples collected from the Neighborhood, Inc. property:

- Three (3) samples exceeded the MTCA Method A unrestricted land use cleanup criterion of 20 mg/kg for arsenic. Two samples were from boring/locations (DP-84 and MW-9) collected from the area within the road loop on the Neighborhood, Inc. property. These two samples were collected from CKD fill. The arsenic concentrations in these samples ranged from 50 to 72.5 mg/kg and the samples were obtained from depths between approximately 5 and 6 feet bgs. The third sample [MW-10(5)] was collected from the southern side of the Neighborhood, Inc. property (south of the road loop). This sample was collected from non-CKD fill (apparent native soil). The arsenic concentration in this sample was 66.2 mg/kg, and was obtained from a depth of about 5 feet bgs.
- Twenty-eight (28) samples contained measurable arsenic concentrations, but those concentrations were less than the MTCA Method A unrestricted land use criterion of 20 mg/kg.
- Two samples were not analyzed for arsenic.

5.3.2. Cadmium Results

Of the 33 soil samples collected from the Neighborhood, Inc. property:

- Three (3) samples exceeded the MTCA Method A unrestricted land use soil cleanup cadmium standard of 2 mg/kg. These samples were from three borings (DP-82, DP-84, and MW-9). These samples were collected from CKD fill from the area within the road loop on the Neighborhood, Inc. property. Cadmium concentrations in these three samples ranged from

2.19 to 4.13 mg/kg. The depths of these samples ranged from approximately 5 to 14.5 feet bgs.

- Three(3) samples contained measurable cadmium concentrations, but those concentrations were less than the MTCA Method A unrestricted land use criterion.
- Twenty-seven (27) samples did not have detectable levels of cadmium.

5.3.3. Lead Results

Of the 33 soil samples collected from the Neighborhood, Inc. property:

- Two (2) samples exceeded the MTCA Method A unrestricted land use soil cleanup lead standard of 250 mg/kg. These samples were collected from borings DP-84 and MW-9. The samples were collected from CKD fill in the area within the road loop on the Neighborhood, Inc. property. The lead concentrations in the samples were 265 and 390 mg/kg, respectively; the samples were collected from depths of between approximately 5 and 6 feet bgs.
- Twenty-nine (29) samples contained measurable lead concentrations, but those concentrations were less than the MTCA Method A unrestricted land use criterion.
- Two (2) samples were not analyzed for lead.

5.3.4. pH and Moisture Content Results

Thirty-three (33) soil samples were analyzed for pH. The 12 samples collected from apparent CKD fill had pH levels ranging from 8.74 to 11.73, with a median pH of 10.85. The 21 samples collected from soil apparently outside the CKD fill had pH levels ranging from 7.88 to 11.50, with a median pH of 9.22.

In soil samples collected from native soil directly beneath CKD fill, pH levels were slightly below the pH levels observed in CKD fill and greater than pH levels observed in samples collected about 2 to 5 feet below the CKD fill/native soil contact and in other samples collected distant from CKD fill.

Soil moisture content in the 12 samples collected from apparent CKD fill ranged from 6.1 to 43 percent, with a median soil moisture content of 16 percent. The 21 samples collected from soil apparently outside the CKD fill had soil moisture content ranging from 4.5 to 23.3 percent, with a median soil moisture content of 7.5 percent.

5.4. City Property Soil Analytical Results

Two soil samples from one boring (DP-81) on the City property were analyzed for metals and pH. Soil analytical results indicated neither of the two samples analyzed contained concentrations of COPC greater than MTCA Method A unrestricted land use cleanup criteria. The samples that were analyzed were collected from native soil at depths between about 8 and 14 feet bgs.

5.4.1. Arsenic Results

Arsenic was detected in both analyzed soil samples at concentrations less than the MTCA Method A unrestricted land use cleanup criterion of 20 mg/kg. Arsenic concentrations in the two samples analyzed from DP-81 were 12.7 and 14.9 mg/kg.

5.4.2. Cadmium Results

Cadmium was not detected in the two soil samples from DP-81.

5.4.3. Lead Results

Lead was detected in the two soil samples analyzed, but at concentrations less than the MTCA Method A unrestricted land use cleanup criteria of 250 mg/kg. Lead concentrations in the two samples analyzed from DP-81 were 8.21 and 10.5 mg/kg.

5.4.4. pH and Moisture Content Results

Two soil samples from DP-81 were analyzed for pH. The samples analyzed had pH levels of 7.99 and 8.56. Soil moisture content in the two samples was 7.5 and 8.5 percent, respectively.

5.5. Soil Analytical Results North of the Spokane River

Two composite soil samples were collected using a hand auger from two explorations (HA-16 and HA-17) north of the Spokane River on the north side of East Upriver Drive, both of which were analyzed for metals and pH. Soil analytical results indicated neither of the two samples analyzed contained concentrations of COPC greater than MTCA Method A unrestricted land use cleanup criteria. The sample from HA-16 was collected from native soil from a depth range of about 0 to 1 feet bgs. The sample from HA-17 was collected from native soil from a depth range of about 0 to 2 feet bgs.

5.5.1. Arsenic Results

Arsenic was detected in both analyzed soil samples at concentrations less than the MTCA Method A unrestricted land use cleanup criterion of 20 mg/kg. Arsenic concentrations in the samples were 2.13 and 3.02 mg/kg.

5.5.2. Cadmium Results

Cadmium was detected in the sample from HA-16 at a concentration less than the MTCA Method A unrestricted land use cleanup criterion of 2 mg/kg. Cadmium was 0.748 mg/kg in HA-16 and was not detected in the soil sample from HA-17.

5.5.3. Lead Results

Lead was detected in both soil samples, but at concentrations less than the MTCA Method A unrestricted land use cleanup criteria of 250 mg/kg. Lead concentrations in the samples were 9.66 and 15.8 mg/kg.

5.5.4. pH and Moisture Content Results

Both soil samples were analyzed for pH and moisture content. The sample from HA-16 had a pH level of 5.07 and a moisture content of 35 percent; the high moisture content is due to groundwater seepage into the hand auger hole at approximately 3 inches bgs. The sample from HA-17 had a pH level of 4.98 and a moisture content of 18 percent.

5.6. Groundwater Samples

Groundwater samples were collected from the eight site groundwater monitoring wells (MW-1 through MW-8) on February 27, 2012, May 23-25, 2012 and August 28-29, 2012. Groundwater samples were also collected from MW-9 and MW-10 on August 28-29, 2012. Groundwater samples were submitted for laboratory analysis of total and dissolved arsenic, cadmium, and lead by EPA Method 200.8. Analytical results for the three monitoring events are summarized by the following:

- Total and dissolved cadmium and lead were not detected in any groundwater samples;
- Total and dissolved arsenic were not detected in groundwater samples collected from monitoring wells MW-1, MW-6, and MW-7;
- Total and dissolved arsenic were detected at levels less than the MTCA Method A cleanup level of 0.005 mg/l in MW-3, MW-4, MW-8, and MW-10;
- Total arsenic was detected in samples collected from monitoring wells MW-2, MW-5, and MW-9 at concentrations greater than the MTCA Method A cleanup level for groundwater; concentrations ranged between 0.00883 and 0.0171 mg/l. MW-2 exceeded the cleanup level for all three quarters, MW-5 exceeded the cleanup level for the second quarter only. MW-9 exceeded the cleanup level during the third quarter following well installation; and
- Dissolved arsenic was detected in monitoring wells MW-2 and MW-9 at concentrations greater than the MTCA Method A cleanup level; concentrations ranged between 0.0079 and 0.0167 mg/l.

Analytical results for groundwater samples are included in Table 3.

5.7. Spokane River Samples

Spokane River samples were collected from the Upstream and Downstream sampling locations on February 27, 2012, May 25, 2012, and August 29, 2012. Sampling was conducted in general accordance with the Work Plan. The purpose of surface water sampling was to assess whether or not metals concentrations in the river affect metals concentrations in groundwater beneath the Site and/or whether or not metals concentrations in groundwater beneath the Site affect metals concentrations in the river. Surface water samples were submitted for laboratory analysis of total and dissolved arsenic, cadmium, and lead by EPA Method 200.8.

Total and dissolved arsenic, cadmium, and lead were detected in six (6) samples: Upriver third quarter 2012 total and dissolved arsenic; Downriver third quarter total and dissolved arsenic; and Downriver second and third quarter total lead. All six (6) of the detected metal concentrations were less than their respective MTCA Method A cleanup levels for groundwater. All other samples did not have detectable concentrations of the metals analyzed. Although MTCA Method A groundwater cleanup levels are not applicable for surface water, these levels were utilized for comparative purposes because the Spokane River is a losing reach near the site and surface water in the river is hydraulically connected to groundwater beneath the Site.

6.0 MASS VOLUME CKD ESTIMATES

Data from the assessments completed to date indicate that CKD was deposited in three different areas of the Site: the largest contiguous block of CKD is located on the Holcim property; a smaller contiguous block of CKD is located on the City property; and discontinuous lenses or pockets of CKD occur on the Neighborhood, Inc. property. The surface (and near-surface) area of the CKD deposit on the Holcim property is approximately 250,900 square feet; based on topographic and boring log data this deposit is approximately 109,100 cubic yards in volume. The surface area of the CKD deposit on the City property is approximately 40,400 square feet; based on topographic and boring log data this deposit is approximately 12,300 cubic yards in volume. The CKD deposit on the Neighborhood, Inc. property is not exposed at the surface and is mixed with soil; because much of this CKD deposit was observed in discontinuous lenses and pockets, no estimates of area and volume were calculated.

A summary of all site explorations from 2007 through 2013 is presented in Figure 6 along with the approximate limits of contiguous CKD fill on the Holcim and City properties. The explorations where CKD was observed (contiguous CKD fill and discontinuous lenses or pockets of CKD fill), and the approximate depth of the CKD, are presented in Figure 7. The borings where arsenic, cadmium, and lead were detected at concentrations greater than MTCA Method A cleanup levels are presented in Figure 8. The borings where total petroleum hydrocarbons, BTEX, and/or cPAHs were detected at concentrations greater than MTCA Method A cleanup levels are presented in Figure 9. The borings where pH levels were greater than 12.5 are presented in Figure 10.

7.0 DEVELOPMENT OF CLEANUP STANDARDS

Cleanup standards consist of: (1) cleanup levels that are protective of human health and the environment; and (2) the point of compliance at which the cleanup levels must be met. Preliminary cleanup standards are developed in this RI. Proposed cleanup standards for remedial alternative evaluation will be presented in the forthcoming FS, and serve as the basis for developing media-specific objectives for the cleanup action. Final cleanup standards for the Site will be established in the Cleanup Action Plan to be prepared by Ecology following completion of the FS.

7.1. Cleanup Levels

In accordance with MTCA, development of preliminary cleanup levels includes identifying potential exposure pathways for human and environmental impacts based on planned land use. The Holcim property and surrounding properties (except for the City property) currently are zoned Mixed Use Center and future zoning is not anticipated to change. The City property is zoned Park/Open Space. Site usage on adjacent properties is unlikely to change (park on the City property, residential on Neighborhood, Inc. property, and commercial/light industrial on the properties south of Holcim). The future site use for the Holcim property is not yet determined.

7.1.1. Soil

Based on current and likely future zoning and site use at the Site, preliminary soil cleanup levels will be based on unrestricted land uses rather than industrial land use. Therefore, preliminary cleanup levels were developed using MTCA Method A Unrestricted Land Uses cleanup levels.

During the FS, cleanup levels based on protection of groundwater and/or risk-based remediation levels for specific land uses and associated institutional controls might be considered a component of cleanup alternative development and evaluation. Preliminary soil cleanup levels are presented in Table 1.

Preliminary cleanup levels were selected from the following regulatory criteria:

- MTCA Method A Soil Cleanup Levels – Unrestricted Land Uses (WAC 173-340-740(2) and Chapter 173-340 WAC Table 740-1); and.
- MTCA Method B Soil Cleanup Levels – Soil Direct Contact/Ingestion (WAC 173-340-740(3)).

In addition to the criteria listed above, Washington State soil background concentrations for metals (Ecology, 1994) and method reporting limits were considered in accordance with WAC 173-340-709, WAC 173-340-705(6), and WAC 173-340-707.

In general, the lowest applicable soil criteria were identified as the preliminary soil cleanup levels. The following exceptions were considered:

- **Background**: If the lowest regulatory criterion is less than the background concentration, the preliminary soil cleanup level was set at the background concentration.
- **Method Reporting Limit**: If the lowest regulatory criterion is less than the method reporting limit, the preliminary soil cleanup level was set at the method reporting limit unless the method reporting limit is less than the background concentration. In that case, the preliminary soil cleanup level was set at the background concentration. Method reporting limits are included in Table 1 for site Contaminants of Potential Concern (COPC).

A *Terrestrial Ecological Evaluation Process-Simplified Evaluation Documentation Form* (TEE), (Ecology, 2008) was completed during preparation of the RI/FS Work Plan and is summarized in Section 7.1.3 of this report. Based on the results of the TEE, there are no expected impacts to wildlife at the Site.

7.1.2. Groundwater

Preliminary groundwater cleanup levels were selected from MTCA Method A Cleanup Levels Groundwater WAC 173-340-720(3) and Chapter 173-340 WAC Table 720-1.

In addition to the criteria listed above, Washington State groundwater background concentrations and method reporting limits were considered in accordance with WAC 173-340-709 and WAC 173-340-705(6), and WAC 173-340-707.

The following exceptions were considered:

- **Background**: If the lowest published regulatory criterion is less than the background concentration, the preliminary groundwater cleanup level was set at the background concentration.
- **Method Reporting Limit**: If the lowest published regulatory criterion is less than the method reporting limit, the preliminary groundwater cleanup level was set at the method reporting limit,

unless the method reporting limit is less than the background concentration. In that case, the preliminary groundwater cleanup level was set at the background concentration.

Preliminary cleanup levels for groundwater are shown in Table 2.

7.1.3. Terrestrial Ecological Evaluation

7.1.3.1. TERRESTRIAL ECOLOGICAL EVALUATION

The TEE requirements (WAC 173-340-7490) were reviewed for their applicability to the Site. The purpose of the TEE is to assess whether a release of hazardous substances to soil poses a threat to the terrestrial environment. Based on WAC 173-340-7491, the Site does not meet the criteria for a TEE exclusion because of the size (acreage) of the Site. Therefore, a review was performed using the TEE forms [Terrestrial Ecological Evaluation Process – Primary Exclusions Documentation Form and Terrestrial Ecological Evaluation Process-Simplified Evaluation Documentation Form, (Ecology, 2008)]. Based on that review, a simplified TEE was completed for the Site consistent with the criteria in WAC 173-340-7492(2)(a)(ii): land use at the Site and surrounding area makes substantial wildlife exposure possible based on completion of Table 749-1. The following values were used in Table 749-1 to complete the simplified TEE:

BOX 1 (AREA SIZE)

1. Twelve points for greater than 4 acres of undeveloped land – The Site is currently undeveloped with no immediate plans for development and is bordered on the north by the Centennial Trail and Spokane River, both potential habitat areas.

BOX 2 (SITE USE)

1. One point for an undeveloped site.

BOX 3 (HABITAT QUALITY)

1. One point for high habitat quality – There is significant plant and animal life on the property and the Spokane River provides high quality habitat adjacent to the Site.

BOX 4 (WILDLIFE ATTRACTION)

1. One point for high potential for the property to attract wildlife – The property is undeveloped and located adjacent to the Spokane River.

BOX 5 (CONTAMINANTS PRESENT)

1. One point – releases have been documented at the Site.

BOX 6 SUMMARY OF ABOVE SCORES IN BOXES 2 THROUGH 5

1. Four points – The Box 6 total is less than the Box 1 value, a site-specific TEE is required.

The simplified TEE review indicated potential impacts to plants and wildlife so steps were taken to review the procedures of the site-specific TEE and its applicability to the Site. The procedures for the site-specific TEE are outlined below:

1. **Chemicals of Ecological Concern**. According to WAC 173-340-7493 (2)(a)(i) site chemicals of concern can be eliminated for consideration during the site-specific TEE if the 95 percent upper confidence limit (UCL) does not exceed the indicator concentrations listed in Table 749-3. The 95 percent UCL was calculated using Ecology's MTCAStat 97 Site Module

program for lead, arsenic, and cadmium. The calculated 95 percent UCLs for arsenic, cadmium, and lead were 27 mg/kg, 1.5 mg/kg, and 179mg/kg, respectively based on soil samples collected from the Site. Arsenic and lead exceeded the indicator concentrations listed in Table 749-3 for plants and wildlife.

2. **Exposure Pathways**. The likely exposure pathways are ingestion and direct contact for wildlife. In depth analysis of the likely exposure pathways has not been conducted at this time.
3. **Terrestrial Ecological Receptors of Concern**. The likely ecological receptors of concern have not been identified at this time.
4. **Toxicological Assessment**. A toxicological assessment has not been conducted at this time.

Based on review of the applicable TEE regulations, additional effort toward the site-specific TEE is not warranted at this time. WAC 173-340-7493(1)(d)(i) indicates the site-specific TEE will not be required because the anticipated alternatives presented in the forthcoming FS, will be protective of human health and will eliminate the exposure pathways to plants and wildlife. Therefore, the site-specific TEE will only be prepared if required by Ecology after submittal of the FS.

7.1.4. Soil

The following Section provides possible points of compliance for the Site; Ecology will determine the actual points of compliance, along with cleanup levels, in the Cleanup Action Plan (CAP). The standard point of compliance for preliminary soil cleanup levels based on protection of humans from direct contact shown in Table 1 is throughout the soil column from the ground surface to 15 feet below grade in accordance with WAC 173-340-740(6)(d) and WAC 173-340-7490(4)(b). The standard point of compliance for preliminary soil cleanup levels based on protection of groundwater shown in Table 2 is throughout the soil column [WAC 173-340-740(6)(b)]. For potential terrestrial ecological exposures, MTCA regulations allow a conditional point of compliance to be established from the ground surface to 6 feet (the biologically active zone according to MTCA default assumptions), provided institutional controls are used to prevent excavation of deeper soil [WAC 173-340-7490(4)(a)]. Accordingly, in areas of the Site where potential ecological exposures are a concern, and where appropriate institutional controls can be implemented, a conditional point of compliance for soil concentrations protective of terrestrial ecological receptors may be proposed throughout the soil column from the ground surface to 6 feet. For cleanup actions that involve containment of hazardous substances, soil cleanup levels will typically not be met inside containment area(s) [WAC 173-340-740(6)(f)].

7.1.5. Groundwater

The standard point of compliance for preliminary groundwater cleanup levels shown in Table 2 will be all groundwater at the Site from the top of the saturated zone to the lowest depth which could be affected by the Site {WAC173-340-720(8)(b)}.

8.0 CONCEPTUAL SITE MODEL

A conceptual site model (CSM) was developed to help direct the remedial investigation exploration program. The CSM consists of three components: (1) the sources of COPCs at the Site; (2) the

subsequent potential migration of those hazardous substances in environmental media; and (3) complete exposure pathways.

The primary COPCs in soil include metals (arsenic, cadmium, and lead) associated with the CKD. Some arsenic contamination was found in areas where CKD fill is not present (see Figure 8). Petroleum hydrocarbons, benzene, and cPAH were detected at concentrations exceeding MTCA unrestricted cleanup criteria in three soil samples collected from the Holcim property near the former coal storage building and along the rail spur alignment (see Figure 9), and therefore are listed as COPC. Although not listed as a contaminant in MTCA, the corrosive characteristics of the CKD fill (high pH) would designate portions of the CKD as a Washington State dangerous waste (WAC 173-303-090(6)).

Samples from some of the groundwater monitoring wells at the Site have contained arsenic concentrations greater than MTCA Method A cleanup criteria. Currently, there are no known active groundwater supply wells at the Site; therefore, there is no current use of groundwater beneath the Site. Numerous resource protection wells are maintained at the Site for the purpose of monitoring groundwater conditions underlying the Site. A well owned and operated by the Irvin Water District is located south (crossgradient) of the Site. According to Irvin Water District, detected concentrations of arsenic in groundwater samples collected from this well range between 0.002 and 0.0024 mg/l; less than the MTCA Method A cleanup level. Arsenic appears to be the only contaminant of concern in groundwater.

Surface water does not appear to be impacted by Site contaminants; the Spokane River near the Site is a losing stretch (surface water discharges to groundwater). The CKD deposits, particularly the deposit on City property, which are exposed at the surface, could create an exposure to wind-borne dust.

Contamination sources and exposure mechanisms are shown in CSM, Figure 11, and include potential releases from the CKD deposits. The CKD deposits on the Holcim and City properties are exposed at the surface, which could result in transport via stormwater runoff and wind-borne dust. Isolated pockets of CKD on the Neighborhood Inc. property are located beneath the ground surface; therefore, transport via stormwater runoff or wind-borne dust is unlikely. Direct contact exposure with CKD is also possible, with exposure to humans and burrowing animals. Contaminants might also be leached and/or transported downward toward the water table. During periods of very high groundwater elevations, groundwater might be in contact with the CKD deposit on the City property. Contaminated groundwater could potentially impact surface water and associated ecological receptors.

Potential exposure pathways related to soil, groundwater, and surface water are discussed below; further, exposure pathways deemed to be incomplete were not considered further in this RI. The following potential exposure pathways and receptors include:

- Ecological
  - Direct contact with contaminated CKD/soil, groundwater, and surface water – small mammals, birds, fish, other aquatic species, soil biota, plants.

- Ingestion of contaminated CKD/soil and surface water – small mammals, birds, fish, other aquatic species.
- Ingestion of plants or fauna that have ingested or absorbed contaminants from the Site – predatory small mammals, birds, fish, other aquatic species.

- Human
  - Dermal contact with contaminated CKD/soil during excavation work – on-site workers;
  - Dermal contact with contaminated groundwater removed from on-site monitoring wells – on-site workers;
  - Dermal contact with and inhalation of contaminated windblown dust during excavation work– on-site workers, adjacent off-site workers, trespassers, recreational users, and adjacent residents; and
  - Dermal contact with contaminated surface water runoff – on-site workers, adjacent off-site workers, recreational users, and adjacent residents.

9.0 AREAS REQUIRING EVALUATION FOR POTENTIAL CLEANUP ACTION

This section identifies the locations and environmental media (soil and groundwater) at the Site that require evaluation in the FS. Based on the results of this RI the following areas should be evaluated in the FS: (1) CKD deposit on Holcim property for arsenic, cadmium, and lead; (2) CKD deposit on City property for arsenic, cadmium, and lead; (3) shallow soil in southeast portion of the Site (near explorations G-1, DP-44, and DP-70) for GRPH, benzene, lead, and cPAH; (4) shallow soil in south and southeast portion of the Site for arsenic; (5) isolated shallow CKD/soil on the Neighborhood, Inc. property for arsenic, cadmium, and lead; (6) soil with pH levels greater than 12.5; and (7) groundwater beneath the Site for arsenic.

10.0 SUMMARY

10.1. General

Site assessment activities were conducted at the Site from 2007 through 2013, including the Holcim, City and Neighborhood Inc. properties. In general, the sum of site assessment activities at the Site has defined the extent of contamination in soil and groundwater beneath the Site. Contaminants of concern in soil include arsenic, cadmium, lead, GRPH, benzene, and cPAHs; COPC in groundwater is limited to arsenic. Although not a contaminant regulated under MTCA, pH levels in CKD can be greater than 12.5.

10.2. Extent and Characteristics of Soil Contamination

10.2.1. CKD

CKD primarily is present in two deposits: one on the Holcim property and one on the City property. The CKD sometimes contains concentrations of arsenic, cadmium, and lead greater than MTCA Method A unrestricted land use soil cleanup criteria; the CKD also typically contains high pH levels, which tends to reduce the leaching potential of metals. The CKD encountered ranged in color from pink, to white, light and dark gray, blue, and tan, and generally also had elevated “soil” moisture content relative to encountered native soil.

The CKD deposit on the Holcim property is estimated to be 109,100 cubic yards. The approximate surface area is 250,900 square feet, the depth of the deposit ranges from approximately 0 to 25 feet bgs. This deposit generally is contiguous and often is covered with grasses, bushes and other vegetation. Concentrations of COPC in this CKD deposit range from: 3.82 to 44.3 mg/kg for arsenic, not-detected to 8.41 mg/kg for cadmium, and 4.48 to 1,760 mg/kg for lead (based on data collected between 2007 and 2012). Other COPC were not encountered in the CKD.

The CKD deposit on the City property is estimated to be 12,300 cubic yards. The approximate surface area is 40,400 square feet, the depth of the deposit ranges from approximately 0 to 10 feet bgs. Survey and groundwater elevation data indicates that portions of the bottom of the CKD deposit may come in contact with groundwater in late spring months when groundwater elevations are at their highest. This deposit generally is contiguous and is exposed at the surface. Concentrations of COPC in this CKD deposit range from: 11.4 to 86.9 mg/kg for arsenic, 0.768 to 8.41 mg/kg for cadmium, and 31.1 to 1,070 mg/kg for lead. Other COPC were not encountered in the CKD.

Isolated lenses or pockets of CKD were located on the Neighborhood, Inc. property; the distribution of CKD fill and soil on this property is discontinuous and likely indicates that the material has been reworked, possibly during site redevelopment. CKD was not observed at the surface in these locations. Concentrations of COPC in this CKD deposit range from: 5.91 to 72.5 mg/kg for arsenic, not-detected to 4.13 mg/kg for cadmium, and 31.1 to 1,070 mg/kg for lead. Other COPC were not encountered in the CKD.

10.2.2. Other Areas of Contaminated Soil

Arsenic was detected at concentrations greater than the MTCA Method A unrestricted land use cleanup criteria level in several samples near the southern portion of the Holcim property (non-CKD areas).

Other contaminants included GRPH, benzene, cPAHs, and lead, particularly in the southeast portion of the Site. Most samples with these COPC were collected within 2 feet of ground surface.

10.2.3. Groundwater Quality and Conditions

In general, groundwater quality beneath the Site meets acceptable levels (i.e., less than MTCA Method A cleanup criteria). However, arsenic concentrations in select wells, particularly well MW-2 and newly installed well MW-9, increase during spring monitoring events and often have been observed at concentrations greater than cleanup levels in samples collected from MW-2 during summer sampling events. The elevated arsenic concentrations in groundwater samples coincide with high groundwater levels, which typically occur during the spring runoff period. The only documented source of arsenic at the Site near the groundwater surface is the CKD deposit on the City property. As mentioned above, during spring months, groundwater elevations increase and contact the base of the CKD deposit on the City property and likely releases arsenic from the CKD to groundwater. This interaction between CKD and groundwater is graphically represented in the cross-sections presented in Figures 12 and 13; particularly in cross-section B-B' in Figure 13. Removal or control of this source could reduce arsenic concentrations in groundwater beneath the Site.

Data shows that in the last seven quarters (1st quarter 2011-3rd quarter 2012), there have been no exceedances of the groundwater standards for cadmium or lead in any of the ten monitoring wells. In addition, arsenic had not had any exceedances of the groundwater standards in seven of the ten monitoring wells. MW-9 has had one arsenic exceedance (3rd quarter 2012, the only quarter sampled). MW-5 has had one arsenic exceedance in the last seven quarters (2nd quarter 2012). MW-2 is the only monitoring well that has shown concentrations consistently greater than arsenic cleanup level of 0.005 mg/l.

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TABLES

GeoEngineers

Table 1

Preliminary Soil Cleanup Levels

Former Cement Manufacturing Plant, Holcim Site Remedial Investigation

Spokane Valley, Washington

Contaminants of Potential Concern	Units	Soil Criteria		Analytical Laboratory Criteria [3]		Preliminary Soil Cleanup Level [4]
		Washington State Background[1]	MTCA Method A Soil Cleanup Levels[2]	Reporting Limits	Analytical Method	
Total Petroleum Hydrocarbons						
Gasoline-Range	mg/kg	--	**100**	2.5	NW-TPH-Gx	100
Diesel-Range[3]	mg/kg	--	**2,000**	25	NW-TPH-Dx	2,000
Oil-Range	mg/kg	--	**2,000**	100	NW-TPH-Dx	2,000
Metals						
Arsenic	mg/kg	9.34	**20**	1.0	EPA 6010	20
Cadmium	mg/kg	0.72	**2**	1.0	EPA 6010	2
Lead	mg/kg	14.91	**250**	1.0	EPA 6010	250
Volatile Organic Compounds						
Benzene	mg/kg	--	**0.03**	0.025	EPA 8260B	0.03
Ethylbenzene	mg/kg	--	**6**	0.025	EPA 8260B	6
Toluene	mg/kg	--	**7**	0.025	EPA 8260B	7
Xylenes	mg/kg	--	**9**	0.025	EPA 8260B	9
Polycyclic Aromatic Hydrocarbons						
Naphthalene	mg/kg	--	**5**	0.10	EPA 8270C SIM	5
Benzo(a)anthracene	mg/kg	--	--	0.10	EPA 8270C SIM	0.1[5]
Benzo(a)pyrene	mg/kg	--	**1**	0.10	EPA 8270C SIM	0.1[5]
Benzo(b)fluoranthene	mg/kg	--	--	0.10	EPA 8270C SIM	0.1[5]
Benzo(k)fluoranthene	mg/kg	--	--	0.10	EPA 8270C SIM	0.1[5]
Chrysene	mg/kg	--	--	0.10	EPA 8270C SIM	0.1[5]
Dibenz(a,h)anthracene	mg/kg	--	--	0.10	EPA 8270C SIM	0.1[5]
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	0.10	EPA 8270C SIM	0.1[5]
Total cPAHs (TEF)[5]	mg/kg	--	**1**	0.10	EPA 8270C SIM	0.1[5]

Notes:

[1] 90th percentile concentration for Spokane taken from Ecology's Natural Background Soil Metals Concentrations in Washington State for Spokane Basin. October 1994.

[2] MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses [WAC 173-340-740(2) and Chapter 173-340 WAC Table 740-1].

[3] Reporting limits obtained from Anatek Labs, Inc. located in Spokane, Washington.

[4] Preliminary Soil Cleanup Level is the lowest soil criteria as indicated by shading; adjusted based on Washington State background. Additional adjustments were made based on reporting limits or minimum levels per WAC 173-340-720(7)(c).

[5] Carcinogenic PAH cleanup level will be based on Toxicity Equivalency Factor (TEF) as described in WAC 173-340-708. The cleanup level for cPAHs is 0.1 mg/kg.

BOLD indicates value was selected as the Applicable Soil Cleanup Level.

https://projects.geoengineers.com/sites/1631600102/Final/RI/[1631600102 RI Table 1.xlsx]T1 Soil PrelimCULs

Table 2

Preliminary Groundwater Cleanup Levels

Former Cement Manufacturing Plant, Holcim Site Remedial Investigation

Spokane Valley, Washington

Analytes	Units	Groundwater Criteria	Analytical Laboratory Criteria[1]		
		Method A Cleanup Levels for Groundwater[2]	Reporting Limit	Analytical Method	Preliminary Groundwater Cleanup Level
Metals *(Total or Dissolved)*					
Arsenic	µg/L	**5**	1	EPA 6020/200.8 ICP-MS	5
Cadmium	µg/L	**5**	1	EPA 6020/200.8 ICP-MS	5
Lead	µg/L	**15**	1	EPA 6020/200.8 ICP-MS	15

Notes:

[1]Reporting limits obtained from Anatek Labs, Inc. located in Spokane, Washington.

[2]MTCA Method A Cleanup Levels for groundwater [WAC 173-340-720(3) and Chapter 173-340 WAC Table 720-1].

BOLD indicates value was selected as the Applicable Groundwater Cleanup Level.

https://projects.geoengineers.com/sites/1631600102/Final/RI/[1631600102 RI Table 2.xlsx]T2 GW Prelim CULs

Table 3

Summary of Groundwater Elevations and Chemical Analytical Results - Metals and pH in Groundwater[1]

Former Cement Manufacturing Plant, Holcim Site Remedial Investigation
Spokane Valley, Washington

Well Number	Date Sampled	Groundwater Elevation[2] (feet)	pH[3]	Metal Concentrations (mg/l)					
				Arsenic[4]		Cadmium[4]		Lead[4]	
				Total	Dissolved[5]	Total	Dissolved[5]	Total	Dissolved[5]
MW-1	05/03/07	1916.06	7.08	**0.149**	NT	0.00259	NT	**0.27800**	NT
	05/23/07	1914.56	NM	NT	0.00361	NT	<0.001	NT	<0.001
	10/30/07	1909.58	7.48	NT	<0.001	NT	<0.001	NT	<0.001
	02/12/08	1909.76	6.27	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/23/08	1924.04	9.27	**0.00512**	**0.00508**	<0.001	<0.001	<0.001	<0.001
	07/09/08	1915.34	7.58	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/29/08	1910.79	7.22	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/21/08	1911.19	6.94	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/22/09	1911.80	6.67	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/11/09	1917.63	7.07	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/18/09	1910.02	6.54	0.0015	<0.001	<0.001	<0.001	0.00089	0.00101
	11/09/09	1910.18	7.30	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/03/10	1910.30	6.57	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/20/10	1914.79	7.69	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/24/10	1909.19	6.47	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/29/10	1911.17	6.63	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/28/11	1913.85	7.08	<0.001	<0.001	NT	NT	NT	NT
	05/24/11	1922.82	9.88	0.00439	0.00156	< 0.001	< 0.001	< 0.001	< 0.001
	08/10/11	1912.54	6.80	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/15/11	1911.41	6.87	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/27/12	1911.23	6.96	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/24/12	1919.28	6.99	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/28/12	1910.93	7.13	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-2	05/03/07	1915.72	7.21	**0.261**	NT	0.00204	NT	**0.205**	NT
	05/23/07	1914.39	NM	NT	**0.00502**	NT	NT	NT	<0.001
	10/30/07	1909.37	7.57	NT	0.00251	NT	<0.001	NT	<0.001

Well Number	Date Sampled	Groundwater Elevation[2] (feet)	pH[3]	Metal Concentrations (mg/l)					
				Arsenic[4]		Cadmium[4]		Lead[4]	
				Total	Dissolved[5]	Total	Dissolved[5]	Total	Dissolved[5]
MW-2 cont.	02/12/08	1909.38	7.25	0.00273	0.00287	<0.001	<0.001	<0.001	<0.001
	05/23/08	1923.34	9.67	**0.128**	**0.137**	<0.001	<0.001	<0.001	<0.001
	07/09/08	1915.24	10.77	**0.144**	**0.140**	<0.001	<0.001	<0.001	<0.001
	08/29/08	1910.69	8.22	**0.092**	**0.0904**	<0.001	<0.001	<0.001	<0.001
	11/21/08	1910.97	7.14	**0.0272**	**0.0279**	<0.001	<0.001	<0.001	<0.001
	02/22/09	1911.65	7.16	**0.0103**	**0.00978**	<0.001	<0.001	<0.001	<0.001
	05/11/09	1917.35	7.33	**0.00505**	0.00491	<0.001	<0.001	<0.001	<0.001
	08/18/09	1909.86	6.93	**0.00627**	**0.00577**	<0.001	<0.001	<0.001	<0.001
	11/09/09	1909.96	7.70	0.00494	**0.00522**	<0.001	<0.001	<0.001	<0.001
	02/03/10	1910.07	7.23	0.00372	0.00363	<0.001	<0.001	<0.001	<0.001
	05/20/10	1914.14	7.90	0.00383	0.00387	<0.001	<0.001	<0.001	<0.001
	08/24/10	1909.01	7.09	0.00327	0.00359	<0.001	<0.001	<0.001	<0.001
	11/29/10	1910.79	6.81	**0.00773**	0.00426	<0.001	<0.001	0.00368	<0.001
	02/28/11	1913.67	7.39	0.00348	0.00312	NT	NT	NT	NT
	05/24/11	1922.25	9.98	**0.0999**	**0.0998**	< 0.001	< 0.001	< 0.001	< 0.001
	08/10/11	1912.53	7.9	**0.0286**	**0.0223**	<0.001	<0.001	<0.001	<0.001
	11/15/11	1911.23	7.59	**0.0169**	**0.0123**	<0.001	<0.001	<0.001	<0.001
	02/27/12	1910.89	7.52	**0.00883**	**0.0079**	<0.001	<0.001	<0.001	<0.001
	05/24/12	1919.04	7.94	**0.0171**	**0.0167**	<0.001	<0.001	<0.001	<0.001
	08/28/12	1910.86	7.52	**0.00907**	**0.00873**	<0.001	<0.001	<0.001	<0.001
MW-3	05/03/07	1915.65	6.83	**0.150**	NT	0.001	NT	**0.118**	NT
	05/23/07	1914.32	NM	NT	0.00298	NT	NT	NT	<0.001
	10/30/07	1909.29	7.66	NT	0.00463	NT	<0.001	NT	<0.001
	02/12/08	1909.32	7.49	0.00461	0.00459	<0.001	<0.001	<0.001	<0.001
	05/23/08	1922.72	7.70	0.00470	0.00486	<0.001	<0.001	<0.001	<0.001
	07/09/08	1915.18	9.23	0.00474	**0.00569**	<0.001	<0.001	<0.001	<0.001
	08/29/08	1910.74	7.07	0.00434	0.0044	<0.001	<0.001	<0.001	<0.001
	11/21/08	1910.90	6.84	0.00443	0.00482	<0.001	<0.001	<0.001	<0.001
	02/22/09	1911.59	7.10	0.00498	0.00413	<0.001	<0.001	<0.001	<0.001
	05/11/09	1917.23	7.28	0.00443	0.00411	<0.001	<0.001	<0.001	<0.001
	08/18/09	1909.79	6.95	0.00495	0.00466	<0.001	<0.001	<0.001	<0.001

Well Number	Date Sampled	Groundwater Elevation[2] (feet)	pH[3]	Metal Concentrations (mg/l)					
				Arsenic[4]		Cadmium[4]		Lead[4]	
				Total	Dissolved[5]	Total	Dissolved[5]	Total	Dissolved[5]
MW-3 cont.	11/09/09	1909.88	7.60	**0.0053**	0.00485	<0.001	<0.001	<0.001	<0.001
	02/03/10	1910.00	7.31	0.00438	0.00413	<0.001	<0.001	<0.001	<0.001
	05/20/10	1913.96	7.40	0.00429	0.00452	<0.001	<0.001	<0.001	<0.001
	08/24/10	1908.94	6.71	0.00408	0.00443	<0.001	<0.001	<0.001	<0.001
	11/29/10	1910.68	6.92	**0.00656**	**0.0054**	<0.001	<0.001	<0.001	<0.001
	02/28/11	1913.60	7.48	0.00491	0.0039	NT	NT	NT	NT
	05/24/11	1921.92	7.39	0.00475	0.00421	< 0.001	< 0.001	< 0.001	< 0.001
	08/10/11	1912.51	7.34	0.0041	0.0041	<0.001	<0.001	<0.001	<0.001
	11/15/11	1911.18	7.49	0.00451	0.00421	<0.001	<0.001	<0.001	<0.001
	02/27/12	1910.79	7.49	0.00406	0.00351	<0.001	<0.001	<0.001	<0.001
	05/24/12	1918.97	7.54	0.00466	0.00438	<0.001	<0.001	<0.001	<0.001
	08/28/12	1910.83	7.42	0.00440	0.00434	<0.001	<0.001	<0.001	<0.001
MW-4	05/03/07	1917.69	6.91	**0.218**	NT	0.00378	NT	**0.199**	NT
	05/23/07	1915.17	NM	NT	**0.0067**	NT	<0.001	NT	<0.001
	10/30/07	1910.80	7.96	NT	0.0038	NT	<0.001	NT	<0.001
	02/12/08	1910.71	6.42	0.00385	0.00367	<0.001	<0.001	<0.001	<0.001
	05/23/08	1924.69	7.54	**0.00604**	0.00223	<0.001	<0.001	0.00294	<0.001
	07/09/08	1915.80	7.73	0.00263	0.00283	<0.001	<0.001	<0.001	<0.001
	08/29/08	1911.37	7.49	0.00457	0.00432	<0.001	<0.001	<0.001	<0.001
	11/21/08	1912.12	6.46	0.00409	0.00325	<0.001	<0.001	<0.001	<0.001
	02/22/09	1912.58	6.98	**0.0075**	0.00326	<0.001	<0.001	0.00341	<0.001
	05/11/09	1918.22	7.10	0.003	0.0023	<0.001	<0.001	<0.001	<0.001
	08/18/09	1910.72	7.10	0.00408	0.00428	<0.001	<0.001	<0.001	<0.001
	11/09/09	1911.12	7.40	**0.00671**	0.00371	<0.001	<0.001	0.00313	<0.001
	02/03/10	1911.35	7.26	0.00371	0.00314	<0.001	<0.001	<0.001	<0.001
	05/20/10	1915.50	7.87	0.00394	0.00289	<0.001	<0.001	<0.001	<0.001
	08/24/10	1910.02	6.98	0.00426	0.00399	<0.001	<0.001	<0.001	<0.001
	11/29/10	1912.18	7.04	**0.00722**	0.00314	<0.001	<0.001	0.00394	<0.001
	02/28/11	1914.44	7.36	0.00343	0.00225	NT	NT	NT	NT
	05/24/11	1923.35	7.11	0.00233	0.00204	< 0.001	< 0.001	< 0.001	< 0.001
	08/10/11	1913.13	7.26	0.00339	0.00306	<0.001	<0.001	<0.001	<0.001

Well Number	Date Sampled	Groundwater Elevation[2] (feet)	pH[3]	Metal Concentrations (mg/l)					
				Arsenic[4]		Cadmium[4]		Lead[4]	
				Total	Dissolved[5]	Total	Dissolved[5]	Total	Dissolved[5]
MW-4 cont.	11/15/11	1912.18	7.5	0.00340	0.00320	<0.001	<0.001	<0.001	<0.001
	02/27/12	1912.35	7.56	0.00330	0.00329	<0.001	<0.001	<0.001	<0.001
	05/24/12	1919.82	7.37	0.00231	0.00181	<0.001	<0.001	<0.001	<0.001
	08/28/12	1911.58	7.52	0.00434	0.00398	<0.001	<0.001	<0.001	<0.001
	05/23/08	1923.31	NM	**0.00886**	<0.001	<0.001	<0.001	0.00899	<0.001
	07/09/08	1915.14	7.27	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/29/08	1910.67	6.75	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/21/08	1909.94	6.80	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/22/09	1911.56	6.91	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/11/09	1917.26	6.96	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/18/09	1909.88	6.30	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/09/09	1909.93	7.40	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/03/10	1910.03	7.07	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/20/10	1914.14	8.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/24/10	1909.03	6.54	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/29/10	1910.78	6.67	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/28/11	1913.57	7.12	<0.001	<0.001	NT	NT	NT	NT
	05/24/11	1922.26	6.80	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	08/10/11	1912.43	6.59	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/15/11	1911.17	7.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/27/12	1910.86	7.20	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/25/12	1918.99	7.39	**0.0130**	<0.001	<0.001	<0.001	<0.001	<0.001
	08/29/12	1910.80	6.96	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/23/08	1924.73	NM	**0.00526**	<0.001	<0.001	<0.001	**0.01820**	<0.001
	07/09/08	1915.60	7.58	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/29/08	1911.21	6.71	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/21/08	1912.09	6.89	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/22/09	1912.38	6.90	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/11/09	1918.14	6.89	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/18/09	1910.54	6.45	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/09/09	1911.14	7.60	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Well Number	Date Sampled	Groundwater Elevation[2] (feet)	pH[3]	Metal Concentrations (mg/l)					
				Arsenic[4]		Cadmium[4]		Lead[4]	
				Total	Dissolved[5]	Total	Dissolved[5]	Total	Dissolved[5]
MW-4 cont.	02/03/10	1911.21	7.18	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/20/10	1915.94	8.04	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/24/10	1909.80	6.60	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/29/10	1912.43	6.34	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/28/11	1914.30	7.09	<0.001	<0.001	NT	NT	NT	NT
	05/24/11	1923.33	6.90	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	08/10/11	1912.90	6.59	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/15/11	1912.07	7.17	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/27/12	1912.40	7.29	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/23/12	1919.73	7.06	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/29/12	1911.32	6.98	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-7	05/23/08	1924.51	NM	0.00127	<0.001	<0.001	<0.001	<0.001	<0.001
	07/09/08	1915.51	6.81	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/29/08	1911.14	6.71	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/21/08	1911.89	6.93	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/22/09	1912.23	6.83	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/11/09	1917.98	6.86	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/18/09	1910.42	6.44	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/09/09	1910.91	7.50	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/03/10	1911.00	7.11	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/20/10	1915.60	8.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/24/10	1909.70	6.59	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/29/10	1912.13	6.80	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/28/11	1914.16	7.12	<0.001	<0.001	NT	NT	NT	NT
	05/24/11	1923.16	6.93	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	08/10/11	1912.81	6.50	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/15/11	1911.90	7.12	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/27/12	1912.09	7.19	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/23/12	1919.61	7.04	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/29/12	1911.23	6.88	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-8	05/23/08	1924.01	NM	**0.02670**	0.00223	<0.001	<0.001	**0.02010**	<0.001

Well Number	Date Sampled	Groundwater Elevation[2] (feet)	pH[3]	Metal Concentrations (mg/l)					
				Arsenic[4]		Cadmium[4]		Lead[4]	
				Total	Dissolved[5]	Total	Dissolved[5]	Total	Dissolved[5]
MW-8 cont.	07/09/08	1915.28	7.45	0.0029	0.00304	<0.001	<0.001	<0.001	<0.001
	08/29/08	1910.88	6.94	0.0033	0.00318	<0.001	<0.001	<0.001	<0.001
	11/21/08	1911.22	6.92	0.00324	0.00349	<0.001	<0.001	<0.001	<0.001
	02/22/09	1911.81	7.02	0.00296	0.00254	<0.001	<0.001	<0.001	<0.001
	05/11/09	1917.62	7.06	0.00283	0.00304	<0.001	<0.001	<0.001	<0.001
	08/18/09	1910.02	6.66	0.00372	0.00384	<0.001	<0.001	<0.001	<0.001
	11/09/09	1910.16	7.50	0.00415	0.00384	<0.001	<0.001	<0.001	<0.001
	02/03/10	1910.28	7.17	0.00282	0.00269	<0.001	<0.001	<0.001	<0.001
	05/20/10	1914.55	8.15	0.00306	0.00324	<0.001	<0.001	<0.001	<0.001
	08/24/10	1909.16	6.69	0.00296	0.00337	<0.001	<0.001	<0.001	<0.001
MW-8 cont.	11/29/10	1911.11	6.61	0.00486	0.00346	<0.001	<0.001	<0.001	<0.001
	02/28/11	1913.83	7.21	0.00286	0.00255	NT	NT	NT	NT
	05/24/11	1922.85	7.44	**0.00509**	0.0049	< 0.001	< 0.001	< 0.001	< 0.001
	08/10/11	1912.65	6.98	0.00297	0.00273	<0.001	<0.001	<0.001	<0.001
	11/15/11	1911.41	7.36	0.00376	0.00308	<0.001	<0.001	<0.001	<0.001
	02/27/12	1911.19	7.31	0.00332	0.00285	<0.001	<0.001	<0.001	<0.001
	05/23/12	1919.37	7.24	0.00340	0.00309	<0.001	<0.001	<0.001	<0.001
	08/29/12	1910.99	7.21	0.00309	0.00275	<0.001	<0.001	<0.001	<0.001
MW-9	08/29/12	1910.77	8.96	**0.0142**	**0.0142**	<0.001	<0.001	<0.001	<0.001
MW-10	08/29/12	1910.68	7.38	0.00212	0.00207	<0.001	<0.001	<0.001	<0.001
Spokane River									
Upriver	08/31/07	--	NM	NT	0.00237	NT	<0.001	NT	<0.001
	10/30/07	--	NM	NT	0.001	NT	<0.001	NT	<0.001
	02/12/08	--	NM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/23/08	--	NM	0.00107	<0.001	0.0016	<0.001	**0.0244**	0.00101
	07/09/08	--	NM	<0.001	0.00163	<0.001	<0.001	<0.001	<0.001
	08/29/08	--	NM	0.00176	0.0018	<0.001	<0.001	<0.001	<0.001
	11/21/08	--	NM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/22/09	--	NM	<0.001	<0.001	<0.001	<0.001	0.00194	<0.001
	05/11/09	--	NM	<0.001	<0.001	<0.001	<0.001	0.00493	<0.001
	08/18/09	--	NM	0.00169	0.00175	<0.001	<0.001	0.00494	<0.002

Well Number	Date Sampled	Groundwater Elevation[2] (feet)	pH[3]	Metal Concentrations (mg/l)					
				Arsenic[4]		Cadmium[4]		Lead[4]	
				Total	Dissolved[5]	Total	Dissolved[5]	Total	Dissolved[5]
Upriver cont.	11/09/09	--	NM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/03/10	--	NM	<0.001	<0.001	<0.001	<0.001	0.00154	<0.001
	05/20/10	--	NM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/24/10	--	NM	0.0016	0.00177	<0.001	<0.001	<0.001	<0.001
	11/29/10	--	6.85	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/28/11	--	7.45	<0.001	<0.001	NT	NT	NT	NT
	05/24/11	--	7.28	< 0.001	< 0.001	< 0.001	< 0.001	0.00145	0.0107
	08/10/11	--	7.84	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/15/11	--	8.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	02/27/12	--	7.61	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/25/12	--	7.58	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	08/29/12	--	7.86	0.00187	0.00106	<0.001	<0.001	<0.001	<0.001
Downriver	02/28/11	--	7.36	<0.001	<0.001	NT	NT	NT	NT
	05/24/11	--	7.38	< 0.001	< 0.001	< 0.001	< 0.001	0.00149	0.0078
	08/10/11	--	7.82	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/15/11	--	7.98	0.00102	<0.001	<0.001	<0.001	<0.001	<0.001
	02/27/12	--	7.61	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/25/12	--	7.54	<0.001	<0.001	<0.001	<0.001	0.00255	<0.001
	08/29/12	--	7.94	0.00192	0.00149	<0.001	<0.001	0.00255	<0.001
MTCA Cleanup Levels[6]				**0.005**	**0.005**	**0.005**	**0.005**	**0.015**	**0.015**

Notes:

[1]Chemical analyses conducted by Anatek Labs, Inc. of Spokane, Washington.

[2]Top of monitoring well casing elevations were surveyed by Thomas, Dean, and Hoskins Inc. (MW-1 through MW-8 in May 2008 and MW-9 and MW-10 in 2012). Elevations in this report are referenced to NAVD-88 and were used to calculate groundwater elevations presented in this table.

[3]pH measured using In-Situ Inc. Troll 9500 Multi-Parameter Water Quality Low-Flow Flow Cell

[4]Arsenic, dissolved arsenic, cadmium, dissolved cadmium, lead, and dissolved lead were analyzed using EPA Method 200.8.

[5]Dissolved metal samples were field filtered.

[6]MTCA = Washington State, Model Toxics Control Act, Method A Cleanup levels for groundwater [WAC 173-340-720(3) and Chapter 173-340 WAC Table 720-1].

NT = Not Tested; **BOLD** indicates exceedance of MTCA cleanup levels; mg/l = milligrams per liter; NM = not measured

Table 4

Summary of Chemical Analytical Results - Arsenic, Cadmium, Lead and pH in Soil[1]

Former Cement Manufacturing Plant, Holcim Site Remedial Investigation

Spokane Valley, Washington

Sample Number (Depth in feet)	Date Sampled	Soil Type	pH[2] (mg/kg)	Arsenic[2] (mg/kg)	Cadmium[2] (mg/kg)	Lead[2] (mg/kg)	Moisture in Soil (%)
Holcim Property							
DP-41 (1-2)	02/07/12	CKD Fill	12.24	9.85	ND	7.56	24.6
DP-41 (5-6)	02/07/12	Native	9.30	6.50	ND	6.48	7.3
DP-42 (0-2)	02/07/12	Native	9.03	9.53	1.89	**307**	13.4
DP-43 (0-2)	02/07/12	CKD fill	12.09	4.94	ND	5.41	17.5
DP-44 (0-1.5)	02/07/12	Native	9.17	9.63	ND	33.7	14.7
DP-44 (4-5.5)	02/07/12	Native	9.45	4.59	ND	10.8	7.0
DP-45 (1-2.3)	02/07/12	Native	9.03	7.41	ND	77.4	17.1
DP-45 (5-6)	02/07/12	Native	9.33	9.10	ND	8.92	7.3
DP-46 (0.5-1.5)	02/07/12	Native	8.43	4.27	ND	7.77	8.1
DP-47 (0.5-1.5)	02/07/12	Native	8.69	4.13	ND	35.4	8.1
DP-48 (0.5-1.5)	02/07/12	Native	7.87	3.93	ND	9.33	11.9
DP-49 (0.5-1.5)	02/07/12	Native	9.09	4.60	ND	10.0	19.5
DP-50 (0.5-1.5)	02/07/12	Native	8.95	6.71	ND	14.4	17.1
DP-51 (8-9.5)	02/08/12	Native	9.25	5.62	ND	11.4	9
DP-52 (9.5-11)	02/08/12	Native	9.40	4.95	ND	7.17	3.6
DP-53 (8-8.5)	02/08/12	CKD fill	11.73	6.96	ND	28.3	13.2
DP-53 (8.5-9)	02/08/12	CKD fill	10.13	3.82	ND	6.51	7.7
DP-54 (4-5)	02/08/12	CKD fill	12.38	4.96	ND	4.48	24
DP-57 (1-2)	02/09/12	Native	8.86	**21.5**	ND	63.2	13.1
DP-57 (4-5)	02/09/12	Native	9.08	3.69	NT	NT	6.1
DP-58 (4-4.5)	02/09/12	Native	8.89	11.3	ND	25.4	8
DP-59 (0.5-1.5)	02/09/12	Native	8.59	6.80	ND	22.5	14.1
DP-60 (8-9)	02/09/12	Native	9.18	**40.7**	ND	6.93	3.6
DP-61 (0.5-1.5)	02/09/12	Native	8.58	4.82	ND	10.7	14.6
DP-62 (4-5)	02/09/12	Native	8.70	3.15	ND	6.68	6.1
DP-63 (0.5-1.5)	02/09/12	Native	8.88	10.5	1.29	188	26.4
DP-64 (0-1)	02/10/12	Native	11.58	8.20	ND	19.5	11.5
DP-65 (1-2.5)	02/10/12	Native	11.60	**40.2**	ND	24.3	16.5
DP-65 (4-4.7)	02/10/12	Native	10.98	5.65	ND	11.4	9.6
DP-66 (0.5-1.5)	02/10/12	Native	8.78	**61.3**	NT	NT	9.9
DP-66 (4-5)	02/10/12	Native	9.07	11.2	NT	NT	6.5
DP-67 (1-2)	02/10/12	Native	9.01	**41.4**	NT	NT	8.5
DP-68 (4.5-5.5)	02/10/12	Native	9.53	9.65	ND	8.07	6.7
DP-69 (4-5)	02/10/12	Native	10.69	10.6	ND	18.7	20.4
DP-70 (0-1)	02/10/12	Native	10.88	11.0	ND	14.9	8.2
DP-70 (2-2.9)	02/10/12	Native	11.73	8.11	ND	10.6	9.3
DP-71 (1.5-2.8)	02/10/12	Native	11.07	9.87	ND	111	18.2
DP-72 (0-1.5)	02/10/12	Native	9.05	7.25	1.47	41.9	13

Sample Number (Depth in feet)	Date Sampled	Soil Type	pH[2] (mg/kg)	Arsenic[2] (mg/kg)	Cadmium[2] (mg/kg)	Lead[2] (mg/kg)	Moisture in Soil (%)
Neighborhood, Inc. Property							
DP-73 (17-18)	04/02/12	Native	9.24	8.04	ND	12.1	6.6
DP-75 (10-11)	04/02/12	Native Fill	9.07	7.98	ND	9.94	9
DP-76 (6-7)	04/02/12	CKD Fill	10.85	13.9	0.622	58.4	13.2
DP-77 (4.5-5.5)	04/02/12	Native/CKD Fill	9.66	5.91	ND	23.5	11.2
DP-78 (12.5-13.5)	04/02/12	Native Fill	9.43	8.16	ND	37.1	13
DP-79 (5-6)	04/02/12	Native	9.19	6.37	ND	10.4	6.6
DP-80 (9-10)	04/02/12	Native	9.45	5.34	ND	13.3	7.3
DP-82 (10-10.3)	04/03/12	CKD Fill	10.84	7.40	ND	16.6	10
DP-82 (14-14.5)	04/03/12	CKD Fill	11.11	20.0	**2.19**	179	36.6
DP-82 (14.5-15)	04/03/12	CKD Fill	NT	NT	ND	NT	6.1
DP-83 (10-10.5)	04/03/12	CKD Fill	11.03	11.0	ND	56.5	11.4
DP-84 (5.5-6)	04/03/12	CKD Fill	11.40	**72.5**	**2.86**	**265**	43
DP-84 (9-10)	04/03/12	Native	NT	6.47	ND	11.0	10.9
DP-85 (4-4.5)	04/03/12	Native	11.50	16.6	ND	13.5	6.8
DP-85 (18-18.5)	04/03/12	Native	8.83	8.95	ND	9.51	9.4
DP-86 (13-14)	04/03/12	Native	8.85	7.29	ND	15.2	7.5
DP-87 (13.2-13.6)	04/03/12	CKD Fill	8.74	7.80	1.13	96.7	16.9
DP-89 (8.5-9)	04/03/12	Native	9.37	13.5	ND	11.5	4.5
DP-90 (9-10)	04/03/12	Native	9.25	12.0	ND	18.6	6.5
DP-91 (8-8.5)	04/03/12	Native	9.52	6.67	ND	12.2	7.7
DP-93 (9.5-10.2)	04/20/12	CKD Fill	10.19	17.0	ND	105	15
DP-93 (13-13.7)	04/20/12	Native	10.33	NT	ND	NT	6.7
DP-96 (4.5-5)	04/20/12	CKD Fill	8.77	10.4	ND	79.3	19.2
DP-96 (5-5.8)	04/20/12	Native Fill	9.18	6.02	ND	38.4	11.7
DP-97 (4-5.5)	04/20/12	Native	9.13	12.6	ND	76.4	10.2
DP-98 (5-5.8)	04/20/12	Native	9.17	7.40	ND	12.8	5.8
DP-99 (12)	02/28/13	Native Fill	9.43	4.42	ND	8.47	10.1
DP-100 (4.5)	02/28/13	Native Fill	8.91	6.37	ND	10.1	6.1
DP-101 (11.8)	02/28/13	CKD Fill	11.57	19.7	2.00	148	30.6
MW-9 (5)	07/25/12	CKD Fill	11.73	**50.0**	**4.13**	**390**	41.4
MW-9 (15)	07/25/12	Native	9.65	7.98	ND	17.0	9.2
MW-10 (5)	07/25/12	Native	7.88	**66.2**	ND	56.0	23.3
MW-10 (30)	07/25/12	Native	9.11	11.1	ND	6.99	7
City of Spokane Valley Property							
DP-81 (8-9)	04/02/12	Native	8.56	12.7	ND	8.21	8.5
DP-81 (13-14)	04/02/12	Native	7.99	14.9	ND	10.5	7.5
North of Spokane River and Upriver Drive							
HA-16 (0-1)	04/05/12	Native	5.07	3.02	0.748	15.8	35
HA-17 (0-2)	04/05/12	Native	4.98	2.13	ND	9.66	18
MTCA Cleanup Values[3]							
Unrestricted Land-Use			--	**20**	**2**	**250**	--
Industrial Property			--	**20**	**2**	**1,000**	--

Notes:

[1]Chemical analyses conducted by Anatek Labs, Inc. of Spokane, Washington.

[2]Arsenic, cadmium, and lead were analyzed using EPA Method 6020A. pH was analyzed using EPA Method 9045.

[3]MTCA = Washington State, Model Toxics Control Act, Method A Soil Cleanup Levels (Chapter 173-400 WAC Tables 740-1 and 745-1).

mg/kg = milligrams per kilogram; NE = Not Established; NT = not tested; **BOLD** indicates detected concentration is above one or more potential cleanup levels.

Table 5

Summary of Chemical Analytical Results - TPH, BTEX, and PAHs in Soil[1]

Former Cement Manufacturing Plant, Holcim Site Remedial Investigation

Spokane Valley, Washington

Sample Number (Depth in feet)	Date Sampled	GRPH[2] (mg/kg)	DRPH[3] (mg/kg)	ORPH[3] (mg/kg)	Benzene[4] (mg/kg)	Ethyl-Benzene[4] (mg/kg)	Toluene[4] (mg/kg)	Total Xylene[4] (mg/kg)	PAHs[5] (mg/kg)	Moisture in Soil (%)
DP-41 (1-2)	02/07/12	ND	ND	ND	ND	ND	0.00752	0.0116	2-Methylnaphthalene - 0.228 Benzo[a]anthracene* - 0.057 Benzo[b]fluoranthene* - 0.108 Chrysene* - 0.090 Fluoranthene - 0.092 Naphthalene - 0.253 Phenanthrene - 0.239 Pyrene - 0.078	24.6
DP-41 (5-6)	02/07/12	3.81	ND	ND	ND	ND	ND	ND	NT	7.3
DP-42 (0-2)	02/07/12	3.24	ND	168	ND	ND	0.0135	0.0361	2-Methylnaphthalene - 0.289 Benzo[a]anthracene* - 0.074 Benzo[b]fluoranthene* - 0.072 Chrysene* - 0.105 Fluoranthene - 0.111 Napthalene - 0.081 Phenanthrene - 0.207 Pyrene - 0.113	13.4
DP-43 (0-2)	02/07/12	ND	ND	129	ND	ND	ND	ND	Phenanthrene - 0.053	17.5
DP-44 (0-1.5)	02/07/12	ND	ND	ND	ND	ND	0.00586	0.0279	2-Methylnapthalene - 0.162 Anthracene - 0.062 Benzo(ghi)perylene - 0.163 Benzo[a]anthracene* - **0.085** Benzo[a]pyrene* - **0.132** Benzo[b]fluoranthene* - **0.217** Benzo[k]fluoranthene - **0.098** Chrysene* - **0.122** Fluoranthene - 0.141 Indeno[1,2,3-cd]pyrene* - **0.113** Napthalene - 0.162 Phenanthrene - 0.164 Pyrene - 0.128	14.7

Sample Number (Depth in feet)	Date Sampled	GRPH[2] (mg/kg)	DRPH[3] (mg/kg)	ORPH[3] (mg/kg)	Benzene[4] (mg/kg)	Ethyl-Benzene[4] (mg/kg)	Toluene[4] (mg/kg)	Total Xylene[4] (mg/kg)	PAHs[5] (mg/kg)	Moisture in Soil (%)
DP-57 (1-2)	02/09/12	6.18	ND	100	0.0105	0.0272	0.108	0.196	2-Methylnapthalene - 0.680 Benzo[b]fluoranthene* - 0.109 Chrysene* - 0.090 Fluoranthene - 0.060 Napthalene - 0.322 Phenanthrene - 0.223 Pyrene - 0.052	13.1
DP-58 (4-4.5)	02/09/12	17.5	26.0	ND	0.0297	0.148	0.395	1.01	2-Methylnapthalene - 0.846 Benzo[a]anthracene* - 0.073 Benzo[b]fluoranthene* - 0.081 Chrysene* - 0.100 Fluoranthene - 0.058 Napthalene - 0.463 Phenanthrene - 0.334 Pyrene - 0.092	8
DP-59 (0.5-1.5)	02/09/12	7.35	ND	ND	**0.0327**	0.0414	0.205	0.474	2-Methylnapthalene - 0.376 Benzo[b]fluoranthene* - 0.050 Chrysene* - 0.053 Napthalene - 0.231 Phenanthrene - 0.184	14.1
DP-60 (8-9)	02/09/12	ND	ND	ND	ND	ND	ND	ND	ND	3.6
DP-65 (1-2.5)	02/10/12	ND	ND	ND	ND	ND	0.00938	ND	2-Methylnapthalene - 0.132 Benzo(ghi)perylene - 0.116 Benzo[a]pyrene* - 0.053 Fluoranthene - 0.066 Indeno[1,2,3-cd]pyrene* - 0.057 Napthalene - 0.088 Phenanthrene - 0.134 Pyrene - 0.079	16.5
DP-65 (4-4.7)	02/10/12	ND	ND	ND	NT	NT	NT	NT	2-Methylnapthalene - 0.160 Napthalene - 0.058 Phenanthrene - 0.121	9.6
DP-70 (0-1)	02/10/12	**416**	40.8	ND	ND	0.433	0.0888	4.92	2-Methylnapthalene - 1.50 Napthalene - 0.654 Phenanthrene - 0.071	8.2
DP-70 (2-2.9)	02/10/12	9.69	144	241	ND	ND	0.00867	0.0411	2-Methylnapthalene - 2.83 Napthalene - 0.698 Phenanthrene - 0.117	9.3

Sample Number (Depth in feet)	Date Sampled	GRPH[2] (mg/kg)	DRPH[3] (mg/kg)	ORPH[3] (mg/kg)	Benzene[4] (mg/kg)	Ethyl-Benzene[4] (mg/kg)	Toluene[4] (mg/kg)	Total Xylene[4] (mg/kg)	PAHs[5] (mg/kg)	Moisture in Soil (%)
DP-71 (1.5-2.8)	02/10/02	ND	52.4	448	ND	ND	0.00799	0.0124	2-Methylnapthalene - 0.124 Benzo(ghi)perylene - 0.062 Benzo[a]anthracene* - 0.072 Benzo[a]pyrene* - 0.076 Benzo[b]fluoranthene* - 0.114 Chrysene* - 0.087 Fluoranthene - 0.062 Phenanthrene - 0.101 Pyrene - 0.062	18.2
DP-72 (0-1.5)	02/10/12	ND	ND	ND	ND	ND	ND	ND	2-Methylnapthalene - 0.074 Phenanthrene - 0.084	13
MTCA Cleanup Values[6]										
Unrestricted Land-Use		30/100[7]	2,000	2,000	0.03	6	7	9	0.1[9]	
Industrial Property		30/100[7]	2,000	2,000	0.03	6	7	9	2	

Notes:

[1]Chemical analyses conducted by Anatek Labs, Inc. of Spokane, Washington.

[2]Gasoline- (GRPH) range petroleum hydrocarbons were analyzed using NWTPH-Gx.

[3]Diesel- (DRPH) and heavy oil-(ORPH) range petroleum hydrocarbons were analyzed using NWTPH-Dx.

[4]Benzene, toluene, ethylbenzene and total xylenes were analyzed using EPA Method 8260B.

[5]Polycyclic aromatic hydrocarbons were analyzed using EPA Method 8270 Modified. Only analytes detected are shown.

[6]MTCA = Washington State, Model Toxics Control Act, Method A Soil Cleanup Levels (Chapter 173-400 WAC Tables 740-1 and 745-1).

[7]GRPH cleanup level is 100 mg/kg if benzene is not present; 30 mg/kg if benzene is present.

[8]MTCA Method A Soil Cleanup Levels exist for total carcinogenic PAHs and toxicity equivalency. See Table 6 for calculations of toxicity equivalency.

mg/kg = milligrams per kilogram; NE = Not Established; NT = not tested; ND = not detected;

* = This PAH is carcinogenic; **BOLD** indicates detected concentration is greater than MTCA Method A Unrestricted Land Use cleanup criteria.

Table 6

Toxicity Equivalence Factor Analysis - Polycyclic Aromatic Hydrocarbons in Soil[1]

Former Cement Manufacturing Plant, Holcim Site Remedial Investigation

Spokane Valley, Washington

	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Indeno (1,2,3-cd) pyrene	
	(mg/kg)							
Toxicity Equivalency Factor	0.1000	1.0000	0.1000	0.1000	0.0100	0.1000	0.1000	PAHtot[3]
DP-41 (1-2)	0.057	0.0000	0.108	0.0000	0.09	0.0000	0.0000	
Toxicity Equivalency	0.0057	0.0000	0.0108	0.0000	0.0009	0.0000	0.0000	0.0174
DP-42 (0-2)	0.074	0.0000	0.072	0.0000	0.105	0.0000	0.0000	
Toxicity Equivalency	0.0074	0.0000	0.0072	0.0000	0.0011	0.0000	0.0000	0.0157
DP-44 (0-1.5)	0.085	0.132	0.217	0.098	0.122	0.0000	0.113	
Toxicity Equivalency	0.0085	0.1320	0.0217	0.0098	0.0012	0.0000	0.0113	**0.1845**
DP-57 (1-2)	0.0000	0.0000	0.109	0.0000	0.09	0.0000	0.0000	
Toxicity Equivalency	0.0000	0.0000	0.0109	0.0000	0.0009	0.0000	0.0000	0.0118
DP-58 (4-4.5)	0.073	0.0000	0.081	0.0000	0.100	0.0000	0.0000	
Toxicity Equivalency	0.0073	0.0000	0.0081	0.0000	0.0010	0.0000	0.0000	0.0164
DP-59 (0.5-1.5)	0.0000	0.0000	0.05	0.0000	0.053	0.0000	0.0000	
Toxicity Equivalency	0.0000	0.0000	0.0050	0.0000	0.0005	0.0000	0.0000	0.0055
DP-65 (1-2.5)	0.0000	0.053	0.0000	0.0000	0.0000	0.0000	0.057	
Toxicity Equivalency	0.0000	0.0530	0.0000	0.0000	0.0000	0.0000	0.0057	0.0587
DP-65 (4-4.7)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Toxicity Equivalency	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DP-70 (0-1)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Toxicity Equivalency	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DP-70 (2-2.9)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Toxicity Equivalency	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DP-71 (1.5-2.8)	0.072	0.076	0.114	0.0000	0.087	0.0000	0.0000	
Toxicity Equivalency	0.0072	0.0760	0.0114	0.0000	0.0009	0.0000	0.0000	0.0955
DP-72 (0-1.5)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Toxicity Equivalency	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Notes:

[1]Chemical analyses conducted by Anatek Labs, Inc. of Spokane, Washington. Results are reported in milligrams per kilograms (mg/kg).

[2]PAH = Polycyclic Aromatic Hydrocarbons analyzed by EPA Method 8270C.

[3]MTCA 173-340-708 was utilized to assess total cPAH concentration using Toxicity Equivalency Factors shown in Table 708-2 of MTCA. The cleanup level for cPAHs under MTCA Method A for Unrestricted Land Use is 0.1 mg/kg.

https://projects.geoengineers.com/sites/1631600102/Final/RI/[1631600102_RI_Tables 3-6.xlsx]Table 5

FIGURES

GeoEngineers

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Notes:
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2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: ESRI Data & Maps, Street Maps 2005

Transverse Mercator, Zone 11 N North, North American Datum 1983
North arrow oriented to grid north

Vicinity Map

Remedial Investigation
Holcim Inc. Site
Spokane Valley, Washington

GeoEngineers

Figure 1

Office: SPOK Path: P:\161631600\GIS\02\1631600102_Figure1.mxd CRC Map Revised: November 21, 2012

Legend

- Holcim Property Boundary
- Tax Parcels
- Temporary Fencing

Reference: Aerial photo provided by ESRI Data Online. Tax parcel boundaries provided by Spokane County Tax Assessor's Office.

250 0 250
Feet

N
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S

Notes:
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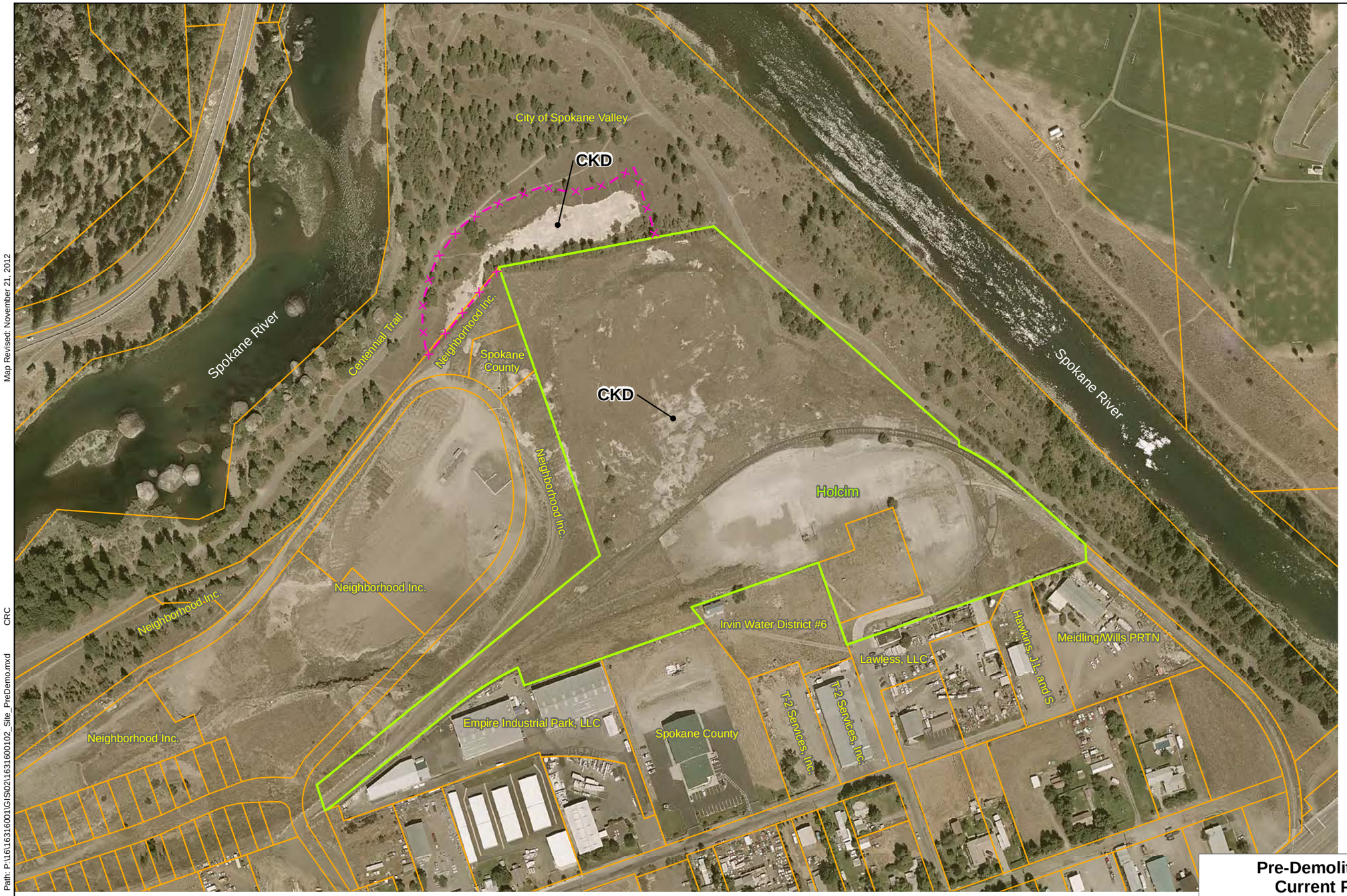
Site and Surrounding Properties

Remedial Investigation
Holcim Inc. Site
Spokane Valley, Washington

GeoEngineers

Figure 2

Map Revised: November 21, 2012
Path: W:\Spokane\Projects\161631600 1\GIS\02161631600102_Site_Surrounding Properties_Figure2.mxd CRC
OfficeLocation: SPOK



Legend

- Holcim Property Boundary
- Tax Parcels
- Temporary Fencing

Map Revised: November 21, 2012

Path: P:\161163160031GIS\02\161631600102_Site_PreDemo.mxd CRC

OfficeLocation: SPOK

Reference: 2006 aerial photo provided by Spokane County GIS Department. Tax parcel boundaries provided by Spokane County Tax Assessor's Office, downloaded April 16, 2007.

250 0 250
Feet

N W E S

Notes:
1. The locations of all features shown are approximate.
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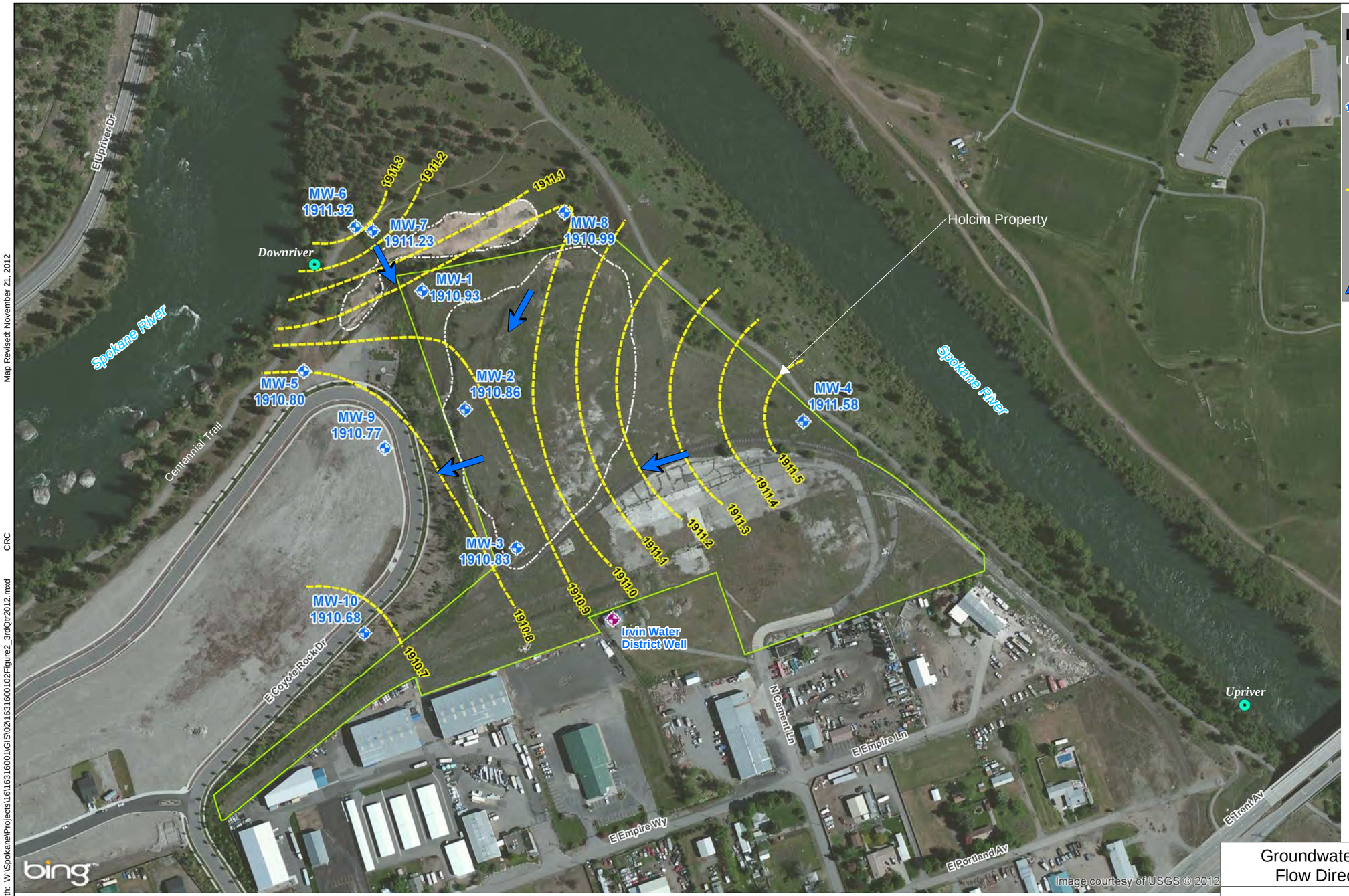
Pre-Demolition Site Layout and Current Parcel Boundaries

Remedial Investigation
Holcim Inc. Site
Spokane Valley, Washington

GeoEngineers

Figure 3



Legend

- *Upriver* — Approximate location of Spokane River surface water sample
- MW-1 1910.93 — Monitoring well location, well number and groundwater elevation (feet)
- Water Supply Well
- Interpreted groundwater elevation contour, 0.1-foot interval (feet)
- Approximate Limits of Contiguous CKD Fill
- Holcim tax parcel boundary
- Interpreted groundwater flow direction

Reference:
Monitoring well locations were surveyed by Thomas, Dean & Hoskins, Inc.
X-Y coordinates of well locations are referenced to NAD-83 (1991 adjustment). Elevations are referenced to NAVD-88.
Aerial photo provided by Bing, ESRI Online Data Services. Tax parcel boundaries provided by Spokane County Tax Assessor's Office, downloaded April 16, 2007.

Notes:
1. The locations of all features shown are approximate.
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250 0 250
Feet

N W E S

Groundwater Elevations and Inferred Flow Directions, August 28, 2012

Remedial Investigation
Holcim Inc. Site
Spokane Valley, Washington

GeoEngineers

Figure 4

Map Revised: November 21, 2012
Path: W:\SpokaneProjects\16\16316001\GIS\02\16316001021Figure2_3rdQtr2012.mxd
OfficeLocation: SPOK CRC

Legend

- HA-16 — Hand Auger Location
- MW-1 — Monitoring well location and well number
- DP-44 — Direct-Push Boring (2012, 2013)
- B-1 — Air Rotary Boring (2012)
- Existing Subsurface Exploration
- Water Supply Well
- Holcim Property Boundary
- Tax Parcels

Reference: Aerial photo provided by ESRI Data Online. Tax parcel boundaries provided by Spokane County Tax Assessor's Office, downloaded September 20, 2011.

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. Sample locations along north side of Spokane River are shown on this map.

250 0 250
Feet

N W E S

Site Plan-Boring and Well Locations

Remedial Investigation
Holcim Inc. Site
Spokane Valley, Washington

GeoEngineers

Figure 5

Map Revised: March 28, 2013
Path: P:\161163160011GIS\GIS\02116316001_RISubsurfaceExplorations2013.mxd
OfficeLocation: SPOK
CRC

Legend

- MW-1 — Monitoring well location and well number
- DP-44 — Direct-Push Boring (2012, 2013)
- B-1 — Air Rotary Boring (2012)
- Previous Subsurface Exploration (2007)
- TP-1 — Pilot StudyTest Pit (2010)
- Water Supply Well
- Approximate Limits of Contiguous CKD Fill
- Holcim Property Boundary
- Tax Parcels

Reference: Aerial photo provided by ESRI Data Online. Tax parcel boundaries provided by Spokane County Tax Assessor's Office, downloaded September 20, 2011.

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. Sample locations along north side of Spokane River are not shown on this map.

200 0 200
Feet

N W E S

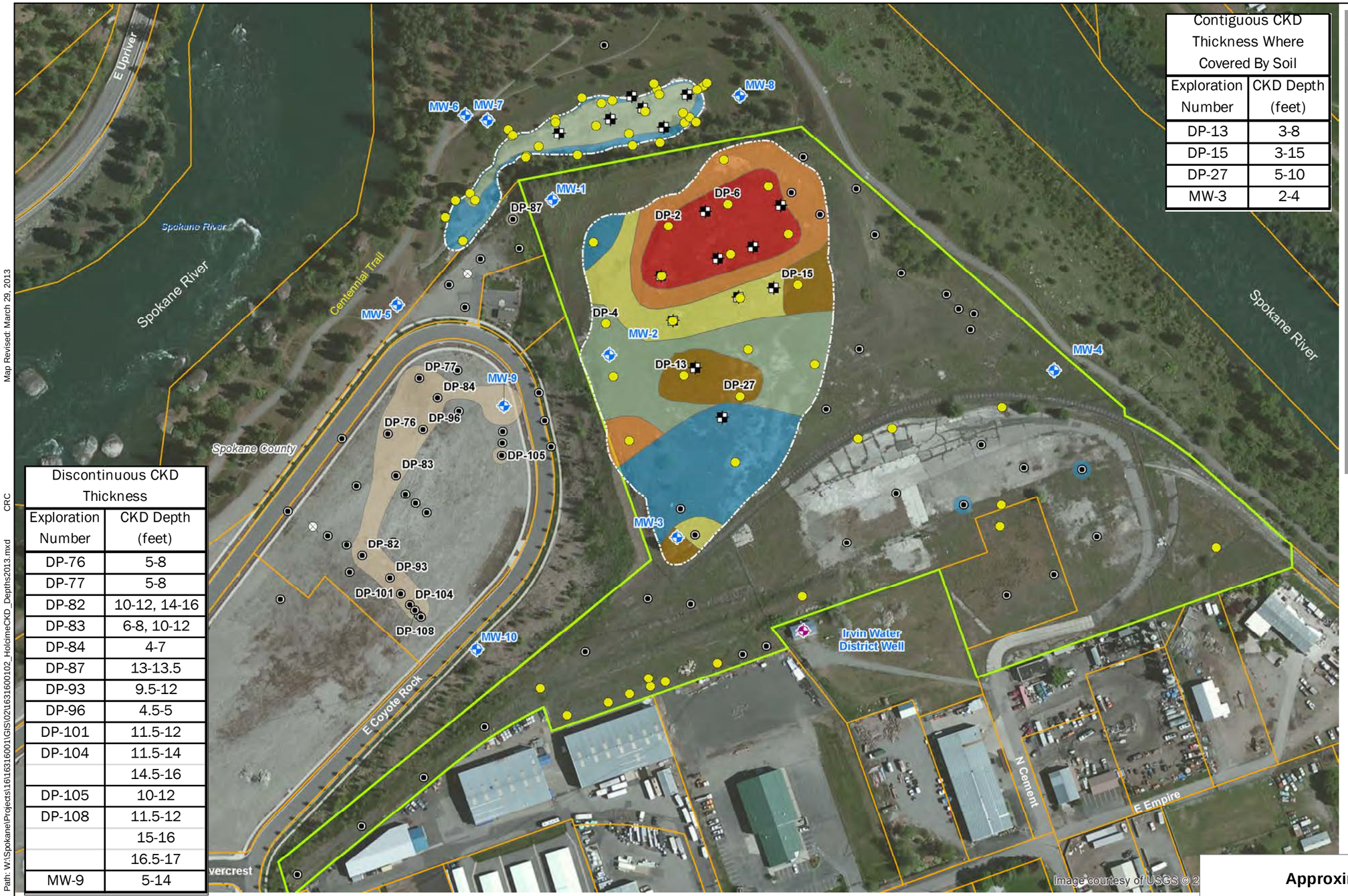
Summary of Site Explorations

Remedial Investigation
Holcim Inc. Site
Spokane Valley, Washington

GeoEngineers

Figure 6

Map Revised: March 28, 2013
Path: W:\Spokane\Projects\16\16316001\GIS\02\16316001_HolcimExplorations2013.mxd
OfficeLocation: SPO
CRC



Contiguous CKD Thickness Where Covered By Soil	
Exploration Number	CKD Depth (feet)
DP-13	3-8
DP-15	3-15
DP-27	5-10
MW-3	2-4

Legend

- MW-1 — Monitoring well location and well number
- DP-44 — Direct-push Boring (2012, 2013)
- Air Rotary Boring (2012)
- Previous Subsurface Exploration (2007)
- Pilot Study Test Pit (2010)
- Water Supply Well
- Approximate Limits of Contiguous CKD Fill
- Holcim Property Boundary
- Tax Parcels

Estimated CKD Depths (feet)

- 0 - 5'
- 0 - 10'
- 0 - 15'
- 0 - 20'
- 0 - 25'
- Contiguous CKD Covered with Soil. See Inset Table for Depth.
- Discontinuous Lenses of CKD Observed, See Inset Table For Depths

Discontinuous CKD Thickness	
Exploration Number	CKD Depth (feet)
DP-76	5-8
DP-77	5-8
DP-82	10-12, 14-16
DP-83	6-8, 10-12
DP-84	4-7
DP-87	13-13.5
DP-93	9.5-12
DP-96	4.5-5
DP-101	11.5-12
DP-104	11.5-14
	14.5-16
DP-105	10-12
DP-108	11.5-12
	15-16
	16.5-17
MW-9	5-14

Reference: Aerial photo provided by ESRI Data Online. Tax parcel boundaries provided by Spokane County Tax Assessor's Office, downloaded September 20, 2011.

Notes:
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2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. Sample locations along north side of Spokane River are not shown on this map.
4. Shaded areas are interpreted based on discrete data points

200 0 200
Feet

N W E S

Approximate Limits of CKD

Remedial Investigation
Holcim Inc. Site
Spokane Valley, Washington

GeoEngineers

Figure 7

Map Revised: March 29, 2013

Path: W:\Spokane\Projects\16i16316001\GIS\02\16316001600102_HolcimeCKD_Depths2013.mxd

OfficeLocation: SPO

CRC

Legend

- MW-1 — Monitoring well location and well number
- Direct-Push Boring (2012, 2013)
- Air Rotary Boring (2012)
- Previous Subsurface Exploration (2007)
- Pilot Study Test Pit (2010)
- Water Supply Well
- Approximate Limits of Contiguous CKD Fill
- Metals Contamination in CKD Greater than MTCA Method A Cleanup Level
- Metals Contamination in Soil Greater than MTCA Method A Cleanup Level
- Holcim Property Boundary
- Tax Parcels

Reference: Aerial photo provided by ESRI Data Online. Tax parcel boundaries provided by Spokane County Tax Assessor's Office, downloaded September 20, 2011.

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. Sample locations along north side of Spokane River are not shown on this map.
4. Metals include one or more of the following: arsenic, cadmium, and lead

200 0 200
Feet

N W E S

Approximate Limits of Metals Contamination Greater than MTCA Method A Cleanup Levels

Remedial Investigation
Holcim Inc. Site
Spokane Valley, Washington

GeoEngineers

Figure 8

Map Revised: March 28, 2013
Path: W:\Spokane\Projects\16i16316001\GIS\02\16316001\02_HolcimExplorationsMetals2013.mxd
OfficeLocation: SPO CRC

Legend

- MW-1 — Monitoring well location and well number
- Direct-Push Boring (2012, 2013)
- Air Rotary Boring (2012)
- Previous Subsurface Exploration (2007)
- Pilot Study Test Pit (2010)
- PAH contamination greater than MTCA Method A Cleanup Level
- Benzene contamination greater than MTCA Method A Cleanup Level
- GRPH contamination greater than MTCA Method A Cleanup Level
- Water Supply Well
- Approximate Limits of Contiguous CKD Fill
- Holcim Property Boundary
- Tax Parcels

Reference: Aerial photo provided by ESRI Data Online. Tax parcel boundaries provided by Spokane County Tax Assessor's Office, downloaded September 20, 2011.

Notes:
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3. Sample locations along north side of Spokane River are not shown on this map.

200 0 200
Feet

N W E S

Approximate Limits of TPH, BTEX, and PAH Contamination Greater than MTCA Method A Cleanup Levels

Remedial Investigation
Holcim Inc. Site
Spokane Valley, Washington

GeoEngineers

Figure 9

Path: W:\Spokane\Projects\16\16316001\GIS\02\16316001602_HolcimExplorations_PAH_BEN_GRPH2013.mxd CRC Map Revised: March 29, 2013

OfficeLocation: SPO

Legend

- MW-1 — Monitoring well location and well number
- Direct-Push Boring (2012, 2013)
- Air Rotary Boring (2012)
- Previous Subsurface Exploration (2007)
- Pilot Study Test Pit (2010)
- Water Supply Well
- pH > 12.5. pH greater than 12.5 Designates a Dangerous Waste per Dangerous Waste Regulations.
- Approximate Limits of Contiguous CKD Fill
- Holcim Property Boundary
- Tax Parcels

Reference: Aerial photo provided by ESRI Data Online. Tax parcel boundaries provided by Spokane County Tax Assessor's Office, downloaded September 20, 2011.

Notes:
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2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. Sample locations along north side of Spokane River are not shown on this map.

200 0 200
Feet

N W E S

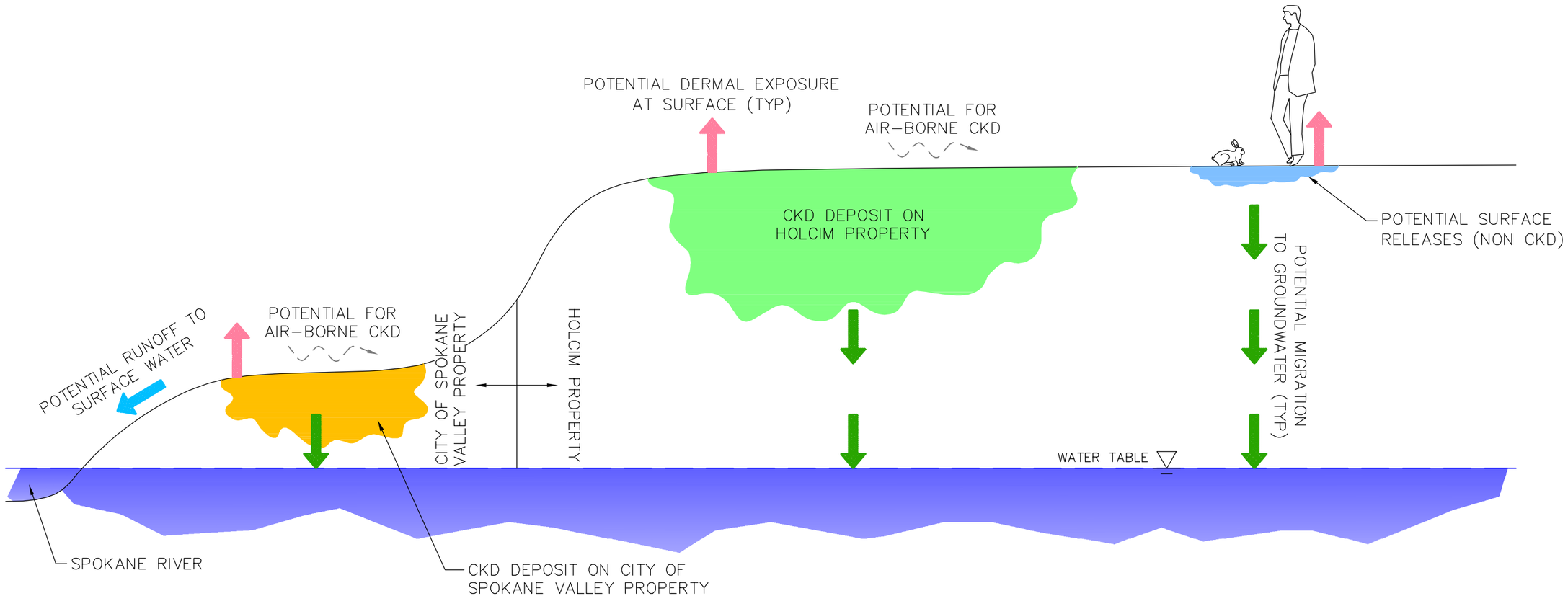
Approximate Limits of pH Level > 12.5

Remedial Investigation
Holcim Inc. Site
Spokane Valley, Washington

GeoEngineers

Figure 10

Map Revised: March 28, 2013
Path: W:\Spokane\Projects\16\16316001\GIS\02\16316001602_HolcimExplorations_pH2013.mxd
OfficeLocation: SPO CRC



LEGEND

- POTENTIAL RUNOFF TO SURFACE WATER
- POTENTIAL MIGRATION TO GROUNDWATER
- POTENTIAL DERMAL EXPOSURE AT SURFACE
- POTENTIAL FOR AIR–BORNE CKD

NOT TO SCALE

Notes

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Reference: Drawing created from previous GeoEngineers figure.

Conceptual Site Model

Remedial Investigation
Holcim Inc. Site
Spokane Valley, Washington

GeoEngineers

Figure 11

BDW : MGF

\\SPO\projects\16\16316001\02\CAD\dwg\16316001\02-F11.dwg\TAB:Figure 10 modified on Jan 24, 2013 - 9:06am

Legend

- Cross Section
- Topographic Contour[3]
- HA-1 — Hand Auger Boring, CKD Fill Observed
- DP-1 — Direct Push Boring, CKD Fill Observed
- Monitoring Well
  - MW-1 — CKD Fill Not Observed
  - MW-2 — CKD Fill Observed
- Surrounding Tax Parcels
- Site Tax Parcel

Reference: Topographic contour information produced by Thomas, Dean, and Hoskins (2007); Aerial Photo provided by Bing Maps; Tax parcel boundaries provided by Spokane County Tax Assessor's Office, downloaded September 20, 2011.

Notes:
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2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. Topographic contour labels are elevation in feet relative to NAVD 88. The contour interval is 2 feet.

200 0 200
Feet

N W E S

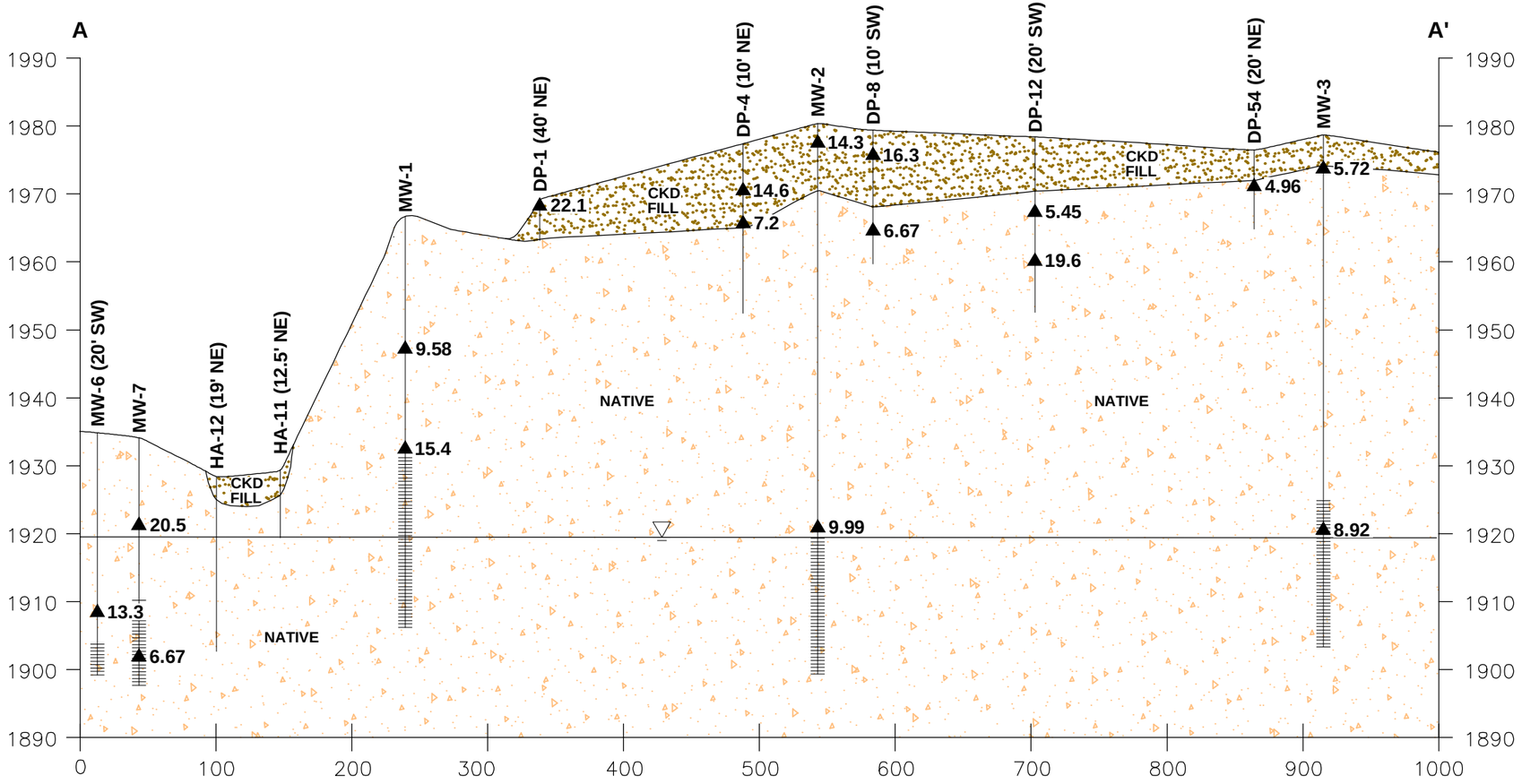
Holcim Property Topographic Contours and Cross Section Locations

Remedial Investigation
Holcim Inc. Site
Spokane Valley, Washington

GeoEngineers

Figure 12

Map Revised: January 16, 2013 CRC
Path: P:\16\11631600\1\GIS\02116310010\2_Figure3.mxd
OfficeLocation: SPOK



Legend

DP-4 — Boring Number

Screened Internal

14.6 — Arsenic Concentrations in Soil (mg/kg)

Approximate Groundwater Elevation on May 23, 2012

CKD Fill Soil

Native Soil

SCALE

Horizontal Scale: 1"=100'
Vertical Scale: 1"=20'
Vertical Exaggeration: 5:1

Notes:
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3. Topographic contour labels are elevation in feet relative to NAVD 88.

Reference: Base sketch provided by GeoEngineers, Inc personnel, titled "Holcim" dated 10/2/09.

Holcim Property
Cross Sections A-A' and B-B'

Remedial Investigation Work Plan
Holcim Inc. Site
Spokane Valley, Washington

GeoEngineers

Figure 13

APPENDICES

GeoEngineers

APPENDIX A
Results of Previous Site Investigations

APPENDIX A
RESULTS OF PREVIOUS SITE INVESTATIONS

This appendix includes soil and groundwater analytical tables from previous investigation activities conducted in 2007 and 2008. A description of each table is provided below:

Table A-1

Provides a summary of analytical results from soil samples collected on the Holcim property in April and May 2007 from direct-push probes DP-1 through DP-30, grab samples G-1 through G-4, and monitoring wells MW-1 through MW-4. These data are limited to metals and pH results.

Table A-2

Provides a summary of analytical results from soil samples collected on the Holcim property in April and May 2007 from a limited number of the explorations listed above. These data are limited to TPH, BTEX, and PAH results.

Table A-3

Provides the toxicity equivalence factor analysis for the one sample (G-1) collected on the Holcim property in May 2007 that contained cPAH concentrations greater than MTCA Method A unrestricted land use cleanup levels.

Table A-4

Provides a summary of analytical results from soil samples collected on the City property in November 2007 from direct-push probes DP-31 through DP-40 and test pits TP-1 through TP-7. These data are limited to metals and pH results.

Table A-5

Provides a summary of analytical results from brick samples collected on the Holcim property in May 2007 (BRK-1 through BRK-9) for pH and chromium analyses.

Table A-6

Provides a summary of analytical results from groundwater samples collected on the Holcim property in May and October 2007 from groundwater monitoring wells MW-1 through MW-4. The analytical suite during the May 3, 2007 event was extensive and included metals, drinking water parameters, VOCs, PCBs, and PAHs. The analytical suite during the May 23, 2007 and October 30, 2007 events was limited to dissolved metals.

Table A-7

Provides a summary of analytical results of surface water samples collected from the Spokane River in August and October 2007.

Table A-8

Provides a summary of arsenic concentrations in groundwater samples collected from several wells near the Site (considered background).

Table A-9

Provides a summary of arsenic concentrations in soil samples collected from the Holcim property in May, June, and November 2007 and associated with the installation of the Spokane County sewer utility in November 2007.

Table A-10

Provides a summary of analytical results from soil samples collected on the City property in May 2008 from monitoring wells MW-5 through MW-8. These data are limited to metals and pH results.

Table A-1

Summary of Chemical Analytical Results - pH and Metals in Soil[1]

Phase II Environmental Site Assessment, Holcim Site

Spokane Valley, Washington

Sample Number	Date Sampled	Depth (feet)	Soil Type	pH[2] (mg/kg)	Arsenic[2] (mg/kg)	Barium[2] (mg/kg)	Cadmium[2] (mg/kg)	Chromium[2] (mg/kg)	Hexavalent Chromium[2] (mg/kg)	Lead[2] (mg/kg)	Mercury[2] (mg/kg)	Selenium[2] (mg/kg)	Silver[2] (mg/kg)	Moisture in Soil (%)
DP-1 (1-2)	05/03/07	1-2	CKD Fill	7.40	**22.1**	139	**5.02**	148	0.11	**531**	0.539	<0.5	2.2	11.4
DP-2 (18-20)	05/01/07	18-20	CKD Fill	12.34	15	426	**8.12**	39.4	<0.083	**262**	<0.05	2.57	1.04	51
DP-2 (21-23)	05/01/07	21-23	CKD Fill	**12.69**	12.2	230	**4.96**	25.1	NT	**426**	<0.05	1.88	0.538	48.5
DP-3 (0.5-2)	05/01/07	0.5-2	CKD Fill	12.47	**44.3**	141	**4.18**	44.3	<0.083	**699**	<0.05	5.86	0.804	51.2
DP-3 (17-19)	05/01/07	17-19	Fill	9.71	17.4	101	<0.5	24.6	NT	13	<0.05	<0.5	<0.5	4.5
DP-4 (6-7)	05/03/07	6-7	CKD Fill	11.91	14.6	191	**2.2**	19.3	<0.05	176	<0.05	<0.5	<0.5	18.1
DP-4 (10.5-12.5)	05/03/07	10.5-12.5	Fill/Native	11.85	7.22	92	<0.5	16.6	NT	15.9	<0.05	<0.5	<0.5	12.4
B-5@20	04/27/07	20	CKD Fill	**12.8**	10.5	184	**3.72**	17.8	NT	**256**	<0.05	1.75	<0.5	36.8
B-5@26	04/27/07	26	Native	12.33	5.58	117	<0.5	19.1	NT	30.7	<0.05	<0.5	<0.5	12.6
DP-6 (20-22)	05/03/07	20-22	CKD Fill	**13.36**	**29.7**	550	**8.41**	50.5	0.94	**281**	<0.05	5.01	1.5	52
DP-6 (25-27)	05/03/07	25-27	Native	9.82	9.6	88	<0.5	17.25	NT	11.6	<0.05	<0.5	<0.5	13
DP-7 (12-14)	05/01/07	12-14	CKD Fill	**12.58**	17.6	119	1.37	39.9	NT	105	<0.05	1.15	<0.5	30.1
DP-7 (21-23)	05/01/07	21-23	Fill	**12.64**	13.7	122	1.57	22.4	NT	209	<0.05	1.46	<0.5	20.4
DP-8 (3-3.75)	05/03/07	3-3.75	CKD Fill	11.75	16.3	127	**4.93**	20.2	<0.083	**633**	<0.05	1.87	0.736	37.1
DP-8 (13-15)	05/03/07	13-15	Fill/Native	11.35	6.67	97.7	<0.5	18.6	NT	13.1	<0.05	<0.5	<0.5	9.4
DP-9 (8-10)	05/03/07	8-10	CKD Fill	**12.54**	10.7	166	<0.5	25.2	<0.083	52.9	<0.05	<0.5	<0.5	25.7
DP-9 (13-14)	05/03/07	13-14	Fill/Native	9.98	8.95	116	<0.5	15.5	NT	10.5	<0.05	<0.5	<0.5	13
DP-10 (13-15)	05/03/07	13-15	CKD Fill	**12.72**	16.3	272	**2.62**	23.9	0.09	**296**	<0.05	1.83	<0.5	24.3
DP-10 (25-27)	05/03/07	25-27	Native	12.46	5.65	72.5	<0.5	16.2	0.12	25.4	<0.05	<0.5	<0.5	9.1
DP-11 (18-20)	05/03/07	18-20	CKD Fill	**13.3**	14.1	280	**5.96**	22.3	0.1	**982**	0.178	4.12	0.704	44.2
DP-11 (23-24)	05/03/07	23-24	Native	12.26	4.55	120	<0.50	38.5	NT	11.5	<0.05	<0.5	<0.5	8.2
DP-12 (10-11)	05/03/07	10-11	CKD Fill	11.15	5.45	57	<0.5	14.5	NT	20.9	<0.05	<0.5	<0.5	6.3
DP-12 (17-18)	05/03/07	17-18	Native	9.41	19.6	66.3	<0.5	11.8	NT	9.84	<0.05	1.02	<0.5	4.6
DP-13 (10-11)	05/04/07	10-11	Fill	**12.53**	6.04	41.4	<0.5	13	NT	11	<0.05	<0.5	<0.5	20.1
DP-14 (10-11)	05/02/07	10-11	CKD Fill	12.42	10.3	121	**6.72**	13.6	0.09	**1760**	<0.05	0.559	1.5	38.8
DP-14 (15-16)	05/02/07	15-16	Native	8.42	5.55	102	<0.5	25.7	NT	10	<0.05	<0.5	<0.5	5.5
DP-15 (21-22)	05/04/07	21-22	Native	10.62	5.1	57.5	<0.5	15.7	NT	9.33	<0.05	<0.5	<0.5	7.6
DP-16 (8-8.25)	05/02/07	8-8.25	Native	9.66	6.42	91.3	<0.5	11.6	NT	8.86	<0.05	<0.5	<0.5	12.4
DP-21 (5)	05/02/07	5	Native	NT	11.2	NT	NT	NT	NT	NT	NT	NT	NT	8.1
DP-21 (12-13)	05/02/07	12-13	Native	8.97	8.73	85	<0.5	14.2	NT	13.2	<0.05	<0.5	<0.5	3.1
DP-22 (5)	05/02/07	5	Fill	NT	6.78	NT	NT	NT	NT	NT	NT	NT	NT	12
DP-22 (15)	05/02/07	15	Native	10.25	9.15	56.4	<0.5	15.2	NT	11.5	<0.05	<0.5	<0.5	4.1
DP-23 (5)	05/02/07	5	Fill	NT	3.16	NT	NT	NT	NT	NT	NT	NT	NT	5.1

Sample Number	Date Sampled	Depth (feet)	Soil Type	pH[2] (mg/kg)	Arsenic[2] (mg/kg)	Barium[2] (mg/kg)	Cadmium[2] (mg/kg)	Chromium[2] (mg/kg)	Hexavalent Chromium[2] (mg/kg)	Lead[2] (mg/kg)	Mercury[2] (mg/kg)	Selenium[2] (mg/kg)	Silver[2] (mg/kg)	Moisture in Soil (%)
DP-23 (15)	05/02/07	15	Native	9.15	4.26	74	<0.5	13.2	NT	6.26	<0.05	<0.5	<0.5	3.2
DP-24 (5)[3]	05/02/07	5	Fill	NT	**160**	NT	NT	NT	NT	NT	NT	NT	NT	9.5
DP-24 (10)[3]	05/02/07	10	Native	NT	9.96	NT	NT	NT	NT	NT	NT	NT	NT	8.4
DP-24 (15)[3]	05/02/07	15	Native	8.91	**28.9**	111	<0.5	19.2	NT	12.4	<0.05	<0.5	<0.5	5
DP-24 (20)	05/02/07	20	Native	NT	6.51	NT	NT	NT	NT	NT	NT	NT	NT	5.1
DP-25 (5)	05/02/07	5	Fill	NT	**172**	NT	NT	NT	NT	NT	NT	NT	NT	10.5
DP-25 (15)	05/02/07	15	Native	8.89	12.1	57.1	<0.5	14.7	NT	14.4	<0.05	<0.5	<0.5	5.1
DP-26 (5-7)	05/04/07	5-7	Native	9.46	9.33	89.6	<0.5	57.2	NT	9.28	<0.05	<0.5	<0.5	8.1
DP-27 (10.5-12.5)	05/04/07	10.5-12.5	Native	9.25	11.2	47.4	<0.5	18.1	NT	14.1	<0.05	<0.5	<0.5	5
DP-28 (5.5-7.5)	05/04/07	5.5-7.5	Native	12.17	4.55	102	<0.5	16.3	NT	6.74	<0.05	<0.5	<0.5	13.2
DP-29 (11-13)	05/04/07	11-13	Native	8.91	7.72	46.8	<0.5	16.7	NT	8.55	<0.05	<0.5	<0.5	4.9
DP-30 (0.5-1.25)	05/04/07	0.5-1.25	Fill	8.28	13.5	270	<0.5	16.5	NT	23.9	<0.05	<0.5	<0.5	13.9
DP-30 (15-17)	05/04/07	15-17	Fill	8.70	7.5	91.2	<0.5	20.4	NT	16.1	<0.05	<0.5	<0.5	2.3
G-1 (0.5)	05/04/07	0.5	Fill	7.53	0.328	17.1	<0.5	0.512	NT	0.696	<0.05	<0.5	<0.5	11.1
G-2 (2)[4]	06/14/07	2	Fill	NT	**219**	NT	NT	NT	NT	NT	NT	NT	NT	6.8
G-3 (2)	06/14/07	2	Fill	NT	**101**	NT	NT	NT	NT	NT	NT	NT	NT	6
G-4 (2)	06/14/07	2	Fill	NT	**28.9**	NT	NT	NT	NT	NT	NT	NT	NT	4.5
MW-1@19	04/26/07	19	Native	9.28	9.58	112	<0.5	14.8	NT	8.34	<0.05	<0.5	2.69	14.8
MW-1@33.5	04/26/07	33.5	Native	8.79	15.4	65.4	<0.5	10.6	NT	12.9	<0.05	<0.5	<0.5	8.7
MW-2@3	04/25/07	3	CKD Fill	12.12	14.3	183	**4.85**	19.2	NT	**619**	<0.05	1.79	0.771	41.2
MW-2@59	04/25/07	59	Native	8.05	9.99	48.3	<0.5	11.7	NT	5.49	<0.05	<0.5	<0.5	8.7
MW-3@5.0	04/24/07	5	Native	10.11	5.72	67.2	<0.5	11.9	NT	9.03	<0.05	<0.5	<0.5	7
MW-3@58.0	04/24/07	58	Native	9.03	8.92	47.3	<0.5	9.94	NT	10.9	<0.05	<0.5	<0.05	8
MW-4@3.0	04/24/07	3	Native	9.09	**29.3**	207	0.876	20.4	NT	34.4	<0.05	<0.5	<0.5	24.1
MW-4@60.0	04/24/07	60	Native	8.56	14.4	54.8	<0.5	11.2	NT	8.26	<0.05	<0.5	<0.5	10.4
MTCA Cleanup Values[5]														
Unrestricted Land-Use					20	NE	2	2,000	19	250	2	NE	NE	--
Industrial Property					20	NE	2	2,000	19	1,000	2	NE	NE	--

Notes:

[1]Chemical analyses conducted by Anatek Labs, Inc. of Spokane, Washington.

[2]pH was analyzed using EPA Method 9045. Arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver were analyzed using EPA Method 6020A. Chromium (VI) was analyzed using EPA Method 7196A.

[3]Samples collected from DP-24 at 5, 10 and 15 foot depths were composited and submitted for Toxicity Characteristic Leaching Procedure (TCLP) arsenic. Results were non-detect.

[4]Samples collected from G-2 was submitted for Toxicity Characteristic Leaching Procedure (TCLP) arsenic. Results were non-detect.

[5]MTCA = Washington State, Model Toxics Control Act, Method A Cleanup levels

mg/kg = milligrams per kilogram; NE = Not Established; NT = not tested

BOLD indicates detected concentration is above one or more potential cleanup levels. (Note: MTCA does not include a pH cleanup level. However, Dangerous Waste Regulations indicate soil with a pH greater than 12.5 designates as dangerous waste if excavated. Therefore, pH levels greater than 12.5 are bolded.

Table A-2

Summary of Chemical Analytical Results - TPH, BETX and PAHs in Soil[1]

Phase II Environmental Site Assessment, Holcim Site

Spokane Valley, Washington

Sample Number	Date Sampled	Depth (feet	Soil Type	HCID GRPH[2] (mg/kg)	HCID DRPH[2] (mg/kg)	HCID ORPH[2] (mg/kg)	GRPH[3] (mg/kg)	DRPH[4] (mg/kg)	ORPH[4] (mg/kg)	Benzene[5] (mg/kg)	Ethyl-Benzene[5] (mg/kg)	Toluene[5] (mg/kg)	Total Xylenes[5] (mg/kg)	PAHs[6] (mg/kg)	Moisture in Soil (%)
DP-3 (0.5-2)	05/01/07	0.5-2	Fill	NT	NT	NT	<5	NT	NT	<0.010	<0.010	<0.010	<0.02	NT	
DP-17 (1-2)	05/01/07	1-2	Native	NT	NT	NT	<2.5	<25	1,830	<0.0250	<0.0250	<0.0250	<0.0750	NT	3
DP-18 (10-12)	05/01/07	10-12	Native	NT	NT	NT	2.63	<25	101	<0.0250	<0.0250	<0.0250	<0.0750	NT	6
DP-19 (15-17)	05/01/07	15-17	Native	NT	NT	NT	<2.5	<25	<100	<0.0250	<0.0250	<0.0250	<0.0750	NT	9.1
DP-20 (11-13)	05/01/07	11-13	Native	NT	NT	NT	<2.5	<25	<100	<0.0250	<0.0250	<0.0250	<0.0750	NT	6.1
DP-21 (12-13)	05/02/07	12-13	Native	<25	<50	<100	NT	NT	NT	NT	NT	NT	NT	NT	3.1
DP-22 (15)	05/02/07	15	Native	<25	<50	<100	NT	NT	NT	NT	NT	NT	NT	NT	4.1
DP-23 (15)	05/02/07	15	Native	<25	<50	<100	NT	NT	NT	NT	NT	NT	NT	NT	3.2
DP-24 (15)	05/02/07	15	Native	<25	<50	<100	NT	NT	NT	NT	NT	NT	NT	NT	5
DP-25 (15)	05/02/07	15	Native	<25	<50	<100	NT	NT	NT	NT	NT	NT	NT	NT	5.1
DP-29 (11-13)	05/04/07	11-13	Native	<25	<50	<100	NT	NT	NT	NT	NT	NT	NT	NT	
DP-30 (0.5-1.25)	05/04/07	0.5-1.25	Fill	30	100	100	NT	NT	NT	NT	NT	NT	NT	NT	
DP-30 (15-17)	05/04/07	15-17	Fill	<25	<50	<100	NT	NT	NT	NT	NT	NT	NT	NT	
G-1 (0.5)	05/04/07	0.5	Fill	130	400	300	**48.2**	NT	NT	**0.0427**	0.115	0.396	1.54	2-Methylnaphthalene - 6.69 Acenaphthene - 0.972 Acenaphthylene - 0.807 Anthracene - 0.350 Benzo(ghi)perylene - 0.950 Benzon(a)anthracene* - **0.424** Benzo(a)pyrene* - **0.367** Benzo(b)fluoranthene* - **0.971** Chrysene* - **3.03** Dibenz(a,h)anthracene* - **1.30** Fluoranthene - 0.825 Indeno(1,2,3-cd)pyrene* - **0.966** Naphthalene - 1.74 Phenanthrene - 9.16 Pyrene - 0.833	

MTCA Cleanup Values[7]														
Unrestricted Land-Use			NE	NE	NE	30/100[8]	2,000	2,000	0.03	6	7	9	0.1[9]	
Industrial Property			NE	NE	NE	30/100[8]	2,000	2,000	0.03	6	7	9	2	

Notes:

[1]Chemical analyses conducted by Anatek Labs, Inc. of Spokane, Washington.

[2]Hydrocarbon identification (HCID) gasoline- (GRPH), HCID diesel- (DRPH), and HCID heavy oil-(ORPH) range petroleum hydrocarbons were analyzed using Method WATPH-HCID.

[3]Gasoline- (GRPH) range petroleum hydrocarbons were analyzed using Method NWTPH-Gx.

[4]Diesel- (DRPH) and heavy oil-(ORPH) range petroleum hydrocarbons were analyzed using Method NWTPH-DX.

[5]Benzene, ethylbenzene, toluene and total xylenes were analyzed using EPA Method 8021.

[6]Polycyclic aromatic hydrocarbons were analyzed using EPA Method 8270 Modified. Only detected analytes are shown.

[7]MTCA = Washington State, Model Toxics Control Act, Method A Cleanup levels

[8]GRPH cleanup level is 100 mg/kg if benzene is not present; 30 mg/kg if benzene is present.

[9]MTCA Method A Soil Cleanup Levels exist for total carcinogenic PAHs and toxicity equivalency. See Table 4 for calculations of toxicity equivalency.

mg/kg = milligrams per kilogram; NE = Not Established; NT = not tested; **BOLD** indicates detected concentration is above one or more potential cleanup levels.

* = This PAH is considered carcinogenic.

Table A-3

Toxicity Equivalence Factor Analysis - Carcinogenic Polycyclic Aromatic Hydrocarbons in Soil[1]

Phase II Environmental Site Assessment, Holcim Site

Spokane Valley, Washington

		Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h)anthracene	Indeno (1,2,3-cd) pyrene	
		(mg/kg)							
	Toxicity Equivalency Factor	0.1000	1.0000	0.1000	0.1000	0.0100	0.4000	0.1000	PAHtot
Sample ID	G-1[2]	0.4240	0.3670	0.9710		3.0300	1.3000	0.9660	
Toxicity Equivalency		**0.0424**	**0.3670**	**0.0971**	**0.0000**	**0.0303**	**0.5200**	**0.0966**	**1.1534**

Notes:

[1]Chemical analyses conducted by Anatek Labs, Inc. of Spokane, Washington. Results are reported in milligrams per kilograms (mg/kg)

[2]Sample analyzed for polycyclic aromatic hydrocarbons using EPA Method 8270 modified using GC/MS with Selected Ion Monitoring (SIM).

Table A-4

Summary of Off-Site Chemical Analytical Results - pH and Metals in Soil[1]

Phase II Environmental Site Assessment, Holcim Site

Spokane Valley, Washington

Sample Number	Date Sampled	Depth (feet)	Soil Type	pH[2] (mg/kg)	Arsenic[2] (mg/kg)	Barium[2] (mg/kg)	Cadmium[2] (mg/kg)	Chromium[2] (mg/kg)	Lead[2] (mg/kg)	Mercury[2] (mg/kg)	Selenium[2] (mg/kg)	Silver[2] (mg/kg)	Moisture in Soil (%)
DP-31 (2.5-3)	11/09/07	2.5-3	CKD Fill	**12.67**	**54.2**	124	**7.98**	30.8	**1070**	<0.05	10	1.73	59.8
DP-31 (10-10.5)	11/09/07	10-10.5	Native	11.91	18.8	202	<0.5	13	11.4	<0.05	<0.5	<0.5	9.9
DP-32 (8.5-9)	11/09/07	8.5-9	CKD Fill/Native	12.34	11.4	65.7	0.768	12.4	31.1	<0.05	0.728	<0.5	19.8
DP-32 (10-10.5)	11/09/07	10-10.5	Native	11.78	7.37	105	<0.5	21.3	11.1	<0.05	<0.5	<0.5	9.6
DP-32 (13.5-14)	11/09/07	13.5-14	Native	11.30	NT	NT	NT	NT	NT	NT	NT	NT	7.5
DP-33 (5.5-6)	11/09/07	5.5-6	CKD Fill	**12.92**	**44.1**	183	**5.87**	46	**722**	<0.05	9.33	1.26	48.3
DP-33 (10-10.5)	11/09/07	10-10.5	Native	11.63	6.74	75.0	<0.5	12.3	7.25	<0.05	<0.5	<0.5	4.5
DP-34 (8.5-9)	11/09/07	8.5-9	CKD Fill	**13.29**	**64.9**	237	**4.00**	98.9	249	<0.05	6.25	0.785	42.2
DP-35 (8.5-9)	11/09/07	8.5-9	CKD Fill	**13.03**	**86.9**	241	**3.68**	76.5	**383**	<0.05	8.15	0.921	47.4
DP-35 (10-10.5)	11/09/07	10-10.5	Native	11.01	4.97	89.1	<0.5	16.6	9.51	<0.05	<0.5	<0.5	3.1
DP-36 (2.5-3)	11/09/07	2.5-3	CKD Fill	**13.09**	**56.7**	121	**7.19**	39	247	<0.05	4.39	0.990	54
DP-36 (6.5-7)	11/09/07	6.5-7	CKD Fill/Native	**12.92**	19.4	115	**6.78**	37.6	**350**	<0.05	1.25	1.00	35.7
DP-37 (2.5-3)	11/09/07	2.5-3	CKD Fill	**13.06**	**61.1**	189	**8.28**	52.7	**338**	<0.05	11.6	1.17	53.9
DP-37 (10-10.5)	11/09/07	10-10.5	Native	**12.54**	6.68	86.8	<0.5	12.8	12.3	<0.05	<0.5	<0.5	8.1
DP-37 (14-14.5)	11/09/07	14-14.5	Native	11.14	NT	NT	NT	NT	NT	NT	NT	NT	11.6
DP-38 (2.5-3)	11/09/07	2.5-3	CKD Fill	**12.78**	**41.5**	141	**4.31**	56.2	**406**	<0.05	7.72	0.743	44
DP-39 (2.5-3)	11/09/07	2.5-3	CKD Fill	**12.68**	**44.6**	126	**8.41**	38.2	**297**	<0.05	7.76	1.29	56.8
DP-39 (7-7.5)	11/09/07	7-7.5	Native	11.95	7.10	146	<0.5	20.8	32.7	<0.05	<0.5	<0.5	8.1
DP-40 (5.5-6)	11/09/07	5.5-6	CKD Fill	**12.86**	**45.5**	127	**6.22**	24.3	**405**	<0.05	5.84	0.810	53.7
DP-40 (9-9.5)	11/09/07	9-9.5	Native	12.03	9.46	102	<0.5	16.2	14.0	<0.05	<0.5	<0.5	6.3
DP-40 (11-11.5)	11/09/07	11-11.5	Native	9.82	NT	NT	NT	NT	NT	NT	NT	NT	6.3
TP-1 (1.5-2)	11/13/07	1.5-2	Native	8.39	NT	NT	NT	NT	NT	NT	NT	NT	7.3
TP-2 (1.5-2)	11/13/07	1.5-2	Native	8.56	NT	NT	NT	NT	NT	NT	NT	NT	3.8
TP-3 (2-2.5)	11/13/07	2-2.5	Native	8.43	NT	NT	NT	NT	NT	NT	NT	NT	2.6
TP-4 (1.5-2)	11/13/07	1.5-2	Native	7.89	NT	NT	NT	NT	NT	NT	NT	NT	10.9
TP-5 (0-0.5)	11/13/07	0-0.5	CKD Fill	7.76	NT	NT	NT	NT	NT	NT	NT	NT	24.6

Sample Number	Date Sampled	Depth (feet)	Soil Type	pH[2] (mg/kg)	Arsenic[2] (mg/kg)	Barium[2] (mg/kg)	Cadmium[2] (mg/kg)	Chromium[2] (mg/kg)	Lead[2] (mg/kg)	Mercury[2] (mg/kg)	Selenium[2] (mg/kg)	Silver[2] (mg/kg)	Moisture in Soil (%)
TP-7 (1.5-2)	11/13/07	1.5-2	Native	7.92	NT	NT	NT	NT	NT	NT	NT	NT	15.2
MTCA Cleanup Values[3]													
Unrestricted Land-Use					20	NE	2	2,000	250	2	NE	NE	--
Industrial Property					20	NE	2	2,000	1,000	2	NE	NE	--

Notes:

[1]Chemical analyses conducted by Anatek Labs, Inc. of Spokane, Washington.

[2]pH was analyzed using EPA Method 9045. Arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver were analyzed using EPA Method 6020A.

[3]MTCA = Washington State, Model Toxics Control Act, Method A Cleanup levels

mg/kg = milligrams per kilogram; NE = Not Established; NT = not tested

BOLD indicates detected concentration is above one or more potential cleanup levels. (Note: MTCA does not include a pH cleanup level. However, Dangerous Waste Regulations indicate soil with a pH greater than 12.5 designates as dangerous waste if excavated. Therefore, pH levels greater than 12.5 are bolded.

Table A-5

Summary of Chemical Analytical Results - pH and Metals in Brick[1]

Phase II Environmental Site Assessment, Holcim Site

Spokane Valley, Washington

Sample Number	Date Sampled	pH[2] (mg/kg)	Chromium[2] (mg/kg)	Moisture Content (%)
BRK-1	05/16/07	9.11	4.27	0.1
BRK-2	05/16/07	9.07	0.956	0
BRK-3	05/16/07	9.30	1.66	0
BRK-4	05/16/07	9.07	3.37	0.1
BRK-5	05/16/07	9.02	2.72	0.2
BRK-6	05/16/07	8.98	4.37	0.2
BRK-7	05/16/07	9.15	1.58	0.1
BRK-8	05/16/07	8.57	7.12	1.4
BRK-9	05/16/07	8.52	<0.5	0.4
MTCA Cleanup Values[3]				
Unrestricted Land-Use			2,000	--
Industrial Property			2,000	--

Notes:

[1]Chemical analyses conducted by Anatek Labs, Inc. of Spokane, Washington.

[2]Chromium was analyzed using EPA Method 6020A. pH was analyzed using EPA Method 9045.

[3]MTCA = Washington State, Model Toxics Control Act, Method A Cleanup levels

mg/kg = milligrams per kilogram; **BOLD** indicates detected concentration is above one or more potential cleanup levels.

Table A-6

Summary of Chemical Analytical Results - Groundwater[1]

Phase II Environmental Site Assessment, Holcim Site

Spokane Valley, Washington

Analyte	Method	Monitoring Well				MTCA Method A Cleanup Criteria
		MW-1	MW-2	MW-3	MW-4	
Date Sampled: 5/3/2007						
Depth to Water	NA	51.16	65.33	63.19	58.31	
Water Table Elevation	NA	1,916.06	1,915.72	1,915.65	1916.69	
Field pH	NA	7.08	7.21	6.83	6.91	
Laboratory pH	EPA 150.1	7.47	7.95	7.53	7.75	
Total Arsenic (mg/L)	EPA 200.8	**0.149**	**0.261**	**0.150**	**0.218**	0.005
Total Barium (mg/L)	EPA 200.8	1.53	0.834	0.625	1.31	
Bicarbonate (mg/L)	SM2320B	72.8	289	169	115	
Total Cadmium (mg/L)	EPA 200.8	0.00259	0.00204	0.00100	0.00378	0.005
Calcium (mg/L)	EPA 200.8	37.8	43.6	59.3	50.9	
Carbonate (mg/L)	SM2320B	<10	<10	<10	<10	
Chloride (mg/L)	EPA 300.0	2.06	3.71	7.33	3.23	
Total Chromium (mg/L)	EPA 200.8	0.164	0.391	0.0644	0.122	
Chromium (VI) (µg/L)	EPA 7196A	<0.010	0.140	<0.010	<0.010	0.050
Total Lead (mg/L)	EPA 200.8	**0.278**	**0.205**	**0.118**	**0.199**	0.015
Magnesium (mg/L)	EPA 200.8	85.7	55.5	40.8	68.3	
Total Mercury-CV (mg/L)	EPA 245.2	0.0001	<0.0001	<0.0001	<0.0001	0.002
Potassium (mg/L)	EPA 200.8	28.6	165	9.39	19.3	
Total Selenium (mg/L)	EPA 200.8	<0.001	0.00397	<0.001	<0.001	
Total Silver (mg/L)	EPA 200.8	0.00324	0.00206	<0.001	0.00444	
Sodium (mg/L)	EPA 200.8	5.28	39.9	8.89	6.99	
TDS (mg/L)	EPA 160.1	124	472	216	136	
Sulfate (mg/L)	EPA 300.0	3.09	83.1	10.9	6.73	
VOC (ug/L)	EPA 8260B	NT	ND	NT	NT	
PCB (ug/L)	EPA 8082	NT	ND	NT	NT	
PAH (ug/L)	EPA 8270C	NT	ND	NT	NT	

Analyte	Method	Monitoring Well				MTCA Method A Cleanup Criteria
		MW-1	MW-2	MW-3	MW-4	
Date Sampled: 5/23/07						
Depth to Water	NA	52.66	66.66	64.52	59.83	
Water Table Elevation	NA	1,914.56	1,914.39	1,914.32	1,915.17	
Dissolved Arsenic (mg/L)	EPA 200.8	0.00361	**0.00502**	0.00298	**0.0067**	0.005
Dissolved Barium (mg/L)	EPA 200.8	0.0103	0.0369	0.0651	0.0441	NE
Dissolved Cadmium (mg/L)	EPA 200.8	<0.001			<0.001	0.005
Dissolved Chromium (mg/L)	EPA 200.8	<0.001	0.0206	0.00176	<0.001	0.050
Dissolved Lead (mg/L)	EPA 200.8	<0.001	<0.001	<0.001	<0.001	0.015
Dissolved Mercury-CV (mg/L)	EPA 245.2	<0.001	<0.001	<0.001	<0.001	0.002
Dissolved Selenium (mg/L)	EPA 200.8	<0.001	0.00131	<0.001	<0.001	NE
Dissolved Silver (mg/L)	EPA 200.8	<0.001	<0.001	<0.001	<0.001	NE
Date Sampled: 10/30/07						
Depth to Water	NA	57.64	71.68	69.55	64.20	
Water Table Elevation	NA	1909.58	1909.37	1909.29	1910.5	
Dissolved Arsenic (mg/L)	EPA 200.8	<0.001	0.00251	0.00463	0.00380	0.005
Dissolved Barium (mg/L)	EPA 200.8	0.0264	0.0496	0.0724	0.0470	NE
Dissolved Cadmium (mg/L)	EPA 200.8	<0.001	<0.001	<0.001	<0.001	0.005
Dissolved Chromium (mg/L)	EPA 200.8	<0.001	0.00313	<0.001	<0.001	0.050
Dissolved Lead (mg/L)	EPA 200.8	<0.001	<0.001	<0.001	<0.001	0.015
Dissolved Mercury-CV (mg/L)	EPA 245.2	<0.001	<0.001	<0.001	<0.001	0.002
Dissolved Selenium (mg/L)	EPA 200.8	<0.001	<0.001	<0.001	<0.001	NE
Dissolved Silver (mg/L)	EPA 200.8	<0.001	<0.001	<0.001	<0.001	NE

Notes:

[1]Chemical analyses conducted by Anatek Labs of Spokane, Washington.

TDS = total dissolved solids

VOC = volatile organic compounds

PCB = polychlorinated biphenyls

PAH = polycyclic aromatic hydrocarbons

ND = not detected; NT = not tested; NA = not applicable; NE = not established

m/L = micrograms per liter; mg/L = milligrams per liter; **BOLD** indicates detected concentration is above one or more potential cleanup levels.

Table A-7

Summary of Chemical Analytical Results - Spokane River[1]

Phase II Environmental Site Assessment, Holcim Site

Spokane Valley, Washington

Analyte	Method	Spokane River	MTCA Method A Cleanup Criteria
Date Sampled: 8/31/07			
Dissolved Arsenic (mg/L)	EPA 200.8	0.00237	0.005
Dissolved Barium (mg/L)	EPA 200.8	0.0218	NE
Dissolved Cadmium (mg/L)	EPA 200.8	<0.001	0.005
Dissolved Chromium (mg/L)	EPA 200.8	<0.001	0.050
Dissolved Lead (mg/L)	EPA 200.8	<0.001	0.015
Dissolved Mercury-CV (mg/L)	EPA 245.2	<0.001	0.002
Dissolved Selenium (mg/L)	EPA 200.8	<0.001	NE
Dissolved Silver (mg/L)	EPA 200.8	<0.001	NE
Date Sampled: 10/30/07			
Dissolved Arsenic (mg/L)	EPA 200.8	0.00100	0.005
Dissolved Barium (mg/L)	EPA 200.8	0.0142	NE
Dissolved Cadmium (mg/L)	EPA 200.8	<0.001	0.005
Dissolved Chromium (mg/L)	EPA 200.8	<0.001	0.050
Dissolved Lead (mg/L)	EPA 200.8	<0.001	0.015
Dissolved Mercury-CV (mg/L)	EPA 245.2	<0.001	0.002
Dissolved Selenium (mg/L)	EPA 200.8	<0.001	NE
Dissolved Silver (mg/L)	EPA 200.8	<0.001	NE

Notes:

[1]Chemical analyses conducted by Anatek Labs of Spokane, Washington.

NE = not established; mg/L = milligrams per liter;

BOLD indicates detected concentration is above one or more potential cleanup levels.

Table A-8

Summary of Dissolved Arsenic Chemical Analytical Results - Off-Site Groundwater Wells[1]

Phase II Environmental Site Assessment, Holcim Site

Spokane Valley, Washington

		USGS Well Number 474057117174101 Latitude 47°40'56.31", Longitude 117°17'44.20" 2.5 miles upgradient from the Holcim site
Date Sampled	Method	Arsenic Concentration (mg/kg)
6/27/1973	NS	**0.006**
9/25/1973	NS	0.001
12/18/1973	NS	**0.006**
3/19/1974	NS	0.003
10/4/1977	NS	0.003
		USGS Well Number 474152117133801 Latitude 47°41'53.70", Longitude 117°13'43.40" 0.5 miles upgradient from the Holcim site
Date Sampled	Method	Arsenic Concentration (mg/kg)
6/20/1979	NS	0.002
		USGS Well Number 474118117121501 Latitude 47°41'19.64", Longitude 117°12'23.44" 1.7 miles downgradient from the Holcim site
Date Sampled	Method	Arsenic Concentration (mg/kg)
6/27/1973	NS	0.004
9/25/1973	NS	**0.006**
12/18/1973	NS	0.003
3/20/1974	NS	0.002
3/28/1977	NS	0.003
10/3/1977	NS	0.003
		USGS Well Number 474118117121501 Latitude 47°40'25.57", Longitude 117°11'53.22" 2.5 miles downgradient from the Holcim site
Date Sampled	Method	Arsenic Concentration (mg/kg)
10/4/2000	EPA 200.8	0.0024
12/20/2000	EPA 200.8	0.0020
3/29/2001	EPA 200.8	0.0026
5/2/2001	EPA 200.8	0.0032
5/21/2001	EPA 200.8	0.0026
8/14/2001	EPA 200.8	0.0027

Notes:

[1]Chemical analytical results obtained from the USGS National Water Information System (http://nwis.waterdata.usgs.gov) on November 28, 2007.

NS = not specified; mg/L = milligrams per liter; **BOLD** indicates detected concentration is above the MTCA Method A cleanup criteria of 0.005 mg/L

Table A-9

Summary of Chemical Analytical Results - Arsenic in Soil[1]

Phase II Environmental Site Assessment, Holcim Site

Spokane Valley, Washington

Sample Number	Date Sampled	Depth (feet)	Soil Type	Arsenic[2] (mg/kg)
DP-21 (5)	05/02/07	5	Native	11.2
DP-21 (12-13)	05/02/07	12-13	Native	8.73
DP-22 (5)	05/02/07	5	Fill	6.78
DP-22 (15)	05/02/07	15	Native	9.15
DP-23 (5)	05/02/07	5	Fill	3.16
DP-23 (15)	05/02/07	15	Native	4.26
DP-24 (5)[3]	05/02/07	5	Fill	**160**
DP-24 (10)[3]	05/02/07	10	Native	9.96
DP-24 (15)[3]	05/02/07	15	Native	**28.9**
DP-24 (20)	05/02/07	20	Native	6.51
DP-25 (5)	05/02/07	5	Fill	**172**
DP-25 (15)	05/02/07	15	Native	12.1
G-1 (0.5)	05/04/07	0.5	Fill	0.328
G-2 (2)[4]	06/14/07	2	Fill	**219**
G-3 (2)	06/14/07	2	Fill	**101**
G-4 (2)	06/14/07	2	Fill	**28.9**
CS-1 (18)	11/14/07	18	Native	**148**
CS-2 (6)	11/15/07	6	Native	15.8
CS-3 (6)	11/15/07	6	Native	8.42
CS-4 (6)	11/15/07	6	Native	6.71
CS-5 (6)	11/15/07	6	Native	8.27
MTCA Cleanup Values[5]				
Unrestricted Land-Use				20
Industrial Property				20

Notes:

[1]Chemical analyses conducted by Anatek Labs, Inc. of Spokane, Washington.

[2]Arsenic was analyzed using EPA Method 6020A.

[3]Samples collected from DP-24 at 5, 10 and 15 foot depths were composited and submitted for Toxicity Characteristic Leaching Procedure (TCLP) arsenic. Results were non-detect.

[4]Samples collected from G-2 was submitted for Toxicity Characteristic Leaching Procedure (TCLP) arsenic. Results were non-detect.

[5]MTCA = Washington State, Model Toxics Control Act, Method A Cleanup levels

mg/kg = milligrams per kilogram; NE = Not Established; NT = not tested; **BOLD** indicates detected concentration is above one or more potential cleanup levels.

Table A-10

Summary of Chemical Analytical Results - Soil[1]

Phase II Environmental Site Assessment, Holcim Site
Spokane Valley, Washington

Monitoring Well Boring	Date Sampled	Sample Depth Interval (feet)	Total Arsenic [2] (mg/kg)	Total Cadmium [2] (mg/kg)	Total Lead [2] (mg/kg)	pH [3] (mg/kg)	Moisture Content (percent)
MW-5	05/15/08	10-11.5	10.6	<0.5	7.78	8.43	7.3
MW-6	05/15/08	10-11	13.3	<0.5	9.12	8.50	6.2
MW-7	05/15/08	12.5-13.25	**20.5**	<0.5	9.75	8.52	10.8
MW-7	05/15/08	30-31.5	6.67	<0.5	6.06	7.84	17.9
MW-8	05/16/08	12.5-14	**20.1**	<0.5	8.74	8.15	9.0
MTCA Cleanup Levels (unrestricted land use)[4]			20	2	250	NA	NA
MTCA Cleanup Levels (industrial land use)[5]			20	2	1,000	NA	NA

Notes:

[1]Chemical analyses conducted by Anatek Labs, Inc. of Spokane, Washington.

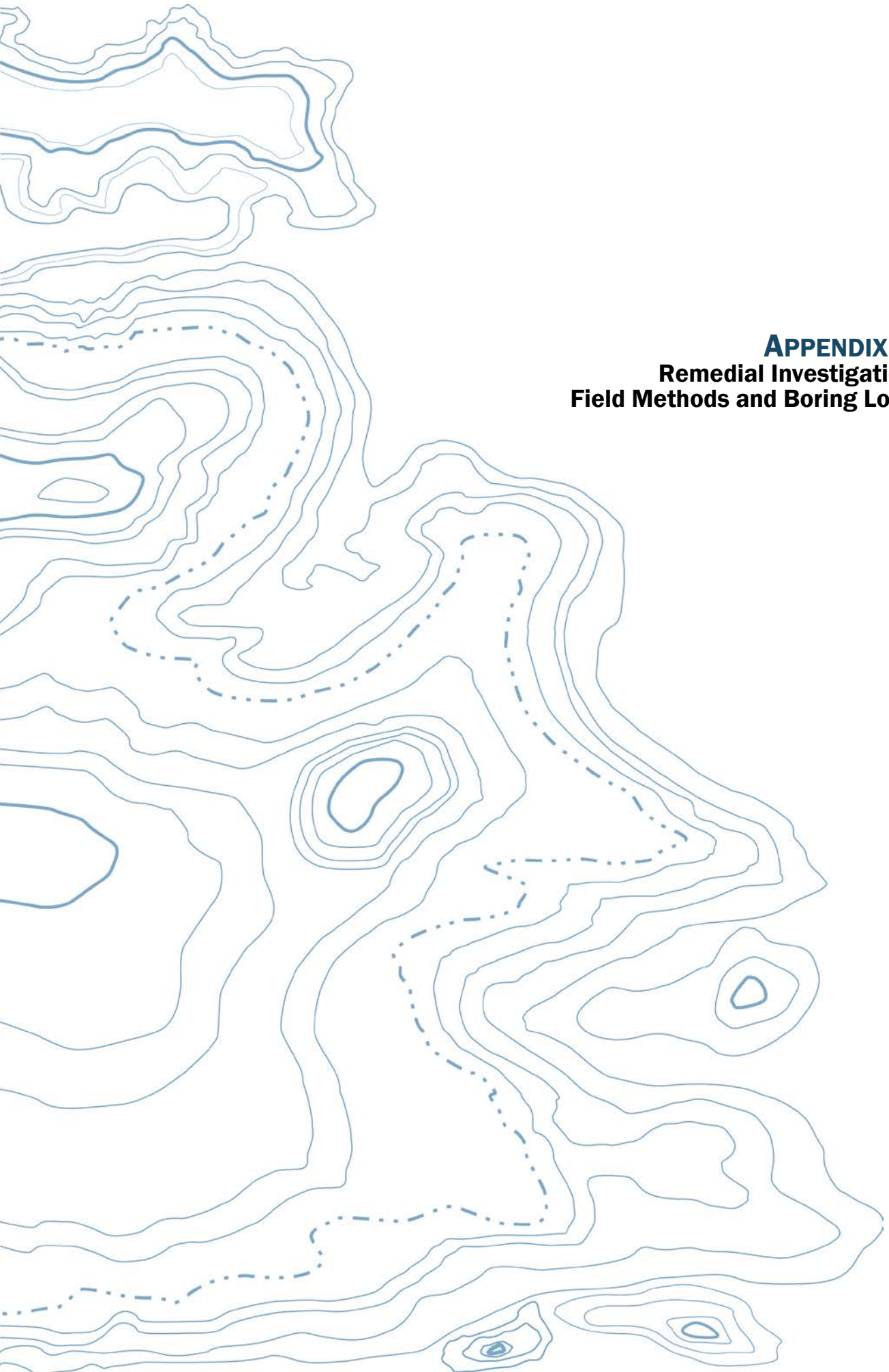
[2] Total arsenic, cadmium, and lead were analyzed using EPA Method 6020A.

[3] pH analyzed using EPA Method 9045.

[4]MTCA = Washington State, Model Toxics Control Act, Method A Unrestricted Land Use Cleanup levels

[5]MTCA = Washington State, Model Toxics Control Act, Method A Industrial Land Use Cleanup levels

BOLD indicates exceedance of MTCA cleanup levels; mg/kg = milligrams per kilogram; NA = not applicable



APPENDIX B
Remedial Investigation
Field Methods and Boring Logs

APPENDIX B
REMEDIAL INVESTIGATION FIELD METHODS AND BORING LOGS

Direct-Push Borings

Surface and subsurface soil and groundwater conditions were assessed during reconnaissance, drilling, and monitoring activities conducted between February 2012 and February 2013. Soil borings DP-41 through DP-72 were drilled from February 7-10, 2012; soil borings DP-73 through DP-91 were drilled from April 2-3, 2012; soil borings DP-92 through DP-98 were drilled on April 20, 2012, and soil borings DP-99 through DP-108 were drilled on February 28, 2013. The borings were advanced using both a track-mounted and a truck-mounted direct-push drill rig. The track-mounted rig was owned and operated by GeoEngineers and the truck-mounted rig was owned and operated by Environmental West Explorations of Spokane, Washington. Each boring was continuously monitored by a geologist from our staff who observed and classified the soil encountered, and prepared a detailed log of each boring. Soil encountered in the borings was classified in the field in general accordance with ASTM D-2488, the Standard Practice for Classification of Soils, Visual-Manual Procedure. An explanation of the boring log symbols is presented in Figure B-1.

Soil samples were obtained continuously using a 4-foot macro-sampler with acrylic sleeves. Sub-samples were collected from the sleeves, field-screened according to the procedures outlined below, and transferred into laboratory-prepared glass jars. Sample containers were filled as completely as possible to reduce headspace, sealed with Teflon lids, labeled, and placed into an ice chest containing ice. Samples were packaged and transported to Anatek Labs, Inc., in Spokane, Washington for analysis. Chain-of-custody procedures were observed during transport of the soil samples.

Air-Rotary Borings

Core samples (18-inch) were obtained on July 25, 2012 from four (4) soil borings (B-1, B-2, MW-9 and MW-10) approximately every 10 feet during drilling. The borings were advanced by a drill rig owned and operated by Environmental West Exploration of Spokane, Washington. Samples were collected using a Dames and Moore style sampler that was decontaminated between each use using a Liquinox/water wash followed by a distilled water rinse. Samples were collected from the sampler by hand using clean, new, disposable nitrile gloves. Samples were then field-screened according to the procedures outlined below and transferred into laboratory-prepared glass jars. Sample containers were filled as completely as possible to reduce headspace, sealed with Teflon lids, labeled, and placed into an ice chest containing ice. Samples were packaged and transported to Anatek Labs, Inc., in Spokane, Washington for analysis. Chain-of-custody procedures were observed during transport of the soil samples.

Composite Soil Samples

Composite soil samples were obtained on April 5, 2012 from hand-augered explorations using hand excavation equipment and clean, new, disposable nitrile gloves. Each sub-sample was obtained from and homogenized in a zip-top bag. Samples were then field-screened according to the procedures outlined below and transferred into laboratory-prepared glass jars. Sample

containers were filled as completely as possible to reduce headspace, sealed with Teflon lids, labeled, and placed into an ice chest containing ice. Samples were packaged and transported to Anatek Labs, Inc., in Spokane, Washington for analysis. Chain-of-custody procedures were observed during transport of the soil samples.

Field Screening Methods

Field screening methods for petroleum-related compounds included: (1) visual examination, (2) headspace vapor screening using a MiniRAE 2000 photoionization detector (PID) calibrated to isobutylene, and/or (3) water sheen methods. Visual screening consists of inspecting the soil for the presence of stains indicative of petroleum-related contamination. Headspace vapor screening involves placing a soil sample in a plastic sample bag. Air is captured in the bag and the bag is shaken to expose the soil to the air trapped in the bag. The probe of the PID is placed in the bag, the instrument withdraws the air in the bag and the PID displays the concentration of combustible vapor in the air removed from the sample headspace. The MiniRAE displays concentrations in parts per million (ppm) and is calibrated to isobutylene. The MiniRAE is designed to quantify volatile organic vapors in the range between 0 and 10,000 ppm in this application.

Water sheen screening involves placing soil in water and observing the water surface for signs of sheen. Sheen screening can detect both volatile and nonvolatile petroleum hydrocarbons. Sheen classifications are as follows:

No Sheen (NS)	No visible sheen on water surface.
Slight Sheen (SS)	Light, colorless, dull sheen; spread is irregular, not rapid; sheen dissipates rapidly. Natural organic matter in the soil can produce a slight sheen.
Moderate Sheen (MS)	Light to heavy sheen; might have some color/iridescence; spread is irregular to flowing, can be rapid; few remaining areas of no sheen on water surface.
Heavy Sheen (HS)	Heavy sheen with color/iridescence; spread is rapid; entire water surface can be covered with sheen.

Field screening results are site specific. The results vary with temperature, soil type, type of contaminant, and soil moisture content.

Soil sub-samples were also field screened for pH. Field measurement of pH was completed by placing equal amounts of soil and distilled water in a clean 9-ounce glass sample jar and mixing briefly. The pH of the mixture was then measured with a portable pH meter after it had been allowed to equilibrate with the soil for several minutes.

Groundwater Elevations

Depths to groundwater were measured relative to the monitoring well casing rims using an electric water level indicator on February 27, May 24, and August 28, 2012. The probe of the water level indicator was decontaminated between wells with a detergent wash, followed by two distilled water rinses. Groundwater table elevations were calculated by subtracting the depth to the groundwater table from the casing rim elevations (surveyed casing rim elevations were provided by Ecology).

Low-Flow Sampling Procedures

Groundwater sampling was performed consistent with the EPA's low-flow groundwater sampling procedure, as described by EPA (1996) and Puls and Barcelona (1996). Monitoring well purging activities were accomplished using dedicated bladder pumps. During purging activities, water quality parameters, including pH, conductivity, temperature, turbidity, oxidation-reduction potential and dissolved oxygen, were measured using an Troll 9500 multi-parameter meter equipped with a flow-through cell; measurements were recorded approximately every 3 minutes. The meter calibration was verified at the beginning of each work day consistent with manufacturer recommendations prior to purging and sampling activities.

Groundwater samples were collected after: (1) water quality parameters had stabilized; or (2) a maximum purge time of 30 minutes was achieved. During purging and sampling, purge rate was not allowed to exceed 500 milliliters per minute. Water quality parameter stabilization criteria include the following:

- Turbidity: ±10 percent or ±10 nephelometric turbidity units (NTU);
- Dissolved oxygen: ±10 percent;
- Conductivity: ±3 percent;
- pH: ±0.1 unit;
- Temperature: ±3 percent; and
- Oxidation reduction potential: ±10 percent or ±10 millivolts (mV).

After groundwater quality stabilization criteria were reached, the pump's discharge tubing was disconnected from the flow-through cell and groundwater samples were collected for analysis.

Each sample was pumped directly into sample containers supplied by the laboratory. All groundwater samples collected for chemical analysis were kept cool during on-site storage and transport to the laboratory. Chain-of-custody procedures were observed during transport of the groundwater samples.

Surface Water Sampling

Surface water samples were collected from two locations: (1) along the west bank of the Spokane River about 200 feet downstream of the Trent Street Bridge (upstream of the Site); and (2) along the east bank of the river about 150 feet west of well MW-6 (downstream of the Site). Samples were collected several feet from shore where downstream flow can be visually observed, preventing sampling of pooled or stagnant water. Samples were collected directly into laboratory-prepared containers by dipping the sample container into the river. Sample containers first were rinsed in the flow of the river for approximately 10 seconds; rinse water was discharged back into the river; and the sample was collected by submerging the sample container in the flow of the river a second time. Samples submitted for dissolved metals analyses were filtered by the laboratory (Anatek) through a new, disposable 0.45 micron filter prior to analysis.

Collected samples were placed into a chilled cooler with ice and refrigerated until transported to the analytical laboratory. Chain-of-custody procedures were observed from sample collection through transport and delivery to the laboratory.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
	AC	Asphalt Concrete
	CC	Cement Concrete
	CR	Crushed Rock/ Quarry Spalls
	TS	Topsoil/ Forest Duff/Sod

Groundwater Contact

Measured groundwater level in exploration, well, or piezometer

Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Material Description Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Sampler Symbol Descriptions

2.4-inch I.D. split barrel

Standard Penetration Test (SPT)

Shelby tube

Piston

Direct-Push

Bulk or grab

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

A "P" indicates sampler pushed using the weight of the drill rig.

Laboratory / Field Tests

%F	Percent fines
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PP	Pocket penetrometer
PPM	Parts per million
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen
NT	Not Tested

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

KEY TO EXPLORATION LOGS

GeoEngineers

FIGURE B-1

Drilled	Start 2/7/2012	End 2/7/2012	Total Depth (ft) 10	Logged By KAH / Checked By JRH	Driller GeoEngineers, Inc.	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured	Depth to Water (ft) / Elevation (ft): Not encountered
Notes:						

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		24			1 CA			GW-GM	Light brown fine to coarse gravel with fine to coarse sand and silt (medium dense, moist) (CKD fill)	* SS	<1	
											* SS	<1	pH = 12.4 DP-41 (1-2)
										Becomes brown (native)			
			24								* SS	<1	
	5					2 CA					* SS	<1	pH = 11.45 DP-41 (5-6)
			13								* SS	<1	pH = 10.78
	10									Boring terminated at approximately 10 foot depth due to refusal			* All sheen observed appears to be from organic (not petroleum) sources

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-41

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-2
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/7/2012	2/7/2012	4	KAH / JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)
		Not encountered

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		21			1 CA			GW-GM	Dark brown fine to coarse gravel with fine to medium sand and silt (medium dense, moist) (native)	NS	<1	DP-42 (0-2)
											NS	<1	pH = 9.47
										Boring terminated at approximately 4 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-42

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-3
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/7/2012	2/7/2012	4	KAH / JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)
		Not encountered

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		24			1 CA			GP-GM	Light brown and gray fine gravel with fine to medium sand and silt (loose, moist) (CKD fill)	NS	<1	DP-43 (0-2)
											NS	<1	pH = 12.10
										Boring terminated at approximately 4 foot depth due to refusal; two attempts in different locations			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-43

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-4
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	2/7/2012	2/7/2012	8	KAH Checked By JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
			Not encountered	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		16			1 CA			GP-GM	Dark brown fine gravel with fine to medium sand and silt (loose, moist) (native)	NS	<1	DP-44 (0-1.5) pH = 9.36
											NS	<1	
			16			2 CA				Becomes brown (medium dense, moist)	NS	<1	DP-44 (4-5.5) pH = 9.6
	5									Becomes gray (medium dense to dense, moist)	NS	<1	
										Boring terminated at approximately 8 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-44

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-5
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	2/7/2012	2/7/2012	11	KAH Checked By JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
			Not encountered	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		27						TS	0 to 2 inches grass, roots, and mulch	NS	<1	pH = 8.68
									SP-SM	Light brown fine to coarse sand with silt (medium dense, moist) (native)			
						1 CA					NS	<1	DP-45 (1-2.3) pH = 9.61
									GP-GM	Dark brown fine gravel with fine to medium sand and silt (loose to medium dense, moist) (native)			
			28							Grades with coarse sand	NS	<1	pH = 9.66
	5					2 CA					NS	<1	DP-45 (5-6) pH = 9.72
			18										
						3					NS	<1	pH = 9.09
	10												

Boring terminated at approximately 11 foot depth due to refusal

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-45

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-6
Sheet 1 of 1

Drilled	Start 2/7/2012	End 2/7/2012	Total Depth (ft) 12	Logged By KAH / Checked By JRH	Driller GeoEngineers, Inc.	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) Northing (Y)			System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	Not encountered
Notes:						

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		24			1 CA			GP-GM	Dark brown fine gravel with fine to coarse sand and silt (medium dense, moist) (native) Becomes light brown to gray	NT		pH = 8.74 DP-46 (0.5-1.5) pH = 9.34
			18								NT		pH = 9.14
	5												
			24								NT		pH = 9.24
	10												

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-46

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-7
Sheet 1 of 1

Spokane: Date:4/15/13 Path:P:\16\16316001\02\GINT\16316001 02 LOGS.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	2/7/2012	2/7/2012	5	KAH Checked By JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
			Not encountered	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		32			1 CA			GP-GM	Dark brown fine gravel with fine to medium sand and silt (medium dense, moist) (native)			
									GW-GM	Light brown and gray fine to coarse gravel with fine to coarse sand and silt (medium dense, moist) (native)	NT		DP-47 (0.5-1.5) pH = 9.09
									GP-GM	Brown fine gravel with fine to coarse sand and silt (medium dense, moist) (native)			
			8								NT		pH = 8.83
	5												

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-47

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-8
Sheet 1 of 1

Drilled	Start 2/7/2012	End 2/7/2012	Total Depth (ft) 5	Logged By KAH / Checked By JRH	Driller GeoEngineers, Inc.	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured	Depth to Water (ft) / Elevation (ft): Not encountered
Notes:						

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		16						TS	Grass, roots, and mulch			
						1 CA			GP-GM	Dark brown fine gravel with fine to coarse sand and silt (medium dense, moist) (native) Becomes brown	NT		DP-48 (0.5-1.5) pH = 8.46
			0										No recovery
	5									Boring terminated at approximately 5 foot depth due to refusal; three attempts made at locations near proposed location			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-48

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-9
Sheet 1 of 1

Drilled	Start 2/7/2012	End 2/7/2012	Total Depth (ft) 7	Logged By KAH / Checked By JRH	Driller GeoEngineers, Inc.	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured	Depth to Water (ft) / Elevation (ft): Not encountered
Notes:						

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		16			1 CA			TS	Brown fine to coarse sand with silt and organic material (loose, moist) (native)			
									GP-GM	Dark brown fine gravel with fine to coarse sand and silt (medium dense, moist) (native)	NT		DP-49 (0.5-1.5) pH = 8.21
										Becomes light brown and gray			
			9								NT		pH = 9.52
	5												
										Boring terminated at approximately 7 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-49

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-10
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	2/7/2012	2/7/2012	8	KAH	GeoEngineers, Inc.	Direct Push
				Checked By JRH		

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater
		Date Measured / Depth to Water (ft) / Elevation (ft): Not encountered

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		25			1 CA			TS	Roots and mulch			
									GP-GM	Brown to black fine gravel with fine to coarse sand and silt (loose to medium dense, moist) (native)	NT		DP-50 (0.5-1.5) pH = 8.91
										Becomes light brown and gray			
			15								NT		pH = 9.27
	5												

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-50

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-11
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	2/8/2012	2/8/2012	11	KAH JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
			Not encountered	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		22			1			TS	Vegetation and mulch			
									GP-GM	Brown fine gravel with fine to coarse sand and silt (medium dense, moist) (native)	NT		pH = 8.36
									GW-GM	Brown fine to coarse gravel with medium to coarse sand and silt (medium dense, moist) (native)			
			24			2			GP-GM	Tan and gray fine gravel with fine to medium sand and silt (loose, moist) (native)	NT		pH = 8.88
	5												
			18			3 CA					NT		DP-51 (8-9.5) pH = 9.15 pH = 9.61
	10												

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-51

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-12
Sheet 1 of 1

Drilled	Start 2/8/2012	End 2/8/2012	Total Depth (ft) 11.5	Logged By KAH / Checked By JRH	Driller GeoEngineers, Inc.	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured	Depth to Water (ft) / Elevation (ft): Not encountered
Notes:						

Elevation (feet) / Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0	36		1			GW-GM	Brown fine to coarse gravel with fine to coarse sand and silt (medium dense to dense, moist) (native)			pH = 9.42 pH = 8.48
	12		2				Becomes light brown and gray			pH = 8.98
5	36						Becomes tan and gray			pH = 9.37
10			3 CA							DP-52 (9.5-11) pH = 9.46
							Boring terminated at approximately 11½ foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-52

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-13
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	2/8/2012	2/8/2012	12	KAH Checked By JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured / Depth to Water (ft) / Elevation (ft)
		Not encountered

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		28			1			GP-GM	Light to dark gray fine gravel with fine to coarse sand and silt (medium dense to dense, moist) (CKD fill)	NT		pH = 9.83
											NT		pH = 11.30
													pH = 11.43
			18			2					NT		pH = 12.09
	5					3				Becomes dark brown (medium dense to dense, moist) (CKD fill)	NT		pH = 8.94
			12			4 CA				Becomes gray and brown (medium dense, moist) (CKD fill)	NT		DP-53 (8-8.5) pH = 12.32
						5 CA					NT		DP-53 (8.5-9) pH = 9.86
	10												

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-53

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-14
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	2/8/2012	2/8/2012	12	KAH Checked By JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
			Not encountered	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		40						GP-GM	Gray fine gravel with fine to coarse sand and silt (medium dense, moist) (CKD fill)	SS	<1	pH = 11.90
						1					SS	<1	pH = 12.56
			32			2 CA					SS	<1	DP-54 (4-5) pH = 12.53
	5					3				Becomes brown (native)	SS	<1	pH = 9.92
			36										pH = 10.17
						4					SS	<1	
	10									Becomes gray			pH = 10.26

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-54

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-15
Sheet 1 of 1

Spokane: Date:4/15/13 Path:P:\16\16316001\02\GINT\16316001\02 LOGS.GPJ DBTemplate/LibTemplate\GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start 2/8/2012	End 2/8/2012	Total Depth (ft) 16	Logged By KAH / Checked By JRH	Driller GeoEngineers, Inc.	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured	Depth to Water (ft) / Elevation (ft): Not encountered
Notes:						

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		26			1			GP-GM	Brown fine gravel with fine to coarse sand and silt (medium dense, moist) (CKD fill)	NT		pH = 9.52
												pH = 10.66
												pH = 12.23
		22			2			GM	Becomes tan (medium dense to dense, moist) (CKD fill)	NT		pH = 12.40
5												pH = 12.54
												pH = 12.43
		48			3			SM	Gray and pink fine to medium sand and silt (medium dense, moist) (CKD fill)	NT		pH = 12.35
10												
					4							pH 12.5
										NT		
		48										pH = 12.64
												pH = 12.68
15					5							pH = 12.40

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-55

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-16
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	2/8/2012	2/8/2012	16	KAH JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
			Not encountered	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		36			1			SW-SM	Tan and pink fine to coarse sand with silt and trace gravel (medium dense, moist) (CKD fill)	NT		pH = 11.04
													pH = 12.6
			17			2					NT		pH = 12.39
	5									Becomes gray (CKD fill)			pH = 12.30
			36								NT		
						3				Becomes gray and purple (CKD fill)			pH = 12.85
	10												pH = 12.41
			42								NT		
						4							pH = 12.72
	15												pH = 12.27

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-56

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-17
Sheet 1 of 1

Spokane: Date:4/15/13 Path:P:\16\16316001\02\GINT\16316001 02 LOGS.GPJ DBTemplate\LibTemplate\GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	2/9/2012	2/9/2012	8	KAH Checked By JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
			Not encountered	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		28			1 CA			GP-GM	Brown fine gravel with fine to coarse sand and silt (medium dense, moist) (native)	NS	<1	DP-57 (1-2) pH = 8.35
											NS	<1	pH = 8.99
			12			2 CA			GW-GM	Light brown fine to coarse gravel with fine to coarse sand and silt (medium dense, moist) (native)	NS	<1	DP-57 (4-5) pH = 8.49
	5												
										Boring terminated at approximately 8 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-57

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-18
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	2/9/2012	2/9/2012	11	KAH Checked By JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
			Not encountered	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		33			1			GP-GM	Brown fine gravel with fine to coarse sand and silt (medium dense, moist) (native)	SS	<1	pH = 8.37
											SS	<1	pH = 8.35
			7			2 CA					SS	<1	DP-58 (4-4.5) pH = 8.29
									GW-GM	Light brown fine to coarse gravel with fine to medium sand and silt (medium dense, moist) (native)	NS	<1	pH = 8.36
	5												
			17							Becomes tan and gray			
						3					NS	<1	pH = 8.41
	10										NS	<1	pH = 8.38
										Boring terminated at approximately 11 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-58

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-19
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	2/9/2012	2/9/2012	10	KAH	GeoEngineers, Inc.	Direct Push
				Checked By JRH		

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater
		Date Measured / Depth to Water (ft) / Elevation (ft): Not encountered

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		24			1 CA			GW-GM	Dark brown fine to coarse gravel with fine to medium sand and silt (medium dense to dense, moist) (native)	NS	<1	DP-59 (0.5-1.5) pH = 8.43
										Becomes brown	NS	<1	pH = 8.45
			22			2				Becomes light brown and tan	NS	<1	pH = 8.39
	5										NS	<1	pH = 8.39
			14			3					NS	<1	pH = 8.42
	10										NS	<1	pH = 8.43

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-59

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-20
Sheet 1 of 1

Drilled: Start 2/9/2012 End 2/9/2012	Total Depth (ft): 10.5	Logged By: KAH Checked By: JRH	Driller: GeoEngineers, Inc.	Drilling Method: Direct Push	
Surface Elevation (ft) Vertical Datum: Undetermined		Hammer Data: N/A		Drilling Equipment: Geoprobe	
Easting (X) Northing (Y)		System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft): Not encountered	
Notes:					

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		20			1			GW-GM	Dark brown fine to coarse gravel with fine to coarse sand and silt (medium dense to dense, moist) (native)	SS	<1	pH = 8.28
											SS	<1	pH = 8.06
			9			2				Becomes brown (medium dense, moist) (native)	NS	<1	pH = 8.08
	5										NS	<1	
			14			3 CA					SS	<1	DP-60 (8-9) pH = 8.24
	10										SS	<1	pH = 8.30
										Boring terminated at approximately 10½ foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-60

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-21
Sheet 1 of 1

Drilled	Start 2/9/2012	End 2/9/2012	Total Depth (ft) 10	Logged By KAH / Checked By JRH	Driller GeoEngineers, Inc.	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured	Depth to Water (ft) / Elevation (ft): Not encountered
Notes:						

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		21			1 CA			GP-GM	Brown fine gravel with fine to coarse sand and silt (medium dense, moist) (native)	NS	<1	DP-61 (0.5-1.5) pH = 8.81
											NS	<1	pH= 8.13
									GW-GM	Tan fine to coarse gravel with fine to medium sand and silt (medium dense, moist) (native)			
			18			2					NS	<1	pH = 8.91
	5										NS	<1	pH = 9.26
			13			3					NS	<1	pH = 8.94
	10										NS	<1	pH = 9.29
										Boring terminated at approximately 10 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-61

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-22
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/9/2012	2/9/2012	8	KAH / JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)
			Not encountered	

Notes:

Elevation (feet) / Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		24			1			GP-GM	Dark brown fine gravel with fine to coarse sand and silt (medium dense to dense, moist) (native)	NS	<1	pH = 8.59
										NS	<1	pH = 8.51
		15			2 CA				Becomes light brown	NS	<1	DP-62 (4-5) pH = 9.02
5										NS	<1	
									Boring terminated at approximately 8 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-62

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-23
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	2/9/2012	2/9/2012	11.5	KAH	GeoEngineers, Inc.	Direct Push
				Checked By JRH		

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater
		Date Measured / Depth to Water (ft) / Elevation (ft): Not encountered

Notes:

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		17			1 CA			GP-GM	Dark brown fine gravel with fine to coarse sand and silt (medium dense, moist) (native)	NS	<1	DP-63 (0.5-1.5) pH = 9.02
										NS	<1	pH = 8.36
		22			2			GW-GM	Light brown fine to coarse gravel with fine to coarse sand and silt (medium dense, moist) (native)			
								GP-GM		NS	<1	pH = 9.33
5								GW-GM	Gray fine gravel with fine to medium sand and silt (medium dense, moist) (native)	NS	<1	pH = 9.46
								GP-GM	Light brown fine to coarse gravel with fine to coarse sand and silt (medium dense, moist) (native)			pH = 9.40
		21			3				Light brown fine gravel with fine to coarse sand and silt (medium dense, moist) (native)	NS	<1	pH = 9.41
										NS	<1	pH = 9.5
10												

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-63

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-24
Sheet 1 of 1

Spokane: Date:4/15/13 Path:P:\16\16316001\02\GINT\16316001 02 LOGS.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	2/10/2012	2/10/2012	2	KAH	JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater
		Date Measured / Depth to Water (ft) / Elevation (ft): Not encountered

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		17			1 CA			GW-GM	Brown and gray fine to coarse gravel with fine to coarse sand and silt (medium dense, moist) (native)	NS	<1	DP-64 (0-1) pH = 9.17
											SS	<1	pH = 11.98
										Boring terminated at approximately 2 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-64

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-25
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/10/2012	2/10/2012	5	KAH / JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)
		Not encountered

Notes:

Elevation (feet) / Depth (feet)	FIELD DATA: Interval / Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0	36		1			GP-GM	Brown and gray fine gravel with fine to coarse sand and silt (loose to medium dense, moist) (native)	NS	<1	pH = 11.34
			2 CA					NS	<1	DP-65 (1-2.5) pH = 11.89
							Become brown (medium dense to dense, moist) (native)	NS	<1	pH = 11.59
								NS	<1	pH = 9.84
5	8		3 CA					NS	<1	DP-65 (4-4.7) pH = 11.91

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-65

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-26
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/10/2012	2/10/2012	6	KAH / JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)
		Not encountered

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		22			1 CA			GW-GM	Reddish brown fine to coarse gravel with fine to coarse sand and silt (medium dense, moist) (native)	NT		pH = 9.03 DP-66 (0.5-1.5) pH = 9.40
			12			2 CA				Becomes white	NT		DP-66 (4-5) pH = 11.02
	5												pH = 9.09
										Boring terminated at approximately 6 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-66

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-27
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/10/2012	2/10/2012	8	KAH / JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)
			Not encountered	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		26			1 CA			GW-GM	Reddish brown fine to coarse gravel with fine to medium sand and silt (medium dense to dense, moist) (native)	NT		pH = 9.06 DP-67 (1-2) pH = 9.31
										Becomes white			pH = 9.29
			0										Hole caved, sampler abandoned in borehole
	5												

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-67

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-28
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/10/2012	2/10/2012	11	KAH / JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater
		Date Measured / Depth to Water (ft) / Elevation (ft): Not encountered

Notes:

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		12			1			GW-GM	Gray fine to coarse gravel with medium to coarse sand and silt (medium dense to dense, moist) (native)	NT		pH = 9.16 pH = 9.25
			20			2 CA			GP-GM	Tan and gray fine gravel with fine to medium sand and silt (medium dense, moist) (native)	NT		DP-68 (4.5-5.5) pH = 9.69 pH = 9.80 pH = 9.62
	5		21			3					NT		pH = 9.67 pH = 9.60
	10												pH = 8.60

Boring terminated at approximately 11 foot depth due to refusal

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-68

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-29
Sheet 1 of 1

Spokane: Date:4/15/13 Path:P:\16\16316001\02\GINT\16316001102 LOGS.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	2/10/2012	2/10/2012	11	KAH JRH	GeoEngineers, Inc.	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
			Not encountered	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		36						GP-GM	Brown fine gravel with fine to coarse sand and silt (medium dense to dense, moist) (native)	NT		pH = 9.08
						1			GW-GM	Gray fine to coarse gravel with fine to medium sand and silt (medium dense, moist) (native)			
										Becomes purple Becomes tan			pH = 9.81
													pH = 10.35
			15			2 CA				Becomes gray/brown	NT		DP-69 (4-5) pH = 11.60
	5												pH = 10.18
			29								NT		pH = 10.85
						3			GP-GM	White fine gravel with fine to medium sand and silt (medium dense, moist) (native) Becomes tan			pH = 10.05 pH = 10.14 pH = 9.84
	10									Boring terminated at approximately 11 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-69

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-30
Sheet 1 of 1

Drilled	Start 2/10/2012	End 2/10/2012	Total Depth (ft)	4	Logged By / Checked By	KAH / JRH	Driller	GeoEngineers, Inc.	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	N/A	Drilling Equipment	Geoprobe		
Easting (X) Northing (Y)					System Datum		Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)	
Notes:								Not encountered		

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		34			1 CA			GW-GM	Gray fine to coarse gravel with fine to medium sand and silt (medium dense to dense, moist) (native)	SS	<1	DP-70 (0-1) pH = 12.09
						2			GP-GM	Brown fine gravel with fine to medium sand and silt (medium dense to dense, moist) (native)	SS	<1	pH = 12.03
						3 CA			GW-GM	Gray and brown fine to coarse gravel with fine to medium sand and silt (medium dense to dense, moist) (native)	NS	<1	DP-70 (2-2.9) pH = 12.13
									GP-GM	White fine to coarse gravel with fine to medium sand and silt (medium dense to dense, moist) (native)	NS	<1	pH = 10.43
										Boring terminated at approximately 4 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-70

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-31
Sheet 1 of 1

Drilled	Start 2/10/2012	End 2/10/2012	Total Depth (ft) 4	Logged By KAH / Checked By JRH	Driller GeoEngineers, Inc.	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured	Depth to Water (ft) / Elevation (ft): Not encountered
Notes:						

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		34			1			TS	Roots and mulch	SS	<1	pH = 9.70
								GW-GM	Brown fine to coarse gravel with fine to coarse sand and silt and cobbles (medium dense to dense, moist) (native)	SS	<1	pH = 9.76
					2 CA							DP-71 (1.5-2.8)
								GP-GM	Tan fine gravel with fine to medium sand and silt (medium dense to dense, moist) (native)	SS	<1	pH = 11.69
								GW-GM	Brown fine to coarse gravel with fine to coarse sand and silt (medium dense to dense, moist) (native)			pH = 11.54
									Boring terminated at approximately 4 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-71

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-32
Sheet 1 of 1

Drilled	Start 2/10/2012	End 2/10/2012	Total Depth (ft)	4	Logged By	KAH	Driller	GeoEngineers, Inc.	Drilling Method	Direct Push
					Checked By	JRH				

Surface Elevation (ft) Vertical Datum	Undetermined	Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) Northing (Y)		System Datum		Groundwater Date Measured	Depth to Water (ft) / Elevation (ft): Not encountered

Notes:

Elevation (feet) / Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		18			1 CA			GW-GM	Brown fine to coarse gravel with fine to coarse sand and silt (medium dense to dense, moist) (native)	NS	<1	DP-72 (0-1.5) pH = 9.33
										NS	<1	pH = 9.45
									Boring terminated at approximately 4 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-72

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-33
Sheet 1 of 1

Drilled: Start 4/2/2012 End 4/2/2012	Total Depth (ft): 20	Logged By: KAH Checked By:	Driller: Environmental West Explorations	Drilling Method: Direct Push	
Surface Elevation (ft) Vertical Datum: Undetermined	Hammer Data: N/A	Drilling Equipment: Geoprobe			
Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft): Not encountered			
Notes:					

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0												
	1	18			1			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense to dense, moist) (native)			pH = 9.24
												pH = 9.26
	2	36			2							pH = 9.25
5												pH = 8.55
												pH = 8.96
	3	18			3							pH = 9.11
												pH = 8.45
10												
	4	18			4				Becomes white			pH = 9.28
									Becomes brown			pH = 9.00
15												
	5	24			5 CA							pH = 9.51
												DP-73 (17-18)
												pH = 9.12
20												

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-73

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-34
Sheet 1 of 1

Drilled	Start 4/2/2012	End 4/2/2012	Total Depth (ft) 6	Logged By KAH / Checked By	Driller Environmental West Explorations	Drilling Method Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) / Northing (Y)			System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	Not encountered
Notes:						

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		16			1			GW-GM	Brown fine to coarse gravel with sand and silt (medium dense to dense, moist) (native)			pH = 9.27
													pH = 9.55
			12			2							pH = 9.11
	5									Becomes dark brown to black			pH = 8.67
										Direct push boring terminated at approximately 6 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-74

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-35
Sheet 1 of 1

Drilled	Start 4/2/2012	End 4/2/2012	Total Depth (ft)	12	Logged By / Checked By	KAH	Driller	Environmental West Explorations	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	N/A			Drilling Equipment	Geoprobe		
Easting (X) Northing (Y)			System Datum				Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)	
Notes:							4/2/2012	8.00		

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		16			1			GW- GM	Light brown to white fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 9.20
													pH = 9.35
			30							Becomes brown			pH = 9.24
	5					2							pH = 9.27
										Becomes brown to black (dense, moist) (wood chips, coal dust) (native with debris)			pH = 11.54
			36							Becomes brown (medium dense, wet) (native)			pH = 10.67
										Becomes gray (wood chips) (native with debris)			pH = 10.85
	10					3 CA				Becomes brown			pH = 8.68 DP-75 (10-11)
										Direct push boring terminated at approximately 12 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-75

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-36
Sheet 1 of 1

Drilled: Start 4/2/2012 End 4/2/2012	Total Depth (ft): 16	Logged By: KAH Checked By:	Driller: Environmental West Explorations	Drilling Method: Direct Push	
Surface Elevation (ft) Vertical Datum: Undetermined	Hammer Data: N/A	Drilling Equipment: Geoprobe			
Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured 4/2/2012	Depth to Water (ft) 8.00	Elevation (ft)	
Notes:					

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0												
		24			1			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 9.41
												pH = 9.42
		36										pH = 11.23
5					2			ML	Brown silt with sand, trace gravel and organic matter (medium dense, moist) (CKD fill)			pH = 11.83
					3 CA			GP-GM	Gray to black fine gravel with silt, sand and trace organic matter (CKD fill)			DP-76 (6-7) pH = 10.82
		24				▽		GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, wet) (native)			pH = 9.59
								GP-GM	Black to brown fine gravel with silt and sand (medium dense, wet) (native)			pH = 9.25
					4			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 9.24
10												
		36							Becomes dark gray (medium dense, wet) (native)			pH = 10.05
									Becomes grayish brown (medium dense to dense, wet) (native)			
					5							pH = 9.15
15												
									Direct push boring terminated at approximately 16 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-76

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-37
Sheet 1 of 1

Drilled: Start 4/2/2012 End 4/2/2012	Total Depth (ft): 16	Logged By: KAH Checked By:	Driller: Environmental West Explorations	Drilling Method: Direct Push	
Surface Elevation (ft) Vertical Datum: Undetermined	Hammer Data: N/A	Drilling Equipment: Geoprobe			
Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured 4/2/2012	Depth to Water (ft) 8.00	Elevation (ft)	
Notes:					

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		16			1			TS	Organic matter			pH = 9.11
									GW-GM	Brown fine to coarse gravel with silt and sand (medium dense to dense, moist) (native)			pH = 8.77
			18			2 CA							pH = 9.41 pH = 9.48 DP-77 (4.5-5.5)
	5								SP-SM	Gray to tan fine to medium sand with silt and trace gravel (medium dense, moist) (CKD fill)			pH = 10.31
			36				▽		GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, wet) (native)			pH = 8.80
													pH = 8.53
	10					3							pH = 8.21
			48										pH = 9.57 pH = 8.66
										Becomes brown to orange to white (dense, moist) (native)			pH = 8.49
	15					4							pH = 8.81
													pH = 8.81
										Direct push boring terminated at approximately 16 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-77

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-38
Sheet 1 of 1

Drilled	Start 4/2/2012	End 4/2/2012	Total Depth (ft) 14	Logged By KAH / Checked By	Driller Environmental West Explorations	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured	Depth to Water (ft) / Elevation (ft)
Notes:					Not encountered	

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		6			1			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense to dense, moist) (native)			pH = 8.54
			12			2							pH = 8.74
	5												pH = 8.68
			12			3				Grades with trace organic matter (medium dense, moist) (wood) (native)			pH = 8.36
	10												pH = 8.51
			18			4 CA							DP-78 (12.5-13.5)
										Direct push boring terminated at approximately 14 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-78

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-39
Sheet 1 of 1

Drilled	Start 4/2/2012	End 4/2/2012	Total Depth (ft)	11.5	Logged By / Checked By	KAH	Driller	Environmental West Explorations	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	N/A			Drilling Equipment	Geoprobe
Easting (X) Northing (Y)					System Datum				Groundwater Date Measured	Depth to Water (ft): Not encountered
Notes:										Elevation (ft)

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		18			1			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 8.43
												pH = 8.36
		36										pH = 8.85
5					2 CA							DP-79 (5-6)
												pH = 8.53
		36										pH = 8.67
10					3							pH = 8.62

Direct push boring terminated at approximately 11½ foot depth due to refusal

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-79

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-40
Sheet 1 of 1

Spokane: Date:4/15/13 Path:P:\16\16316001\02\GINT\16316001\02 LOGS.GPJ DBTemplate/LibTemplate\GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start 4/2/2012	End 4/2/2012	Total Depth (ft) 16	Logged By KAH / Checked By	Driller Environmental West Explorations	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured	Depth to Water (ft) Not encountered / Elevation (ft)
Notes:						

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		30			1			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 9.00
													pH = 8.88
			24			2							pH = 8.25
	5												pH = 8.68
			36										pH = 8.90
						3 CA							DP-80 (9-10)
	10												pH = 9.10
			24										pH = 10.00
						4							pH = 8.36
	15												

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-80

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-41
Sheet 1 of 1

Drilled: Start 4/2/2012 End 4/2/2012	Total Depth (ft): 15.5	Logged By: KAH Checked By:	Driller: Environmental West Explorations	Drilling Method: Direct Push	
Surface Elevation (ft) Vertical Datum: Undetermined	Hammer Data: N/A	Drilling Equipment: Geoprobe			
Easting (X) Northing (Y):	System Datum:	Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft): Not encountered			
Notes:					

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		16			1			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 8.80
													pH = 8.90
			24			2							pH = 8.49
	5												pH = 8.51
			30			3 CA							pH = 8.46 DP-81 (8-9)
	10												pH = 8.66
			36										pH = 8.52
						4 CA							DP-81 (13-14)
	15												pH = 8.31
										Direct push boring terminated at approximately 15½ foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-81

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-42
Sheet 1 of 1

Drilled	Start 4/3/2012	End 4/3/2012	Total Depth (ft)	16	Logged By / Checked By	KAH	Driller	Environmental West Explorations	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	N/A			Drilling Equipment	Geoprobe		
Easting (X) Northing (Y)			System Datum				Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)	
Notes:							4/3/2012	12.00		

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		16			1			GW-GM	Light brown to brown fine to coarse gravel with silt and sand (medium dense to dense, moist) (native)			pH = 9.29
													pH = 9.31
			34							Becomes light brown (native)			pH = 9.08
	5					2							pH = 9.33
			27			3				Becomes light brown to white			pH = 9.56
										Becomes dark brown			pH = 9.80
	10					4 CA			GP-GM	Brown and pink fine gravel with silt and sand (medium dense, moist) (CKD fill)			DP-82 (10-10.3)
													pH = 11.72
			36						GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, wet) (native)			pH = 9.30
										Becomes brown to gray			pH = 9.38
						5 CA			SW-SM	Pink and brown fine to coarse sand with silt (medium dense, moist) (CKD fill)			DP-82 (14-14.5)
													pH = 9.29
	15					6 CA							DP-82 (14.5-15)
													pH = 9.35

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-82

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-43
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
4/3/2012	4/3/2012	15.5	KAH	Environmental West Explorations	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
		4/3/2012	12.00	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		24			1			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 9.13
										Becomes light brown to white			pH = 9.10
			36										pH = 8.94
	5					2							pH = 8.46
						3			SW-SM	Gray to brown fine to coarse sand and silt with occasional gravel and organic matter (medium dense, moist) (wood) (CKD fill)			pH = 10.99
			30			4			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 9.20
													pH = 11.32
	10					5 CA				Becomes tan to gray fine with organic matter (medium dense, moist) (wood) (CKD fill)			DP-83 (10-10.5) pH = 11.72
			41							Becomes brown (medium dense, wet) (native)			pH = 10.68
						6							
										Becomes dark brown and black			pH = 8.52
										Becomes brown to orange to gray			
	15					7							pH = 9.44
										Direct push boring terminated at approximately 15½ foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

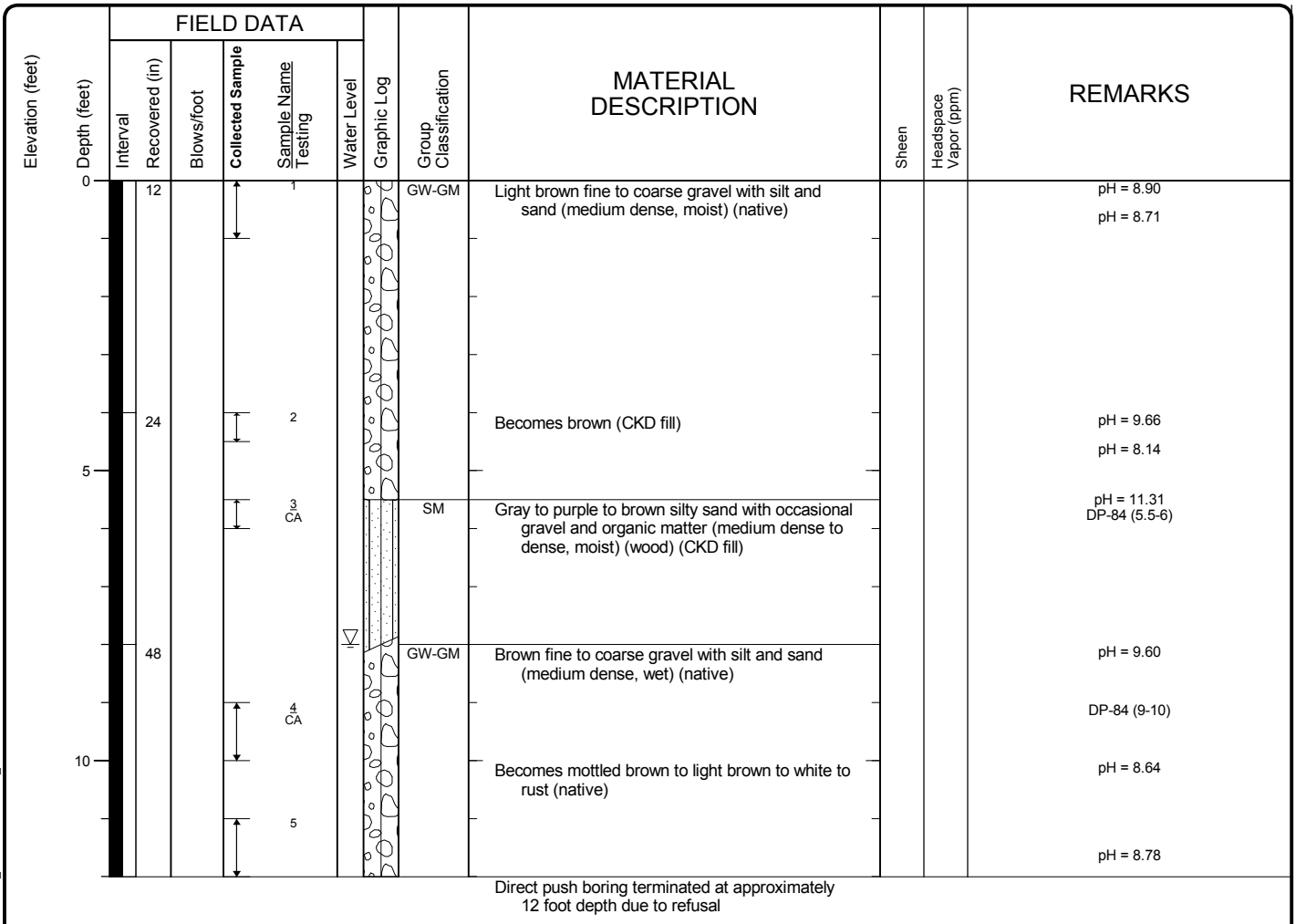
Log of Boring DP-83

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-44

Drilled Start 4/3/2012 End 4/3/2012	Total Depth (ft) 12	Logged By KAH Checked By	Driller Environmental West Explorations	Drilling Method Direct Push	
Surface Elevation (ft) Vertical Datum Undetermined		Hammer Data N/A		Drilling Equipment Geoprobe	
Easting (X) Northing (Y)		System Datum		Groundwater Date Measured 4/3/2012	Depth to Water (ft) 8.00 Elevation (ft)
Notes:					



Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-84

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-45
Sheet 1 of 1

Drilled: Start 4/3/2012 End 4/3/2012	Total Depth (ft): 20	Logged By: KAH Checked By:	Driller: Environmental West Explorations	Drilling Method: Direct Push	
Surface Elevation (ft) Vertical Datum: Undetermined	Hammer Data: N/A	Drilling Equipment: Geoprobe			
Easting (X) Northing (Y):	System Datum:	Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft): Not encountered			
Notes:					

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		21			1			GW-GM	Dark brown fine to coarse gravel with silt, sand and trace organic matter (medium dense, moist) (grass and roots) (native)			pH = 9.02
													pH = 9.06
			20			2 CA							pH = 9.32 DP-85 (4-4.5)
	5												pH = 8.64
			15			3							pH = 8.54
													pH = 8.57
	10		19			4							pH - 8.74
													pH = 8.49
	15		33										pH = 8.62
										Becomes mottled tan to white to light brown			pH = 8.22
						5 CA							DP-85 (18-18.5)
													pH = 8.13
	20									Becomes brown			

Notes: See Figure B-1 for explanation of symbols.

Spokane: Date:4/15/13 Path:P:\16\16316001\02\GINT\16316001\02 LOGS.GPJ DBTemplate\LibTemplate\GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Log of Boring DP-85

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-46
Sheet 1 of 1

Drilled: Start 4/3/2012 End 4/3/2012	Total Depth (ft): 16	Logged By: KAH Checked By:	Driller: Environmental West Explorations	Drilling Method: Direct Push	
Surface Elevation (ft) Vertical Datum: Undetermined	Hammer Data: N/A	Drilling Equipment: Geoprobe			
Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured 4/3/2012	Depth to Water (ft) 12.00	Elevation (ft)	
Notes:					

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		14			1			GP-GM	Dark brown fine gravel with silt, sand and trace organic matter (roots and grass) (medium dense, moist)			pH = 8.68
									GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 8.77
			4			2							pH = 8.84
	5												
			12			3							pH = 8.85
													pH = 8.86
	10												
			30							Becomes wet Becomes mottled light brown to white to rust			pH = 8.85
						4 CA							DP-86 (13-14) pH = 8.63
													pH = 8.61
	15												

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-86

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-47
Sheet 1 of 1

Drilled: Start 4/3/2012 End 4/3/2012	Total Depth (ft): 20	Logged By: KAH Checked By:	Driller: Environmental West Explorations	Drilling Method: Direct Push	
Surface Elevation (ft) Vertical Datum: Undetermined	Hammer Data: N/A	Drilling Equipment: Geoprobe			
Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft): Not encountered			
Notes:					

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0								SW-SM	Dark brown fine to coarse sand with silt, trace gravels and organic matter (loose, moist) (roots) (native)			pH = 7.61
			4			1							
			21										pH = 7.44
	5								GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			
						2							pH = 7.93
			20										
						3							pH = 8.13
	10												pH = 8.44
			24										pH = 7.99
									SM	Brown silty sand with organic matter (loose, moist) (wood) (native with debris)			pH = 8.18
						4			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			
						5 CA			SM				DP-87 (13.2-13.6) pH = 7.99
									GW-GM	Tan to brown silty sand (medium dense, moist) (CKD fill)			
	15									Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 8.18
			14			6			SM	Brown silty sand with organic matter (loose, moist) (wood) (native)			
									GP-GM	Brown fine gravel with trace silt and sand (loose, moist) (native)			
									GW-GM	Brown to white fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 8.53
	20												pH = 8.55

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-87

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-48
Sheet 1 of 1

Drilled	Start 4/3/2012	End 4/3/2012	Total Depth (ft) 5	Logged By KAH / Checked By	Driller Environmental West Explorations	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured	Depth to Water (ft) / Elevation (ft): Not encountered
Notes:						

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		17			1			SM	Brown silty sand with organic matter (loose, moist) (native)			pH = 7.70 pH = 8.44
									GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			
			9			2				Becomes light brown to white			pH = 8.48 pH = 8.61
	5									Direct push boring terminated at approximately 5 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-88

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-49
Sheet 1 of 1

Drilled	Start 4/3/2012	End 4/3/2012	Total Depth (ft) 15	Logged By KAH / Checked By	Driller Environmental West Explorations	Drilling Method Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) Northing (Y)			System Datum		Groundwater Date Measured	Depth to Water (ft) / Elevation (ft): Not encountered
Notes:						

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0												
			12			1			GW-GM	Brown and white fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 8.76
													pH = 8.32
			24			2							pH = 8.61
	5					3							pH = 8.14
									GP-GM	Black fine gravel with silt and sand (medium dense to dense, moist) (native)			pH = 7.93
									GW-GM	Brown fine to coarse gravel with silt and sand (medium dense to dense, moist) (native)			
			46			4 CA							pH = 8.36 DP-89 (8.5-9) pH = 8.61
	10					5							pH = 8.52
													pH = 8.11
			15			6							pH = 8.16
													pH = 8.08
	15									Direct push boring terminated at approximately 15 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-89

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-50
Sheet 1 of 1

Drilled	Start 4/3/2012	End 4/3/2012	Total Depth (ft) 12	Logged By KAH / Checked By	Driller Environmental West Explorations	Drilling Method Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) / Northing (Y)			System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	Not encountered
Notes:						

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0												
		24			1			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 8.71
												pH = 8.45
		30			2							pH = 8.57
												pH = 8.36
5												
					3			SW-SM	Light brown fine to coarse sand with silt and occasional gravel (medium dense to dense, moist) (native)			pH = 8.46
								GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			
		48			4							pH = 8.76
					5 CA				Becomes light brown and white			DP-90 (9-10) pH = 9.23
10												
												pH = 7.99
												pH = 8.07
									Direct push boring terminated at approximately 12 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-90

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-51
Sheet 1 of 1

Drilled	Start 4/3/2012	End 4/3/2012	Total Depth (ft) 11.5	Logged By KAH / Checked By	Driller Environmental West Explorations	Drilling Method Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) / Northing (Y)			System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	Not encountered
Notes:						

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		22			1			GW-GM	Brown fine to coarse gravel with silt and sand (dense, moist) (native)			pH = 8.85
													pH = 8.81
			24										pH = 8.81
	5					2			GP-GM	Brown fine gravel with silt and sand (dense, moist) (native)			pH = 8.76
			29			3 / CA			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 8.98 DP-91 (8-8.5)
						4				Becomes white			pH = 8.06
	10									Becomes light brown			pH = 8.12
										Direct push boring terminated at approximately 11½ foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-91

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-52
Sheet 1 of 1

Drilled Start 4/20/2012 End 4/20/2012	Total Depth (ft) 12	Logged By / Checked By	Driller Environmental West Explorations	Drilling Method Direct Push	
Surface Elevation (ft) / Vertical Datum Undetermined		Hammer Data N/A		Drilling Equipment Geoprobe	
Easting (X) / Northing (Y)		System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:					

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		24			1			GW-GM	Brown fine to coarse gravel with silt and sand (dense, moist) (native)			pH = 8.43
									GP	Gray gravel with trace silt and sand (medium dense, moist) (native)			
									GW-GM	Light brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 7.56
			36										pH = 7.47
	5					2			GP	White gravel with trace sand and silt (medium dense, moist) (native) Becomes brown			pH = 8.93
						3			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native) Becomes white			pH = 8.33
			19			4							pH = 8.42
						5							pH = 8.97
	10									Direct push boring terminated at approximately 12 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

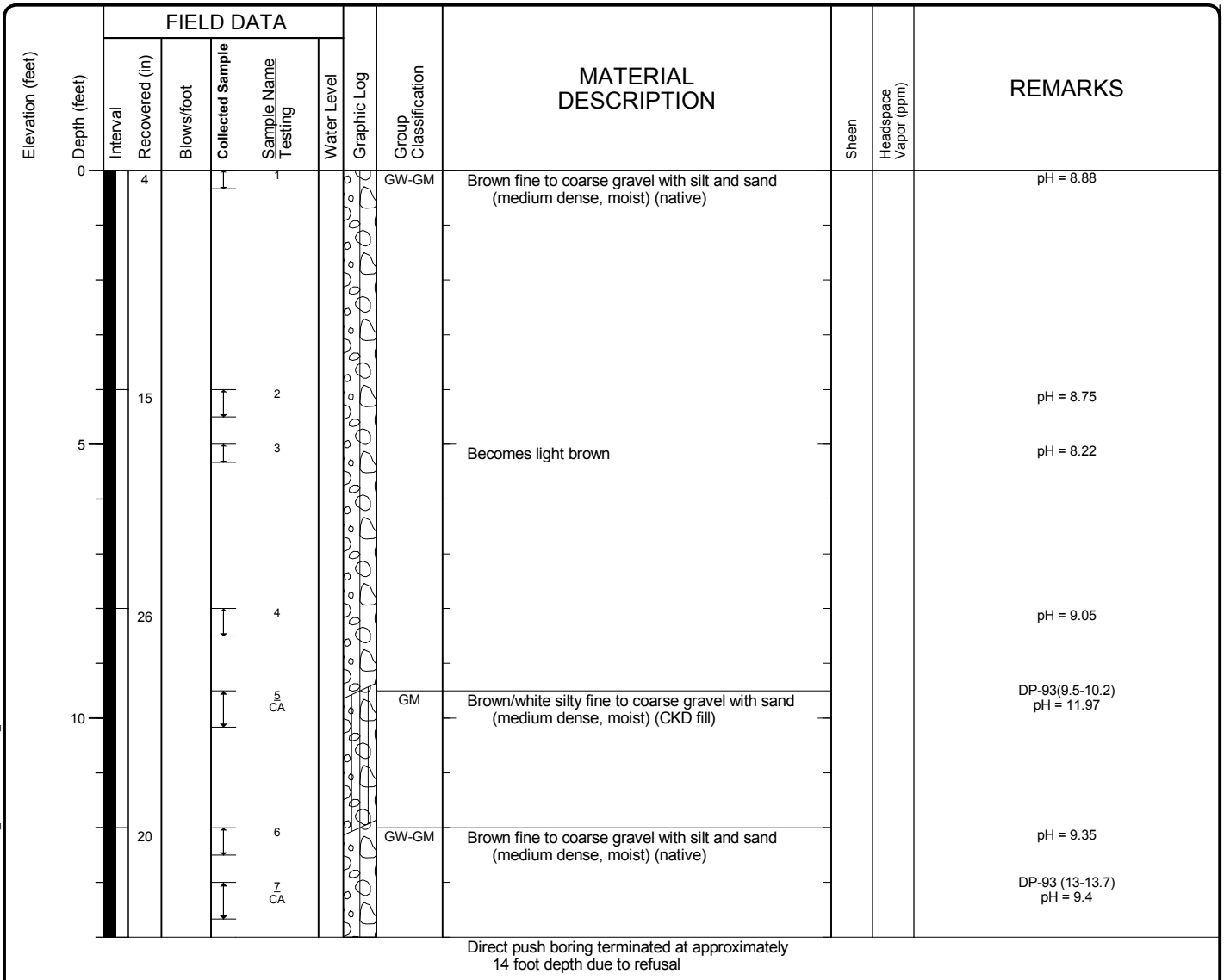
Log of Boring DP-92

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-53
Sheet 1 of 1

Drilled Start 4/20/2012 End 4/20/2012	Total Depth (ft) 14	Logged By / Checked By	Driller Environmental West Explorations	Drilling Method Direct Push	
Surface Elevation (ft) / Vertical Datum Undetermined	Hammer Data N/A	Drilling Equipment Geoprobe			
Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)			
Notes:					



Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-93

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-55
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
4/20/2012	4/20/2012	4		Environmental West Explorations	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		16			1			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 8.82 pH = 9.03
										Direct push boring terminated at approximately 4 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-94

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-56
Sheet 1 of 1

Spokane: Date:4/15/13 Path:P:\16\16316001\02\GINT\16316001102 LOGS.GPJ DBTemplate/LibTemplate\GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
	4/20/2012	4/20/2012	8		Environmental West Explorations	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		16			1			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 9.11
													pH = 8.57
			27			2							pH = 8.95
	5												pH = 9.35
						3							pH = 9.24
										Direct push boring terminated at approximately 8 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-95

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-57

Drilled	Start 4/20/2012	End 4/20/2012	Total Depth (ft) 8	Logged By / Checked By	Driller Environmental West Explorations	Drilling Method Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined		Hammer Data	N/A	Drilling Equipment	Geoprobe
Easting (X) / Northing (Y)			System Datum		Groundwater: Date Measured	Depth to Water (ft) / Elevation (ft)
Notes:						

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		27			1			GW-GM	Tan fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 8.96
										Becomes white			pH = 9.16
										Becomes brown			
						2				Becomes light brown			pH = 9.31
			21						SP-SM	Light brown fine to medium sand with silt and gravel (medium dense, moist) (native)			
						3 CA			GM				DP-96(4.5-5) pH = 9.48
	5					4 CA			GW-GM	Brown silty fine to coarse gravel with sand (medium dense, moist) (CKD fill)			DP-96(5-5.8) pH = 9.68
										Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			
										Direct push boring terminated at approximately 8 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-96

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-58
Sheet 1 of 1

Drilled	Start 4/20/2012	End 4/20/2012	Total Depth (ft)	8	Logged By / Checked By		Driller	Environmental West Explorations	Drilling Method	Direct Push
Surface Elevation (ft) / Vertical Datum	Undetermined				Hammer Data	N/A			Drilling Equipment	Geoprobe
Easting (X) / Northing (Y)					System Datum				Groundwater: Date Measured	Depth to Water (ft) / Elevation (ft)
Notes:										

Elevation (feet) / Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		24			1			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 9.11
					2							pH = 8.7
												pH = 8.9
		18			3 CA							DP-97(4-5.5) pH = 8.5
5												pH = 8.43
									Direct push boring terminated at approximately 8 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-97

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-59
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
	4/20/2012	4/20/2012	8		Environmental West Explorations	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	N/A	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		30			1			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 9.68
						2							pH = 9.64 pH = 9.58
			22							Becomes light brown			
	5					3 CA							DP-98(5-5.8) pH = 9.63 pH = 9.42
										Direct push boring terminated at approximately 8 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-98

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-60
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/28/2013	2/28/2013	15	KAH	Environmental West Explorations	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Automatic 140 (lbs) / 30 (in) Drop	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)

Notes:

Elevation (feet) / Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		28						GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 7.87
									Grades to light brown			pH = 9.05
		24							Grades to brown			pH = 9.05
5									Grades to dark brown and black with trace organic matter (bark)			
		29							Grades to brown			pH = 9.38
									Grades to gray and brown to white (medium dense, wet)			pH = 10.13
10									Grades to gray and brown			pH = 10.12
		33			1 CA				Grades to dark brown and gray			DP-99 (12) pH = 10.74
									Grades to dark brown			pH = 9.57
									Grades to brown			pH = 9.55
15									Direct push boring terminated at approximately 15 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-99

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-61
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/28/2013	2/28/2013	5	KAH	Environmental West Explorations	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Automatic 140 (lbs) / 30 (in) Drop	Geoprobe

Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		32						GW-GM	Light to medium brown fine to coarse gravel with silt, sand and occasional organic matter (roots) (medium dense, moist) (native)			pH = 10.00
													pH = 9.70
										Grades to light pink to gray to brown marbled			pH = 9.33
										Grades to light gray			pH = 9.84
			6			CA 1				Grades to light to medium brown to gray			pH = 9.53
	5												DP-100 (4.5)
										Direct push boring terminated at approximately 5 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-100

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-62
Sheet 1 of 1

Drilled	Start 2/28/2013	End 2/28/2013	Total Depth (ft)	12	Logged By / Checked By	KAH	Driller	Environmental West Explorations	Drilling Method	Direct Push
Surface Elevation (ft) Vertical Datum	Undetermined				Hammer Data	Automatic 140 (lbs) / 30 (in) Drop			Drilling Equipment	Geoprobe
Easting (X) Northing (Y)					System Datum				Groundwater Date Measured	Depth to Water (ft) / Elevation (ft)
Notes:										

Elevation (feet) / Depth (feet)	FIELD DATA: Interval / Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0	26					GW-GM	Dark brown fine to coarse gravel with silt, sand and trace organic matter (roots) (medium dense, moist) (native)			pH = 9.72
							Grades to brown to light brown			pH = 9.83
							Grades to light brown to gray			pH = 10.36
	22		2				Grades to brown			
						ML	Dark brown silt with sand and gravel (medium dense, moist) (fill)			pH = 9.96
5						GW-GM	Brown fine to coarse gravel with sand and trace silt (medium dense, moist) (native)			pH = 9.26
										pH = 9.79
	48						Grades to brown and gray			pH = 10.12
							Grades to light brown and gray			pH = 9.92
10							Grades to dark gray and brown			
						SM	Dark brown and black silty sand with gravel (fill)			pH = 10.68
						GW-GM	Dark gray and brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			
			CA 1			SM	Brown silty sand with gravel (medium dense, moist) (CKD)			pH = 13.18 DP-101 (11.8)
							Direct push boring terminated at approximately 12 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-101

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-63
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/28/2013	2/28/2013	9	KAH	Environmental West Explorations	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Automatic 140 (lbs) / 30 (in) Drop	Geoprobe

Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)

Notes:

Elevation (feet) / Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample: Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0	29					GW-GM	Light brown and gray fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 8.98
			1				Grades to light gray			pH = 10.14
	30		2				Grades to light brown and gray			pH = 11.68
5										pH = 10.94
			3				Grades to dark brown and black			pH = 13.23
							Direct push boring terminated at approximately 9 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-102

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-64
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/28/2013	2/28/2013	6	KAH	Environmental West Explorations	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Automatic 140 (lbs) / 30 (in) Drop	Geoprobe

Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)

Notes:

Elevation (feet) / Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample: Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		22		1			GW-GM	Medium brown with occasional black, white and gray fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 9.29 pH = 9.88
		14		2				Grades to medium brown and gray			pH = 9.73
5											pH = 10.08

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-103

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-65
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/28/2013	2/28/2013	20	KAH	Environmental West Explorations	Direct Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Automatic 140 (lbs) / 30 (in) Drop	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		21			1			GW-GM	Dark brown fine to coarse gravel with silt, sand and occasional organic matter (roots) (medium dense, moist) (native)			pH = 9.51
									GW	Brown to gray to red marbled fine to coarse gravel (medium dense, moist) (native)			pH =9.88
			36			2			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 10.54
	5												pH = 10.38
													pH = 10.15
			44										pH = 10.29
										Grades to dark brown			
	10												pH = 9.08
										Grades to black with trace organic matter (wood)			
										Grades to tan and pink (CKD)			pH = 12.77
			36			3							pH = 10.27
									SM	Tan silty sand with trace organic matter (wood) (medium dense, moist) (CKD)			pH = 12.47
									GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			
	15					4			SM	Tan and black marbled silty sand with trace gravel (medium dense, moist) (CKD)			pH = 13.35
						5			GW-GM	Brown fine to coarse gravel with silt and sand (dense, moist) (native)			pH = 10.51
													pH = 10.28
	20												pH = 9.94

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-104

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-66
Sheet 1 of 1

Drilled: Start 2/28/2013 End 2/28/2013	Total Depth (ft): 15	Logged By: KAH Checked By:	Driller: Environmental West Explorations	Drilling Method: Direct Push	
Surface Elevation (ft) Vertical Datum: Undetermined	Hammer Data: Automatic 140 (lbs) / 30 (in) Drop	Drilling Equipment: Geoprobe			
Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)			
Notes:					

Elevation (feet) / Depth (feet)	FIELD DATA: Interval / Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0	29					GW-GM	Medium to dark brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 9.20
			1				Grades to light gray			pH = 9.61
							Grades to medium to dark brown			pH = 9.18
	24						Grades to light brown and gray			pH = 10.15
5			2				Grades to brown, red and black			pH = 12.82
	36		3			ML	Dark brown silt with sand and gravel (medium dense, moist) (fill)			
						GW-GM	Light to medium brown fine to coarse gravel with silt and sand (medium dense, moist) (native) Grades to dark brown			pH = 11.08
10						ML	Light brown silt with sand and gravel (medium dense, wet) (possible CKD)			pH = 11.35
			4							pH = 13.52
	36		5			GW-GM	Dark brown to gray fine to coarse gravel with silt and sand (medium dense, wet) (native)			pH = 12.09
										pH = 9.95
15			6				Direct push boring terminated at approximately 15 foot depth due to refusal			pH = 9.42

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-105

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-67
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/28/2013	2/28/2013	7.5	KAH	Environmental West Explorations	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Automatic 140 (lbs) / 30 (in) Drop	Geoprobe

Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)

Notes:

Elevation (feet) / Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		24			1			GW-GM	Dark brown fine to coarse gravel with silt and sand (medium dense, moist) (native) Grades to brown			pH = 9.91
								GW	Light brown and gray fine to coarse gravel with sand (medium dense, moist) (native)			pH = 9.78
		34						GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 9.94
5					2							pH = 10.14
												pH = 10.04
					3							
									Direct push boring terminated at approximately 7½ foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-106

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-68
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/28/2013	2/28/2013	6	KAH	Environmental West Explorations	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Automatic 140 (lbs) / 30 (in) Drop	Geoprobe

Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		26						GP-GM	Dark brown coarse gravel with silt, sand and occasional organic matter (wood) (medium dense, moist) (native)			pH = 9.62
									GW-GM				
									GP-GM	Brown to reddish fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 9.35
									GW-GM				pH = 10.06
						1				Dark brown coarse gravel with silt and sand (medium dense, moist) (native)			
										Brown to gray fine to coarse gravel with silt and sand (medium dense, moist) (native)			
			18										pH = 10.53
	5									Grades to gray to light brown			pH = 10.64
										Direct push boring terminated at approximately 6 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-107

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-69
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
2/28/2013	2/28/2013	8	KAH	Environmental West Explorations	Direct Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	Automatic 140 (lbs) / 30 (in) Drop	Geoprobe

Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)

Notes:

Elevation (feet) / Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0		34			1			GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (native)			pH = 10.48
									Grades to light brown			pH = 10.28
									Grades to dark brown			pH = 9.56
									Grades to light brown			
												pH = 10.50
		33			2				Grades to brown to white			
5												pH = 10.16
												pH = 9.91
									Direct push boring terminated at approximately 8 foot depth due to refusal			

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-107B

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-70
Sheet 1 of 1

Drilled: Start / End	Total Depth (ft): 20	Logged By: KAH / Checked By:	Driller: Environmental West Explorations	Drilling Method: Direct Push	
Surface Elevation (ft) / Vertical Datum: Undetermined	Hammer Data: Automatic 140 (lbs) / 30 (in) Drop	Drilling Equipment: Geoprobe			
Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)			
Notes:					

Elevation (feet) / Depth (feet)	FIELD DATA: Interval / Recovered (in)	Blows/foot	Collected Sample / Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0	26		1			GW-GM	Dark brown fine to coarse gravel with silt and sand (medium dense, moist) (native) Grades to light brown to gray (medium dense, moist)			pH = 10.06 pH = 10.05 pH = 9.71
5	33						Grades to light to medium brown, gray, white			pH = 10.24 pH = 9.92 pH = 9.80
10	48									pH = 10.28
						SM	Black and tan silty sand with gravel and organic matter (wood) (dense, moist) (fill) Grades to light and dark brown (CKD)			pH = 10.93 pH = 13.36
	46		2			GW-GM	Brown fine to coarse gravel with silt and sand (dense, moist) (native)			pH = 11.27
			3				Grades to black fine to coarse gravel and trace organic matter (wood) (dense, moist) (native)			pH = 12.05
15						SM	Tan to brown silty sand with trace gravel (dense, moist) (CKD)			pH = 13.34
	44		4			GW-GM	Brown fine to coarse gravel with silt and sand (dense, moist) (CKD) Becomes wet (native)			pH = 13.19 pH = 11.80
20			5							pH = 10.33

Notes: See Figure B-1 for explanation of symbols.

Log of Boring DP-108

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-71
Sheet 1 of 1

Date Excavated: 4/5/2012 Logged By: KAH

Equipment: Hand Shovel Total Depth (ft) 1.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Sheen	Headspace Vapor	Notes
	1	X	CA		GW-GM	▽	Brown fine to coarse gravel with silt and sand and occasional cobbles (medium dense, wet) (native)			HA-16 (0-1) pH = 7.88
	1						Test pit completed at 1 foot Groundwater seepage observed at 0.3 feet No caving observed			

Notes: See Figure B-1 for explanation of symbols.

Log of Test Pit HA-16

GeoEngineers

Project: Holcim Inc.

Project Location: Spokane Valley, Washington

Project Number: 16316-001-02

Figure B-72

Sheet 1 of 1

Date Excavated: 4/5/2012 Logged By: KAH

Equipment: Hand Shovel Total Depth (ft) 2.0

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Sheen	Headspace Vapor	Notes
	1		CA		SM		Brown silty fine sand with occasional gravel and cobbles and organic matter (roots) (medium dense, moist) (native)			HA-17 (0-2) pH = 8.49
	2						Test pit completed at 2 feet No groundwater seepage observed No caving observed			

Notes: See Figure B-1 for explanation of symbols.

Log of Test Pit HA-17

GeoEngineers

Project: Holcim Inc.

Project Location: Spokane Valley, Washington

Project Number: 16316-001-02

Figure B-73

Sheet 1 of 1

Drilled Start 7/25/2012 End 7/25/2012	Total Depth (ft) 21.5	Logged By / Checked By	Driller Environmental West Explorations	Drilling Method Air Rotary	
Surface Elevation (ft) / Vertical Datum Undetermined	Hammer Data Automatic 140 (lbs) / 30 (in) Drop	Drilling Equipment Air Rotary			
Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured 7/25/2012	Depth to Water (ft) 20.00	Elevation (ft)	
Notes:					

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample: Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0						GW-GM	Brown fine to coarse gravel with silt, sand and cobbles (medium dense, moist) (native)			
	5										
	10	3	40	1				Poor recovery			B-1 (10) (insufficient sample for screening)
	15	6	14	2							B-1 (15) (insufficient sample for screening)
	20	6	3	3	▽			Becomes wet			B-1 (20) (insufficient sample for screening)

Notes: See Figure B-1 for explanation of symbols.

Log of Boring B-1

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-74
Sheet 1 of 1

Drilled Start 7/25/2012 End 7/25/2012	Total Depth (ft) 21.5	Logged By / Checked By	Driller Environmental West Explorations	Drilling Method Air Rotary	
Surface Elevation (ft) / Vertical Datum Undetermined	Hammer Data Automatic 140 (lbs) / 30 (in) Drop	Drilling Equipment Air Rotary			
Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured 7/25/2012	Depth to Water (ft) 18.50	Elevation (ft)	
Notes:					

Elevation (feet) / Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
0						GW-GM	Brown fine to coarse gravel with silt and sand (dense, moist) (native)			
5										
10										
15	4	50/3"	1							B-2 (15)
				▽		GW	Gray fine to coarse gravel (dense, wet) (native)			
20	6	47								

Notes: See Figure B-1 for explanation of symbols.

Log of Boring B-2

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-75
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
7/25/2012	7/25/2012	31.5		Environmental West Explorations	Air Rotary

Hammer Data	Automatic 140 (lbs) / 30 (in) Drop	Drilling Equipment	Air Rotary
Surface Elevation (ft) Vertical Datum	Undetermined	Top of Casing Elevation (ft)	
Easting (X) Northing (Y)		Horizontal Datum	

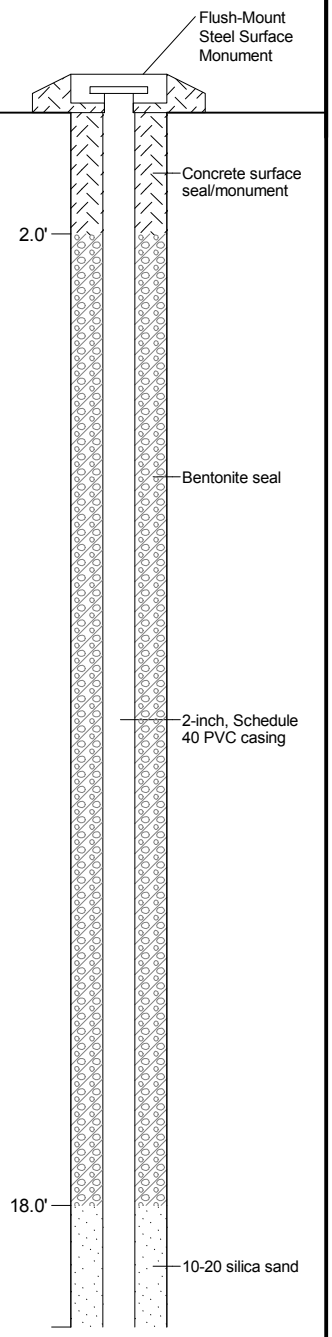
A 2 (in) well was installed on 7/25/2012 to a depth of 31.5 (ft).

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
7/25/2012	10.00	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
	0							GW-GM	Brown fine to coarse gravel with silt and sand (medium dense, moist) (CKD fill)		
	5	12	42		1			SM	Gray to tan silty fine sand with gravel (medium dense, moist) (CKD fill)		
	10	0	50/5"			▽			Becomes wet		
	15	12	84		2			GW-GM	Brown fine to coarse gravel with silt, sand and cobbles (dense, wet) (native)		
	20										

WELL LOG



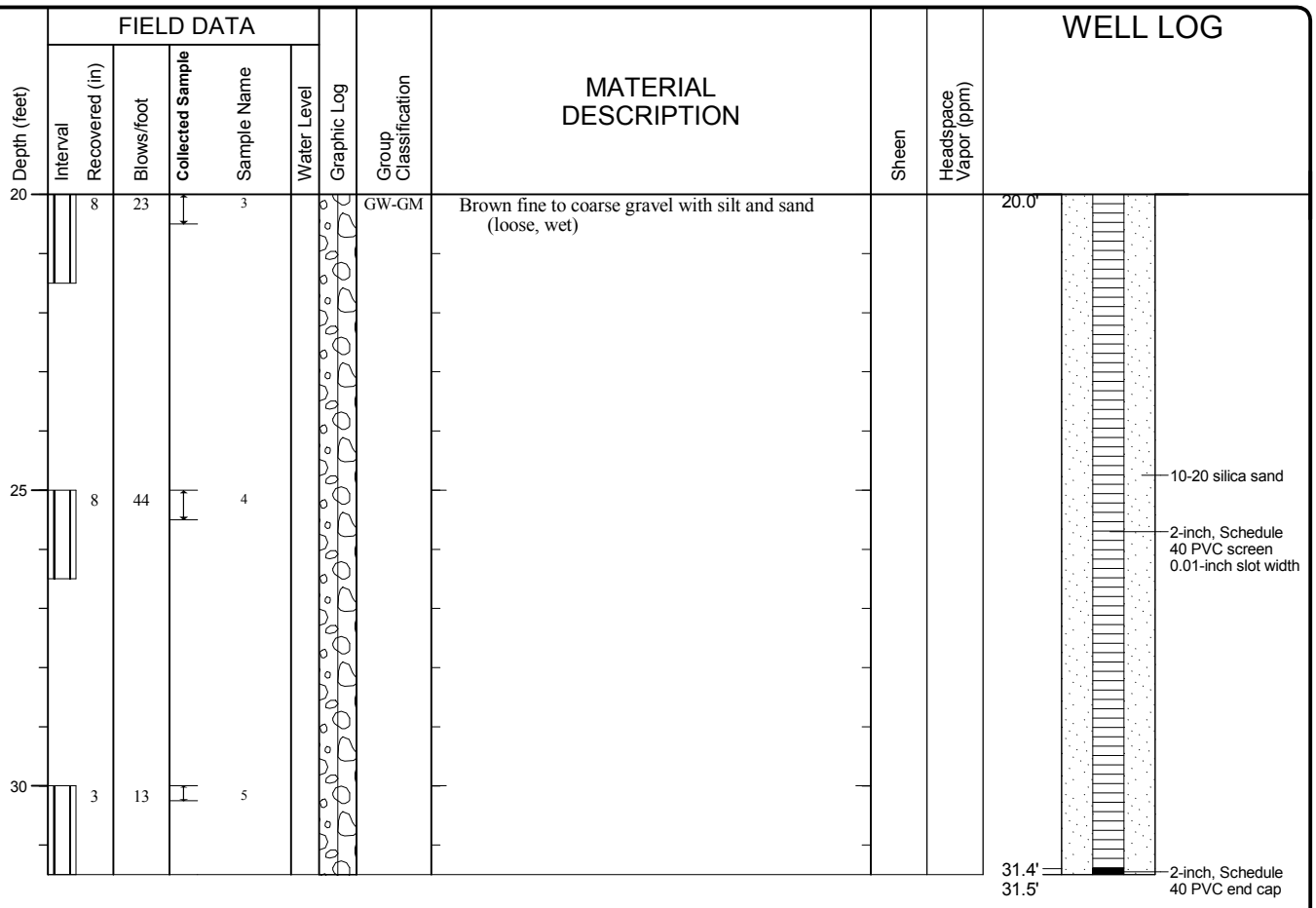
Notes: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-9

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-76
Sheet 1 of 2



Notes: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-9 (continued)

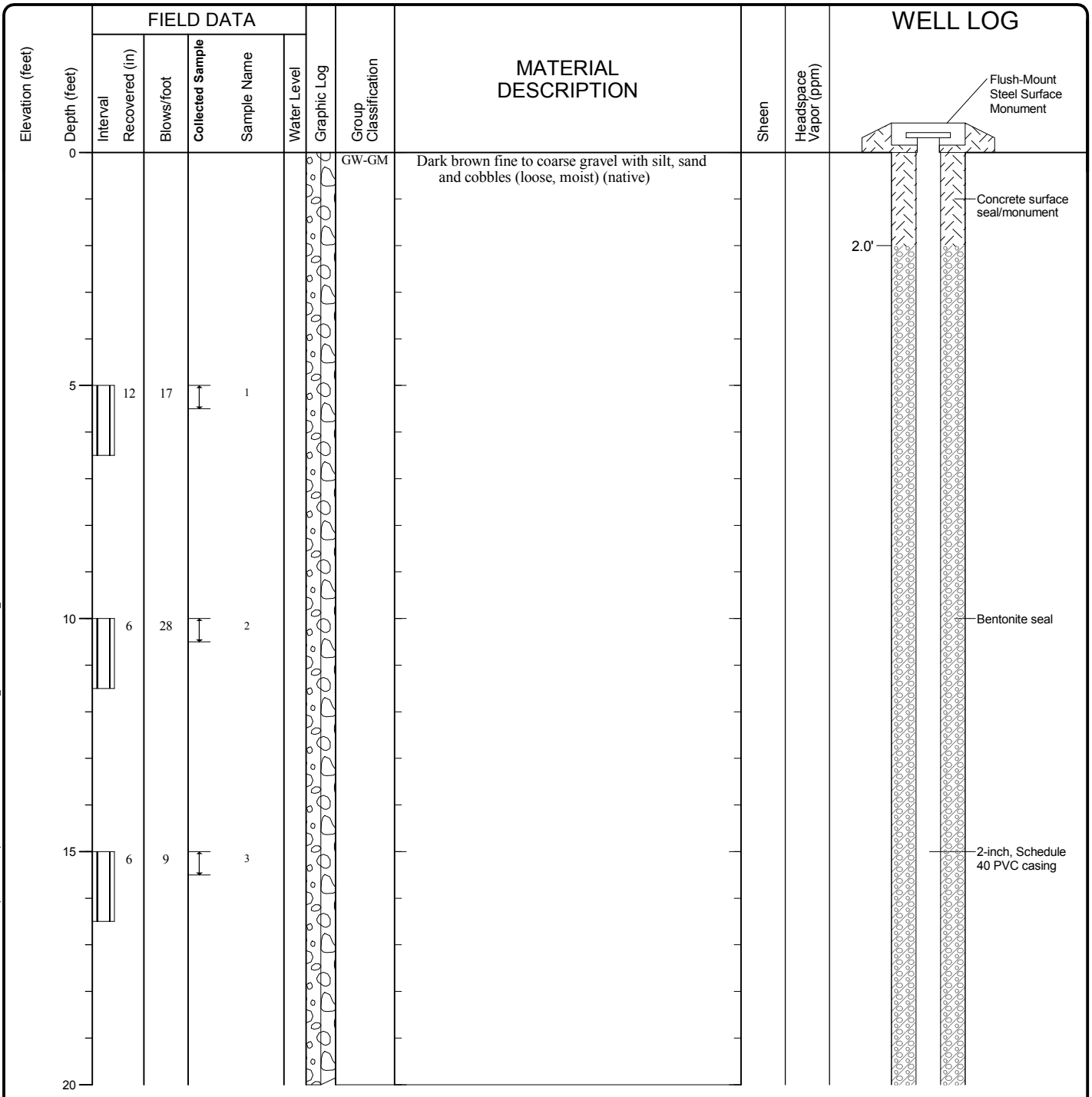
GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-76
Sheet 2 of 2

Drilled Start 7/25/2012 End 7/25/2012	Total Depth (ft) 41.5	Logged By / Checked By	Driller Environmental West Explorations	Drilling Method Air Rotary	
Hammer Data Automatic 140 (lbs) / 30 (in) Drop		Drilling Equipment Air Rotary	A 2 (in) well was installed on 7/25/2012 to a depth of 41.5 (ft).		
Surface Elevation (ft) Vertical Datum Undetermined		Top of Casing Elevation (ft)	Groundwater Date Measured 7/25/2012	Depth to Water (ft) 29.00	Elevation (ft)
Easting (X) Northing (Y)		Horizontal Datum			

Notes:



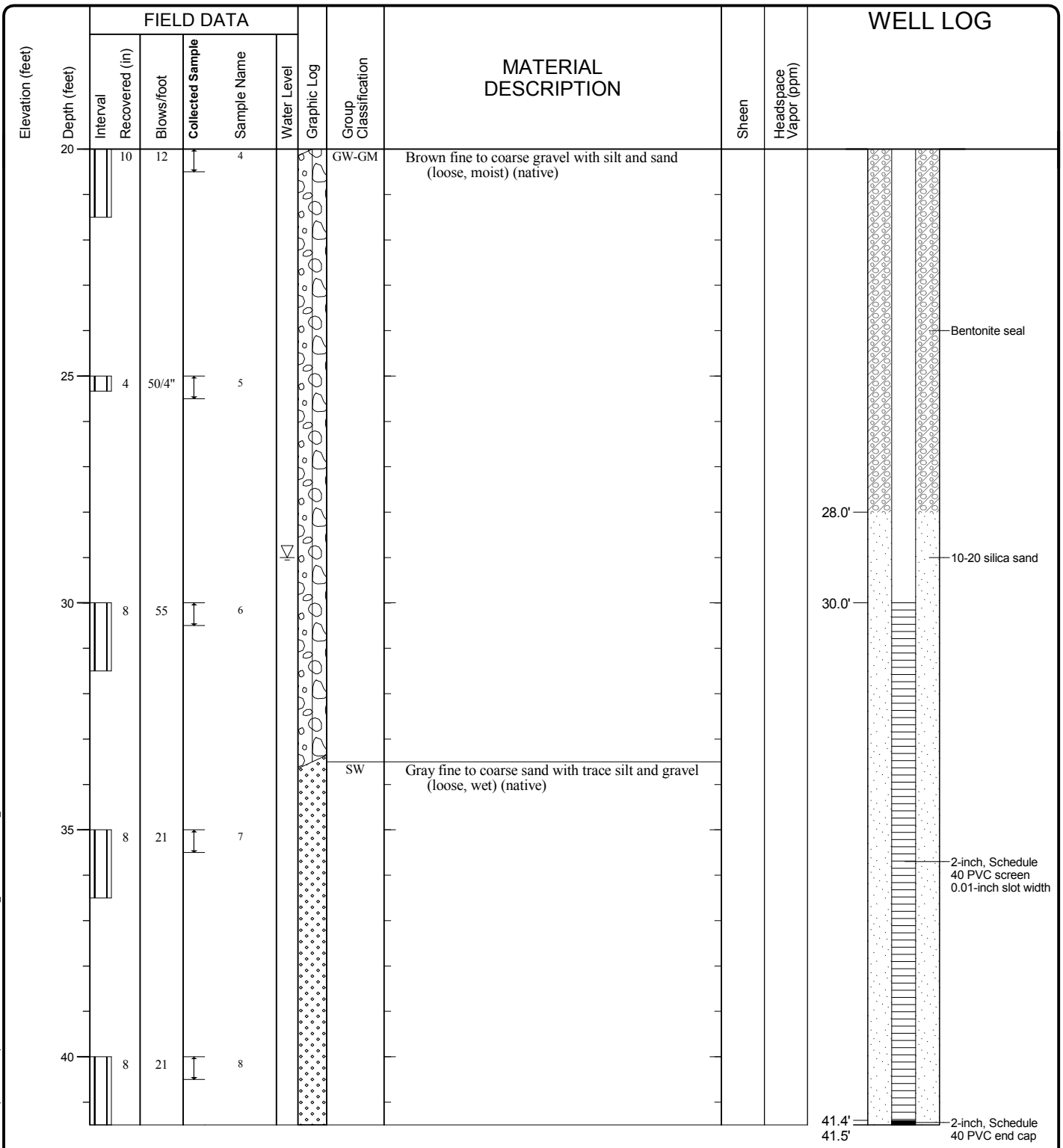
Notes: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-10

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-77
Sheet 1 of 2



Notes: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-10 (continued)

GeoEngineers

Project: Holcim Inc.
Project Location: Spokane Valley, Washington
Project Number: 16316-001-02

Figure B-77
Sheet 2 of 2

APPENDIX C
Chemical Analytical Data

APPENDIX C
CHEMICAL ANALYTICAL DATA

Samples

Chain-of-custody procedures were followed during the transport of the field samples to the accredited analytical laboratory. The samples were held in cold storage pending extraction and/or analysis. The analytical results and quality control records are included in this appendix.

Analytical Data Review

The laboratory maintains an internal quality assurance/quality control (QA/QC) program as documented in its laboratory quality assurance manual. The laboratory uses a combination of blanks, surrogate recoveries, duplicates, matrix spike recoveries, matrix spike duplicate recoveries, blank spike recoveries and blank spike duplicate recoveries to evaluate the analytical results. The laboratory also uses data quality goals for individual chemicals or groups of chemicals based on the long-term performance of the test methods. The data quality goals were included in the laboratory reports. The laboratory compared each group of samples with the existing data quality goals and noted any exceptions in the laboratory report. Any data quality exceptions documented by the accredited laboratory were reviewed by GeoEngineers and are addressed in the data quality exception section of this appendix.

Data Quality Exception Summary

No data quality exceptions were noted in the laboratory report during our review.

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number 120208019-001 | **Sampling Date** 2/7/2012 | **Date/Time Received** 2/8/2012 8:38 AM
Client Sample ID DP-41 (1-2) | **Sampling Time** 9:01 AM | **Extraction Date**
Matrix Soil | **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	9.85	mg/Kg	0.64	2/14/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.001	2/14/2012	KEA	EPA 6020A	
Lead	7.56	mg/Kg	0.64	2/14/2012	KEA	EPA 6020A	
pH	12.24	ph Units		2/9/2012	APM	EPA 9045	
%moisture	24.6	Percent		2/8/2012	APM	%moisture	

Sample Number 120208019-002 | **Sampling Date** 2/7/2012 | **Date/Time Received** 2/8/2012 8:38 AM
Client Sample ID DP-41 (5-6) | **Sampling Time** 9:18 AM | **Extraction Date**
Matrix Soil | **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	6.50	mg/Kg	0.542	2/14/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.001	2/14/2012	KEA	EPA 6020A	
Lead	6.48	mg/Kg	0.542	2/14/2012	KEA	EPA 6020A	
pH	9.30	ph Units		2/9/2012	APM	EPA 9045	
%moisture	7.3	Percent		2/8/2012	APM	%moisture	

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120208019-003	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM	
Client Sample ID	DP-42 (0-2)	**Sampling Time**	9:25 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	9.53	mg/Kg	0.596	2/14/2012	KEA	EPA 6020A	
Cadmium	1.89	mg/Kg	0.596	2/14/2012	KEA	EPA 6020A	
Lead	307	mg/Kg	0.596	2/14/2012	KEA	EPA 6020A	
pH	9.03	ph Units		2/9/2012	APM	EPA 9045	
%moisture	13.4	Percent		2/8/2012	APM	%moisture	

Sample Number	120208019-004	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM	
Client Sample ID	DP-43 (0-2)	**Sampling Time**	9:45 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	4.94	mg/Kg	0.592	2/14/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.001	2/14/2012	KEA	EPA 6020A	
Lead	5.41	mg/Kg	0.592	2/14/2012	KEA	EPA 6020A	
pH	12.09	ph Units		2/9/2012	APM	EPA 9045	
%moisture	17.5	Percent		2/8/2012	APM	%moisture	

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Address: 523 E 2ND
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Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120208019-005	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM
Client Sample ID	DP-44 (0-1.5)	**Sampling Time**	10:15 AM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	9.63	mg/Kg	0.596	2/14/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.001	2/14/2012	KEA	EPA 6020A	
Lead	33.7	mg/Kg	0.596	2/14/2012	KEA	EPA 6020A	
pH	9.17	ph Units		2/9/2012	APM	EPA 9045	
%moisture	14.7	Percent		2/8/2012	APM	%moisture	

Sample Number	120208019-006	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM
Client Sample ID	DP-44 (4-5.5)	**Sampling Time**	10:20 AM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	4.59	mg/Kg	0.527	2/14/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.001	2/14/2012	KEA	EPA 6020A	
Lead	10.8	mg/Kg	0.527	2/14/2012	KEA	EPA 6020A	
pH	9.45	ph Units		2/9/2012	APM	EPA 9045	
%moisture	7.0	Percent		2/8/2012	APM	%moisture	

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Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120208019-007	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM
Client Sample ID	DP-45 (1-2.3)	**Sampling Time**	12:05 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	7.41	mg/Kg	0.572	2/14/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.572	2/14/2012	KEA	EPA 6020A	
Lead	77.4	mg/Kg	0.572	2/14/2012	KEA	EPA 6020A	
pH	9.03	ph Units		2/9/2012	APM	EPA 9045	
%moisture	17.1	Percent		2/8/2012	APM	%moisture	

Sample Number	120208019-008	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM
Client Sample ID	DP-45 (5-6)	**Sampling Time**	12:10 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	9.10	mg/Kg	1.09	2/14/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.547	2/14/2012	KEA	EPA 6020A	
Lead	8.92	mg/Kg	0.547	2/14/2012	KEA	EPA 6020A	
pH	9.33	ph Units		2/9/2012	APM	EPA 9045	
%moisture	7.3	Percent		2/8/2012	APM	%moisture	

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Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120208019-009	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM
Client Sample ID	DP-46 (0-1)	**Sampling Time**	12:38 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	4.27	mg/Kg	1.04	2/14/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.52	2/14/2012	KEA	EPA 6020A	
Lead	7.77	mg/Kg	0.52	2/14/2012	KEA	EPA 6020A	
pH	8.43	ph Units		2/9/2012	APM	EPA 9045	
%moisture	8.1	Percent		2/8/2012	APM	%moisture	

Sample Number	120208019-010	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM
Client Sample ID	DP-47 (0.5-1.5)	**Sampling Time**	1:00 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	4.13	mg/Kg	1.02	2/14/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.508	2/14/2012	KEA	EPA 6020A	
Lead	35.4	mg/Kg	0.508	2/14/2012	KEA	EPA 6020A	
pH	8.69	ph Units		2/9/2012	APM	EPA 9045	
%moisture	8.1	Percent		2/8/2012	APM	%moisture	

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Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120208019-011	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM
Client Sample ID	DP-48 (0.5-1.5)	**Sampling Time**	1:46 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	3.93	mg/Kg	1.1	2/14/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.55	2/14/2012	KEA	EPA 6020A	
Lead	9.33	mg/Kg	0.55	2/14/2012	KEA	EPA 6020A	
pH	7.87	ph Units		2/9/2012	APM	EPA 9045	
%moisture	11.9	Percent		2/8/2012	APM	%moisture	

Sample Number	120208019-012	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM
Client Sample ID	DP-49 (0.5-1.5)	**Sampling Time**	1:59 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	4.60	mg/Kg	0.622	2/14/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.622	2/14/2012	KEA	EPA 6020A	
Lead	10.0	mg/Kg	0.622	2/14/2012	KEA	EPA 6020A	
pH	9.09	ph Units		2/9/2012	APM	EPA 9045	
%moisture	19.5	Percent		2/8/2012	APM	%moisture	

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Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120208019-013	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM
Client Sample ID	DP-50 (0.5-1.5)	**Sampling Time**	2:20 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	6.71	mg/Kg	1.14	2/14/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.568	2/14/2012	KEA	EPA 6020A	
Lead	14.4	mg/Kg	0.568	2/14/2012	KEA	EPA 6020A	
pH	8.95	ph Units		2/9/2012	APM	EPA 9045	
%moisture	17.1	Percent		2/8/2012	APM	%moisture	

Authorized Signature

Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120208019-001	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM
Client Sample ID	DP-41 (1-2)	**Sampling Time**	9:01 AM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Toluene	0.00752	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Total Xylene	0.0116	mg/Kg	0.01	2/9/2012	WOZ	EPA 8260B	
Diesel	ND	mg/kg	25	2/15/2012	MJL	NWTPHDX	
Lube Oil	ND	mg/kg	100	2/15/2012	MJL	NWTPHDX	
Gasoline	ND	mg/kg	3.16	2/13/2012	WOZ	NWTPHG	
%moisture	24.6	Percent		2/8/2012	APM	%moisture	

Surrogate Data

Sample Number 120208019-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	99.6	70-130
4-Bromofluorobenzene	EPA 8260B	111.2	70-130
Toluene-d8	EPA 8260B	94.0	70-130
hexacosane	NWTPHDX	85.0	50-150
4-Bromofluorobenzene	NWTPHG	101.8	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Address: 523 E 2ND
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Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120208019-002	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM	
Client Sample ID	DP-41 (5-6)	**Sampling Time**	9:18 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Toluene	ND	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Total Xylene	ND	mg/Kg	0.01	2/9/2012	WOZ	EPA 8260B	
Diesel	ND	mg/kg	25	2/15/2012	MJL	NWTPHDX	
Lube Oil	ND	mg/kg	100	2/15/2012	MJL	NWTPHDX	
Gasoline	3.81	mg/kg	2.5	2/13/2012	WOZ	NWTPHG	
%moisture	7.3	Percent		2/8/2012	APM	%moisture	

Surrogate Data

Sample Number 120208019-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	96.4	70-130
4-Bromofluorobenzene	EPA 8260B	108.8	70-130
Toluene-d8	EPA 8260B	91.6	70-130
hexacosane	NWTPHDX	88.2	50-150
4-Bromofluorobenzene	NWTPHG	104.7	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Batch #: 120208019
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Analytical Results Report

Sample Number	120208019-003	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM	
Client Sample ID	DP-42 (0-2)	**Sampling Time**	9:25 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Toluene	0.0135	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Total Xylene	0.0361	mg/Kg	0.01	2/9/2012	WOZ	EPA 8260B	
Diesel	ND	mg/kg	25	2/15/2012	MJL	NWTPHDX	
Lube Oil	168	mg/kg	100	2/15/2012	MJL	NWTPHDX	
Gasoline	3.24	mg/kg	3.07	2/13/2012	WOZ	NWTPHG	
%moisture	13.4	Percent		2/8/2012	APM	%moisture	

Surrogate Data

Sample Number 120208019-003

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	98.8	70-130
4-Bromofluorobenzene	EPA 8260B	108.8	70-130
Toluene-d8	EPA 8260B	81.2	70-130
hexacosane	NWTPHDX	86.2	50-150
4-Bromofluorobenzene	NWTPHG	105.0	70-130

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120208019-004	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM	
Client Sample ID	DP-43 (0-2)	**Sampling Time**	9:45 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Toluene	ND	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Total Xylene	ND	mg/Kg	0.01	2/9/2012	WOZ	EPA 8260B	
Diesel	ND	mg/kg	25	2/15/2012	MJL	NWTPHDX	
Lube Oil	129	mg/kg	100	2/15/2012	MJL	NWTPHDX	
Gasoline	ND	mg/kg	3.12	2/13/2012	WOZ	NWTPHG	
%moisture	17.5	Percent		2/8/2012	APM	%moisture	

Surrogate Data

Sample Number 120208019-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	98.8	70-130
4-Bromofluorobenzene	EPA 8260B	103.2	70-130
Toluene-d8	EPA 8260B	86.8	70-130
hexacosane	NWTPHDX	89.8	50-150
4-Bromofluorobenzene	NWTPHG	104.8	70-130

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SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120208019-005	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM	
Client Sample ID	DP-44 (0-1.5)	**Sampling Time**	10:15 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Toluene	0.00586	mg/Kg	0.005	2/9/2012	WOZ	EPA 8260B	
Total Xylene	0.0279	mg/Kg	0.01	2/9/2012	WOZ	EPA 8260B	
Diesel	ND	mg/kg	25	2/15/2012	MJL	NWTPHDX	
Lube Oil	ND	mg/kg	100	2/15/2012	MJL	NWTPHDX	
Gasoline	ND	mg/kg	2.72	2/13/2012	WOZ	NWTPHG	
%moisture	14.7	Percent		2/8/2012	APM	%moisture	

Surrogate Data

Sample Number 120208019-005

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	102.0	70-130
4-Bromofluorobenzene	EPA 8260B	109.6	70-130
Toluene-d8	EPA 8260B	88.0	70-130
hexacosane	NWTPHDX	90.4	50-150
4-Bromofluorobenzene	NWTPHG	102.0	70-130

Authorized Signature Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	76.5	mg/kg	100	76.5	50-150	2/15/2012	2/15/2012
Gasoline	0.960	mg/L	1.1	87.3	70-130	2/13/2012	2/13/2012
Toluene	0.76	µg/L	1	76.0	73-118	2/9/2012	2/9/2012
Ethylbenzene	0.93	µg/L	1	93.0	76-116	2/9/2012	2/9/2012
Benzene	1.10	µg/L	1	110.0	69-122	2/9/2012	2/9/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120209045-009	Diesel	ND	73.8	mg/kg	100	73.8	50-150	2/15/2012	2/15/2012
120202006-001	Gasoline	ND	1.14	mg/L	1.1	103.6	70-130	2/13/2012	2/13/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	78.1	mg/kg	100	78.1	5.7	0-50	2/15/2012	2/15/2012
Gasoline	1.02	mg/L	1.1	92.7	11.1	0-20	2/13/2012	2/13/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzene	ND	mg/L	0.005	2/9/2012	2/9/2012
Diesel	ND	mg/kg	25	2/15/2012	2/15/2012
Ethylbenzene	ND	mg/L	0.005	2/9/2012	2/9/2012
Gasoline	ND	mg/L	0.1	2/13/2012	2/13/2012
Lube Oil	ND	mg/kg	100	2/15/2012	2/15/2012
Toluene	ND	mg/L	0.005	2/9/2012	2/9/2012
Total Xylene	ND	mg/L	0.01	2/9/2012	2/9/2012

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Lead	0.0466	mg/kg	0.05	93.2	80-120	2/10/2012	2/14/2012
Cadmium	0.0498	mg/kg	0.05	99.6	80-120	2/10/2012	2/14/2012
Arsenic	0.0497	mg/kg	0.05	99.4	80-120	2/10/2012	2/14/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120208019-006	Lead	10.8	30.4	mg/kg	19	103.2	75-125	2/10/2012	2/14/2012
120208019-006	Cadmium	ND	21.4	mg/kg	19	112.6	75-125	2/10/2012	2/14/2012
120208019-006	Arsenic	4.59	22.0	mg/kg	19	91.6	75-125	2/10/2012	2/14/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Lead	31.3	mg/kg	19	107.9	2.9	0-20	2/10/2012	2/14/2012
Cadmium	22.1	mg/kg	19	116.3	3.2	0-20	2/10/2012	2/14/2012
Arsenic	22.9	mg/kg	19	96.4	4.0	0-20	2/10/2012	2/14/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/Kg	0.001	2/10/2012	2/14/2012
Cadmium	ND	mg/Kg	0.001	2/10/2012	2/14/2012
Lead	ND	mg/Kg	0.001	2/10/2012	2/14/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120208019-001	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM
Client Sample ID	DP-41 (1-2)	**Sampling Time**	9:01 AM	**Extraction Date**	2/13/2012	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.228	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]anthracene	0.057	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.108	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Chrysene	0.090	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluoranthene	0.092	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Naphthalene	0.253	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Phenanthrene	0.239	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Pyrene	0.078	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
%moisture	24.6	Percent		2/8/2012	APM	%moisture	

Surrogate Data

Sample Number 120208019-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	99.4	18-137

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Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120208019-003	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM
Client Sample ID	DP-42 (0-2)	**Sampling Time**	9:25 AM	**Extraction Date**	2/13/2012	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.289	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]anthracene	0.074	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.072	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Chrysene	0.105	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluoranthene	0.111	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Naphthalene	0.081	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Phenanthrene	0.207	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Pyrene	0.113	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
%moisture	13.4	Percent		2/8/2012	APM	%moisture	

Surrogate Data

Sample Number 120208019-003

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	118.6	18-137

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Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120208019-004	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM
Client Sample ID	DP-43 (0-2)	**Sampling Time**	9:45 AM	**Extraction Date**	2/13/2012	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluoranthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Naphthalene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Phenanthrene	0.053	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
%moisture	17.5	Percent		2/8/2012	APM	%moisture	

Surrogate Data

Sample Number 120208019-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	98.4	18-137

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SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120208019-005	**Sampling Date**	2/7/2012	**Date/Time Received**	2/8/2012	8:38 AM
Client Sample ID	DP-44 (0-1.5)	**Sampling Time**	10:15 AM	**Extraction Date**	2/13/2012	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.162	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Anthracene	0.062	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	0.163	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]anthracene	0.085	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]pyrene	0.132	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.217	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.098	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Chrysene	0.122	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluoranthene	0.141	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.113	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Naphthalene	0.162	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Phenanthrene	0.164	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Pyrene	0.128	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
%moisture	14.7	Percent		2/8/2012	APM	%moisture	

Surrogate Data

Sample Number 120208019-005

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	101.1	18-137

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Client:	GEO ENGINEERS	**Batch #:**	120208019
Address:	523 E 2ND	**Project Name:**	HOLCIM 16316-001-02
	SPOKANE, WA 99202		
Attn:	JOHN HANEY		

Analytical Results Report

Authorized Signature

Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL	EPA's Maximum Contaminant Level
ND	Not Detected
PQL	Practical Quantitation Limit

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SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	0.829	mg/kg	1	82.9	30-140	2/13/2012	2/14/2012
Acenaphthene	0.935	mg/kg	1	93.5	30-140	2/13/2012	2/14/2012
Acenaphthylene	0.947	mg/kg	1	94.7	30-140	2/13/2012	2/14/2012
Anthracene	0.948	mg/kg	1	94.8	30-140	2/13/2012	2/14/2012
Benzo(ghi)perylene	1.03	mg/kg	1	103.0	30-140	2/13/2012	2/14/2012
Benzo[a]anthracene	1.04	mg/kg	1	104.0	30-140	2/13/2012	2/14/2012
Benzo[a]pyrene	0.995	mg/kg	1	99.5	30-140	2/13/2012	2/14/2012
2-Methylnaphthalene	1.02	mg/kg	1	102.0	30-140	2/13/2012	2/14/2012
Benzo[k]fluoranthene	0.838	mg/kg	1	83.8	30-140	2/13/2012	2/14/2012
Pyrene	1.08	mg/kg	1	108.0	30-140	2/13/2012	2/14/2012
Dibenz[a,h]anthracene	1.04	mg/kg	1	104.0	30-140	2/13/2012	2/14/2012
Fluoranthene	0.978	mg/kg	1	97.8	30-140	2/13/2012	2/14/2012
Fluorene	0.935	mg/kg	1	93.5	30-140	2/13/2012	2/14/2012
Indeno[1,2,3-cd]pyrene	1.05	mg/kg	1	105.0	30-140	2/13/2012	2/14/2012
Naphthalene	0.952	mg/kg	1	95.2	30-140	2/13/2012	2/14/2012
Phenanthrene	0.986	mg/kg	1	98.6	30-140	2/13/2012	2/14/2012
Benzo[b]fluoranthene	1.06	mg/kg	1	106.0	30-140	2/13/2012	2/14/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120210035-004	Chrysene	ND	0.729	mg/kg	1	72.9	30-140	2/13/2012	2/14/2012
120210035-004	Acenaphthene	ND	0.894	mg/kg	1	89.4	30-140	2/13/2012	2/14/2012
120210035-004	Acenaphthylene	ND	0.902	mg/kg	1	90.2	30-140	2/13/2012	2/14/2012
120210035-004	Anthracene	ND	0.903	mg/kg	1	90.3	30-140	2/13/2012	2/14/2012
120210035-004	Benzo(ghi)perylene	ND	1.24	mg/kg	1	124.0	30-140	2/13/2012	2/14/2012
120210035-004	Benzo[a]anthracene	ND	0.946	mg/kg	1	94.6	30-140	2/13/2012	2/14/2012
120210035-004	Benzo[a]pyrene	ND	0.965	mg/kg	1	96.5	30-140	2/13/2012	2/14/2012
120210035-004	2-Methylnaphthalene	ND	0.987	mg/kg	1	98.7	30-140	2/13/2012	2/14/2012
120210035-004	Benzo[k]fluoranthene	ND	0.939	mg/kg	1	93.9	30-140	2/13/2012	2/14/2012
120210035-004	Pyrene	ND	0.934	mg/kg	1	93.4	30-140	2/13/2012	2/14/2012
120210035-004	Dibenz[a,h]anthracene	ND	1.21	mg/kg	1	121.0	30-140	2/13/2012	2/14/2012
120210035-004	Fluoranthene	ND	0.879	mg/kg	1	87.9	30-140	2/13/2012	2/14/2012
120210035-004	Fluorene	ND	0.898	mg/kg	1	89.8	30-140	2/13/2012	2/14/2012
120210035-004	Indeno[1,2,3-cd]pyrene	ND	1.19	mg/kg	1	119.0	30-140	2/13/2012	2/14/2012

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120210035-004	Naphthalene	ND	0.936	mg/kg	1	93.6	30-140	2/13/2012	2/14/2012
120210035-004	Phenanthrene	ND	0.941	mg/kg	1	94.1	30-140	2/13/2012	2/14/2012
120210035-004	Benzo[b]fluoranthene	ND	0.835	mg/kg	1	83.5	30-140	2/13/2012	2/14/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chrysene	0.816	mg/kg	1	81.6	11.3	0-50	2/13/2012	2/14/2012
Acenaphthene	0.884	mg/kg	1	88.4	1.1	0-50	2/13/2012	2/14/2012
Acenaphthylene	0.896	mg/kg	1	89.6	0.7	0-50	2/13/2012	2/14/2012
Anthracene	0.892	mg/kg	1	89.2	1.2	0-50	2/13/2012	2/14/2012
Benzo(ghi)perylene	1.02	mg/kg	1	102.0	19.5	0-50	2/13/2012	2/14/2012
Benzo[a]anthracene	1.02	mg/kg	1	102.0	7.5	0-50	2/13/2012	2/14/2012
Benzo[a]pyrene	0.987	mg/kg	1	98.7	2.3	0-50	2/13/2012	2/14/2012
2-Methylnaphthalene	0.971	mg/kg	1	97.1	1.6	0-50	2/13/2012	2/14/2012
Benzo[k]fluoranthene	1.04	mg/kg	1	104.0	10.2	0-50	2/13/2012	2/14/2012
Pyrene	1.00	mg/kg	1	100.0	6.8	0-50	2/13/2012	2/14/2012
Dibenz[a,h]anthracene	1.04	mg/kg	1	104.0	15.1	0-50	2/13/2012	2/14/2012
Fluoranthene	0.903	mg/kg	1	90.3	2.7	0-50	2/13/2012	2/14/2012
Fluorene	0.901	mg/kg	1	90.1	0.3	0-50	2/13/2012	2/14/2012
Indeno[1,2,3-cd]pyrene	1.03	mg/kg	1	103.0	14.4	0-50	2/13/2012	2/14/2012
Naphthalene	0.919	mg/kg	1	91.9	1.8	0-50	2/13/2012	2/14/2012
Phenanthrene	0.950	mg/kg	1	95.0	1.0	0-50	2/13/2012	2/14/2012
Benzo[b]fluoranthene	0.884	mg/kg	1	88.4	5.7	0-50	2/13/2012	2/14/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Acenaphthene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Acenaphthylene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Anthracene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo(ghi)perylene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo[a]anthracene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo[a]pyrene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo[b]fluoranthene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo[k]fluoranthene	ND	mg/Kg	0.01	2/13/2012	2/14/2012

Comments:

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120208019
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chrysene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Fluoranthene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Fluorene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Naphthalene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Phenanthrene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Pyrene	ND	mg/Kg	0.01	2/13/2012	2/14/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120208019
Order Date: 2/8/2012

Contact Name: JOHN HANEY
Project Name: HOLCIM 16316-001-02
Comment:

Sample #: 120208019-001 **Customer Sample #:** DP-41 (1-2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/7/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/8/2012 8:38:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
BTEX 8021	S	EPA 8021	2/20/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/20/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/20/2012	***Normal (6-10 Days)***
TPHDX-NW	S	NWTPHDX	2/20/2012	***Normal (6-10 Days)***
TPHG-NW-SPO	S	NWTPHG	2/20/2012	***Normal (6-10 Days)***

Sample #: 120208019-002 **Customer Sample #:** DP-41 (5-6)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/7/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/8/2012 8:38:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
BTEX 8021	S	EPA 8021	2/20/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/20/2012	***Normal (6-10 Days)***
TPHDX-NW	S	NWTPHDX	2/20/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120208019
Order Date: 2/8/2012

Contact Name: JOHN HANEY
Project Name: HOLCIM 16316-001-02

Comment:

TPHG-NW-SPO	S	NWTPHG	2/20/2012	***Normal (6-10 Days)***

Sample #: 120208019-003 **Customer Sample #:** DP-42 (0-2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/7/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/8/2012 8:38:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
BTEX 8021	S	EPA 8021	2/20/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/20/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/20/2012	***Normal (6-10 Days)***
TPHDX-NW	S	NWTPHDX	2/20/2012	***Normal (6-10 Days)***
TPHG-NW-SPO	S	NWTPHG	2/20/2012	***Normal (6-10 Days)***

Sample #: 120208019-004 **Customer Sample #:** DP-43 (0-2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/7/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/8/2012 8:38:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
BTEX 8021	S	EPA 8021	2/20/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/20/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/20/2012	***Normal (6-10 Days)***
TPHDX-NW	S	NWTPHDX	2/20/2012	***Normal (6-10 Days)***
TPHG-NW-SPO	S	NWTPHG	2/20/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120208019
Order Date: 2/8/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM 16316-001-02

Comment:

Sample #: 120208019-005 **Customer Sample #:** DP-44 (0-1.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/7/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/8/2012 8:38:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
BTEX 8021	S	EPA 8021	2/20/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/20/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/20/2012	***Normal (6-10 Days)***
TPHDX-NW	S	NWTPHDX	2/20/2012	***Normal (6-10 Days)***
TPHG-NW-SPO	S	NWTPHG	2/20/2012	***Normal (6-10 Days)***

Sample #: 120208019-006 **Customer Sample #:** DP-44 (4-5.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/7/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/8/2012 8:38:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/20/2012	***Normal (6-10 Days)***

Sample #: 120208019-007 **Customer Sample #:** DP-45 (1-2.3)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/7/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/8/2012 8:38:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120208019
Order Date: 2/8/2012

Contact Name: JOHN HANEY
Project Name: HOLCIM 16316-001-02

Comment:

LEAD	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/20/2012	***Normal (6-10 Days)***

Sample #: 120208019-008 **Customer Sample #:** DP-45 (5-6)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/7/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/8/2012 8:38:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/20/2012	***Normal (6-10 Days)***

Sample #: 120208019-009 **Customer Sample #:** DP-46 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/7/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/8/2012 8:38:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/20/2012	***Normal (6-10 Days)***

Sample #: 120208019-010 **Customer Sample #:** DP-47 (0.5-1.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/7/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/8/2012 8:38:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/20/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120208019
Order Date: 2/8/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM 16316-001-02

Comment:

Sample #: 120208019-011 **Customer Sample #:** DP-48 (0.5-1.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/7/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/8/2012 8:38:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/20/2012	***Normal (6-10 Days)***

Sample #: 120208019-012 **Customer Sample #:** DP-49 (0.5-1.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/7/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/8/2012 8:38:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/20/2012	***Normal (6-10 Days)***

Sample #: 120208019-013 **Customer Sample #:** DP-50 (0.5-1.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/7/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/8/2012 8:38:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/20/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/20/2012	***Normal (6-10 Days)***

Customer Name:	GEO ENGINEERS			**Order ID:**	120208019
	523 E 2ND			**Order Date:**	2/8/2012
	SPOKANE	WA	99202		
Contact Name:	JOHN HANEY			**Project Name:**	HOLCIM 16316-001-02
Comment:					

SAMPLE CONDITION RECORD

Samples received in a cooler?	No
Samples received intact?	Yes
What is the temperature inside the cooler?	3.3
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	Yes
Is there a trip blank to accompany VOC samples?	No
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

120208 019 GEOE Last Due 2/20/2012
1st SAMP 2/7/2012 1st RCVD 2/8/2012
HOLCIM 16316-001-02

Company Name: GED ENGINEERS	Project Manager: JOHN HANEY
Address: 523 E 2ND AVE	Project Name & #: HOLCIM, INC 16316-001-02
City: SPOKANE State: WA Zip: 99202	Email Address: JHANEY@GEDENGINEERS.COM
Phone: (509) 363-3125	Purchase Order #:
Fax: (509) 363-3126	Sampler Name & phone: KATIE HALL (509) 768-3579

http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal __Next Day* __2nd Day* __Other*_____ *All rush order requests must be prior approved. __Phone __Mail __Fax __Email

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

* NWTPH-Dx AND NWTPH-Gx / BTEX

* As, Cd, Pb

SVOC

PAH-M
Rest-S

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative	METALS by EPA 6020A *	PH by EPA 9045	BTEX * EPA 8260C	PAH EPA 8270C	PETROLEUM HYDROCARBONS *
1	DP-41 (1-2')	2/7/12 901	SOIL	2			X	X	X	X	X
2	DP-41 (5-6')	918		2			X	X	X		X
3	DP-42 (0-2')	925		2			X	X	X	X	X
4	DP-43 (0-2')	945		2			X	X	X	X	X
5	DP-44 (0-1.5')	1015		2			X	X	X	X	X
6	DP-44 (4-5.5')	1020		2			X	X			
7	DP-45 (1-2.3')	1205		1			X	X			
8	DP-45 (5-6')	1210		1			X	X			
9	DP-46 (0-1.5')	1238		1			X	X			
10	DP-47 (0.5-1.5')	1300		1			X	X			
11	DP-48 (0.5-1.5')	1346		1			X	X			
12	DP-49 (0.5-1.5')	1359		1			X	X			
13	DP-50 (0.5-1.5')	1420		1			X	X			

	Printed Name	Signature	Company	Date	Time
Relinquished by	Brent Randall		GEI	Feb 8, 2012	838 AM
Received by			Anatek	2/8	838
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

hand del / NC

Temperature (°C): 3.3°

Preservative: Melt

Date & Time: 2/8/12

Inspected By: KJS

No Trip blank Recd

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120209045-001	**Sampling Date**	2/8/2012	**Date/Time Received**	2/9/2012	4:30 PM	
Client Sample ID	DP- 51 (8-9.5)	**Sampling Time**	9:34 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	5.62	mg/Kg	1.08	2/15/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.08	2/15/2012	KEA	EPA 6020A	
Lead	11.4	mg/Kg	1.08	2/15/2012	KEA	EPA 6020A	
pH	9.25	ph Units		2/10/2012	APM	EPA 9045	
%moisture	9	Percent		2/10/2012	APM	%moisture	

Sample Number	120209045-002	**Sampling Date**	2/8/2012	**Date/Time Received**	2/9/2012	4:30 PM	
Client Sample ID	DP- 52 (9.5-11)	**Sampling Time**	9:54 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	4.95	mg/Kg	1.04	2/15/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.04	2/15/2012	KEA	EPA 6020A	
Lead	7.17	mg/Kg	1.04	2/15/2012	KEA	EPA 6020A	
pH	9.40	ph Units		2/10/2012	APM	EPA 9045	
%moisture	3.6	Percent		2/10/2012	APM	%moisture	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120209045-003	**Sampling Date**	2/8/2012	**Date/Time Received**	2/9/2012	4:30 PM
Client Sample ID	DP- 53 (8-8.5)	**Sampling Time**	11:07 AM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	6.96	mg/Kg	1.13	2/15/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.13	2/15/2012	KEA	EPA 6020A	
Lead	28.3	mg/Kg	1.13	2/15/2012	KEA	EPA 6020A	
pH	11.73	ph Units		2/10/2012	APM	EPA 9045	
%moisture	13.2	Percent		2/10/2012	APM	%moisture	

Sample Number	120209045-004	**Sampling Date**	2/8/2012	**Date/Time Received**	2/9/2012	4:30 PM
Client Sample ID	DP- 53 (8.5-9)	**Sampling Time**	10:57 AM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	3.82	mg/Kg	1.07	2/15/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.07	2/15/2012	KEA	EPA 6020A	
Lead	6.51	mg/Kg	1.07	2/15/2012	KEA	EPA 6020A	
pH	10.13	ph Units		2/10/2012	APM	EPA 9045	
%moisture	7.7	Percent		2/10/2012	APM	%moisture	

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Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120209045-005	**Sampling Date**	2/8/2012	**Date/Time Received**	2/9/2012	4:30 PM
Client Sample ID	DP- 54 (4-5)	**Sampling Time**	12:38 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	4.96	mg/Kg	1.27	2/15/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.27	2/15/2012	KEA	EPA 6020A	
Lead	4.48	mg/Kg	1.27	2/15/2012	KEA	EPA 6020A	
pH	12.38	ph Units		2/10/2012	APM	EPA 9045	
%moisture	24	Percent		2/10/2012	APM	%moisture	

Sample Number	120209045-006	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012	4:30 PM
Client Sample ID	DP- 57 (1-2)	**Sampling Time**	9:14 AM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	21.5	mg/Kg	1.13	2/15/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.13	2/15/2012	KEA	EPA 6020A	
Lead	63.2	mg/Kg	1.13	2/15/2012	KEA	EPA 6020A	
pH	8.86	ph Units		2/10/2012	APM	EPA 9045	
%moisture	13.1	Percent		2/10/2012	APM	%moisture	

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Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120209045-007	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012	4:30 PM	
Client Sample ID	DP- 58 (4-4.5)	**Sampling Time**	9:45 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	11.3	mg/Kg	1.08	2/15/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.08	2/15/2012	KEA	EPA 6020A	
Lead	25.4	mg/Kg	1.08	2/15/2012	KEA	EPA 6020A	
pH	8.89	ph Units		2/10/2012	APM	EPA 9045	
%moisture	8	Percent		2/10/2012	APM	%moisture	

Sample Number	120209045-008	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012	4:30 PM	
Client Sample ID	DP- 59 (0.5-1.5)	**Sampling Time**	10:37 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	6.80	mg/Kg	1.14	2/15/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.14	2/15/2012	KEA	EPA 6020A	
Lead	22.5	mg/Kg	1.14	2/15/2012	KEA	EPA 6020A	
pH	8.59	ph Units		2/10/2012	APM	EPA 9045	
%moisture	14.1	Percent		2/10/2012	APM	%moisture	

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Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120209045-009	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012	4:30 PM	
Client Sample ID	DP- 60 (8-9)	**Sampling Time**	11:16 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	40.7	mg/Kg	1.03	2/15/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.03	2/15/2012	KEA	EPA 6020A	
Lead	6.93	mg/Kg	1.03	2/15/2012	KEA	EPA 6020A	
pH	9.18	ph Units		2/10/2012	APM	EPA 9045	
%moisture	3.6	Percent		2/10/2012	APM	%moisture	

Sample Number	120209045-010	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012	4:30 PM	
Client Sample ID	DP- 61 (0.5-1.5)	**Sampling Time**	1:26 PM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	4.82	mg/Kg	1.16	2/15/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.16	2/15/2012	KEA	EPA 6020A	
Lead	10.7	mg/Kg	1.16	2/15/2012	KEA	EPA 6020A	
pH	8.58	ph Units		2/10/2012	APM	EPA 9045	
%moisture	14.6	Percent		2/10/2012	APM	%moisture	

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120209045-011	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012	4:30 PM	
Client Sample ID	DP- 62 (4-5)	**Sampling Time**	2:04 PM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	3.15	mg/Kg	1.04	2/15/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.04	2/15/2012	KEA	EPA 6020A	
Lead	6.68	mg/Kg	1.04	2/15/2012	KEA	EPA 6020A	
pH	8.70	ph Units		2/10/2012	APM	EPA 9045	
%moisture	6.1	Percent		2/10/2012	APM	%moisture	

Sample Number	120209045-012	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012	4:30 PM	
Client Sample ID	DP- 63 (0.5-1.5)	**Sampling Time**	2:39 PM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	10.5	mg/Kg	1.29	2/15/2012	KEA	EPA 6020A	
Cadmium	1.29	mg/Kg	1.29	2/15/2012	KEA	EPA 6020A	
Lead	188	mg/Kg	1.29	2/15/2012	KEA	EPA 6020A	
pH	8.88	ph Units		2/10/2012	APM	EPA 9045	
%moisture	26.4	Percent		2/10/2012	APM	%moisture	

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Client:	GEO ENGINEERS	**Batch #:**	120209045
Address:	523 E 2ND	**Project Name:**	HOLCIM INC 16316-001-02
	SPOKANE, WA 99202		
Attn:	JOHN HANEY		

Analytical Results Report

Authorized Signature

Kathy Sattler, Lab Manager

MCL	EPA's Maximum Contaminant Level
ND	Not Detected
PQL	Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120209045-006	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012 4:30 PM
Client Sample ID	DP- 57 (1-2)	**Sampling Time**	9:14 AM	**Extraction Date**	
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	0.0105	mg/Kg	0.0062	2/17/2012	WOZ	EPA 8260B	
Ethylbenzene	0.0272	mg/Kg	0.0062	2/17/2012	WOZ	EPA 8260B	
Toluene	0.108	mg/Kg	0.0062	2/17/2012	WOZ	EPA 8260B	
Total Xylene	0.196	mg/Kg	0.0124	2/17/2012	WOZ	EPA 8260B	
Diesel	ND	mg/kg	25	2/15/2012	MJL	NWTPHDX	
Lube Oil	100	mg/kg	100	2/15/2012	MJL	NWTPHDX	
Gasoline	6.18	mg/kg	2.5	2/14/2012	WOZ	NWTPHG	
%moisture	13.1	Percent		2/10/2012	APM	%moisture	

Surrogate Data

Sample Number 120209045-006

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	94.8	70-130
4-Bromofluorobenzene	EPA 8260B	100.4	70-130
Toluene-d8	EPA 8260B	104.4	70-130
hexacosane	NWTPHDX	88.4	50-150
4-Bromofluorobenzene	NWTPHG	100.9	70-130

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Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120209045-007	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012	4:30 PM	
Client Sample ID	DP- 58 (4-4.5)	**Sampling Time**	9:45 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	0.0297	mg/Kg	0.0055	2/17/2012	WOZ	EPA 8260B	
Ethylbenzene	0.148	mg/Kg	0.0055	2/17/2012	WOZ	EPA 8260B	
Toluene	0.395	mg/Kg	0.0055	2/17/2012	WOZ	EPA 8260B	
Total Xylene	1.01	mg/Kg	0.011	2/17/2012	WOZ	EPA 8260B	
Diesel	26.0	mg/kg	25	2/15/2012	MJL	NWTPHDX	
Lube Oil	ND	mg/kg	100	2/15/2012	MJL	NWTPHDX	
Gasoline	17.5	mg/kg	2.5	2/14/2012	WOZ	NWTPHG	
%moisture	8	Percent		2/10/2012	APM	%moisture	

Surrogate Data

Sample Number 120209045-007

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	100.0	70-130
4-Bromofluorobenzene	EPA 8260B	115.6	70-130
Toluene-d8	EPA 8260B	98.0	70-130
hexacosane	NWTPHDX	97.4	50-150
4-Bromofluorobenzene	NWTPHG	103.4	70-130

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Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120209045-008	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012	4:30 PM
Client Sample ID	DP- 59 (0.5-1.5)	**Sampling Time**	10:37 AM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	0.0327	mg/Kg	0.0055	2/17/2012	WOZ	EPA 8260B	
Ethylbenzene	0.0414	mg/Kg	0.0055	2/17/2012	WOZ	EPA 8260B	
Toluene	0.205	mg/Kg	0.0055	2/17/2012	WOZ	EPA 8260B	
Total Xylene	0.474	mg/Kg	0.011	2/17/2012	WOZ	EPA 8260B	
Diesel	ND	mg/kg	25	2/16/2012	MJL	NWTPHDX	
Lube Oil	ND	mg/kg	100	2/16/2012	MJL	NWTPHDX	
Gasoline	7.35	mg/kg	2.5	2/14/2012	WOZ	NWTPHG	
%moisture	14.1	Percent		2/10/2012	APM	%moisture	

Surrogate Data

Sample Number 120209045-008

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	97.6	70-130
4-Bromofluorobenzene	EPA 8260B	103.2	70-130
Toluene-d8	EPA 8260B	101.2	70-130
hexacosane	NWTPHDX	94.6	50-150
4-Bromofluorobenzene	NWTPHG	100.0	70-130

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Analytical Results Report

Sample Number	120209045-009	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012	4:30 PM	
Client Sample ID	DP- 60 (8-9)	**Sampling Time**	11:16 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.005	2/17/2012	WOZ	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.005	2/17/2012	WOZ	EPA 8260B	
Toluene	ND	mg/Kg	0.005	2/17/2012	WOZ	EPA 8260B	
Total Xylene	ND	mg/Kg	0.01	2/17/2012	WOZ	EPA 8260B	
Diesel	ND	mg/kg	25	2/16/2012	MJL	NWTPHDX	
Lube Oil	ND	mg/kg	100	2/16/2012	MJL	NWTPHDX	
Gasoline	ND	mg/kg	2.5	2/14/2012	WOZ	NWTPHG	
%moisture	3.6	Percent		2/10/2012	APM	%moisture	

Surrogate Data

Sample Number 120209045-009

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	102.0	70-130
4-Bromofluorobenzene	EPA 8260B	101.2	70-130
Toluene-d8	EPA 8260B	106.4	70-130
hexacosane	NWTPHDX	90.6	50-150
4-Bromofluorobenzene	NWTPHG	99.9	70-130

Authorized Signature Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120209045-006	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012	4:30 PM
Client Sample ID	DP- 57 (1-2)	**Sampling Time**	9:14 AM	**Extraction Date**	2/13/2012	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.680	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.109	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Chrysene	0.090	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluoranthene	0.060	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Naphthalene	0.322	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Phenanthrene	0.223	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Pyrene	0.052	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
%moisture	13.1	Percent		2/10/2012	APM	%moisture	

Surrogate Data

Sample Number 120209045-006

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	97.7	18-137

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120209045-007	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012 4:30 PM
Client Sample ID	DP- 58 (4-4.5)	**Sampling Time**	9:45 AM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.846	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]anthracene	0.073	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.081	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Chrysene	0.100	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluoranthene	0.058	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Naphthalene	0.463	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Phenanthrene	0.334	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Pyrene	0.092	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
%moisture	8	Percent		2/10/2012	APM	%moisture	

Surrogate Data

Sample Number 120209045-007

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	98.3	18-137

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120209045-008	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012	4:30 PM
Client Sample ID	DP- 59 (0.5-1.5)	**Sampling Time**	10:37 AM	**Extraction Date**	2/13/2012	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.376	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.050	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Chrysene	0.053	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluoranthene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Naphthalene	0.231	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Phenanthrene	0.184	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
Pyrene	ND	mg/Kg	0.05	2/14/2012	EMP	EPA 8270C	
%moisture	14.1	Percent		2/10/2012	APM	%moisture	

Surrogate Data

Sample Number 120209045-008

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	96.3	18-137

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120209045-009	**Sampling Date**	2/9/2012	**Date/Time Received**	2/9/2012 4:30 PM
Client Sample ID	DP- 60 (8-9)	**Sampling Time**	11:16 AM	**Extraction Date**	2/13/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Benzo[a]anthracene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Fluoranthene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Naphthalene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Phenanthrene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
Pyrene	ND	mg/Kg	0.05	2/17/2012	EMP	EPA 8270C	
%moisture	3.6	Percent		2/10/2012	APM	%moisture	

Surrogate Data

Sample Number 120209045-009

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	94.2	18-137

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Client:	GEO ENGINEERS	**Batch #:**	120209045
Address:	523 E 2ND	**Project Name:**	HOLCIM INC 16316-001-02
	SPOKANE, WA 99202		
Attn:	JOHN HANEY		

Analytical Results Report

Authorized Signature

Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL	EPA's Maximum Contaminant Level
ND	Not Detected
PQL	Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Toluene	0.00511	mg/L	0.005	102.2	70-130	2/17/2012	2/17/2012
Ethylbenzene	0.00448	mg/L	0.005	89.6	70-130	2/17/2012	2/17/2012
Benzene	0.00482	mg/L	0.005	96.4	70-130	2/17/2012	2/17/2012
Diesel	76.5	mg/kg	100	76.5	50-150	2/15/2012	2/15/2012
Gasoline	1.10	mg/L	1.1	100.0	70-130	2/14/2012	2/14/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120209045-009	Diesel	ND	73.8	mg/kg	100	73.8	50-150	2/15/2012	2/15/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	78.1	mg/kg	100	78.1	5.7	0-50	2/15/2012	2/15/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzene	ND	mg/L	0.5	2/17/2012	2/17/2012
Diesel	ND	mg/kg	25	2/15/2012	2/15/2012
Ethylbenzene	ND	mg/L	0.5	2/17/2012	2/17/2012
Gasoline	ND	mg/L	0.1	2/14/2012	2/14/2012
Lube Oil	ND	mg/kg	100	2/15/2012	2/15/2012
Toluene	ND	mg/L	0.5	2/17/2012	2/17/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Lead	0.0465	mg/kg	0.05	93.0	80-120	2/14/2012	2/15/2012
Cadmium	0.0492	mg/kg	0.05	98.4	80-120	2/14/2012	2/15/2012
Arsenic	0.0502	mg/kg	0.05	100.4	80-120	2/14/2012	2/15/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120209045-004	Lead	6.51	25.0	mg/kg	19.7	93.9	75-125	2/14/2012	2/15/2012
120209045-004	Cadmium	ND	21.4	mg/kg	19.7	108.6	75-125	2/14/2012	2/15/2012
120209045-004	Arsenic	3.82	22.7	mg/kg	19.7	95.8	75-125	2/14/2012	2/15/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Lead	27.5	mg/kg	19.7	106.5	9.5	0-20	2/14/2012	2/15/2012
Cadmium	21.9	mg/kg	19.7	111.2	2.3	0-20	2/14/2012	2/15/2012
Arsenic	22.2	mg/kg	19.7	93.3	2.2	0-20	2/14/2012	2/15/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/Kg	0.001	2/14/2012	2/15/2012
Cadmium	ND	mg/Kg	0.001	2/14/2012	2/15/2012
Lead	ND	mg/Kg	0.001	2/14/2012	2/15/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	0.829	mg/kg	1	82.9	30-140	2/13/2012	2/14/2012
Acenaphthene	0.935	mg/kg	1	93.5	30-140	2/13/2012	2/14/2012
Acenaphthylene	0.947	mg/kg	1	94.7	30-140	2/13/2012	2/14/2012
Anthracene	0.948	mg/kg	1	94.8	30-140	2/13/2012	2/14/2012
Benzo(ghi)perylene	1.03	mg/kg	1	103.0	30-140	2/13/2012	2/14/2012
Benzo[a]anthracene	1.04	mg/kg	1	104.0	30-140	2/13/2012	2/14/2012
Benzo[a]pyrene	0.995	mg/kg	1	99.5	30-140	2/13/2012	2/14/2012
2-Methylnaphthalene	1.02	mg/kg	1	102.0	30-140	2/13/2012	2/14/2012
Benzo[k]fluoranthene	0.838	mg/kg	1	83.8	30-140	2/13/2012	2/14/2012
Pyrene	1.08	mg/kg	1	108.0	30-140	2/13/2012	2/14/2012
Dibenz[a,h]anthracene	1.04	mg/kg	1	104.0	30-140	2/13/2012	2/14/2012
Fluoranthene	0.978	mg/kg	1	97.8	30-140	2/13/2012	2/14/2012
Fluorene	0.935	mg/kg	1	93.5	30-140	2/13/2012	2/14/2012
Indeno[1,2,3-cd]pyrene	1.05	mg/kg	1	105.0	30-140	2/13/2012	2/14/2012
Naphthalene	0.952	mg/kg	1	95.2	30-140	2/13/2012	2/14/2012
Phenanthrene	0.986	mg/kg	1	98.6	30-140	2/13/2012	2/14/2012
Benzo[b]fluoranthene	1.06	mg/kg	1	106.0	30-140	2/13/2012	2/14/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120210035-004	Chrysene	ND	0.729	mg/kg	1	72.9	30-140	2/13/2012	2/14/2012
120210035-004	Acenaphthene	ND	0.894	mg/kg	1	89.4	30-140	2/13/2012	2/14/2012
120210035-004	Acenaphthylene	ND	0.902	mg/kg	1	90.2	30-140	2/13/2012	2/14/2012
120210035-004	Anthracene	ND	0.903	mg/kg	1	90.3	30-140	2/13/2012	2/14/2012
120210035-004	Benzo(ghi)perylene	ND	1.24	mg/kg	1	124.0	30-140	2/13/2012	2/14/2012
120210035-004	Benzo[a]anthracene	ND	0.946	mg/kg	1	94.6	30-140	2/13/2012	2/14/2012
120210035-004	Benzo[a]pyrene	ND	0.965	mg/kg	1	96.5	30-140	2/13/2012	2/14/2012
120210035-004	2-Methylnaphthalene	ND	0.987	mg/kg	1	98.7	30-140	2/13/2012	2/14/2012
120210035-004	Benzo[k]fluoranthene	ND	0.939	mg/kg	1	93.9	30-140	2/13/2012	2/14/2012
120210035-004	Pyrene	ND	0.934	mg/kg	1	93.4	30-140	2/13/2012	2/14/2012
120210035-004	Dibenz[a,h]anthracene	ND	1.21	mg/kg	1	121.0	30-140	2/13/2012	2/14/2012
120210035-004	Fluoranthene	ND	0.879	mg/kg	1	87.9	30-140	2/13/2012	2/14/2012
120210035-004	Fluorene	ND	0.898	mg/kg	1	89.8	30-140	2/13/2012	2/14/2012
120210035-004	Indeno[1,2,3-cd]pyrene	ND	1.19	mg/kg	1	119.0	30-140	2/13/2012	2/14/2012

Comments:

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120210035-004	Naphthalene	ND	0.936	mg/kg	1	93.6	30-140	2/13/2012	2/14/2012
120210035-004	Phenanthrene	ND	0.941	mg/kg	1	94.1	30-140	2/13/2012	2/14/2012
120210035-004	Benzo[b]fluoranthene	ND	0.835	mg/kg	1	83.5	30-140	2/13/2012	2/14/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chrysene	0.816	mg/kg	1	81.6	11.3	0-50	2/13/2012	2/14/2012
Acenaphthene	0.884	mg/kg	1	88.4	1.1	0-50	2/13/2012	2/14/2012
Acenaphthylene	0.896	mg/kg	1	89.6	0.7	0-50	2/13/2012	2/14/2012
Anthracene	0.892	mg/kg	1	89.2	1.2	0-50	2/13/2012	2/14/2012
Benzo(ghi)perylene	1.02	mg/kg	1	102.0	19.5	0-50	2/13/2012	2/14/2012
Benzo[a]anthracene	1.02	mg/kg	1	102.0	7.5	0-50	2/13/2012	2/14/2012
Benzo[a]pyrene	0.987	mg/kg	1	98.7	2.3	0-50	2/13/2012	2/14/2012
2-Methylnaphthalene	0.971	mg/kg	1	97.1	1.6	0-50	2/13/2012	2/14/2012
Benzo[k]fluoranthene	1.04	mg/kg	1	104.0	10.2	0-50	2/13/2012	2/14/2012
Pyrene	1.00	mg/kg	1	100.0	6.8	0-50	2/13/2012	2/14/2012
Dibenz[a,h]anthracene	1.04	mg/kg	1	104.0	15.1	0-50	2/13/2012	2/14/2012
Fluoranthene	0.903	mg/kg	1	90.3	2.7	0-50	2/13/2012	2/14/2012
Fluorene	0.901	mg/kg	1	90.1	0.3	0-50	2/13/2012	2/14/2012
Indeno[1,2,3-cd]pyrene	1.03	mg/kg	1	103.0	14.4	0-50	2/13/2012	2/14/2012
Naphthalene	0.919	mg/kg	1	91.9	1.8	0-50	2/13/2012	2/14/2012
Phenanthrene	0.950	mg/kg	1	95.0	1.0	0-50	2/13/2012	2/14/2012
Benzo[b]fluoranthene	0.884	mg/kg	1	88.4	5.7	0-50	2/13/2012	2/14/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Acenaphthene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Acenaphthylene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Anthracene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo(ghi)perylene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo[a]anthracene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo[a]pyrene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo[b]fluoranthene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Benzo[k]fluoranthene	ND	mg/Kg	0.01	2/13/2012	2/14/2012

Comments:

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120209045
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chrysene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Dibenz[a,h]anthracene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Fluoranthene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Fluorene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Naphthalene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Phenanthrene	ND	mg/Kg	0.01	2/13/2012	2/14/2012
Pyrene	ND	mg/Kg	0.01	2/13/2012	2/14/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120209045
Order Date: 2/9/2012

Contact Name: JOHN HANEY
Project Name: HOLCIM INC 16316-001-02
Comment:

Sample #: 120209045-001 **Customer Sample #:** DP- 51 (8-9.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/8/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/9/2012 4:30:00 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/21/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/21/2012	***Normal (6-10 Days)***

Sample #: 120209045-002 **Customer Sample #:** DP- 52 (9.5-11)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/8/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/9/2012 4:30:00 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/21/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/21/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120209045
Order Date: 2/9/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC 16316-001-02

Comment:

Sample #: 120209045-003 **Customer Sample #:** DP- 53 (8-8.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/8/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/9/2012 4:30:00 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/21/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/21/2012	***Normal (6-10 Days)***

Sample #: 120209045-004 **Customer Sample #:** DP- 53 (8.5-9)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/8/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/9/2012 4:30:00 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/21/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/21/2012	***Normal (6-10 Days)***

Sample #: 120209045-005 **Customer Sample #:** DP- 54 (4-5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/8/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/9/2012 4:30:00 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/21/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/21/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120209045
Order Date: 2/9/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC 16316-001-02

Comment:

Sample #: 120209045-006 **Customer Sample #:** DP- 57 (1-2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/9/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/9/2012 4:30:00 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/21/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
BTEX 8021	S	EPA 8021	2/21/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/21/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/21/2012	***Normal (6-10 Days)***
TPHDX-NW	S	NWTPHDX	2/16/2012	***Normal (6-10 Days)***
TPHG-NW-SPO	S	NWTPHG	2/16/2012	***Normal (6-10 Days)***

Sample #: 120209045-007 **Customer Sample #:** DP- 58 (4-4.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/9/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/9/2012 4:30:00 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/21/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
BTEX 8021	S	EPA 8021	2/21/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/21/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/21/2012	***Normal (6-10 Days)***
TPHDX-NW	S	NWTPHDX	2/16/2012	***Normal (6-10 Days)***
TPHG-NW-SPO	S	NWTPHG	2/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120209045
Order Date: 2/9/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC 16316-001-02

Comment:

Sample #: 120209045-008 **Customer Sample #:** DP- 59 (0.5-1.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/9/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/9/2012 4:30:00 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/21/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
BTEX 8021	S	EPA 8021	2/21/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/21/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/21/2012	***Normal (6-10 Days)***
TPHDX-NW	S	NWTPHDX	2/16/2012	***Normal (6-10 Days)***
TPHG-NW-SPO	S	NWTPHG	2/16/2012	***Normal (6-10 Days)***

Sample #: 120209045-009 **Customer Sample #:** DP- 60 (8-9)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/9/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/9/2012 4:30:00 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/21/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
BTEX 8021	S	EPA 8021	2/21/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/21/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/21/2012	***Normal (6-10 Days)***
TPHDX-NW	S	NWTPHDX	2/16/2012	***Normal (6-10 Days)***
TPHG-NW-SPO	S	NWTPHG	2/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120209045
Order Date: 2/9/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC 16316-001-02

Comment:

Sample #: 120209045-010 **Customer Sample #:** DP- 61 (0.5-1.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/9/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/9/2012 4:30:00 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/21/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/21/2012	***Normal (6-10 Days)***

Sample #: 120209045-011 **Customer Sample #:** DP- 62 (4-5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/9/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/9/2012 4:30:00 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/21/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/21/2012	***Normal (6-10 Days)***

Sample #: 120209045-012 **Customer Sample #:** DP- 63 (0.5-1.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/9/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/9/2012 4:30:00 PM
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/21/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/21/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/21/2012	***Normal (6-10 Days)***

Customer Name:	GEO ENGINEERS			**Order ID:**	120209045
	523 E 2ND			**Order Date:**	2/9/2012
	SPOKANE	WA	99202		
Contact Name:	JOHN HANEY			**Project Name:**	HOLCIM INC 16316-001-02
Comment:					

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	6.2
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	Yes
Is there a trip blank to accompany VOC samples?	No
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

120209 045 GEOE Last Due 2/21/2012
1st SAMP 2/8/2012 1st RCVD 2/9/2012
HOLCIM INC 16316-001-02

Company Name: GEOENGINEERS INC	Project Manager: JOHN HANEY
Address: 523 E 2ND AVE	Project Name & #: HOLCIM, INC 16316-001-02
City: SPOKANE State: WA Zip: 99202	Email Address: JHANEY@GEOENGINEERS.COM
Phone: 509-363-3125	Purchase Order #:
Fax: 509-363-3126	Sampler Name & phone: KATIE HALL 509-768-3579

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative	Metals by EPA 6020A	pH by EPA 9045	BTEX *2	PAH by EPA 8270C	Petroleum *2 Hydrocarbons	
	DP-51(8-9.5')	2/8/12 934	SOIL	1			X	X				
	DP-52(9.5-11')	2/8/12 954		1			X	X				
	DP-53(8-8.5')	2/8/12 1107		1			X	X				
	DP-53(8.5-9')	2/8/12 1057		1			X	X				
	DP-54(4-5')	2/8/12 1238		1			X	X				
	DP-57(1-2)	2/9/12 914	SOIL	1			X	X	X	X	X	
	DP-58(4-4.5)	2/9/12 945		1			X	X	X	X	X	
	DP-59(0.5-1.5)	2/9/12 1037		1			X	X	X	X	X	
	DP-60(8-9)	2/9/12 1116		1			X	X	X	X	X	
	DP-61(0.5-1.5)	2/9/12 1326		1			X	X				
	DP-62(4-5)	2/9/12 1404		1			X	X				
	DP-63(0.5-1.5)	2/9/12 1439		1			X	X				

Note Special Instructions/Comments

*1 As, Cd, Pb
*2 NWTPH-Dx and NWTPH-Gx/BTEX

SVBS PAH-m
Rest all Sp

	Printed Name	Signature	Company	Date	Time
Relinquished by	KATIE HALL	Katie Hall	GEI	2/9/12	1630
Received by	Rabb	Rabb	Anatek	2/9	1630
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

cooler/ice

Temperature (°C): 6.2°
Preservative: MeOH
Date & Time: 2/9/12
Inspected By: KHS

No Trip blank rec'd

Anatek Labs, Inc.

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120419038
Project Name: HOLCIM/ E EMPIRE WAY #16316-001-02

Analytical Results Report

Sample Number	120419038-001	**Sampling Date**	2/9/2012	**Date/Time Received**	4/19/2012 4:45 PM
Client Sample ID	DP-57 (4-5)	**Sampling Time**	9:16 AM	**Extraction Date**	
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	3.69	mg/Kg	1.06	5/1/2012	KEA	EPA 6020A	
pH	9.08	ph Units		4/20/2012	APM	EPA 9045	
%moisture	6.1	Percent		4/20/2012	APM	%moisture	

Authorized Signature

Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120419038
Project Name: HOLCIM/ E EMPIRE WAY #16316-001-02

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Arsenic	0.0472	mg/kg	0.05	94.4	80-120	4/20/2012	5/1/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120406051-058A	Arsenic	50.8	69.4	mg/kg	24.1	77.2	75-125	4/20/2012	5/1/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Arsenic	69.0	mg/kg	24.1	75.5	0.6	0-20	4/20/2012	5/1/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/Kg	0.001	4/20/2012	5/1/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

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Login Report

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120419038
Order Date: 4/19/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM/ E EMPIRE WAY #16316-001-02

Comment:

Sample #: 120419038-001 **Customer Sample #:** DP-57 (4-5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/9/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/19/2012 4:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	5/1/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	5/1/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	5/1/2012	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	4.8
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	ICE
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

20419 038 GEOE Last Due 5/1/2012
t SAMP 2/9/2012 1st RCVD 4/19/2012
OLCIM/ E EMPIRE WAY #16316-
1-02

Anatek Labs, Inc.

Chain of Custody Record

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504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Company Name: GEOENGINEERS, LLC	Project Manager: JOHN HANEY
Address: 523 E 2ND AVE	Project Name & #: HOLCIM/E EMPIRE WAY GW MONITORING + REMEDIAL 16316-001-02
City: SPOKANE State: WA Zip: 99202	Email Address: JHANEY@GEOENGINEERS.COM
Phone: 509-363-3125	Purchase Order #: 16316-001-02
Fax: 509-363-3126	Sampler Name & phone: KATIE HALL 509-768-3579

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*______

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
X Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	METALS * EPA 6010/6020	pH EPA 150.1
	DP-57 (4-5)	2/9/12 916	SOIL	1	4oz	X	X

Preservative:

Note Special Instructions/Comments

* As ONLY

SWBS
all sp

Inspection Checklist

Received Intact? (Y) N
Labels & Chains Agree? (Y) N
Containers Sealed? Y N
VOC Head Space? Y N

Cooler/hol

Temperature (°C): 4.8°
Preservative: Ice
Date & Time: 4-19-12
Inspected By: KCS

	Printed Name	Signature	Company	Date	Time
Relinquished by	KATIE HALL	[signature]	GEI	4/19/12	1640
Received by	KSutt	KSutt	Anatek	4/19	1645
Relinquished by					
Received by					
Relinquished by					
Received by					

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number 120213024-001 **Sampling Date** 2/10/2012 **Date/Time Received** 2/13/2012 3:39 PM
Client Sample ID DP-64 (0-1) **Sampling Time** 9:07 AM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	8.20	mg/Kg	1.12	2/16/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.12	2/16/2012	KEA	EPA 6020A	
Lead	19.5	mg/Kg	1.12	2/16/2012	KEA	EPA 6020A	
pH	11.58	ph Units		2/15/2012	APM	EPA 9045	
%moisture	11.5	Percent		2/14/2012	APM	%moisture	

Sample Number 120213024-003 **Sampling Date** 2/10/2012 **Date/Time Received** 2/13/2012 3:39 PM
Client Sample ID DP-65 (1-2.5) **Sampling Time** 9:37 AM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	40.2	mg/Kg	1.17	2/16/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.17	2/16/2012	KEA	EPA 6020A	
Lead	24.3	mg/Kg	1.17	2/16/2012	KEA	EPA 6020A	
pH	11.60	ph Units		2/15/2012	APM	EPA 9045	
%moisture	16.5	Percent		2/14/2012	APM	%moisture	

Sample Number 120213024-004 **Sampling Date** 2/10/2012 **Date/Time Received** 2/13/2012 3:39 PM
Client Sample ID DP-65 (4-4.7) **Sampling Time** 9:30 AM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	5.65	mg/Kg	1.1	2/16/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.1	2/16/2012	KEA	EPA 6020A	
Lead	11.4	mg/Kg	1.1	2/16/2012	KEA	EPA 6020A	
pH	10.98	ph Units		2/15/2012	APM	EPA 9045	
%moisture	9.6	Percent		2/14/2012	APM	%moisture	

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120213024-005	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012	3:39 PM	
Client Sample ID	DP-66 (0.5-1.5)	**Sampling Time**	9:59 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	61.3	mg/Kg	2.24	2/16/2012	KEA	EPA 6020A	
pH	8.78	ph Units		2/28/2012	APM	EPA 9045	
%moisture	9.9	Percent		2/14/2012	APM	%moisture	

Sample Number	120213024-006	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012	3:39 PM	
Client Sample ID	DP-66 (4-5)	**Sampling Time**	10:02 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	11.2	mg/Kg	1.08	2/16/2012	KEA	EPA 6020A	
pH	9.07	ph Units		2/28/2012	APM	EPA 9045	
%moisture	6.5	Percent		2/14/2012	APM	%moisture	

Sample Number	120213024-007	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012	3:39 PM	
Client Sample ID	DP-67 (1-2)	**Sampling Time**	10:19 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	41.4	mg/Kg	2.14	2/16/2012	KEA	EPA 6020A	
pH	9.01	ph Units		2/28/2012	APM	EPA 9045	
%moisture	8.5	Percent		2/14/2012	APM	%moisture	

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number 120213024-009 **Sampling Date** 2/10/2012 **Date/Time Received** 2/13/2012 3:39 PM
Client Sample ID DP-68 (4.5-5.5) **Sampling Time** 10:53 AM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	9.65	mg/Kg	1.08	2/16/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.08	2/16/2012	KEA	EPA 6020A	
Lead	8.07	mg/Kg	1.08	2/16/2012	KEA	EPA 6020A	
pH	9.53	ph Units		2/15/2012	APM	EPA 9045	
%moisture	6.7	Percent		2/14/2012	APM	%moisture	

Sample Number 120213024-012 **Sampling Date** 2/10/2012 **Date/Time Received** 2/13/2012 3:39 PM
Client Sample ID DP-69 (4-5) **Sampling Time** 11:28 AM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	10.6	mg/Kg	1.23	2/16/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.23	2/16/2012	KEA	EPA 6020A	
Lead	18.7	mg/Kg	1.23	2/16/2012	KEA	EPA 6020A	
pH	10.69	ph Units		2/15/2012	APM	EPA 9045	
%moisture	20.4	Percent		2/14/2012	APM	%moisture	

Sample Number 120213024-014 **Sampling Date** 2/10/2012 **Date/Time Received** 2/13/2012 3:39 PM
Client Sample ID DP-70 (0-1) **Sampling Time** 1:34 PM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	11.0	mg/Kg	1.09	2/16/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.09	2/16/2012	KEA	EPA 6020A	
Lead	14.9	mg/Kg	1.09	2/16/2012	KEA	EPA 6020A	
pH	10.88	ph Units		2/15/2012	APM	EPA 9045	
%moisture	8.2	Percent		2/14/2012	APM	%moisture	

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number 120213024-016 **Sampling Date** 2/10/2012 **Date/Time Received** 2/13/2012 3:39 PM
Client Sample ID DP-70 (2-2.9) **Sampling Time** 1:40 PM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	8.11	mg/Kg	1.11	2/16/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.1	2/16/2012	KEA	EPA 6020A	
Lead	10.6	mg/Kg	1.1	2/16/2012	KEA	EPA 6020A	
pH	11.73	ph Units		2/15/2012	APM	EPA 9045	
%moisture	9.3	Percent		2/14/2012	APM	%moisture	

Sample Number 120213024-018 **Sampling Date** 2/10/2012 **Date/Time Received** 2/13/2012 3:39 PM
Client Sample ID DP-71 (1.5-2.8) **Sampling Time** 2:00 PM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	9.87	mg/Kg	1.22	2/16/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.22	2/16/2012	KEA	EPA 6020A	
Lead	111	mg/Kg	1.22	2/16/2012	KEA	EPA 6020A	
pH	11.07	ph Units		2/15/2012	APM	EPA 9045	
%moisture	18.2	Percent		2/14/2012	APM	%moisture	

Sample Number 120213024-019 **Sampling Date** 2/10/2012 **Date/Time Received** 2/13/2012 3:39 PM
Client Sample ID DP-72 (0-1.5) **Sampling Time** 2:15 PM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	7.25	mg/Kg	1.15	2/16/2012	KEA	EPA 6020A	
Cadmium	1.47	mg/Kg	1.15	2/16/2012	KEA	EPA 6020A	
Lead	41.9	mg/Kg	1.15	2/16/2012	KEA	EPA 6020A	
pH	9.05	ph Units		2/15/2012	APM	EPA 9045	
%moisture	13	Percent		2/14/2012	APM	%moisture	

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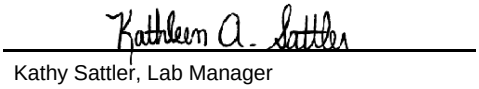
Client:	GEO ENGINEERS	**Batch #:**	120213024
Address:	523 E 2ND	**Project Name:**	HOLCIM INC 16316-001-02
	SPOKANE, WA 99202		
Attn:	JOHN HANEY		

Analytical Results Report

Authorized Signature



Kathy Sattler, Lab Manager

MCL	EPA's Maximum Contaminant Level
ND	Not Detected
PQL	Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120213024-003	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012 3:39 PM
Client Sample ID	DP-65 (1-2.5)	**Sampling Time**	9:37 AM	**Extraction Date**	
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.0067	2/17/2012	WOZ	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.0067	2/17/2012	WOZ	EPA 8260B	
Toluene	0.00938	mg/Kg	0.0067	2/17/2012	WOZ	EPA 8260B	
Total Xylene	ND	mg/Kg	0.0134	2/17/2012	WOZ	EPA 8260B	
Diesel	ND	mg/kg	25	2/16/2012	MJL	NWTPHDX	
Lube Oil	ND	mg/kg	100	2/16/2012	MJL	NWTPHDX	
Gasoline	ND	mg/kg	2.5	2/14/2012	WOZ	NWTPHG	
%moisture	16.5	Percent		2/14/2012	APM	%moisture	

Surrogate Data

Sample Number 120213024-003

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	95.6	70-130
4-Bromofluorobenzene	EPA 8260B	104.0	70-130
Toluene-d8	EPA 8260B	99.6	70-130
hexacosane	NWTPHDX	96.4	50-150
4-Bromofluorobenzene	NWTPHG	101.3	70-130

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120213024-004	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012 3:39 PM
Client Sample ID	DP-65 (4-4.7)	**Sampling Time**	9:30 AM	**Extraction Date**	
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/kg	25	2/16/2012	MJL	NWTPHDX	
Lube Oil	ND	mg/kg	100	2/16/2012	MJL	NWTPHDX	
Gasoline	ND	mg/kg	2.5	2/20/2012	WOZ	NWTPHG	
%moisture	9.6	Percent		2/14/2012	APM	%moisture	

Surrogate Data

Sample Number 120213024-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	91.6	50-150
4-Bromofluorobenzene	NWTPHG	99.3	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120213024-014	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012 3:39 PM
Client Sample ID	DP-70 (0-1)	**Sampling Time**	1:34 PM	**Extraction Date**	
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.0282	2/17/2012	WOZ	EPA 8260B	
Ethylbenzene	0.433	mg/Kg	0.0282	2/17/2012	WOZ	EPA 8260B	
Toluene	0.0888	mg/Kg	0.0282	2/17/2012	WOZ	EPA 8260B	
Total Xylene	4.92	mg/Kg	0.0564	2/17/2012	WOZ	EPA 8260B	
Diesel	40.8	mg/kg	25	2/16/2012	MJL	NWTPHDX	
Lube Oil	ND	mg/kg	100	2/16/2012	MJL	NWTPHDX	
Gasoline	416	mg/kg	28.3	2/14/2012	WOZ	NWTPHG	
%moisture	8.2	Percent		2/14/2012	APM	%moisture	

Surrogate Data

Sample Number 120213024-014

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	105.2	70-130
4-Bromofluorobenzene	EPA 8260B	109.2	70-130
Toluene-d8	EPA 8260B	105.6	70-130
hexacosane	NWTPHDX	92.0	50-150
4-Bromofluorobenzene	NWTPHG	106.8	70-130

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120213024-016	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012 3:39 PM
Client Sample ID	DP-70 (2-2.9)	**Sampling Time**	1:40 PM	**Extraction Date**	
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.0051	2/17/2012	WOZ	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.0051	2/17/2012	WOZ	EPA 8260B	
Toluene	0.00867	mg/Kg	0.0051	2/17/2012	WOZ	EPA 8260B	
Total Xylene	0.0411	mg/Kg	0.0102	2/17/2012	WOZ	EPA 8260B	
Diesel	144	mg/kg	25	2/16/2012	MJL	NWTPHDX	
Lube Oil	241	mg/kg	100	2/16/2012	MJL	NWTPHDX	
Gasoline	9.69	mg/kg	2.5	2/14/2012	WOZ	NWTPHG	
%moisture	9.3	Percent		2/14/2012	APM	%moisture	

Surrogate Data

Sample Number 120213024-016

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	103.6	70-130
4-Bromofluorobenzene	EPA 8260B	101.2	70-130
Toluene-d8	EPA 8260B	105.6	70-130
hexacosane	NWTPHDX	93.4	50-150
4-Bromofluorobenzene	NWTPHG	106.7	70-130

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120213024-018	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012 3:39 PM
Client Sample ID	DP-71 (1.5-2.8)	**Sampling Time**	2:00 PM	**Extraction Date**	
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.00595	2/17/2012	WOZ	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.00595	2/17/2012	WOZ	EPA 8260B	
Toluene	0.00799	mg/Kg	0.00595	2/17/2012	WOZ	EPA 8260B	
Total Xylene	0.0124	mg/Kg	0.0119	2/17/2012	WOZ	EPA 8260B	
Diesel	52.4	mg/kg	25	2/16/2012	MJL	NWTPHDX	
Lube Oil	448	mg/kg	100	2/16/2012	MJL	NWTPHDX	
Gasoline	ND	mg/kg	2.5	2/17/2012	WOZ	NWTPHG	
%moisture	18.2	Percent		2/14/2012	APM	%moisture	

Surrogate Data

Sample Number 120213024-018

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	96.8	70-130
4-Bromofluorobenzene	EPA 8260B	100.0	70-130
Toluene-d8	EPA 8260B	107.6	70-130
hexacosane	NWTPHDX	87.0	50-150
4-Bromofluorobenzene	NWTPHG	98.8	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120213024-019	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012 3:39 PM
Client Sample ID	DP-72 (0-1.5)	**Sampling Time**	2:15 PM	**Extraction Date**	
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	mg/Kg	0.005	2/17/2012	WOZ	EPA 8260B	
Ethylbenzene	ND	mg/Kg	0.005	2/17/2012	WOZ	EPA 8260B	
Toluene	ND	mg/Kg	0.005	2/17/2012	WOZ	EPA 8260B	
Total Xylene	ND	mg/Kg	0.01	2/17/2012	WOZ	EPA 8260B	
Diesel	ND	mg/kg	25	2/16/2012	MJL	NWTPHDX	
Lube Oil	ND	mg/kg	100	2/16/2012	MJL	NWTPHDX	
Gasoline	ND	mg/kg	2.5	2/15/2012	WOZ	NWTPHG	
%moisture	13	Percent		2/14/2012	APM	%moisture	

Surrogate Data

Sample Number 120213024-019

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	101.2	70-130
4-Bromofluorobenzene	EPA 8260B	101.6	70-130
Toluene-d8	EPA 8260B	105.2	70-130
hexacosane	NWTPHDX	97.4	50-150
4-Bromofluorobenzene	NWTPHG	107.1	70-130

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Client:	GEO ENGINEERS	**Batch #:**	120213024
Address:	523 E 2ND	**Project Name:**	HOLCIM INC 16316-001-02
	SPOKANE, WA 99202		
Attn:	JOHN HANEY		

Analytical Results Report

Authorized Signature

Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL	EPA's Maximum Contaminant Level
ND	Not Detected
PQL	Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120213024-003	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012	3:39 PM
Client Sample ID	DP-65 (1-2.5)	**Sampling Time**	9:37 AM	**Extraction Date**	2/21/2012	
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.132	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	0.116	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[a]anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[a]pyrene	0.053	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Fluoranthene	0.066	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.057	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Naphthalene	0.088	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Phenanthrene	0.134	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Pyrene	0.079	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
%moisture	16.5	Percent		2/14/2012	APM	%moisture	

Surrogate Data

Sample Number 120213024-003

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	102.1	18-137

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120213024-004	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012 3:39 PM
Client Sample ID	DP-65 (4-4.7)	**Sampling Time**	9:30 AM	**Extraction Date**	2/21/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.160	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[a]anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Naphthalene	0.058	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Phenanthrene	0.121	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Pyrene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
%moisture	9.6	Percent		2/14/2012	APM	%moisture	

Surrogate Data

Sample Number 120213024-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	98.8	18-137

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Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120213024-014	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012 3:39 PM
Client Sample ID	DP-70 (0-1)	**Sampling Time**	1:34 PM	**Extraction Date**	2/21/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	1.50	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[a]anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Naphthalene	0.654	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Phenanthrene	0.071	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Pyrene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
%moisture	8.2	Percent		2/14/2012	APM	%moisture	

Surrogate Data

Sample Number 120213024-014

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	99.0	18-137

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Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120213024-016	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012 3:39 PM
Client Sample ID	DP-70 (2-2.9)	**Sampling Time**	1:40 PM	**Extraction Date**	2/21/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	2.83	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[a]anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Naphthalene	0.698	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Phenanthrene	0.117	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Pyrene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
%moisture	9.3	Percent		2/14/2012	APM	%moisture	

Surrogate Data

Sample Number 120213024-016

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	95.3	18-137

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Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120213024-018	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012 3:39 PM
Client Sample ID	DP-71 (1.5-2.8)	**Sampling Time**	2:00 PM	**Extraction Date**	2/21/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.124	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	0.062	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[a]anthracene	0.072	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[a]pyrene	0.076	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.114	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Chrysene	0.087	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Fluoranthene	0.062	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Naphthalene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Phenanthrene	0.101	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Pyrene	0.062	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
%moisture	18.2	Percent		2/14/2012	APM	%moisture	

Surrogate Data

Sample Number 120213024-018

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	107.9	18-137

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Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Sample Number	120213024-019	**Sampling Date**	2/10/2012	**Date/Time Received**	2/13/2012 3:39 PM
Client Sample ID	DP-72 (0-1.5)	**Sampling Time**	2:15 PM	**Extraction Date**	2/21/2012
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.074	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Acenaphthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Acenaphthylene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[a]anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[a]pyrene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Chrysene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Fluoranthene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Fluorene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Naphthalene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Phenanthrene	0.084	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
Pyrene	ND	mg/Kg	0.05	2/22/2012	EMP	EPA 8270C	
%moisture	13	Percent		2/14/2012	APM	%moisture	

Surrogate Data

Sample Number 120213024-019

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	103.0	18-137

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Address:	523 E 2ND	**Project Name:**	HOLCIM INC 16316-001-02
	SPOKANE, WA 99202		
Attn:	JOHN HANEY		

Analytical Results Report

Authorized Signature

Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL	EPA's Maximum Contaminant Level
ND	Not Detected
PQL	Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Gasoline	0.945	mg/L	1.1	85.9	70-130	2/20/2012	2/20/2012
Gasoline	1.03	mg/L	1.1	93.6	70-130	2/17/2012	2/17/2012
Toluene	0.00511	mg/L	0.005	102.2	70-130	2/17/2012	2/17/2012
Ethylbenzene	0.00448	mg/L	0.005	89.6	70-130	2/17/2012	2/17/2012
Benzene	0.00482	mg/L	0.005	96.4	70-130	2/17/2012	2/17/2012
Diesel	76.5	mg/kg	100	76.5	50-150	2/15/2012	2/15/2012
Gasoline	1.10	mg/L	1.1	100.0	70-130	2/14/2012	2/14/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120209045-009	Diesel	ND	73.8	mg/kg	100	73.8	50-150	2/15/2012	2/15/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	78.1	mg/kg	100	78.1	5.7	0-50	2/15/2012	2/15/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzene	ND	mg/L	0.5	2/17/2012	2/17/2012
Diesel	ND	mg/kg	25	2/15/2012	2/15/2012
Ethylbenzene	ND	mg/L	0.5	2/17/2012	2/17/2012
Gasoline	ND	mg/L	0.1	2/20/2012	2/20/2012
Gasoline	ND	mg/L	0.1	2/17/2012	2/17/2012
Gasoline	ND	mg/L	0.1	2/14/2012	2/14/2012
Lube Oil	ND	mg/kg	100	2/15/2012	2/15/2012
Toluene	ND	mg/L	0.5	2/17/2012	2/17/2012

Comments:

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Analytical Results Report

Quality Control Data

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Lead	0.0512	mg/kg	0.05	102.4	80-120	2/15/2012	2/16/2012
Cadmium	0.0553	mg/kg	0.05	110.6	80-120	2/15/2012	2/16/2012
Arsenic	0.0547	mg/kg	0.05	109.4	80-120	2/15/2012	2/16/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120213024-001	Lead	19.5	38.0	mg/kg	19.8	93.4	75-125	2/15/2012	2/16/2012
120213024-001	Cadmium	ND	19.8	mg/kg	19.8	100.0	75-125	2/15/2012	2/16/2012
120213024-001	Arsenic	8.20	31.9	mg/kg	19.8	119.7	75-125	2/15/2012	2/16/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Lead	37.7	mg/kg	19.8	91.9	0.8	0-20	2/15/2012	2/16/2012
Cadmium	19.1	mg/kg	19.8	96.5	3.6	0-20	2/15/2012	2/16/2012
Arsenic	28.9	mg/kg	19.8	104.5	9.9	0-20	2/15/2012	2/16/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/Kg	0.001	2/15/2012	2/16/2012
Cadmium	ND	mg/Kg	0.001	2/15/2012	2/16/2012
Lead	ND	mg/Kg	0.001	2/15/2012	2/16/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	0.839	mg/Kg	1	83.9	30-140	2/21/2012	2/23/2012
Acenaphthene	0.939	mg/Kg	1	93.9	30-140	2/21/2012	2/23/2012
Acenaphthylene	0.932	mg/Kg	1	93.2	30-140	2/21/2012	2/23/2012
Anthracene	0.943	mg/Kg	1	94.3	30-140	2/21/2012	2/23/2012
Benzo(ghi)perylene	1.02	mg/Kg	1	102.0	30-140	2/21/2012	2/23/2012
Benzo[a]anthracene	1.09	mg/Kg	1	109.0	30-140	2/21/2012	2/23/2012
Benzo[a]pyrene	1.03	mg/Kg	1	103.0	30-140	2/21/2012	2/23/2012
2-Methylnaphthalene	1.09	mg/Kg	1	109.0	30-140	2/21/2012	2/23/2012
Benzo[k]fluoranthene	1.08	mg/Kg	1	108.0	30-140	2/21/2012	2/23/2012
Pyrene	1.09	mg/Kg	1	109.0	30-140	2/21/2012	2/23/2012
Dibenz[a,h]anthracene	1.04	mg/Kg	1	104.0	30-140	2/21/2012	2/23/2012
Fluoranthene	0.982	mg/Kg	1	98.2	30-140	2/21/2012	2/23/2012
Fluorene	0.981	mg/Kg	1	98.1	30-140	2/21/2012	2/23/2012
Indeno[1,2,3-cd]pyrene	1.04	mg/Kg	1	104.0	30-140	2/21/2012	2/23/2012
Naphthalene	1.01	mg/Kg	1	101.0	30-140	2/21/2012	2/23/2012
Phenanthrene	1.00	mg/Kg	1	100.0	30-140	2/21/2012	2/23/2012
Benzo[b]fluoranthene	0.901	mg/Kg	1	90.1	30-140	2/21/2012	2/23/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120213024-007	Chrysene	ND	0.776	mg/Kg	1	77.6	30-140	2/21/2012	2/23/2012
120213024-007	Acenaphthene	ND	0.868	mg/Kg	1	86.8	30-140	2/21/2012	2/23/2012
120213024-007	Acenaphthylene	ND	0.864	mg/Kg	1	86.4	30-140	2/21/2012	2/23/2012
120213024-007	Anthracene	ND	0.856	mg/Kg	1	85.6	30-140	2/21/2012	2/23/2012
120213024-007	Benzo(ghi)perylene	ND	0.957	mg/Kg	1	95.7	30-140	2/21/2012	2/23/2012
120213024-007	Benzo[a]anthracene	ND	0.952	mg/Kg	1	95.2	30-140	2/21/2012	2/23/2012
120213024-007	Benzo[a]pyrene	ND	0.952	mg/Kg	1	95.2	30-140	2/21/2012	2/23/2012
120213024-007	2-Methylnaphthalene	ND	1.02	mg/Kg	1	102.0	30-140	2/21/2012	2/23/2012
120213024-007	Benzo[k]fluoranthene	ND	0.956	mg/Kg	1	95.6	30-140	2/21/2012	2/23/2012
120213024-007	Pyrene	ND	0.980	mg/Kg	1	98.0	30-140	2/21/2012	2/23/2012
120213024-007	Dibenz[a,h]anthracene	ND	0.964	mg/Kg	1	96.4	30-140	2/21/2012	2/23/2012
120213024-007	Fluoranthene	ND	0.869	mg/Kg	1	86.9	30-140	2/21/2012	2/23/2012
120213024-007	Fluorene	ND	0.881	mg/Kg	1	88.1	30-140	2/21/2012	2/23/2012
120213024-007	Indeno[1,2,3-cd]pyrene	ND	0.969	mg/Kg	1	96.9	30-140	2/21/2012	2/23/2012

Comments:

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Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120213024-007	Naphthalene	ND	0.902	mg/Kg	1	90.2	30-140	2/21/2012	2/23/2012
120213024-007	Phenanthrene	ND	0.897	mg/Kg	1	89.7	30-140	2/21/2012	2/23/2012
120213024-007	Benzo[b]fluoranthene	ND	0.893	mg/Kg	1	89.3	30-140	2/21/2012	2/23/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chrysene	0.882	mg/Kg	1	88.2	12.8	0-50	2/21/2012	2/23/2012
Acenaphthene	0.952	mg/Kg	1	95.2	9.2	0-50	2/21/2012	2/23/2012
Acenaphthylene	0.956	mg/Kg	1	95.6	10.1	0-50	2/21/2012	2/23/2012
Anthracene	0.950	mg/Kg	1	95.0	10.4	0-50	2/21/2012	2/23/2012
Benzo(ghi)perylene	1.13	mg/Kg	1	113.0	16.6	0-50	2/21/2012	2/23/2012
Benzo[a]anthracene	1.07	mg/Kg	1	107.0	11.7	0-50	2/21/2012	2/23/2012
Benzo[a]pyrene	1.07	mg/Kg	1	107.0	11.7	0-50	2/21/2012	2/23/2012
2-Methylnaphthalene	1.02	mg/Kg	1	102.0	0.0	0-50	2/21/2012	2/23/2012
Benzo[k]fluoranthene	1.10	mg/Kg	1	110.0	14.0	0-50	2/21/2012	2/23/2012
Pyrene	1.08	mg/Kg	1	108.0	9.7	0-50	2/21/2012	2/23/2012
Dibenz[a,h]anthracene	1.13	mg/Kg	1	113.0	15.9	0-50	2/21/2012	2/23/2012
Fluoranthene	0.977	mg/Kg	1	97.7	11.7	0-50	2/21/2012	2/23/2012
Fluorene	0.966	mg/Kg	1	96.6	9.2	0-50	2/21/2012	2/23/2012
Indeno[1,2,3-cd]pyrene	1.12	mg/Kg	1	112.0	14.5	0-50	2/21/2012	2/23/2012
Naphthalene	0.992	mg/Kg	1	99.2	9.5	0-50	2/21/2012	2/23/2012
Phenanthrene	1.00	mg/Kg	1	100.0	10.9	0-50	2/21/2012	2/23/2012
Benzo[b]fluoranthene	0.948	mg/Kg	1	94.8	6.0	0-50	2/21/2012	2/23/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Acenaphthene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Acenaphthylene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Anthracene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Benzo(ghi)perylene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Benzo[a]anthracene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Benzo[a]pyrene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Benzo[b]fluoranthene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Benzo[k]fluoranthene	ND	mg/Kg	0.05	2/21/2012	2/23/2012

Comments:

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Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120213024
Project Name: HOLCIM INC 16316-001-02

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chrysene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Dibenz[a,h]anthracene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Fluoranthene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Fluorene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Naphthalene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Phenanthrene	ND	mg/Kg	0.05	2/21/2012	2/23/2012
Pyrene	ND	mg/Kg	0.05	2/21/2012	2/23/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Login Report

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120213024
Order Date: 2/13/2012

Contact Name: JOHN HANEY
Project Name: HOLCIM INC 16316-001-02
Comment:

Sample #: 120213024-001 **Customer Sample #:** DP-64 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/23/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/23/2012	***Normal (6-10 Days)***

Sample #: 120213024-002 **Customer Sample #:** DP-65 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	2/23/2012	***Normal (6-10 Days)***

Sample #: 120213024-003 **Customer Sample #:** DP-65 (1-2.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/23/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
BTEX 8021	S	EPA 8021	2/23/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120213024
Order Date: 2/13/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC 16316-001-02

Comment:

LEAD	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/23/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/23/2012	***Normal (6-10 Days)***
TPHDX-NW	S	NWTPHDX	2/20/2012	***Normal (6-10 Days)***
TPHG-NW-SPO	S	NWTPHG	2/20/2012	***Normal (6-10 Days)***

Sample #: 120213024-004 **Customer Sample #:** DP-65 (1-2.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/23/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/23/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/23/2012	***Normal (6-10 Days)***
TPHDX-NW	S	NWTPHDX	2/20/2012	***Normal (6-10 Days)***
TPHG-NW-SPO	S	NWTPHG	2/20/2012	***Normal (6-10 Days)***

Sample #: 120213024-005 **Customer Sample #:** DP-66 (0.5-1.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/23/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/23/2012	***Normal (6-10 Days)***

Sample #: 120213024-006 **Customer Sample #:** DP-66 (4-5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/23/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120213024
Order Date: 2/13/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC 16316-001-02

Comment:

ARSENIC	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/23/2012	***Normal (6-10 Days)***

Sample #: 120213024-007 **Customer Sample #:** DP-67 (1-2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/23/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/23/2012	***Normal (6-10 Days)***

Sample #: 120213024-008 **Customer Sample #:** DP-68 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	2/23/2012	***Normal (6-10 Days)***

Sample #: 120213024-009 **Customer Sample #:** DP-68 (4.5-5.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/23/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/23/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120213024
Order Date: 2/13/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC 16316-001-02

Comment:

Sample #: 120213024-010 **Customer Sample #:** DP-68 (8.5-9.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	2/23/2012	***Normal (6-10 Days)***

Sample #: 120213024-011 **Customer Sample #:** DP-69 (1-2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	2/23/2012	***Normal (6-10 Days)***

Sample #: 120213024-012 **Customer Sample #:** DP-69 (4-5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/23/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/23/2012	***Normal (6-10 Days)***

Sample #: 120213024-013 **Customer Sample #:** DP-69 (9.5-10.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	2/23/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120213024
Order Date: 2/13/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC 16316-001-02

Comment:

Sample #: 120213024-014 **Customer Sample #:** DP-70 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/23/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
BTEX 8021	S	EPA 8021	2/23/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/23/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/23/2012	***Normal (6-10 Days)***
TPHDX-NW	S	NWTPHDX	2/20/2012	***Normal (6-10 Days)***
TPHG-NW-SPO	S	NWTPHG	2/20/2012	***Normal (6-10 Days)***

Sample #: 120213024-015 **Customer Sample #:** DP-70 (1-2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	2/23/2012	***Normal (6-10 Days)***

Sample #: 120213024-016 **Customer Sample #:** DP-70 (2-2.9)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/23/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
BTEX 8021	S	EPA 8021	2/23/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/23/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/23/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120213024
Order Date: 2/13/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC 16316-001-02

Comment:

TPHDX-NW	S	NWTPHDX	2/20/2012	***Normal (6-10 Days)***
TPHG-NW-SPO	S	NWTPHG	2/20/2012	***Normal (6-10 Days)***

Sample #: 120213024-017 **Customer Sample #:** DP-71 (0-1.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	2/23/2012	***Normal (6-10 Days)***

Sample #: 120213024-018 **Customer Sample #:** DP-71 (1.5-2.8)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/23/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
BTEX 8021	S	EPA 8021	2/23/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
PAH 8270	M	EPA 8270C	2/23/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/23/2012	***Normal (6-10 Days)***
TPHDX-NW	S	NWTPHDX	2/20/2012	***Normal (6-10 Days)***
TPHG-NW-SPO	S	NWTPHG	2/20/2012	***Normal (6-10 Days)***

Sample #: 120213024-019 **Customer Sample #:** DP-72 (0-1.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/10/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 2/13/2012 3:39:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	2/23/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
BTEX 8021	S	EPA 8021	2/23/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	2/23/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS

523 E 2ND

SPOKANE WA 99202

Order ID: 120213024

Order Date: 2/13/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC 16316-001-02

Comment:

PAH 8270	M	EPA 8270C	2/23/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	2/23/2012	***Normal (6-10 Days)***
TPHDX-NW	S	NWTPHDX	2/20/2012	***Normal (6-10 Days)***
TPHG-NW-SPO	S	NWTPHG	2/20/2012	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	2.3
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	Yes
Is there a trip blank to accompany VOC samples?	No
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In: 120213 024 GEOE Last Due 2/23/2012
1st SAMP 2/10/2012 1st RCVD 2/13/2012
HOLCIM INC 16316-001-02

http://www.anateklabs.com/services/guidelines/reporting.asp

Company Name: GEDENGWEEKS, WC	Project Manager: JOHN HANEY
Address: 523 E 2ND AVE	Project Name & #: HOLCIM, WC 16316-001-02
City: SPOKANE State: WA Zip: 99202	Email Address: JHANEY@GEDENGWEEKS.COM
Phone: 509-363-3125	Purchase Order #:
Fax: 509-363-3126	Sampler Name & phone: KATIE HALL 509-768-3579

X Normal __Next Day* __2nd Day* __Other*____ *All rush order requests must be prior approved. __Phone __Mail __Fax __Email

pg 1 of 2

Provide Sample Description

Lab ID	Sample Identification	Sampling Date/Time	Matrix
1	DP-64(0-1')	2/10/12 907	SOIL
2	DP-65(0-1)	935	
3	DP-65(1-2.5)	937	
4	DP-65(4-4.7)	930	
5	DP-66(0.5-1.5)	959	
6	DP-66(4-5)	1002	
7	DP-67(1-2)	1019	
8	DP-68(0-1)	1051	
9	DP-68(4.5-5.5)	1053	
10	DP-68(8.5-9.5)	1056	
11	DP-69(1-2)	1125	
12	DP-69(4-5)	1128	
13	DP-69(9.5-10.5)	1131	

List Analyses Requested

Preservative	# of Containers	Sample Volume	Metals by EPA 6010A	pH by EPA 9045	BTEX #2	PAH by EPA 8270 C	Petroleum #2 HYDROCARBONS					
	1		X	X								
	2											
	2		X	X	X	X	X					
	1		X	X		X	X[3]					
	1		X[4]	X								
	1		X[4]	X								
	1		X[4]	X								
	1											
	1		X	X								
	1											
	1											
	1		X	X								
	1											

Note Special Instructions/Comments

*1 As, Cd, Pb
*2 NWTPH-DX AND NWTPH-GX/BTEX
[3] NO BTEX FOR THIS SAMPLE
[4] As ONLY

SWB-S
PAH-m
Rest-S

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	Y	N
VOC Head Space?	Y	(N)

Cooler/hal
Temperature (°C): 2.3°
Preservative: MEOH
Date & Time: 2/13/12
Inspected By: KLS
No trip blanks

	Printed Name	Signature	Company	Date	Time
Relinquished by	KATIE HALL	Katie Hall	GEI	2/13/12	1530
Received by	Brent Rundell		GEI	2-13-12	1530
Relinquished by	Brent Rundell		GEI	2-13-12	1539
Received by	KScott		Anatek	2/13	1539
Relinquished by					
Received by					

CHAIN OF CUSTODY RECORD

120213 024 GEOE Last Due 2/23/2012
1st SAMP 2/10/2012 1st RCVD 2/13/2012
HOLCIM INC 16316-001-02

GeoEngineers
523 EAST SECOND AVE.
SPOKANE, WASHINGTON 99202
(509) 363-3125

LAB ANATEK
LAB NO. pg 2 of 2

PROJECT NAME/LOCATION HOLCIM, INC
PROJECT NUMBER 16316-001-02
PROJECT MANAGER JOHN HANEY JHANEY@GEOENGINEERS.COM
SAMPLED BY KATIE HALL 509-768-3579

SAMPLE IDENTIFICATION		SAMPLE COLLECTION			# OF	ANALYSIS REQUIRED												NOTES/COMMENTS
LAB	GEOENGINEERS	DATE	TIME	MATRIX	JARS	METALS BY EPA 6020A *1	PH BY EPA 9045	BTEX *2	PAH BY EPA 8270C	PETROLEUM HYDROCARBONS *2								(Preserved, filtered, etc.)
14	DP-70(0-1)	2/10/12	1334	SOIL	2	X	X	X	X	X								*1 As, Cd, Pb
15	DP-70(1-2)	"	1337	"	2													*2 NWTPH-DX AND NWTPH-GX/BTEX
16	DP-70(2-2.9)	"	1340	"	2	X	X	X	X	X								
17	DP-71(0-1.5)	"	1357	"	2													
18	DP-71(1.5-2.8)	"	1400	"	2	X	X	X	X	X								
19	DP-72(0-1.5)	"	1415	"	2	X	X	X	X	X								

RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM	RELINQUISHED BY	FIRM
SIGNATURE Katie Hall	GEI	SIGNATURE Brent Randall	GEE	SIGNATURE	
PRINTED NAME KATIE HALL		PRINTED NAME Brent Randall		PRINTED NAME	
DATE 2/13/12 TIME 1530		DATE 2-13-12 TIME 1539		DATE TIME	

RECEIVED BY	FIRM	RECEIVED BY	FIRM	RECEIVED BY	FIRM
SIGNATURE Brent Randall	GEE	SIGNATURE KScott	Anatek	SIGNATURE	
PRINTED NAME Brent Randall		PRINTED NAME KScott		PRINTED NAME	
DATE 2-13-12 TIME 1530		DATE 2-13-12 TIME 1530		DATE TIME	

ADDITIONAL COMMENTS:
hand del / cooler 2.3° MEOH

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120404012
Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Analytical Results Report

Sample Number	120404012-001	**Sampling Date**	4/2/2012	**Date/Time Received**	4/4/2012	11:20 AM
Client Sample ID	DP-73 (17-18)	**Sampling Time**	9:03 AM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	8.04	mg/Kg	0.519	4/13/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.519	4/13/2012	KEA	EPA 6020A	
Lead	12.1	mg/Kg	0.519	4/13/2012	KEA	EPA 6020A	
pH	9.24	ph Units		4/5/2012	APM	EPA 9045	
%moisture	6.6	Percent		4/5/2012	APM	%moisture	

Sample Number	120404012-010	**Sampling Date**	4/2/2012	**Date/Time Received**	4/4/2012	11:20 AM
Client Sample ID	DP-75 (10-11)	**Sampling Time**	10:51 AM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	7.98	mg/Kg	0.547	4/13/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.547	4/13/2012	KEA	EPA 6020A	
Lead	9.94	mg/Kg	0.547	4/13/2012	KEA	EPA 6020A	
pH	9.07	ph Units		4/5/2012	APM	EPA 9045	
%moisture	9	Percent		4/5/2012	APM	%moisture	

Sample Number	120404012-013	**Sampling Date**	4/2/2012	**Date/Time Received**	4/4/2012	11:20 AM
Client Sample ID	DP-76 (6-7)	**Sampling Time**	11:25 AM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	13.9	mg/Kg	0.554	4/13/2012	KEA	EPA 6020A	
Cadmium	0.622	mg/Kg	0.554	4/13/2012	KEA	EPA 6020A	
Lead	58.4	mg/Kg	0.554	4/13/2012	KEA	EPA 6020A	
pH	10.85	ph Units		4/5/2012	APM	EPA 9045	
%moisture	13.2	Percent		4/5/2012	APM	%moisture	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120404012
Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Analytical Results Report

Sample Number	120404012-017	**Sampling Date**	4/2/2012	**Date/Time Received**	4/4/2012	11:20 AM	
Client Sample ID	DP-77 (4.5-5.5)	**Sampling Time**	12:10 PM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	5.91	mg/Kg	0.562	4/13/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.562	4/13/2012	KEA	EPA 6020A	
Lead	23.5	mg/Kg	0.562	4/13/2012	KEA	EPA 6020A	
pH	9.66	ph Units		4/5/2012	APM	EPA 9045	
%moisture	11.2	Percent		4/5/2012	APM	%moisture	

Sample Number	120404012-023	**Sampling Date**	4/2/2012	**Date/Time Received**	4/4/2012	11:20 AM	
Client Sample ID	DP-78 (12.5-13.5)	**Sampling Time**	1:50 PM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	8.16	mg/Kg	0.565	4/13/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.565	4/13/2012	KEA	EPA 6020A	
Lead	37.1	mg/Kg	0.565	4/13/2012	KEA	EPA 6020A	
pH	9.43	ph Units		4/5/2012	APM	EPA 9045	
%moisture	13	Percent		4/5/2012	APM	%moisture	

Sample Number	120404012-025	**Sampling Date**	4/2/2012	**Date/Time Received**	4/4/2012	11:20 AM	
Client Sample ID	DP-79 (5-6)	**Sampling Time**	2:10 PM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	6.37	mg/Kg	0.525	4/13/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.525	4/13/2012	KEA	EPA 6020A	
Lead	10.4	mg/Kg	0.525	4/13/2012	KEA	EPA 6020A	
pH	9.19	ph Units		4/5/2012	APM	EPA 9045	
%moisture	6.6	Percent		4/5/2012	APM	%moisture	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

Anatek Labs, Inc.

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120404012
Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Analytical Results Report

Sample Number	120404012-029	**Sampling Date**	4/2/2012	**Date/Time Received**	4/4/2012	11:20 AM	
Client Sample ID	DP-80 (9-10)	**Sampling Time**	2:50 PM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	5.34	mg/Kg	0.538	4/13/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.538	4/13/2012	KEA	EPA 6020A	
Lead	13.3	mg/Kg	0.538	4/13/2012	KEA	EPA 6020A	
pH	9.45	ph Units		4/5/2012	APM	EPA 9045	
%moisture	7.3	Percent		4/5/2012	APM	%moisture	

Sample Number	120404012-033	**Sampling Date**	4/2/2012	**Date/Time Received**	4/4/2012	11:20 AM	
Client Sample ID	DP-81 (8-9)	**Sampling Time**	3:27 PM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	12.7	mg/Kg	1.09	4/13/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.09	4/13/2012	KEA	EPA 6020A	
Lead	8.21	mg/Kg	1.09	4/13/2012	KEA	EPA 6020A	
pH	8.56	ph Units		4/5/2012	APM	EPA 9045	
%moisture	8.5	Percent		4/5/2012	APM	%moisture	

Sample Number	120404012-034	**Sampling Date**	4/2/2012	**Date/Time Received**	4/4/2012	11:20 AM	
Client Sample ID	DP-81 (13-14)	**Sampling Time**	3:35 PM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	14.9	mg/Kg	1.06	4/13/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.06	4/13/2012	KEA	EPA 6020A	
Lead	10.5	mg/Kg	1.06	4/13/2012	KEA	EPA 6020A	
pH	7.99	ph Units		4/5/2012	APM	EPA 9045	
%moisture	7.5	Percent		4/5/2012	APM	%moisture	

Anatek Labs, Inc.

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120404012
Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Analytical Results Report

Sample Number	120404012-038	**Sampling Date**	4/3/2012	**Date/Time Received**	4/4/2012	11:20 AM
Client Sample ID	DP-82 (10-10.3)	**Sampling Time**	8:50 AM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	7.40	mg/Kg	0.544	4/13/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.544	4/13/2012	KEA	EPA 6020A	
Lead	16.6	mg/Kg	0.544	4/13/2012	KEA	EPA 6020A	
pH	10.84	ph Units		4/5/2012	APM	EPA 9045	
%moisture	10	Percent		4/5/2012	APM	%moisture	

Sample Number	120404012-039	**Sampling Date**	4/3/2012	**Date/Time Received**	4/4/2012	11:20 AM
Client Sample ID	DP-82 (14-14.5)	**Sampling Time**	8:55 AM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	20.0	mg/Kg	0.789	4/13/2012	KEA	EPA 6020A	
Cadmium	2.19	mg/Kg	0.789	4/13/2012	KEA	EPA 6020A	
Lead	179	mg/Kg	0.789	4/13/2012	KEA	EPA 6020A	
pH	11.11	ph Units		4/5/2012	APM	EPA 9045	
%moisture	36.6	Percent		4/5/2012	APM	%moisture	

Sample Number	120404012-045	**Sampling Date**	4/3/2012	**Date/Time Received**	4/4/2012	11:20 AM
Client Sample ID	DP-83 (10-10.5)	**Sampling Time**	9:50 AM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	11.0	mg/Kg	0.552	4/13/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.552	4/13/2012	KEA	EPA 6020A	
Lead	56.5	mg/Kg	0.552	4/13/2012	KEA	EPA 6020A	
pH	11.03	ph Units		4/5/2012	APM	EPA 9045	
%moisture	11.4	Percent		4/5/2012	APM	%moisture	

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120404012
Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Analytical Results Report

Sample Number 120404012-050 **Sampling Date** 4/3/2012 **Date/Time Received** 4/4/2012 11:20 AM
Client Sample ID DP-84 (5.5-6) **Sampling Time** 11:15 AM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	72.5	mg/Kg	0.865	4/13/2012	KEA	EPA 6020A	
Cadmium	2.86	mg/Kg	0.865	4/13/2012	KEA	EPA 6020A	
Lead	265	mg/Kg	0.865	4/13/2012	KEA	EPA 6020A	
pH	11.40	ph Units		4/5/2012	APM	EPA 9045	
%moisture	43	Percent		4/5/2012	APM	%moisture	

Sample Number 120404012-054 **Sampling Date** 4/3/2012 **Date/Time Received** 4/4/2012 11:20 AM
Client Sample ID DP-85 (4.4.5) **Sampling Time** 12:30 PM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	16.6	mg/Kg	0.538	4/13/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.538	4/13/2012	KEA	EPA 6020A	
Lead	13.5	mg/Kg	0.538	4/13/2012	KEA	EPA 6020A	
pH	11.50	ph Units		4/5/2012	APM	EPA 9045	
%moisture	6.8	Percent		4/5/2012	APM	%moisture	

Sample Number 120404012-057 **Sampling Date** 4/3/2012 **Date/Time Received** 4/4/2012 11:20 AM
Client Sample ID DP-85 (18-18.5) **Sampling Time** 12:46 PM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	8.95	mg/Kg	1.09	4/16/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.09	4/16/2012	KEA	EPA 6020A	
Lead	9.51	mg/Kg	1.09	4/16/2012	KEA	EPA 6020A	
pH	8.83	ph Units		4/5/2012	APM	EPA 9045	
%moisture	9.4	Percent		4/5/2012	APM	%moisture	

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120404012
Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Analytical Results Report

Sample Number	120404012-061	**Sampling Date**	4/3/2012	**Date/Time Received**	4/4/2012	11:20 AM
Client Sample ID	DP-86 (13-14)	**Sampling Time**	12:04 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	7.29	mg/Kg	1.08	4/16/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.08	4/16/2012	KEA	EPA 6020A	
Lead	15.2	mg/Kg	1.08	4/16/2012	KEA	EPA 6020A	
pH	8.85	ph Units		4/5/2012	APM	EPA 9045	
%moisture	7.5	Percent		4/5/2012	APM	%moisture	

Sample Number	120404012-066	**Sampling Date**	4/3/2012	**Date/Time Received**	4/4/2012	11:20 AM
Client Sample ID	DP-87 (13.2-13.6)	**Sampling Time**	1:34 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	7.80	mg/Kg	0.592	4/13/2012	KEA	EPA 6020A	
Cadmium	1.13	mg/Kg	0.592	4/13/2012	KEA	EPA 6020A	
Lead	96.7	mg/Kg	0.592	4/13/2012	KEA	EPA 6020A	
pH	8.74	ph Units		4/5/2012	APM	EPA 9045	
%moisture	16.9	Percent		4/5/2012	APM	%moisture	

Sample Number	120404012-073	**Sampling Date**	4/3/2012	**Date/Time Received**	4/4/2012	11:20 AM
Client Sample ID	DP-89 (8.5-9)	**Sampling Time**	2:48 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	13.5	mg/Kg	0.51	4/16/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.51	4/16/2012	KEA	EPA 6020A	
Lead	11.5	mg/Kg	0.51	4/16/2012	KEA	EPA 6020A	
pH	9.37	ph Units		4/5/2012	APM	EPA 9045	
%moisture	4.5	Percent		4/5/2012	APM	%moisture	

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120404012
Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Analytical Results Report

Sample Number	120404012-080	**Sampling Date**	4/3/2012	**Date/Time Received**	4/4/2012	11:20 AM
Client Sample ID	DP-90 (9-10)	**Sampling Time**	3:32 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	12.0	mg/Kg	0.534	4/16/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.534	4/16/2012	KEA	EPA 6020A	
Lead	18.6	mg/Kg	0.534	4/16/2012	KEA	EPA 6020A	
pH	9.25	ph Units		4/5/2012	APM	EPA 9045	
%moisture	6.5	Percent		4/5/2012	APM	%moisture	

Sample Number	120404012-083	**Sampling Date**	4/3/2012	**Date/Time Received**	4/4/2012	11:20 AM
Client Sample ID	DP-91 (8-8.5)	**Sampling Time**	4:35 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	6.67	mg/Kg	0.516	4/16/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.516	4/16/2012	KEA	EPA 6020A	
Lead	12.2	mg/Kg	0.516	4/16/2012	KEA	EPA 6020A	
pH	9.52	ph Units		4/5/2012	APM	EPA 9045	
%moisture	7.7	Percent		4/5/2012	APM	%moisture	

Authorized Signature

Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120404012
Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Lead	0.0487	mg/kg	0.05	97.4	80-120	4/11/2012	4/16/2012
Cadmium	0.0486	mg/kg	0.05	97.2	80-120	4/11/2012	4/16/2012
Arsenic	0.0503	mg/kg	0.05	100.6	80-120	4/11/2012	4/16/2012
Lead	0.0487	mg/kg	0.05	97.4	80-120	4/13/2012	4/13/2012
Arsenic	0.0498	mg/kg	0.05	99.6	80-120	4/13/2012	4/13/2012
Lead	0.0489	mg/kg	0.05	97.8	80-120	4/11/2012	4/13/2012
Cadmium	0.0496	mg/kg	0.05	99.2	80-120	4/11/2012	4/13/2012
Arsenic	0.0496	mg/kg	0.05	99.2	80-120	4/11/2012	4/13/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120406051-002	Lead	4.14	26.5	mg/kg	20.1	111.2	75-125	4/13/2012	4/13/2012
120406051-002	Arsenic	15.0	37.2	mg/kg	20.1	110.4	75-125	4/13/2012	4/13/2012
120404012-073	Lead	11.5	31.0	mg/kg	19.5	100.0	75-125	4/11/2012	4/16/2012
120404012-073	Cadmium	ND	20.8	mg/kg	19.5	106.7	75-125	4/11/2012	4/16/2012
120404012-073	Arsenic	13.5	32.3	mg/kg	19.5	96.4	75-125	4/11/2012	4/16/2012
120404012-001	Lead	12.1	31.6	mg/kg	19.4	100.5	75-125	4/11/2012	4/13/2012
120404012-001	Cadmium	ND	21.0	mg/kg	19.4	108.2	75-125	4/11/2012	4/13/2012
120404012-001	Arsenic	8.04	26.8	mg/kg	19.4	96.7	75-125	4/11/2012	4/13/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Lead	26.4	mg/kg	20.1	110.7	0.4	0-20	4/13/2012	4/13/2012
Arsenic	36.8	mg/kg	20.1	108.5	1.1	0-20	4/13/2012	4/13/2012
Lead	30.8	mg/kg	19.5	99.0	0.6	0-20	4/11/2012	4/16/2012
Cadmium	20.8	mg/kg	19.5	106.7	0.0	0-20	4/11/2012	4/16/2012
Arsenic	31.9	mg/kg	19.5	94.4	1.2	0-20	4/11/2012	4/16/2012
Lead	31.9	mg/kg	19.4	102.1	0.9	0-20	4/11/2012	4/13/2012
Cadmium	21.1	mg/kg	19.4	108.8	0.5	0-20	4/11/2012	4/13/2012
Arsenic	27.1	mg/kg	19.4	98.2	1.1	0-20	4/11/2012	4/13/2012

Method Blank

Comments: 16316-001-02

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120404012
Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Analytical Results Report

Quality Control Data

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/Kg	0.001	4/11/2012	4/16/2012
Arsenic	ND	mg/Kg	0.001	4/13/2012	4/13/2012
Arsenic	ND	mg/Kg	0.001	4/11/2012	4/13/2012
Cadmium	ND	mg/Kg	0.001	4/11/2012	4/16/2012
Cadmium	ND	mg/Kg	0.001	4/11/2012	4/13/2012
Lead	ND	mg/Kg	0.001	4/11/2012	4/16/2012
Lead	ND	mg/Kg	0.001	4/13/2012	4/13/2012
Lead	ND	mg/Kg	0.001	4/11/2012	4/13/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments: 16316-001-02

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Login Report

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY
Comment: 16316-001-02

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Sample #: 120404012-001 **Customer Sample #:** DP-73 (17-18)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-002 **Customer Sample #:** DP-73 (0.5-1.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-003 **Customer Sample #:** DP-73 (5.5-6.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY
Comment: 16316-001-02

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Sample #: 120404012-004 **Customer Sample #:** DP-73 (8.5-9.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-005 **Customer Sample #:** DP-73 (12.5-13.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-006 **Customer Sample #:** DP-74 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-007 **Customer Sample #:** DP-74 (4-5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Comment: 16316-001-02

Sample #: 120404012-008 **Customer Sample #:** DP-75 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-009 **Customer Sample #:** DP-75 (5.5-6.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-010 **Customer Sample #:** DP-75 (10-11)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-011 **Customer Sample #:** DP-76 (1-2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY
Comment: 16316-001-02

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Sample #: 120404012-012 **Customer Sample #:** DP-76 (5-6)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-013 **Customer Sample #:** DP-76 (6-7)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-014 **Customer Sample #:** DP-76 (9.5-10)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-015 **Customer Sample #:** DP-76 (14-15)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY
Comment: 16316-001-02

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Sample #: 120404012-016 **Customer Sample #:** DP-77 (0.5-1.25)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-017 **Customer Sample #:** DP-77 (4.5-5.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-018 **Customer Sample #:** DP-77 (10-11)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-019 **Customer Sample #:** DP-77 (15-16)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Comment: 16316-001-02

Sample #: 120404012-020 **Customer Sample #:** DP-78 (0-0.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-021 **Customer Sample #:** DP-78 (4-5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-022 **Customer Sample #:** DP-78 (8-9)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-023 **Customer Sample #:** DP-78 (12.5-13.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY
Comment: 16316-001-02

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Sample #: 120404012-024 **Customer Sample #:** DP-79 (1.5-2.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-025 **Customer Sample #:** DP-79 (5-6)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-026 **Customer Sample #:** DP-79 (10-11)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-027 **Customer Sample #:** DP-80 (1-2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY
Comment: 16316-001-02

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Sample #: 120404012-028 **Customer Sample #:** DP-80 (4-5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-029 **Customer Sample #:** DP-80 (9-10)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-030 **Customer Sample #:** DP-80 (13-14)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-031 **Customer Sample #:** DP-81 (0.5-1.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Comment: 16316-001-02

Sample #: 120404012-032 **Customer Sample #:** DP-81 (4-5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-033 **Customer Sample #:** DP-81 (8-9)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-034 **Customer Sample #:** DP-81 (13-14)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/2/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Comment: 16316-001-02

Sample #: 120404012-035 **Customer Sample #:** DP-82 (0.5-1.4)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-036 **Customer Sample #:** DP-82 (5-6)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-037 **Customer Sample #:** DP-82 (8.5-9.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-038 **Customer Sample #:** DP-82 (10-10.3)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Comment: 16316-001-02

Sample #: 120404012-039 **Customer Sample #:** DP-82 (14-14.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-040 **Customer Sample #:** DP-82 (14.5-15)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-041 **Customer Sample #:** DP-83 (1-2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-042 **Customer Sample #:** DP-83 (5-5.8)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY
Comment: 16316-001-02

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Sample #: 120404012-043 **Customer Sample #:** DP-83 (6-7)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-044 **Customer Sample #:** DP-83 (8-9)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-045 **Customer Sample #:** DP-83 (10-10.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-046 **Customer Sample #:** DP-83 (13-14)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Comment: 16316-001-02

Sample #: 120404012-047 **Customer Sample #:** DP-83 (15-15.4)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-048 **Customer Sample #:** DP-84 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-049 **Customer Sample #:** DP-84 (4-4.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-050 **Customer Sample #:** DP-84 (5.5-6)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY
Comment: 16316-001-02

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Sample #: 120404012-051 **Customer Sample #:** DP-84 (9-10)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-052 **Customer Sample #:** DP-84 (11-12)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-053 **Customer Sample #:** DP-85 (1-2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-054 **Customer Sample #:** DP-85 (4.4.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Comment: 16316-001-02

Sample #: 120404012-055 **Customer Sample #:** DP-85 (8.5-9.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-056 **Customer Sample #:** DP-85 (12-13)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-057 **Customer Sample #:** DP-85 (18-18.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-058 **Customer Sample #:** DP-86 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY
Comment: 16316-001-02

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Sample #: 120404012-059 **Customer Sample #:** DP-86 (4-4.3)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-060 **Customer Sample #:** DP-86 (8-9)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-061 **Customer Sample #:** DP-86 (13-14)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-062 **Customer Sample #:** DP-87 (0-0.3)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Comment: 16316-001-02

Sample #: 120404012-063 **Customer Sample #:** DP-87 (5-5.75)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-064 **Customer Sample #:** DP-87 (8-9)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-065 **Customer Sample #:** DP-87 (12.7-13.2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-066 **Customer Sample #:** DP-87 (13.2-13.6)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY
Comment: 16316-001-02

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Sample #: 120404012-067 **Customer Sample #:** DP-87 (16-17)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-068 **Customer Sample #:** DP-88 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-069 **Customer Sample #:** DP-88 (4-4.6)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-070 **Customer Sample #:** DP-89 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Comment: 16316-001-02

Sample #: 120404012-071 **Customer Sample #:** DP-89 (4-5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-072 **Customer Sample #:** DP-89 (5-5.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-073 **Customer Sample #:** DP-89 (8.5-9)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-074 **Customer Sample #:** DP-89 (10-11)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY
Comment: 16316-001-02

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Sample #: 120404012-075 **Customer Sample #:** DP-89 (12-13)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-076 **Customer Sample #:** DP-90 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-077 **Customer Sample #:** DP-90 (4-5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-078 **Customer Sample #:** DP-90 (6-6.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY
Comment: 16316-001-02

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Sample #: 120404012-079 **Customer Sample #:** DP-90 (8-9)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-080 **Customer Sample #:** DP-90 (9-10)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-081 **Customer Sample #:** DP-91 (1-2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-082 **Customer Sample #:** DP-91 (5-6)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120404012
Order Date: 4/4/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Comment: 16316-001-02

Sample #: 120404012-083 **Customer Sample #:** DP-91 (8-8.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/16/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120404012-084 **Customer Sample #:** DP-91 (9-10)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/3/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/4/2012 11:20:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/16/2012	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	3.6
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	ICE
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek 20404 012 GEOE Last Due 4/16/2012
1st SAMP 4/2/2012 1st RCVD 4/4/2012
HOLCIM INC/E EMPIRE WAY - GW MONITORING

http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal __Next Day* __2nd Day* __Other*____ *All rush order requests must be prior approved. __Phone __Mail __Fax X Email

Company Name: GEO ENGINEERS, INC	Project Manager: JOHN HANEY
Address: 523 E. 2ND AVE	Project Name & #: 160316-001-02 HOLCIM INC/E EMPIRE WAY - GW MONITORING
City: SPOKANE State: WA Zip: 99202	Email Address: JHANEY@GEOENGINEERS.COM +LENEDAL
Phone: 509-363-3125	Purchase Order #: 160316-001-02
Fax: 509-363-3126	Sampler Name & phone: KATIE HALL 509-363-3125

Provide Sample Description | **List Analyses Requested** | **Note Special Instructions/Comments**

* AS, Cd, Pb

SVBS

all sp

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative	METALS * EPA 6010/6020	pH EPA 150.1
1	DP-73 (17-18)	4/2/12 0903	SOIL	1	4oz		X	X
2	DP-73 (0.5-1.5)	0832						
3	DP-73 (5.5-6.5)	0842						
4	DP-73 (8.5-9.5)	0849						
5	DP-73 (12.5-13.5)	0857						
6	DP-74 (0-1)	0916						
7	DP-74 (4-5)	0936						
8	DP-75 (0-1)	0957						
9	DP-75 (5.5-6.5)	1032						
10	DP-75 (10-11)	1051					X	X
11	DP-76 (1-2)	1110						
12	DP-76 (5-6)	1122						
13	DP-76 (6-7)	1125		↓	↓		X	X

	Printed Name	Signature	Company	Date	Time
Relinquished by	KATIE HALL	Katie Hall	GEI	4/4/12	1120
Received by	K Slatt	K Slatt	Anatek	4/4	1120
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact? (Y) N
Labels & Chains Agree? (Y) N
Containers Sealed? Y N
VOC Head Space? Y N
hard / Cooler
Temperature (°C): 3.6°
Preservative: ice
Date & Time: 4-4-12
Inspected By: KB

pg 1 of 2

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-# 20404 012 GEOE Last Due 4/16/2012
1st SAMP 4/2/2012 1st RCVD 4/4/2012

HOLCIM INC/E EMPIRE WAY - GW MONITORING

http://www.anateklabs.com/services/guidelines/reporting.asp

Company Name: GEDEN GWEEKS, INC.	Project Manager: JOHN HANEY	X Normal	*All rush order requests must be prior approved.	Phone
Address: 523 E. 2ND AVE	Project Name & #: 16316-001-02 HOLCIM INC/E EMPIRE WAY-GW MONITORING + REMEDIAL	__Next Day*		__Mail
City: SPOKANE State: WA Zip: 99202	Email Address: JHANEY@GEDENGINEERS.COM	__2nd Day*		__Fax
Phone: 509-363-3125	Purchase Order #: 16316-001-02	__Other*____		X Email
Fax: 509-363-3126	Sampler Name & phone: KATIE HALL 509-363-3125			

Provide Sample Description / **List Analyses Requested** / **Note Special Instructions/Comments**

* AS, Cd, Pb

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:	METALS* EPA 6010/7000	pH EPA 150.1
14	DP-76(9.5-10)	4/2/12 1137	SOIL	1	4oz			
15	DP-76(14-15)	1144						
16	DP-77(0.5-1.25)	1159						
17	DP-77(4.5-5.5)	1210					X	X
18	DP-77(10-11)	1235						
19	DP-77(15-16)	1251						
20	DP-78(0-0.5)	1330						
21	DP-78(4-5)	1335						
22	DP-78(8-9)	1340						
23	DP-78(12.5-13.5)	1350					X	X
24	DP-79(1.5-2.5)	1405						
25	DP-79(5-6)	1410					X	X
26	DP-79(10-11)	1428						

	Printed Name	Signature	Company	Date	Time
Relinquished by	KATIE HALL	Katie Hall	GEI	4/4/12	1120
Received by	K Rutt	K Rutt	Anatek	4/4/12	1120
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

see page 1

Temperature (°C): _____
Preservative: _____
Date & Time: _____
Inspected By: _____

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

120404 012 **GEOE** Last Due 4/16/2012
1st SAMP 4/2/2012 1st RCVD 4/4/2012
HOLCIM INC/E EMPIRE WAY - GW
MONITORING

Company Name: GEOENGINEERS, INC	Project Manager: JOHN HANEY
Address:	Project Name & #: 16316-001-02 HOLCIM INC/E EMPIRE WY GW MONITORING + REMEDIAL
City: State: Zip:	Email Address: JHANEY@GEOENGINEERS.COM
Phone:	Purchase Order #: 16316-001-02
Fax:	Sampler Name & phone: KATIE HALL 509-363-3125

Please refer to our normal turn around times at http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal __Next Day* __2nd Day* __Other*_____ *All rush order requests must be prior approved. __Phone __Mail __Fax Y Email

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative	METALS* EPA 6010/6020	pH EPA 150.1							
27	DP-80(1-2)	4/2/12 1435	SOIL	1	4oz										
28	DP-80(4-5)	1440													
29	DP-80(9-10)	1450					X	X							
30	DP-80(13-14)	1455													
31	DP-81(0.5-1.5)	1512													
32	DP-81(4-5)	1520													
33	DP-81(8-9)	1527					X	X							
34	DP-81(13-14)	1535					X	X							
35	DP-82(0.5-1.4)	4/3/12 0820													
36	DP-82(5-6)	0835													
37	DP-82(8.5-9.5)	0846													
38	DP-82(10-10.3)	0850					X	X							
39	DP-82(14-14.5)	0855					X	X							

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

* As, Cd, Pb

PS 3/7

	Printed Name	Signature	Company	Date	Time
Relinquished by	KATIE HALL		GEO	4/4/12	1120
Received by			Anatek	4/4	1120
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

See page 1

Temperature (°C): _____
Preservative: _____
Date & Time: _____
Inspected By: _____

4/7

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

120404 012 GEOE Last Due 4/16/2012
st SAMP 4/2/2012 1st RCVD 4/4/2012
HOLCIM INC/E EMPIRE WAY - GW
MONITORING

Company Name: GEO ENGINEERS, INC	Project Manager: JOHN HANEY
Address:	Project Name & #: HOLCIM INC/ EENPIRE WAY GW MONITORING + REMEDIAL 16316-001-02
City: State: Zip:	Email Address: JHANEY@GEOENGINEERS.COM
Phone:	Purchase Order #: 16316-001-02
Fax:	Sampler Name & phone: KATIE HALL 509-363-3125

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__ Next Day*
__ 2nd Day*
__ Other*____

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
X Email

Provide Sample Description

List Analyses Requested

Preservative

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	METALS + EPA 6010/6020	pH EPA 150.1								
40	DP-82(14.5-15)	4/3/12 0905	SOIL	1	4oz										
41	DP-83(1-2)	0920													
42	DP-83(5-5.8)	0932													
43	DP-83(6-7)	0936													
44	DP-83(8-9)	0942													
45	DP-83(10-10.5)	0950				X	X								
46	DP-83(13-14)	1020													
47	DP-83(15-15.4)	1046													
48	DP-84(0-1)	1042													
49	DP-84(4-4.5)	1107													
50	DP-84(5.5-6)	1115				X	X								
51	DP-84(9-10)	1122													
52	DP-84(11-12)	1126													

Note Special Instructions/Comments

* As, Cd, Pb

pg 4/7

	Printed Name	Signature	Company	Date	Time
Relinquished by	KATIE HALL		GEO	4/4/12	1120
Received by			Anatek	4/4	1120
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

See page 1

Temperature (°C): _____
Preservative: _____
Date & Time: _____
Inspected By: _____

5/7

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Labs Project ID: 20404 012 GEOE Last Due 4/16/2012
1st SAMP 4/2/2012 1st RCVD 4/4/2012
HOLCIM INC/E EMPIRE WAY - GW MONITORING

http://www.anateklabs.com/services/guidelines...

Company Name: GEOENGINEERS, INC.	Project Manager: JOHN HANEY	
Address:	Project Name & #: HOLCIM INC / E EMPIRE WAY GW MONITORING & REMEDIAL 16316001-02	
City: State: Zip:	Email Address: JHANEY@GEOENGINEERS.COM	
Phone:	Purchase Order #: 16316-001-02	
Fax:	Sampler Name & phone: KATIE HALL 509-363-3125	

X Normal / __Next Day* / __2nd Day* / __Other*_____ — *All rush order requests must be prior approved. — __Phone / __Mail / __Fax / X Email

Provide Sample Description / List Analyses Requested

Preservative:

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	METALS EPA 6010/6020	pH EPA 150.1
53	DP-85(1-2)	4/3/12 1220	SOIL	1	4oz		
54	DP-85(4-4.5)	1230				X	X
55	DP-85(8.5-9.5)	1235					
56	DP-85(12-13)	1240					
57	DP-85(18-18.5)	1246				X	X
58	DP-86(0-1)	1149					
59	DP-86(4-4.3)	1152					
60	DP-86(8-9)	1158					
61	DP-86(13-14)	1204				X	X
62	DP-87(0-0.3)	1306					
63	DP-87(5-5.75)	1316					
64	DP-87(8-9)	1322					
65	DP-87(12.7-13.2)	1332					

Note Special Instructions/Comments

*As, Cd, Pb

pg 5/7

	Printed Name	Signature	Company	Date	Time
Relinquished by	KATIE HALL		GEI	4/4/12	1120
Received by			Anatek	4/4	1120
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

	Y	N
Received Intact?		
Labels & Chains Agree?		
Containers Sealed?		
VOC Head Space?		

see page 1

Temperature (°C): _____
Preservative: _____
Date & Time: _____
Inspected By: _____

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

120404 012 GEOE Last Due 4/16/2012
1st SAMP 4/2/2012 1st RCVD 4/4/2012
HOLCIM INC/E EMPIRE WAY - GW
MONITORING

Company Name: GEO ENGINEERS, INC	Project Manager: JOHN HANEY
Address:	Project Name & #: HOLCIM INC/E EMPIRE WAY GW MONITORING + REMEDIAL 16316-001-02
City: State: Zip:	Email Address: JHANEY@GEOENGINEERS.COM
Phone:	Purchase Order #: 16316-001-02
Fax:	Sampler Name & phone: KATIE HALL 509-363-3125

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__ Next Day*
__ 2nd Day*
__ Other*____

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
X Email

Provide Sample Description

List Analyses Requested

Preservative:

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	METALS*	pH	
66	DP-87 (13.2-13.6)	4/3/12 1334	SOIL	1	40z	X	X	
67	DP-87 (16-17)	1340						
68	DP-88 (0-1)	1353						
69	DP-88 (4-4.6)	1416						
70	DP-89 (0-1)	1428						
71	DP-89 (4-5)	1433						
72	DP-89 (5-5.5)	1435						
73	DP-89 (8.5-9)	1448				X	X	
74	DP-89 (10-11)	1452						
75	DP-89 (12-13)	1456						
76	DP-90 (0-1)	1508						
77	DP-90 (4-5)	1516						
78	DP-90 (6-6.5)	1520						

Note Special Instructions/Comments

* As, Cd, Pb

pg 6/7

	Printed Name	Signature	Company	Date	Time
Relinquished by	KATIE HALL		GEO	4/4/12	1120
Received by			Anatek	4/4	1120
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

see page 1

Temperature (°C): _____
Preservative: _____
Date & Time: _____
Inspected By: _____

7/7

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

20404 012 GEOE Last Due 4/16/2012
1st SAMP 4/2/2012 1st RCVD 4/4/2012
HOLCIM INC/E EMPIRE WAY - GW MONITORING

Company Name: GEOENGINEERS, INC	Project Manager: JOHN HANEY
Address:	Project Name & #: HOLCIM INC / E EMPIRE WAY GW MONITORING + REMEDIAL 16316-001-02
City: State: Zip:	Email Address: JHANEY@GEOENGINEERS.COM
Phone:	Purchase Order #: 16316-001-02
Fax:	Sampler Name & phone: KATIE HALL 509-363-3125

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*______

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
X Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time		Matrix	# of Containers	Sample Volume	METALS* EPA 6010/6020	pH EPA 9045							
79	DP-90(8-9)	4/3/12	1526	SOIL	1	4oz									
80	DP-90(9-10)	↓	1532	↓	↓	↓	X	X							
81	DP-91(1-2)	↓	1613	↓	↓	↓									
82	DP-91(5-6)	↓	1603	↓	↓	↓									
83	DP-91(8-8.5)	↓	1635	↓	↓	↓	X	X							
84	DP-91(9-10)	↓	1637	↓	↓	↓									

Preservative:

Note Special Instructions/Comments

*As, Cd, Pb

pg 7/7

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

See page 1

Temperature (°C): ________
Preservative: ________
Date & Time: ________
Inspected By: ________

	Printed Name	Signature	Company	Date	Time
Relinquished by	KATIE HALL	Katie Hall	GEI	4/4/12	1120
Received by	K Scott	K Scott	Anatek	4/4	1120
Relinquished by					
Received by					
Relinquished by					
Received by					

Anatek Labs, Inc.

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120404012
Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Analytical Results Report

Sample Number	120404012-040	**Sampling Date**	4/3/2012	**Date/Time Received**	4/4/2012	11:20 AM	
Client Sample ID	DP-82 (14.5-15)	**Sampling Time**	9:05 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cadmium	ND	mg/Kg	1.05	5/1/2012	KEA	EPA 6020A	
%moisture	6.1	Percent		4/30/2012	KEA	%moisture	

Sample Number	120404012-051	**Sampling Date**	4/3/2012	**Date/Time Received**	4/4/2012	11:20 AM	
Client Sample ID	DP-84 (9-10)	**Sampling Time**	11:22 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	6.47	mg/Kg	1.09	5/1/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.09	5/1/2012	KEA	EPA 6020A	
Lead	11.0	mg/Kg	1.09	5/1/2012	KEA	EPA 6020A	
%moisture	10.9	Percent		4/30/2012	KEA	%moisture	

Authorized Signature

Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120404012
Project Name: HOLCIM INC/E EMPIRE WAY - GW MONITORING

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Lead	0.0479	mg/kg	0.05	95.8	80-120	4/20/2012	5/1/2012
Cadmium	0.0491	mg/kg	0.05	98.2	80-120	4/20/2012	5/1/2012
Arsenic	0.0472	mg/kg	0.05	94.4	80-120	4/20/2012	5/1/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120406051-058A	Lead	407	427	mg/kg	24.1	83.0	75-125	4/20/2012	5/1/2012
120406051-058A	Cadmium	ND	20.9	mg/kg	24.1	86.7	75-125	4/20/2012	5/1/2012
120406051-058A	Arsenic	50.8	69.4	mg/kg	24.1	77.2	75-125	4/20/2012	5/1/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Lead	429	mg/kg	24.1	91.3	0.5	0-20	4/20/2012	5/1/2012
Cadmium	18.4	mg/kg	24.1	76.3	12.7	0-20	4/20/2012	5/1/2012
Arsenic	69.0	mg/kg	24.1	75.5	0.6	0-20	4/20/2012	5/1/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/Kg	0.001	4/20/2012	5/1/2012
Cadmium	ND	mg/Kg	0.001	4/20/2012	5/1/2012
Lead	ND	mg/Kg	0.001	4/20/2012	5/1/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments: 16316-001-02

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120420057
Project Name: HOLCIM R1 16316-001-02

Analytical Results Report

Sample Number	120420057-001	**Sampling Date**	4/20/2012	**Date/Time Received**	4/20/2012	12:00 AM	
Client Sample ID	DP-93 (9.5-10.2)	**Sampling Time**	9:30 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	17.0	mg/Kg	1.19	5/1/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.19	5/1/2012	KEA	EPA 6020A	
Lead	105	mg/Kg	1.19	5/1/2012	KEA	EPA 6020A	
pH	10.19	ph Units		4/23/2012	APM	EPA 9045	
%moisture	15	Percent		4/21/2012	APM	%moisture	

Sample Number	120420057-002	**Sampling Date**	4/20/2012	**Date/Time Received**	4/20/2012	12:00 AM	
Client Sample ID	DP-93 (13-13.7)	**Sampling Time**	9:38 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cadmium	ND	mg/Kg	1.03	5/1/2012	KEA	EPA 6020A	
pH	10.33	ph Units		4/23/2012	APM	EPA 9045	
%moisture	6.7	Percent		4/21/2012	APM	%moisture	

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120420057
Project Name: HOLCIM R1 16316-001-02

Analytical Results Report

Sample Number	120420057-003	**Sampling Date**	4/20/2012	**Date/Time Received**	4/20/2012	12:00 AM	
Client Sample ID	DP-96 (4.5-5)	**Sampling Time**	10:44 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	10.4	mg/Kg	1.16	5/1/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.16	5/1/2012	KEA	EPA 6020A	
Lead	79.3	mg/Kg	1.16	5/1/2012	KEA	EPA 6020A	
pH	8.77	ph Units		4/23/2012	APM	EPA 9045	
%moisture	19.2	Percent		4/21/2012	APM	%moisture	

Sample Number	120420057-004	**Sampling Date**	4/20/2012	**Date/Time Received**	4/20/2012	12:00 AM	
Client Sample ID	DP-96 (5-5.8)	**Sampling Time**	10:54 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	6.02	mg/Kg	1.14	5/1/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.14	5/1/2012	KEA	EPA 6020A	
Lead	38.4	mg/Kg	1.14	5/1/2012	KEA	EPA 6020A	
pH	9.18	ph Units		4/23/2012	APM	EPA 9045	
%moisture	11.7	Percent		4/21/2012	APM	%moisture	

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120420057
Project Name: HOLCIM R1 16316-001-02

Analytical Results Report

Sample Number	120420057-005	**Sampling Date**	4/20/2012	**Date/Time Received**	4/20/2012	12:00 AM	
Client Sample ID	DP-97 (4-5.5)	**Sampling Time**	11:13 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	12.6	mg/Kg	1.12	5/1/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	1.12	5/1/2012	KEA	EPA 6020A	
Lead	76.4	mg/Kg	1.12	5/1/2012	KEA	EPA 6020A	
pH	9.13	ph Units		4/23/2012	APM	EPA 9045	
%moisture	10.2	Percent		4/21/2012	APM	%moisture	

Sample Number	120420057-006	**Sampling Date**	4/20/2012	**Date/Time Received**	4/20/2012	12:00 AM	
Client Sample ID	DP-98 (5-5.8)	**Sampling Time**	11:34 AM	**Extraction Date**			
Matrix	Soil	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	7.40	mg/Kg	1.95	5/1/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.974	5/1/2012	KEA	EPA 6020A	
Lead	12.8	mg/Kg	0.974	5/1/2012	KEA	EPA 6020A	
pH	9.17	ph Units		4/23/2012	APM	EPA 9045	
%moisture	5.8	Percent		4/21/2012	APM	%moisture	

Authorized Signature Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120420057
Project Name: HOLCIM R1 16316-001-02

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Lead	0.0479	mg/kg	0.05	95.8	80-120	4/20/2012	5/1/2012
Cadmium	0.0491	mg/kg	0.05	98.2	80-120	4/20/2012	5/1/2012
Arsenic	0.0472	mg/kg	0.05	94.4	80-120	4/20/2012	5/1/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120406051-058A	Lead	407	427	mg/kg	24.1	83.0	75-125	4/20/2012	5/1/2012
120406051-058A	Cadmium	ND	20.9	mg/kg	24.1	86.7	75-125	4/20/2012	5/1/2012
120406051-058A	Arsenic	50.8	69.4	mg/kg	24.1	77.2	75-125	4/20/2012	5/1/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Lead	429	mg/kg	24.1	91.3	0.5	0-20	4/20/2012	5/1/2012
Cadmium	18.4	mg/kg	24.1	76.3	12.7	0-20	4/20/2012	5/1/2012
Arsenic	69.0	mg/kg	24.1	75.5	0.6	0-20	4/20/2012	5/1/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/Kg	0.001	4/20/2012	5/1/2012
Cadmium	ND	mg/Kg	0.001	4/20/2012	5/1/2012
Lead	ND	mg/Kg	0.001	4/20/2012	5/1/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

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Login Report

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120420057
Order Date: 4/20/2012

Contact Name: JOHN HANEY
Project Name: HOLCIM R1 16316-001-02
Comment:

Sample #: 120420057-001 **Customer Sample #:** DP-93 (9.5-10.2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/30/2012	***Normal (6-10 Days)***

Sample #: 120420057-002 **Customer Sample #:** DP-93 (13-13.7)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/20/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/30/2012	***Normal (6-10 Days)***

Sample #: 120420057-003 **Customer Sample #:** DP-96 (4.5-5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120420057
Order Date: 4/20/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM R1 16316-001-02

Comment:

CADMIUM	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/30/2012	***Normal (6-10 Days)***

Sample #: 120420057-004 **Customer Sample #:** DP-96 (5-5.8)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/30/2012	***Normal (6-10 Days)***

Sample #: 120420057-005 **Customer Sample #:** DP-97 (4-5.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/30/2012	***Normal (6-10 Days)***

Sample #: 120420057-006 **Customer Sample #:** DP-98 (5-5.8)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/20/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/30/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120420057
Order Date: 4/20/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM R1 16316-001-02

Comment:

pH 1:5		S	EPA 9045	4/30/2012	***Normal (6-10 Days)***

Sample #: 120420057-007 **Customer Sample #:** DP-92 (0-0.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-008 **Customer Sample #:** DP-92 (5.5-6.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-009 **Customer Sample #:** DP-92 (6.5-7)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-010 **Customer Sample #:** DP-92 (8-8.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120420057
Order Date: 4/20/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM R1 16316-001-02

Comment:

Sample #: 120420057-011 **Customer Sample #:** DP-92 (9-9.6)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-012 **Customer Sample #:** DP-93 (0-0.3)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-013 **Customer Sample #:** DP-93 (4-4.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-014 **Customer Sample #:** DP-93 (5-5.3)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120420057
Order Date: 4/20/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM R1 16316-001-02

Comment:

Sample #: 120420057-015 **Customer Sample #:** DP-93 (8-8.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-016 **Customer Sample #:** DP-93 (12-12.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-017 **Customer Sample #:** DP-94 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-018 **Customer Sample #:** DP-95 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120420057
Order Date: 4/20/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM R1 16316-001-02

Comment:

Sample #: 120420057-019 **Customer Sample #:** DP-95 (4-5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-020 **Customer Sample #:** DP-95 (5.5-6)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-021 **Customer Sample #:** DP-96 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-022 **Customer Sample #:** DP-96 (2-2.3)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120420057
Order Date: 4/20/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM R1 16316-001-02

Comment:

Sample #: 120420057-023 **Customer Sample #:** DP-97 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-024 **Customer Sample #:** DP-97 (1-2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-025 **Customer Sample #:** DP-98 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Sample #: 120420057-026 **Customer Sample #:** DP-98 (1.5-2.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/20/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/20/2012
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	4/20/2012	***Normal (6-10 Days)***

Customer Name:	GEO ENGINEERS			**Order ID:**	120420057
	523 E 2ND			**Order Date:**	4/20/2012
	SPOKANE	WA	99202		
Contact Name:	JOHN HANEY			**Project Name:**	HOLCIM R1 16316-001-02
Comment:					

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	7.0
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

1204.20 057 GEOE Last Due 4/30/2012

AnMP Lo 4/20/2012 1st RCVD 4/20/2012

CIM R1 16316-001-02

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246

504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Company Name: GEO ENGINEERS INC.

Address: 523 E 2ND AVE

City: SPOKANE State: WA Zip: 99202

Phone: 509-363-3125

Fax: 509-363-3126

Project Manager: JOHN HANEY

Project Name & #: HOLCIM W/ E EMPIRE WAY GW MONITORING REMEDIAL 16316-001-02

Email Address: JHANEY@GEOENGINEERS.COM

Purchase Order #: 16316-001-02

Sampler Name & phone: KATIE HALL 509-768-3579

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
X Email

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

* As, Cd, Pb

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:	Metals * EPA 6010/6020	pH EPA 150.1	Cadmium EPA 6010/6020
	DP-93(9.5-10.2)	4/20/12 0930	SOIL	1	4oz		X	X	
	DP-93(13-13.7)	0938						X	X
	DP-96(4.5-5)	1044					X	X	
	DP-96(5-5.8)	1054					X	X	
	DP-97(4-5.5)	1113					X	X	
	DP-98(5-5.8)	1134					X	X	
	DP-92(0-0.5)	0842							
	DP-92(5.5-6.5)	0859							
	DP-92(6.5-7)	0905							
	DP-92(8-8.5)	0907							
	DP-92(9-9.6)	0908							
	DP-93(0-0.3)	0916							
	DP-93(4-4.5)	0919							

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	(N)

Temperature (°C): 7.0°C

Preservative: None, Cooler, Head

Date & Time: 4-20-12 1555

Inspected By: AM

	Printed Name	Signature	Company	Date	Time
Relinquished by	KATIE HALL		GEI	4/20/12	1555
Received by	Andrew Meder		Anatek	4-2012	1555
Relinquished by					
Received by					
Relinquished by					
Received by					

1204 20 057 GEOE Last Due 4/30/2012

MP 4/20/2012 1st RCVD 4/20/2012

IM R1 16316-001-02

2/3

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246

504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Company Name: GEOENGINEERS INC	Project Manager: JOHN HANEY
Address:	Project Name & # : HOLCIM R1 16316-001-02
City: State: Zip:	Email Address : JHANEY@GEOENGINEERS.COM
Phone:	Purchase Order #: 16316-001-02
Fax:	Sampler Name & phone: KATIE HALL 509-768-3579

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

- X Normal
- __ Next Day*
- __ 2nd Day*
- X Other* ____

*All rush order requests must be prior approved.

- __ Phone
- __ Mail
- __ Fax
- Y Email

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative
	DP-93(5-5.3)	4/20/12 0921	SOIL	1	4oz	
	DP-93(8-8.5)	0928				
	~~DP-93(9.5-10.2)~~	~~0930~~				
	~~DP-93(13-13.7)~~	~~0936~~				
	DP-93(12-12.5)	0934				
	DP-94(0-1)	0945				
	DP-95(0-1)	1001				
	DP-95(4-5)	1022				
	DP-95(5.5-6)	1024				
	DP-96(0-1)	1036				
	DP-96(2-2.3)	1040				
	DP-97(0-1)	1100				
	DP-97(1-2)	1102				

	Printed Name	Signature	Company	Date	Time
Relinquished by	KATIE HALL		GET	4/20/12	1555
Received by	Andrew Mendez		Anatek	4-20-12	1555
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y tm	N

Temperature (°C): 7.0°C

Preservative: None, Cooler, Head

Date & Time: 4-20-12 1555

Inspected By: tm

1204 20 057 GEOE Last Due 4/30/2012

An MP 4/20/2012 1st RCVD 4/20/2012

Lot IM R1 16316-001-02

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246

504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Company Name: GeoEngineers WA	Project Manager: John Haney
Address:	Project Name & #: Hacch 4 16316-001-02
City: State: Zip:	Email Address: JHaney@GeoEngineers.com
Phone:	Purchase Order #: 16316-001-02
Fax:	Sampler Name & phone: Katie Hall 509-768-3579

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
X Email

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:
	DP-98 (0-1)	4/20/12 1126	Soil	1	4oz	
	DP-98 (1.5-2.5)	1128				

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Temperature (°C): 7.0°C

Preservative: None, Cooler, Ice

Date & Time: 4-20-12 1555

Inspected By: AM

	Printed Name	Signature	Company	Date	Time
Relinquished by	Katie Hall		GEI	4/20/12	1555
Received by	Andrew Mendez		Anatek	4-20-12	1555
Relinquished by					
Received by					
Relinquished by					
Received by					

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120406027
Project Name: HOLCIM INC / E EMPIRE WAY GW MONITORING & REMEDIAL

Analytical Results Report

Sample Number	120406027-001	**Sampling Date**	4/5/2012	**Date/Time Received**	4/6/2012	10:05 AM
Client Sample ID	HA-16 (0-1)	**Sampling Time**	2:18 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	3.02	mg/kg	0.726	4/13/2012	KEA	EPA 6020A	
Cadmium	0.748	mg/Kg	0.726	4/13/2012	KEA	EPA 6020A	
Lead	15.8	mg/Kg	0.726	4/13/2012	KEA	EPA 6020A	
pH	5.07	ph Units		4/10/2012	APM	EPA 9045	
%moisture	35	Percent		4/10/2012	APM	%moisture	

Sample Number	120406027-002	**Sampling Date**	4/5/2012	**Date/Time Received**	4/6/2012	10:05 AM
Client Sample ID	HA-17 (0-2)	**Sampling Time**	2:39 PM	**Extraction Date**		
Matrix	Soil	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	2.13	mg/Kg	0.594	4/13/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.594	4/13/2012	KEA	EPA 6020A	
Lead	9.66	mg/Kg	0.594	4/13/2012	KEA	EPA 6020A	
pH	4.98	ph Units		4/10/2012	APM	EPA 9045	
%moisture	18	Percent		4/10/2012	APM	%moisture	

Authorized Signature Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

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Login Report

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120406027
Order Date: 4/6/2012

Contact Name: JOHN HANEY
Comment:

Project Name: HOLCIM INC / E EMPIRE WAY GW MONITORING &

Sample #: 120406027-001 **Customer Sample #:** HA-16 (0-1)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/5/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/6/2012 10:05:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/18/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Sample #: 120406027-002 **Customer Sample #:** HA-17 (0-2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 4/5/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 4/6/2012 10:05:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	4/18/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	4/16/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	4/16/2012	***Normal (6-10 Days)***

Customer Name:	GEO ENGINEERS			**Order ID:**	120406027
	523 E 2ND			**Order Date:**	4/6/2012
	SPOKANE	WA	99202		
Contact Name:	JOHN HANEY			**Project Name:**	HOLCIM INC / E EMPIRE WAY GW MONITORING &
Comment:					

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	3.3
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	ICE
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999, FAX 838-4433

20406 027 GEOE Last Due 4/18/2012
st SAMP 4/5/2012 1st RCVD 4/6/2012
OLCIM INC / E EMPIRE WAY GW

Company Name: GEOENGINEERS, INC	Project Manager: JOHN HANEY
Address: 523 E 2ND AVE	Project Name & #: HOLCIM INC/E EMPIRE WAY GW MONITORING + REMEDIAL 16316-001-02
City: SPOKANE State: WA Zip: 99202	Email Address: JHANEY@GEOENGINEERS.COM
Phone: 509-363-3125	Purchase Order #: 16316-001-02
Fax: 509-363-3126	Sampler Name & phone: KATIE HALL 509-768-3579

http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
_ Next Day*
_ 2nd Day*
_ Other* ____

*All rush order requests must be prior approved.

_ Phone
_ Mail
_ Fax
X Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	METALS * EPA 6010/6020	pH EPA 150.1							
	HA-1 (0-1)	4/5/12 1418	SOIL	1	4oz	X	X							
	HA-2 (0-2)	4/5/12 1439	SOIL	1	4oz	X	X							

Note Special Instructions/Comments

* As, Cd, Pb

SIMBS

HA-16
HA-17 all sp

Sample names changed per John Haney

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

hand del / Cooler

Temperature (°C): 3.3°

Preservative: ice

Date & Time: 4-6-12

Inspected By: KRS

	Printed Name	Signature	Company	Date	Time
Relinquished by	KATIE HALL	Katie Hall	GEI	4/6/12	1005
Received by	K Scott	K Scott	Anatek	4/6	1005
Relinquished by					
Received by					
Relinquished by					
Received by					

Anatek Labs, Inc.

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120727048
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number 120727048-004 **Sampling Date** 7/25/2012 **Date/Time Received** 7/26/2012 1:45 PM
Client Sample ID MW-9 (5) **Sampling Time** 9:30 AM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	50.0	mg/Kg	0.819	8/9/2012	KEA	EPA 6020A	
Cadmium	4.13	mg/Kg	0.819	8/9/2012	KEA	EPA 6020A	
Lead	390	mg/Kg	0.819	8/9/2012	KEA	EPA 6020A	
pH	11.73	ph Units		8/1/2012	APM	EPA 9045	
%moisture	41.4	Percent		7/31/2012	APM	%moisture	

Sample Number 120727048-005 **Sampling Date** 7/25/2012 **Date/Time Received** 7/26/2012 1:45 PM
Client Sample ID MW-9 (15) **Sampling Time** 9:55 AM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	7.98	mg/Kg	0.523	8/9/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.523	8/9/2012	KEA	EPA 6020A	
Lead	17.0	mg/Kg	0.523	8/9/2012	KEA	EPA 6020A	
pH	9.65	ph Units		8/1/2012	APM	EPA 9045	
%moisture	9.2	Percent		7/31/2012	APM	%moisture	

Sample Number 120727048-008 **Sampling Date** 7/25/2012 **Date/Time Received** 7/26/2012 1:45 PM
Client Sample ID MW-10 (5) **Sampling Time** 1:33 PM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	66.2	mg/Kg	0.645	8/9/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.645	8/9/2012	KEA	EPA 6020A	
Lead	56.0	mg/Kg	0.645	8/9/2012	KEA	EPA 6020A	
pH	7.88	ph Units		8/1/2012	APM	EPA 9045	
%moisture	23.3	Percent		7/31/2012	APM	%moisture	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120727048
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Sample Number	120727048-013	**Sampling Date**	7/25/2012	**Date/Time Received**	7/26/2012 1:45 PM
Client Sample ID	MW-10 (30)	**Sampling Time**	3:00 PM	**Extraction Date**	
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	11.1	mg/Kg	0.526	8/9/2012	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.526	8/9/2012	KEA	EPA 6020A	
Lead	6.99	mg/Kg	0.526	8/9/2012	KEA	EPA 6020A	
pH	9.11	ph Units		8/1/2012	APM	EPA 9045	
%moisture	7	Percent		7/31/2012	APM	%moisture	

Authorized Signature

Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 120727048
Project Name: HOLCIM 16316-001-02

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Lead	0.0479	mg/kg	0.05	95.8	80-120	8/3/2012	8/9/2012
Cadmium	0.0494	mg/kg	0.05	98.8	80-120	8/3/2012	8/9/2012
Arsenic	0.0505	mg/kg	0.05	101.0	80-120	8/3/2012	8/9/2012

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
120727015-001	Lead	13.8	43.8	mg/kg	33.1	90.6	75-125	8/3/2012	8/9/2012
120727015-001	Cadmium	ND	34.9	mg/kg	33.1	105.4	75-125	8/3/2012	8/9/2012
120727015-001	Arsenic	2.65	38.9	mg/kg	33.1	109.5	75-125	8/3/2012	8/9/2012

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Lead	43.5	mg/kg	33.1	89.7	0.7	0-20	8/3/2012	8/9/2012
Cadmium	34.4	mg/kg	33.1	103.9	1.4	0-20	8/3/2012	8/9/2012
Arsenic	38.2	mg/kg	33.1	107.4	1.8	0-20	8/3/2012	8/9/2012

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/Kg	0.001	8/3/2012	8/9/2012
Cadmium	ND	mg/Kg	0.001	8/3/2012	8/9/2012
Lead	ND	mg/Kg	0.001	8/3/2012	8/9/2012

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Anatek Labs, Inc.

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Login Report

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120727048
Order Date: 7/27/2012

Contact Name: JOHN HANEY
Project Name: HOLCIM 16316-001-02

Comment:

Sample #: 120727048-001 **Customer Sample #:** B-1 (10)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/25/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	8/7/2012	***Normal (6-10 Days)***

Sample #: 120727048-002 **Customer Sample #:** B-1 (15)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/25/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	8/7/2012	***Normal (6-10 Days)***

Sample #: 120727048-003 **Customer Sample #:** B-1 (20)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/25/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	8/7/2012	***Normal (6-10 Days)***

Sample #: 120727048-004 **Customer Sample #:** MW-9 (5)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/25/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	8/7/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	8/7/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	8/7/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	8/7/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	8/7/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120727048
Order Date: 7/27/2012

Contact Name: JOHN HANEY
Project Name: HOLCIM 16316-001-02

Comment:

Sample #: 120727048-005 **Customer Sample #:** MW-9 (15)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/25/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	7/25/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	8/7/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	8/7/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	8/7/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	8/7/2012	***Normal (6-10 Days)***

Sample #: 120727048-006 **Customer Sample #:** MW-9 (20)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/25/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	8/7/2012	***Normal (6-10 Days)***

Sample #: 120727048-007 **Customer Sample #:** MW-9 (25)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/25/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	8/7/2012	***Normal (6-10 Days)***

Sample #: 120727048-008 **Customer Sample #:** MW-10 (5)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/25/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	8/7/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	8/7/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	8/7/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	8/7/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	8/7/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120727048
Order Date: 7/27/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM 16316-001-02

Comment:

Sample #: 120727048-010 **Customer Sample #:** MW-10 (15)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/25/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	8/7/2012	***Normal (6-10 Days)***

Sample #: 120727048-011 **Customer Sample #:** MW-10 (20)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/25/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	8/7/2012	***Normal (6-10 Days)***

Sample #: 120727048-012 **Customer Sample #:** MW-10 (25)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/25/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	8/7/2012	***Normal (6-10 Days)***

Sample #: 120727048-013 **Customer Sample #:** MW-10 (30)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/25/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	8/7/2012	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	8/7/2012	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	8/7/2012	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	8/7/2012	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	8/7/2012	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 120727048
Order Date: 7/27/2012

Contact Name: JOHN HANEY

Project Name: HOLCIM 16316-001-02

Comment:

Sample #: 120727048-014 **Customer Sample #:** MW-10 (35)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/25/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	8/7/2012	***Normal (6-10 Days)***

Sample #: 120727048-015 **Customer Sample #:** MW-10 (40)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/25/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	8/7/2012	***Normal (6-10 Days)***

Sample #: 120727048-016 **Customer Sample #:** B-2 (15)

Recv'd: ☑ **Collector:** SCOTT LATHEN **Date Collected:** 7/26/2012
Quantity: 1 **Matrix:** Soil **Date Received:** 7/26/2012 1:45:00 P
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	8/7/2012	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	5.4
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	ICE
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

120727 048 GEOE Last Due 8/7/2012
1st SAMP 7/25/2012 1st RCVD 7/26/2012
HOLCIM 16316-001-02

Company Name: GeoEngineers	Project Manager: J. Haney
Address: 523 E 2nd Ave	Project Name & #: Holcim 16316-001-02
City: Spokane State: WA Zip: 99202	Email Address: jhaney@geoengineers.com
Phone: 363-3125	Purchase Order #:
Fax:	Sampler Name & phone: S. Lather 251 5237

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description / **List Analyses Requested**

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	As, Pb, Cd	pH
1	B-1(10)	7/25/12 809	Soil	1	4oz		
2	B-1(15)	819		1	8oz		
3	B-1(20)	830		1	8oz		
4	MW-9(5)	930				X	X
5	MW-9(15)	955				X	X
6	MW-9(20)	1005					
7	MW-9(25)	1017					
~~8~~	~~MW-9C~~						
8	MW-10(5)	1333				X	X
9	MW-10(10)	1340					
10	MW-10(15)	1350					
11	MW-10(20)	1405					
12	MW-10(25)	1420					

Note Special Instructions/Comments

On hold pending call

partial 4oz jar

	Printed Name	Signature	Company	Date	Time
Relinquished by	S. Lather	[signature]	GEI	7/26/12	1345
Received by	Kathy Sattler	Kathy Sattler	Anatek labs	7-26-12	1345
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact? (Y) N
Labels & Chains Agree? (Y) N
Containers Sealed? (Y) N
~~VOC Head Space? Y N~~

Cooler / Ice
Hand delivered
Temperature (°C): 5.4°C
Preservative: None

Date & Time: 7.26.12 / 1345
Inspected By: KAS

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

120727 048 GEOE Last Due 8/7/2012
1st SAMP 7/25/2012 1st RCVD 7/26/2012
HOLCIM 16316-001-02

Company Name: Geo Engineers
Address:
City: State: Zip:
Phone:
Fax:

Project Manager: J Hovey
Project Name & #: Holcim
Email Address:
Purchase Order #:
Sampler Name & phone: S Lathen 252 5237

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

☒ Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
__ Email

Provide Sample Description

List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative: As, Pb, Cd	Preservative: pH
13	MW-10 (30)	7/25/12 1500	Soil	1	8oz	X	X
14	MW-10 (35)	1520		↓	↓		
15	MW-10 (40)	1545		↓	↓		
16	B-2 (15)	7/26/12 830		1	4oz		

Note Special Instructions/Comments

On holding pending call

partial 4oz

	Printed Name	Signature	Company	Date	Time
Relinquished by	S Lathen	S Lathen	GEI	7/26/12	1345
Received by	Kathy Sattler	Kathy Sattler	Anatek labs	7-26-12	1345
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact? (Y) N
Labels & Chains Agree? (Y) N
Containers Sealed? (Y) N
VOC Head Space? Y N

Cooler / Ice
Hand delivered
Temperature (°C): 5.4°C
Preservative: None

Date & Time: 7-26-12 1345
Inspected By: KHS

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 130307012
Project Name: HOLCIM INC / E EMPIRE WAY GW 16316-001-02

Analytical Results Report

Sample Number 130307012-004 **Sampling Date** 2/28/2013 **Date/Time Received** 3/7/2013 10:35 AM
Client Sample ID DP-99 (12) **Sampling Time** 9:15 AM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	4.42	mg/Kg	0.542	3/19/2013 3:28:00 PM	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.542	3/19/2013 3:28:00 PM	KEA	EPA 6020A	
Lead	8.47	mg/Kg	0.542	3/19/2013 3:28:00 PM	KEA	EPA 6020A	
pH	9.43	ph Units		3/14/2013 3:45:00 PM	APM	EPA 9045	
%moisture	10.1	Percent		3/18/2013	KEA	%moisture	

Sample Number 130307012-007 **Sampling Date** 2/28/2013 **Date/Time Received** 3/7/2013 10:35 AM
Client Sample ID DP-100 (4.5) **Sampling Time** 12:11 PM **Extraction Date**
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	6.37	mg/Kg	0.508	3/19/2013 4:38:00 PM	KEA	EPA 6020A	
Cadmium	ND	mg/Kg	0.508	3/19/2013 4:38:00 PM	KEA	EPA 6020A	
Lead	10.1	mg/Kg	0.508	3/19/2013 4:38:00 PM	KEA	EPA 6020A	
pH	8.91	ph Units		3/14/2013 3:45:00 PM	APM	EPA 9045	
%moisture	6.1	Percent		3/18/2013	KEA	%moisture	

Anatek Labs, Inc.

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 130307012
Project Name: HOLCIM INC / E EMPIRE WAY GW 16316-001-02

Analytical Results Report

Sample Number	130307012-010	**Sampling Date**	2/28/2013	**Date/Time Received**	3/7/2013 10:35 AM
Client Sample ID	DP-101 (11.8)	**Sampling Time**	2:10 PM	**Extraction Date**	
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	19.7	mg/Kg	0.795	3/19/2013 4:38:00 PM	KEA	EPA 6020A	
Cadmium	2.00	mg/Kg	0.795	3/19/2013 4:38:00 PM	KEA	EPA 6020A	
Lead	148	mg/Kg	0.795	3/19/2013 4:38:00 PM	KEA	EPA 6020A	
pH	11.57	ph Units		3/14/2013 3:45:00 PM	APM	EPA 9045	
%moisture	30.6	Percent		3/18/2013	KEA	%moisture	

Authorized Signature

Kathleen A. Sattler

Kathy Sattler, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

Anatek Labs, Inc.

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 130307012
Project Name: HOLCIM INC / E EMPIRE WAY GW 16316-001-02

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Silver	0.0495	mg/kg	0.05	99.0	80-120	3/18/2013	3/19/2013
Selenium	0.0479	mg/kg	0.05	95.8	80-120	3/18/2013	3/19/2013
Molybdenum	0.0488	mg/kg	0.05	97.6	80-120	3/18/2013	3/19/2013
MERCURY-ICPMS	0.00251	mg/kg	0.0025	100.4	80-120	3/18/2013	3/19/2013
Lead	0.0501	mg/kg	0.05	100.2	80-120	3/18/2013	3/19/2013
Cadmium	0.0509	mg/kg	0.05	101.8	80-120	3/18/2013	3/19/2013
Arsenic	0.0503	mg/kg	0.05	100.6	80-120	3/18/2013	3/19/2013

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
130307012-004A	Silver	ND	21.2	mg/kg	21.1	100.5	75-125	3/18/2013	3/19/2013
130307012-004A	Selenium	ND	21.9	mg/kg	21.1	103.8	75-125	3/18/2013	3/19/2013
130307012-004A	Molybdenum	0.780	22.9	mg/kg	21.1	104.8	75-125	3/18/2013	3/19/2013
130307012-004A	MERCURY-ICPMS	ND	1.12	mg/kg	1.06	105.7	75-125	3/18/2013	3/19/2013
130307012-004A	Lead	8.47	32.1	mg/kg	21.1	112.0	75-125	3/18/2013	3/19/2013
130307012-004A	Cadmium	ND	23.2	mg/kg	21.1	110.0	75-125	3/18/2013	3/19/2013
130307012-004A	Arsenic	4.42	27.9	mg/kg	21.1	111.3	75-125	3/18/2013	3/19/2013

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Silver	20.9	mg/kg	21.1	99.1	1.4	0-20	3/18/2013	3/19/2013
Selenium	21.5	mg/kg	21.1	101.9	1.8	0-20	3/18/2013	3/19/2013
Molybdenum	22.9	mg/kg	21.1	104.8	0.0	0-20	3/18/2013	3/19/2013
MERCURY-ICPMS	1.12	mg/kg	1.06	105.7	0.0	0-20	3/18/2013	3/19/2013
Lead	32.0	mg/kg	21.1	111.5	0.3	0-20	3/18/2013	3/19/2013
Cadmium	22.8	mg/kg	21.1	108.1	1.7	0-20	3/18/2013	3/19/2013
Arsenic	27.6	mg/kg	21.1	109.9	1.1	0-20	3/18/2013	3/19/2013

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/Kg	0.001	3/18/2013	3/19/2013

Comments: MONITORING & REMEDIAL

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

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Client: GEO ENGINEERS
Address: 523 E 2ND
SPOKANE, WA 99202
Attn: JOHN HANEY

Batch #: 130307012
Project Name: HOLCIM INC / E EMPIRE WAY GW 16316-001-02

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cadmium	ND	mg/Kg	0.001	3/18/2013	3/19/2013
Lead	ND	mg/Kg	0.001	3/18/2013	3/19/2013
Mercury-ICPMS	ND	mg/Kg	0.0001	3/18/2013	3/19/2013
Molybdenum	ND	mg/Kg	0.001	3/18/2013	3/19/2013
Selenium	ND	mg/Kg	0.001	3/18/2013	3/19/2013
Silver	ND	mg/Kg	0.001	3/18/2013	3/19/2013

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments: MONITORING & REMEDIAL

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 130307012
Order Date: 3/7/2013

Contact Name: JOHN HANEY
Comment: MONITORING & REMEDIAL

Project Name: HOLCIM INC / E EMPIRE WAY GW 16316-001-02

Sample #: 130307012-001 **Customer Sample #:** DP-99 (2.2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/28/2013
Quantity: 1 **Matrix:** Soil **Date Received:** 3/7/2013 10:35:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	3/19/2013	***Normal (6-10 Days)***

Sample #: 130307012-002 **Customer Sample #:** DP-99 (6.0)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/28/2013
Quantity: 1 **Matrix:** Soil **Date Received:** 3/7/2013 10:35:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	3/19/2013	***Normal (6-10 Days)***

Sample #: 130307012-003 **Customer Sample #:** DP-99 (10)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/28/2013
Quantity: 1 **Matrix:** Soil **Date Received:** 3/7/2013 10:35:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	3/19/2013	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 130307012
Order Date: 3/7/2013

Contact Name: JOHN HANEY

Project Name: HOLCIM INC / E EMPIRE WAY GW 16316-001-02

Comment: MONITORING & REMEDIAL

Sample #: 130307012-004 **Customer Sample #:** DP-99 (12)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/28/2013
Quantity: 1 **Matrix:** Soil **Date Received:** 3/7/2013 10:35:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	3/19/2013	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	3/19/2013	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	3/19/2013	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	3/19/2013	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	3/14/2013	***Normal (6-10 Days)***

Sample #: 130307012-005 **Customer Sample #:** DP-99 (14)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/28/2013
Quantity: 1 **Matrix:** Soil **Date Received:** 3/7/2013 10:35:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	3/19/2013	***Normal (6-10 Days)***

Sample #: 130307012-006 **Customer Sample #:** DP-100 (0.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/28/2013
Quantity: 1 **Matrix:** Soil **Date Received:** 3/7/2013 10:35:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	3/19/2013	***Normal (6-10 Days)***

Sample #: 130307012-007 **Customer Sample #:** DP-100 (4.5)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/28/2013
Quantity: 1 **Matrix:** Soil **Date Received:** 3/7/2013 10:35:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	3/19/2013	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	3/19/2013	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	3/19/2013	***Normal (6-10 Days)***

Customer Name: GEO ENGINEERS
523 E 2ND
SPOKANE WA 99202

Order ID: 130307012
Order Date: 3/7/2013

Contact Name: JOHN HANEY

Project Name: HOLCIM INC / E EMPIRE WAY GW 16316-001-02

Comment: MONITORING & REMEDIAL

LEAD	S	EPA 6020A	3/19/2013	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	3/14/2013	***Normal (6-10 Days)***

Sample #: 130307012-008 **Customer Sample #:** DP-101 (2)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/28/2013
Quantity: 1 **Matrix:** Soil **Date Received:** 3/7/2013 10:35:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	3/19/2013	***Normal (6-10 Days)***

Sample #: 130307012-009 **Customer Sample #:** DP-101 (4)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/28/2013
Quantity: 1 **Matrix:** Soil **Date Received:** 3/7/2013 10:35:00 A
Comment:

Test	Lab	Method	Due Date	Priority
HOLD	S	hold	3/19/2013	***Normal (6-10 Days)***

Sample #: 130307012-010 **Customer Sample #:** DP-101 (11.8)

Recv'd: ☑ **Collector:** KATIE HALL **Date Collected:** 2/28/2013
Quantity: 1 **Matrix:** Soil **Date Received:** 3/7/2013 10:35:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	S	%moisture	3/19/2013	***Normal (6-10 Days)***
ARSENIC	S	EPA 6020A	3/19/2013	***Normal (6-10 Days)***
CADMIUM	S	EPA 6020A	3/19/2013	***Normal (6-10 Days)***
LEAD	S	EPA 6020A	3/19/2013	***Normal (6-10 Days)***
pH 1:5	S	EPA 9045	3/14/2013	***Normal (6-10 Days)***

Customer Name:	GEO ENGINEERS			**Order ID:**	130307012
	523 E 2ND			**Order Date:**	3/7/2013
	SPOKANE	WA	99202		
Contact Name:	JOHN HANEY			**Project Name:**	HOLCIM INC / E EMPIRE WAY GW 16316-001-02
Comment:	MONITORING & REMEDIAL				

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	5.0
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	ICE
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

30307 012 GEOE Last Due 3/19/2013
t SAMP 2/28/2013 1st RCVD 3/7/2013
DLCIM INC / E EMPIRE WAY GW
316-001-02

Company Name: GEO ENGINEERS	Project Manager: JOHN HANEY
Address: 523 E 2ND AVE	Project Name & #: HOLCIM INC / E EMPIRE WAY - GW MONITORING + REMEDIAL 16316-001-02
City: SPOKANE State: WA Zip: 99202	Email Address: JHANEY@GEOENGINEERS.COM
Phone: 509-363-3125	Purchase Order #:
Fax: 509-363-3126	Sampler Name & phone: KATIE HALL 509-768-3579

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal __Next Day* __2nd Day* __Other*_____ *All rush order requests must be prior approved. __Phone __Mail __Fax X Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	As, Cd, Pb	pH
				Preservative:			
1	DP-99 (2.2)	2/28/13 0840	SOIL	1	8oz		
2	DP-99 (6.0)	0850					
3	DP-99 (10)	0900					
4	DP-99 (12)	0915				X	X
5	DP-99 (14)	0918					
6	DP-100 (0.5)	1153					
7	DP-100 (4.5)	1211				X	X
8	DP-101 (2)	1348					
9	DP-101 (4)	1356					
10	DP-101 (11.8)	1410		↓	↓	X	X

Note Special Instructions/Comments

SVBS
altsp
Hold samples w/out analytes marked on COC - KS

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Cooler / Ice

Temperature (°C): 5.0
Preservative: Ice
Date & Time: 3-7-13
Inspected By: KS

	Printed Name	Signature	Company	Date	Time
Relinquished by	KATIE HALL		GEO	3/7/13	1035
Received by	KSCOTT	KScott	Anatek	3/7	1035
Relinquished by					
Received by					
Relinquished by					
Received by					

Have we delivered World Class Client Service?
Please let us know by visiting **www. geoengineers.com/feedback**.

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