Water Quality at Pebble Prospect Drill Rig #6, South Fork Koktuli River, Bristol Bay, Alaska 22-23 Oct. 2011

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Executive Summary

The Pebble copper prospect is on the watershed divide of the Nushagak and Kvichak Rivers, which together produced over 620 million sockeye salmon during 1956-2010. Exploration at Pebble (1988 to 2011) included drilling approximately 1,200 holes through 300,000 meters (about 186 miles) of overburden and mineralized rock. Potentially toxic mineralized drill cuttings and drill fluids are expelled into unlined sumps and on the tundra at each drill site. Such disposal methods pose the risk contaminants will leach into the environment and be flushed by precipitation into ground and surface waters that sustain salmon. Although the State of Alaska assumes exploration drilling has no impact on water quality scientific studies supporting this assumption are lacking, therefore this study was conducted.

Water quality was sampled at an active drill rig site on 22 and 23 October 2011. Drill fluids were not contained in the unlined sump containment system, and were documented flowing into a wetland. Samples were collected from the drill waste collection sump, from a wetland pool 11.3 m down gradient of the sump system and from a groundwater spring 30 m down gradient of the sump system. The sump was sampled once while the pool and spring sites were sampled on two consecutive days.

SGS Environmental Services in Anchorage analyzed water quality samples for total and dissolved metals, cations, anions, total suspended and total dissolved solids, temperature, pH, conductivity, alkalinity, dissolved organic carbon, sulfide, nitrate-nitrite, ammonia, total phosphorus, and petroleum hydrocarbons. Results were compared to the most stringent State of Alaska Department of Environmental Conservation Water Quality Standards, although exploration activities are exempt from standards.

Analyte concentrations exceeded water quality standards, sometimes by orders of magnitude in samples from the sump and pool for: aluminum, cadmium, copper, iron, lead, manganese, silver, zinc, diesel range organics, and residual range organics. For example the most stringent aquatic water quality standard for total copper (at 25 mg/L hardness) is 2.85 µg/L; total copper in the unlined sump was 435µg/L and in the wetland pool was as high as 137µg/L; levels lethal to aquatic life. Analyte concentrations did not exceed water quality standards in samples from the groundwater spring site, located furthest from drill sumps, where concentrations were similar to those documented in surface waters of a nearby stream monitored by Pebble Limited Partnership (PLP) 2004-2008.

High metal concentrations documented in the sump and wetland pool samples are likely attributable to mineralized drill cuttings and rock "flour" while elevated diesel and residual range organic concentration likely originate from fuels and/or muds used in drilling. Onsite disposal of drill fluids in unlined sumps is permitted by the State of Alaska at exploration sites. Movement and fate of contaminants originating from drill sites is unknown and would require a statistically robust water quality-monitoring program with adequate spatial coverage (multiple rigs and reference sites, ground and surface waters) and temporal coverage (sampling before, during and after drilling). A 2010 drill monitoring plan for Pebble suggests such a study was initiated, however results are not public. Due to ongoing concern of fisheries stakeholders that high water quality be maintained concurrent with development, a robust study of the "no impact" assumption is recommended, as is examination of existing water quality data for evidence of potential contamination from drilling.

Introduction

The Pebble copper prospect is located on the watershed divide between the Nushagak and Kvichak river drainages (Figure 1), which together produced over 620 million sockeye salmon during 1956-2010.[1] The area is characterized by highly permeable substrates left by multiple glaciations, close connections between groundwater and fish-bearing surface waters, moderate precipitation, and hundreds of streams whose waters have very low solutes and low buffering capacity.[2] These characteristics all contribute to the region's diverse salmon habitat and related salmon stock biodiversity, which sustains the region's world-class fisheries.[3]

Mineral exploration at Pebble, ongoing since 1988, includes an intensive drilling effort of approximately 1,200 holes for a total cumulative length of over 300,000 meters (~186 miles) as of 2011.[4] Drilling has primarily focused on and around the copper-sulfide deposit (Figure 1), which sits among numerous surface water bodies. Water contamination from drilling activities could occur from a) heavy metals and b) industrial drilling fluids.

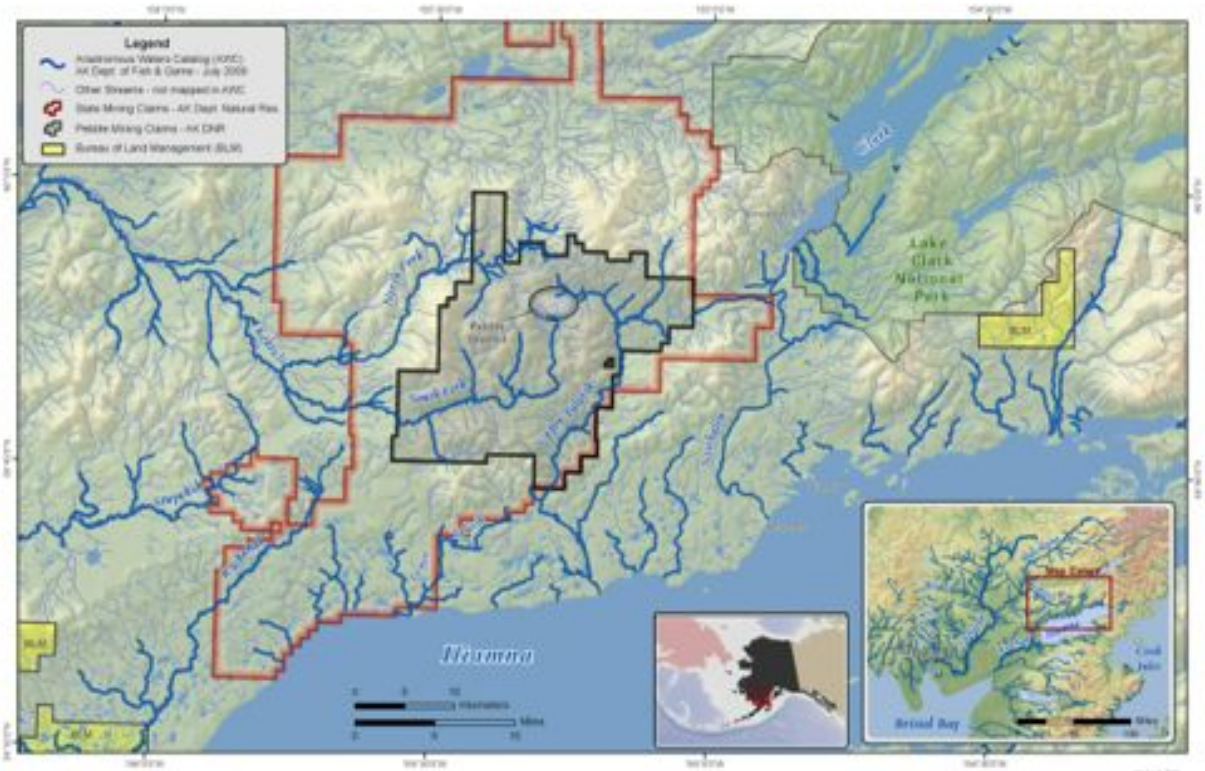

Figure 1. Location of Pebble copper prospect and mining leases (black). Intense exploration has occurred at the mineralized ore deposit (circled). Documented salmon streams are dark blue.

[1] Alaska Department of Fish and Game, 2011. Bristol Bay, total run data by watershed. Available from ADFG Commercial Fisheries Division, Anchorage, AK.
[2] Detterman, R.L., and B.L. Reed. 1973, Surficial deposits of the Iliamna quadrangle, Alaska: U.S. Geological Survey Bulletin 1368-A, p. A1-A64, 1 sheet, scale 1:250,000 AND Florio, S. 2007. Surface water hydrology–mine. Baseline Environmental Team 2007 Agency Meetings. Public powerpoint presentation. 28 November 2007, Anchorage, AK AND Smith, R. and H. McCreadie. 2008. Groundwater hydrology-Mine. Annual agency technical presentation 17 Nov. 2008. Pebble Limited Partnership. Anchorage, AK.
[3] Schindler D., et al. 2010. Population diversity and the portfolio effect in an exploited species. Nature. 465:609-612.
[4] http://www.northerndynastyminerals.com/ndm/PD_DPR.asp accessed 2 Feb. 2012.

Mineral exploration drilling requires the use of industrial additives that carry mineralized material to the surface and cool and/or lubricate the drill bit and rods.[5] Expended drill fluids contain mineralized drill cuttings of rock/soil particles from drilled strata, metal shavings from the drill bit and fuel hydrocarbons, all of which pose risk of contamination.

Drilling into the copper sulfide ore body at Pebble and disposal of mineralized drill cuttings on the surface poses the risk of toxic metals and compounds entering local waters via precipitation-driven surface flows, and via flow through permeable substrata into groundwater. According to the EPA[6]

> *"…oxidation of sulfides may result in heavy metals and sulfosalts being solubilized (these include, but are not limited to, silver, cadmium, cobalt, copper, mercury, manganese, molybdenum, nickel, lead, zinc, arsenic, antimony, and selenium)."*

Each hole drilled requires drilling fluids equal in volume to approximately three times the hole volume.[7] Additives used at Pebble to transport drill cuttings (e.g., EZ MUD, EZ MUD PLUS, etc.) and to increase drill rates (e.g., Penetrol) contain petroleum distillates and produce ammonia and oxides of nitrogen, all potentially toxic to aquatic life.[8]

Expended drill fluids at Pebble have been disposed of in ponds,[9] wetlands, depressions in the tundra, on the tundra, and in unlined excavated pits called sumps (Figures 2-4).[10] Precipitation-driven flow and leaching of drill liquids from unlined sumps could potentially transport drill contaminants into local surface waters or into groundwater via permeable substrates.

Impacts of mineral exploration activities on water quality are not available. The State of Alaska conducts no quantitative monitoring, relying instead on visual inspections.[11] Though exploration at Pebble began in 1988 and intensified since 2003, only in 2010 did mine lease owners develop a drill site water quality-monitoring plan; if these studies were conducted results are publically unavailable.[12] Because surface and groundwater from the exploration area feeds essential salmon habitats[13] and because drilling could potentially influence concurrent baseline water quality studies for permitting, it is important to monitor and understand drilling's effects on local waters.

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[5] US Army Corps of Engineers. 2001. Engineering and Design, Geotechnical Investigations. Engineer Manual. EM 1110-1-1804. Available at: http://www.usace.army.mil/inet/usace-docs/

[6] EPA. 1995. Profile of the Metal Mining Industry. Copper section pg. 66. EPA/310-R-95-008 available from http://cfpub.epa.gov/ols/catalog/catalog_display.cfm?&FIELD1=SUBJECT&INPUT1=Mining%20industry&TYPE1=EXACT&item_count=13

[7] *Ibid.*

[8] http://water.epa.gov/scitech/swguidance/standards/criteria/aqlife/pollutants/ammonia/index.cfm AND see Safety Sheets for drill additives at http://www.muddirect.net/Products/Products.htm AND http://dnr.wi.gov/air/aq/pollutant/oxides.htm

[9] Alaska Department of Environmental Conservation. 14 June 2006. Inspection report Pebble copper mine site. Available at: http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/field-reports/index.cfm

[10] See Pebble Field Inspection Reports at: http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/field-reports/index.cfm

[11] http://dnr.alaska.gov/mlw/mining/largemine/pebble/field-reports/index.cfm

12 Reiser, D. 2010. Pebble project environmental monitoring 2010 sampling and analysis plan. Drill circulation water monitoring exploration areas. Available from the Pebble Limited Partnership. Anchorage, AK.

[13] Smith, R. and H. McCreadie. 2008. Groundwater hydrology-Mine. Agency presentation 17 Nov. 2008. Pebble Limited Partnership. Anchorage, AK AND Anadromous Waters Catalog at: http://www.adfg.alaska.gov/sf/SARR/AWC/index.cfm?ADFG=main.home

Drilling waste on tundra. DNR report 5 April 2007.

Drilling waste disposed of in a hollow. DNR report 4 October 2007.

Drill hole 8412 with standing water and dead vegetation, DNR report indicates reclamation either incomplete or unsuccessful. From DNR field report 15 June 2010.

Drill hole 8440M showing overflow of drill fluids. From DNR field report 28 and 29 October 2008.

Figure 2. Photos of Pebble prospect drill rig operations and potential water contaminant sources from drilling. Photos available from Department of Natural Resources (DNR) inspection reports at: http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/field-reports/index.cfm

Study Rationale

Salmon and other aquatic resources are important to subsistence, commercial and recreational fisheries in the region.[14] Small changes in water quality can adversely affect salmon and aquatic resources that occur throughout the Pebble exploration area.[15] Because information is lacking on potential impacts of drilling, water quality was sampled at an active drill site to determine if contaminants were present and contained.

Study Objectives

1) Determine water quality of drill sump fluids.
2) Determine water quality of two sequential down gradient water bodies.
3) Compare results to a nearby surface water monitoring site.
4) Compare results to water quality standards.

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[14] Salamone, P. et al. 2011. 2010 Bristol Bay area annual management report. Fishery Management Report No. 11.23. Anchorage, AK. AND Fall, J.A. et al. 2006. Subsistence harvests and uses of wild resources in Iliamna, Newhalen, Nondalton, Pedro Bay, and Port Alsworth, Alaska, 2004. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 302. Juneau. AND http://www.pebblescience.org/Bristol-Bay-Fisheries/sport.html

[15] Woody and O'Neal. 2011. Fish Surveys in Headwater Streams of the Nushagak and Kvichak River Drainages, Bristol Bay, Alaska, 2008-2010 AND http://www.adfg.alaska.gov/sf/SARR/AWC/index.cfm?ADFG=maps.maps

Sample Dates

Sampling occurred on 22 and 23 October 2011.

Sample Sites

Aerial inspection indicated two active drill sites; one located near surface waters (Pebble Limited Partnership Drill Rig #6 (PLP-DR6)) was selected for sampling (Figure 3). The drill rig discharged drill fluids in a series of five sumps (Figure 4). After landing and reconnaissance, three sites were selected for sampling (Figures 4 and 5):

1) **SUMP:** contained drill circulation fluids from the third of five sumps at the drill rig;
2) **POOL:** a turbid wetland pool 11.3 m down gradient of the fifth and final drill sump; and
3) **SPRING:** a groundwater spring about 30 m down gradient of the drill rig and separated from the sump by a wetland.

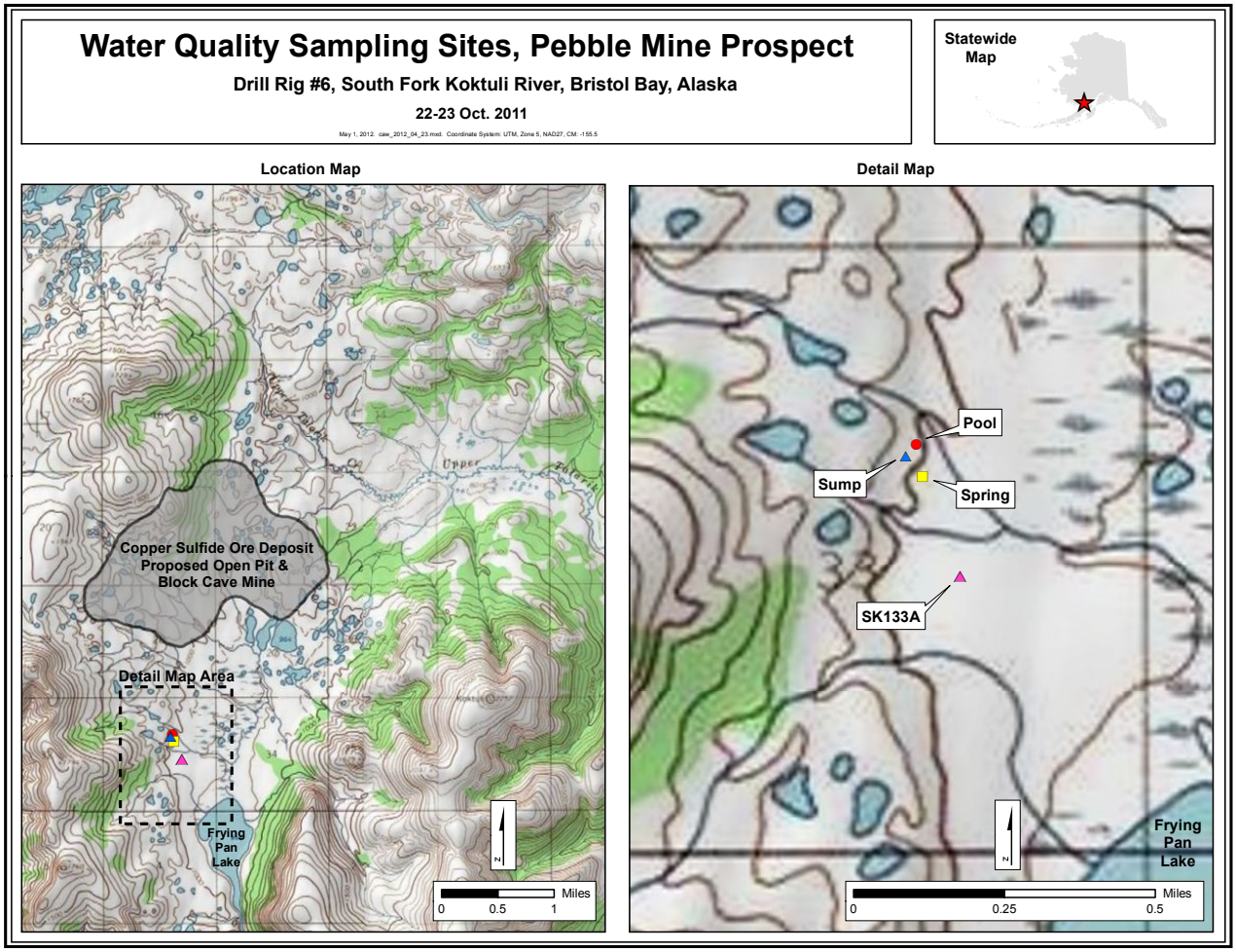

Figure 3. Water quality sample site locations for Pebble Limited Partnership Drill Rig #6, South Fork Koktuli River, Bristol Bay, Alaska. Sampling occurred 22 and 23 October 2011. The SUMP was part of the drill operation and contained drill discharge, the wetland POOL was down gradient of the sump, and the SPRING was down gradient of the pool and separated from the SUMP by a wetland. SK133A is an unmapped tributary monitored by Pebble Limited Partnership (PLP 2012)16.

[16] Pebble Limited Partnership. 2012. Environmental Baseline Document. http://www.pebbleresearch.com/ebd/

Figure 4. Drill rig sump system at Pebble Limited Partnership Drill Rig #6, South Fork Koktuli River, 22 October 2012. Used drill fluid containing cuttings, additives, and possibly petrochemicals were pumped into an unlined series of five sumps. Heavier materials sink to the bottom, some fluids leach into the ground; remaining fluids are ultimately disposed of on the tundra.

Figure 5. Water quality sample sites, PLP-DR6; 22 - 23 October 2011, South Fork Koktuli River, Bristol Bay Alaska. The sampled sump pit was the third in a series of five.

Methods

Samples were collected following methods and protocols detailed in the Pebble Limited Partnership 2010 Drill Monitoring Program.[17] Samples were collected from the SUMP 23 October 2011 by transferring water from a clean dedicated transfer bottle to sample bottles. POOL and SPRING grab samples were collected on both 22 and 23 October 2011.

Analytes measured included: total and dissolved metals (barium, cadmium, chromium, copper, mercury, manganese, nickel, lead, zinc, antimony, arsenic, molybdenum, selenium), cations (calcium, magnesium, sodium, potassium, iron, and aluminum), anions (sulfate, fluoride, chloride,

[17] Reiser, D. 2010. Pebble project environmental monitoring 2010 sampling and analysis plan. Drill circulation water monitoring, exploration areas. Reiser 000289. Available from Pebble Limited Partnership, Anchorage, AK.

bicarbonate), total suspended and total dissolved solids, temperature, pH, conductivity, alkalinity, dissolved organic carbon (DOC), sulfide, nitrate-nitrite (NO_2-NO_3), ammonia (NH_4), and total phosphorus.

Fuels and drilling muds used in mineral exploration (e.g., diesel, EZ Mud, EZ MUD Plus) can be sources of hydrocarbons and petrochemicals, therefore samples were also analyzed for petroleum hydrocarbon parameters including: gasoline range organics (GRO), benzene, toluene, ethylbenzene, and xylenes (BTEX), diesel range organics/residual range organics (DRO/RRO) and polycyclic aromatic hydrocarbons (PAHs).

Field water quality measurements (temperature, pH, and conductivity) were measured during sample collection using a calibrated handheld Oakton water quality meter. Turbidity was measured using a Hach 2100P turbidimeter and presence of oily sheen was noted if observed.

Very high suspended solids in samples prevented filtering on-site. Samples for dissolved constituents (dissolved organic carbon (DOC), dissolved metals, cations, anions, and TDS) were collected in a clean bucket, covered, allowed to settle twelve hours, then filtered through a 0.45-µm glass fiber filter with a battery-operated peristaltic pump with silicon tubing into a sample container with laboratory added preservatives.

Samples were double bagged in Ziplocks, wrapped in bubble wrap and placed on cardboard covered ice or gel packs in a cooler. Coolers were sealed with chain of custody paperwork inside. Samples were transported to Anchorage 24 October 2011 and delivered to SGS Analytical Laboratories the morning of 25 October 2011. Analyses, analytical methods, sample preservation, and sample hold times are detailed in Appendix I. Full analytical results are provided in Appendix III.

Quality Assurance/Quality Control (QA/QC) objectives and results are detailed in Appendix II. As part of the QA/QC program duplicate samples were collected at all October 23, 2011 sampling locations. Samples for Matrix Spike/Matrix Spike Duplicates (MS/MSDs) were collected from POOL and SPRING sample sites. Equipment blanks were also collected, and trip blanks of de-ionized water were carried.

Benchmark Criteria

The State of Alaska does not apply regulatory standards for water quality to mineral exploration. However, results here are presented relative to the most stringent benchmark criteria set to Alaska's Department of Environmental Conservation Water Quality Standards[18] (WQS) to determine if off-site drilling discharge could pose a hazard to aquatic life. For discharges that come under the Clean Water Act (federal permits, or state-administered clean water act permits), metals must meet criteria in the total (not dissolved) form. The benchmark is determined by the concentration that would meet all of the State of Alaska water "uses".[19]

[18] http://dec.alaska.gov/water/wqsar/wqs/index.htm

[19] For example, aquatic life uses have no water quality criteria for molybdenum, but irrigation use requires molybdenum to be below 10 ug/L, therefore 10 ug/L would be the "benchmark criteria" used in this report (http://dec.alaska.gov/water/wqsar/wqs/index.htm).

Results and Discussion

Field measurements generally agreed with laboratory measurements for pH and conductivity, with the exception of wetland POOL pH. At the POOL, field pH was measured at 7.7 on October 22 and 5.4 on October 23, while the laboratory measured a pH of 7.7 both days (Table 1).

Table 1. Comparison of field and laboratory measurements for pH, conductivity and turbidity at Pebble Drill Rig #6, South Fork Koktuli River, Nushagak River drainage, Bristol Bay Alaska.

	pH		Specific Conductance (umhos/cm)		Turbidity (NTU)	Total Suspended Solids (mg/L)
Sample Site	Field	Lab	Field	Lab	Field	lab
POOL, 22 Oct.	7.7	6.5	277	305	>1000	1510
POOL, 23 Oct.	5.4	6.5	297	249	411	807
SPRING, 22 Oct.	7.0	6.7	100	66	2	12
SPRING, 23 Oct.	6.8	6.6	85	66	0.5	0.7
SUMP, 23 Oct.	na	8.1	na	310	na	2370

Trends in analyte concentrations were observed spatially and temporally (Table 2). Concentrations, and observed trends, were likely affected by the decision of the drill rig operators to shut down the rig after the first sampling conducted on October 22, 2011. In general, analyte concentrations decreased from the SUMP to the wetland POOL to the SPRING (the spring had similar concentrations to a nearby surface water stream) and decreased from October 22 to October 23.

On site observations suggested metals leached from drill sumps into the POOL site (Figure 5), which was turbid and similar in color to sump fluid. A visible path of upwelling drill fluid flowed into the POOL which was turbid (Figure 6). In contrast SPRING sample site water was not turbid.

Figure 6. A visible trail of grey drill fluid was documented upwelling down gradient of the SUMP and flowing into a wetland. The last sump in a series of five is in front of the platform and pump.

Laboratory analysis confirmed drill fluid was leaching into the wetland. On October 23, when all three sites were sampled, there was a trend of decreasing metal concentrations from the SUMP > POOL > SPRING (Table 2, Figures 7 and 8, Appendix III). All total metals were highest in the SUMP. Some dissolved metals (Al, Ba, Cu, Fe, Mn, Ni, Zn) were highest in the POOL. This is likely due to the difference in pH. The SUMP had a pH of 8.1 (measured by the lab), compared to the POOL, which had a measured field pH of 5.4, and a measured laboratory pH of 6.5. At the higher SUMP pH, dissolved metals likely precipitated as hydroxides whereas at the comparatively lower POOL pH, higher dissolved metal concentrations were observed likely due to metals being desorbed or released from sediments. In contrast to both

the SUMP and POOL sample sites, metal concentrations in the SPRING were consistently near or below detection limits and fell well within water quality criteria.

The POOL and SPRING were sampled on consecutive days, 22 and 23 October, although drilling fluids were only actively discharged on 22 October. In the POOL, all total metals declined on the second day. Some dissolved metals increased on the second day (Al, Ba, Cr, Cu, Fe, Mn, Zn) likely due to change in POOL pH, which field measurements was 7.7 on 22 October and 5.4 on 23 October. The SPRING experienced no pH change from the 22 to 23 October, and metal concentrations were generally stable over the two-day period. A decrease was observed in total iron, total zinc, and dissolved zinc. An increase was tentatively noted in dissolved iron, total aluminum, and dissolved aluminum, but increases were quite small, with concentrations less than five times the method reporting limit. The small fluctuations likely reflect natural variation.

Benchmark criteria were exceeded in both the SUMP and POOL, sometimes by orders of magnitude for Al, Cd, Cu, Fe, Pb, Mn, Ag, and Zn (Table 2; Figures 7 and 8; Appendix III). Dissolved aluminum and dissolved copper exceeded benchmark criteria in the SUMP and the POOL, with dissolved manganese also exceeding benchmark criteria in the POOL (Figure 8). In contrast SPRING and Pebble Limited Partnership SK133A analytes were below all WQS and lower than SUMP and POOL analytes.

Organics

Petroleum products (organics), polycyclic aromatic hydrocarbons1- and 2-methylnaphthalene exceeded WQS in the SUMP (Table 2 and Appendix III). POOL diesel range organics were below WQS both sample days and while residual range organics (RRO) slightly exceeded WQS on 22 October 2011, but declined to below WQS by 23 October 2012 (Table 2) likely due to the drill being shut down sometime between the 22 and 23 October.

Major elements

Major elements trended highest in SUMP followed by the POOL and the SPRING (alkalinity, Na, K, Cl). Total suspended solids, total dissolved solids and dissolved organic carbon also followed the trend. Sulfate was the same concentration in the SUMP and the POOL, and both were an order of magnitude higher than the SPRING (Table 3). Dissolved magnesium and dissolved calcium were highest in the pool, likely related to pH as discussed above.

Although total and dissolved ion concentrations are usually similar, total calcium and sodium were higher than dissolved concentrations — likely due to undissolved bentonite particles used in drilling muds. While the SUMP trapped particulates, some particulate and dissolved cations entered the POOL, which had concentrations an order of magnitude greater than the SPRING.

When analyzed on consecutive days, with discharge occurring on the first day but not on the second, major elements decreased in the POOL between October 22 and October 23 with small to no decrease observed in dissolved concentrations. A large decrease was observed in total suspended solids while a small decrease was observed in total dissolved solids from the 22 to 23 October. At the SPRING, there was little change in major elements over the two days, with the exception of a decrease in total suspended solids and magnesium, and an increase in total potassium.

Table 2. Metal, DRO, and RRO concentrations at Pebble Drill Rig 6 sample sites (SUMP, POOL, SPRING) and Pebble Limited Partnership (PLP) sample site SK133A relative to Water Quality Criteria (WQC). All parameters in µg/L unless otherwise noted. Exceeded WQC are bold. Where replicates were collected (all data from 10/23), means of replicates are listed. Where an analyte was undetected, symbol < is noted with method detection limit. PLP water quality analyte medians for site SK133A included for comparison.[20] Data unavailable for diesel range organics and residual range organics for SK133A. Note: exploration activities are not required to meet WQC. Data for metals not listed here (nickel, mercury, antimony, molybdenum, selenium) are available in Appendix III.

Parameter	SUMP	POOL		SPRING		PLP SK133A	Water Quality Standard*
	10/23	10/22	10/23	10/22	10/23	2004-2008	
Aluminum (Total)	**55,750**	**27,600**	**16,300**	23	35	39	87
Aluminum (Dissolved)	**911**	59	**946**	14	20	13	87
Arsenic (Total)	**14.7**	8.29	4.47	<0.15	<0.15	0.155	10
Arsenic (Dissolved)	1.90	1.31	1.14	<0.15	<0.15	0.155	10
Barium (Total)	368	505	280	5.7	5.4	6.2	2,000
Barium (Dissolved)	11.5	27.6	38	5.0	4.2	6.0	2,000
Cadmium (Total)	**0.164**	**0.177**	**0.146**	<0.015	<0.015	0.0167	0.10
Cadmium (Dissolved)	0.0673	0.0528	0.0470	<0.015	<0.015	0.0125	0.09
Chromium (Total)	45.2	16.4	7.54	0.124	0.132	0.259	100
Chromium (Dissolved)	0.635	0.364	0.720	0.143	0.191	0.243	100
Copper (Total)	**435**	**137**	**70.8**	0.2	0.3	0.8	2.85
Copper (Dissolved)	**2.7**	**3.95**	**5.8**	0.8	0.7	0.7	2.74
Iron (Total)	**60,950**	**20,600**	**12,700**	99	87	223	1000
Iron (Dissolved)	595	594	945	26	36	107	1000
Lead (Total)	**13.0**	**10.7**	**5.01**	<0.03	<0.03	0.05	0.54
Lead (Dissolved)	0.17	0.478	0.483	0.04	0.04	0.05	0.54
Manganese (Total)	**865**	**490**	**383**	6.1	6.4	18	50
Manganese (Dissolved)	15.9	**153**	**182**	2	1.6	14	50
Silver (Total)	**9.35**	**2.01**	**1.65**	<0.006	0.007	0.003	0.37
Zinc (Total)	**116**	**85.3**	**71.8**	2.8	1.8	3.3	37.02
Zinc (Dissolved)	3.71	6.48	9.11	23.2	4.6	2.8	36.20
Diesel Range Organics (mg/L)	**2.95**	0.94	0.335	<0.18	<0.18	--	1.5
Residual Range Organics (mg/L)	**2.68**	**1.32**	0.515	0.421	0.201	--	1.1

* The most stringent standard for all uses is listed (ADEC 2008 ,http://dec.alaska.gov/water/wqsar/wqs/index.htm). For hardness-dependent metals, a hardness of 25 mg/L is used for calculations.

[20] Pebble Limited Partnership Environmental Baseline Document, Chapter 9, Water quality, Appendix 9.1B available at: http://www.pebbleresearch.com/ebd/bristol-bay-phys-chem-env/chapter-9/

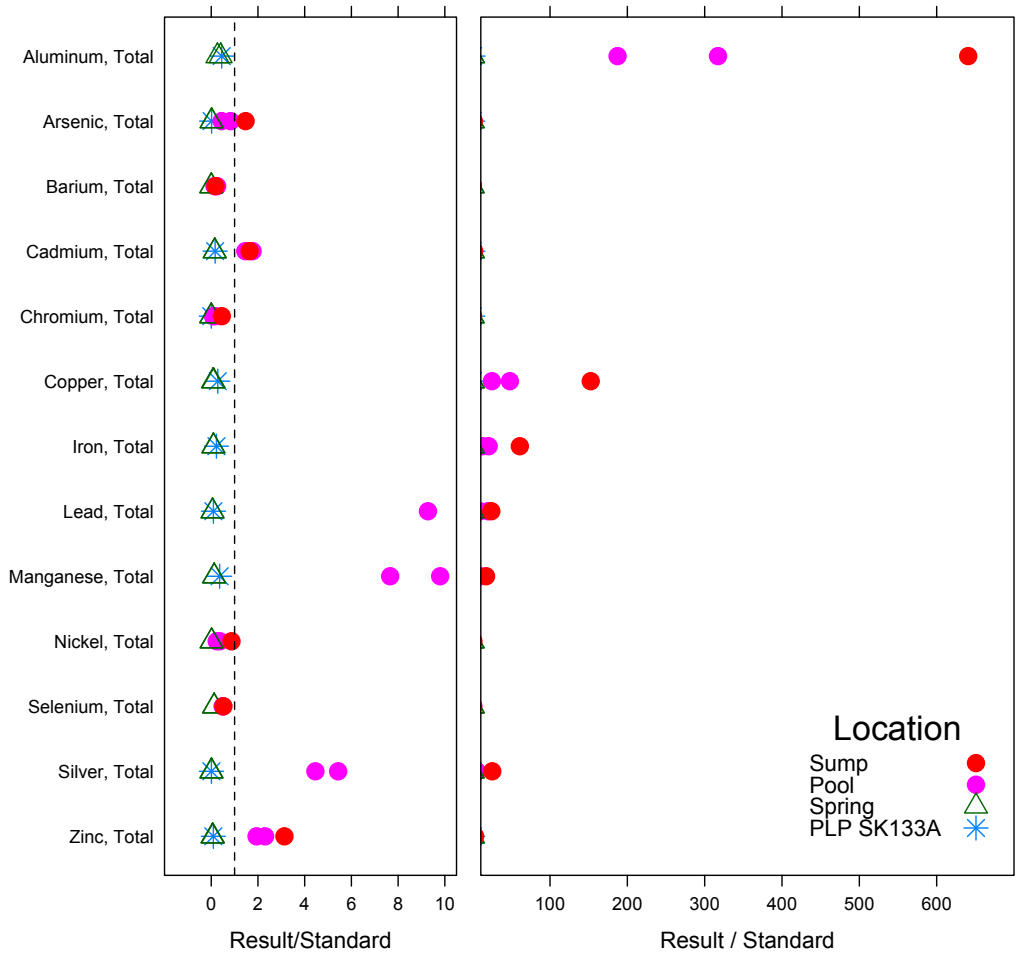

Figure 7. Analyte 'Total' measurements in µg/L by sample location. Results graphed relative to analyte-specific water quality standard. Dashed line denotes the Water Quality Standard (WQS); points to the left are below WQS points to the right exceed WQS. For example, the SUMP sample concentration for total aluminum was 55,750 µg/L, the WQS for Total Aluminum is 87µg/L, therefore, 55,750/87 = concentration 640 times greater than WQS. Note change in X axis scale – panel on the left shows all results equal to or less than eleven times the analyte-specific standard. Panel on right shows all results greater than eleven times the analyte-specific standard. Note: SUMP values exceeded POOL values exceeded SPRING values in all but a few cases.

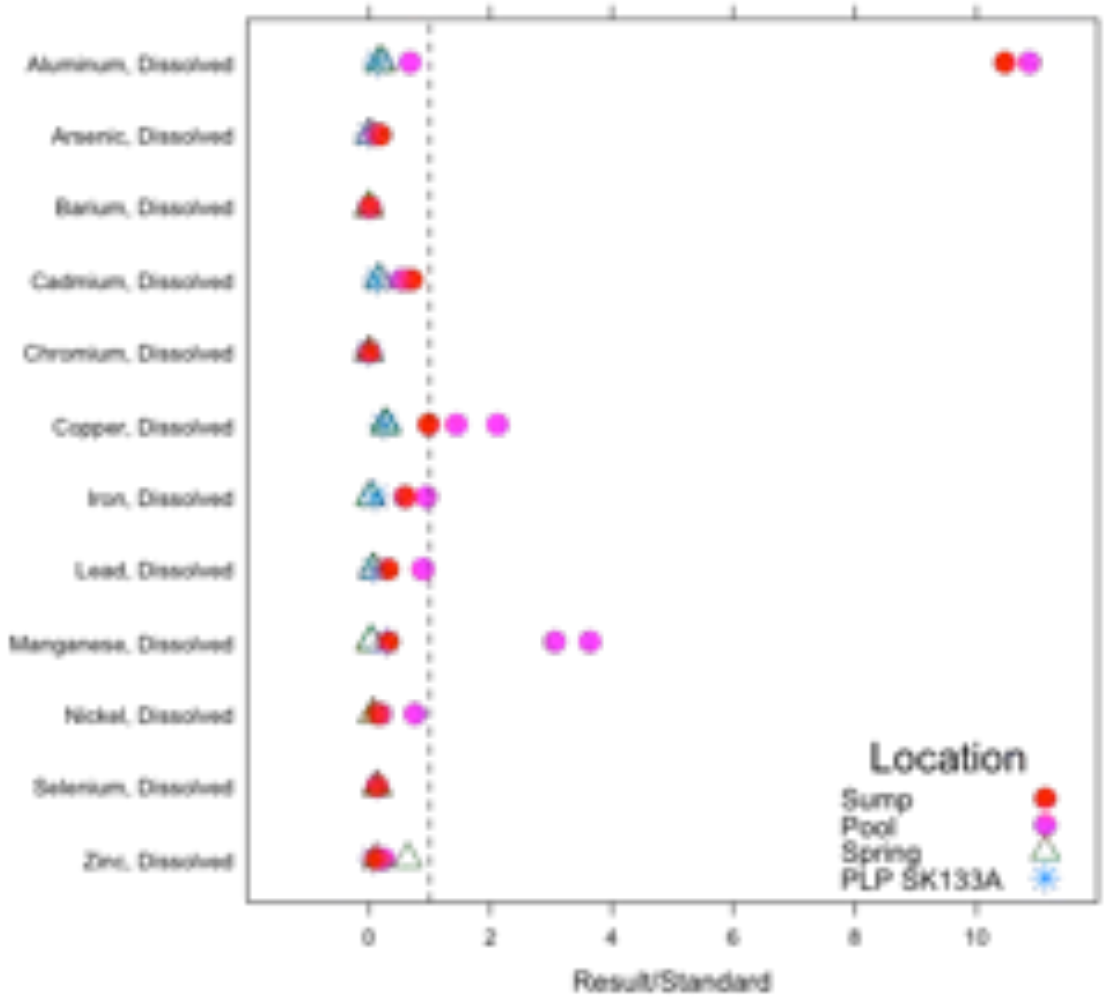

Figure 8. Analyte 'Dissolved' measurements for sample sites at Pebble Drill Rig 6. Results are graphed relative to the analyte-specific Water Quality Standard (WQS). Dashed line denotes values equal to analyte's WQS standard; points to left were less than WQS, points to the right exceeded WQS. For example, SUMP and wetland POOL dissolved aluminum concentrations were over 10 times the water quality standard. Note: for all hardness based criterion a hardness of 25 mg/L was used. In general, SUMP values exceeded POOL values exceeded SPRING values.

Table 3. Major elements and associated water quality parameters at Pebble Exploration Drill Rig #6, South Fork Koktuli River, Nushagak River Drainage, Bristol Bay Alaska. Data for 23 October represents replicate means. Dashed line represents parameters that have no water quality standards. Pebble Limited Partnership site SK133A represent analyte medians and are presented for comparison. [21]

Parameter	SUMP	POOL		SPRING		PLP SK133A	Water Quality Standard
Date Sampled:	10/23	10/22	10/23	10/22	10/23	2004-2008	
Alkalinity (mg/L)	120	48	48.8	20.3	16.8	26	20 mg/L except where natural alkalinity is lower
Conductivity (umhos/cm)	308	305	244	65.9	65.5	70	--
Calcium (Total) (mg/L)	61.0	33.7	20.9	7.5	7.2	9.1	--
Calcium (Dissolved) (mg/L)	12.6	21.4	15.7	7.0	6.0	9.3	--
Magnesium (Total) (mg/L)	27.7	12.2	9.2	1.9	1.8	2.0	
Magnesium (Dissolved) (mg/L)	2.6	3.4	3.5	1.8	1.5	2.0	--
Sodium (Total) (mg/L)	31.5	17.7	16.0	2.6	2.5	2.0	--
Sodium (Dissolved) (mg/L)	24.3	14.4	14.9	2.6	2.1	2.1	--
Potassium (Total) (mg/L)	46.5	30.6	21.6	0.4	0.5	0.5	--
Potassium (Dissolved) (mg/L)	23.1	17.5	15.1	0.3	0.4	0.5	--
Sulfate (mg/L)	31.9	71.9	30.7	8.9	9.9	8.2	250 mg/L, secondary standard
Chloride (mg/L)	22.7	9.6	17.5	0.8	0.8	0.7	230
Total suspended solids (mg/L)	2100	1510	94	12	0.5	1.2	--
Total dissolved solids (mg/L)	365	255	163	41	39	59	500

Conclusions

Drill waste containment systems used at the Pebble prospect can leach highly toxic levels of contaminants into local waters. Water quality standards for metals and fuels were exceeded in a wetland pool 11.3 meters down gradient of an unlined drill sump system, from which contaminants leaked into the environment. High metals are attributed to mineralized drill cuttings discharged into the sump, whereas elevated diesel and residual range organics likely originated from fuels and/or muds used for drilling. A spring site 30 m from the drill sumps and separated from sumps by a wetland met water quality standards and generally did not show high metals concentrations. Spring

[21] Pebble Limited Partnership Environmental Baseline Document, Chapter 9, Water quality, Appendix 9.1B available at: http://www.pebbleresearch.com/ebd/bristol-bay-phys-chem-env/chapter-9/

site analytes were generally similar to PLP SK133A, with the exception of higher levels of iron and manganese than the spring site.

The form of the metals appeared to be related to pH, with metals moving into the dissolved form with lower pH. The measured pH of 5.4 in the wetland pool is not uncommon for wetlands generally, which may reach as low as pH 4.5 due to natural organic acids.

High aluminum and copper concentrations measured in sump and wetland pool sites exceeded lethal levels for aquatic life.[22] Lethal or acute aquatic water quality criteria are not established for manganese, although measured concentrations in the sump, pool and spring exceeded lethal levels reported in the literature for trout.[23] In Alaska, human health criterion for manganese is the water quality standard; manganese levels were 16 times the recommended human health criteria for consumption of water and aquatic organisms (50 ug/L) in the sump and 7.5 times human health criteria in the pool.[24] Metal levels that adversely affect growth, reproduction and survival (chronic) of freshwater plants, invertebrates and fish were also exceeded for iron.

A clear understanding of the potential impacts of exploration drilling on local salmon systems requires a robust water quality monitoring program based on statistically sound design, with adequate spatial coverage (multiple rigs and reference sites, ground and surface waters) and temporal coverage (sampling before, during and after drilling). The monitoring program should note the natural pH of soils and wetlands near the discharge sites. If the area has a natural pH of 4.5 to 5.5, then after alkaline discharge is completed metals could convert to the dissolved form as natural pH re-establishes. A 2010 drill monitoring plan for Pebble suggests such a study was initiated, however results are not public.

Onsite disposal of potentially toxic mineralized cuttings and drill fluids into unlined sumps and onto tundra is permitted by the State of Alaska at exploration sites. Results of this study show high levels of contaminants can originate and migrate from containment sites. Precipitation events could potentially transport contaminants into local ground and surface waters but their movement and fate remain unstudied. Intensive exploration at Pebble (over 1,200 drill holes, approximately 186 miles drilled) and disposal of contaminants in an area characterized by highly permeable soils, close connections between ground and fish bearing surface waters, high precipitation, and low buffering capacity of surface waters suggest potential for contamination of fish bearing streams from exploration. Due to ongoing concern of fisheries stakeholders that high water quality be maintained concurrent with development and concern that drilling could bias concurrent baseline water quality studies for permitting, a robust study of the "no impact" assumption is recommended, as is examination of existing water quality data for potential bias in baseline data from drilling.

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[22] Eisler, R. 2000. Handbook of chemical risk assessment, health hazards to humans, plants and animals. Volume 1 Metals. Lewis Publishers CRC Press LLC. Florida.

[23] Davies, Patrick H. and Stephen F. Brinkman, 1994. Acute and Chronic Toxicity of Manganese to Exposed and Unexposed Rainbow and Brown Trout, Water Pollution Studies, Colorado Division of Wildlife, Federal Aid Project #F-243R-1. AND Davies, Patrick H. and Stephen F. Brinkman, 1995. Acute Toxicity of Manganese to Brown Trout (*Salmo trutta*) in Hard Water, Water Pollution Studies, Colorado Division of Wildlife, Federal Aid Project #F-243R-2 AND http://www.env.gov.bc.ca/wat/wq/BCguidelines/manganese/index.html#TopOfPage

[24] Department of Environmental Conservation. 2009. Water Quality Standards. 18ACC 70. Available from http://dec.alaska.gov/water/wqsar/wqs/index.htm

Pebble Limited Partnership drill rig, South Fork Koktuli River, 2012. Photo © R. Halford.

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Appendices

Appendix I. Parameters, preservation and hold times for water quality analysis of samples collected from Pebble Limited Partnership Drill Rig #6, 22 and 23 October 2011, South Fork Koktuli River, Nushagak Drainage, Bristol Bay Alaska.

Appendix II. Quality Assurance Quality Control performed for water quality samples collected at Drill Rig #6, Pebble Prospect, 22-23 October 2011, South Fork Koktuli River, Nushagak Drainage, Bristol Bay Alaska

Appendix III. Water quality results. Water quality sample analysis results from SGS analytical lab Anchorage, AK.

Appendix I. Parameters, preservation and hold times for water quality analysis of samples collected from Pebble Limited Partnership Drill Rig #6, 22 and 23 October 2011, South Fork Koktuli River, Nushagak Drainage, Bristol Bay Alaska.

Abbreviation	Analysis	Preservative	Hold Time
Alk	Alkalinity	None	7 days
Cl	Chloride	None	7 days
Cond	Conductivity	None	7 days
Dissolved metals	Dissolved fraction of aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, tin, vanadium, zinc	HNO3	28/180 days
DOC	Dissolved organic carbon	HCl	28 days
DRO/RRO	Diesel range organics/residual range organics	HCl	7 days
F	Fluoride	None	7 days
GRO	Gasoline range organics	HCl	14 days
NH4	Ammonia	H2SO4	28 days
NO2-NO3	Nitrate-nitrite	H2SO4	28 days
PAH	Polycyclic aromatic hydrocarbons	None	7 days
pH	pH	None	7 days
SO4	Sulfate	None	7 days
Sulfide	Sulfide	NaOH+ZnAc	7 days
SVOC	Semi-volatile organic carbon	None	7 days
TDS	Total dissolved solids	None	7 days
TOC	Total organic carbon	HCl	28 days
Total metals	Aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, tin, vanadium, zinc	HNO3	28 days
TP	Total phosphorus	H2SO4	28 days
TSS	Total suspended solids	None	7 days
VOC	Volatile organic carbon	HCl	14 days

Appendix II. Quality Assurance/Quality Control performed for water quality samples collected at Drill Rig #6, Pebble Prospect, 22-23 October 2011, South Fork Koktuli River, Nushagak Drainage, Bristol Bay Alaska

Introduction

Quality assurance (QA) and quality control (QC) are performed in order to assess accuracy and precision of water quality measurements in field samples and identify potential sources of bias. Biases and contamination can be introduced from field equipment, field methodology, and during sample handling and transport. They can be introduced at the laboratory due to lab methodology or equipment limitations.

Field sampling was conducted according to the Quality Assurance Project Plan. Chain of custody protocol was followed. SGS Analytical Laboratory in Anchorage processed samples. Sample results were analyzed for accuracy, precision, representativeness, and completeness. Table II-1 contains a summary of the samples collected or carried in the field.

Table II-1. Sample Identification. A "full" analysis refers to analysis for total and dissolved metals, BTEX, DRO/RRO, GRO, PAHs, anions, pH, alkalinity, conductivity, TSS, and TDS. A detailed list of metals, PAHs, and anions is included in the full technical report. BTEX = benzene, toluene, ethylene, xylene; DRO = diesel range organics; RRO = residual range organics; GRO = gasoline range organics; PAH = polycyclic aromatic hydrocarbons; TSS = total suspended solids; TDS = total dissolved solids.

Sample ID	Site	Date	Time	Type of Sample	Analysis
WS001	surface POOL	22-Oct	1530	site sample	Full
WS002	SPRING	22-Oct	1600	site sample	Full
WS003	surface POOL	23-Oct	1230	site sample	Full
WS003 MS	surface POOL	23-Oct	1250	for matrix spike	Full
WS003 MSD	surface POOL	23-Oct	1250	for matrix spike duplicate	Full
WS004	SPRING	23-Oct	1500	site sample	Full
WS004MS	SPRING	23-Oct	1525	for matrix spike	Full
WS004MSD	SPRING	23-Oct	1525	for matrix spike duplicate	Full
WS005	SUMP	23-Oct	1545	site sample	Full, except BTEX
WS203	surface POOL	23-Oct	1240	field duplicate	Full
WS204	SPRING	23-Oct	1510	field duplicate	Full
WS205	SUMP	23-Oct	1600	field duplicate	Full, except BTEX
WS305	SUMP	23-Oct	1200	site sample	DOC, PAH, DRO/ RRO
WS402	Blank	23-Oct	2045	equipment blank	Dissolved metals
WS501	Blank	23-Oct	2030	de-ionized water blank	Total metals
WS601	cooler 1	22-Oct	1600	trip blank	BTEX
WS602	cooler 2	23-Oct	1250	trip blank	BTEX
WS603	cooler 3	23-Oct	1230	trip blank	BTEX
WS604	cooler 4	23-Oct	1500	trip blank	BTEX
WS605	cooler 5	23-Oct	1525	trip blank	BTEX

Methods
Lab and field samples went through analysis for completeness, accuracy, precision, representativeness, and a comparison of total and dissolved metal concentrations (Table II-2).

Completeness
Completeness is the portion, per analyte, of all field samples for which analyses were completed successfully, i.e., without any reason to reject. Completeness was calculated per analyte.

Completeness = 100*(total number of valid lab results) / (total number of field sample analyses)

Accuracy (bias)
Accuracy is a measure of the agreement of a known value with a measured value, performed by adding a known concentration of analyte to an internal lab sample or a field-provided sample, analytically measuring the concentration, and determining whether the difference in the known versus measured values falls within acceptable limits.

The lab determined lab procedure and equipment accuracy by running internal lab control samples (LCS) and internal matrix spike samples (MS). Field samples were also provided for spike addition (WS003MS and WS004MS, from the POOL and SPRING samples) to determine whether material in the field sample affected spike recoveries. No samples from the SUMP were provided for matrix spikes.

> **LCS accuracy**:% recovery = 100*(measured concentration / actual spike concentration)
>
> **MS accuracy**: % recovery = 100*(measured concentration of spiked aliquot – measured concentration of un-spiked aliquot)/(actual spike concentration)

Representativeness
Representativeness measures whether lab processing, field equipment, or the field environment introduced analytes or changed analyte concentrations from the "true" stream water quality. Representativeness was assessed by analyzing trip blanks and equipment blanks in the field, and method blanks in the lab.

Trip blanks (TB) were bottles of lab-certified water (provided by the lab) that were never opened but were subjected to the same sample handling and transport to the field, in the field, and from the field to the lab to determine if the field environment or transport methods introduced contaminants. One blank of deionized water for metals analysis was carried, and a trip blank for BTEX analysis was carried in every cooler.

The **equipment blank (**EB) was a bottle of lab-certified water (provided by the lab) that was processed by field personnel in the same manner as stream water. Lab-certified water was pumped from the lab bottle into a sample bottle using a peristaltic pump and clean tubing in the same manner and by the same personnel as used for stream water collection. It was used to determine if field equipment introduced contaminants.

Method blanks (MB) were vials of lab-certified water made up in the lab and run with the field samples in the lab to determine if the lab processing equipment introduced contaminants.

Precision
Precision has both quantitative and qualitative aspects to determine whether systemic contamination has been introduced to samples. It is the reproducibility of a measurement under a specific set of conditions and is used to determine variation. Reproducibility is the relative percent difference (RPD) of duplicates or the relative standard deviation (RSD) of triplicates.

RPD = 100* (absolute value of the difference in measurements)/(mean of the two results)
RSD = 100* (standard deviation in results)/(mean of replicates)

The lab assessed precision with
- duplicates (DUP),
- lab control sample duplicates (LCSD), and
- matrix spike duplicates (MSD)

Lab duplicates (DUP) are divisions of an incoming field sample into more than one aliquot in order to measure analyte concentrations in each. DUP samples were made from the field samples submitted for matrix spikes from the POOL (WS00MS DUP) and SPRING (WS004MS DUP). DUPs were analyzed for TSS, TDS, pH, alkalinity, conductivity, ammonia, total phosphorous, and sulfide.

Duplicate matrix spikes (MSD) are divisions of a spiked internal lab sample into aliquots; the lab conducted MSD for dissolved organic carbon.

Lab control sample duplicates (LCSD) are divisions of lab control samples. LCSD samples were analyzed for organics, phosphorous and ammonia.[25]

Field precision was determined through collection of **field replicates.** Replicate field samples were also collected for spikes; field matrix spikes for lab accuracy and **field matrix spike duplicates** for a combination of lab and field precision.
- SUMP parent (WS005) and duplicate (WS205) for all analytes except BTEX
- SUMP additional organics sample (WS305) for comparison with WS005 and WS205
- POOL parent (WS003) and duplicate (WS203) for all analytes
- SPRING parent (WS004) and duplicate (WS204) for all analytes
- Additional samples from the POOL for matrix spikes (WS003MS) to be compared with matrix spike duplicates (WS003MSD)
- Additional samples from the SPRING for matrix spikes (WS004MS) to be compared with matrix spike duplicates (WS004MSD)

[25] Ammonia, total phosphorous, DRO/RRO, GRO, benzene, toluene, ethylbenzene, o-xylene, p & m xylene, and the following PAHs: 1- and 2-methylnaphthalene, acenaphthylene, acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorine, indeno (1,2,3-c,d) pyrene, naphthalene, pyrene.

Other
Samples were reviewed for whether dissolved concentrations of metals exceeded total concentrations.

Table II-2. Quality assurance/quality control methods.

	Measured as	Lab Code	Field Code
Lab accuracy	% recovery of a spike added to sample	LCS MS BMS	None None WS003MS, WS004MS
Lab precision	Relative percent difference	LCSD (compare to LCS) MSD (compare to MS) BMSD	None None WS003MS compare to WS003MSD, WS004MS compare to WS004MSD
Lab representa-tiveness	Detected analyte, of concern over 5x limit of quantitation	MB	None
Field precision	Relative percent difference	Field sample compared to field replicate	WS003 compare to WS203 WS004 compare to WS204 WS005 compare to WS205
Field representa-tiveness	Detected analyte, of concern over 5x limit of quantitation	TB PS – Primary field sample (blank for total metals) PS – Primary field sample (Equipment blank for dissolved metals)	WS601-WS605 WS501 WS402

Results
Completeness
Completeness is 100%, with no samples rejected in lab analyses.

Total and Dissolved Metals
Review of metals data suggest antimony and molybdenum had higher dissolved than total concentrations in the POOL (all three samples, WS001, WS003, WS203) and SUMP (both samples, WS005, WS205) (Table II-3). Nickel had slightly higher dissolved over total concentrations in the groundwater SPRING, but all concentrations were near detection limit. The LOQ for nickel was 0.62ug/L for dissolved and 2.48 ug/L for total, except the LOQ for total nickel was 0.62 for samples WS002, WS004, and WS204. Antimony and molybdenum were removed from the data set.

Table II-3. Total and dissolved metals comparison. Antimony, molybdenum, and nickel concentrations were higher in the dissolved fraction than in the total fraction in some samples. Nickel was near the limit of detectionl. Antimony and molybdenum in the POOL (WS001, WS003, WS203) and SUMP (WS005, WS205) had consistently higher concentrations in the dissolved fraction.

Analyte	Sample	Total concentration (ug/L)	Dissolved concentration (ug/L)	LOQ (ug/L)
Sb				0.2 -0.05
	WS001_POOL	1.93	15.2	
	WS003_POOL	1.69	8.8	
	WS203_POOL	1.61	6.5	
	WS005_SUMP	1.08	12.3	
	WS205_SUMP	0.93	14	
Mo				0.2 -0.05
	WS001_POOL	12.7	21.7	
	WS003_POOL	5.63	8.37	
	WS203_POOL	6.21	7.41	
	WS005_SUMP	25.5	30.7	
	WS205_SUMP	28.5	31.8	
Ni				
	WS001_POOL	3.88	7.94	0.62-2.48
	WS002_SPRING	0.155	0.765	0.62
	WS004_SPRING	0.185	0.795	0.62
	WS204_SPRING	0.159	0.753	0.62

Accuracy (bias)

Lab control samples and lab matrix spikes (LCS and MS)

The lab provided 119 LCS analyses for metals, anions, BTEX, PAHs, DRO/RRO, GRO, conductivity, alkalinity, and pH and 19 MS analyses of lab samples for DOC, anions,[26] and mercury. Lab accuracy was within method-specific acceptance limits for all LCS samples. However, matrix spikes of 19 spikes during batch runs had two analyses of nitrate + nitrite out of acceptable range. The two samples had nitrate + nitrite recovered at 78-79% of the known concentration added, with acceptable limits of 90-110%.

Field Matrix Spikes (BMS)

The lab performed 97 BMS matrix spike analyses of field aliquots from the POOL, and 96 BMS analyses of field aliquots from the SPRING. Spikes were conducted for all analytes except pH.

- Matrix spiked field samples for the SPRING were not quite within range for mercury for sample WS004MS (82%, acceptable range is 85-115%).
- Matrix spiked samples for the POOL were out of acceptable range for some analytes. Spike recovery was low for DRO, sulfate, nitrate + nitrite, total iron, total tin, and dissolved sodium. Spike recovery was high for total phosphorous, total potassium, total and dissolved aluminum, total barium, and total vanadium (Table II-4a). When duplicate

[26] sulfide, ammonia, total phosphorous, fluoride, chloride, sulfate, nitrate + nitrite

matrix spikes were run, spikes were out of range for the same elements, except iron, vanadium, total phosphorous, sulfate, and nitrate + nitrite were within range, and calcium and copper were slightly out of preferred percent recovery range (Ca recovered at 139%, Cu recovered at 56%; acceptable range is 70-130%). DRO and tin, while biased high, had initial concentrations below LOQ and are not included in the table.

Analysis indicates that material in field samples affects lab measurements of some elements in POOL samples; particularly aluminum could be biased high (Table II-4b). However, the only particularly poor results occurred when a relatively small amount of spike was added to a sample with very high analyte concentrations. The lab narrative notes that post-digestion spikes of metals were within acceptable ranges.

Table II-4a. Matrix spikes of POOL sample, percent recovery. The table provides information on sample analytes for which matrix spikes of field samples were outside the preferred recovery range. Results for which the percent recovery is greater than 3x the acceptable range are in bold.

Analyte	Initial concentration	Final concentration	Spike concentration	% recovered	Acceptable % recovery	LOQ
Na (ug/L), dissolved	15,300	17,000	2,500	69	70-130	100
Fe (ug/L)	13,000	13,300	500	69	70-130	80
Sulfate	30	38	10	85	90-110	0.1
NO3+NO2	0.09	4.11	5	80	90-110	0.1
Total P (mg/L)	0.474	1.1	0.2	312	75-125	0.1
Al, total (ug/L)	15,300	20,600	50	**10,700**	70-130	160
Al, dissolved (ug/L)	272	453	50	362	70-130	2
Ba (ug/L)	279	323	25	177	70-130	1
K (ug/L)	21,100	26,700	2,500	222	70-130	200
V (ug/L)	74.2	120	25	182	70-130	4

Table II-4b. Duplicated matrix spikes of POOL sample, percent recovery. The table provides information on sample analytes for which field sample matrix spike duplicate results were outside the preferred recovery range. As with Table II-4a, DRO and total tin are not listed, and percent recoveries more than 3x above the acceptable range are in bold

Analyte	Initial concentration	Final concentration	Spike concentration	% recovered	Acceptable range, %	LOQ
Al, total (ug/L)	15,300	17,800	50	**4,910**	70-130	160
Al, dissolved (ug/L)	272	472	50	**399**	70-130	2
Ba, total (ug/L)	279	321	25	169	70-130	1
Ca, total (ug/L)	21,200	24,700	2,500	139	70-130	200
Cu, total (ug/L)	70	85	25	56	70-130	2
Fe, total (ug/L)	13,000	12,000	500	-189	70-130	80
K, total (ug/L)	21,100	25,900	2,500	193	70-130	200
Na, total (ug/L)	15,400	19,100	2,500	148	70-130	400

Representativeness

"Representativeness" provides qualitative and quantitative assessment of whether field conditions or lab handling of samples introduced contamination. For the purposes of this study, analytes detected in blanks are listed, and analytes detected in concentrations greater than 5 times the LOQ (5*LOQ) are of concern.

Lab method blanks (MB)

Method blanks (118 analyses) were analyzed for all constituents, and all were below detection limits. Surrogate spikes added as internal controls were recovered within acceptable ranges.

Trip blanks (TB)

A trip blank for BTEX was carried in each cooler, for a total of five trip blanks (WS601-605). BTEX was not detected in the trip blanks (40 analyses), and spikes using surrogates[27] were recovered within acceptable percent ranges.

[27] 1,2-dichloroethane-D4, 4-bromofluorobenzene, toluene-D8

Water blanks
A deionized water blank was carried (WS501) and analyzed for total metals. Total metals in the deionized water trip blank (27 analyses) were below the detection limit (LOD) or quantification limit (LOQ), except total aluminum, barium, and boron were slightly above LOQ.

An equipment blank of water passed through a peristaltic pump and in-line filter (WS402) was analyzed for dissolved metals (28 analyses); dissolved concentrations of aluminum and boron were detected near LOQ, and dissolved barium at more than twice LOQ (Table II-5). Other dissolved metals were below detection limits,[28] or between limits of detection and limits of quantification (LOQ).[29] Additionally, dissolved manganese was detected at nearly five times LOQ, although the total concentration was only 0.239 ug/L and therefore not highly significant.

Table II-5. Metals detected in blanks. A single de-ionized water blank was analyzed for total metal concentrations and a single equipment blank was analyzed for filtered metal concentrations. Aluminum, barium, and boron were measured above detection limits in both.

Analyte	Measured concentration (ug/L)	LOD	LOQ	Exceed 5x LOQ?
Al, total	2.15	1.24	2	No
Al, dissolved	2.07	1.24	2	No
Ba, total	0.519	0.05	0.25	No
Ba, dissolved	0.642	0.05	0.25	No
B, total	5.93	3.0	5	No
B, dissolved	6.21	3.0	5	No
Mn, dissolved	0.239	0.03	0.05	No

When an analyte is consistently outside acceptable limits, measured concentrations may not be representative of true concentrations. Of 213 analyses, no analytes were detected in trip, equipment, or method blanks at greater than 5 times the LOQ. It is possible that concentrations of aluminum, barium, and boron in field samples may be biased slightly high in measurements. This should have little effect on field sample measurements of aluminum and barium, which were orders of magnitude greater than the detected concentrations in blanks. Regarding boron, field samples from the POOL and spring were below LOQ. Boron was measured at slightly above LOQ in the sump, and this concentration could be biased slightly high.

Precision
Laboratory
The lab ran duplicates (division of a field sample into two aliquots, denoted as DUP), matrix spike duplicates (division of an internal lab sample into two spiked samples, denoted as MSD) and lab control sample duplicates (LCSD) to assure that measured concentrations were reproducible.

[28] Ag, As, Be, Bi, Cd, Cr, Co, Fe, Hg, Pb, Sb, Se, Sn, Th, V; Ca, Mg, Na, K
[29] Cu, Ni, Si, Zn

Matrix spike (MSD) and lab control sample duplicates (LCSD)
MSD (dissolved organic carbon was the only analyte) in the POOL and SPRING were well within acceptable recovery ranges, as were all LCSD samples (organics, phosphorous and ammonia analytes).

Lab duplicates of field samples (DUP)
Lab duplicates are considered acceptable according to EPA standards[30] when:

(i) Duplicates met or exceeded 5*LOQ and the RPD was 20% or greater;
(ii) Duplicates exceeded LOQ, but one or both was less than 5*LOQ, and the difference between the two duplicates exceeded the LOQ.

The relative percent difference (RPD) between concentrations measured in the SPRING (WS004DUP) duplicates for TSS was outside the acceptable range (Table II-6). The lab narrative notes high suspended sediment based on visual inspection. Concentrations of TSS measured near the LOQ for the parent sample, but the difference in concentrations between the two samples was greater than the LOQ.

Table II-6. Lab duplicates of field samples. Of 23 analyses, two results for TSS exceeded the recommended RPD.

Analyte	Measured concentration 1	Measured concentration 2	Absolute difference (mg/L)	Mean (mg/L)	RPD	LOQ
TSS, SPRING	0.73	4.59	3.86	2.66	145%	0.5
TSS, lab reference	151	108	43	130	33%	0.5

Field
Acceptable reproducibility is calculated the same for field samples as for lab samples, with the exception that generally an RPD of 35% is considered acceptable.

Matrix spike replicates
Matrix spikes are added to samples and percent recovery of the spike calculated to determine accuracy of lab analytical equipment. Matrix spike – matrix spike replicate pairs are assessed to determine the reproducibility of the measurements. Therefore, the percent recovery is not assessed, but rather the RPD.

All 82 analyses for spiked duplicates at the SPRING fell within acceptable ranges (comparison of WS004MS and WS004MSD). Spikes were added for all analytes except anions. Of 82 analyses for spiked duplicates of POOL samples, all fell within the accepted RPD of 35% (comparison of WS003MS and WS003MSD), although antimony comes close at 34.4%; the lab narrative notes matrix interference.

Field sample replicates

[30] US EPA 2005

Concentrations for pairs of POOL samples (WS003 and WS203) collected October 23, 2011 were run for 94 analyses, which included analyses for all parameters. Of these

- In 27 sets, both samples had concentrations below LOD
- In 25 sets, both samples had concentrations below 5*LOQ
- 36 analyses had acceptable RPDs, with the highest at 31% (dissolved antimony)
- 6 analyses had RPDs outside the acceptable range. All were for dissolved concentrations of metals
    - When concentrations of both the parent and duplicate were greater than 5*LOQ
        - Aluminum RPD 142%
        - Barium RPD 38%
        - Cobalt RPD 104%
        - Iron RPD 65%
    - Silver and vanadium – for each, one sample was within 5*LOQ and one below it, but the absolute difference in concentrations exceeded LOQ.

Pairs of SPRING samples (WS004 and WS204) collected October 23, 2011 were run for 94 analyses. Of these,

- In 71 sets, both samples had concentrations below LOD (47 sets) or below 5*LOQ (24 sets)
- In 20 sets, both samples were greater than 5*LOQ, and within acceptable RPD; the highest RPD was 9%, except for dissolved manganese at 34%
- 3 sets exceeded RPD. Total aluminum and total manganese were in concentrations greater than 5*LOQ, and had RPDs of 54% and 107% respectively. Total iron had a set for which concentrations of one sample were greater than 5*LOQ and the other sample was lower than 5*LOQ, with the absolute difference greater than LOQ.

Pairs of samples from the SUMP (WS005 and WS205) collected October 23, 2011 were run for 88 analyses. Of these,

- In 40 sets, both samples had concentrations below LOD (18) or below 5*LOQ (22 sets)
- In 35 sets, both samples were greater than 5*LOQ and within acceptable RPD, with most below 13%
- In 2 sets, one sample was in concentrations greater than 5*LOQ and one less than 5*LOQ, and duplicates were within acceptable range with absolute concentration differences less than the LOQ
- In 10 sets, duplicate samples were outside the acceptable range (Table II-7)
    - For samples in which concentrations of the parent and duplicate both exceeded 5*LOQ, dissolved barium, cobalt, iron, and manganese exceeded 35% RPD (44%, 103%, 88%, 57% respectively).
    - For sets in which one sample concentration exceeded 5*LOQ and the other did not, the difference in concentrations exceeded the LOQ for: total bismuth, DRO, RRO, and dissolved concentrations of copper, silver, and vanadium.

Table II-7. Field duplicates. Listed in the table are sample analytes that exceed the preferred parameters for comparable duplicates. For analytes in which both samples had concentrations greater than 5*LOQ, the RPD is listed. Acceptable RPD is 0-35%. For concentrations in which one sample was less than 5*LOQ, the absolute difference of concentrations was greater than LOQ. Sample analytes for which both concentrations were less than 5*LOQ were not included in the assessment. Concentrations are in ug/L unless otherwise noted.

Location	Analyte	Measured concentration 1	Measured concentration 2	Absolute difference	Mean	RPD	LOQ
SUMP							
	Ba, dissolved	14	8.94	5.06	11.47	44%	0.25
	Co, dissolved	1.32	0.423	0.897	0.8715	103%	0.02
	Fe, dissolved	857	333	524	595	88%	20
	Mn, dissolved	20.4	11.3	9.1	15.85	57%	0.05
	Bi, total	0.95	1.16	0.21	1.05		0.20
	DRO, mg/L	2.53	3.36	0.83	2.95		0.60
	RRO, mg/L	2.10	3.26	1.16	2.68		0.50
	Cu, dissolved	3.88	1.52	2.36	2.70		0.50
	Ag, dissolved	0.12	0.06	0.06	0.09		0.02
	V, dissolved	8.83	4.64	4.19	6.74		1.00
POOL							
	Al, dissolved	272	1620	1348	946	142%	2
	Ba, dissolved	30.7	45.3	14.6	38	38%	0.25
	Co, dissolved	1.53	0.48	1.05	1.01	104%	0.02
	Fe, dissolved	640	1250	610	945	65%	20
	Ag, dissolved	0.07	0.22	0.15	0.14		0.02
	V, dissolved	1.71	8.12	6.41	4.92		1.00
SPRING							
	Al, total	44	25	19	35	54%	2
	Mn, total	9.82	2.97	6.85	6.40	107%	0.05
	Fe, total	124	51	73	87		20

In addition to field duplicate sets, triplicates were collected for non-BTEX organics at the SUMP. All were collected on October 23, 2011, with the first sample collected at noon (WS305) and two samples collected in the late afternoon (WS005, WS205). A quality control check was performed by calculating the relative standard deviation (RSD), which is similar to the RPD but allows for checks across more than two samples.

Of 21 sets of analyses (each with three samples from WS305, WS005, and WS205), all analyte concentrations were within acceptable limits for reproducibility.

- In 13 sets, all samples were in concentrations below LOD

- In 5 sets, at least one sample in the set was above LOD but all samples were below 5*LOQ
- In 2 sets (DRO and RRO), at least one sample was greater than 5*LOQ and one sample was less than. The RSDs were 25%, within the acceptable range of 0-35%.
- Only one set, for dissolved organic carbon, had all samples in concentrations greater than 5*LOQ. The RSD was 7%, well within acceptable range.

Summary

A quality control check for most metals, organics, anions, indicates samples are of high quality and data are reliable. All lab QA/QC was of high quality, and field blanks (BTEX, total and dissolved metals) were of high quality, indicating no contamination.

The issues that arose are likely related to

a) A delay in filtering
b) Non-homogenous samples

Antimony and molybdenum were removed from the data due to higher dissolved than total concentrations in the SUMP and POOL samples. There were consistent issues with metals, possibly related to the delay in filtering.

Samples are representative. Although no metals were detected in total or filtered trip blanks at greater than 5*LOQ, aluminum, barium, and boron were detected in both.

Samples are accurate for most analytes. There was some difficulty in obtaining acceptable spike recovery for aluminum, barium, iron, sodium, and potassium, particularly when a small amount of spike for aluminum was added to a sample with high concentrations of analyte.

Samples are precise for most analytes. In the SPRING, which is likely uncontaminated, there was difficulty obtaining good replicate precision for aluminum, iron, and manganese, suggesting non-homogenous samples. According to the SGS lab, visual analysis of the SPRING sample showed high suspended sediment while total suspended sediment duplicates were outside the acceptable range when the lab split the field sample.

In the POOL, which appeared contaminated with material leaching from the SUMP, there was difficulty in obtaining good replicate precision for barium, cobalt, iron, dissolved silver, and dissolved vanadium; these were also difficult in the SUMP sample, which additionally had poor duplicate matches for dissolved copper, dissolved manganese. DRO and RRO duplicates in the sump were slightly outside the preferred acceptable matching range, but based on other quality control checks, data for organics, including DRO and RRO, was generally of high quality.

The high sediment content in the POOL and SUMP, and the delay in filtering, may have contributed to the difficulty in aluminum spike recoveries and variability within field replicate data sets, particularly for some major elements.

Appendix III. SGS North American Inc. laboratory results for Pebble Drill Site 6 water quality sampling.

SGS North America Inc.
Alaska Division
Level II Laboratory Data Report

Project:	Pebble Drilling Sump Project
Client:	Fisheries Research Consulting
SGS Work Order:	1115255

Released by:

Contents:

Note:
Unless otherwise noted, all quality assurance/quality control criteria is in compliance with the standards set forth by the proper regulatory authority, the SGS Quality Assurance Program Plan, and the National Environmental Accreditation Conference.

Case Narrative

Customer: FISHRES **Fisheries Research Consulting**

Project: 1115255 **Pebble Drilling Sump Project**

Refer to the sample receipt form for information on sample condition.

1115255001 PS 102211SU01WS001

4500S-D - Sulfide - The LOQ was raised due to matrix interference.

AK102/103 - Unknown hydrocarbon with several peaks is present.

1115255003 PS 102311SU01WS003

4500S-D - Sulfide - The LOQ was raised due to matrix interference.

AK103 - Unknown hydrocarbon with several peaks is present.

1115255004 BMS 102311SU01WS003 MS

300.0 - Anions - MS recovery for sulfate (85%) is below QC criteria. Refer to LCS for accuracy information.

4500S-D - Sulfide - The LOQ was raised due to matrix interference.

4500NO3-F - Total Nitrate/Nitrite - MS recovery (80%) is below QC criteria. Refer to the LCS for accuracy information.

4500P-B,E - Total Phosphorus - MS recovery is above the QC criteria. Refer to the LCS for accuracy information.

AK102 - MS recoveries (72%) is below QC criteria. See the LCS/LCSD for accuracy and precision data.

200.8LL - Metals - MS recoveries are outside of acceptance criteria for several metals. Post-digestion spike was successful.

1115255005 BMSD 102311SU01WS003 MSD

AK102 - MSD recovery (74%) is outside QC criteria. See the LCS/LCSD for accuracy and precision data.

200.8LL - Metals - MSD recoveries are outside of acceptance criteria for several metals. Post-digestion spike was successful.

200.8LL - Metals - RPD is outside of acceptance criteria for antimony due to matrix interferences.

1115255006 BDUP 102311SU01WS003 DUP

4500S-D - Sulfide - The LOQ was raised due to matrix interference.

4500NO3-F - Total Nitrate/Nitrite - Sample duplicate RPD was outside of acceptance limits. The difference between the parent sample and duplicate concentrations are less than the LOQ.

1115255007 PS 102311SU01WS203

AK103 - Unknown hydrocarbon with several peaks is present.

1115255009 BMS 102311SU01WS004 MS

4500NO3-F - Total Nitrate/Nitrite - MS recovery (80%) is below QC criteria. Refer to the LCS for accuracy information.

1115255011 BDUP 102311SU01WS004 DUP

4500NH3-G - Ammonia - Sample duplicate RPD was outside of acceptance limits. Both sample and duplicate concentrations are less than the LOQ.

4500NO3-F - Total Nitrate/Nitrite - Sample duplicate RPD was outside of acceptance limits. Both sample and duplicate concentrations are less than the LOQ.

2540D - Total Suspended Solids - Sample duplicate RPD was outside of acceptance limits. The sample and duplilcate were submitted in two different containers. A significant amount of suspended material is in the sample and visually, the amount between containers is not comparable (i.e. non-homogenous).

1115255012 PS 102311SU01WS204

8270D SIM - The terphenyl-d14 surrogate recovery (137%) is above the QC criteria. No analytes were detected above the LOQ in the sample.

1115255013 PS 102311SU01WS005

4500S-D - Sulfide - The LOQ was raised due to matrix interference.

AK102/103 - Unknown hydrocarbon with several peaks is present.

* QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to the associated field samples.

Case Narrative

Customer: FISHRES **Fisheries Research Consulting**

Project: 1115255 **Pebble Drilling Sump Project**

1115255014 PS **102311SU01WS205**

4500S-D - Sulfide - The LOQ was raised due to matrix interference.

AK102/103 - Unknown hydrocarbon with several peaks is present.

1115255015 PS **102311SU01WS305**

AK102/103 - Unknown hydrocarbon with several peaks is present.

1115255021 BMS **102311SU01WS003 MS**

200.8LL - Metals - MS recoveries are outside of acceptance criteria for aluminum and sodium. Post-digestion spike was successful.

1115255022 BMSD **102311SU01WS003 MSD**

200.8LL - Metals - MSD recovery is outside of acceptance criteria for aluminum. Post-digestion spike was successful.

1115255025 BMS **102311SU01WS004 MS**

245.1 - Mercury- MS recovery for mercury was outside of acceptance criteria (biased low). Post digestion spike was successful.

1063625 MS **1115345001MS**

4500NO3-F - Total Nitrate/Nitrite - MS recovery (79%) is outside of QC criteria. Refer to the LCS for accuracy information.

1063626 MS **1115348004MS**

4500NO3-F - Total Nitrate/Nitrite - MS recovery (78%) is outside of QC criteria. Refer to the LCS for accuracy information.

1064070 DUP **1115263039DUP**

2540D - Total Suspended Solids - Sample duplicate RPD was outside of acceptance limits. The sample and duplicate were submitted in two different containers. A significant amount of suspended material is in the sample and visually, the amount between containers is not comparable (i.e. non-homogeneous).

* QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to the associated field samples.

Laboratory Analytical Report

Client: **Fisheries Research Consulting**
6601 Chevigny Street
Anchorage, AK 99502

Attn: **Sarah O'Neal**
T: F:
sarahlouiseoneal@ak.net

Project: **Pebble Drilling Sump Project**

Workorder No.: **1115255**

Certification:

This data package is in compliance with the terms and conditions of the contract, both technically and for completeness, unless otherwise noted on the sample data sheet(s) and/or case narrative. This certification applies only to the tested parameters and the specific sample(s) received at the laboratory. If you have any questions regarding this report, or if we can be of further assistance, please contact your SGS Project Manager.

Steve Crupi

steven.crupi@sgs.com
Project Manager

Contents (Bookmarked in PDF):

Enclosed are the analytical results associated with the above work order. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. If you have any questions regarding this report, or if we can be of any other assistance, please contact your SGS Project Manager at 907-562-2343. All work is provided under SGS general terms and conditions (<http://www.sgs.com/terms_and_conditions.htm>), unless other written agreements have been accepted by both parties.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & UST-005 (CS) for ADEC and AK100001 for NELAP (RCRA methods: 1020A, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035B, 6010B, 6020, 7470A, 7471B, 8021B, 8081B, 8082A, 8260B, 8270D, 8270D-SIM, 9040B, 9045C, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, the National Environmental Laboratory Accreditation Program and other regulatory authorities. The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV	Continuing Calibration Verification
CL	Control Limit
D	The analyte concentration is the result of a dilution.
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
F	Indicates value that is greater than or equal to the DL
GT	Greater Than
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
JL	The analyte was positively identified, but the quantitation is a low estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LOD	Limit of Detection (i.e., 2xDL)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
M	A matrix effect was present.
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
Q	QC parameter out of acceptance range.
R	Rejected
RL	Reporting Limit
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content.
All DRO/RRO analyses are integrated per SOP.

Client Name: Fisheries Research Consulting
Project Name: Pebble Drilling Sump Project
Workorder No.: 1115255

Analytical Methods

Method Description	Analytical Method
8270 PAH SIM Semi-Vol GC/MS Liq/Liq ext.	8270D SIMS (PAH)
Alkalinity as CaCO3 QC	SM20 2320B
Ammonia-N (W) SM4500-F	SM20 4500-NH3 G
Conductivity SM2510B	SM20 2510B
Dissolved Organic Carbon	SM 5310B
DRO/RRO Low Volume Water	AK102
DRO/RRO Low Volume Water	AK103
Gasoline Range Organics (W)	AK101
Ion Chromatographic Analysis (W)	EPA 300.0
Mercury EPA 245.1 DISSOLVED	EP245.1
Mercury EPA 245.1 for non drinking water	EP245.1
Metals in Water by 200.8 ICP-MS LL	200.8 Low Level
Metals in Water by 200.8 ICP-MS LL DIS	200.8 Low Level
Nitrate/Nitrite Flow injection Pres.	SM20 4500NO3-F
pH Analysis	SM20 4500-H B
Sulfide by Colorimetric	SM20 4500S D
Total Dissolved Solids SM18 2540C	SM20 2540C
Total Phosphorus Kone (W)	SM20 4500P-B,E
Total Suspended Solids SM20 2540D	SM20 2540D
Volatile Organic Compounds (W)	SW8260B

Sample ID Cross Reference

Lab Sample ID	Client Sample ID
1115255001	102211SU01WS001
1115255002	102211SU01WS002
1115255003	102311SU01WS003
1115255004	102311SU01WS003 MS
1115255005	102311SU01WS003 MSD
1115255006	102311SU01WS003 DUP
1115255007	102311SU01WS203
1115255008	102311SU01WS004
1115255009	102311SU01WS004 MS
1115255010	102311SU01WS004 MSD
1115255011	102311SU01WS004 DUP
1115255012	102311SU01WS204
1115255013	102311SU01WS005
1115255014	102311SU01WS205
1115255015	102311SU01WS305
1115255016	102311SU01WS402
1115255017	102311SU01WS501
1115255018	102211SU01WS001
1115255019	102211SU01WS002
1115255020	102311SU01WS003
1115255021	102311SU01WS003 MS
1115255022	102311SU01WS003 MSD
1115255023	102311SU01WS203
1115255024	102311SU01WS004
1115255025	102311SU01WS004 MS
1115255026	102311SU01WS004 MSD
1115255027	102311SU01WS204
1115255028	102311SU01WS005
1115255029	102311SU01WS205
1115255030	102311SU01WS305
1115255031	102211SU01WS601
1115255032	102311SU01WS603
1115255033	102311SU01WS602
1115255034	102311SU01WS604
1115255035	102311SU01WS605

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102211SU01WS001**

SGS Ref. #: 1115255001

Parameter	Result	Units
Metals by ICP/MS		
Aluminum	27600	ug/L
Antimony	1.93	ug/L
Arsenic	8.29	ug/L
Barium	505	ug/L
Beryllium	2.74	ug/L
Cadmium	0.177J	ug/L
Calcium	33700	ug/L
Chromium	16.4	ug/L
Cobalt	1.69	ug/L
Copper	137	ug/L
Iron	20600	ug/L
Lead	10.7	ug/L
Magnesium	12200	ug/L
Manganese	490	ug/L
Molybdenum	12.7	ug/L
Nickel	3.88	ug/L
Silver	2.01	ug/L
Sodium	17700	ug/L
Thallium	0.406	ug/L
Vanadium	120	ug/L
Zinc	85.3	ug/L
Bismuth	0.495	ug/L
Potassium	30600	ug/L
Waters Department		
Chloride	9.61	mg/L
Fluoride	0.259	mg/L
Total Nitrate/Nitrite-N	2.10	mg/L
Sulfate	71.9	mg/L
Alkalinity	48.0	mg/L
Total Suspended Solids	1510	mg/L
Ammonia-N	0.0321J	mg/L
Conductivity	305	umhos/cm
pH	6.50	pH units
Total Dissolved Solids	255	mg/L
Total Phosphorus	1.56	mg/L
Semivolatile Organic Fuels Department		
Diesel Range Organics	0.940	mg/L
Residual Range Organics	1.32	mg/L
Polynuclear Aromatics GC/MS		

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102211SU01WS001**
SGS Ref. #: 1115255001

Parameter	Result	Units
Naphthalene	0.117	ug/L
1-Methylnaphthalene	0.0991	ug/L
2-Methylnaphthalene	0.126	ug/L

Client Sample ID: **102211SU01WS002**
SGS Ref. #: 1115255002

Parameter	Result	Units
Metals by ICP/MS		
Aluminum	23.0	ug/L
Antimony	0.0150J	ug/L
Barium	5.73	ug/L
Boron	1.88J	ug/L
Calcium	7540	ug/L
Chromium	0.124J	ug/L
Cobalt	0.0322	ug/L
Copper	0.246J	ug/L
Iron	99.3	ug/L
Magnesium	1920	ug/L
Manganese	6.10	ug/L
Molybdenum	0.775	ug/L
Nickel	0.155J	ug/L
Sodium	2620	ug/L
Zinc	2.82J	ug/L
Potassium	370	ug/L
Waters Department		
Chloride	0.760	mg/L
Fluoride	0.0830J	mg/L
Total Nitrate/Nitrite-N	0.0535J	mg/L
Sulfate	8.93	mg/L
Alkalinity	20.3	mg/L
Total Suspended Solids	11.5	mg/L
Conductivity	65.9	umhos/cm
pH	6.70	pH units
Total Dissolved Solids	41.0	mg/L
Total Phosphorus	0.00546J	mg/L
Semivolatile Organic Fuels Department		
Residual Range Organics	0.421J	mg/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS003**

SGS Ref. #: 1115255003

Parameter	Result	Units
Metals by ICP/MS		
Aluminum	15300	ug/L
Antimony	1.69	ug/L
Arsenic	4.40	ug/L
Barium	279	ug/L
Beryllium	1.32	ug/L
Cadmium	0.148J	ug/L
Calcium	21200	ug/L
Chromium	7.37	ug/L
Cobalt	1.40	ug/L
Copper	70.4	ug/L
Iron	13000	ug/L
Lead	5.05	ug/L
Magnesium	9190	ug/L
Manganese	377	ug/L
Molybdenum	5.63	ug/L
Nickel	2.50	ug/L
Silver	1.78	ug/L
Sodium	15400	ug/L
Thallium	0.261	ug/L
Vanadium	74.2	ug/L
Zinc	70.1	ug/L
Bismuth	0.649	ug/L
Potassium	21100	ug/L
Waters Department		
Chloride	15.4	mg/L
Fluoride	0.171	mg/L
Total Nitrate/Nitrite-N	0.0900J	mg/L
Sulfate	29.9	mg/L
Alkalinity	47.4	mg/L
Total Suspended Solids	807	mg/L
Ammonia-N	0.0800J	mg/L
Conductivity	249	umhos/cm
pH	6.50	pH units
Total Dissolved Solids	125	mg/L
Total Phosphorus	0.474	mg/L
Semivolatile Organic Fuels Department		
Diesel Range Organics	0.335J	mg/L
Residual Range Organics	0.513	mg/L
Polynuclear Aromatics GC/MS		

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS003**

SGS Ref. #: 1115255003

Parameter	Result	Units
Naphthalene	0.106J	ug/L
1-Methylnaphthalene	0.0662	ug/L
2-Methylnaphthalene	0.0833	ug/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS203**

SGS Ref. #: 1115255007

Parameter	Result	Units
Metals by ICP/MS		
Aluminum	17300	ug/L
Antimony	1.61	ug/L
Arsenic	4.55	ug/L
Barium	281	ug/L
Beryllium	1.29	ug/L
Cadmium	0.145J	ug/L
Calcium	20500	ug/L
Chromium	7.72	ug/L
Cobalt	1.42	ug/L
Copper	71.1	ug/L
Iron	12400	ug/L
Lead	4.97	ug/L
Magnesium	9130	ug/L
Manganese	388	ug/L
Molybdenum	6.21	ug/L
Nickel	2.44J	ug/L
Silver	1.52	ug/L
Sodium	16600	ug/L
Thallium	0.295	ug/L
Vanadium	78.7	ug/L
Zinc	73.5	ug/L
Bismuth	0.603	ug/L
Potassium	22000	ug/L
Waters Department		
Chloride	19.5	mg/L
Fluoride	0.202	mg/L
Total Nitrate/Nitrite-N	0.185	mg/L
Sulfate	31.5	mg/L
Alkalinity	50.2	mg/L
Total Suspended Solids	713	mg/L
Ammonia-N	0.0939J	mg/L
Conductivity	238	umhos/cm
pH	6.50	pH units
Total Dissolved Solids	200	mg/L
Total Phosphorus	0.475	mg/L
Semivolatile Organic Fuels Department		
Diesel Range Organics	0.334J	mg/L
Residual Range Organics	0.516	mg/L
Polynuclear Aromatics GC/MS		

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS203**
SGS Ref. #: 1115255007

Parameter	Result	Units
Naphthalene	0.103J	ug/L
1-Methylnaphthalene	0.0709	ug/L
2-Methylnaphthalene	0.0803	ug/L

Client Sample ID: **102311SU01WS004**
SGS Ref. #: 1115255008

Parameter	Result	Units
Metals by ICP/MS		
Aluminum	44.1	ug/L
Barium	5.53	ug/L
Boron	2.58J	ug/L
Calcium	7130	ug/L
Chromium	0.152J	ug/L
Cobalt	0.0431	ug/L
Copper	0.333J	ug/L
Iron	124	ug/L
Magnesium	1810	ug/L
Manganese	9.82	ug/L
Molybdenum	0.739	ug/L
Nickel	0.185J	ug/L
Silver	0.00948J	ug/L
Sodium	2480	ug/L
Zinc	2.21J	ug/L
Potassium	467	ug/L
Waters Department		
Chloride	0.847	mg/L
Fluoride	0.0880J	mg/L
Sulfate	9.45	mg/L
Alkalinity	17.1	mg/L
Total Suspended Solids	0.729	mg/L
Conductivity	65.6	umhos/cm
pH	6.60	pH units
Total Dissolved Solids	43.0	mg/L
Total Phosphorus	0.00646J	mg/L
Semivolatile Organic Fuels Department		
Residual Range Organics	0.239J	mg/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS204**

SGS Ref. #: 1115255012

Parameter	Result	Units
Metals by ICP/MS		
Aluminum	25.3	ug/L
Barium	5.22	ug/L
Boron	1.98J	ug/L
Calcium	7260	ug/L
Chromium	0.112J	ug/L
Cobalt	0.0243	ug/L
Copper	0.237J	ug/L
Iron	50.9	ug/L
Magnesium	1840	ug/L
Manganese	2.97	ug/L
Molybdenum	0.676	ug/L
Nickel	0.159J	ug/L
Sodium	2550	ug/L
Zinc	1.33J	ug/L
Potassium	454	ug/L
Waters Department		
Chloride	0.822	mg/L
Fluoride	0.0750J	mg/L
Total Nitrate/Nitrite-N	0.0345J	mg/L
Sulfate	10.3	mg/L
Alkalinity	16.4	mg/L
Total Suspended Solids	0.203J	mg/L
Conductivity	65.4	umhos/cm
pH	6.70	pH units
Total Dissolved Solids	35.0	mg/L
Total Phosphorus	0.00348J	mg/L
Semivolatile Organic Fuels Department		
Residual Range Organics	0.164J	mg/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS005**

SGS Ref. #: 1115255013

Parameter	Result	Units
Metals by ICP/MS		
Aluminum	52300	ug/L
Antimony	1.08	ug/L
Arsenic	14.3	ug/L
Barium	360	ug/L
Beryllium	4.44	ug/L
Boron	12.1J	ug/L
Cadmium	0.164J	ug/L
Calcium	61400	ug/L
Chromium	44.0	ug/L
Cobalt	6.60	ug/L
Copper	407	ug/L
Iron	57700	ug/L
Lead	13.1	ug/L
Magnesium	26700	ug/L
Manganese	848	ug/L
Molybdenum	25.5	ug/L
Nickel	8.99	ug/L
Selenium	2.33J	ug/L
Silver	8.20	ug/L
Sodium	31000	ug/L
Thallium	0.773	ug/L
Vanadium	343	ug/L
Zinc	113	ug/L
Bismuth	0.946	ug/L
Potassium	45500	ug/L
Waters Department		
Chloride	22.8	mg/L
Fluoride	0.573	mg/L
Total Nitrate/Nitrite-N	0.253	mg/L
Sulfate	32.1	mg/L
Alkalinity	126	mg/L
Total Suspended Solids	2370	mg/L
Ammonia-N	0.0328J	mg/L
Conductivity	310	umhos/cm
pH	8.10	pH units
Total Dissolved Solids	370	mg/L
Total Phosphorus	2.84	mg/L
Semivolatile Organic Fuels Department		
Diesel Range Organics	2.53	mg/L
Residual Range Organics	2.10	mg/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS005**

SGS Ref. #: 1115255013

Parameter	Result	Units
Polynuclear Aromatics GC/MS		
Fluorene	0.0417J	ug/L
Phenanthrene	0.0200J	ug/L
Naphthalene	0.105	ug/L
1-Methylnaphthalene	0.156	ug/L
2-Methylnaphthalene	0.195	ug/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS205**

SGS Ref. #: 1115255014

Parameter	Result	Units
Metals by ICP/MS		
Aluminum	59200	ug/L
Antimony	0.929	ug/L
Arsenic	15.1	ug/L
Barium	376	ug/L
Beryllium	4.17	ug/L
Boron	12.4J	ug/L
Cadmium	0.164J	ug/L
Calcium	60700	ug/L
Chromium	46.5	ug/L
Cobalt	7.36	ug/L
Copper	463	ug/L
Iron	64200	ug/L
Lead	12.9	ug/L
Magnesium	28700	ug/L
Manganese	882	ug/L
Molybdenum	28.5	ug/L
Nickel	9.22	ug/L
Selenium	2.89J	ug/L
Silver	10.5	ug/L
Sodium	31900	ug/L
Thallium	0.849	ug/L
Vanadium	382	ug/L
Zinc	119	ug/L
Bismuth	1.16	ug/L
Potassium	47500	ug/L
Waters Department		
Chloride	22.6	mg/L
Fluoride	0.598	mg/L
Total Nitrate/Nitrite-N	0.231	mg/L
Sulfate	31.6	mg/L
Alkalinity	114	mg/L
Total Suspended Solids	1830	mg/L
Ammonia-N	0.0383J	mg/L
Conductivity	305	umhos/cm
pH	8.10	pH units
Total Dissolved Solids	360	mg/L
Total Phosphorus	2.89	mg/L
Semivolatile Organic Fuels Department		
Diesel Range Organics	3.36	mg/L
Residual Range Organics	3.26	mg/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS205**
SGS Ref. #: 1115255014

Parameter	Result	Units
Polynuclear Aromatics GC/MS		
Fluorene	0.0428J	ug/L
Phenanthrene	0.0158J	ug/L
Naphthalene	0.103	ug/L
1-Methylnaphthalene	0.153	ug/L
2-Methylnaphthalene	0.191	ug/L

Client Sample ID: **102311SU01WS305**
SGS Ref. #: 1115255015

Parameter	Result	Units
Semivolatile Organic Fuels Department		
Diesel Range Organics	4.70	mg/L
Residual Range Organics	3.99	mg/L
Polynuclear Aromatics GC/MS		
Fluorene	0.0392J	ug/L
Naphthalene	0.0909J	ug/L
1-Methylnaphthalene	0.128	ug/L
2-Methylnaphthalene	0.156	ug/L

Client Sample ID: **102311SU01WS402**
SGS Ref. #: 1115255016

Parameter	Result	Units
Dissolved Metals by ICP/MS		
Aluminum	2.07	ug/L
Barium	0.642	ug/L
Boron	6.21	ug/L
Manganese	0.239	ug/L
Nickel	0.281J	ug/L
Silicon	59.2J	ug/L
Zinc	1.42J	ug/L
Copper	0.392J	ug/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS501**

SGS Ref. #: 1115255017

Metals by ICP/MS

Parameter	Result	Units
Aluminum	2.15	ug/L
Barium	0.519	ug/L
Boron	5.93	ug/L
Chromium	0.181J	ug/L
Copper	0.0702J	ug/L
Iron	7.21J	ug/L
Manganese	0.0401J	ug/L
Molybdenum	0.0229J	ug/L
Zinc	1.66J	ug/L

Client Sample ID: **102211SU01WS001**

SGS Ref. #: 1115255018

Dissolved Metals by ICP/MS

Parameter	Result	Units
Aluminum	59.1	ug/L
Antimony	15.2	ug/L
Arsenic	1.31	ug/L
Barium	27.6	ug/L
Boron	6.32	ug/L
Cadmium	0.0528	ug/L
Calcium	21400	ug/L
Chromium	0.364	ug/L
Cobalt	0.308	ug/L
Iron	594	ug/L
Lead	0.478	ug/L
Magnesium	3410	ug/L
Manganese	153	ug/L
Molybdenum	21.7	ug/L
Nickel	7.94	ug/L
Potassium	17500	ug/L
Silicon	4590	ug/L
Silver	0.0614	ug/L
Thallium	0.0288	ug/L
Vanadium	1.44	ug/L
Tin	0.0793J	ug/L
Zinc	6.48	ug/L
Bismuth	0.0806	ug/L
Sodium	14800	ug/L
Copper	3.95	ug/L

Waters Department

Total Organic Carbon,Dissolved	8.82	mg/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102211SU01WS002**

SGS Ref. #: 1115255019

Parameter	Result	Units
Dissolved Metals by ICP/MS		
Aluminum	13.5	ug/L
Barium	4.96	ug/L
Boron	1.93J	ug/L
Calcium	6980	ug/L
Chromium	0.143J	ug/L
Cobalt	0.0362	ug/L
Iron	25.8	ug/L
Lead	0.0376J	ug/L
Magnesium	1760	ug/L
Manganese	2.13	ug/L
Molybdenum	0.700	ug/L
Nickel	0.765	ug/L
Potassium	326	ug/L
Silicon	5740	ug/L
Zinc	23.2	ug/L
Sodium	2560	ug/L
Copper	0.758	ug/L
Waters Department		
Total Organic Carbon,Dissolved	2.15	mg/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS003**

SGS Ref. #: 1115255020

Parameter	Result	Units
Dissolved Metals by ICP/MS		
Aluminum	272	ug/L
Antimony	8.80	ug/L
Arsenic	1.00	ug/L
Barium	30.7	ug/L
Beryllium	0.0275J	ug/L
Boron	3.80J	ug/L
Cadmium	0.0510	ug/L
Calcium	16200	ug/L
Chromium	0.463	ug/L
Cobalt	1.53	ug/L
Iron	640	ug/L
Lead	0.424	ug/L
Magnesium	3430	ug/L
Manganese	182	ug/L
Molybdenum	8.37	ug/L
Nickel	1.92	ug/L
Potassium	15300	ug/L
Silicon	7730	ug/L
Silver	0.0646	ug/L
Thallium	0.0319	ug/L
Vanadium	1.71	ug/L
Zinc	7.93	ug/L
Bismuth	0.0997	ug/L
Sodium	15300	ug/L
Copper	4.08	ug/L
Waters Department		
Total Organic Carbon,Dissolved	11.0	mg/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS203**

SGS Ref. #: 1115255023

Parameter	Result	Units
Dissolved Metals by ICP/MS		
Aluminum	1620	ug/L
Antimony	6.46	ug/L
Arsenic	1.27	ug/L
Barium	45.3	ug/L
Beryllium	0.0992	ug/L
Boron	3.82J	ug/L
Cadmium	0.0429J	ug/L
Calcium	15200	ug/L
Chromium	0.977	ug/L
Cobalt	0.480	ug/L
Iron	1250	ug/L
Lead	0.542	ug/L
Magnesium	3650	ug/L
Manganese	182	ug/L
Molybdenum	7.41	ug/L
Nickel	2.27	ug/L
Potassium	14800	ug/L
Silicon	9410	ug/L
Silver	0.218	ug/L
Thallium	0.0552	ug/L
Vanadium	8.12	ug/L
Zinc	10.3	ug/L
Bismuth	0.122	ug/L
Sodium	14500	ug/L
Copper	7.57	ug/L
Waters Department		
Total Organic Carbon,Dissolved	11.2	mg/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS004**

SGS Ref. #: 1115255024

Parameter	Result	Units
Dissolved Metals by ICP/MS		
Aluminum	18.9	ug/L
Barium	4.16	ug/L
Boron	2.15J	ug/L
Calcium	6130	ug/L
Chromium	0.178J	ug/L
Cobalt	0.0239	ug/L
Iron	37.1	ug/L
Lead	0.0320J	ug/L
Magnesium	1530	ug/L
Manganese	1.34	ug/L
Molybdenum	0.548	ug/L
Nickel	0.795	ug/L
Potassium	381	ug/L
Silicon	5150	ug/L
Silver	0.00708J	ug/L
Zinc	6.18	ug/L
Sodium	2120	ug/L
Copper	0.585	ug/L
Waters Department		
Total Organic Carbon,Dissolved	2.69	mg/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS204**

SGS Ref. #: 1115255027

Parameter	Result	Units
Dissolved Metals by ICP/MS		
Aluminum	20.7	ug/L
Barium	4.24	ug/L
Boron	2.75J	ug/L
Calcium	5810	ug/L
Chromium	0.204	ug/L
Cobalt	0.0337	ug/L
Iron	35.1	ug/L
Lead	0.0427J	ug/L
Magnesium	1460	ug/L
Manganese	1.89	ug/L
Molybdenum	0.578	ug/L
Nickel	0.753	ug/L
Potassium	357	ug/L
Silicon	4870	ug/L
Zinc	3.07J	ug/L
Sodium	2020	ug/L
Copper	0.846	ug/L
Waters Department		
Total Organic Carbon,Dissolved	2.80	mg/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS005**

SGS Ref. #: 1115255028

Dissolved Metals by ICP/MS

Parameter	Result	Units
Aluminum	1400	ug/L
Antimony	12.3	ug/L
Arsenic	2.10	ug/L
Barium	14.0	ug/L
Beryllium	0.0522	ug/L
Boron	7.30	ug/L
Cadmium	0.0737	ug/L
Calcium	12700	ug/L
Chromium	0.818	ug/L
Cobalt	1.32	ug/L
Iron	857	ug/L
Lead	0.244	ug/L
Magnesium	2720	ug/L
Manganese	20.4	ug/L
Molybdenum	30.7	ug/L
Nickel	1.51	ug/L
Potassium	23000	ug/L
Selenium	0.633J	ug/L
Silicon	4850	ug/L
Silver	0.118	ug/L
Thallium	0.0415	ug/L
Vanadium	8.83	ug/L
Zinc	4.60	ug/L
Bismuth	0.0157J	ug/L
Sodium	24100	ug/L
Copper	3.88	ug/L

Waters Department

Total Organic Carbon,Dissolved	22.2	mg/L

Detectable Results Summary

Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS205**

SGS Ref. #: 1115255029

Dissolved Metals by ICP/MS

Parameter	Result	Units
Aluminum	421	ug/L
Antimony	14.0	ug/L
Arsenic	1.69	ug/L
Barium	8.94	ug/L
Beryllium	0.0285J	ug/L
Boron	7.15	ug/L
Cadmium	0.0609	ug/L
Calcium	12400	ug/L
Chromium	0.452	ug/L
Cobalt	0.423	ug/L
Iron	333	ug/L
Lead	0.100	ug/L
Magnesium	2550	ug/L
Manganese	11.3	ug/L
Molybdenum	31.8	ug/L
Nickel	0.574J	ug/L
Potassium	23100	ug/L
Selenium	0.499J	ug/L
Silicon	3360	ug/L
Silver	0.0590	ug/L
Thallium	0.0328	ug/L
Vanadium	4.64	ug/L
Zinc	2.82J	ug/L
Sodium	24500	ug/L
Copper	1.52	ug/L

Waters Department

Total Organic Carbon,Dissolved	21.0	mg/L

Client Sample ID: **102311SU01WS305**

SGS Ref. #: 1115255030

Waters Department

Parameter	Result	Units
Total Organic Carbon,Dissolved	25.0	mg/L

Dissolved vs Total Metals Comparison Report

CLIENT SAMPLE ID 102211SU01WS001

Total HSN	Diss. HSN	NAME	TOTAL RES	DISSOLVED	RPD	DL	LOQ
1115255001	1115255018	Antimony	1.93	15.2	155	0.06	0.2
1115255001	1115255018	Boron	5.05	6.32	22	6	20
1115255001	1115255018	Molybdenum	12.7	21.7	52	0.06	0.2
1115255001	1115255018	Nickel	3.88	7.94	69	0.248	2.48

CLIENT SAMPLE ID 102211SU01WS002

Total HSN	Diss. HSN	NAME	TOTAL RES	DISSOLVED	RPD	DL	LOQ
1115255002	1115255019	Boron	1.88	1.93	3	1.5	5
1115255002	1115255019	Chromium	0.124	0.143	14	0.062	0.2
1115255002	1115255019	Cobalt	0.0322	0.0362	12	0.01	0.02
1115255002	1115255019	Copper	0.246	0.758	102	0.05	0.5
1115255002	1115255019	Lead	0.0155	0.0376	83	0.031	0.1
1115255002	1115255019	Nickel	0.155	0.765	133	0.062	0.62
1115255002	1115255019	Zinc	2.82	23.2	157	0.4	3.1

CLIENT SAMPLE ID 102311SU01WS003

Total HSN	Diss. HSN	NAME	TOTAL RES	DISSOLVED	RPD	DL	LOQ
1115255003	1115255020	Antimony	1.69	8.8	136	0.06	0.2
1115255003	1115255020	Cobalt	1.4	1.53	9	0.04	0.08
1115255003	1115255020	Molybdenum	5.63	8.37	39	0.06	0.2

CLIENT SAMPLE ID 102311SU01WS004

Total HSN	Diss. HSN	NAME	TOTAL RES	DISSOLVED	RPD	DL	LOQ
1115255008	1115255024	Chromium	0.152	0.178	16	0.062	0.2
1115255008	1115255024	Copper	0.333	0.585	55	0.05	0.5
1115255008	1115255024	Lead	0.0248	0.032	25	0.031	0.1
1115255008	1115255024	Nickel	0.185	0.795	124	0.062	0.62
1115255008	1115255024	Zinc	2.21	6.18	95	0.4	3.1

CLIENT SAMPLE ID 102311SU01WS005

Total HSN	Diss. HSN	NAME	TOTAL RES	DISSOLVED	RPD	DL	LOQ
1115255013	1115255028	Antimony	1.08	12.3	168	0.06	0.2
1115255013	1115255028	Molybdenum	25.5	30.7	19	0.06	0.2

CLIENT SAMPLE ID 102311SU01WS203

Total HSN	Diss. HSN	NAME	TOTAL RES	DISSOLVED	RPD	DL	LOQ
1115255007	1115255023	Antimony	1.61	6.46	120	0.06	0.2
1115255007	1115255023	Molybdenum	6.21	7.41	18	0.06	0.2

CLIENT SAMPLE ID 102311SU01WS204

Total HSN	Diss. HSN	NAME	TOTAL RES	DISSOLVED	RPD	DL	LOQ
1115255012	1115255027	Boron	1.98	2.75	33	1.5	5
1115255012	1115255027	Chromium	0.112	0.204	58	0.062	0.2
1115255012	1115255027	Cobalt	0.0243	0.0337	32	0.01	0.02
1115255012	1115255027	Copper	0.237	0.846	112	0.05	0.5
1115255012	1115255027	Lead	0.0064	0.0427	148	0.031	0.1
1115255012	1115255027	Nickel	0.159	0.753	130	0.062	0.62
1115255012	1115255027	Zinc	1.33	3.07	79	0.4	3.1

CLIENT SAMPLE ID 102311SU01WS205

Total HSN	Diss. HSN	NAME	TOTAL RES	DISSOLVED	RPD	DL	LOQ
1115255014	1115255029	Antimony	0.929	14	175	0.06	0.2
1115255014	1115255029	Molybdenum	28.5	31.8	11	0.06	0.2

Client Sample ID: **102211SU01WS001**
SGS Ref. #: 1115255001
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 15:30
Receipt Date/Time: 10/25/11 08:45

Metals Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5021	MXX24974	

Batch Information

Analytical Batch: MCV5021
Analytical Method: EP245.1
Analysis Date/Time: 10/26/11 14:46
Dilution Factor: 1

Prep Batch: MXX24974
Prep Method: METHOD
Prep Date/Time: 10/26/11 08:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255001-L
Analyst: CDE

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102211SU01WS001**
SGS Ref. #: 1115255001
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 15:30
Receipt Date/Time: 10/25/11 08:45

Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	27600	160	49.6	ug/L	200	MMS7260	MXX24975	
Antimony	1.93	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Arsenic	8.29	2.00	0.600	ug/L	10	MMS7260	MXX24975	
Barium	505	1.00	0.100	ug/L	10	MMS7260	MXX24975	
Beryllium	2.74	0.200	0.100	ug/L	10	MMS7260	MXX24975	
Bismuth	0.495	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Boron	12.0 U	20.0	6.00	ug/L	10	MMS7260	MXX24975	
Cadmium	0.177J	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Calcium	33700	200	60.0	ug/L	10	MMS7260	MXX24975	
Chromium	16.4	0.800	0.248	ug/L	10	MMS7260	MXX24975	
Cobalt	1.69	0.0800	0.0400	ug/L	10	MMS7260	MXX24975	
Copper	137	2.00	0.200	ug/L	10	MMS7260	MXX24975	
Iron	20600	80.0	24.8	ug/L	10	MMS7260	MXX24975	
Lead	10.7	0.400	0.124	ug/L	10	MMS7260	MXX24975	
Magnesium	12200	80.0	24.8	ug/L	10	MMS7260	MXX24975	
Manganese	490	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Molybdenum	12.7	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Nickel	3.88	2.48	0.248	ug/L	10	MMS7260	MXX24975	
Potassium	30600	200	60.0	ug/L	10	MMS7260	MXX24975	
Selenium	2.48 U	4.00	1.24	ug/L	10	MMS7260	MXX24975	
Silver	2.01	0.0800	0.0248	ug/L	10	MMS7260	MXX24975	
Sodium	17700	400	124	ug/L	10	MMS7260	MXX24975	
Thallium	0.406	0.0800	0.0248	ug/L	10	MMS7260	MXX24975	
Tin	0.496 U	0.800	0.248	ug/L	10	MMS7260	MXX24975	
Vanadium	120	4.00	1.24	ug/L	10	MMS7260	MXX24975	
Zinc	85.3	12.4	1.60	ug/L	10	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:16
Dilution Factor: 10

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255001-L
Analyst: NRB

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:49
Dilution Factor: 200

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255001-L
Analyst: NRB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102211SU01WS001**
SGS Ref. #: 1115255001
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 15:30
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Alkalinity	48.0	10.0	3.10	mg/L	1	WTI3606		
Ammonia-N	0.0321J	0.100	0.0310	mg/L	1	WDA2347	WXX8808	
Chloride	9.61	0.100	0.0310	mg/L	1	WIC4890	WXX8844	
Conductivity	305	1.00	0.477	umhos/cm	1	WAT8989		
Fluoride	0.259	0.100	0.0310	mg/L	1	WIC4890	WXX8844	
pH	6.50	0.100	0.100	pH units	1	WPH6391		
Sulfate	71.9	0.500	0.155	mg/L	5	WIC4891	WXX8845	
Sulfide	0.620 U	1.00	0.310	mg/L	10	WAT8991		
Total Dissolved Solids	255	50.0	15.5	mg/L	1	WAT8990		
Total Nitrate/Nitrite-N	2.10	0.100	0.0310	mg/L	5	WFI2056		
Total Phosphorus	1.56	0.100	0.0310	mg/L	10	WDA2353	WXX8830	
Total Suspended Solids	1510	25.0	7.50	mg/L		STS3720		

Client Sample ID: **102211SU01WS001**
SGS Ref. #: 1115255001
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 15:30
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Batch Information								
Analytical Batch: STS3720 Analytical Method: SM20 2540D Analysis Date/Time: 10/28/11 18:30						Initial Prep Wt./Vol.: 20 mL Container ID:1115255001-M Analyst: CDE		
Analytical Batch: WAT8989 Analytical Method: SM20 2510B Analysis Date/Time: 10/27/11 18:08 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255001-N Analyst: CDE		
Analytical Batch: WAT8990 Analytical Method: SM20 2540C Analysis Date/Time: 10/26/11 13:30 Dilution Factor: 1						Initial Prep Wt./Vol.: 20 mL Container ID:1115255001-N Analyst: ACF		
Analytical Batch: WAT8991 Analytical Method: SM20 4500S D Analysis Date/Time: 10/28/11 19:45 Dilution Factor: 10						Initial Prep Wt./Vol.: 1 mL Container ID:1115255001-J Analyst: ACF		
Analytical Batch: WDA2347 Analytical Method: SM20 4500-NH3 G Analysis Date/Time: 10/27/11 07:29 Dilution Factor: 1		Prep Batch: WXX8808 Prep Method: METHOD Prep Date/Time: 10/27/11 06:00				Initial Prep Wt./Vol.: 50 mL Prep Extract Vol.: 50 mL Container ID:1115255001-K Analyst: ACF		
Analytical Batch: WDA2353 Analytical Method: SM20 4500P-B,E Analysis Date/Time: 10/31/11 19:59 Dilution Factor: 10		Prep Batch: WXX8830 Prep Method: SM20 4500P-B,E Prep Date/Time: 10/27/11 12:30				Initial Prep Wt./Vol.: 25 mL Prep Extract Vol.: 25 mL Container ID:1115255001-K Analyst: ACF		
Analytical Batch: WFI2056 Analytical Method: SM20 4500NO3-F Analysis Date/Time: 10/28/11 20:22 Dilution Factor: 5						Initial Prep Wt./Vol.: 5 mL Container ID:1115255001-K Analyst: AYC		
Analytical Batch: WIC4890 Analytical Method: EPA 300.0 Analysis Date/Time: 11/03/11 04:37 Dilution Factor: 1		Prep Batch: WXX8844 Prep Method: METHOD Prep Date/Time: 11/02/11 19:06				Initial Prep Wt./Vol.: 10 mL Prep Extract Vol.: 10 mL Container ID:1115255001-H Analyst: SDP		
Analytical Batch: WIC4891 Analytical Method: EPA 300.0 Analysis Date/Time: 11/04/11 04:17 Dilution Factor: 5		Prep Batch: WXX8845 Prep Method: METHOD Prep Date/Time: 11/03/11 17:20				Initial Prep Wt./Vol.: 10 mL Prep Extract Vol.: 10 mL Container ID:1115255001-N Analyst: SDP		

Client Sample ID: **102211SU01WS001**
SGS Ref. #: 1115255001
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 15:30
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Analytical Batch: WPH6391						Initial Prep Wt./Vol.: 1 mL		
Analytical Method: SM20 4500-H B								
Analysis Date/Time: 10/27/11 18:08						Container ID:1115255001-N		
Dilution Factor: 1						Analyst: CDE		
Analytical Batch: WTI3606						Initial Prep Wt./Vol.: 50 mL		
Analytical Method: SM20 2320B								
Analysis Date/Time: 10/27/11 18:08						Container ID:1115255001-N		
Dilution Factor: 1						Analyst: CDE		

Client Sample ID: **102211SU01WS001**
SGS Ref. #: 1115255001
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 15:30
Receipt Date/Time: 10/25/11 08:45

Volatile Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Gasoline Range Organics	0.0620 U	0.100	0.0310	mg/L	1	VFC10809	VXX23030	
4-Bromofluorobenzene <surr>	91.4	50-150		%	1	VFC10809	VXX23030	

Batch Information

Analytical Batch: VFC10809
Analytical Method: AK101
Analysis Date/Time: 10/28/11 13:15
Dilution Factor: 1

Prep Batch: VXX23030
Prep Method: SW5030B
Prep Date/Time: 10/28/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255001-A
Analyst: EAB

Client Sample ID: **102211SU01WS001**
SGS Ref. #: 1115255001
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 15:30
Receipt Date/Time: 10/25/11 08:45

Semivolatile Organic Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Diesel Range Organics	0.940	0.600	0.180	mg/L	1	XFC10192	XXX26082	
Residual Range Organics	1.32	0.500	0.150	mg/L	1	XFC10192	XXX26082	
5a Androstane <surr>	74.1	50-150		%	1	XFC10192	XXX26082	
n-Triacontane-d62 <surr>	74.7	50-150		%	1	XFC10192	XXX26082	

Batch Information

Analytical Batch: XFC10192
Analytical Method: AK102
Analysis Date/Time: 10/29/11 10:53
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255001-D
Analyst: MCS

Analytical Batch: XFC10192
Analytical Method: AK103
Analysis Date/Time: 10/29/11 10:53
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255001-D
Analyst: MCS

Client Sample ID: **102211SU01WS001**
SGS Ref. #: 1115255001
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 15:30
Receipt Date/Time: 10/25/11 08:45

Volatile Gas Chromatography/Mass Spectroscopy

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12544	VXX23020	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12544	VXX23020	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
1,2-Dichloroethane-D4 <surr>	103	70-120		%	1	VMS12544	VXX23020	
4-Bromofluorobenzene <surr>	104	75-120		%	1	VMS12544	VXX23020	
Toluene-d8 <surr>	99.1	85-120		%	1	VMS12544	VXX23020	

Batch Information

Analytical Batch: VMS12544
Analytical Method: SW8260B
Analysis Date/Time: 10/27/11 19:59
Dilution Factor: 1

Prep Batch: VXX23020
Prep Method: SW5030B
Prep Date/Time: 10/27/11 12:55

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255001-B
Analyst: JPI

Client Sample ID: **102211SU01WS001**
SGS Ref. #: 1115255001
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 15:30
Receipt Date/Time: 10/25/11 08:45

Polynuclear Aromatics GC/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
1-Methylnaphthalene	0.0991	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
2-Methylnaphthalene	0.126	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Acenaphthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Acenaphthylene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Benzo(a)Anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Benzo[a]pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Benzo[b]Fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Benzo[g,h,i]perylene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Benzo[k]fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Chrysene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Dibenzo[a,h]anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Fluorene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Indeno[1,2,3-c,d] pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Naphthalene	0.117	0.100	0.0310	ug/L	1	XMS6354	XXX26098	
Phenanthrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
2-Fluorobiphenyl <surr>	100	50-110		%	1	XMS6354	XXX26098	
Terphenyl-d14 <surr>	120	50-135		%	1	XMS6354	XXX26098	

Batch Information

Analytical Batch: XMS6354
Analytical Method: 8270D SIMS (PAH)
Analysis Date/Time: 11/01/11 19:20
Dilution Factor: 1

Prep Batch: XXX26098
Prep Method: SW3520C
Prep Date/Time: 10/28/11 11:10

Initial Prep Wt./Vol.: 1000 mL
Prep Extract Vol.: 1 mL
Container ID:1115255001-I
Analyst: RTS

Client Sample ID: **102211SU01WS002**
SGS Ref. #: 1115255002
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 16:00
Receipt Date/Time: 10/25/11 08:45

Metals Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5021	MXX24974	

Batch Information

Analytical Batch: MCV5021
Analytical Method: EP245.1
Analysis Date/Time: 10/26/11 14:49
Dilution Factor: 1

Prep Batch: MXX24974
Prep Method: METHOD
Prep Date/Time: 10/26/11 08:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255002-L
Analyst: CDE

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102211SU01WS002**
SGS Ref. #: 1115255002
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 16:00
Receipt Date/Time: 10/25/11 08:45

Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	23.0	2.00	0.620	ug/L	2.5	MMS7260	MXX24975	
Antimony	0.0150J	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Arsenic	0.300 U	0.500	0.150	ug/L	2.5	MMS7260	MXX24975	
Barium	5.73	0.250	0.0250	ug/L	2.5	MMS7260	MXX24975	
Beryllium	0.0500 U	0.0500	0.0250	ug/L	2.5	MMS7260	MXX24975	
Bismuth	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Boron	1.88J	5.00	1.50	ug/L	2.5	MMS7260	MXX24975	
Cadmium	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Calcium	7540	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Chromium	0.124J	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Cobalt	0.0322	0.0200	0.0100	ug/L	2.5	MMS7260	MXX24975	
Copper	0.246J	0.500	0.0500	ug/L	2.5	MMS7260	MXX24975	
Iron	99.3	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Lead	0.0620 U	0.100	0.0310	ug/L	2.5	MMS7260	MXX24975	
Magnesium	1920	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Manganese	6.10	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Molybdenum	0.775	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Nickel	0.155J	0.620	0.0620	ug/L	2.5	MMS7260	MXX24975	
Potassium	370	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Selenium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Silver	0.0124 U	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Sodium	2620	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Thallium	0.0124 U	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Tin	0.124 U	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Vanadium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Zinc	2.82J	3.10	0.400	ug/L	2.5	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:18
Dilution Factor: 2.5

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255002-L
Analyst: NRB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102211SU01WS002**
SGS Ref. #: 1115255002
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 16:00
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Alkalinity	20.3	10.0	3.10	mg/L	1	WTI3606		
Ammonia-N	0.0620 U	0.100	0.0310	mg/L	1	WDA2347	WXX8808	
Chloride	0.760	0.100	0.0310	mg/L	1	WIC4891	WXX8845	
Conductivity	65.9	1.00	0.477	umhos/cm	1	WAT8989		
Fluoride	0.0830J	0.100	0.0310	mg/L	1	WIC4891	WXX8845	
pH	6.70	0.100	0.100	pH units	1	WPH6391		
Sulfate	8.93	0.100	0.0310	mg/L	1	WIC4891	WXX8845	
Sulfide	0.0620 U	0.100	0.0310	mg/L	1	WAT8991		
Total Dissolved Solids	41.0	10.0	3.10	mg/L	1	WAT8990		
Total Nitrate/Nitrite-N	0.0535J	0.100	0.0310	mg/L	5	WFI2056		
Total Phosphorus	0.00546J	0.0100	0.00310	mg/L	1	WDA2353	WXX8830	
Total Suspended Solids	11.5	0.485	0.146	mg/L		STS3720		

Client Sample ID: **102211SU01WS002**
SGS Ref. #: 1115255002
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 16:00
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Batch Information								
Analytical Batch: STS3720 Analytical Method: SM20 2540D Analysis Date/Time: 10/28/11 18:30						Initial Prep Wt./Vol.: 1030 mL Container ID:1115255002-M Analyst: CDE		
Analytical Batch: WAT8989 Analytical Method: SM20 2510B Analysis Date/Time: 10/27/11 18:17 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255002-N Analyst: CDE		
Analytical Batch: WAT8990 Analytical Method: SM20 2540C Analysis Date/Time: 10/26/11 13:30 Dilution Factor: 1						Initial Prep Wt./Vol.: 100 mL Container ID:1115255002-N Analyst: ACF		
Analytical Batch: WAT8991 Analytical Method: SM20 4500S D Analysis Date/Time: 10/28/11 19:45 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255002-J Analyst: ACF		
Analytical Batch: WDA2347 Analytical Method: SM20 4500-NH3 G Analysis Date/Time: 10/27/11 07:29 Dilution Factor: 1		Prep Batch: WXX8808 Prep Method: METHOD Prep Date/Time: 10/27/11 06:00				Initial Prep Wt./Vol.: 50 mL Prep Extract Vol.: 50 mL Container ID:1115255002-K Analyst: ACF		
Analytical Batch: WDA2353 Analytical Method: SM20 4500P-B,E Analysis Date/Time: 10/31/11 19:48 Dilution Factor: 1		Prep Batch: WXX8830 Prep Method: SM20 4500P-B,E Prep Date/Time: 10/27/11 12:30				Initial Prep Wt./Vol.: 25 mL Prep Extract Vol.: 25 mL Container ID:1115255002-K Analyst: ACF		
Analytical Batch: WFI2056 Analytical Method: SM20 4500NO3-F Analysis Date/Time: 10/28/11 20:23 Dilution Factor: 5						Initial Prep Wt./Vol.: 5 mL Container ID:1115255002-K Analyst: AYC		
Analytical Batch: WIC4891 Analytical Method: EPA 300.0 Analysis Date/Time: 11/04/11 01:05 Dilution Factor: 1		Prep Batch: WXX8845 Prep Method: METHOD Prep Date/Time: 11/03/11 17:20				Initial Prep Wt./Vol.: 10 mL Prep Extract Vol.: 10 mL Container ID:1115255002-N Analyst: SDP		
Analytical Batch: WPH6391 Analytical Method: SM20 4500-H B Analysis Date/Time: 10/27/11 18:17 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255002-N Analyst: CDE		

Client Sample ID: **102211SU01WS002**
SGS Ref. #: 1115255002
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 16:00
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Analytical Batch: WTI3606						Initial Prep Wt./Vol.: 50 mL		
Analytical Method: SM20 2320B								
Analysis Date/Time: 10/27/11 18:17						Container ID:1115255002-N		
Dilution Factor: 1						Analyst: CDE		

Client Sample ID: **102211SU01WS002**
SGS Ref. #: 1115255002
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 16:00
Receipt Date/Time: 10/25/11 08:45

Volatile Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Gasoline Range Organics	0.0620 U	0.100	0.0310	mg/L	1	VFC10809	VXX23030	
4-Bromofluorobenzene <surr>	90.3	50-150		%	1	VFC10809	VXX23030	

Batch Information

Analytical Batch: VFC10809
Analytical Method: AK101
Analysis Date/Time: 10/28/11 13:34
Dilution Factor: 1

Prep Batch: VXX23030
Prep Method: SW5030B
Prep Date/Time: 10/28/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255002-A
Analyst: EAB

Client Sample ID: **102211SU01WS002**
SGS Ref. #: 1115255002
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 16:00
Receipt Date/Time: 10/25/11 08:45

Semivolatile Organic Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Diesel Range Organics	0.360 U	0.600	0.180	mg/L	1	XFC10192	XXX26082	
Residual Range Organics	0.421J	0.500	0.150	mg/L	1	XFC10192	XXX26082	
5a Androstane <surr>	87.6	50-150		%	1	XFC10192	XXX26082	
n-Triacontane-d62 <surr>	89.2	50-150		%	1	XFC10192	XXX26082	

Batch Information

Analytical Batch: XFC10192
Analytical Method: AK102
Analysis Date/Time: 10/29/11 11:14
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255002-D
Analyst: MCS

Analytical Batch: XFC10192
Analytical Method: AK103
Analysis Date/Time: 10/29/11 11:14
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255002-D
Analyst: MCS

Client Sample ID: **102211SU01WS002**
SGS Ref. #: 1115255002
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 16:00
Receipt Date/Time: 10/25/11 08:45

Volatile Gas Chromatography/Mass Spectroscopy

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12544	VXX23020	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12544	VXX23020	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
1,2-Dichloroethane-D4 <surr>	102	70-120		%	1	VMS12544	VXX23020	
4-Bromofluorobenzene <surr>	106	75-120		%	1	VMS12544	VXX23020	
Toluene-d8 <surr>	97.5	85-120		%	1	VMS12544	VXX23020	

Batch Information

Analytical Batch: VMS12544
Analytical Method: SW8260B
Analysis Date/Time: 10/27/11 20:25
Dilution Factor: 1

Prep Batch: VXX23020
Prep Method: SW5030B
Prep Date/Time: 10/27/11 12:55

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255002-F
Analyst: JPI

Client Sample ID: **102211SU01WS002**
SGS Ref. #: 1115255002
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 16:00
Receipt Date/Time: 10/25/11 08:45

Polynuclear Aromatics GC/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
1-Methylnaphthalene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
2-Methylnaphthalene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Acenaphthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Acenaphthylene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Benzo(a)Anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Benzo[a]pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Benzo[b]Fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Benzo[g,h,i]perylene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Benzo[k]fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Chrysene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Dibenzo[a,h]anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Fluorene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Indeno[1,2,3-c,d] pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Naphthalene	0.0620 U	0.100	0.0310	ug/L	1	XMS6354	XXX26098	
Phenanthrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
Pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6354	XXX26098	
2-Fluorobiphenyl <surr>	96.6	50-110		%	1	XMS6354	XXX26098	
Terphenyl-d14 <surr>	129	50-135		%	1	XMS6354	XXX26098	

Batch Information

Analytical Batch: XMS6354
Analytical Method: 8270D SIMS (PAH)
Analysis Date/Time: 11/01/11 19:41
Dilution Factor: 1

Prep Batch: XXX26098
Prep Method: SW3520C
Prep Date/Time: 10/28/11 11:10

Initial Prep Wt./Vol.: 1000 mL
Prep Extract Vol.: 1 mL
Container ID:1115255002-I
Analyst: RTS

Client Sample ID: **102311SU01WS003**
SGS Ref. #: 1115255003
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:30
Receipt Date/Time: 10/25/11 08:45

Metals Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5021	MXX24974	

Batch Information

Analytical Batch: MCV5021
Analytical Method: EP245.1
Analysis Date/Time: 10/26/11 14:52
Dilution Factor: 1

Prep Batch: MXX24974
Prep Method: METHOD
Prep Date/Time: 10/26/11 08:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255003-N
Analyst: CDE

Client Sample ID: **102311SU01WS003**
SGS Ref. #: 1115255003
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:30
Receipt Date/Time: 10/25/11 08:45

Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	15300	160	49.6	ug/L	200	MMS7260	MXX24975	
Antimony	1.69	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Arsenic	4.40	2.00	0.600	ug/L	10	MMS7260	MXX24975	
Barium	279	1.00	0.100	ug/L	10	MMS7260	MXX24975	
Beryllium	1.32	0.200	0.100	ug/L	10	MMS7260	MXX24975	
Bismuth	0.649	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Boron	12.0 U	20.0	6.00	ug/L	10	MMS7260	MXX24975	
Cadmium	0.148J	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Calcium	21200	200	60.0	ug/L	10	MMS7260	MXX24975	
Chromium	7.37	0.800	0.248	ug/L	10	MMS7260	MXX24975	
Cobalt	1.40	0.0800	0.0400	ug/L	10	MMS7260	MXX24975	
Copper	70.4	2.00	0.200	ug/L	10	MMS7260	MXX24975	
Iron	13000	80.0	24.8	ug/L	10	MMS7260	MXX24975	
Lead	5.05	0.400	0.124	ug/L	10	MMS7260	MXX24975	
Magnesium	9190	80.0	24.8	ug/L	10	MMS7260	MXX24975	
Manganese	377	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Molybdenum	5.63	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Nickel	2.50	2.48	0.248	ug/L	10	MMS7260	MXX24975	
Potassium	21100	200	60.0	ug/L	10	MMS7260	MXX24975	
Selenium	2.48 U	4.00	1.24	ug/L	10	MMS7260	MXX24975	
Silver	1.78	0.0800	0.0248	ug/L	10	MMS7260	MXX24975	
Sodium	15400	400	124	ug/L	10	MMS7260	MXX24975	
Thallium	0.261	0.0800	0.0248	ug/L	10	MMS7260	MXX24975	
Tin	0.496 U	0.800	0.248	ug/L	10	MMS7260	MXX24975	
Vanadium	74.2	4.00	1.24	ug/L	10	MMS7260	MXX24975	
Zinc	70.1	12.4	1.60	ug/L	10	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 17:57
Dilution Factor: 10

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255003-N
Analyst: NRB

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:58
Dilution Factor: 200

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255003-N
Analyst: NRB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS003**
SGS Ref. #: 1115255003
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:30
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Alkalinity	47.4	10.0	3.10	mg/L	1	WTI3606		
Ammonia-N	0.0800J	0.100	0.0310	mg/L	1	WDA2347	WXX8808	
Chloride	15.4	0.100	0.0310	mg/L	1	WIC4886	WXX8811	
Conductivity	249	1.00	0.477	umhos/cm	1	WAT8989		
Fluoride	0.171	0.100	0.0310	mg/L	1	WIC4886	WXX8811	
pH	6.50	0.100	0.100	pH units	1	WPH6391		
Sulfate	29.9	0.100	0.0310	mg/L	1	WIC4886	WXX8811	
Sulfide	0.620 U	1.00	0.310	mg/L	10	WAT8991		
Total Dissolved Solids	125	50.0	15.5	mg/L	1	WAT8990		
Total Nitrate/Nitrite-N	0.0900J	0.100	0.0310	mg/L	5	WFI2056		
Total Phosphorus	0.474	0.0100	0.00310	mg/L	1	WDA2353	WXX8830	
Total Suspended Solids	807	33.3	10.0	mg/L		STS3720		

Client Sample ID: **102311SU01WS003**
SGS Ref. #: 1115255003
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:30
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Batch Information								
Analytical Batch: STS3720 Analytical Method: SM20 2540D Analysis Date/Time: 10/28/11 18:30						Initial Prep Wt./Vol.: 15 mL Container ID:1115255003-O Analyst: CDE		
Analytical Batch: WAT8989 Analytical Method: SM20 2510B Analysis Date/Time: 10/27/11 17:40 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255003-R Analyst: CDE		
Analytical Batch: WAT8990 Analytical Method: SM20 2540C Analysis Date/Time: 10/26/11 13:30 Dilution Factor: 1						Initial Prep Wt./Vol.: 20 mL Container ID:1115255003-R Analyst: ACF		
Analytical Batch: WAT8991 Analytical Method: SM20 4500S D Analysis Date/Time: 10/28/11 19:45 Dilution Factor: 10						Initial Prep Wt./Vol.: 1 mL Container ID:1115255003-J Analyst: ACF		
Analytical Batch: WDA2347 Analytical Method: SM20 4500-NH3 G Analysis Date/Time: 10/27/11 07:29 Dilution Factor: 1		Prep Batch: WXX8808 Prep Method: METHOD Prep Date/Time: 10/27/11 06:00				Initial Prep Wt./Vol.: 50 mL Prep Extract Vol.: 50 mL Container ID:1115255003-K Analyst: ACF		
Analytical Batch: WDA2353 Analytical Method: SM20 4500P-B,E Analysis Date/Time: 10/31/11 19:48 Dilution Factor: 1		Prep Batch: WXX8830 Prep Method: SM20 4500P-B,E Prep Date/Time: 10/27/11 12:30				Initial Prep Wt./Vol.: 25 mL Prep Extract Vol.: 25 mL Container ID:1115255003-K Analyst: ACF		
Analytical Batch: WFI2056 Analytical Method: SM20 4500NO3-F Analysis Date/Time: 10/28/11 20:28 Dilution Factor: 5						Initial Prep Wt./Vol.: 5 mL Container ID:1115255003-K Analyst: AYC		
Analytical Batch: WIC4886 Analytical Method: EPA 300.0 Analysis Date/Time: 10/27/11 05:48 Dilution Factor: 1		Prep Batch: WXX8811 Prep Method: METHOD Prep Date/Time: 10/26/11 17:48				Initial Prep Wt./Vol.: 10 mL Prep Extract Vol.: 10 mL Container ID:1115255003-T Analyst: SDP		
Analytical Batch: WPH6391 Analytical Method: SM20 4500-H B Analysis Date/Time: 10/27/11 17:40 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255003-R Analyst: CDE		

Client Sample ID: **102311SU01WS003**
SGS Ref. #: 1115255003
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:30
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Analytical Batch: WTI3606						Initial Prep Wt./Vol.: 50 mL		
Analytical Method: SM20 2320B								
Analysis Date/Time: 10/27/11 17:40						Container ID:1115255003-R		
Dilution Factor: 1						Analyst: CDE		

Client Sample ID: **102311SU01WS003**
SGS Ref. #: 1115255003
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:30
Receipt Date/Time: 10/25/11 08:45

Volatile Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Gasoline Range Organics	0.0620 U	0.100	0.0310	mg/L	1	VFC10809	VXX23030	
4-Bromofluorobenzene <surr>	90.9	50-150		%	1	VFC10809	VXX23030	

Batch Information

Analytical Batch: VFC10809
Analytical Method: AK101
Analysis Date/Time: 10/28/11 14:48
Dilution Factor: 1

Prep Batch: VXX23030
Prep Method: SW5030B
Prep Date/Time: 10/28/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255003-A
Analyst: EAB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS003**
SGS Ref. #: 1115255003
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:30
Receipt Date/Time: 10/25/11 08:45

Semivolatile Organic Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Diesel Range Organics	0.335J	0.600	0.180	mg/L	1	XFC10192	XXX26082	
Residual Range Organics	0.513	0.500	0.150	mg/L	1	XFC10192	XXX26082	
5a Androstane <surr>	59.6	50-150		%	1	XFC10192	XXX26082	
n-Triacontane-d62 <surr>	60.8	50-150		%	1	XFC10192	XXX26082	

Batch Information

Analytical Batch: XFC10192
Analytical Method: AK102
Analysis Date/Time: 10/29/11 11:36
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255003-D
Analyst: MCS

Analytical Batch: XFC10192
Analytical Method: AK103
Analysis Date/Time: 10/29/11 11:36
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255003-D
Analyst: MCS

Client Sample ID: **102311SU01WS003**
SGS Ref. #: 1115255003
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:30
Receipt Date/Time: 10/25/11 08:45

Volatile Gas Chromatography/Mass Spectroscopy

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12544	VXX23020	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12544	VXX23020	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
1,2-Dichloroethane-D4 <surr>	102	70-120		%	1	VMS12544	VXX23020	
4-Bromofluorobenzene <surr>	103	75-120		%	1	VMS12544	VXX23020	
Toluene-d8 <surr>	100	85-120		%	1	VMS12544	VXX23020	

Batch Information

Analytical Batch: VMS12544
Analytical Method: SW8260B
Analysis Date/Time: 10/27/11 19:06
Dilution Factor: 1

Prep Batch: VXX23020
Prep Method: SW5030B
Prep Date/Time: 10/27/11 12:55

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255003-F
Analyst: JPI

Client Sample ID: **102311SU01WS003**
SGS Ref. #: 1115255003
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:30
Receipt Date/Time: 10/25/11 08:45

Polynuclear Aromatics GC/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
1-Methylnaphthalene	0.0662	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
2-Methylnaphthalene	0.0833	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Acenaphthene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Acenaphthylene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Anthracene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Benzo(a)Anthracene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Benzo[a]pyrene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Benzo[b]Fluoranthene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Benzo[g,h,i]perylene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Benzo[k]fluoranthene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Chrysene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Dibenzo[a,h]anthracene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Fluoranthene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Fluorene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Indeno[1,2,3-c,d] pyrene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Naphthalene	0.106J	0.111	0.0344	ug/L	1	XMS6354	XXX26098	
Phenanthrene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
Pyrene	0.0334 U	0.0556	0.0167	ug/L	1	XMS6354	XXX26098	
2-Fluorobiphenyl <surr>	99.7	50-110		%	1	XMS6354	XXX26098	
Terphenyl-d14 <surr>	128	50-135		%	1	XMS6354	XXX26098	

Batch Information

Analytical Batch: XMS6354
Analytical Method: 8270D SIMS (PAH)
Analysis Date/Time: 11/01/11 20:02
Dilution Factor: 1

Prep Batch: XXX26098
Prep Method: SW3520C
Prep Date/Time: 10/28/11 11:10

Initial Prep Wt./Vol.: 900 mL
Prep Extract Vol.: 1 mL
Container ID:1115255003-I
Analyst: RTS

Client Sample ID: **102311SU01WS203**
SGS Ref. #: 1115255007
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:40
Receipt Date/Time: 10/25/11 08:45

Metals Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5021	MXX24974	

Batch Information

Analytical Batch: MCV5021
Analytical Method: EP245.1
Analysis Date/Time: 10/26/11 15:07
Dilution Factor: 1

Prep Batch: MXX24974
Prep Method: METHOD
Prep Date/Time: 10/26/11 08:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255007-L
Analyst: CDE

Client Sample ID: **102311SU01WS203**
SGS Ref. #: 1115255007
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:40
Receipt Date/Time: 10/25/11 08:45

Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	17300	160	49.6	ug/L	200	MMS7260	MXX24975	
Antimony	1.61	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Arsenic	4.55	2.00	0.600	ug/L	10	MMS7260	MXX24975	
Barium	281	1.00	0.100	ug/L	10	MMS7260	MXX24975	
Beryllium	1.29	0.200	0.100	ug/L	10	MMS7260	MXX24975	
Bismuth	0.603	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Boron	12.0 U	20.0	6.00	ug/L	10	MMS7260	MXX24975	
Cadmium	0.145J	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Calcium	20500	200	60.0	ug/L	10	MMS7260	MXX24975	
Chromium	7.72	0.800	0.248	ug/L	10	MMS7260	MXX24975	
Cobalt	1.42	0.0800	0.0400	ug/L	10	MMS7260	MXX24975	
Copper	71.1	2.00	0.200	ug/L	10	MMS7260	MXX24975	
Iron	12400	80.0	24.8	ug/L	10	MMS7260	MXX24975	
Lead	4.97	0.400	0.124	ug/L	10	MMS7260	MXX24975	
Magnesium	9130	80.0	24.8	ug/L	10	MMS7260	MXX24975	
Manganese	388	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Molybdenum	6.21	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Nickel	2.44J	2.48	0.248	ug/L	10	MMS7260	MXX24975	
Potassium	22000	200	60.0	ug/L	10	MMS7260	MXX24975	
Selenium	2.48 U	4.00	1.24	ug/L	10	MMS7260	MXX24975	
Silver	1.52	0.0800	0.0248	ug/L	10	MMS7260	MXX24975	
Sodium	16600	400	124	ug/L	10	MMS7260	MXX24975	
Thallium	0.295	0.0800	0.0248	ug/L	10	MMS7260	MXX24975	
Tin	0.496 U	0.800	0.248	ug/L	10	MMS7260	MXX24975	
Vanadium	78.7	4.00	1.24	ug/L	10	MMS7260	MXX24975	
Zinc	73.5	12.4	1.60	ug/L	10	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:20
Dilution Factor: 10

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255007-L
Analyst: NRB

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:51
Dilution Factor: 200

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255007-L
Analyst: NRB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS203**
SGS Ref. #: 1115255007
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:40
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Alkalinity	50.2	10.0	3.10	mg/L	1	WTI3606		
Ammonia-N	0.0939J	0.100	0.0310	mg/L	1	WDA2347	WXX8808	
Chloride	19.5	0.100	0.0310	mg/L	1	WIC4891	WXX8845	
Conductivity	238	1.00	0.477	umhos/cm	1	WAT8989		
Fluoride	0.202	0.100	0.0310	mg/L	1	WIC4895	WXX8855	
pH	6.50	0.100	0.100	pH units	1	WPH6391		
Sulfate	31.5	0.100	0.0310	mg/L	1	WIC4891	WXX8845	
Sulfide	0.620 U	1.00	0.310	mg/L	10	WAT8991		
Total Dissolved Solids	200	50.0	15.5	mg/L	1	WAT8990		
Total Nitrate/Nitrite-N	0.185	0.100	0.0310	mg/L	5	WFI2056		
Total Phosphorus	0.475	0.0100	0.00310	mg/L	1	WDA2353	WXX8830	
Total Suspended Solids	713	33.3	10.0	mg/L		STS3720		

Client Sample ID: **102311SU01WS203**
SGS Ref. #: 1115255007
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:40
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Batch Information								
Analytical Batch: STS3720 Analytical Method: SM20 2540D Analysis Date/Time: 10/28/11 18:30						Initial Prep Wt./Vol.: 15 mL Container ID:1115255007-M Analyst: CDE		
Analytical Batch: WAT8989 Analytical Method: SM20 2510B Analysis Date/Time: 10/27/11 18:25 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255007-N Analyst: CDE		
Analytical Batch: WAT8990 Analytical Method: SM20 2540C Analysis Date/Time: 10/26/11 13:30 Dilution Factor: 1						Initial Prep Wt./Vol.: 20 mL Container ID:1115255007-N Analyst: ACF		
Analytical Batch: WAT8991 Analytical Method: SM20 4500S D Analysis Date/Time: 10/28/11 19:45 Dilution Factor: 10						Initial Prep Wt./Vol.: 1 mL Container ID:1115255007-J Analyst: ACF		
Analytical Batch: WDA2347 Analytical Method: SM20 4500-NH3 G Analysis Date/Time: 10/27/11 07:29 Dilution Factor: 1		Prep Batch: WXX8808 Prep Method: METHOD Prep Date/Time: 10/27/11 06:00				Initial Prep Wt./Vol.: 50 mL Prep Extract Vol.: 50 mL Container ID:1115255007-K Analyst: ACF		
Analytical Batch: WDA2353 Analytical Method: SM20 4500P-B,E Analysis Date/Time: 10/31/11 19:48 Dilution Factor: 1		Prep Batch: WXX8830 Prep Method: SM20 4500P-B,E Prep Date/Time: 10/27/11 12:30				Initial Prep Wt./Vol.: 25 mL Prep Extract Vol.: 25 mL Container ID:1115255007-K Analyst: ACF		
Analytical Batch: WFI2056 Analytical Method: SM20 4500NO3-F Analysis Date/Time: 10/28/11 20:25 Dilution Factor: 5						Initial Prep Wt./Vol.: 5 mL Container ID:1115255007-K Analyst: AYC		
Analytical Batch: WIC4891 Analytical Method: EPA 300.0 Analysis Date/Time: 11/04/11 05:21 Dilution Factor: 1		Prep Batch: WXX8845 Prep Method: METHOD Prep Date/Time: 11/03/11 17:20				Initial Prep Wt./Vol.: 10 mL Prep Extract Vol.: 10 mL Container ID:1115255007-N Analyst: SDP		
Analytical Batch: WIC4895 Analytical Method: EPA 300.0 Analysis Date/Time: 11/08/11 22:30 Dilution Factor: 1		Prep Batch: WXX8855 Prep Method: METHOD Prep Date/Time: 11/08/11 17:36				Initial Prep Wt./Vol.: 10 mL Prep Extract Vol.: 10 mL Container ID:1115255007-N Analyst: SDP		

Client Sample ID: **102311SU01WS203**
SGS Ref. #: 1115255007
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:40
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Analytical Batch: WPH6391						Initial Prep Wt./Vol.: 1 mL		
Analytical Method: SM20 4500-H B								
Analysis Date/Time: 10/27/11 18:25						Container ID:1115255007-N		
Dilution Factor: 1						Analyst: CDE		
Analytical Batch: WTI3606						Initial Prep Wt./Vol.: 50 mL		
Analytical Method: SM20 2320B								
Analysis Date/Time: 10/27/11 18:25						Container ID:1115255007-N		
Dilution Factor: 1						Analyst: CDE		

Client Sample ID: **102311SU01WS203**
SGS Ref. #: 1115255007
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:40
Receipt Date/Time: 10/25/11 08:45

Volatile Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Gasoline Range Organics	0.0620 U	0.100	0.0310	mg/L	1	VFC10809	VXX23030	
4-Bromofluorobenzene <surr>	90.6	50-150		%	1	VFC10809	VXX23030	

Batch Information

Analytical Batch: VFC10809
Analytical Method: AK101
Analysis Date/Time: 10/28/11 13:52
Dilution Factor: 1

Prep Batch: VXX23030
Prep Method: SW5030B
Prep Date/Time: 10/28/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255007-A
Analyst: EAB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS203**
SGS Ref. #: 1115255007
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:40
Receipt Date/Time: 10/25/11 08:45

Semivolatile Organic Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Diesel Range Organics	0.334J	0.600	0.180	mg/L	1	XFC10192	XXX26082	
Residual Range Organics	0.516	0.500	0.150	mg/L	1	XFC10192	XXX26082	
5a Androstane <surr>	70.5	50-150		%	1	XFC10192	XXX26082	
n-Triacontane-d62 <surr>	72.9	50-150		%	1	XFC10192	XXX26082	

Batch Information

Analytical Batch: XFC10192
Analytical Method: AK102
Analysis Date/Time: 10/29/11 12:39
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255007-D
Analyst: MCS

Analytical Batch: XFC10192
Analytical Method: AK103
Analysis Date/Time: 10/29/11 12:39
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255007-D
Analyst: MCS

Client Sample ID: **102311SU01WS203**
SGS Ref. #: 1115255007
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:40
Receipt Date/Time: 10/25/11 08:45

Volatile Gas Chromatography/Mass Spectroscopy

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12544	VXX23020	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12544	VXX23020	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
1,2-Dichloroethane-D4 <surr>	105	70-120		%	1	VMS12544	VXX23020	
4-Bromofluorobenzene <surr>	104	75-120		%	1	VMS12544	VXX23020	
Toluene-d8 <surr>	98	85-120		%	1	VMS12544	VXX23020	

Batch Information

Analytical Batch: VMS12544
Analytical Method: SW8260B
Analysis Date/Time: 10/27/11 20:52
Dilution Factor: 1

Prep Batch: VXX23020
Prep Method: SW5030B
Prep Date/Time: 10/27/11 12:55

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255007-F
Analyst: JPI

Client Sample ID: **102311SU01WS203**
SGS Ref. #: 1115255007
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:40
Receipt Date/Time: 10/25/11 08:45

Polynuclear Aromatics GC/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
1-Methylnaphthalene	0.0709	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
2-Methylnaphthalene	0.0803	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Acenaphthene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Acenaphthylene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Anthracene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Benzo(a)Anthracene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Benzo[a]pyrene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Benzo[b]Fluoranthene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Benzo[g,h,i]perylene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Benzo[k]fluoranthene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Chrysene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Dibenzo[a,h]anthracene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Fluoranthene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Fluorene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Indeno[1,2,3-c,d] pyrene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Naphthalene	0.103J	0.125	0.0388	ug/L	1	XMS6354	XXX26098	
Phenanthrene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
Pyrene	0.0376 U	0.0625	0.0188	ug/L	1	XMS6354	XXX26098	
2-Fluorobiphenyl <surr>	99	50-110		%	1	XMS6354	XXX26098	
Terphenyl-d14 <surr>	126	50-135		%	1	XMS6354	XXX26098	

Batch Information

Analytical Batch: XMS6354
Analytical Method: 8270D SIMS (PAH)
Analysis Date/Time: 11/01/11 21:04
Dilution Factor: 1

Prep Batch: XXX26098
Prep Method: SW3520C
Prep Date/Time: 10/28/11 11:10

Initial Prep Wt./Vol.: 800 mL
Prep Extract Vol.: 1 mL
Container ID:1115255007-I
Analyst: RTS

Client Sample ID: **102311SU01WS004**
SGS Ref. #: 1115255008
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:00
Receipt Date/Time: 10/25/11 08:45

Metals Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5021	MXX24974	

Batch Information

Analytical Batch: MCV5021
Analytical Method: EP245.1
Analysis Date/Time: 10/26/11 15:09
Dilution Factor: 1

Prep Batch: MXX24974
Prep Method: METHOD
Prep Date/Time: 10/26/11 08:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255008-N
Analyst: CDE

Client Sample ID: **102311SU01WS004**
SGS Ref. #: 1115255008
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:00
Receipt Date/Time: 10/25/11 08:45

Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	44.1	2.00	0.620	ug/L	2.5	MMS7260	MXX24975	
Antimony	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Arsenic	0.300 U	0.500	0.150	ug/L	2.5	MMS7260	MXX24975	
Barium	5.53	0.250	0.0250	ug/L	2.5	MMS7260	MXX24975	
Beryllium	0.0500 U	0.0500	0.0250	ug/L	2.5	MMS7260	MXX24975	
Bismuth	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Boron	2.58J	5.00	1.50	ug/L	2.5	MMS7260	MXX24975	
Cadmium	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Calcium	7130	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Chromium	0.152J	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Cobalt	0.0431	0.0200	0.0100	ug/L	2.5	MMS7260	MXX24975	
Copper	0.333J	0.500	0.0500	ug/L	2.5	MMS7260	MXX24975	
Iron	124	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Lead	0.0620 U	0.100	0.0310	ug/L	2.5	MMS7260	MXX24975	
Magnesium	1810	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Manganese	9.82	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Molybdenum	0.739	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Nickel	0.185J	0.620	0.0620	ug/L	2.5	MMS7260	MXX24975	
Potassium	467	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Selenium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Silver	0.00948J	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Sodium	2480	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Thallium	0.0124 U	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Tin	0.124 U	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Vanadium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Zinc	2.21J	3.10	0.400	ug/L	2.5	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 17:49
Dilution Factor: 2.5

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255008-P
Analyst: NRB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS004**
SGS Ref. #: 1115255008
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:00
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Alkalinity	17.1	10.0	3.10	mg/L	1	WTI3606		
Ammonia-N	0.0620 U	0.100	0.0310	mg/L	1	WDA2347	WXX8808	
Chloride	0.847	0.100	0.0310	mg/L	1	WIC4886	WXX8811	
Conductivity	65.6	1.00	0.477	umhos/cm	1	WAT8989		
Fluoride	0.0880J	0.100	0.0310	mg/L	1	WIC4886	WXX8811	
pH	6.60	0.100	0.100	pH units	1	WPH6391		
Sulfate	9.45	0.100	0.0310	mg/L	1	WIC4886	WXX8811	
Sulfide	0.0620 U	0.100	0.0310	mg/L	1	WAT8991		
Total Dissolved Solids	43.0	10.0	3.10	mg/L	1	WAT8990		
Total Nitrate/Nitrite-N	0.0620 U	0.100	0.0310	mg/L	5	WFI2056		
Total Phosphorus	0.00646J	0.0100	0.00310	mg/L	1	WDA2353	WXX8830	
Total Suspended Solids	0.729	0.521	0.156	mg/L		STS3720		

Client Sample ID: **102311SU01WS004**
SGS Ref. #: 1115255008
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:00
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Batch Information								
Analytical Batch: STS3720 Analytical Method: SM20 2540D Analysis Date/Time: 10/28/11 18:30						Initial Prep Wt./Vol.: 960 mL Container ID:1115255008-Q Analyst: CDE		
Analytical Batch: WAT8989 Analytical Method: SM20 2510B Analysis Date/Time: 10/27/11 19:29 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255008-S Analyst: CDE		
Analytical Batch: WAT8990 Analytical Method: SM20 2540C Analysis Date/Time: 10/26/11 13:30 Dilution Factor: 1						Initial Prep Wt./Vol.: 100 mL Container ID:1115255008-T Analyst: ACF		
Analytical Batch: WAT8991 Analytical Method: SM20 4500S D Analysis Date/Time: 10/28/11 19:45 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255008-J Analyst: ACF		
Analytical Batch: WDA2347 Analytical Method: SM20 4500-NH3 G Analysis Date/Time: 10/27/11 07:29 Dilution Factor: 1		Prep Batch: WXX8808 Prep Method: METHOD Prep Date/Time: 10/27/11 06:00				Initial Prep Wt./Vol.: 50 mL Prep Extract Vol.: 50 mL Container ID:1115255008-K Analyst: ACF		
Analytical Batch: WDA2353 Analytical Method: SM20 4500P-B,E Analysis Date/Time: 10/31/11 19:48 Dilution Factor: 1		Prep Batch: WXX8830 Prep Method: SM20 4500P-B,E Prep Date/Time: 10/27/11 12:30				Initial Prep Wt./Vol.: 25 mL Prep Extract Vol.: 25 mL Container ID:1115255008-K Analyst: ACF		
Analytical Batch: WFI2056 Analytical Method: SM20 4500NO3-F Analysis Date/Time: 10/28/11 20:47 Dilution Factor: 5						Initial Prep Wt./Vol.: 5 mL Container ID:1115255008-K Analyst: AYC		
Analytical Batch: WIC4886 Analytical Method: EPA 300.0 Analysis Date/Time: 10/27/11 00:07 Dilution Factor: 1		Prep Batch: WXX8811 Prep Method: METHOD Prep Date/Time: 10/26/11 17:48				Initial Prep Wt./Vol.: 10 mL Prep Extract Vol.: 10 mL Container ID:1115255008-R Analyst: SDP		
Analytical Batch: WPH6391 Analytical Method: SM20 4500-H B Analysis Date/Time: 10/27/11 19:29 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255008-S Analyst: CDE		

Client Sample ID: **102311SU01WS004**
SGS Ref. #: 1115255008
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:00
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Analytical Batch: WTI3606						Initial Prep Wt./Vol.: 50 mL		
Analytical Method: SM20 2320B								
Analysis Date/Time: 10/27/11 19:29						Container ID:1115255008-S		
Dilution Factor: 1						Analyst: CDE		

Client Sample ID: **102311SU01WS004**
SGS Ref. #: 1115255008
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:00
Receipt Date/Time: 10/25/11 08:45

Volatile Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Gasoline Range Organics	0.0620 U	0.100	0.0310	mg/L	1	VFC10809	VXX23030	
4-Bromofluorobenzene <surr>	91.9	50-150		%	1	VFC10809	VXX23030	

Batch Information

Analytical Batch: VFC10809
Analytical Method: AK101
Analysis Date/Time: 10/28/11 15:44
Dilution Factor: 1

Prep Batch: VXX23030
Prep Method: SW5030B
Prep Date/Time: 10/28/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255008-A
Analyst: EAB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS004**
SGS Ref. #: 1115255008
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:00
Receipt Date/Time: 10/25/11 08:45

Semivolatile Organic Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Diesel Range Organics	0.360 U	0.600	0.180	mg/L	1	XFC10192	XXX26082	
Residual Range Organics	0.239J	0.500	0.150	mg/L	1	XFC10192	XXX26082	
5a Androstane <surr>	80.3	50-150		%	1	XFC10192	XXX26082	
n-Triacontane-d62 <surr>	81.5	50-150		%	1	XFC10192	XXX26082	

Batch Information

Analytical Batch: XFC10192
Analytical Method: AK102
Analysis Date/Time: 10/29/11 13:00
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255008-D
Analyst: MCS

Analytical Batch: XFC10192
Analytical Method: AK103
Analysis Date/Time: 10/29/11 13:00
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255008-D
Analyst: MCS

Client Sample ID: **102311SU01WS004**
SGS Ref. #: 1115255008
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:00
Receipt Date/Time: 10/25/11 08:45

Volatile Gas Chromatography/Mass Spectroscopy

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12544	VXX23020	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12544	VXX23020	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
1,2-Dichloroethane-D4 <surr>	101	70-120		%	1	VMS12544	VXX23020	
4-Bromofluorobenzene <surr>	104	75-120		%	1	VMS12544	VXX23020	
Toluene-d8 <surr>	96.6	85-120		%	1	VMS12544	VXX23020	

Batch Information

Analytical Batch: VMS12544
Analytical Method: SW8260B
Analysis Date/Time: 10/27/11 19:33
Dilution Factor: 1

Prep Batch: VXX23020
Prep Method: SW5030B
Prep Date/Time: 10/27/11 12:55

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255008-F
Analyst: JPI

Client Sample ID: **102311SU01WS004**
SGS Ref. #: 1115255008
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:00
Receipt Date/Time: 10/25/11 08:45

Polynuclear Aromatics GC/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
1-Methylnaphthalene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
2-Methylnaphthalene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Acenaphthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Acenaphthylene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo(a)Anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo[a]pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo[b]Fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo[g,h,i]perylene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo[k]fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Chrysene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Dibenzo[a,h]anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Fluorene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Indeno[1,2,3-c,d] pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Naphthalene	0.0620 U	0.100	0.0310	ug/L	1	XMS6357	XXX26098	
Phenanthrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
2-Fluorobiphenyl <surr>	94	50-110		%	1	XMS6357	XXX26098	
Terphenyl-d14 <surr>	115	50-135		%	1	XMS6357	XXX26098	

Batch Information

Analytical Batch: XMS6357
Analytical Method: 8270D SIMS (PAH)
Analysis Date/Time: 11/01/11 19:52
Dilution Factor: 1

Prep Batch: XXX26098
Prep Method: SW3520C
Prep Date/Time: 10/28/11 11:10

Initial Prep Wt./Vol.: 1000 mL
Prep Extract Vol.: 1 mL
Container ID:1115255008-I
Analyst: RTS

Client Sample ID: **102311SU01WS204**
SGS Ref. #: 1115255012
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:10
Receipt Date/Time: 10/25/11 08:45

Metals Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5032	MXX25009	

Batch Information

Analytical Batch: MCV5032
Analytical Method: EP245.1
Analysis Date/Time: 11/02/11 11:46
Dilution Factor: 1

Prep Batch: MXX25009
Prep Method: METHOD
Prep Date/Time: 11/02/11 07:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255012-M
Analyst: CDE

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS204**
SGS Ref. #: 1115255012
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:10
Receipt Date/Time: 10/25/11 08:45

Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	25.3	2.00	0.620	ug/L	2.5	MMS7260	MXX24975	
Antimony	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Arsenic	0.300 U	0.500	0.150	ug/L	2.5	MMS7260	MXX24975	
Barium	5.22	0.250	0.0250	ug/L	2.5	MMS7260	MXX24975	
Beryllium	0.0500 U	0.0500	0.0250	ug/L	2.5	MMS7260	MXX24975	
Bismuth	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Boron	1.98J	5.00	1.50	ug/L	2.5	MMS7260	MXX24975	
Cadmium	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Calcium	7260	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Chromium	0.112J	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Cobalt	0.0243	0.0200	0.0100	ug/L	2.5	MMS7260	MXX24975	
Copper	0.237J	0.500	0.0500	ug/L	2.5	MMS7260	MXX24975	
Iron	50.9	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Lead	0.0620 U	0.100	0.0310	ug/L	2.5	MMS7260	MXX24975	
Magnesium	1840	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Manganese	2.97	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Molybdenum	0.676	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Nickel	0.159J	0.620	0.0620	ug/L	2.5	MMS7260	MXX24975	
Potassium	454	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Selenium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Silver	0.0124 U	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Sodium	2550	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Thallium	0.0124 U	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Tin	0.124 U	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Vanadium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Zinc	1.33J	3.10	0.400	ug/L	2.5	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:22
Dilution Factor: 2.5

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255012-M
Analyst: NRB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS204**
SGS Ref. #: 1115255012
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:10
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Alkalinity	16.4	10.0	3.10	mg/L	1	WTI3606		
Ammonia-N	0.0620 U	0.100	0.0310	mg/L	1	WDA2347	WXX8808	
Chloride	0.822	0.100	0.0310	mg/L	1	WIC4886	WXX8811	
Conductivity	65.4	1.00	0.477	umhos/cm	1	WAT8989		
Fluoride	0.0750J	0.100	0.0310	mg/L	1	WIC4886	WXX8811	
pH	6.70	0.100	0.100	pH units	1	WPH6391		
Sulfate	10.3	0.100	0.0310	mg/L	1	WIC4886	WXX8811	
Sulfide	0.0620 U	0.100	0.0310	mg/L	1	WAT8991		
Total Dissolved Solids	35.0	10.0	3.10	mg/L	1	WAT8990		
Total Nitrate/Nitrite-N	0.0345J	0.100	0.0310	mg/L	5	WFI2056		
Total Phosphorus	0.00348J	0.0100	0.00310	mg/L	1	WDA2353	WXX8830	
Total Suspended Solids	0.203J	0.508	0.152	mg/L		STS3720		

Client Sample ID: **102311SU01WS204**
SGS Ref. #: 1115255012
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:10
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Batch Information								
Analytical Batch: STS3720 Analytical Method: SM20 2540D Analysis Date/Time: 10/28/11 18:30						Initial Prep Wt./Vol.: 985 mL Container ID:1115255012-N Analyst: CDE		
Analytical Batch: WAT8989 Analytical Method: SM20 2510B Analysis Date/Time: 10/27/11 18:34 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255012-O Analyst: CDE		
Analytical Batch: WAT8990 Analytical Method: SM20 2540C Analysis Date/Time: 10/26/11 13:30 Dilution Factor: 1						Initial Prep Wt./Vol.: 100 mL Container ID:1115255012-O Analyst: ACF		
Analytical Batch: WAT8991 Analytical Method: SM20 4500S D Analysis Date/Time: 10/28/11 19:45 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255012-J Analyst: ACF		
Analytical Batch: WDA2347 Analytical Method: SM20 4500-NH3 G Analysis Date/Time: 10/27/11 07:35 Dilution Factor: 1		Prep Batch: WXX8808 Prep Method: METHOD Prep Date/Time: 10/27/11 06:00				Initial Prep Wt./Vol.: 50 mL Prep Extract Vol.: 50 mL Container ID:1115255012-L Analyst: ACF		
Analytical Batch: WDA2353 Analytical Method: SM20 4500P-B,E Analysis Date/Time: 10/31/11 19:53 Dilution Factor: 1		Prep Batch: WXX8830 Prep Method: SM20 4500P-B,E Prep Date/Time: 10/27/11 12:30				Initial Prep Wt./Vol.: 25 mL Prep Extract Vol.: 25 mL Container ID:1115255012-L Analyst: ACF		
Analytical Batch: WFI2056 Analytical Method: SM20 4500NO3-F Analysis Date/Time: 10/28/11 20:26 Dilution Factor: 5						Initial Prep Wt./Vol.: 5 mL Container ID:1115255012-L Analyst: AYC		
Analytical Batch: WIC4886 Analytical Method: EPA 300.0 Analysis Date/Time: 10/27/11 01:54 Dilution Factor: 1		Prep Batch: WXX8811 Prep Method: METHOD Prep Date/Time: 10/26/11 17:48				Initial Prep Wt./Vol.: 10 mL Prep Extract Vol.: 10 mL Container ID:1115255012-O Analyst: SDP		
Analytical Batch: WPH6391 Analytical Method: SM20 4500-H B Analysis Date/Time: 10/27/11 18:34 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255012-O Analyst: CDE		

Client Sample ID: **102311SU01WS204**
SGS Ref. #: 1115255012
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:10
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Analytical Batch: WTI3606						Initial Prep Wt./Vol.: 50 mL		
Analytical Method: SM20 2320B								
Analysis Date/Time: 10/27/11 18:34						Container ID:1115255012-O		
Dilution Factor: 1						Analyst: CDE		

Client Sample ID: **102311SU01WS204**
SGS Ref. #: 1115255012
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:10
Receipt Date/Time: 10/25/11 08:45

Volatile Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Gasoline Range Organics	0.0620 U	0.100	0.0310	mg/L	1	VFC10809	VXX23030	
4-Bromofluorobenzene <surr>	94.6	50-150		%	1	VFC10809	VXX23030	

Batch Information

Analytical Batch: VFC10809
Analytical Method: AK101
Analysis Date/Time: 10/28/11 14:11
Dilution Factor: 1

Prep Batch: VXX23030
Prep Method: SW5030B
Prep Date/Time: 10/28/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255012-A
Analyst: EAB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS204**
SGS Ref. #: 1115255012
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:10
Receipt Date/Time: 10/25/11 08:45

Semivolatile Organic Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Diesel Range Organics	0.360 U	0.600	0.180	mg/L	1	XFC10192	XXX26082	
Residual Range Organics	0.164J	0.500	0.150	mg/L	1	XFC10192	XXX26082	
5a Androstane <surr>	79	50-150		%	1	XFC10192	XXX26082	
n-Triacontane-d62 <surr>	81.9	50-150		%	1	XFC10192	XXX26082	

Batch Information

Analytical Batch: XFC10192
Analytical Method: AK102
Analysis Date/Time: 10/29/11 14:03
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255012-D
Analyst: MCS

Analytical Batch: XFC10192
Analytical Method: AK103
Analysis Date/Time: 10/29/11 14:03
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255012-D
Analyst: MCS

Client Sample ID: **102311SU01WS204**
SGS Ref. #: 1115255012
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:10
Receipt Date/Time: 10/25/11 08:45

Volatile Gas Chromatography/Mass Spectroscopy

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12544	VXX23020	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12544	VXX23020	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
1,2-Dichloroethane-D4 <surr>	102	70-120		%	1	VMS12544	VXX23020	
4-Bromofluorobenzene <surr>	102	75-120		%	1	VMS12544	VXX23020	
Toluene-d8 <surr>	98.8	85-120		%	1	VMS12544	VXX23020	

Batch Information

Analytical Batch: VMS12544
Analytical Method: SW8260B
Analysis Date/Time: 10/27/11 21:18
Dilution Factor: 1

Prep Batch: VXX23020
Prep Method: SW5030B
Prep Date/Time: 10/27/11 12:55

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255012-F
Analyst: JPI

Client Sample ID: **102311SU01WS204**
SGS Ref. #: 1115255012
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:10
Receipt Date/Time: 10/25/11 08:45

Polynuclear Aromatics GC/MS

Parameter	Result		LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
1-Methylnaphthalene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
2-Methylnaphthalene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Acenaphthene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Acenaphthylene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Anthracene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Benzo(a)Anthracene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Benzo[a]pyrene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Benzo[b]Fluoranthene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Benzo[g,h,i]perylene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Benzo[k]fluoranthene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Chrysene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Dibenzo[a,h]anthracene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Fluoranthene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Fluorene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Indeno[1,2,3-c,d] pyrene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Naphthalene	0.0640 U		0.103	0.0320	ug/L	1	XMS6354	XXX26098	
Phenanthrene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
Pyrene	0.0310 U		0.0515	0.0155	ug/L	1	XMS6354	XXX26098	
2-Fluorobiphenyl <surr>	84		50-110		%	1	XMS6354	XXX26098	
Terphenyl-d14 <surr>	137	*	50-135		%	1	XMS6354	XXX26098	

Batch Information

Analytical Batch: XMS6354
Analytical Method: 8270D SIMS (PAH)
Analysis Date/Time: 11/01/11 21:24
Dilution Factor: 1

Prep Batch: XXX26098
Prep Method: SW3520C
Prep Date/Time: 10/28/11 11:10

Initial Prep Wt./Vol.: 970 mL
Prep Extract Vol.: 1 mL
Container ID:1115255012-I
Analyst: RTS

Client Sample ID: **102311SU01WS005**
SGS Ref. #: 1115255013
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:45
Receipt Date/Time: 10/25/11 08:45

Metals Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5021	MXX24974	

Batch Information

Analytical Batch: MCV5021
Analytical Method: EP245.1
Analysis Date/Time: 10/26/11 15:29
Dilution Factor: 1

Prep Batch: MXX24974
Prep Method: METHOD
Prep Date/Time: 10/26/11 08:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255013-F
Analyst: CDE

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS005**
SGS Ref. #: 1115255013
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:45
Receipt Date/Time: 10/25/11 08:45

Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	52300	400	124	ug/L	500	MMS7260	MXX24975	
Antimony	1.08	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Arsenic	14.3	2.00	0.600	ug/L	10	MMS7260	MXX24975	
Barium	360	1.00	0.100	ug/L	10	MMS7260	MXX24975	
Beryllium	4.44	0.200	0.100	ug/L	10	MMS7260	MXX24975	
Bismuth	0.946	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Boron	12.1J	20.0	6.00	ug/L	10	MMS7260	MXX24975	
Cadmium	0.164J	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Calcium	61400	200	60.0	ug/L	10	MMS7260	MXX24975	
Chromium	44.0	0.800	0.248	ug/L	10	MMS7260	MXX24975	
Cobalt	6.60	0.0800	0.0400	ug/L	10	MMS7260	MXX24975	
Copper	407	2.00	0.200	ug/L	10	MMS7260	MXX24975	
Iron	57700	80.0	24.8	ug/L	10	MMS7260	MXX24975	
Lead	13.1	0.400	0.124	ug/L	10	MMS7260	MXX24975	
Magnesium	26700	80.0	24.8	ug/L	10	MMS7260	MXX24975	
Manganese	848	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Molybdenum	25.5	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Nickel	8.99	2.48	0.248	ug/L	10	MMS7260	MXX24975	
Potassium	45500	200	60.0	ug/L	10	MMS7260	MXX24975	
Selenium	2.33J	4.00	1.24	ug/L	10	MMS7260	MXX24975	
Silver	8.20	0.0800	0.0248	ug/L	10	MMS7260	MXX24975	
Sodium	31000	400	124	ug/L	10	MMS7260	MXX24975	
Thallium	0.773	0.0800	0.0248	ug/L	10	MMS7260	MXX24975	
Tin	0.496 U	0.800	0.248	ug/L	10	MMS7260	MXX24975	
Vanadium	343	4.00	1.24	ug/L	10	MMS7260	MXX24975	
Zinc	113	12.4	1.60	ug/L	10	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:24
Dilution Factor: 10

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255013-F
Analyst: NRB

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 19:06
Dilution Factor: 500

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255013-F
Analyst: NRB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS005**
SGS Ref. #: 1115255013
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:45
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Alkalinity	126	10.0	3.10	mg/L	1	WTI3606		
Ammonia-N	0.0328J	0.100	0.0310	mg/L	1	WDA2347	WXX8809	
Chloride	22.8	0.100	0.0310	mg/L	1	WIC4891	WXX8845	
Conductivity	310	1.00	0.477	umhos/cm	1	WAT8989		
Fluoride	0.573	0.100	0.0310	mg/L	1	WIC4895	WXX8855	
pH	8.10	0.100	0.100	pH units	1	WPH6391		
Sulfate	32.1	0.100	0.0310	mg/L	1	WIC4891	WXX8845	
Sulfide	0.620 U	1.00	0.310	mg/L	10	WAT8991		
Total Dissolved Solids	370	100	31.0	mg/L	1	WAT8990		
Total Nitrate/Nitrite-N	0.253	0.100	0.0310	mg/L	5	WFI2056		
Total Phosphorus	2.84	0.100	0.0310	mg/L	10	WDA2353	WXX8830	
Total Suspended Solids	2370	50.0	15.0	mg/L		STS3720		

Client Sample ID: **102311SU01WS005**
SGS Ref. #: 1115255013
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:45
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Batch Information								
Analytical Batch: STS3720 Analytical Method: SM20 2540D Analysis Date/Time: 10/28/11 18:30						Initial Prep Wt./Vol.: 10 mL Container ID:1115255013-G Analyst: CDE		
Analytical Batch: WAT8989 Analytical Method: SM20 2510B Analysis Date/Time: 10/27/11 18:43 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255013-H Analyst: CDE		
Analytical Batch: WAT8990 Analytical Method: SM20 2540C Analysis Date/Time: 10/26/11 13:30 Dilution Factor: 1						Initial Prep Wt./Vol.: 10 mL Container ID:1115255013-H Analyst: ACF		
Analytical Batch: WAT8991 Analytical Method: SM20 4500S D Analysis Date/Time: 10/28/11 19:45 Dilution Factor: 10						Initial Prep Wt./Vol.: 1 mL Container ID:1115255013-D Analyst: ACF		
Analytical Batch: WDA2347 Analytical Method: SM20 4500-NH3 G Analysis Date/Time: 10/27/11 07:35 Dilution Factor: 1		Prep Batch: WXX8809 Prep Method: METHOD Prep Date/Time: 10/27/11 06:00				Initial Prep Wt./Vol.: 50 mL Prep Extract Vol.: 50 mL Container ID:1115255013-E Analyst: ACF		
Analytical Batch: WDA2353 Analytical Method: SM20 4500P-B,E Analysis Date/Time: 10/31/11 20:04 Dilution Factor: 10		Prep Batch: WXX8830 Prep Method: SM20 4500P-B,E Prep Date/Time: 10/27/11 12:30				Initial Prep Wt./Vol.: 25 mL Prep Extract Vol.: 25 mL Container ID:1115255013-E Analyst: ACF		
Analytical Batch: WFI2056 Analytical Method: SM20 4500NO3-F Analysis Date/Time: 10/28/11 20:44 Dilution Factor: 5						Initial Prep Wt./Vol.: 5 mL Container ID:1115255013-E Analyst: AYC		
Analytical Batch: WIC4891 Analytical Method: EPA 300.0 Analysis Date/Time: 11/04/11 04:59 Dilution Factor: 1		Prep Batch: WXX8845 Prep Method: METHOD Prep Date/Time: 11/03/11 17:20				Initial Prep Wt./Vol.: 10 mL Prep Extract Vol.: 10 mL Container ID:1115255013-H Analyst: SDP		
Analytical Batch: WIC4895 Analytical Method: EPA 300.0 Analysis Date/Time: 11/08/11 22:52 Dilution Factor: 1		Prep Batch: WXX8855 Prep Method: METHOD Prep Date/Time: 11/08/11 17:36				Initial Prep Wt./Vol.: 10 mL Prep Extract Vol.: 10 mL Container ID:1115255013-H Analyst: SDP		

Client Sample ID: **102311SU01WS005**
SGS Ref. #: 1115255013
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:45
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Analytical Batch: WPH6391						Initial Prep Wt./Vol.: 1 mL		
Analytical Method: SM20 4500-H B								
Analysis Date/Time: 10/27/11 18:43						Container ID:1115255013-H		
Dilution Factor: 1						Analyst: CDE		
Analytical Batch: WTI3606						Initial Prep Wt./Vol.: 50 mL		
Analytical Method: SM20 2320B								
Analysis Date/Time: 10/27/11 18:43						Container ID:1115255013-H		
Dilution Factor: 1						Analyst: CDE		

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS005**
SGS Ref. #: 1115255013
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:45
Receipt Date/Time: 10/25/11 08:45

Semivolatile Organic Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Diesel Range Organics	2.53	0.600	0.180	mg/L	1	XFC10192	XXX26082	
Residual Range Organics	2.10	0.500	0.150	mg/L	1	XFC10192	XXX26082	
5a Androstane <surr>	74.6	50-150		%	1	XFC10192	XXX26082	
n-Triacontane-d62 <surr>	76.1	50-150		%	1	XFC10192	XXX26082	

Batch Information

Analytical Batch: XFC10192
Analytical Method: AK102
Analysis Date/Time: 10/29/11 14:24
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255013-A
Analyst: MCS

Analytical Batch: XFC10192
Analytical Method: AK103
Analysis Date/Time: 10/29/11 14:24
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255013-A
Analyst: MCS

Client Sample ID: **102311SU01WS005**
SGS Ref. #: 1115255013
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:45
Receipt Date/Time: 10/25/11 08:45

Polynuclear Aromatics GC/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
1-Methylnaphthalene	0.156	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
2-Methylnaphthalene	0.195	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Acenaphthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Acenaphthylene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo(a)Anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo[a]pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo[b]Fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo[g,h,i]perylene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo[k]fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Chrysene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Dibenzo[a,h]anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Fluorene	0.0417J	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Indeno[1,2,3-c,d] pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Naphthalene	0.105	0.100	0.0310	ug/L	1	XMS6357	XXX26098	
Phenanthrene	0.0200J	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
2-Fluorobiphenyl <surr>	106	50-110		%	1	XMS6357	XXX26098	
Terphenyl-d14 <surr>	108	50-135		%	1	XMS6357	XXX26098	

Batch Information

Analytical Batch: XMS6357
Analytical Method: 8270D SIMS (PAH)
Analysis Date/Time: 11/01/11 20:26
Dilution Factor: 1

Prep Batch: XXX26098
Prep Method: SW3520C
Prep Date/Time: 10/28/11 11:10

Initial Prep Wt./Vol.: 1000 mL
Prep Extract Vol.: 1 mL
Container ID:1115255013-C
Analyst: RTS

Client Sample ID: **102311SU01WS205**
SGS Ref. #: 1115255014
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 16:00
Receipt Date/Time: 10/25/11 08:45

Metals Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5021	MXX24974	

Batch Information

Analytical Batch: MCV5021
Analytical Method: EP245.1
Analysis Date/Time: 10/26/11 15:32
Dilution Factor: 1

Prep Batch: MXX24974
Prep Method: METHOD
Prep Date/Time: 10/26/11 08:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255014-F
Analyst: CDE

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS205**
SGS Ref. #: 1115255014
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 16:00
Receipt Date/Time: 10/25/11 08:45

Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	59200	400	124	ug/L	500	MMS7260	MXX24975	
Antimony	0.929	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Arsenic	15.1	2.00	0.600	ug/L	10	MMS7260	MXX24975	
Barium	376	1.00	0.100	ug/L	10	MMS7260	MXX24975	
Beryllium	4.17	0.200	0.100	ug/L	10	MMS7260	MXX24975	
Bismuth	1.16	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Boron	12.4J	20.0	6.00	ug/L	10	MMS7260	MXX24975	
Cadmium	0.164J	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Calcium	60700	200	60.0	ug/L	10	MMS7260	MXX24975	
Chromium	46.5	0.800	0.248	ug/L	10	MMS7260	MXX24975	
Cobalt	7.36	0.0800	0.0400	ug/L	10	MMS7260	MXX24975	
Copper	463	2.00	0.200	ug/L	10	MMS7260	MXX24975	
Iron	64200	80.0	24.8	ug/L	10	MMS7260	MXX24975	
Lead	12.9	0.400	0.124	ug/L	10	MMS7260	MXX24975	
Magnesium	28700	80.0	24.8	ug/L	10	MMS7260	MXX24975	
Manganese	882	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Molybdenum	28.5	0.200	0.0600	ug/L	10	MMS7260	MXX24975	
Nickel	9.22	2.48	0.248	ug/L	10	MMS7260	MXX24975	
Potassium	47500	200	60.0	ug/L	10	MMS7260	MXX24975	
Selenium	2.89J	4.00	1.24	ug/L	10	MMS7260	MXX24975	
Silver	10.5	0.0800	0.0248	ug/L	10	MMS7260	MXX24975	
Sodium	31900	400	124	ug/L	10	MMS7260	MXX24975	
Thallium	0.849	0.0800	0.0248	ug/L	10	MMS7260	MXX24975	
Tin	0.496 U	0.800	0.248	ug/L	10	MMS7260	MXX24975	
Vanadium	382	4.00	1.24	ug/L	10	MMS7260	MXX24975	
Zinc	119	12.4	1.60	ug/L	10	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:26
Dilution Factor: 10

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255014-F
Analyst: NRB

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 19:08
Dilution Factor: 500

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255014-F
Analyst: NRB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS205**
SGS Ref. #: 1115255014
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 16:00
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Alkalinity	114	10.0	3.10	mg/L	1	WTI3606		
Ammonia-N	0.0383J	0.100	0.0310	mg/L	1	WDA2347	WXX8809	
Chloride	22.6	0.100	0.0310	mg/L	1	WIC4891	WXX8845	
Conductivity	305	1.00	0.477	umhos/cm	1	WAT8989		
Fluoride	0.598	0.100	0.0310	mg/L	1	WIC4891	WXX8845	
pH	8.10	0.100	0.100	pH units	1	WPH6391		
Sulfate	31.6	0.100	0.0310	mg/L	1	WIC4891	WXX8845	
Sulfide	0.620 U	1.00	0.310	mg/L	10	WAT8991		
Total Dissolved Solids	360	20.0	6.20	mg/L	1	WAT8995		
Total Nitrate/Nitrite-N	0.231	0.100	0.0310	mg/L	5	WFI2056		
Total Phosphorus	2.89	0.100	0.0310	mg/L	10	WDA2353	WXX8830	
Total Suspended Solids	1830	50.0	15.0	mg/L		STS3720		

Client Sample ID: **102311SU01WS205**
SGS Ref. #: 1115255014
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 16:00
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Batch Information								
Analytical Batch: STS3720 Analytical Method: SM20 2540D Analysis Date/Time: 10/28/11 18:30						Initial Prep Wt./Vol.: 10 mL Container ID:1115255014-G Analyst: CDE		
Analytical Batch: WAT8989 Analytical Method: SM20 2510B Analysis Date/Time: 10/27/11 18:55 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255014-I Analyst: CDE		
Analytical Batch: WAT8991 Analytical Method: SM20 4500S D Analysis Date/Time: 10/28/11 19:45 Dilution Factor: 10						Initial Prep Wt./Vol.: 1 mL Container ID:1115255014-D Analyst: ACF		
Analytical Batch: WAT8995 Analytical Method: SM20 2540C Analysis Date/Time: 10/30/11 15:30 Dilution Factor: 1						Initial Prep Wt./Vol.: 50 mL Container ID:1115255014-I Analyst: AYC		
Analytical Batch: WDA2347 Analytical Method: SM20 4500-NH3 G Analysis Date/Time: 10/27/11 07:35 Dilution Factor: 1		Prep Batch: WXX8809 Prep Method: METHOD Prep Date/Time: 10/27/11 06:00				Initial Prep Wt./Vol.: 50 mL Prep Extract Vol.: 50 mL Container ID:1115255014-E Analyst: ACF		
Analytical Batch: WDA2353 Analytical Method: SM20 4500P-B,E Analysis Date/Time: 10/31/11 20:04 Dilution Factor: 10		Prep Batch: WXX8830 Prep Method: SM20 4500P-B,E Prep Date/Time: 10/27/11 12:30				Initial Prep Wt./Vol.: 25 mL Prep Extract Vol.: 25 mL Container ID:1115255014-E Analyst: ACF		
Analytical Batch: WFI2056 Analytical Method: SM20 4500NO3-F Analysis Date/Time: 10/28/11 20:46 Dilution Factor: 5						Initial Prep Wt./Vol.: 5 mL Container ID:1115255014-E Analyst: AYC		
Analytical Batch: WIC4891 Analytical Method: EPA 300.0 Analysis Date/Time: 11/04/11 04:38 Dilution Factor: 1		Prep Batch: WXX8845 Prep Method: METHOD Prep Date/Time: 11/03/11 17:20				Initial Prep Wt./Vol.: 10 mL Prep Extract Vol.: 10 mL Container ID:1115255014-H Analyst: SDP		
Analytical Batch: WPH6391 Analytical Method: SM20 4500-H B Analysis Date/Time: 10/27/11 18:55 Dilution Factor: 1						Initial Prep Wt./Vol.: 1 mL Container ID:1115255014-I Analyst: CDE		

Client Sample ID: **102311SU01WS205**
SGS Ref. #: 1115255014
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 16:00
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Analytical Batch: WTI3606						Initial Prep Wt./Vol.: 50 mL		
Analytical Method: SM20 2320B								
Analysis Date/Time: 10/27/11 18:55						Container ID:1115255014-I		
Dilution Factor: 1						Analyst: CDE		

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS205**
SGS Ref. #: 1115255014
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 16:00
Receipt Date/Time: 10/25/11 08:45

Semivolatile Organic Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Diesel Range Organics	3.36	0.600	0.180	mg/L	1	XFC10192	XXX26082	
Residual Range Organics	3.26	0.500	0.150	mg/L	1	XFC10192	XXX26082	
5a Androstane <surr>	71.6	50-150		%	1	XFC10192	XXX26082	
n-Triacontane-d62 <surr>	72.9	50-150		%	1	XFC10192	XXX26082	

Batch Information

Analytical Batch: XFC10192
Analytical Method: AK102
Analysis Date/Time: 10/29/11 14:45
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255014-A
Analyst: MCS

Analytical Batch: XFC10192
Analytical Method: AK103
Analysis Date/Time: 10/29/11 14:45
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255014-A
Analyst: MCS

Client Sample ID: **102311SU01WS205**
SGS Ref. #: 1115255014
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 16:00
Receipt Date/Time: 10/25/11 08:45

Polynuclear Aromatics GC/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
1-Methylnaphthalene	0.153	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
2-Methylnaphthalene	0.191	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Acenaphthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Acenaphthylene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo(a)Anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo[a]pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo[b]Fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo[g,h,i]perylene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Benzo[k]fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Chrysene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Dibenzo[a,h]anthracene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Fluoranthene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Fluorene	0.0428J	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Indeno[1,2,3-c,d] pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Naphthalene	0.103	0.100	0.0310	ug/L	1	XMS6357	XXX26098	
Phenanthrene	0.0158J	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
Pyrene	0.0300 U	0.0500	0.0150	ug/L	1	XMS6357	XXX26098	
2-Fluorobiphenyl <surr>	102	50-110		%	1	XMS6357	XXX26098	
Terphenyl-d14 <surr>	103	50-135		%	1	XMS6357	XXX26098	

Batch Information

Analytical Batch: XMS6357
Analytical Method: 8270D SIMS (PAH)
Analysis Date/Time: 11/01/11 21:00
Dilution Factor: 1

Prep Batch: XXX26098
Prep Method: SW3520C
Prep Date/Time: 10/28/11 11:10

Initial Prep Wt./Vol.: 1000 mL
Prep Extract Vol.: 1 mL
Container ID:1115255014-C
Analyst: RTS

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS305**
SGS Ref. #: 1115255015
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:00
Receipt Date/Time: 10/25/11 08:45

Semivolatile Organic Fuels Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Diesel Range Organics	4.70	0.600	0.180	mg/L	1	XFC10192	XXX26082	
Residual Range Organics	3.99	0.500	0.150	mg/L	1	XFC10192	XXX26082	
5a Androstane <surr>	76.5	50-150		%	1	XFC10192	XXX26082	
n-Triacontane-d62 <surr>	77	50-150		%	1	XFC10192	XXX26082	

Batch Information

Analytical Batch: XFC10192
Analytical Method: AK102
Analysis Date/Time: 10/29/11 15:06
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255015-A
Analyst: MCS

Analytical Batch: XFC10192
Analytical Method: AK103
Analysis Date/Time: 10/29/11 15:06
Dilution Factor: 1

Prep Batch: XXX26082
Prep Method: SW3520C
Prep Date/Time: 10/27/11 09:50

Initial Prep Wt./Vol.: 250 mL
Prep Extract Vol.: 1 mL
Container ID:1115255015-A
Analyst: MCS

Client Sample ID: **102311SU01WS305**
SGS Ref. #: 1115255015
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:00
Receipt Date/Time: 10/25/11 08:45

Polynuclear Aromatics GC/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
1-Methylnaphthalene	0.128	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
2-Methylnaphthalene	0.156	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Acenaphthene	0.0546 U	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Acenaphthylene	0.0546 U	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Anthracene	0.0546 U	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Benzo(a)Anthracene	0.0546 U	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Benzo[a]pyrene	0.0546 U	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Benzo[b]Fluoranthene	0.0546 U	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Benzo[g,h,i]perylene	0.0546 U	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Benzo[k]fluoranthene	0.0546 U	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Chrysene	0.0546 U	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Dibenzo[a,h]anthracene	0.0546 U	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Fluoranthene	0.0546 U	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Fluorene	0.0392J	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Indeno[1,2,3-c,d] pyrene	0.0546 U	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Naphthalene	0.0909J	0.182	0.0564	ug/L	1	XMS6357	XXX26098	
Phenanthrene	0.0546 U	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
Pyrene	0.0546 U	0.0909	0.0273	ug/L	1	XMS6357	XXX26098	
2-Fluorobiphenyl <surr>	94.8	50-110		%	1	XMS6357	XXX26098	
Terphenyl-d14 <surr>	104	50-135		%	1	XMS6357	XXX26098	

Batch Information

Analytical Batch: XMS6357
Analytical Method: 8270D SIMS (PAH)
Analysis Date/Time: 11/01/11 21:33
Dilution Factor: 1

Prep Batch: XXX26098
Prep Method: SW3520C
Prep Date/Time: 10/28/11 11:10

Initial Prep Wt./Vol.: 550 mL
Prep Extract Vol.: 1 mL
Container ID:1115255015-C
Analyst: RTS

Client Sample ID: **102311SU01WS402**
SGS Ref. #: 1115255016
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 20:45
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5032	MXX25009	

Batch Information

Analytical Batch: MCV5032
Analytical Method: EP245.1
Analysis Date/Time: 11/02/11 11:49
Dilution Factor: 1

Prep Batch: MXX25009
Prep Method: METHOD
Prep Date/Time: 11/02/11 07:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255016-A
Analyst: CDE

Client Sample ID: **102311SU01WS402**
SGS Ref. #: 1115255016
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 20:45
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	2.07	2.00	0.620	ug/L	2.5	MMS7260	MXX24975	
Antimony	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Arsenic	0.300 U	0.500	0.150	ug/L	2.5	MMS7260	MXX24975	
Barium	0.642	0.250	0.0250	ug/L	2.5	MMS7260	MXX24975	
Beryllium	0.0500 U	0.0500	0.0250	ug/L	2.5	MMS7260	MXX24975	
Bismuth	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Boron	6.21	5.00	1.50	ug/L	2.5	MMS7260	MXX24975	
Cadmium	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Calcium	30.0 U	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Chromium	0.124 U	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Cobalt	0.0200 U	0.0200	0.0100	ug/L	2.5	MMS7260	MXX24975	
Copper	0.392J	0.500	0.0500	ug/L	2.5	MMS7260	MXX24975	
Iron	12.4 U	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Lead	0.0620 U	0.100	0.0310	ug/L	2.5	MMS7260	MXX24975	
Magnesium	12.4 U	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Manganese	0.239	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Molybdenum	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Nickel	0.281J	0.620	0.0620	ug/L	2.5	MMS7260	MXX24975	
Potassium	30.0 U	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Selenium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Silicon	59.2J	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Silver	0.0124 U	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Sodium	62.0 U	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Thallium	0.0124 U	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Tin	0.124 U	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Vanadium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Zinc	1.42J	3.10	0.400	ug/L	2.5	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:32
Dilution Factor: 2.5

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255016-A
Analyst: NRB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS501**
SGS Ref. #: 1115255017
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 20:30
Receipt Date/Time: 10/25/11 08:45

Metals Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5032	MXX25009	

Batch Information

Analytical Batch: MCV5032
Analytical Method: EP245.1
Analysis Date/Time: 11/02/11 11:52
Dilution Factor: 1

Prep Batch: MXX25009
Prep Method: METHOD
Prep Date/Time: 11/02/11 07:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255017-A
Analyst: CDE

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS501**
SGS Ref. #: 1115255017
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 20:30
Receipt Date/Time: 10/25/11 08:45

Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	2.15	2.00	0.620	ug/L	2.5	MMS7260	MXX24975	
Antimony	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Arsenic	0.300 U	0.500	0.150	ug/L	2.5	MMS7260	MXX24975	
Barium	0.519	0.250	0.0250	ug/L	2.5	MMS7260	MXX24975	
Beryllium	0.0500 U	0.0500	0.0250	ug/L	2.5	MMS7260	MXX24975	
Bismuth	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Boron	5.93	5.00	1.50	ug/L	2.5	MMS7260	MXX24975	
Cadmium	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Calcium	30.0 U	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Chromium	0.181J	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Cobalt	0.0200 U	0.0200	0.0100	ug/L	2.5	MMS7260	MXX24975	
Copper	0.0702J	0.500	0.0500	ug/L	2.5	MMS7260	MXX24975	
Iron	7.21J	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Lead	0.0620 U	0.100	0.0310	ug/L	2.5	MMS7260	MXX24975	
Magnesium	12.4 U	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Manganese	0.0401J	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Molybdenum	0.0229J	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Nickel	0.124 U	0.620	0.0620	ug/L	2.5	MMS7260	MXX24975	
Potassium	30.0 U	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Selenium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Silver	0.0124 U	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Sodium	62.0 U	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Thallium	0.0124 U	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Tin	0.124 U	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Vanadium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Zinc	1.66J	3.10	0.400	ug/L	2.5	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:43
Dilution Factor: 2.5

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255017-A
Analyst: NRB

Client Sample ID: **102211SU01WS001**
SGS Ref. #: 1115255018
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 15:30
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5021	MXX24974	

Batch Information

Analytical Batch: MCV5021
Analytical Method: EP245.1
Analysis Date/Time: 10/26/11 15:35
Dilution Factor: 1

Prep Batch: MXX24974
Prep Method: METHOD
Prep Date/Time: 10/26/11 08:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255018-A
Analyst: CDE

Client Sample ID: **102211SU01WS001**
SGS Ref. #: 1115255018
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 15:30
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	59.1	2.00	0.620	ug/L	2.5	MMS7260	MXX24975	
Antimony	15.2	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Arsenic	1.31	0.500	0.150	ug/L	2.5	MMS7260	MXX24975	
Barium	27.6	0.250	0.0250	ug/L	2.5	MMS7260	MXX24975	
Beryllium	0.0500 U	0.0500	0.0250	ug/L	2.5	MMS7260	MXX24975	
Bismuth	0.0806	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Boron	6.32	5.00	1.50	ug/L	2.5	MMS7260	MXX24975	
Cadmium	0.0528	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Calcium	21400	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Chromium	0.364	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Cobalt	0.308	0.0200	0.0100	ug/L	2.5	MMS7260	MXX24975	
Copper	3.95	0.500	0.0500	ug/L	2.5	MMS7260	MXX24975	
Iron	594	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Lead	0.478	0.100	0.0310	ug/L	2.5	MMS7260	MXX24975	
Magnesium	3410	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Manganese	153	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Molybdenum	21.7	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Nickel	7.94	0.620	0.0620	ug/L	2.5	MMS7260	MXX24975	
Potassium	17500	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Selenium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Silicon	4590	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Silver	0.0614	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Sodium	14800	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Thallium	0.0288	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Tin	0.0793J	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Vanadium	1.44	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Zinc	6.48	3.10	0.400	ug/L	2.5	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:41
Dilution Factor: 2.5

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255018-A
Analyst: NRB

Client Sample ID: **102211SU01WS001**
SGS Ref. #: 1115255018
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 15:30
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Organic Carbon,Dissolved	8.82	0.500	0.150	mg/L	1	WTC2125		

Batch Information

Analytical Batch: WTC2125
Analytical Method: SM 5310B
Analysis Date/Time: 11/01/11 22:55
Dilution Factor: 1

Initial Prep Wt./Vol.: 30 mL

Container ID:1115255018-B
Analyst: FAD

Client Sample ID: **102211SU01WS002**
SGS Ref. #: 1115255019
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 16:00
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5021	MXX24974	

Batch Information

Analytical Batch: MCV5021
Analytical Method: EP245.1
Analysis Date/Time: 10/26/11 15:40
Dilution Factor: 1

Prep Batch: MXX24974
Prep Method: METHOD
Prep Date/Time: 10/26/11 08:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255019-A
Analyst: CDE

Client Sample ID: **102211SU01WS002**
SGS Ref. #: 1115255019
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 16:00
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	13.5	2.00	0.620	ug/L	2.5	MMS7260	MXX24975	
Antimony	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Arsenic	0.300 U	0.500	0.150	ug/L	2.5	MMS7260	MXX24975	
Barium	4.96	0.250	0.0250	ug/L	2.5	MMS7260	MXX24975	
Beryllium	0.0500 U	0.0500	0.0250	ug/L	2.5	MMS7260	MXX24975	
Bismuth	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Boron	1.93J	5.00	1.50	ug/L	2.5	MMS7260	MXX24975	
Cadmium	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Calcium	6980	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Chromium	0.143J	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Cobalt	0.0362	0.0200	0.0100	ug/L	2.5	MMS7260	MXX24975	
Copper	0.758	0.500	0.0500	ug/L	2.5	MMS7260	MXX24975	
Iron	25.8	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Lead	0.0376J	0.100	0.0310	ug/L	2.5	MMS7260	MXX24975	
Magnesium	1760	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Manganese	2.13	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Molybdenum	0.700	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Nickel	0.765	0.620	0.0620	ug/L	2.5	MMS7260	MXX24975	
Potassium	326	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Selenium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Silicon	5740	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Silver	0.0124 U	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Sodium	2560	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Thallium	0.0124 U	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Tin	0.124 U	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Vanadium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Zinc	23.2	3.10	0.400	ug/L	2.5	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:39
Dilution Factor: 2.5

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255019-A
Analyst: NRB

Client Sample ID: **102211SU01WS002**
SGS Ref. #: 1115255019
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 16:00
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Organic Carbon,Dissolved	2.15	0.500	0.150	mg/L	1	WTC2125		

Batch Information

Analytical Batch: WTC2125
Analytical Method: SM 5310B
Analysis Date/Time: 11/01/11 23:42
Dilution Factor: 1

Initial Prep Wt./Vol.: 30 mL

Container ID:1115255019-B
Analyst: FAD

Client Sample ID: **102311SU01WS003**
SGS Ref. #: 1115255020
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:30
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5021	MXX24974	

Batch Information

Analytical Batch: MCV5021
Analytical Method: EP245.1
Analysis Date/Time: 10/26/11 15:43
Dilution Factor: 1

Prep Batch: MXX24974
Prep Method: METHOD
Prep Date/Time: 10/26/11 08:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255020-A
Analyst: CDE

Client Sample ID: **102311SU01WS003**
SGS Ref. #: 1115255020
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:30
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	272	2.00	0.620	ug/L	2.5	MMS7260	MXX24975	
Antimony	8.80	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Arsenic	1.00	0.500	0.150	ug/L	2.5	MMS7260	MXX24975	
Barium	30.7	0.250	0.0250	ug/L	2.5	MMS7260	MXX24975	
Beryllium	0.0275J	0.0500	0.0250	ug/L	2.5	MMS7260	MXX24975	
Bismuth	0.0997	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Boron	3.80J	5.00	1.50	ug/L	2.5	MMS7260	MXX24975	
Cadmium	0.0510	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Calcium	16200	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Chromium	0.463	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Cobalt	1.53	0.0200	0.0100	ug/L	2.5	MMS7260	MXX24975	
Copper	4.08	0.500	0.0500	ug/L	2.5	MMS7260	MXX24975	
Iron	640	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Lead	0.424	0.100	0.0310	ug/L	2.5	MMS7260	MXX24975	
Magnesium	3430	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Manganese	182	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Molybdenum	8.37	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Nickel	1.92	0.620	0.0620	ug/L	2.5	MMS7260	MXX24975	
Potassium	15300	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Selenium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Silicon	7730	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Silver	0.0646	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Sodium	15300	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Thallium	0.0319	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Tin	0.124 U	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Vanadium	1.71	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Zinc	7.93	3.10	0.400	ug/L	2.5	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:08
Dilution Factor: 2.5

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255020-A
Analyst: NRB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS003**
SGS Ref. #: 1115255020
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:30
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Organic Carbon,Dissolved	11.0	0.500	0.150	mg/L	1	WTC2125		

Batch Information

Analytical Batch: WTC2125
Analytical Method: SM 5310B
Analysis Date/Time: 11/01/11 20:38
Dilution Factor: 1

Initial Prep Wt./Vol.: 30 mL
Container ID:1115255020-D
Analyst: FAD

Client Sample ID: **102311SU01WS203**
SGS Ref. #: 1115255023
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:40
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5021	MXX24974	

Batch Information

Analytical Batch: MCV5021
Analytical Method: EP245.1
Analysis Date/Time: 10/26/11 16:17
Dilution Factor: 1

Prep Batch: MXX24974
Prep Method: METHOD
Prep Date/Time: 10/26/11 08:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255023-A
Analyst: CDE

Client Sample ID: **102311SU01WS203**
SGS Ref. #: 1115255023
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:40
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	1620	8.00	2.48	ug/L	10	MMS7260	MXX24975	
Antimony	6.46	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Arsenic	1.27	0.500	0.150	ug/L	2.5	MMS7260	MXX24975	
Barium	45.3	0.250	0.0250	ug/L	2.5	MMS7260	MXX24975	
Beryllium	0.0992	0.0500	0.0250	ug/L	2.5	MMS7260	MXX24975	
Bismuth	0.122	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Boron	3.82J	5.00	1.50	ug/L	2.5	MMS7260	MXX24975	
Cadmium	0.0429J	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Calcium	15200	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Chromium	0.977	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Cobalt	0.480	0.0200	0.0100	ug/L	2.5	MMS7260	MXX24975	
Copper	7.57	0.500	0.0500	ug/L	2.5	MMS7260	MXX24975	
Iron	1250	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Lead	0.542	0.100	0.0310	ug/L	2.5	MMS7260	MXX24975	
Magnesium	3650	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Manganese	182	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Molybdenum	7.41	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Nickel	2.27	0.620	0.0620	ug/L	2.5	MMS7260	MXX24975	
Potassium	14800	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Selenium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Silicon	9410	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Silver	0.218	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Sodium	14500	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Thallium	0.0552	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Tin	0.124 U	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Vanadium	8.12	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Zinc	10.3	3.10	0.400	ug/L	2.5	MMS7260	MXX24975	

Client Sample ID: **102311SU01WS203**
SGS Ref. #: 1115255023
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:40
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:37
Dilution Factor: 10
Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45
Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255023-A
Analyst: NRB

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 19:11
Dilution Factor: 2.5
Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45
Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255023-A
Analyst: NRB

Client Sample ID: **102311SU01WS203**
SGS Ref. #: 1115255023
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:40
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Organic Carbon,Dissolved	11.2	0.500	0.150	mg/L	1	WTC2125		

Batch Information

Analytical Batch: WTC2125
Analytical Method: SM 5310B
Analysis Date/Time: 11/01/11 23:57
Dilution Factor: 1

Initial Prep Wt./Vol.: 30 mL

Container ID:1115255023-B
Analyst: FAD

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS004**
SGS Ref. #: 1115255024
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:00
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5032	MXX25009	

Batch Information

Analytical Batch: MCV5032
Analytical Method: EP245.1
Analysis Date/Time: 11/02/11 11:58
Dilution Factor: 1

Prep Batch: MXX25009
Prep Method: METHOD
Prep Date/Time: 11/02/11 07:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255024-A
Analyst: CDE

Client Sample ID: **102311SU01WS004**
SGS Ref. #: 1115255024
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:00
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	18.9	2.00	0.620	ug/L	2.5	MMS7248	MXX24977	
Antimony	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7248	MXX24977	
Arsenic	0.300 U	0.500	0.150	ug/L	2.5	MMS7248	MXX24977	
Barium	4.16	0.250	0.0250	ug/L	2.5	MMS7248	MXX24977	
Beryllium	0.0500 U	0.0500	0.0250	ug/L	2.5	MMS7248	MXX24977	
Bismuth	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7248	MXX24977	
Boron	2.15J	5.00	1.50	ug/L	2.5	MMS7248	MXX24977	
Cadmium	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7248	MXX24977	
Calcium	6130	50.0	15.0	ug/L	2.5	MMS7248	MXX24977	
Chromium	0.178J	0.200	0.0620	ug/L	2.5	MMS7248	MXX24977	
Cobalt	0.0239	0.0200	0.0100	ug/L	2.5	MMS7248	MXX24977	
Copper	0.585	0.500	0.0500	ug/L	2.5	MMS7248	MXX24977	
Iron	37.1	20.0	6.20	ug/L	2.5	MMS7248	MXX24977	
Lead	0.0320J	0.100	0.0310	ug/L	2.5	MMS7248	MXX24977	
Magnesium	1530	20.0	6.20	ug/L	2.5	MMS7248	MXX24977	
Manganese	1.34	0.0500	0.0150	ug/L	2.5	MMS7248	MXX24977	
Molybdenum	0.548	0.0500	0.0150	ug/L	2.5	MMS7248	MXX24977	
Nickel	0.795	0.620	0.0620	ug/L	2.5	MMS7248	MXX24977	
Potassium	381	50.0	15.0	ug/L	2.5	MMS7248	MXX24977	
Selenium	0.620 U	1.00	0.310	ug/L	2.5	MMS7248	MXX24977	
Silicon	5150	100	31.0	ug/L	2.5	MMS7248	MXX24977	
Silver	0.00708J	0.0200	0.00620	ug/L	2.5	MMS7248	MXX24977	
Sodium	2120	100	31.0	ug/L	2.5	MMS7248	MXX24977	
Thallium	0.0124 U	0.0200	0.00620	ug/L	2.5	MMS7248	MXX24977	
Tin	0.124 U	0.200	0.0620	ug/L	2.5	MMS7248	MXX24977	
Vanadium	0.620 U	1.00	0.310	ug/L	2.5	MMS7248	MXX24977	
Zinc	6.18	3.10	0.400	ug/L	2.5	MMS7248	MXX24977	

Batch Information

Analytical Batch: MMS7248
Analytical Method: 200.8 Low Level
Analysis Date/Time: 10/31/11 15:12
Dilution Factor: 2.5

Prep Batch: MXX24977
Prep Method: E200.2
Prep Date/Time: 10/27/11 08:20

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255024-A
Analyst: NRB

Client Sample ID: **102311SU01WS004**
SGS Ref. #: 1115255024
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:00
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Organic Carbon,Dissolved	2.69	0.500	0.150	mg/L	1	WTC2125		

Batch Information

Analytical Batch: WTC2125
Analytical Method: SM 5310B
Analysis Date/Time: 11/02/11 02:49
Dilution Factor: 1

Initial Prep Wt./Vol.: 30 mL

Container ID:1115255024-D
Analyst: FAD

Client Sample ID: **102311SU01WS204**
SGS Ref. #: 1115255027
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:10
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5032	MXX25009	

Batch Information

Analytical Batch: MCV5032
Analytical Method: EP245.1
Analysis Date/Time: 11/02/11 12:12
Dilution Factor: 1

Prep Batch: MXX25009
Prep Method: METHOD
Prep Date/Time: 11/02/11 07:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255027-A
Analyst: CDE

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS204**
SGS Ref. #: 1115255027
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:10
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	20.7	2.00	0.620	ug/L	2.5	MMS7260	MXX24975	
Antimony	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Arsenic	0.300 U	0.500	0.150	ug/L	2.5	MMS7260	MXX24975	
Barium	4.24	0.250	0.0250	ug/L	2.5	MMS7260	MXX24975	
Beryllium	0.0500 U	0.0500	0.0250	ug/L	2.5	MMS7260	MXX24975	
Bismuth	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Boron	2.75J	5.00	1.50	ug/L	2.5	MMS7260	MXX24975	
Cadmium	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Calcium	5810	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Chromium	0.204	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Cobalt	0.0337	0.0200	0.0100	ug/L	2.5	MMS7260	MXX24975	
Copper	0.846	0.500	0.0500	ug/L	2.5	MMS7260	MXX24975	
Iron	35.1	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Lead	0.0427J	0.100	0.0310	ug/L	2.5	MMS7260	MXX24975	
Magnesium	1460	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Manganese	1.89	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Molybdenum	0.578	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Nickel	0.753	0.620	0.0620	ug/L	2.5	MMS7260	MXX24975	
Potassium	357	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Selenium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Silicon	4870	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Silver	0.0124 U	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Sodium	2020	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Thallium	0.0124 U	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Tin	0.124 U	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Vanadium	0.620 U	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Zinc	3.07J	3.10	0.400	ug/L	2.5	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:35
Dilution Factor: 2.5

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255027-A
Analyst: NRB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS204**
SGS Ref. #: 1115255027
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:10
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Organic Carbon,Dissolved	2.80	0.500	0.150	mg/L	1	WTC2125		

Batch Information

Analytical Batch: WTC2125
Analytical Method: SM 5310B
Analysis Date/Time: 11/02/11 00:11
Dilution Factor: 1

Initial Prep Wt./Vol.: 30 mL
Container ID:1115255027-B
Analyst: FAD

Client Sample ID: **102311SU01WS005**
SGS Ref. #: 1115255028
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:45
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5032	MXX25009	

Batch Information

Analytical Batch: MCV5032
Analytical Method: EP245.1
Analysis Date/Time: 11/02/11 12:23
Dilution Factor: 1

Prep Batch: MXX25009
Prep Method: METHOD
Prep Date/Time: 11/02/11 07:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255028-A
Analyst: CDE

Client Sample ID: **102311SU01WS005**
SGS Ref. #: 1115255028
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:45
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	1400	20.0	6.20	ug/L	25	MMS7260	MXX24975	
Antimony	12.3	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Arsenic	2.10	0.500	0.150	ug/L	2.5	MMS7260	MXX24975	
Barium	14.0	0.250	0.0250	ug/L	2.5	MMS7260	MXX24975	
Beryllium	0.0522	0.0500	0.0250	ug/L	2.5	MMS7260	MXX24975	
Bismuth	0.0157J	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Boron	7.30	5.00	1.50	ug/L	2.5	MMS7260	MXX24975	
Cadmium	0.0737	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Calcium	12700	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Chromium	0.818	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Cobalt	1.32	0.0200	0.0100	ug/L	2.5	MMS7260	MXX24975	
Copper	3.88	0.500	0.0500	ug/L	2.5	MMS7260	MXX24975	
Iron	857	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Lead	0.244	0.100	0.0310	ug/L	2.5	MMS7260	MXX24975	
Magnesium	2720	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Manganese	20.4	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Molybdenum	30.7	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Nickel	1.51	0.620	0.0620	ug/L	2.5	MMS7260	MXX24975	
Potassium	23000	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Selenium	0.633J	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Silicon	4850	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Silver	0.118	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Sodium	24100	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Thallium	0.0415	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Tin	0.124 U	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Vanadium	8.83	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Zinc	4.60	3.10	0.400	ug/L	2.5	MMS7260	MXX24975	

Client Sample ID: **102311SU01WS005**
SGS Ref. #: 1115255028
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:45
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:34
Dilution Factor: 2.5

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255028-A
Analyst: NRB

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 19:10
Dilution Factor: 25

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255028-A
Analyst: NRB

Client Sample ID: **102311SU01WS005**
SGS Ref. #: 1115255028
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:45
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Organic Carbon,Dissolved	22.2	0.500	0.150	mg/L	1	WTC2125		

Batch Information

Analytical Batch: WTC2125
Analytical Method: SM 5310B
Analysis Date/Time: 11/02/11 00:26
Dilution Factor: 1

Initial Prep Wt./Vol.: 30 mL

Container ID:1115255028-B
Analyst: FAD

Client Sample ID: **102311SU01WS205**
SGS Ref. #: 1115255029
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 16:00
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Mercury	0.124 U	0.200	0.0620	ug/L	1	MCV5032	MXX25009	

Batch Information

Analytical Batch: MCV5032
Analytical Method: EP245.1
Analysis Date/Time: 11/02/11 12:25
Dilution Factor: 1

Prep Batch: MXX25009
Prep Method: METHOD
Prep Date/Time: 11/02/11 07:30

Initial Prep Wt./Vol.: 25 mL
Prep Extract Vol.: 50 mL
Container ID:1115255029-A
Analyst: CDE

Client Sample ID: **102311SU01WS205**
SGS Ref. #: 1115255029
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 16:00
Receipt Date/Time: 10/25/11 08:45

Dissolved Metals by ICP/MS

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aluminum	421	2.00	0.620	ug/L	2.5	MMS7260	MXX24975	
Antimony	14.0	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Arsenic	1.69	0.500	0.150	ug/L	2.5	MMS7260	MXX24975	
Barium	8.94	0.250	0.0250	ug/L	2.5	MMS7260	MXX24975	
Beryllium	0.0285J	0.0500	0.0250	ug/L	2.5	MMS7260	MXX24975	
Bismuth	0.0300 U	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Boron	7.15	5.00	1.50	ug/L	2.5	MMS7260	MXX24975	
Cadmium	0.0609	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Calcium	12400	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Chromium	0.452	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Cobalt	0.423	0.0200	0.0100	ug/L	2.5	MMS7260	MXX24975	
Copper	1.52	0.500	0.0500	ug/L	2.5	MMS7260	MXX24975	
Iron	333	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Lead	0.100	0.100	0.0310	ug/L	2.5	MMS7260	MXX24975	
Magnesium	2550	20.0	6.20	ug/L	2.5	MMS7260	MXX24975	
Manganese	11.3	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Molybdenum	31.8	0.0500	0.0150	ug/L	2.5	MMS7260	MXX24975	
Nickel	0.574J	0.620	0.0620	ug/L	2.5	MMS7260	MXX24975	
Potassium	23100	50.0	15.0	ug/L	2.5	MMS7260	MXX24975	
Selenium	0.499J	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Silicon	3360	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Silver	0.0590	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Sodium	24500	100	31.0	ug/L	2.5	MMS7260	MXX24975	
Thallium	0.0328	0.0200	0.00620	ug/L	2.5	MMS7260	MXX24975	
Tin	0.124 U	0.200	0.0620	ug/L	2.5	MMS7260	MXX24975	
Vanadium	4.64	1.00	0.310	ug/L	2.5	MMS7260	MXX24975	
Zinc	2.82J	3.10	0.400	ug/L	2.5	MMS7260	MXX24975	

Batch Information

Analytical Batch: MMS7260
Analytical Method: 200.8 Low Level
Analysis Date/Time: 11/07/11 18:45
Dilution Factor: 2.5

Prep Batch: MXX24975
Prep Method: E200.2
Prep Date/Time: 10/26/11 23:45

Initial Prep Wt./Vol.: 50 mL
Prep Extract Vol.: 10 mL
Container ID:1115255029-A
Analyst: NRB

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS205**
SGS Ref. #: 1115255029
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 16:00
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Organic Carbon,Dissolved	21.0	0.500	0.150	mg/L	1	WTC2125		

Batch Information

Analytical Batch: WTC2125
Analytical Method: SM 5310B
Analysis Date/Time: 11/02/11 00:42
Dilution Factor: 1

Initial Prep Wt./Vol.: 30 mL
Container ID:1115255029-B
Analyst: FAD

Fisheries Research Consulting Print Date: 11/16/2011 4:55 pm

Client Sample ID: **102311SU01WS305**
SGS Ref. #: 1115255030
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:00
Receipt Date/Time: 10/25/11 08:45

Waters Department

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Organic Carbon,Dissolved	25.0	0.500	0.150	mg/L	1	WTC2125		

Batch Information

Analytical Batch: WTC2125
Analytical Method: SM 5310B
Analysis Date/Time: 11/02/11 00:57
Dilution Factor: 1

Initial Prep Wt./Vol.: 30 mL
Container ID:1115255030-A
Analyst: FAD

Client Sample ID: **102211SU01WS601**
SGS Ref. #: 1115255031
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/22/11 16:00
Receipt Date/Time: 10/25/11 08:45

Volatile Gas Chromatography/Mass Spectroscopy

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12544	VXX23020	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12544	VXX23020	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
1,2-Dichloroethane-D4 <surr>	103	70-120		%	1	VMS12544	VXX23020	
4-Bromofluorobenzene <surr>	102	75-120		%	1	VMS12544	VXX23020	
Toluene-d8 <surr>	99.1	85-120		%	1	VMS12544	VXX23020	

Batch Information

Analytical Batch: VMS12544
Analytical Method: SW8260B
Analysis Date/Time: 10/27/11 16:54
Dilution Factor: 1

Prep Batch: VXX23020
Prep Method: SW5030B
Prep Date/Time: 10/27/11 12:55

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255031-A
Analyst: JPI

Client Sample ID: **102311SU01WS603**
SGS Ref. #: 1115255032
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:30
Receipt Date/Time: 10/25/11 08:45

Volatile Gas Chromatography/Mass Spectroscopy

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12544	VXX23020	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12544	VXX23020	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
1,2-Dichloroethane-D4 <surr>	101	70-120		%	1	VMS12544	VXX23020	
4-Bromofluorobenzene <surr>	105	75-120		%	1	VMS12544	VXX23020	
Toluene-d8 <surr>	100	85-120		%	1	VMS12544	VXX23020	

Batch Information

Analytical Batch: VMS12544
Analytical Method: SW8260B
Analysis Date/Time: 10/27/11 17:20
Dilution Factor: 1

Prep Batch: VXX23020
Prep Method: SW5030B
Prep Date/Time: 10/27/11 12:55

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255032-A
Analyst: JPI

Client Sample ID: **102311SU01WS602**
SGS Ref. #: 1115255033
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 12:50
Receipt Date/Time: 10/25/11 08:45

Volatile Gas Chromatography/Mass Spectroscopy

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12544	VXX23020	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12544	VXX23020	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
1,2-Dichloroethane-D4 <surr>	97.4	70-120		%	1	VMS12544	VXX23020	
4-Bromofluorobenzene <surr>	104	75-120		%	1	VMS12544	VXX23020	
Toluene-d8 <surr>	97.9	85-120		%	1	VMS12544	VXX23020	

Batch Information

Analytical Batch: VMS12544
Analytical Method: SW8260B
Analysis Date/Time: 10/27/11 17:47
Dilution Factor: 1

Prep Batch: VXX23020
Prep Method: SW5030B
Prep Date/Time: 10/27/11 12:55

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255033-A
Analyst: JPI

Client Sample ID: **102311SU01WS604**
SGS Ref. #: 1115255034
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:00
Receipt Date/Time: 10/25/11 08:45

Volatile Gas Chromatography/Mass Spectroscopy

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12544	VXX23020	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12544	VXX23020	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
1,2-Dichloroethane-D4 <surr>	98.8	70-120		%	1	VMS12544	VXX23020	
4-Bromofluorobenzene <surr>	107	75-120		%	1	VMS12544	VXX23020	
Toluene-d8 <surr>	100	85-120		%	1	VMS12544	VXX23020	

Batch Information

Analytical Batch: VMS12544
Analytical Method: SW8260B
Analysis Date/Time: 10/27/11 18:13
Dilution Factor: 1

Prep Batch: VXX23020
Prep Method: SW5030B
Prep Date/Time: 10/27/11 12:55

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255034-A
Analyst: JPI

Client Sample ID: **102311SU01WS605**
SGS Ref. #: 1115255035
Project ID: Pebble Drilling Sump Project
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 10/23/11 15:25
Receipt Date/Time: 10/25/11 08:45

Volatile Gas Chromatography/Mass Spectroscopy

Parameter	Result	LOQ/CL	DL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12544	VXX23020	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12544	VXX23020	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12544	VXX23020	
1,2-Dichloroethane-D4 <surr>	96	70-120		%	1	VMS12544	VXX23020	
4-Bromofluorobenzene <surr>	108	75-120		%	1	VMS12544	VXX23020	
Toluene-d8 <surr>	101	85-120		%	1	VMS12544	VXX23020	

Batch Information

Analytical Batch: VMS12544
Analytical Method: SW8260B
Analysis Date/Time: 10/27/11 18:40
Dilution Factor: 1

Prep Batch: VXX23020
Prep Method: SW5030B
Prep Date/Time: 10/27/11 12:55

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID:1115255035-A
Analyst: JPI

SGS Ref.#	1062898	Method Blank	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**	MXX24974
Project Name/#	Pebble Drilling Sump Project			**Method**	METHOD
Matrix	Water (Surface, Eff., Ground)			**Date**	10/26/2011

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255013, 1115255014, 1115255018, 1115255019, 1115255020, 1115255023

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Metals Department					
Mercury	0.124 U	0.200	0.0620	ug/L	10/26/11
Batch	MCV5021				
Method	EP245.1				
Instrument	PSA Millennium mercury AA				

SGS Ref.#	1062967	Method Blank	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep** **Batch**	WXX8808	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Matrix	Water (Surface, Eff., Ground)		**Date**	10/27/2011	

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Ammonia-N	0.0620 U	0.100	0.0310	mg/L	10/27/11
Batch WDA2347					
Method SM20 4500-NH3 G					
Instrument Konelab					

SGS Ref.#	1062974	Method Blank	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep** **Batch**	XXX26082
Project Name/#	Pebble Drilling Sump Project		**Method**	SW3520C
Matrix	Water (Surface, Eff., Ground)		**Date**	10/27/2011

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014, 1115255015

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Semivolatile Organic Fuels Department					
Diesel Range Organics	0.360 U	0.600	0.180	mg/L	10/29/11
Surrogates					
5a Androstane <surr>	91.9	60-120		%	10/29/11
Batch XFC10192					
Method AK102					
Instrument HP 7890A FID SV E F					
Residual Range Organics	0.413J	0.500	0.150	mg/L	10/29/11
Surrogates					
n-Triacontane-d62 <surr>	93.9	60-120		%	10/29/11
Batch XFC10192					
Method AK103					
Instrument HP 7890A FID SV E F					

SGS Ref.#	1062989	Method Blank	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep** **Batch**	WXX8809	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Matrix	Water (Surface, Eff., Ground)		**Date**	10/27/2011	

QC results affect the following production samples:

1115255013, 1115255014

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Ammonia-N	0.0620 U	0.100	0.0310	mg/L	10/27/11
Batch WDA2347					
Method SM20 4500-NH3 G					
Instrument Konelab					

SGS Ref.#	1063009	Method Blank	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep** **Batch**	WXX8811	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Matrix	Water (Surface, Eff., Ground)		**Date**	10/26/2011	

QC results affect the following production samples:

1115255003, 1115255008, 1115255012

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Chloride	0.0620 U	0.100	0.0310	mg/L	10/26/11
Fluoride	0.0620 U	0.100	0.0310	mg/L	10/26/11
Sulfate	0.0620 U	0.100	0.0310	mg/L	10/26/11

Batch WIC4886
Method EPA 300.0
Instrument Metrohm 733 IC3

SGS Ref.#	1063048 Method Blank	**Printed Date/Time**	11/16/2011 16:55	
Client Name	Fisheries Research Consulting	**Prep**	**Batch**	MXX24975
Project Name/#	Pebble Drilling Sump Project		**Method**	E200.2
Matrix	Water (Surface, Eff., Ground)		**Date**	10/26/2011

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014, 1115255016, 1115255017, 1115255018, 1115255019, 1115255020, 1115255023, 1115255027, 1115255028, 1115255029

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Metals by ICP/MS					
Aluminum	1.24 U	2.00	0.620	ug/L	11/07/11
Antimony	0.0300 U	0.0500	0.0150	ug/L	11/07/11
Arsenic	0.300 U	0.500	0.150	ug/L	11/07/11
Barium	0.0500 U	0.250	0.0250	ug/L	11/07/11
Beryllium	0.0500 U	0.0500	0.0250	ug/L	11/07/11
Bismuth	0.0300 U	0.0500	0.0150	ug/L	11/07/11
Boron	3.00 U	5.00	1.50	ug/L	11/07/11
Cadmium	0.0300 U	0.0500	0.0150	ug/L	11/07/11
Calcium	30.0 U	50.0	15.0	ug/L	11/07/11
Chromium	0.124 U	0.200	0.0620	ug/L	11/07/11
Cobalt	0.0200 U	0.0200	0.0100	ug/L	11/07/11
Copper	0.100 U	0.500	0.0500	ug/L	11/07/11
Iron	12.4 U	20.0	6.20	ug/L	11/07/11
Lead	0.0620 U	0.100	0.0310	ug/L	11/07/11
Magnesium	12.4 U	20.0	6.20	ug/L	11/07/11
Manganese	0.0300 U	0.0500	0.0150	ug/L	11/07/11
Molybdenum	0.0300 U	0.0500	0.0150	ug/L	11/07/11
Nickel	0.124 U	0.620	0.0620	ug/L	11/07/11
Potassium	30.0 U	50.0	15.0	ug/L	11/07/11
Selenium	0.620 U	1.00	0.310	ug/L	11/07/11
Silicon	62.0 U	100	31.0	ug/L	11/07/11
Silver	0.0124 U	0.0200	0.00620	ug/L	11/07/11
Sodium	62.0 U	100	31.0	ug/L	11/07/11
Thallium	0.0124 U	0.0200	0.00620	ug/L	11/07/11
Tin	0.124 U	0.200	0.0620	ug/L	11/07/11
Vanadium	0.620 U	1.00	0.310	ug/L	11/07/11
Zinc	0.752J	3.10	0.400	ug/L	11/07/11

Batch	MMS7260
Method	200.8 Low Level
Instrument	Perkin Elmer Sciex ICP-MS P3

SGS Ref.#	1063106 Method Blank	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting	**Prep Batch**	MXX24977
Project Name/#	Pebble Drilling Sump Project	**Method**	E200.2
Matrix	Water (Surface, Eff., Ground)	**Date**	10/27/2011

QC results affect the following production samples:

1115255024

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Metals by ICP/MS					
Aluminum	1.24 U	2.00	0.620	ug/L	10/31/11
Antimony	0.0300 U	0.0500	0.0150	ug/L	10/31/11
Arsenic	0.300 U	0.500	0.150	ug/L	10/31/11
Barium	0.0500 U	0.250	0.0250	ug/L	10/31/11
Beryllium	0.0500 U	0.0500	0.0250	ug/L	10/31/11
Bismuth	0.0300 U	0.0500	0.0150	ug/L	10/31/11
Boron	3.00 U	5.00	1.50	ug/L	10/31/11
Cadmium	0.0300 U	0.0500	0.0150	ug/L	10/31/11
Calcium	30.0 U	50.0	15.0	ug/L	10/31/11
Chromium	0.0636J	0.200	0.0620	ug/L	10/31/11
Cobalt	0.0200 U	0.0200	0.0100	ug/L	10/31/11
Copper	0.100 U	0.500	0.0500	ug/L	10/31/11
Iron	12.4 U	20.0	6.20	ug/L	10/31/11
Lead	0.0620 U	0.100	0.0310	ug/L	10/31/11
Magnesium	12.4 U	20.0	6.20	ug/L	10/31/11
Manganese	0.0300 U	0.0500	0.0150	ug/L	10/31/11
Molybdenum	0.0300 U	0.0500	0.0150	ug/L	10/31/11
Nickel	0.124 U	0.620	0.0620	ug/L	10/31/11
Potassium	30.0 U	50.0	15.0	ug/L	10/31/11
Selenium	0.620 U	1.00	0.310	ug/L	10/31/11
Silicon	62.0 U	100	31.0	ug/L	10/31/11
Silver	0.0124 U	0.0200	0.00620	ug/L	10/31/11
Sodium	62.0 U	100	31.0	ug/L	10/31/11
Thallium	0.0124 U	0.0200	0.00620	ug/L	10/31/11
Tin	0.124 U	0.200	0.0620	ug/L	10/31/11
Vanadium	0.620 U	1.00	0.310	ug/L	10/31/11
Zinc	0.403J	3.10	0.400	ug/L	10/31/11

Batch	MMS7248
Method	200.8 Low Level
Instrument	Perkin Elmer Sciex ICP-MS P3

SGS Ref.#	1063331	Method Blank	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**	
Project Name/#	Pebble Drilling Sump Project			**Method**	
Matrix	Water (Surface, Eff., Ground)			**Date**	

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Conductivity	0.500J	1.00	0.477	umhos/cm	10/27/11
Batch WAT8989					
Method SM20 2510B					
Instrument Titration					

SGS Ref.#	1063336	Method Blank	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**	
Project Name/#	Pebble Drilling Sump Project			**Method**	
Matrix	Water (Surface, Eff., Ground)			**Date**	

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Conductivity	0.900J	1.00	0.477	umhos/cm	10/27/11
Batch WAT8989					
Method SM20 2510B					
Instrument Titration					

SGS Ref.#	1063340	Method Blank	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**	
Project Name/#	Pebble Drilling Sump Project			**Method**	
Matrix	Water (Surface, Eff., Ground)			**Date**	

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Alkalinity	6.20 U	10.0	3.10	mg/L	10/27/11
Batch WTI3606					
Method SM20 2320B					
Instrument Titration					

SGS Ref.#	1063344	Method Blank	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**	
Project Name/#	Pebble Drilling Sump Project			**Method**	
Matrix	Water (Surface, Eff., Ground)			**Date**	

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Alkalinity	6.20 U	10.0	3.10	mg/L	10/27/11
Batch WTI3606					
Method SM20 2320B					
Instrument Titration					

SGS Ref.#	1063405 Method Blank	**Printed Date/Time**	11/16/2011 16:55	
Client Name	Fisheries Research Consulting	**Prep**	**Batch**	VXX23020
Project Name/#	Pebble Drilling Sump Project		**Method**	SW5030B
Matrix	Water (Surface, Eff., Ground)		**Date**	10/27/2011

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255031, 1115255032, 1115255033, 1115255034, 1115255035

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Volatile Gas Chromatography/Mass Spectroscopy					
Benzene	0.240 U	0.400	0.120	ug/L	10/27/11
Ethylbenzene	0.620 U	1.00	0.310	ug/L	10/27/11
o-Xylene	0.620 U	1.00	0.310	ug/L	10/27/11
P & M -Xylene	1.24 U	2.00	0.620	ug/L	10/27/11
Toluene	0.620 U	1.00	0.310	ug/L	10/27/11
Surrogates					
1,2-Dichloroethane-D4 <surr>	99.8	70-120		%	10/27/11
4-Bromofluorobenzene <surr>	103	75-120		%	10/27/11
Toluene-d8 <surr>	99	85-120		%	10/27/11

Batch	VMS12544
Method	SW8260B
Instrument	HP 5890 Series II MS1 VJA

SGS Ref.#	1063427 Method Blank	**Printed Date/Time**	11/16/2011 16:55	
Client Name	Fisheries Research Consulting	**Prep**	**Batch**	XXX26098
Project Name/#	Pebble Drilling Sump Project		**Method**	SW3520C
Matrix	Water (Surface, Eff., Ground)		**Date**	10/28/2011

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014, 1115255015

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Polynuclear Aromatics GC/MS					
1-Methylnaphthalene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
2-Methylnaphthalene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Acenaphthene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Acenaphthylene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Anthracene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Benzo(a)Anthracene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Benzo[a]pyrene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Benzo[b]Fluoranthene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Benzo[g,h,i]perylene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Benzo[k]fluoranthene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Chrysene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Dibenzo[a,h]anthracene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Fluoranthene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Fluorene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Indeno[1,2,3-c,d] pyrene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Naphthalene	0.0620 U	0.100	0.0310	ug/L	11/01/11
Phenanthrene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Pyrene	0.0300 U	0.0500	0.0150	ug/L	11/01/11
Surrogates					
2-Fluorobiphenyl <surr>	85.1	50-110		%	11/01/11
Terphenyl-d14 <surr>	110	50-135		%	11/01/11

Batch	XMS6357
Method	8270D SIMS (PAH)
Instrument	HP 6890 Series II MS2 SVOA

SGS Ref.#	1063435	Method Blank	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**	
Project Name/#	Pebble Drilling Sump Project			**Method**	
Matrix	Water (Surface, Eff., Ground)			**Date**	

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Total Dissolved Solids	6.20 U	10.0	3.10	mg/L	10/26/11
Batch WAT8990					
Method SM20 2540C					
Instrument					

SGS Ref.#	1063602	Method Blank	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**	
Project Name/#	Pebble Drilling Sump Project			**Method**	
Matrix	Drinking Water			**Date**	

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Sulfide	0.0620 U	0.100	0.0310	mg/L	10/28/11
Batch WAT8991					
Method SM20 4500S D					
Instrument					

SGS Ref.#	1063651	Method Blank	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
Matrix	Water (Surface, Eff., Ground)			**Date**

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255012

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Nitrate-N	0.0620 U	0.100	0.0310	mg/L	10/28/11
Nitrite-N	0.0620 U	0.100	0.0310	mg/L	10/28/11
Total Nitrate/Nitrite-N	0.0435J	0.100	0.0310	mg/L	10/28/11

Batch WFI2056
Method SM20 4500NO3-F
Instrument Astoria segmented flow

SGS Ref.#	1063653	Method Blank	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
Matrix	Water (Surface, Eff., Ground)			**Date**

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Nitrate-N	0.0620 U	0.100	0.0310	mg/L	10/28/11
Nitrite-N	0.0620 U	0.100	0.0310	mg/L	10/28/11
Total Nitrate/Nitrite-N	0.0620 U	0.100	0.0310	mg/L	10/28/11

Batch	WFI2056
Method	SM20 4500NO3-F
Instrument	Astoria segmented flow

SGS Ref.#	1063864 Method Blank	**Printed Date/Time**	11/16/2011 16:55	
Client Name	Fisheries Research Consulting	**Prep**	**Batch**	VXX23030
Project Name/#	Pebble Drilling Sump Project		**Method**	SW5030B
Matrix	Water (Surface, Eff., Ground)		**Date**	10/28/2011

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Volatile Fuels Department					
Gasoline Range Organics	0.0600 U	0.100	0.0300	mg/L	10/28/11
Surrogates					
4-Bromofluorobenzene <surr>	89.4	50-150		%	10/28/11

Batch VFC10809
Method AK101
Instrument Agilent 7890 PID/FID

SGS Ref.#	1064066	Method Blank	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
Matrix	Water (Surface, Eff., Ground)			**Date**

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Total Suspended Solids	0.300 U	0.500	0.150	mg/L	10/28/11
Batch STS3720					
Method SM20 2540D					
Instrument					

SGS Ref.#	1064077	Method Blank	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
Matrix	Water (Surface, Eff., Ground)			**Date**

QC results affect the following production samples:

1115255014

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Total Dissolved Solids	6.20 U	10.0	3.10	mg/L	10/30/11
Batch WAT8995					
Method SM20 2540C					
Instrument					

SGS Ref.#	1064379	Method Blank	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep Batch**	WXX8830
Project Name/#	Pebble Drilling Sump Project		**Method**	SM20 4500P-B,E
Matrix	Water (Surface, Eff., Ground)		**Date**	10/27/2011

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Total Phosphorus	0.00620 U	0.0100	0.00310	mg/L	10/31/11

Batch WDA2353
Method SM20 4500P-B,E
Instrument Konelab

SGS Ref.#	1064580	Method Blank	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
Matrix	Water (Surface, Eff., Ground)			**Date**

QC results affect the following production samples:

1115255018, 1115255019, 1115255020, 1115255023, 1115255027, 1115255028, 1115255029, 1115255030

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Total Organic Carbon	0.300 U	0.500	0.150	mg/L	11/01/11
Batch WTC2125					
Method SM 5310B					
Instrument TOC Analyzer					

SGS Ref.#	1064816	Method Blank	**Printed Date/Time**		11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**	MXX25009
Project Name/#	Pebble Drilling Sump Project			**Method**	METHOD
Matrix	Water (Surface, Eff., Ground)			**Date**	11/02/2011

QC results affect the following production samples:

1115255012, 1115255016, 1115255017, 1115255024, 1115255027, 1115255028, 1115255029

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Metals Department					
Mercury	0.124 U	0.200	0.0620	ug/L	11/02/11
Batch	MCV5032				
Method	EP245.1				
Instrument	PSA Millennium mercury AA				

SGS Ref.#	1064902	Method Blank	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
Matrix	Water (Surface, Eff., Ground)			**Date**

QC results affect the following production samples:

1115255018, 1115255019, 1115255020, 1115255023, 1115255024, 1115255027, 1115255028, 1115255029, 1115255030

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Total Organic Carbon	0.206J	0.500	0.150	mg/L	11/02/11

Batch WTC2125
Method SM 5310B
Instrument TOC Analyzer

SGS Ref.#	1065515	Method Blank	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep** **Batch**	WXX8844	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Matrix	Water (Surface, Eff., Ground)		**Date**	11/02/2011	

QC results affect the following production samples:

1115255001

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Chloride	0.0620 U	0.100	0.0310	mg/L	11/02/11
Fluoride	0.0620 U	0.100	0.0310	mg/L	11/02/11

Batch WIC4890
Method EPA 300.0
Instrument Metrohm 733 IC3

SGS Ref.#	1065528	Method Blank	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep** **Batch**	WXX8845	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Matrix	Water (Surface, Eff., Ground)		**Date**	11/03/2011	

QC results affect the following production samples:

1115255001, 1115255002, 1115255007, 1115255013, 1115255014

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Chloride	0.0620 U	0.100	0.0310	mg/L	11/03/11
Fluoride	0.0620 U	0.100	0.0310	mg/L	11/03/11
Sulfate	0.0620 U	0.100	0.0310	mg/L	11/03/11

Batch WIC4891
Method EPA 300.0
Instrument Metrohm 733 IC3

SGS Ref.#	1066192	Method Blank	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep** **Batch**	WXX8855	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Matrix	Water (Surface, Eff., Ground)		**Date**	11/08/2011	

QC results affect the following production samples:

1115255007, 1115255013

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Waters Department					
Fluoride	0.0620 U	0.100	0.0310	mg/L	11/08/11

Batch WIC4895
Method EPA 300.0
Instrument Metrohm 733 IC3

SGS Ref.#	1062970	Duplicate	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep** **Batch**	WXX8808	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Original	1115255003		**Date**	10/27/2011	6:00:00AM
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Ammonia-N	0.0800J	0.0861	mg/L	7	(< 25)	10/27/2011

Batch WDA2347
Method SM20 4500-NH3 G
Instrument Konelab

SGS Ref.#	1062972	Duplicate	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep** **Batch**	WXX8808	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Original	1115255008		**Date**	10/27/2011	6:00:00AM
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Ammonia-N	0.0620 U	0.0620 U	mg/L	0	(< 25)	10/27/2011

Batch WDA2347
Method SM20 4500-NH3 G
Instrument Konelab

SGS Ref.#	1062992	Duplicate	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep** **Batch**	WXX8809	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Original	1115263001		**Date**	10/27/2011	6:00:00AM
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Ammonia-N	0.0620 U	0.0620 U	mg/L	0	(< 25)	10/27/2011

Batch WDA2347
Method SM20 4500-NH3 G
Instrument Konelab

SGS Ref.#	1062994	Duplicate	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep** **Batch**	WXX8809	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Original	1115263032		**Date**	10/27/2011	6:00:00AM
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Ammonia-N	0.0620 U	0.0620 U	mg/L	0	(< 25)	10/27/2011

Batch WDA2347
Method SM20 4500-NH3 G
Instrument Konelab

SGS Ref.#	1063072	Undigested Duplicate	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep** **Batch**	WXX8811	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Original	1115255008		**Date**	10/26/2011	5:48:00PM
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1063073, 1115255003, 1115255008, 1115255012

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Chloride	0.847	0.854	mg/L	1	(< 20)	10/27/2011
Fluoride	0.0880J	0.0810	mg/L	8	(< 20)	10/27/2011
Sulfate	9.45	9.64	mg/L	2	(< 20)	10/27/2011

Batch WIC4886
Method EPA 300.0
Instrument Metrohm 733 IC3

SGS Ref.#	1063074	Undigested Duplicate	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep Batch**	WXX8811	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Original	1115255003		**Date**	10/26/2011	5:48:00PM
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1063073, 1063075, 1115255003, 1115255012

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Chloride	15.4	15.4	mg/L	0	(< 20)	10/27/2011
Fluoride	0.171	0.169	mg/L	1	(< 20)	10/27/2011
Sulfate	29.9	29.9	mg/L	0	(< 20)	10/27/2011

Batch WIC4886
Method EPA 300.0
Instrument Metrohm 733 IC3

SGS Ref.#	1063078	Undigested Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
Original	1115198001			**Date**
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1063075

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Chloride	1.07	1.09	mg/L	2	(< 20)	10/27/2011
Fluoride	0.0830J	0.0830	mg/L	0	(< 20)	10/27/2011
Sulfate	4.57	4.67	mg/L	2	(< 20)	10/27/2011

Batch	WIC4886
Method	EPA 300.0
Instrument	Metrohm 733 IC3

SGS Ref.#	1063321	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115255003			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
pH	6.50	6.50	pH units	0	(< 5)	10/27/2011

Batch	WPH6391
Method	SM20 4500-H B
Instrument	Titration

SGS Ref.#	1063322	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115255008			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
pH	6.60	6.60	pH units	0	(< 5)	10/27/2011

Batch	WPH6391
Method	SM20 4500-H B
Instrument	Titration

SGS Ref.#	1063334	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115255003			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Conductivity	249	248	umhos/cm	0	(< 20)	10/27/2011

Batch WAT8989
Method SM20 2510B
Instrument Titration

SGS Ref.#	1063335	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115255008			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255001, 1115255002, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Conductivity	65.6	65.6	umhos/cm	0	(< 20)	10/27/2011

Batch WAT8989
Method SM20 2510B
Instrument Titration

SGS Ref.#	1063339	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115263001			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Conductivity	503	503	umhos/cm	0	(< 20)	10/27/2011

Batch WAT8989
Method SM20 2510B
Instrument Titration

SGS Ref.#	1063342	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115255003			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Alkalinity	47.4	47.8	mg/L	1	(< 25)	10/27/2011

Batch WTI3606
Method SM20 2320B
Instrument Titration

SGS Ref.#	1063343	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115255008			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255001, 1115255002, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Alkalinity	17.1	17.0	mg/L	0	(< 25)	10/27/2011

Batch WTI3606
Method SM20 2320B
Instrument Titration

SGS Ref.#	1063346	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115263001			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Alkalinity	249	249	mg/L	0	(< 25)	10/27/2011

Batch WTI3606
Method SM20 2320B
Instrument Titration

SGS Ref.#	1063437	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115255003			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Total Dissolved Solids	125	110	mg/L	13	(< 25)	10/26/2011

Batch WAT8990
Method SM20 2540C
Instrument

SGS Ref.#	1063438	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115255008			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255007, 1115255008, 1115255012, 1115255013

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Total Dissolved Solids	43.0	45.0	mg/L	5	(< 25)	10/26/2011

Batch WAT8990
Method SM20 2540C
Instrument

SGS Ref.#	1063605	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115255003			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Sulfide	0.620 U	0.620 U	mg/L	0	(< 25)	10/28/2011

Batch WAT8991
Method SM20 4500S D
Instrument

SGS Ref.#	1063607	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115255008			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Sulfide	0.0620 U	0.0620 U	mg/L	0	(< 25)	10/28/2011

Batch WAT8991
Method SM20 4500S D
Instrument

SGS Ref.#	1064068	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115255003			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Total Suspended Solids	807	800	mg/L	1	(< 25)	10/28/2011

Batch STS3720
Method SM20 2540D
Instrument

SGS Ref.#	1064069	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115255008			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Total Suspended Solids	0.729	4.59 *	mg/L	145	(< 25)	10/28/2011

Batch STS3720
Method SM20 2540D
Instrument

SGS Ref.#	1064070	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115263039			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255012, 1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Total Suspended Solids	152	108 *	mg/L	33	(< 25)	10/28/2011

Batch STS3720
Method SM20 2540D
Instrument

SGS Ref.#	1064079	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115263011			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Total Dissolved Solids	76.0	77.0	mg/L	1	(< 25)	10/30/2011

Batch WAT8995
Method SM20 2540C
Instrument

SGS Ref.#	1064382	Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep Batch**	WXX8830
Project Name/#	Pebble Drilling Sump Project		**Method**	SM20 4500P-B,E
Original	1115255003		**Date**	10/27/2011 12:30:00PM
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Total Phosphorus	0.474	0.496	mg/L	5	(< 25)	10/31/2011

Batch WDA2353
Method SM20 4500P-B,E
Instrument Konelab

SGS Ref.#	1064384	Duplicate	**Printed Date/Time**		11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**	WXX8830
Project Name/#	Pebble Drilling Sump Project			**Method**	SM20 4500P-B,E
Original	1115255008			**Date**	10/27/2011 12:30:00PM
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Total Phosphorus	0.00646J	0.00535	mg/L	19	(< 25)	10/31/2011

Batch WDA2353
Method SM20 4500P-B,E
Instrument Konelab

SGS Ref.#	1064386 Duplicate	**Printed Date/Time**	11/16/2011 16:55	
Client Name	Fisheries Research Consulting	**Prep**	**Batch**	WXX8830
Project Name/#	Pebble Drilling Sump Project		**Method**	SM20 4500P-B,E
Original	1115263001		**Date**	10/27/2011 12:30:00PM
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255012, 1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Total Phosphorus	0.0228	0.0182	mg/L	23	(< 25)	10/31/2011

Batch WDA2353
Method SM20 4500P-B,E
Instrument Konelab

SGS Ref.#	1065517	Undigested Duplicate	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep** **Batch**	WXX8844	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Original	1115348003		**Date**	11/2/2011	7:06:00PM
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1065518, 1115255001

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Chloride	0.735	0.736	mg/L	0	(< 20)	11/03/2011
Fluoride	0.0600J	0.0590	mg/L	2	(< 20)	11/03/2011

Batch WIC4890
Method EPA 300.0
Instrument Metrohm 733 IC3

SGS Ref.#	1065519	Undigested Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
Original	1115348009			**Date**
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Chloride	1.19	1.20	mg/L	1	(< 20)	11/02/2011
Fluoride	0.0820J	0.0770	mg/L	6	(< 20)	11/02/2011

Batch	WIC4890
Method	EPA 300.0
Instrument	Metrohm 733 IC3

SGS Ref.#	1065530	Undigested Duplicate	**Printed Date/Time**		11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**	WXX8845
Project Name/#	Pebble Drilling Sump Project			**Method**	METHOD
Original	1115348025			**Date**	11/3/2011 5:20:00PM
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1065531, 1115255002, 1115255007, 1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Chloride	0.519	0.525	mg/L	1	(< 20)	11/03/2011
Fluoride	0.0670J	0.0640	mg/L	5	(< 20)	11/03/2011
Sulfate	2.43	2.50	mg/L	3	(< 20)	11/03/2011

Batch WIC4891
Method EPA 300.0
Instrument Metrohm 733 IC3

SGS Ref.#	1065532	Undigested Duplicate	**Printed Date/Time**		11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**	WXX8845
Project Name/#	Pebble Drilling Sump Project			**Method**	METHOD
Original	1115348026			**Date**	11/3/2011 5:20:00PM
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1065531, 1065533, 1115255001, 1115255002, 1115255007, 1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Chloride	0.506	0.505	mg/L	0	(< 20)	11/04/2011
Fluoride	0.0610J	0.0610	mg/L	0	(< 20)	11/04/2011
Sulfate	2.17	2.17	mg/L	0	(< 20)	11/04/2011

Batch WIC4891
Method EPA 300.0
Instrument Metrohm 733 IC3

SGS Ref.#	1065536	Undigested Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
Original	1115348018			**Date**
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1065533, 1115255001, 1115255007, 1115255013, 1115255014

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Chloride	0.681	0.686	mg/L	1	(< 20)	11/04/2011
Fluoride	0.117	0.114	mg/L	3	(< 20)	11/04/2011
Sulfate	25.9	26.0	mg/L	0	(< 20)	11/04/2011

Batch	WIC4891
Method	EPA 300.0
Instrument	Metrohm 733 IC3

SGS Ref.#	1066194	Undigested Duplicate	**Printed Date/Time**		11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**	WXX8855
Project Name/#	Pebble Drilling Sump Project			**Method**	METHOD
Original	1115490001			**Date**	11/8/2011 5:36:00PM
Matrix	Drinking Water				

QC results affect the following production samples:

1066195, 1115255007, 1115255013

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Fluoride	0.119	0.109	mg/L	9	(< 20)	11/08/2011

Batch WIC4895
Method EPA 300.0
Instrument Metrohm 733 IC3

SGS Ref.#	1115255006	Billable Duplicate	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep Batch**	WXX8811	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Original	1115255003		**Date**	10/26/2011	5:48:00PM
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Chloride	15.4	15.4	mg/L	0	(< 20)	10/27/2011
Fluoride	0.171	0.169	mg/L	1	(< 20)	10/27/2011
Sulfate	29.9	29.9	mg/L	0	(< 20)	10/27/2011
Batch WIC4886						
Method EPA 300.0						
Instrument Metrohm 733 IC3						
Alkalinity	47.4	47.8	mg/L	1	(< 25)	10/27/2011
Batch WTI3606						
Method SM20 2320B						
Instrument Titration						
Conductivity	249	248	umhos/cm	0	(< 20)	10/27/2011
Batch WAT8989						
Method SM20 2510B						
Instrument Titration						
Total Dissolved Solids	125	110	mg/L	13	(< 25)	10/26/2011
Batch WAT8990						
Method SM20 2540C						
Instrument						
Total Suspended Solids	807	800	mg/L	1	(< 25)	10/28/2011
Batch STS3720						
Method SM20 2540D						
Instrument						
pH	6.50	6.50	pH units	0	(< 5)	10/27/2011
Batch WPH6391						
Method SM20 4500-H B						
Instrument Titration						
Ammonia-N	0.0800J	0.0861	mg/L	7	(< 25)	10/27/2011
Batch WDA2347						
Method SM20 4500-NH3 G						
Instrument Konelab						

SGS Ref.#	1115255006	Billable Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115255003			
Matrix	Water (Surface, Eff., Ground)			

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Total Nitrate/Nitrite-N	0.0900J	0.138 *	mg/L	42	(< 20)	10/28/2011
Batch WFI2056						
Method SM20 4500NO3-F						
Instrument Astoria segmented flow						
Total Phosphorus	0.474	0.496	mg/L	5	(< 25)	10/31/2011
Batch WDA2353						
Method SM20 4500P-B,E						
Instrument Konelab						
Sulfide	0.620 U	0.620 U	mg/L	0	(< 25)	10/28/2011
Batch WAT8991						
Method SM20 4500S D						
Instrument						

SGS Ref.#	1115255011	Billable Duplicate	**Printed Date/Time**	11/16/2011	16:55
Client Name	Fisheries Research Consulting		**Prep Batch**	WXX8811	
Project Name/#	Pebble Drilling Sump Project		**Method**	METHOD	
Original	1115255008		**Date**	10/26/2011	5:48:00PM
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Chloride	0.847	0.854	mg/L	1	(< 20)	10/27/2011
Fluoride	0.0880J	0.0810	mg/L	8	(< 20)	10/27/2011
Sulfate	9.45	9.64	mg/L	2	(< 20)	10/27/2011
Batch WIC4886						
Method EPA 300.0						
Instrument Metrohm 733 IC3						
Alkalinity	17.1	17.0	mg/L	0	(< 25)	10/27/2011
Batch WTI3606						
Method SM20 2320B						
Instrument Titration						
Conductivity	65.6	65.6	umhos/cm	0	(< 20)	10/27/2011
Batch WAT8989						
Method SM20 2510B						
Instrument Titration						
Total Dissolved Solids	43.0	45.0	mg/L	5	(< 25)	10/26/2011
Batch WAT8990						
Method SM20 2540C						
Instrument						
Total Suspended Solids	0.729	4.59 *	mg/L	145	(< 25)	10/28/2011
Batch STS3720						
Method SM20 2540D						
Instrument						
pH	6.60	6.60	pH units	0	(< 5)	10/27/2011
Batch WPH6391						
Method SM20 4500-H B						
Instrument Titration						
Ammonia-N	0.0620 U	0.0620 U	mg/L	0	(< 25)	10/27/2011
Batch WDA2347						
Method SM20 4500-NH3 G						
Instrument Konelab						

SGS Ref.#	1115255011	Billable Duplicate	**Printed Date/Time**	11/16/2011 16:55
Client Name	Fisheries Research Consulting		**Prep**	**Batch**
Project Name/#	Pebble Drilling Sump Project			**Method**
				Date
Original	1115255008			
Matrix	Water (Surface, Eff., Ground)			

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Waters Department						
Total Nitrate/Nitrite-N	0.0620 U	0.0495	mg/L	0	(< 20)	10/28/2011
Batch WFI2056						
Method SM20 4500NO3-F						
Instrument Astoria segmented flow						
Total Phosphorus	0.00646J	0.00535	mg/L	19	(< 25)	10/31/2011
Batch WDA2353						
Method SM20 4500P-B,E						
Instrument Konelab						
Sulfide	0.0620 U	0.0620 U	mg/L	0	(< 25)	10/28/2011
Batch WAT8991						
Method SM20 4500S D						
Instrument						

SGS Ref.#	1062899 Lab Control Sample	**Printed Date/Time**	11/16/2011 16:55
		Prep **Batch**	MXX24974
Client Name	Fisheries Research Consulting	**Method**	METHOD
Project Name/#	Pebble Drilling Sump Project	**Date**	10/26/2011
Matrix	Water (Surface, Eff., Ground)		

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255013, 1115255014, 1115255018, 1115255019, 1115255020, 1115255023

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Metals Department								
Mercury	LCS	3.59	90	(85-115)			4 ug/L	10/26/2011

Batch	MCV5021
Method	EP245.1
Instrument	PSA Millennium mercury AA

SGS Ref.#	1062968	Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
	1062969	Lab Control Sample Duplicate	**Prep** **Batch**	WXX8808	
Client Name	Fisheries Research Consulting		**Method**	METHOD	
Project Name/#	Pebble Drilling Sump Project		**Date**	10/27/2011	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Ammonia-N	LCS	1.06	106	(75-125)			1 mg/L	10/27/2011
	LCSD	1.08	108		1	(< 25)	1 mg/L	10/27/2011

Batch	WDA2347
Method	SM20 4500-NH3 G
Instrument	Konelab

SGS Ref.#	1062975	Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
	1062976	Lab Control Sample Duplicate	**Prep** **Batch**	XXX26082	
Client Name	Fisheries Research Consulting		**Method**	SW3520C	
Project Name/#	Pebble Drilling Sump Project		**Date**	10/27/2011	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014, 1115255015

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Semivolatile Organic Fuels Department								
Diesel Range Organics	LCS	19.0	95	(75-125)			20 mg/L	10/29/2011
	LCSD	19.4	97		2	(< 20)	20 mg/L	10/29/2011
Surrogates								
5a Androstane <surr>	LCS		96	(60-120)				10/29/2011
	LCSD		99		3			10/29/2011
Batch XFC10192								
Method AK102								
Instrument HP 7890A	FID SV E F							
Residual Range Organics	LCS	18.9	95	(60-120)			20 mg/L	10/29/2011
	LCSD	18.8	94		0	(< 20)	20 mg/L	10/29/2011
Surrogates								
n-Triacontane-d62 <surr>	LCS		88	(60-120)				10/29/2011
	LCSD		91		4			10/29/2011
Batch XFC10192								
Method AK103								
Instrument HP 7890A	FID SV E F							

SGS Ref.#	1062990	Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
	1062991	Lab Control Sample Duplicate	**Prep** **Batch**	WXX8809	
Client Name	Fisheries Research Consulting		**Method**	METHOD	
Project Name/#	Pebble Drilling Sump Project		**Date**	10/27/2011	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255013, 1115255014

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Ammonia-N	LCS	1.06	106	(75-125)			1 mg/L	10/27/2011
	LCSD	1.05	105		1	(< 25)	1 mg/L	10/27/2011

Batch	WDA2347
Method	SM20 4500-NH3 G
Instrument	Konelab

SGS Ref.#	1063010 Lab Control Sample	**Printed Date/Time**	11/16/2011 16:55
		Prep **Batch**	WXX8811
Client Name	Fisheries Research Consulting	**Method**	METHOD
Project Name/#	Pebble Drilling Sump Project	**Date**	10/26/2011
Matrix	Water (Surface, Eff., Ground)		

QC results affect the following production samples:

1115255003, 1115255008, 1115255012

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Chloride	LCS	10.2	102	(90-110)			10 mg/L	10/26/2011
Fluoride	LCS	10.5	105	(90-110)			10 mg/L	10/26/2011
Sulfate	LCS	10.1	101	(90-110)			10 mg/L	10/26/2011

Batch	WIC4886
Method	EPA 300.0
Instrument	Metrohm 733 IC3

SGS Ref.#	1063049 Lab Control Sample	**Printed Date/Time**		11/16/2011	16:55
		Prep	**Batch**	MXX24975	
Client Name	Fisheries Research Consulting		**Method**	E200.2	
Project Name/#	Pebble Drilling Sump Project		**Date**	10/26/2011	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014, 1115255016, 1115255017, 1115255018, 1115255019, 1115255020, 1115255023, 1115255027, 1115255028, 1115255029

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date

Metals by ICP/MS

SGS Ref.#	1063049 Lab Control Sample	**Printed Date/Time**	11/16/2011 16:55
		Prep Batch	MXX24975
Client Name	Fisheries Research Consulting	**Method**	E200.2
Project Name/#	Pebble Drilling Sump Project	**Date**	10/26/2011
Matrix	Water (Surface, Eff., Ground)		

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Metals by ICP/MS								
Aluminum	LCS	50.6	101	(85-115)			50 ug/L	11/07/2011
Antimony	LCS	5.25	105	(85-115)			5 ug/L	11/07/2011
Arsenic	LCS	24.2	97	(85-115)			25 ug/L	11/07/2011
Barium	LCS	24.7	99	(85-115)			25 ug/L	11/07/2011
Beryllium	LCS	12.7	101	(85-115)			12.5 ug/L	11/07/2011
Bismuth	LCS	12.2	98	(85-115)			12.5 ug/L	11/07/2011
Boron	LCS	53.8	108	(85-115)			50 ug/L	11/07/2011
Cadmium	LCS	12.5	100	(85-115)			12.5 ug/L	11/07/2011
Calcium	LCS	2390	95	(85-115)			2500 ug/L	11/07/2011
Chromium	LCS	12.2	98	(85-115)			12.5 ug/L	11/07/2011
Cobalt	LCS	12.5	100	(85-115)			12.5 ug/L	11/07/2011
Copper	LCS	24.5	98	(85-115)			25 ug/L	11/07/2011
Iron	LCS	478	96	(85-115)			500 ug/L	11/07/2011
Lead	LCS	4.87	97	(85-115)			5 ug/L	11/07/2011
Magnesium	LCS	2550	102	(85-115)			2500 ug/L	11/07/2011
Manganese	LCS	50.5	101	(85-115)			50 ug/L	11/07/2011
Molybdenum	LCS	13.1	105	(85-115)			12.5 ug/L	11/07/2011
Nickel	LCS	12.5	100	(85-115)			12.5 ug/L	11/07/2011
Potassium	LCS	2540	101	(85-115)			2500 ug/L	11/07/2011
Selenium	LCS	25.0	100	(85-115)			25 ug/L	11/07/2011
Silicon	LCS	2460	99	(85-115)			2500 ug/L	11/07/2011

SGS Ref.#	1063049 Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
		Prep **Batch**	MXX24975	
Client Name	Fisheries Research Consulting	**Method**	E200.2	
Project Name/#	Pebble Drilling Sump Project	**Date**	10/26/2011	
Matrix	Water (Surface, Eff., Ground)			

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Metals by ICP/MS								
Silver	LCS	4.93	99	(85-115)			5 ug/L	11/07/2011
Sodium	LCS	2450	98	(85-115)			2500 ug/L	11/07/2011
Thallium	LCS	2.41	96	(85-115)			2.5 ug/L	11/07/2011
Tin	LCS	11.7	93	(85-115)			12.5 ug/L	11/07/2011
Vanadium	LCS	24.4	97	(85-115)			25 ug/L	11/07/2011
Zinc	LCS	50.6	101	(85-115)			50 ug/L	11/07/2011

Batch	MMS7260
Method	200.8 Low Level
Instrument	Perkin Elmer Sciex ICP-MS P3

SGS Ref.#	1063107 Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55	
		Prep	**Batch**	MXX24977	
Client Name	Fisheries Research Consulting		**Method**	E200.2	
Project Name/#	Pebble Drilling Sump Project		**Date**	10/27/2011	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255024

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date

Metals by ICP/MS

SGS Ref.#	1063107 Lab Control Sample	**Printed Date/Time**	11/16/2011 16:55
		Prep Batch	MXX24977
Client Name	Fisheries Research Consulting	**Method**	E200.2
Project Name/#	Pebble Drilling Sump Project	**Date**	10/27/2011
Matrix	Water (Surface, Eff., Ground)		

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Metals by ICP/MS								
Aluminum	LCS	50.1	100	(85-115)			50 ug/L	10/31/2011
Antimony	LCS	5.28	106	(85-115)			5 ug/L	10/31/2011
Arsenic	LCS	25.0	100	(85-115)			25 ug/L	10/31/2011
Barium	LCS	25.2	101	(85-115)			25 ug/L	10/31/2011
Beryllium	LCS	13.1	104	(85-115)			12.5 ug/L	10/31/2011
Bismuth	LCS	12.5	100	(85-115)			12.5 ug/L	10/31/2011
Boron	LCS	52.5	105	(85-115)			50 ug/L	10/31/2011
Cadmium	LCS	12.6	101	(85-115)			12.5 ug/L	10/31/2011
Calcium	LCS	2370	95	(85-115)			2500 ug/L	10/31/2011
Chromium	LCS	12.6	101	(85-115)			12.5 ug/L	10/31/2011
Cobalt	LCS	12.5	100	(85-115)			12.5 ug/L	10/31/2011
Copper	LCS	25.0	100	(85-115)			25 ug/L	10/31/2011
Iron	LCS	490	98	(85-115)			500 ug/L	10/31/2011
Lead	LCS	5.06	101	(85-115)			5 ug/L	10/31/2011
Magnesium	LCS	2590	103	(85-115)			2500 ug/L	10/31/2011
Manganese	LCS	50.1	100	(85-115)			50 ug/L	10/31/2011
Molybdenum	LCS	13.2	105	(85-115)			12.5 ug/L	10/31/2011
Nickel	LCS	12.9	103	(85-115)			12.5 ug/L	10/31/2011
Potassium	LCS	2510	100	(85-115)			2500 ug/L	10/31/2011
Selenium	LCS	25.7	103	(85-115)			25 ug/L	10/31/2011
Silicon	LCS	2570	103	(85-115)			2500 ug/L	10/31/2011

SGS Ref.#	1063107 Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
		Prep **Batch**	MXX24977	
Client Name	Fisheries Research Consulting	**Method**	E200.2	
Project Name/#	Pebble Drilling Sump Project	**Date**	10/27/2011	
Matrix	Water (Surface, Eff., Ground)			

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Metals by ICP/MS								
Silver	LCS	4.98	100	(85-115)			5 ug/L	10/31/2011
Sodium	LCS	2520	101	(85-115)			2500 ug/L	10/31/2011
Thallium	LCS	2.45	98	(85-115)			2.5 ug/L	10/31/2011
Tin	LCS	12.0	96	(85-115)			12.5 ug/L	10/31/2011
Vanadium	LCS	24.8	99	(85-115)			25 ug/L	10/31/2011
Zinc	LCS	50.1	100	(85-115)			50 ug/L	10/31/2011

Batch	MMS7248
Method	200.8 Low Level
Instrument	Perkin Elmer Sciex ICP-MS P3

SGS Ref.#	1063318	Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
			Prep	**Batch**	
Client Name	Fisheries Research Consulting			**Method**	
Project Name/#	Pebble Drilling Sump Project			**Date**	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
pH	LCS	7.02	100	(99-101)			7 pH units	10/27/2011

Batch	WPH6391
Method	SM20 4500-H B
Instrument	Titration

SGS Ref.#	1063332	Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
			Prep	**Batch**	
Client Name	Fisheries Research Consulting			**Method**	
Project Name/#	Pebble Drilling Sump Project			**Date**	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Conductivity	LCS	10.7	100	(90-110)			10.7 umhos/c	10/27/2011

Batch	WAT8989
Method	SM20 2510B
Instrument	Titration

SGS Ref.#	1063337	Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
			Prep	**Batch**	
Client Name	Fisheries Research Consulting			**Method**	
Project Name/#	Pebble Drilling Sump Project			**Date**	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Conductivity	LCS	11.0	103	(90-110)			10.7 umhos/c	10/27/2011

Batch	WAT8989
Method	SM20 2510B
Instrument	Titration

SGS Ref.#	1063341	Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
			Prep	**Batch**	
Client Name	Fisheries Research Consulting			**Method**	
Project Name/#	Pebble Drilling Sump Project			**Date**	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Alkalinity	LCS	242	97	(85-115)			250 mg/L	10/27/2011

Batch	WTI3606
Method	SM20 2320B
Instrument	Titration

SGS Ref.#	1063345	Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
			Prep	**Batch**	
Client Name	Fisheries Research Consulting			**Method**	
Project Name/#	Pebble Drilling Sump Project			**Date**	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Alkalinity	LCS	242	97	(85-115)			250 mg/L	10/27/2011

Batch	WTI3606
Method	SM20 2320B
Instrument	Titration

SGS Ref.#	1063406	Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
	1063407	Lab Control Sample Duplicate	**Prep Batch**	VXX23020	
Client Name	Fisheries Research Consulting		**Method**	SW5030B	
Project Name/#	Pebble Drilling Sump Project		**Date**	10/27/2011	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255031, 1115255032, 1115255033, 1115255034, 1115255035

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Volatile Gas Chromatography/Mass Spectroscopy								
Benzene	LCS	30.4	101	(80-120)			30 ug/L	10/27/2011
	LCSD	29.4	98		4	(< 20)	30 ug/L	10/27/2011
Ethylbenzene	LCS	31.7	106	(75-125)			30 ug/L	10/27/2011
	LCSD	31.4	105		1	(< 20)	30 ug/L	10/27/2011
o-Xylene	LCS	32.5	108	(80-120)			30 ug/L	10/27/2011
	LCSD	31.4	105		4	(< 20)	30 ug/L	10/27/2011
P & M -Xylene	LCS	66.0	110	(75-130)			60 ug/L	10/27/2011
	LCSD	63.5	106		4	(< 20)	60 ug/L	10/27/2011
Toluene	LCS	30.2	101	(75-120)			30 ug/L	10/27/2011
	LCSD	29.2	98		3	(< 20)	30 ug/L	10/27/2011
Surrogates								
1,2-Dichloroethane-D4 <surr>	LCS		96	(70-120)				10/27/2011
	LCSD		97		1			10/27/2011
4-Bromofluorobenzene <surr>	LCS		96	(75-120)				10/27/2011
	LCSD		97		1			10/27/2011
Toluene-d8 <surr>	LCS		100	(85-120)				10/27/2011
	LCSD		97		3			10/27/2011

Batch	VMS12544
Method	SW8260B
Instrument	HP 5890 Series II MS1 VJA

SGS Ref.#	1063428	Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
	1063429	Lab Control Sample Duplicate	**Prep** **Batch**	XXX26098	
Client Name	Fisheries Research Consulting		**Method**	SW3520C	
Project Name/#	Pebble Drilling Sump Project		**Date**	10/28/2011	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014, 1115255015

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date

Polynuclear Aromatics GC/MS

SGS Ref.#	1063428 Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
	1063429 Lab Control Sample Duplicate	**Prep Batch**	XXX26098	
Client Name	Fisheries Research Consulting	**Method**	SW3520C	
Project Name/#	Pebble Drilling Sump Project	**Date**	10/28/2011	
Matrix	Water (Surface, Eff., Ground)			

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Polynuclear Aromatics GC/MS								
1-Methylnaphthalene	LCS	0.378	76	(47-107)			0.5 ug/L	11/01/2011
	LCSD	0.387	77		2	(< 30)	0.5 ug/L	11/01/2011
2-Methylnaphthalene	LCS	0.344	69	(45-105)			0.5 ug/L	11/01/2011
	LCSD	0.354	71		3	(< 30)	0.5 ug/L	11/01/2011
Acenaphthene	LCS	0.398	80	(45-110)			0.5 ug/L	11/01/2011
	LCSD	0.407	81		2	(< 30)	0.5 ug/L	11/01/2011
Acenaphthylene	LCS	0.377	76	(50-105)			0.5 ug/L	11/01/2011
	LCSD	0.387	77		3	(< 30)	0.5 ug/L	11/01/2011
Anthracene	LCS	0.406	81	(55-110)			0.5 ug/L	11/01/2011
	LCSD	0.431	86		6	(< 30)	0.5 ug/L	11/01/2011
Benzo(a)Anthracene	LCS	0.418	84	(55-110)			0.5 ug/L	11/01/2011
	LCSD	0.450	90		7	(< 30)	0.5 ug/L	11/01/2011
Benzo[a]pyrene	LCS	0.345	69	(55-110)			0.5 ug/L	11/01/2011
	LCSD	0.380	76		10	(< 30)	0.5 ug/L	11/01/2011
Benzo[b]Fluoranthene	LCS	0.426	85	(45-120)			0.5 ug/L	11/01/2011
	LCSD	0.450	90		6	(< 30)	0.5 ug/L	11/01/2011
Benzo[g,h,i]perylene	LCS	0.413	83	(40-125)			0.5 ug/L	11/01/2011
	LCSD	0.438	88		6	(< 30)	0.5 ug/L	11/01/2011
Benzo[k]fluoranthene	LCS	0.418	84	(45-125)			0.5 ug/L	11/01/2011
	LCSD	0.452	90		8	(< 30)	0.5 ug/L	11/01/2011
Chrysene	LCS	0.421	84	(55-110)			0.5 ug/L	11/01/2011
	LCSD	0.451	90		7	(< 30)	0.5 ug/L	11/01/2011
Dibenzo[a,h]anthracene	LCS	0.422	84	(40-125)			0.5 ug/L	11/01/2011
	LCSD	0.441	88		5	(< 30)	0.5 ug/L	11/01/2011
Fluoranthene	LCS	0.415	83	(55-115)			0.5 ug/L	11/01/2011
	LCSD	0.446	89		7	(< 30)	0.5 ug/L	11/01/2011
Fluorene	LCS	0.433	87	(50-110)			0.5 ug/L	11/01/2011
	LCSD	0.443	89		2	(< 30)	0.5 ug/L	11/01/2011

SGS Ref.#	1063428 Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
	1063429 Lab Control Sample Duplicate	**Prep Batch**	XXX26098	
Client Name	Fisheries Research Consulting	**Method**	SW3520C	
Project Name/#	Pebble Drilling Sump Project	**Date**	10/28/2011	
Matrix	Water (Surface, Eff., Ground)			

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Polynuclear Aromatics GC/MS								
Indeno[1,2,3-c,d] pyrene	LCS	0.425	85	(45-125)			0.5 ug/L	11/01/2011
	LCSD	0.446	89		5	(< 30)	0.5 ug/L	11/01/2011
Naphthalene	LCS	0.349	70	(40-100)			0.5 ug/L	11/01/2011
	LCSD	0.358	72		3	(< 30)	0.5 ug/L	11/01/2011
Phenanthrene	LCS	0.404	81	(50-115)			0.5 ug/L	11/01/2011
	LCSD	0.427	86		6	(< 30)	0.5 ug/L	11/01/2011
Pyrene	LCS	0.399	80	(50-130)			0.5 ug/L	11/01/2011
	LCSD	0.430	86		7	(< 30)	0.5 ug/L	11/01/2011
Surrogates								
2-Fluorobiphenyl <surr>	LCS		89	(50-110)				11/01/2011
	LCSD		90		1			11/01/2011
Terphenyl-d14 <surr>	LCS		103	(50-135)				11/01/2011
	LCSD		111		7			11/01/2011

Batch	XMS6357
Method	8270D SIMS (PAH)
Instrument	HP 6890 Series II MS2 SVOA

SGS Ref.#	1063436	Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
			Prep	**Batch**	
Client Name	Fisheries Research Consulting			**Method**	
Project Name/#	Pebble Drilling Sump Project			**Date**	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Total Dissolved Solids	LCS	292	89	(75-125)			330 mg/L	10/26/2011

Batch	WAT8990
Method	SM20 2540C
Instrument	

SGS Ref.#	1063603 Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
		Prep	**Batch**	
Client Name	Fisheries Research Consulting		**Method**	
Project Name/#	Pebble Drilling Sump Project		**Date**	
Matrix	Drinking Water			

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Sulfide	LCS	0.550	110	(75-125)			0.499 mg/L	10/28/2011

Batch	WAT8991
Method	SM20 4500S D
Instrument	

SGS Ref.#	1063650 Lab Control Sample	**Printed Date/Time**	11/16/2011 16:55
		Prep	**Batch**
Client Name	Fisheries Research Consulting		**Method**
Project Name/#	Pebble Drilling Sump Project		**Date**
Matrix	Water (Surface, Eff., Ground)		

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255012

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Nitrate-N	LCS	0.208	104	(70-130)			0.2 mg/L	10/28/2011
Nitrite-N	LCS	0.202	101	(90-110)			0.2 mg/L	10/28/2011
Total Nitrate/Nitrite-N	LCS	0.410	103	(90-110)			0.4 mg/L	10/28/2011

Batch	WFI2056
Method	SM20 4500NO3-F
Instrument	Astoria segmented flow

SGS Ref.#	1063652 Lab Control Sample	**Printed Date/Time**	11/16/2011 16:55
		Prep	**Batch**
Client Name	Fisheries Research Consulting		**Method**
Project Name/#	Pebble Drilling Sump Project		**Date**
Matrix	Water (Surface, Eff., Ground)		

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Nitrate-N	LCS	0.196	98	(70-130)			0.2 mg/L	10/28/2011
Nitrite-N	LCS	0.203	101	(90-110)			0.2 mg/L	10/28/2011
Total Nitrate/Nitrite-N	LCS	0.398	100	(90-110)			0.4 mg/L	10/28/2011

Batch	WFI2056
Method	SM20 4500NO3-F
Instrument	Astoria segmented flow

SGS Ref.#	1063865	Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
	1063866	Lab Control Sample Duplicate	**Prep** **Batch**	VXX23030	
Client Name	Fisheries Research Consulting		**Method**	SW5030B	
Project Name/#	Pebble Drilling Sump Project		**Date**	10/28/2011	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Volatile Fuels Department								
Gasoline Range Organics	LCS	0.964	96	(60-120)			1.00 mg/L	10/28/2011
	LCSD	0.955	96		1	(< 20)	1.00 mg/L	10/28/2011
Surrogates								
4-Bromofluorobenzene <surr>	LCS		98	(50-150)				10/28/2011
	LCSD		96		2			10/28/2011

Batch	VFC10809
Method	AK101
Instrument	Agilent 7890 PID/FID

SGS Ref.#	1064067 Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
		Prep	**Batch**	
Client Name	Fisheries Research Consulting		**Method**	
Project Name/#	Pebble Drilling Sump Project		**Date**	
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Total Suspended Solids	LCS	44.5	89	(75-125)			50 mg/L	10/28/2011

Batch	STS3720
Method	SM20 2540D
Instrument	

SGS Ref.#	1064078	Lab Control Sample	**Printed Date/Time**	11/16/2011 16:55
			Prep	**Batch**
Client Name	Fisheries Research Consulting			**Method**
Project Name/#	Pebble Drilling Sump Project			**Date**
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255014

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Total Dissolved Solids	LCS	299	91	(75-125)			330 mg/L	10/30/2011

Batch	WAT8995
Method	SM20 2540C
Instrument	

SGS Ref.#	1064380	Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
	1064381	Lab Control Sample Duplicate	**Prep** **Batch**	WXX8830	
Client Name	Fisheries Research Consulting		**Method**	SM20 4500P-B,E	
Project Name/#	Pebble Drilling Sump Project		**Date**	10/27/2011	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Total Phosphorus	LCS	0.212	106	(75-125)			0.2 mg/L	10/31/2011
	LCSD	0.216	108		2	(< 25)	0.2 mg/L	10/31/2011

Batch	WDA2353
Method	SM20 4500P-B,E
Instrument	Konelab

SGS Ref.#	1064578	Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
			Prep	**Batch**	
Client Name	Fisheries Research Consulting			**Method**	
Project Name/#	Pebble Drilling Sump Project			**Date**	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255018, 1115255019, 1115255020, 1115255023, 1115255027, 1115255028, 1115255029, 1115255030

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Total Organic Carbon	LCS	78.2	104	(80-120)			75 mg/L	11/01/2011

Batch	WTC2125
Method	SM 5310B
Instrument	TOC Analyzer

SGS Ref.#	1064817 Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55	
		Prep	**Batch**	MXX25009	
Client Name	Fisheries Research Consulting		**Method**	METHOD	
Project Name/#	Pebble Drilling Sump Project		**Date**	11/02/2011	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255012, 1115255016, 1115255017, 1115255024, 1115255027, 1115255028, 1115255029

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Metals Department								
Mercury	LCS	3.64	91	(85-115)			4 ug/L	11/02/2011

Batch MCV5032
Method EP245.1
Instrument PSA Millennium mercury AA

SGS Ref.#	1064901 Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55
		Prep	**Batch**	
Client Name	Fisheries Research Consulting		**Method**	
Project Name/#	Pebble Drilling Sump Project		**Date**	
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255018, 1115255019, 1115255020, 1115255023, 1115255024, 1115255027, 1115255028, 1115255029, 1115255030

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Total Organic Carbon	LCS	76.5	102	(80-120)			75 mg/L	11/02/2011

Batch	WTC2125
Method	SM 5310B
Instrument	TOC Analyzer

SGS Ref.#	1065516 Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55	
		Prep	**Batch**	WXX8844	
Client Name	Fisheries Research Consulting		**Method**	METHOD	
Project Name/#	Pebble Drilling Sump Project		**Date**	11/02/2011	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Chloride	LCS	10.4	104	(90-110)			10 mg/L	11/02/2011
Fluoride	LCS	10.3	103	(90-110)			10 mg/L	11/02/2011

Batch	WIC4890
Method	EPA 300.0
Instrument	Metrohm 733 IC3

SGS Ref.#	1065529 Lab Control Sample	**Printed Date/Time**	11/16/2011 16:55
		Prep **Batch**	WXX8845
Client Name	Fisheries Research Consulting	**Method**	METHOD
Project Name/#	Pebble Drilling Sump Project	**Date**	11/03/2011
Matrix	Water (Surface, Eff., Ground)		

QC results affect the following production samples:

1115255001, 1115255002, 1115255007, 1115255013, 1115255014

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Chloride	LCS	10.3	103	(90-110)			10 mg/L	11/03/2011
Fluoride	LCS	10.6	106	(90-110)			10 mg/L	11/03/2011
Sulfate	LCS	10.2	102	(90-110)			10 mg/L	11/03/2011

Batch	WIC4891
Method	EPA 300.0
Instrument	Metrohm 733 IC3

SGS Ref.#	1066193 Lab Control Sample	**Printed Date/Time**	11/16/2011	16:55	
		Prep	**Batch**	WXX8855	
Client Name	Fisheries Research Consulting		**Method**	METHOD	
Project Name/#	Pebble Drilling Sump Project		**Date**	11/08/2011	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255007, 1115255013

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Waters Department								
Fluoride	LCS	10.7	107	(90-110)			10 mg/L	11/08/2011

Batch	WIC4895
Method	EPA 300.0
Instrument	Metrohm 733 IC3

SGS Ref.#	1062993	Matrix Spike	**Printed Date/Time**		11/16/2011 16:55
			Prep	**Batch**	WXX8809
				Method	Ammonia by SM20 4500F prep
				Date	10/27/2011
Original	1115263001				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255013, 1115255014

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department										
Ammonia-N	MS	(0.0620) U	1.06	106	(75-125)			1.00	mg/L	10/27/2011

Batch WDA2347
Method SM20 4500-NH3 G
Instrument Konelab

SGS Ref.#	1062995	Matrix Spike	**Printed Date/Time**		11/16/2011 16:55
			Prep	**Batch**	WXX8809
				Method	Ammonia by SM20 4500F prep
				Date	10/27/2011
Original	1115263032				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255013, 1115255014

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department										
Ammonia-N	MS	(0.0620) U	1.04	104	(75-125)			1.00	mg/L	10/27/2011

Batch WDA2347
Method SM20 4500-NH3 G
Instrument Konelab

SGS Ref.#	1063051	Bench Spike DIGESTED	**Printed Date/Time**		11/16/2011 16:55
			Prep	**Batch**	MXX24975
				Method	LL Digest for Metals on ICP-M
				Date	10/26/2011
Original	1115255003				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014, 1115255016, 1115255017, 1115255018, 1115255019, 1115255020, 1115255023, 1115255027, 1115255028, 1115255029

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Metals by ICP/MS										
Aluminum	BND	15300	18200	73	(70-130)			4000	ug/L	11/07/2011
Barium	BND	279	377	98	(70-130)			100	ug/L	11/07/2011
Calcium	BND	21200	25200	80	(70-130)			5000	ug/L	11/07/2011
Copper	BND	70.4	176	105	(70-130)			100	ug/L	11/07/2011
Iron	BND	13000	15100	108	(70-130)			2000	ug/L	11/07/2011
Potassium	BND	21100	25900	97	(70-130)			5000	ug/L	11/07/2011
Sodium	BND	15400	19900	91	(70-130)			5000	ug/L	11/07/2011
Tin	BND	(0.496) U	51.3	103	(70-130)			50.0	ug/L	11/07/2011
Vanadium	BND	74.2	177	102	(70-130)			100	ug/L	11/07/2011

Batch MMS7260
Method 200.8 Low Level
Instrument Perkin Elmer Sciex ICP-MS P3

SGS Ref.#	1063052	Bench Spike DIGESTED	**Printed Date/Time**		11/16/2011 16:55
			Prep	**Batch**	MXX24975
				Method	LL Digest for Metals on ICP-M
				Date	10/26/2011
Original	1115255020				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255008, 1115255012, 1115255013, 1115255014, 1115255016, 1115255017, 1115255018, 1115255019, 1115255020, 1115255023, 1115255027, 1115255028, 1115255029

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Metals by ICP/MS										
Aluminum	BND	272	316	87	(70-130)			50.0	ug/L	11/07/2011
Sodium	BND	15300	16300	78	(70-130)			1250	ug/L	11/07/2011

Batch	MMS7260
Method	200.8 Low Level
Instrument	Perkin Elmer Sciex ICP-MS P3

SGS Ref.#	1063606	Matrix Spike	**Printed Date/Time**	11/16/2011	16:55
			Prep	**Batch**	
				Method	
				Date	
Original	1115255008				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255007, 1115255008, 1115255012, 1115255013, 1115255014

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department										
Sulfide	MS	(0.0620) U	.51	102	(75-125)			0.499	mg/L	10/28/2011

Batch WAT8991
Method SM20 4500S D
Instrument

SGS Ref.#	1063624	Matrix Spike	**Printed Date/Time**	11/16/2011	16:55
			Prep	**Batch**	
				Method	
				Date	
Original	1115334001				
Matrix	Drinking Water				

QC results affect the following production samples:

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department										
Total Nitrate/Nitrite-N	MS	1.56	5.73	84*	(90-110)			5.00	mg/L	10/28/2011

Batch WFI2056
Method SM20 4500NO3-F
Instrument Astoria segmented flow

SGS Ref.#	1063625	Matrix Spike	**Printed Date/Time**	11/16/2011	16:55
			Prep	**Batch**	
				Method	
				Date	
Original	1115345001				
Matrix	Drinking Water				

QC results affect the following production samples:

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department										
Total Nitrate/Nitrite-N	MS	6.15	10.1	79*	(90-110)			5.00	mg/L	10/28/2011

Batch WFI2056
Method SM20 4500NO3-F
Instrument Astoria segmented flow

SGS Ref.#	1063626	Matrix Spike	**Printed Date/Time**	11/16/2011	16:55
			Prep	**Batch**	
				Method	
				Date	
Original	1115348004				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001, 1115255002, 1115255003, 1115255007, 1115255012

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department										
Total Nitrate/Nitrite-N	MS	0.222	4.13	78*	(90-110)			5.00	mg/L	10/28/2011

Batch WFI2056
Method SM20 4500NO3-F
Instrument Astoria segmented flow

SGS Ref.#	1064387	Matrix Spike	**Printed Date/Time**		11/16/2011 16:55
			Prep	**Batch**	WXX8830
				Method	Total Phosphorus EP365.3 (W)
				Date	10/27/2011
Original	1115263001				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255012, 1115255013, 1115255014

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department										
Total Phosphorus	MS	0.0228	.229	103	(75-125)			0.200	mg/L	10/31/2011

Batch WDA2353
Method SM20 4500P-B,E
Instrument Konelab

SGS Ref.#	1064820	Bench Spike DIGESTED	**Printed Date/Time**		11/16/2011 16:55
			Prep	**Batch**	MXX25009
				Method	Digestion Mercury (W)
				Date	11/02/2011
Original	1115255024				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255012, 1115255016, 1115255017, 1115255024, 1115255027, 1115255028, 1115255029

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Metals Department										
Mercury	BND	(0.124) U	7.14	89	(85-115)			8.00	ug/L	11/02/2011

Batch MCV5032
Method EP245.1
Instrument PSA Millennium mercury AA

SGS Ref.#	1064823	Matrix Spike	**Printed Date/Time**		11/16/2011 16:55
			Prep	**Batch**	MXX25009
				Method	Digestion Mercury (W)
				Date	11/02/2011
Original	1115324001				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255012, 1115255016, 1115255017, 1115255024, 1115255027, 1115255028, 1115255029

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Metals Department										
Mercury	MS	(0.200) U	7.21	90	(85-115)			8.00	ug/L	11/02/2011

Batch MCV5032
Method EP245.1
Instrument PSA Millennium mercury AA

SGS Ref.#	1064895	Matrix Spike	**Printed Date/Time**	11/16/2011 16:55
	1064896	Matrix Spike Duplicate	**Prep**	**Batch**
				Method
				Date
Original	1064889			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255018, 1115255019, 1115255020, 1115255023, 1115255024, 1115255027, 1115255028, 1115255029, 1115255030

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department										
Total Organic Carbon	MS	11.0	20.9	99	(75-125)			10.0	mg/L	11/01/2011
	MSD		20.6	96		1	(< 25)	10.0	mg/L	11/01/2011

Batch	WTC2125
Method	SM 5310B
Instrument	TOC Analyzer

SGS Ref.#	1064897	Matrix Spike	**Printed Date/Time**	11/16/2011 16:55
	1064898	Matrix Spike Duplicate	**Prep**	**Batch**
				Method
				Date
Original	1064890			
Matrix	Water (Surface, Eff., Ground)			

QC results affect the following production samples:

1115255018, 1115255019, 1115255023, 1115255024, 1115255027, 1115255028, 1115255029, 1115255030

Parameter	Qualifiers		Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department											
Total Organic Carbon		MS	2.69	13.1	104	(75-125)			10.0	mg/L	11/02/2011
		MSD		13.1	104		0	(< 25)	10.0	mg/L	11/02/2011

Batch	WTC2125
Method	SM 5310B
Instrument	TOC Analyzer

SGS Ref.#	1065518	Matrix Spike	**Printed Date/Time**		11/16/2011 16:55
			Prep	**Batch**	WXX8844
				Method	EPA 300.0 Extraction Waters/L
				Date	11/02/2011
Original	1115348003				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department										
Chloride	MS	0.735	11.1	103	(90-110)			10.0	mg/L	11/03/2011
Fluoride	MS	0.0600J	10.1	100	(90-110)			10.0	mg/L	11/03/2011

Batch WIC4890
Method EPA 300.0
Instrument Metrohm 733 IC3

SGS Ref.#	1065531	Matrix Spike	**Printed Date/Time**		11/16/2011 16:55
			Prep	**Batch**	WXX8845
				Method	EPA 300.0 Extraction Waters/L
				Date	11/03/2011
Original	1115348025				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255002, 1115255007, 1115255013, 1115255014

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department										
Chloride	MS	0.519	10.9	104	(90-110)			10.0	mg/L	11/03/2011
Fluoride	MS	0.0670J	10.2	101	(90-110)			10.0	mg/L	11/03/2011
Sulfate	MS	2.43	13.2	107	(90-110)			10.0	mg/L	11/03/2011

Batch	WIC4891
Method	EPA 300.0
Instrument	Metrohm 733 IC3

SGS Ref.#	1065533	Matrix Spike	**Printed Date/Time**		11/16/2011 16:55
			Prep	**Batch**	WXX8845
				Method	EPA 300.0 Extraction Waters/L
				Date	11/03/2011
Original	1115348026				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1115255001

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department										
Chloride	MS	0.506	10.8	103	(90-110)			10.0	mg/L	11/04/2011
Fluoride	MS	0.0610J	10.2	102	(90-110)			10.0	mg/L	11/04/2011
Sulfate	MS	2.17	12.7	105	(90-110)			10.0	mg/L	11/04/2011

Batch WIC4891
Method EPA 300.0
Instrument Metrohm 733 IC3

SGS Ref.#	1066195	Matrix Spike	**Printed Date/Time**		11/16/2011 16:55
			Prep	**Batch**	WXX8855
				Method	EPA 300.0 Extraction Waters/L
				Date	11/08/2011
Original	1115490001				
Matrix	Drinking Water				

QC results affect the following production samples:

1115255007, 1115255013

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department										
Fluoride	MS	0.119	10.3	102	(90-110)			10.0	mg/L	11/08/2011

Batch WIC4895
Method EPA 300.0
Instrument Metrohm 733 IC3

SGS Ref.#	1115255004	Billable Matrix Spike	**Printed Date/Time**		11/16/2011 16:55
	1115255005	Billable Matrix Spike Dup.	**Prep**	**Batch**	MXX24974
				Method	Digestion Mercury (W)
				Date	10/26/2011
Original	1115255003				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

Parameter	Qualifiers		Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Metals Department											
Mercury		BMS	(0.124) U	8.31	104	(85-115)			8.00	ug/L	10/26/2011
		BMSD		7.21	90		14	(< 15)	8.00	ug/L	10/26/2011

Batch	MCV5021
Method	EP245.1
Instrument	PSA Millennium mercury AA

Metals by ICP/MS

SGS Ref.#	1115255004	Billable Matrix Spike	**Printed Date/Time**	11/16/2011 16:55
	1115255005	Billable Matrix Spike Dup.	**Prep** **Batch**	MXX24975
			Method	LL Digest for Metals on ICP-M
			Date	10/26/2011
Original	1115255003			
Matrix	Water (Surface, Eff., Ground)			

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Metals by ICP/MS									
Aluminum	BMS	15300	20600	10,700*	(70-130)			50.0 ug/L	11/07/2011
	BMSD		17800	4,910*		15	(< 20)	50.0 ug/L	11/07/2011
Antimony	BMS	1.69	5.78	82	(70-130)			5.00 ug/L	11/07/2011
	BMSD		8.18	130		34 *	(< 20)	5.00 ug/L	11/07/2011
Arsenic	BMS	4.40	29.7	101	(70-130)			25.0 ug/L	11/07/2011
	BMSD		30.2	103		2	(< 20)	25.0 ug/L	11/07/2011
Barium	BMS	279	323	177*	(70-130)			25.0 ug/L	11/07/2011
	BMSD		321	169*		1	(< 20)	25.0 ug/L	11/07/2011
Beryllium	BMS	1.32	12.9	93	(70-130)			12.5 ug/L	11/07/2011
	BMSD		13.4	97		4	(< 20)	12.5 ug/L	11/07/2011
Bismuth	BMS	0.649	12.6	95	(70-130)			12.5 ug/L	11/07/2011
	BMSD		13.2	101		5	(< 20)	12.5 ug/L	11/07/2011
Boron	BMS	(12.0) U	54.6	109	(70-130)			50.0 ug/L	11/07/2011
	BMSD		57.8	116		6	(< 20)	50.0 ug/L	11/07/2011
Cadmium	BMS	0.148J	12.8	101	(70-130)			12.5 ug/L	11/07/2011
	BMSD		13.4	106		4	(< 20)	12.5 ug/L	11/07/2011
Calcium	BMS	21200	23400	87	(70-130)			2500 ug/L	11/07/2011
	BMSD		24700	139*		5	(< 20)	2500 ug/L	11/07/2011
Chromium	BMS	7.37	20.5	105	(70-130)			12.5 ug/L	11/07/2011
	BMSD		19.7	99		4	(< 20)	12.5 ug/L	11/07/2011
Cobalt	BMS	1.40	14	100	(70-130)			12.5 ug/L	11/07/2011
	BMSD		14.4	104		3	(< 20)	12.5 ug/L	11/07/2011
Copper	BMS	70.4	93.8	94	(70-130)			25.0 ug/L	11/07/2011
	BMSD		84.5	56*		10	(< 20)	25.0 ug/L	11/07/2011
Iron	BMS	13000	13300	69*	(70-130)			500 ug/L	11/07/2011
	BMSD		12000	-189*		10	(< 20)	500 ug/L	11/07/2011
Lead	BMS	5.05	9.8	95	(70-130)			5.00 ug/L	11/07/2011
	BMSD		10.4	107		6	(< 20)	5.00 ug/L	11/07/2011
Magnesium	BMS	9190	11900	110	(70-130)			2500 ug/L	11/07/2011
	BMSD		11100	75		8	(< 20)	2500 ug/L	11/07/2011
Manganese	BMS	377	418	82	(70-130)			50.0 ug/L	11/07/2011
	BMSD		426	99		2	(< 20)	50.0 ug/L	11/07/2011
Molybdenum	BMS	5.63	19	107	(70-130)			12.5 ug/L	11/07/2011
	BMSD		20.0	115		5	(< 20)	12.5 ug/L	11/07/2011
Nickel	BMS	2.50	15.1	100	(70-130)			12.5 ug/L	11/07/2011
	BMSD		15.5	104		3	(< 20)	12.5 ug/L	11/07/2011
Potassium	BMS	21100	26700	222*	(70-130)			2500 ug/L	11/07/2011
	BMSD		25900	193*		3	(< 20)	2500 ug/L	11/07/2011
Selenium	BMS	(2.48) U	25.9	104	(70-130)			25.0 ug/L	11/07/2011
	BMSD		26.5	106		2	(< 20)	25.0 ug/L	11/07/2011

SGS Ref.#	1115255004	Billable Matrix Spike	**Printed Date/Time**	11/16/2011 16:55
	1115255005	Billable Matrix Spike Dup.	**Prep** **Batch**	MXX24975
			Method	LL Digest for Metals on ICP-M
			Date	10/26/2011
Original	1115255003			
Matrix	Water (Surface, Eff., Ground)			

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Metals by ICP/MS									
Silver	BMS	1.78	6	84	(70-130)			5.00 ug/L	11/07/2011
	BMSD		5.55	75		8	(< 20)	5.00 ug/L	11/07/2011
Sodium	BMS	15400	18400	123	(70-130)			2500 ug/L	11/07/2011
	BMSD		19100	148*		3	(< 20)	2500 ug/L	11/07/2011
Thallium	BMS	0.261	2.7	98	(70-130)			2.50 ug/L	11/07/2011
	BMSD		2.76	100		2	(< 20)	2.50 ug/L	11/07/2011
Tin	BMS	(0.496) U	7.44	60*	(70-130)			12.5 ug/L	11/07/2011
	BMSD		8.66	69*		15	(< 20)	12.5 ug/L	11/07/2011
Vanadium	BMS	74.2	120	182*	(70-130)			25.0 ug/L	11/07/2011
	BMSD		103	113		15	(< 20)	25.0 ug/L	11/07/2011
Zinc	BMS	70.1	116	91	(70-130)			50.0 ug/L	11/07/2011
	BMSD		118	96		2	(< 20)	50.0 ug/L	11/07/2011

Batch MMS7260
Method 200.8 Low Level
Instrument Perkin Elmer Sciex ICP-MS P3

Waters Department									
Chloride	BMS	15.4	25	97	(90-110)			10.0 mg/L	10/27/2011
	BMSD								
Fluoride	BMS	0.171	10.4	102	(90-110)			10.0 mg/L	10/27/2011
	BMSD								
Sulfate	BMS	29.9	38.4	85*	(90-110)			10.0 mg/L	10/27/2011
	BMSD								

Batch WIC4886
Method EPA 300.0
Instrument Metrohm 733 IC3

Ammonia-N	BMS	0.0800J	1.2	112	(75-125)			1.00 mg/L	10/27/2011
	BMSD								

Batch WDA2347
Method SM20 4500-NH3 G
Instrument Konelab

SGS Ref.#	1115255004	Billable Matrix Spike	**Printed Date/Time**	11/16/2011 16:55
	1115255005	Billable Matrix Spike Dup.	**Prep**	**Batch**
				Method
				Date
Original	1115255003			
Matrix	Water (Surface, Eff., Ground)			

Parameter	Qualifiers		Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department											
Total Nitrate/Nitrite-N		BMS	0.0900J	4.11	80*	(90-110)			5.00	mg/L	10/28/2011
		BMSD									
Batch	WFI2056										
Method	SM20 4500NO3-F										
Instrument	Astoria segmented flow										
Total Phosphorus		BMS	0.474	1.1	312*	(75-125)			0.200	mg/L	10/31/2011
		BMSD									
Batch	WDA2353										
Method	SM20 4500P-B,E										
Instrument	Konelab										
Sulfide		BMS	(0.620) U	.56	112	(75-125)			0.499	mg/L	10/28/2011
		BMSD									
Batch	WAT8991										
Method	SM20 4500S D										
Instrument											
Volatile Fuels Department											
Gasoline Range Organics		BMS	(0.0620) U	0.361	90	(60-120)			0.400	mg/L	10/28/2011
		BMSD		0.430	107		18	(< 20)	0.400	mg/L	10/28/2011
Surrogates											
4-Bromofluorobenzene <surr>		BMS		0.0468	94	(50-150)					10/28/2011
		BMSD		0.0463	93		1				10/28/2011
Batch	VFC10809										
Method	AK101										
Instrument	Agilent 7890 PID/FID										

Semivolatile Organic Fuels Department

SGS Ref.#	1115255004	Billable Matrix Spike	**Printed Date/Time**	11/16/2011 16:55
	1115255005	Billable Matrix Spike Dup.	**Prep** **Batch**	XXX26082
			Method	Cnt. Liq/Liq Ext. for AK102/3 1
			Date	10/27/2011
Original	1115255003			
Matrix	Water (Surface, Eff., Ground)			

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Semivolatile Organic Fuels Department									
Diesel Range Organics	BMS	0.335J	14.7	72*	(75-125)			20.0 mg/L	10/29/2011
	BMSD		15.0	74*		2	(< 30)	20.0 mg/L	10/29/2011
Surrogates									
5a Androstane <surr>	BMS		.322	80	(50-150)				10/29/2011
	BMSD		0.290	72		10			10/29/2011
Batch	XFC10192								
Method	AK102								
Instrument	HP 7890A	FID SV E F							
Residual Range Organics	BMS	0.513	14.6	70	(60-140)			20.0 mg/L	10/29/2011
	BMSD		14.8	71		1	(< 30)	20.0 mg/L	10/29/2011
Surrogates									
n-Triacontane-d62 <surr>	BMS		.296	74	(50-150)				10/29/2011
	BMSD		0.274	69		8			10/29/2011
Batch	XFC10192								
Method	AK103								
Instrument	HP 7890A	FID SV E F							

Volatile Gas Chromatography/Mass Spectroscopy

SGS Ref.#	1115255004	Billable Matrix Spike	**Printed Date/Time**		11/16/2011 16:55
	1115255005	Billable Matrix Spike Dup.	**Prep**	**Batch**	VXX23020
				Method	Volatiles Extraction 8240/8260
				Date	10/27/2011
Original	1115255003				
Matrix	Water (Surface, Eff., Ground)				

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Volatile Gas Chromatography/Mass Spectroscopy										
Benzene	BMS	(0.240) U	30	100	(80-120)			30.0	ug/L	10/27/2011
	BMSD		30.5	102		2	(< 20)	30.0	ug/L	10/27/2011
Ethylbenzene	BMS	(0.620) U	31.5	105	(75-125)			30.0	ug/L	10/27/2011
	BMSD		31.1	104		1	(< 20)	30.0	ug/L	10/27/2011
o-Xylene	BMS	(0.620) U	31.7	106	(80-120)			30.0	ug/L	10/27/2011
	BMSD		31.4	105		1	(< 20)	30.0	ug/L	10/27/2011
P & M -Xylene	BMS	(1.24) U	64.6	108	(75-130)			60.0	ug/L	10/27/2011
	BMSD		62.5	104		3	(< 20)	60.0	ug/L	10/27/2011
Toluene	BMS	(0.620) U	29.7	99	(75-120)			30.0	ug/L	10/27/2011
	BMSD		28.7	96		4	(< 20)	30.0	ug/L	10/27/2011
Surrogates										
1,2-Dichloroethane-D4 <surr>	BMS		29.5	98	(70-120)					10/27/2011
	BMSD		30.7	102		4				10/27/2011
4-Bromofluorobenzene <surr>	BMS		29	97	(75-120)					10/27/2011
	BMSD		28.4	95		2				10/27/2011
Toluene-d8 <surr>	BMS		30.4	101	(85-120)					10/27/2011
	BMSD		29.8	99		2				10/27/2011

Batch VMS12544
Method SW8260B
Instrument HP 5890 Series II MS1 VJA

Polynuclear Aromatics GC/MS

SGS Ref.#	1115255004	Billable Matrix Spike	**Printed Date/Time**	11/16/2011 16:55
	1115255005	Billable Matrix Spike Dup.	**Prep Batch**	XXX26098
			Method	3520 Liquid/Liquid Ext for 827
			Date	10/28/2011
Original	1115255003			
Matrix	Water (Surface, Eff., Ground)			

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Polynuclear Aromatics GC/MS										
1-Methylnaphthalene	BMS	0.0662	.524	92	(47-107)			0.500	ug/L	11/01/2011
	BMSD		0.478	82		9	(< 30)	0.500	ug/L	11/01/2011
2-Methylnaphthalene	BMS	0.0833	.501	84	(45-105)			0.500	ug/L	11/01/2011
	BMSD		0.468	77		7	(< 30)	0.500	ug/L	11/01/2011
Acenaphthene	BMS	(0.0334) U	.439	88	(45-110)			0.500	ug/L	11/01/2011
	BMSD		0.423	85		4	(< 30)	0.500	ug/L	11/01/2011
Acenaphthylene	BMS	(0.0334) U	.447	89	(50-105)			0.500	ug/L	11/01/2011
	BMSD		0.420	84		6	(< 30)	0.500	ug/L	11/01/2011
Anthracene	BMS	(0.0334) U	.452	90	(55-110)			0.500	ug/L	11/01/2011
	BMSD		0.460	92		2	(< 30)	0.500	ug/L	11/01/2011
Benzo(a)Anthracene	BMS	(0.0334) U	.498	100	(55-110)			0.500	ug/L	11/01/2011
	BMSD		0.497	99		0	(< 30)	0.500	ug/L	11/01/2011
Benzo[a]pyrene	BMS	(0.0334) U	.442	89	(55-110)			0.500	ug/L	11/01/2011
	BMSD		0.444	89		0	(< 30)	0.500	ug/L	11/01/2011
Benzo[b]Fluoranthene	BMS	(0.0334) U	.521	104	(45-120)			0.500	ug/L	11/01/2011
	BMSD		0.513	103		2	(< 30)	0.500	ug/L	11/01/2011
Benzo[g,h,i]perylene	BMS	(0.0334) U	.479	96	(40-125)			0.500	ug/L	11/01/2011
	BMSD		0.466	93		3	(< 30)	0.500	ug/L	11/01/2011
Benzo[k]fluoranthene	BMS	(0.0334) U	.457	92	(45-125)			0.500	ug/L	11/01/2011
	BMSD		0.442	88		3	(< 30)	0.500	ug/L	11/01/2011
Chrysene	BMS	(0.0334) U	.448	90	(55-110)			0.500	ug/L	11/01/2011
	BMSD		0.431	86		4	(< 30)	0.500	ug/L	11/01/2011
Dibenzo[a,h]anthracene	BMS	(0.0334) U	.487	97	(40-125)			0.500	ug/L	11/01/2011
	BMSD		0.479	96		2	(< 30)	0.500	ug/L	11/01/2011
Fluoranthene	BMS	(0.0334) U	.45	90	(55-115)			0.500	ug/L	11/01/2011
	BMSD		0.442	88		2	(< 30)	0.500	ug/L	11/01/2011
Fluorene	BMS	(0.0334) U	.464	93	(50-110)			0.500	ug/L	11/01/2011
	BMSD		0.451	90		3	(< 30)	0.500	ug/L	11/01/2011
Indeno[1,2,3-c,d] pyrene	BMS	(0.0334) U	.486	97	(45-125)			0.500	ug/L	11/01/2011
	BMSD		0.476	95		2	(< 30)	0.500	ug/L	11/01/2011
Naphthalene	BMS	0.106J	.526	84	(40-100)			0.500	ug/L	11/01/2011
	BMSD		0.488	76		8	(< 30)	0.500	ug/L	11/01/2011
Phenanthrene	BMS	(0.0334) U	.506	101	(50-115)			0.500	ug/L	11/01/2011
	BMSD		0.480	96		5	(< 30)	0.500	ug/L	11/01/2011
Pyrene	BMS	(0.0334) U	.435	87	(50-130)			0.500	ug/L	11/01/2011
	BMSD		0.425	85		3	(< 30)	0.500	ug/L	11/01/2011
Surrogates										
2-Fluorobiphenyl <surr>	BMS		.508	102	(50-110)					11/01/2011
	BMSD		0.487	98		4				11/01/2011
Terphenyl-d14 <surr>	BMS		.624	125	(50-135)					11/01/2011

SGS Ref.#	1115255004	Billable Matrix Spike	**Printed Date/Time**	11/16/2011	16:55
	1115255005	Billable Matrix Spike Dup.	**Prep** **Batch**	XXX26098	
			Method	3520 Liquid/Liquid Ext for 827	
			Date	10/28/2011	
Original	1115255003				
Matrix	Water (Surface, Eff., Ground)				

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Polynuclear Aromatics GC/MS									
		BMSD	0.608	122		3			11/01/2011

Batch	XMS6354
Method	8270D SIMS (PAH)
Instrument	HP 6890/5973 MS SVQA

SGS Ref.#	1115255009	Billable Matrix Spike	**Printed Date/Time**		11/16/2011 16:55
	1115255010	Billable Matrix Spike Dup.	**Prep**	**Batch**	MXX24974
				Method	Digestion Mercury (W)
				Date	10/26/2011
Original	1115255008				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

Parameter	Qualifiers		Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Metals Department											
Mercury		BMS	(0.124) U	7.27	91	(85-115)			8.00	ug/L	10/26/2011
		BMSD		6.80	85		7	(< 15)	8.00	ug/L	10/26/2011

Batch	MCV5021
Method	EP245.1
Instrument	PSA Millennium mercury AA

Metals by ICP/MS

SGS Ref.#	1115255009	Billable Matrix Spike	**Printed Date/Time**	11/16/2011 16:55
	1115255010	Billable Matrix Spike Dup.	**Prep** **Batch**	MXX24975
			Method	LL Digest for Metals on ICP-M
			Date	10/26/2011
Original	1115255008			
Matrix	Water (Surface, Eff., Ground)			

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Metals by ICP/MS										
Aluminum	BMS	44.1	94	100	(70-130)			50.0	ug/L	11/07/2011
	BMSD		94.0	100		0	(< 20)	50.0	ug/L	11/07/2011
Antimony	BMS	(0.0300) U	5.29	106	(70-130)			5.00	ug/L	11/07/2011
	BMSD		5.46	109		3	(< 20)	5.00	ug/L	11/07/2011
Arsenic	BMS	(0.300) U	24.3	97	(70-130)			25.0	ug/L	11/07/2011
	BMSD		25.3	101		4	(< 20)	25.0	ug/L	11/07/2011
Barium	BMS	5.53	29.7	97	(70-130)			25.0	ug/L	11/07/2011
	BMSD		30.8	101		4	(< 20)	25.0	ug/L	11/07/2011
Beryllium	BMS	(0.0500) U	12.6	101	(70-130)			12.5	ug/L	11/07/2011
	BMSD		12.6	101		0	(< 20)	12.5	ug/L	11/07/2011
Bismuth	BMS	(0.0300) U	12.5	100	(70-130)			12.5	ug/L	11/07/2011
	BMSD		12.4	99		0	(< 20)	12.5	ug/L	11/07/2011
Boron	BMS	2.58J	55.2	105	(70-130)			50.0	ug/L	11/07/2011
	BMSD		55.4	106		0	(< 20)	50.0	ug/L	11/07/2011
Cadmium	BMS	(0.0300) U	12.4	99	(70-130)			12.5	ug/L	11/07/2011
	BMSD		12.9	103		4	(< 20)	12.5	ug/L	11/07/2011
Calcium	BMS	7130	9320	88	(70-130)			2500	ug/L	11/07/2011
	BMSD		9300	87		0	(< 20)	2500	ug/L	11/07/2011
Chromium	BMS	0.152J	12.4	98	(70-130)			12.5	ug/L	11/07/2011
	BMSD		12.7	101		3	(< 20)	12.5	ug/L	11/07/2011
Cobalt	BMS	0.0431	12.5	99	(70-130)			12.5	ug/L	11/07/2011
	BMSD		12.6	101		2	(< 20)	12.5	ug/L	11/07/2011
Copper	BMS	0.333J	24.4	96	(70-130)			25.0	ug/L	11/07/2011
	BMSD		25.1	99		3	(< 20)	25.0	ug/L	11/07/2011
Iron	BMS	124	591	93	(70-130)			500	ug/L	11/07/2011
	BMSD		611	98		3	(< 20)	500	ug/L	11/07/2011
Lead	BMS	(0.0620) U	4.93	99	(70-130)			5.00	ug/L	11/07/2011
	BMSD		4.95	99		0	(< 20)	5.00	ug/L	11/07/2011
Magnesium	BMS	1810	4310	100	(70-130)			2500	ug/L	11/07/2011
	BMSD		4440	105		3	(< 20)	2500	ug/L	11/07/2011
Manganese	BMS	9.82	59.9	100	(70-130)			50.0	ug/L	11/07/2011
	BMSD		61.4	103		3	(< 20)	50.0	ug/L	11/07/2011
Molybdenum	BMS	0.739	13.9	106	(70-130)			12.5	ug/L	11/07/2011
	BMSD		14.5	110		4	(< 20)	12.5	ug/L	11/07/2011
Nickel	BMS	0.185J	12.4	98	(70-130)			12.5	ug/L	11/07/2011
	BMSD		12.8	101		3	(< 20)	12.5	ug/L	11/07/2011
Potassium	BMS	467	2940	99	(70-130)			2500	ug/L	11/07/2011
	BMSD		2970	100		1	(< 20)	2500	ug/L	11/07/2011
Selenium	BMS	(0.620) U	24.7	99	(70-130)			25.0	ug/L	11/07/2011
	BMSD		25.8	103		5	(< 20)	25.0	ug/L	11/07/2011

SGS Ref.#	1115255009	Billable Matrix Spike	**Printed Date/Time**	11/16/2011 16:55
	1115255010	Billable Matrix Spike Dup.	**Prep** **Batch**	MXX24975
			Method	LL Digest for Metals on ICP-M
			Date	10/26/2011
Original	1115255008			
Matrix	Water (Surface, Eff., Ground)			

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Metals by ICP/MS										
Silver	BMS	0.00948J	4.85	97	(70-130)			5.00	ug/L	11/07/2011
	BMSD		5.05	101		4	(< 20)	5.00	ug/L	11/07/2011
Sodium	BMS	2480	4870	96	(70-130)			2500	ug/L	11/07/2011
	BMSD		5000	101		3	(< 20)	2500	ug/L	11/07/2011
Thallium	BMS	(0.0124) U	2.37	95	(70-130)			2.50	ug/L	11/07/2011
	BMSD		2.44	98		3	(< 20)	2.50	ug/L	11/07/2011
Tin	BMS	(0.124) U	11.5	92	(70-130)			12.5	ug/L	11/07/2011
	BMSD		11.8	95		3	(< 20)	12.5	ug/L	11/07/2011
Vanadium	BMS	(0.620) U	24.7	99	(70-130)			25.0	ug/L	11/07/2011
	BMSD		25.4	102		3	(< 20)	25.0	ug/L	11/07/2011
Zinc	BMS	2.21J	51.7	99	(70-130)			50.0	ug/L	11/07/2011
	BMSD		53.5	103		3	(< 20)	50.0	ug/L	11/07/2011

Batch MMS7260
Method 200.8 Low Level
Instrument Perkin Elmer Sciex ICP-MS P3

Waters Department										
Chloride	BMS	0.847	11	101	(90-110)			10.0	mg/L	10/27/2011
	BMSD									
Fluoride	BMS	0.0880J	10.1	100	(90-110)			10.0	mg/L	10/27/2011
	BMSD									
Sulfate	BMS	9.45	19.7	102	(90-110)			10.0	mg/L	10/27/2011
	BMSD									

Batch WIC4886
Method EPA 300.0
Instrument Metrohm 733 IC3

Ammonia-N	BMS	(0.0620) U	1.01	101	(75-125)			1.00	mg/L	10/27/2011
	BMSD									

Batch WDA2347
Method SM20 4500-NH3 G
Instrument Konelab

SGS Ref.#	1115255009	Billable Matrix Spike	**Printed Date/Time**	11/16/2011 16:55
	1115255010	Billable Matrix Spike Dup.	**Prep**	**Batch**
				Method
				Date
Original	1115255008			
Matrix	Water (Surface, Eff., Ground)			

Parameter	Qualifiers		Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Waters Department											
Total Nitrate/Nitrite-N		BMS	(0.0620) U	3.98	80*	(90-110)			5.00	mg/L	10/28/2011
		BMSD									
Batch	WFI2056										
Method	SM20 4500NO3-F										
Instrument	Astoria segmented flow										
Total Phosphorus		BMS	0.00646J	.218	106	(75-125)			0.200	mg/L	10/31/2011
		BMSD									
Batch	WDA2353										
Method	SM20 4500P-B,E										
Instrument	Konelab										
Volatile Fuels Department											
Gasoline Range Organics		BMS	(0.0620) U	0.349	87	(60-120)			0.400	mg/L	10/28/2011
		BMSD		0.420	105		19	(< 20)	0.400	mg/L	10/28/2011
Surrogates											
4-Bromofluorobenzene <surr>		BMS		0.0485	97	(50-150)					10/28/2011
		BMSD		0.0472	95		3				10/28/2011
Batch	VFC10809										
Method	AK101										
Instrument	Agilent 7890 PID/FID										
Semivolatile Organic Fuels Department											
Diesel Range Organics		BMS	(0.360) U	18.4	92	(75-125)			20.0	mg/L	10/29/2011
		BMSD		17.0	85		8	(< 30)	20.0	mg/L	10/29/2011
Surrogates											
5a Androstane <surr>		BMS		.366	92	(50-150)					10/29/2011
		BMSD		0.345	86		6				10/29/2011
Batch	XFC10192										
Method	AK102										
Instrument	HP 7890A	FID SV E F									

SGS Ref.#	1115255009	Billable Matrix Spike	**Printed Date/Time**	11/16/2011	16:55
	1115255010	Billable Matrix Spike Dup.	**Prep** **Batch**	XXX26082	
			Method	Cnt. Liq/Liq Ext. for AK102/3 1	
			Date	10/27/2011	
Original	1115255008				
Matrix	Water (Surface, Eff., Ground)				

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Semivolatile Organic Fuels Department										
Residual Range Organics	BMS	0.239J	18	89	(60-140)			20.0	mg/L	10/29/2011
	BMSD		16.9	83		7	(< 30)	20.0	mg/L	10/29/2011
Surrogates										
n-Triacontane-d62 <surr>	BMS		.33	83	(50-150)					10/29/2011
	BMSD		0.316	79		5				10/29/2011

Batch XFC10192
Method AK103
Instrument HP 7890A FID SV E F

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Volatile Gas Chromatography/Mass Spectroscopy										
Benzene	BMS	(0.240) U	32.5	108	(80-120)			30.0	ug/L	10/27/2011
	BMSD		30.1	100		8	(< 20)	30.0	ug/L	10/27/2011
Ethylbenzene	BMS	(0.620) U	33.1	110	(75-125)			30.0	ug/L	10/27/2011
	BMSD		32.5	108		2	(< 20)	30.0	ug/L	10/27/2011
o-Xylene	BMS	(0.620) U	33.5	112	(80-120)			30.0	ug/L	10/27/2011
	BMSD		33.4	111		1	(< 20)	30.0	ug/L	10/27/2011
P & M -Xylene	BMS	(1.24) U	68	113	(75-130)			60.0	ug/L	10/27/2011
	BMSD		67.1	112		1	(< 20)	60.0	ug/L	10/27/2011
Toluene	BMS	(0.620) U	31.1	104	(75-120)			30.0	ug/L	10/27/2011
	BMSD		30.9	103		1	(< 20)	30.0	ug/L	10/27/2011
Surrogates										
1,2-Dichloroethane-D4 <surr>	BMS		31.4	105	(70-120)					10/27/2011
	BMSD		30.9	103		2				10/27/2011
4-Bromofluorobenzene <surr>	BMS		28.5	95	(75-120)					10/27/2011
	BMSD		29.6	99		4				10/27/2011
Toluene-d8 <surr>	BMS		30.2	101	(85-120)					10/27/2011
	BMSD		31.2	104		3				10/27/2011

Batch VMS12544
Method SW8260B
Instrument HP 5890 Series II MS1 VJA

Polynuclear Aromatics GC/MS

SGS Ref.#	1115255009	Billable Matrix Spike	**Printed Date/Time**	11/16/2011 16:55
	1115255010	Billable Matrix Spike Dup.	**Prep** **Batch**	XXX26098
			Method	3520 Liquid/Liquid Ext for 827
			Date	10/28/2011
Original	1115255008			
Matrix	Water (Surface, Eff., Ground)			

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Polynuclear Aromatics GC/MS										
1-Methylnaphthalene	BMS	(0.0300) U	.417	82	(47-107)			0.510	ug/L	11/01/2011
	BMSD		0.419	82		0	(< 30)	0.510	ug/L	11/01/2011
2-Methylnaphthalene	BMS	(0.0300) U	.38	75	(45-105)			0.510	ug/L	11/01/2011
	BMSD		0.379	74		0	(< 30)	0.510	ug/L	11/01/2011
Acenaphthene	BMS	(0.0300) U	.443	87	(45-110)			0.510	ug/L	11/01/2011
	BMSD		0.441	86		1	(< 30)	0.510	ug/L	11/01/2011
Acenaphthylene	BMS	(0.0300) U	.428	84	(50-105)			0.510	ug/L	11/01/2011
	BMSD		0.426	83		1	(< 30)	0.510	ug/L	11/01/2011
Anthracene	BMS	(0.0300) U	.463	91	(55-110)			0.510	ug/L	11/01/2011
	BMSD		0.457	90		1	(< 30)	0.510	ug/L	11/01/2011
Benzo(a)Anthracene	BMS	(0.0300) U	.473	93	(55-110)			0.510	ug/L	11/01/2011
	BMSD		0.477	93		1	(< 30)	0.510	ug/L	11/01/2011
Benzo[a]pyrene	BMS	(0.0300) U	.404	79	(55-110)			0.510	ug/L	11/01/2011
	BMSD		0.399	78		1	(< 30)	0.510	ug/L	11/01/2011
Benzo[b]Fluoranthene	BMS	(0.0300) U	.47	92	(45-120)			0.510	ug/L	11/01/2011
	BMSD		0.472	93		1	(< 30)	0.510	ug/L	11/01/2011
Benzo[g,h,i]perylene	BMS	(0.0300) U	.465	91	(40-125)			0.510	ug/L	11/01/2011
	BMSD		0.476	93		2	(< 30)	0.510	ug/L	11/01/2011
Benzo[k]fluoranthene	BMS	(0.0300) U	.476	93	(45-125)			0.510	ug/L	11/01/2011
	BMSD		0.489	96		3	(< 30)	0.510	ug/L	11/01/2011
Chrysene	BMS	(0.0300) U	.464	91	(55-110)			0.510	ug/L	11/01/2011
	BMSD		0.479	94		3	(< 30)	0.510	ug/L	11/01/2011
Dibenzo[a,h]anthracene	BMS	(0.0300) U	.467	92	(40-125)			0.510	ug/L	11/01/2011
	BMSD		0.477	94		2	(< 30)	0.510	ug/L	11/01/2011
Fluoranthene	BMS	(0.0300) U	.475	93	(55-115)			0.510	ug/L	11/01/2011
	BMSD		0.483	95		2	(< 30)	0.510	ug/L	11/01/2011
Fluorene	BMS	(0.0300) U	.496	97	(50-110)			0.510	ug/L	11/01/2011
	BMSD		0.485	95		2	(< 30)	0.510	ug/L	11/01/2011
Indeno[1,2,3-c,d] pyrene	BMS	(0.0300) U	.473	93	(45-125)			0.510	ug/L	11/01/2011
	BMSD		0.485	95		2	(< 30)	0.510	ug/L	11/01/2011
Naphthalene	BMS	(0.0620) U	.389	76	(40-100)			0.510	ug/L	11/01/2011
	BMSD		0.382	75		2	(< 30)	0.510	ug/L	11/01/2011
Phenanthrene	BMS	(0.0300) U	.451	89	(50-115)			0.510	ug/L	11/01/2011
	BMSD		0.450	88		0	(< 30)	0.510	ug/L	11/01/2011
Pyrene	BMS	(0.0300) U	.454	89	(50-130)			0.510	ug/L	11/01/2011
	BMSD		0.464	91		2	(< 30)	0.510	ug/L	11/01/2011
Surrogates										
2-Fluorobiphenyl <surr>	BMS		.477	93	(50-110)					11/01/2011
	BMSD		0.483	95		1				11/01/2011
Terphenyl-d14 <surr>	BMS		.601	118	(50-135)					11/01/2011

SGS Ref.#	1115255009	Billable Matrix Spike	**Printed Date/Time**	11/16/2011	16:55
	1115255010	Billable Matrix Spike Dup.	**Prep** **Batch**	XXX26098	
			Method	3520 Liquid/Liquid Ext for 827	
			Date	10/28/2011	
Original	1115255008				
Matrix	Water (Surface, Eff., Ground)				

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Polynuclear Aromatics GC/MS									
		BMSD	0.599	117		0			11/01/2011

Batch	XMS6357
Method	8270D SIMS (PAH)
Instrument	HP 6890 Series II MS2 SVOA

SGS Ref.#	1115255021	Billable Matrix Spike	**Printed Date/Time**		11/16/2011 16:55
	1115255022	Billable Matrix Spike Dup.	**Prep**	**Batch**	MXX24974
				Method	Digestion Mercury (W)
				Date	10/26/2011
Original	1115255020				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Dissolved Metals									
Mercury	BMS	(0.124) U	7.53	94	(85-115)			8.00 ug/L	10/26/2011
	BMSD		7.42	93		2	(< 15)	8.00 ug/L	10/26/2011

Batch	MCV5021
Method	EP245.1
Instrument	PSA Millennium mercury AA

Dissolved Metals by ICP/MS

SGS Ref.#	1115255021	Billable Matrix Spike	**Printed Date/Time**	11/16/2011 16:55
	1115255022	Billable Matrix Spike Dup.	**Prep** **Batch**	MXX24975
			Method	LL Digest for Metals on ICP-M
			Date	10/26/2011
Original	1115255020			
Matrix	Water (Surface, Eff., Ground)			

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Dissolved Metals by ICP/MS									
Aluminum	BMS	272	453	362*	(70-130)			50.0 ug/L	11/07/2011
	BMSD		472	399*		4	(< 20)	50.0 ug/L	11/07/2011
Antimony	BMS	8.80	14.7	118	(70-130)			5.00 ug/L	11/07/2011
	BMSD		14.8	119		0	(< 20)	5.00 ug/L	11/07/2011
Arsenic	BMS	1.00	26.2	101	(70-130)			25.0 ug/L	11/07/2011
	BMSD		26.7	103		2	(< 20)	25.0 ug/L	11/07/2011
Barium	BMS	30.7	56.1	101	(70-130)			25.0 ug/L	11/07/2011
	BMSD		56.1	102		0	(< 20)	25.0 ug/L	11/07/2011
Beryllium	BMS	0.0275J	11.5	92	(70-130)			12.5 ug/L	11/07/2011
	BMSD		11.3	91		2	(< 20)	12.5 ug/L	11/07/2011
Bismuth	BMS	0.0997	12.3	98	(70-130)			12.5 ug/L	11/07/2011
	BMSD		12.7	100		3	(< 20)	12.5 ug/L	11/07/2011
Boron	BMS	3.80J	49.1	91	(70-130)			50.0 ug/L	11/07/2011
	BMSD		50.5	93		3	(< 20)	50.0 ug/L	11/07/2011
Cadmium	BMS	0.0510	12.7	101	(70-130)			12.5 ug/L	11/07/2011
	BMSD		12.9	103		1	(< 20)	12.5 ug/L	11/07/2011
Calcium	BMS	16200	18100	75	(70-130)			2500 ug/L	11/07/2011
	BMSD		18500	93		2	(< 20)	2500 ug/L	11/07/2011
Chromium	BMS	0.463	12.7	98	(70-130)			12.5 ug/L	11/07/2011
	BMSD		12.9	99		1	(< 20)	12.5 ug/L	11/07/2011
Cobalt	BMS	1.53	14.1	101	(70-130)			12.5 ug/L	11/07/2011
	BMSD		14.6	105		3	(< 20)	12.5 ug/L	11/07/2011
Copper	BMS	4.08	28.3	97	(70-130)			25.0 ug/L	11/07/2011
	BMSD		28.5	98		1	(< 20)	25.0 ug/L	11/07/2011
Iron	BMS	640	1120	96	(70-130)			500 ug/L	11/07/2011
	BMSD		1140	100		2	(< 20)	500 ug/L	11/07/2011
Lead	BMS	0.424	5.33	98	(70-130)			5.00 ug/L	11/07/2011
	BMSD		5.37	99		1	(< 20)	5.00 ug/L	11/07/2011
Magnesium	BMS	3430	5810	95	(70-130)			2500 ug/L	11/07/2011
	BMSD		5830	96		0	(< 20)	2500 ug/L	11/07/2011
Manganese	BMS	182	231	98	(70-130)			50.0 ug/L	11/07/2011
	BMSD		240	116		4	(< 20)	50.0 ug/L	11/07/2011
Molybdenum	BMS	8.37	22.1	110	(70-130)			12.5 ug/L	11/07/2011
	BMSD		22.4	113		2	(< 20)	12.5 ug/L	11/07/2011
Nickel	BMS	1.92	14.8	103	(70-130)			12.5 ug/L	11/07/2011
	BMSD		14.9	104		1	(< 20)	12.5 ug/L	11/07/2011
Potassium	BMS	15300	17500	85	(70-130)			2500 ug/L	11/07/2011
	BMSD		18100	108		3	(< 20)	2500 ug/L	11/07/2011
Selenium	BMS	(0.620) U	26.1	105	(70-130)			25.0 ug/L	11/07/2011
	BMSD		26.3	105		1	(< 20)	25.0 ug/L	11/07/2011

SGS Ref.#	1115255021	Billable Matrix Spike	**Printed Date/Time**		11/16/2011 16:55
	1115255022	Billable Matrix Spike Dup.	**Prep**	**Batch**	MXX24975
				Method	LL Digest for Metals on ICP-M
				Date	10/26/2011
Original	1115255020				
Matrix	Water (Surface, Eff., Ground)				

Parameter	Qualifiers		Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Dissolved Metals by ICP/MS											
Silver		BMS	0.0646	4.98	98	(70-130)			5.00	ug/L	11/07/2011
		BMSD		5.08	100		2	(< 20)	5.00	ug/L	11/07/2011
Sodium		BMS	15300	17000	69*	(70-130)			2500	ug/L	11/07/2011
		BMSD		17500	90		3	(< 20)	2500	ug/L	11/07/2011
Thallium		BMS	0.0319	2.44	97	(70-130)			2.50	ug/L	11/07/2011
		BMSD		2.45	97		0	(< 20)	2.50	ug/L	11/07/2011
Tin		BMS	(0.124) U	11.7	94	(70-130)			12.5	ug/L	11/07/2011
		BMSD		12.0	96		2	(< 20)	12.5	ug/L	11/07/2011
Vanadium		BMS	1.71	27.7	104	(70-130)			25.0	ug/L	11/07/2011
		BMSD		28.6	107		3	(< 20)	25.0	ug/L	11/07/2011
Zinc		BMS	7.93	56.3	97	(70-130)			50.0	ug/L	11/07/2011
		BMSD		58.2	101		3	(< 20)	50.0	ug/L	11/07/2011
Silicon		BMS	7730	10300	104	(70-130)			2500	ug/L	11/07/2011
		BMSD		10500	111		2	(< 20)	2500	ug/L	11/07/2011

Batch MMS7260
Method 200.8 Low Level
Instrument Perkin Elmer Sciex ICP-MS P3

Waters Department											
Total Organic Carbon,Dissolve		BMS	11.0	20.9	99	(75-125)			10.0	mg/L	11/01/2011
		BMSD		20.6	96		1	(< 25)	10.0	mg/L	11/01/2011

Batch WTC2125
Method SM 5310B
Instrument TOC Analyzer

SGS Ref.#	1115255025	Billable Matrix Spike	**Printed Date/Time**		11/16/2011 16:55
	1115255026	Billable Matrix Spike Dup.	**Prep**	**Batch**	MXX25009
				Method	Digestion Mercury (W)
				Date	11/02/2011
Original	1115255024				
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Dissolved Metals									
Mercury	BMS	(0.124) U	6.58	82*	(85-115)			8.00 ug/L	11/02/2011
	BMSD		7.26	91		10	(< 15)	8.00 ug/L	11/02/2011

Batch	MCV5032
Method	EP245.1
Instrument	PSA Millennium mercury AA

Dissolved Metals by ICP/MS

SGS Ref.#	1115255025	Billable Matrix Spike	**Printed Date/Time**	11/16/2011 16:55
	1115255026	Billable Matrix Spike Dup.	**Prep** **Batch**	MXX24977
			Method	LL Digest for Metals on ICP-M
			Date	10/27/2011
Original	1115255024			
Matrix	Water (Surface, Eff., Ground)			

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Dissolved Metals by ICP/MS									
Aluminum	BMS	18.9	66.4	95	(70-130)			50.0 ug/L	10/31/2011
	BMSD		65.8	94		1	(< 20)	50.0 ug/L	10/31/2011
Antimony	BMS	(0.0300) U	5.05	101	(70-130)			5.00 ug/L	10/31/2011
	BMSD		5.37	107		6	(< 20)	5.00 ug/L	10/31/2011
Arsenic	BMS	(0.300) U	24.3	97	(70-130)			25.0 ug/L	10/31/2011
	BMSD		24.7	99		2	(< 20)	25.0 ug/L	10/31/2011
Barium	BMS	4.16	27.7	94	(70-130)			25.0 ug/L	10/31/2011
	BMSD		28.8	98		4	(< 20)	25.0 ug/L	10/31/2011
Beryllium	BMS	(0.0500) U	13.3	106	(70-130)			12.5 ug/L	10/31/2011
	BMSD		13.0	104		2	(< 20)	12.5 ug/L	10/31/2011
Bismuth	BMS	(0.0300) U	11.8	95	(70-130)			12.5 ug/L	10/31/2011
	BMSD		12.1	97		2	(< 20)	12.5 ug/L	10/31/2011
Boron	BMS	2.15J	54.4	105	(70-130)			50.0 ug/L	10/31/2011
	BMSD		54.4	105		0	(< 20)	50.0 ug/L	10/31/2011
Cadmium	BMS	(0.0300) U	12.2	97	(70-130)			12.5 ug/L	10/31/2011
	BMSD		12.7	101		4	(< 20)	12.5 ug/L	10/31/2011
Calcium	BMS	6130	8100	79	(70-130)			2500 ug/L	10/31/2011
	BMSD		8050	77		1	(< 20)	2500 ug/L	10/31/2011
Chromium	BMS	0.178J	12.3	97	(70-130)			12.5 ug/L	10/31/2011
	BMSD		12.5	98		1	(< 20)	12.5 ug/L	10/31/2011
Cobalt	BMS	0.0239	12.1	97	(70-130)			12.5 ug/L	10/31/2011
	BMSD		12.2	98		1	(< 20)	12.5 ug/L	10/31/2011
Copper	BMS	0.585	24.8	97	(70-130)			25.0 ug/L	10/31/2011
	BMSD		24.8	97		0	(< 20)	25.0 ug/L	10/31/2011
Iron	BMS	37.1	488	90	(70-130)			500 ug/L	10/31/2011
	BMSD		499	92		2	(< 20)	500 ug/L	10/31/2011
Lead	BMS	0.0320J	4.84	96	(70-130)			5.00 ug/L	10/31/2011
	BMSD		4.88	97		1	(< 20)	5.00 ug/L	10/31/2011
Magnesium	BMS	1530	3960	97	(70-130)			2500 ug/L	10/31/2011
	BMSD		3970	98		0	(< 20)	2500 ug/L	10/31/2011
Manganese	BMS	1.34	49.4	96	(70-130)			50.0 ug/L	10/31/2011
	BMSD		50.5	98		2	(< 20)	50.0 ug/L	10/31/2011
Molybdenum	BMS	0.548	13.6	104	(70-130)			12.5 ug/L	10/31/2011
	BMSD		13.7	105		1	(< 20)	12.5 ug/L	10/31/2011
Nickel	BMS	0.795	13	98	(70-130)			12.5 ug/L	10/31/2011
	BMSD		13.0	97		0	(< 20)	12.5 ug/L	10/31/2011
Potassium	BMS	381	2830	98	(70-130)			2500 ug/L	10/31/2011
	BMSD		2850	99		1	(< 20)	2500 ug/L	10/31/2011
Selenium	BMS	(0.620) U	24.4	98	(70-130)			25.0 ug/L	10/31/2011
	BMSD		24.7	99		1	(< 20)	25.0 ug/L	10/31/2011

SGS Ref.#	1115255025	Billable Matrix Spike	**Printed Date/Time**	11/16/2011 16:55
	1115255026	Billable Matrix Spike Dup.	**Prep** **Batch**	MXX24977
			Method	LL Digest for Metals on ICP-M
			Date	10/27/2011
Original	1115255024			
Matrix	Water (Surface, Eff., Ground)			

Parameter	Qualifiers		Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
Dissolved Metals by ICP/MS											
Silver		BMS	0.00708J	4.7	94	(70-130)			5.00	ug/L	10/31/2011
		BMSD		4.94	99		5	(< 20)	5.00	ug/L	10/31/2011
Sodium		BMS	2120	4470	94	(70-130)			2500	ug/L	10/31/2011
		BMSD		4480	94		0	(< 20)	2500	ug/L	10/31/2011
Thallium		BMS	(0.0124) U	2.37	95	(70-130)			2.50	ug/L	10/31/2011
		BMSD		2.37	95		0	(< 20)	2.50	ug/L	10/31/2011
Tin		BMS	(0.124) U	11.8	95	(70-130)			12.5	ug/L	10/31/2011
		BMSD		12.2	98		3	(< 20)	12.5	ug/L	10/31/2011
Vanadium		BMS	(0.620) U	24.1	97	(70-130)			25.0	ug/L	10/31/2011
		BMSD		24.7	99		2	(< 20)	25.0	ug/L	10/31/2011
Zinc		BMS	6.18	51.7	91	(70-130)			50.0	ug/L	10/31/2011
		BMSD		52.1	92		1	(< 20)	50.0	ug/L	10/31/2011
Silicon		BMS	5150	7380	89	(70-130)			2500	ug/L	10/31/2011
		BMSD		7390	90		0	(< 20)	2500	ug/L	10/31/2011

Batch MMS7248
Method 200.8 Low Level
Instrument Perkin Elmer Sciex ICP-MS P3

Waters Department											
Total Organic Carbon,Dissolve		BMS	2.69	13.1	104	(75-125)			10.0	mg/L	11/02/2011
		BMSD		13.1	104		0	(< 25)	10.0	mg/L	11/02/2011

Batch WTC2125
Method SM 5310B
Instrument TOC Analyzer

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Locations
- Alaska
- New Jersey
- North Carolina
- West Virginia

1115255

(1)

CLIENT: Fisheries Research + Consulting
CONTACT: Sarah O'Neal PHONE NO: 360-918-4352
PROJECT NAME: Rooke Drilling Sump Project PROJECT/ PWSID/ PERMIT#:
REPORTS TO: Sarah O'Neal EMAIL: sarahloneoneal@ak.net
INVOICE TO: Fisheries Research + Consulting QUOTE #: P.O. #:

SGS Reference #:

page 1 of 2

(2)

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	SAMPLE TYPE C= COMP G= GRAB	GRO	DRO/RRO	BTEX	PAH	DOC	Surfactide	NH3, Total Phosphorus, Nitrate	Total metals	Dissolved metals	REMARKS/ LOC ID
	Preservative used						HCl	HCl	HCl	—	HCl	NaOH + ZnAc	H2SO4	HNO3	HNO3	
(1) A-B (15) A-B	102211SU01WS001	102211	15:30	WS	16	G	X	X	X	X	X	X	X	X	X	
(2) A-B (16) A-B	102211SU01WS002	102211	16:00	WS	16	G	X	X	X	X	X	X	X	X	X	
	~~102211SU01~~															
(31) (30) A	102211SU01WS601	102211	16:00	WS	1											triplank

(5)

Collected/Relinquished By:(1)	Date	Time	Received By:
Ricky L	10/24/11	1020	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received for Laboratory By:
	10/25/2011	0845	

(4)

DOD Project? YES (NO)
Cooler ID:

Data Deliverable Requirements:

Requested Turnaround Time and-or Special Instructions:
Standard TAT

Temperature Blank °C: 2.1° #35
or Ambient [ ]
(See attached Sample Receipt Form)

Chain of Custody Seal: (Circle)
(INTACT) BROKEN ABSENT
(See attached Sample Receipt Form)

200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

White - Returned by Lab
Pink - Returned by Client

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CHAIN OF CUSTODY RECORD

Locations Nationwide
- Alaska
- New Jersey
- North Carolina
- West Virginia

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(1)

CLIENT: Fisheries Research + Consulting

CONTACT: Sarah O'Neal — PHONE NO: 360-918-4352

PROJECT NAME: Pebble Drilling Sump Project — PROJECT/PWSID/PERMIT#:

REPORTS TO: Sarah O'Neal — EMAIL: sarahlouseoneal@gmail.net

INVOICE TO: Fisheries Research + Consulting — QUOTE #: — P.O. #:

SGS Reference #:

page 2 of 2

(2)

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	SAMPLE TYPE G= GRAB C= COMP	Preservative Used	—	—									REMARKS/ LOC ID
							Analysis Required (3)	TSS	SO4, F, Cl, Alk TDS, pH, cond									
(1) M-W	102211 SW01WS001	102211	15:30	WS	16	G		X	X									
(2) M-W	102211 SW02WS002	102211	~~17:25~~ 16:00	WS	16	G		X	X									
	102211 SW01WS601	102211	1600	WS	1													tripblank

(5)

Collected/Relinquished By: (1)	Date	Time	Received By:
[signature]	10/24/11	1020	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received For Laboratory By:
	10/25/2011	0845	[signature]

(4)

DOD Project? YES (NO)

Cooler ID: _____

Data Deliverable Requirements:

Requested Turnaround Time and/or Special Instructions:

Standard TAT

Temperature Blank °C: 2.1° #25 IR

or Ambient [ ]

(See attached Sample Receipt Form)

Chain of Custody Seal: (Circle)

(INTACT) BROKEN ABSENT

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003 primary duplicate

(1)

CLIENT: Fisheries Research + Consulting
CONTACT: Sarah ONeal PHONE NO: 360-918 4352
PROJECT NAME: Pebble Drilling Sump Project PROJECT/ PWSID/ PERMIT#:
REPORTS TO: Sarah ONeal EMAIL: sarahlouiseoneal@ak.net
INVOICE TO: Fisheries Research + Consulting QUOTE #: P.O. #:

SGS Reference #:

page 1 of 2

Preservation (Incl)		HCl	HCl	HCl	—	HCl	ZnO + NaOH	H_2SO_4	HNO3	HNO3	
(2) RESERVED for lab use	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	SAMPLE TYPE C= COMP G= GRAB W= Multi Increments/ Samples	(3) GRO	DRO/RRO	OTEX	PAH	DOC	Sulfide	NH3, Total PA nitrate	Total Metals	Dissolved Metals	REMARKS/ LOC ID
1	102311 SK01 WS003	102311	1230	WS	16	G										
2	102311 SK01 WS203	102311	1240	WS	16	G										
(32)	102311 SK01 WS603	102311	1230	WS	1											trip blank

(5)

Collected/Relinquished By: (1)	Date	Time	Received By:
[signature]	10/23/11	1945	[signature]
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received For Laboratory By:
[signature]	10/25/11	0845	[signature]

(4)

DOD Project? YES (circled)
Cooler ID:
Data Deliverable Requirements:
Requested Turnaround Time and-or Special Instructions: Standard TAT
Temperature Blank °C: 6.6 #202 or Ambient [ ] (See attached Sample Receipt Form)
Chain of Custody Seal: (Circle) INTACT (circled) BROKEN ABSENT (See attached Sample Receipt Form)

200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

White - Retained by Lab
Pink - Retained by Client

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003 primary duplicate

(1)

CLIENT: Fisheries Research + Consulting
CONTACT: Sarah ONeal PHONE NO: 360 918 4352
PROJECT NAME: Pebble Drilling Swap Project PROJECT/PWSID/PERMIT#:
REPORTS TO: Sarah ONeal EMAIL: sarahlouise.oneal@ak.net
INVOICE TO: Fisheries Research + Consulting QUOTE #: P.O. #:

SGS Reference #:

page 2 of 2

(2)

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	SAMPLE TYPE G= COMP G= GRAB	TSS	SO4, Fl, Cl, Alk, TDS, pH, cond	REMARKS/ LOC ID
	Preservative Used						1	1	
	Analysis Required (3)								
3S-1	102311 S401 WS 003	10/23/11	1230	WS	16	G			
3M-1	102311 S401 WS 203	10/23/11	1240	WS	16	G			
	102311 S401 WS 603	10/23/11	1230	WS	1	G			trip blank

(5)

Collected/Relinquished By:(1)	Date	Time	Received By:
[signature]	10/23/11	1920	[signature]
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received for Laboratory By:
	10/25/2011	0845	[signature]

(4)

DOD Project? YES (NO)
Cooler ID
Data Deliverable Requirements:
Requested Turnaround Time and-or Special Instructions:
Standard TAT
Temperature Blank °C: 6.6° #202
or Ambient ( )
(See attached Sample Receipt Form)
Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT
(See attached Sample Receipt Form)

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White - Retained by Lab

2713 01 789

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003
MS/MSD

(1)

CLIENT: Fisheries Research + Consulting
CONTACT: Sarah O'Neal PHONE NO: 360-918 4352
PROJECT NAME: Pebble Drilling Fluid Sump Project PROJECT/ PWSID/ PERMIT#:
REPORTS TO: Sarah O'Neal EMAIL: sarahlouise.oneal@ak.net
INVOICE TO: Fisheries Research Consulting QUOTE #: P.O. #:

SGS Reference #:

page 1 of 2

(2)

RESERVED For lab use	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	SAMPLE TYPE C= COMP G= GRAB M= Multi Incremental Samples	GRO	DRO/RRO	BTEX	PAH	DOC	Sulfide	NH3-N, NO3, Total P, Nitrate	Total metals	Dissolved metals	REMARKS/ LOC ID
	Preservative Used						HCl	HCl	HCl	—	HCl	Acetate Zinc	H2SO4	HNO3	HNO3	
	Analysis Required (3)															
01A-L	102311SW01WS0003	102311	1250	WS	32	G	✓	✓	✓	✓	✓	✓	✓	✓	✓	MS/MSD
02A	102311SW01WS002	102311	1250	WS	1											trip blank

(5)

Collected/Relinquished By:(1)	Date	Time	Received By:
Kelly [illegible]	10/27/11	1850	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received For Laboratory By:
	10/25/2011	0845	[illegible]

(4)

DOD Project? YES NO
Cooler ID:
Data Deliverable Requirements: Standard TAT
Requested Turnaround Time and-or Special Instructions: Standard TAT
Temperature Blank °C: 4.5° & 3.5 or Ambient [ ] (See attached Sample Receipt Form)
Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT (See attached Sample Receipt Form)

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003 MS/MSD

(1)

CLIENT: Fisheries Research + Consulting

CONTACT: Sarah O'Neal PHONE NO: 360 918 4352

PROJECT NAME: Pebble Drilling Sump Project PROJECT/ PWSID/ PERMIT#:

REPORTS TO: Sarah O'Neal EMAIL: sarahlouiseoneal@ak.net

INVOICE TO: Fisheries Research + Consulting QUOTE #: P.O. #:

SGS Reference #:

page 2 of 2

(2)

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	SAMPLE TYPE C= COMP G= GRAB M= MIX Composite Sample	Preservative Used											REMARKS/ LOC ID
							Analysis Required (3)	TSS	SO4, F, Cl, PHL TDS, alk, Cond									
	102311SU01WS003	102311	1250	WS	32	G		✓	✓									MS/MSD
	102311SU01WS002	102311	1250	WS	1													trip blank

(5)

Collected/Relinquished By: (1)	Date	Time	Received By:
Kelly Lee	10/23/11	6:50pm	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date 10/24/2011	Time 0845	Received for Laboratory By:

(4)

DOD Project? YES NO

Cooler ID:

Data Deliverable Requirements:

Requested Turnaround Time and-or Special Instructions:
Standard TAT

Temperature Blank °C: 4.5 + #35

or Ambient [ ]

(See attached Sample Receipt Form)

Chain of Custody Seal: (Circle)
IB 1B 1F
INTACT BROKEN ABSENT
(See attached Sample Receipt Form)

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CLIENT: Fisheries Research + Consulting
CONTACT: Sarah O'Neal PHONE NO: 960 918 4352
PROJECT NAME: Pebble Drilling Sump Project
PROJECT/PASS/PERMIT#:
REPORTS TO: Sarah O'Neal
E-MAIL: sarahlouiseoneal@ak.net
INVOICE TO: Fisheries Research Consulting
QUOTE #:
P.O. #:

SGS Reference #:

Page 1 of 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	TYPE C = COMP G = GRAB M = Multi Phase Material Solid	GRO	DRO/ORO	BTEX	PAH	DOC	Sulfide	Hrs, Total P Rutny	Total Metals	Dissolved Metals		REMARKS/ LOC ID
31-D	102311SW01WS2#4	10/23/11	1500	WS	16	G	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
32-B	102311SW01WS2#4	10/23/11	1510	WS	16	G	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
39	102311SW01WS6#4	10/23/11	1500		1												Trip blank

Collected/Relinquished By: (1)	Date	Time	Received By:
[signature]	10/24/11	1040	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received for Laboratory By:
	10/24/11	0895	[signature]

DOD Project? YES (NO)
Cooler ID:
Data Deliverable Requirements:
Requested Turnaround Time and-or Special Instructions:
Standard TAT
Temp Blank °C: 3.8 - 1.35 JR
or Ambient ( )
(See attached Sample Receipt Form)
Chain of Custody Seal: (Circle) (INTACT) BROKEN ABSENT
(See attached Sample Receipt Form)

[ ] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

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West Virg

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CLIENT: Fisheries Research + Consulting
CONTACT: Sarah O'Neal PHONE NO: 360 918 4352
PROJECT NAME: Pebble Drilling Sump Project PROJECT/PWSID/PERMIT#
REPORTS TO: Sarah O'Neal E-MAIL: sarah.louise.oneal@gmail.net
INVOICE TO: Fisheries Research + Consulting QUOTE #: P.O. #:

SGS Reference #:

Page 2 of 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	Preservative Used: TYPE C= COMP G= GRAB M= MUR non-metal bottle		TSS	SO4, Fl, Cl, Alk, TDS, NH3, Cond								REMARKS/ LOC ID
1	1P2811SW01003PP4	1P2711	15:00	WS	16	G		✓	✓								
2 A-A	1P2811SW01002PP4	1P2811	15:10	WS	16	G		✓	✓								
	1P2311SW01006PP4	1P2311	15:00		1												trip blank

Collected/Relinquished By: (1)	Date	Time	Received By:
[signature]	10/29/11	1010	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date 10/31/2011	Time 1815	Received for Laboratory By: [signature]

DOD Project? YES NO
Cooler ID:
Data Deliverable Requirements:
Requested Turnaround Time and/or Special Instructions:
Standard TAT

Temp Blank °C: 3.8 4.35
or Ambient ( )
(See attached Sample Receipt Form)

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT
(See attached Sample Receipt Form)

[ ] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
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CLIENT: Fisheries Research + Consulting
CONTACT: Sarah O'Neal PHONE NO: 360 918 4352
PROJECT NAME: Rebble Drilling Sump Project
PROJECT/PWSID/PERMIT#
REPORTS TO: Sarah O Neal
E-MAIL: sarahlouise.oneal@ak.net
INVOICE TO: Fisheries Research + Consulting
QUOTE #:
P.O. #:

SGS Reference #:

Page 1 of 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	Preservative Used:	TYPE C = COMP G = GRAB	GRO	DRO/RRO	BTEX	PAH	DOC	Sulfate	pH, Total P, NH3	Total Metals	Dissolved Metals	REMARKS/ LOC ID
	1023115ug01WS	1023115	15:25	WS	6		G	✓	✓	✓	✓	✓	✓	✓	✓	✓	MS/MSD
	1023115ug01WS	1023115	15:25	WS	1												trip blank

Collected/Relinquished By: (1) [signature] Date 10/24/11 Time 10:50 Received By:
Relinquished By: (2) Date Time Received By:
Relinquished By: (3) Date Time Received By:
Relinquished By: (4) Date 10/25/2011 Time 0845 Received for Laboratory By:

DOD Project? YES NO
Cooler ID:
Data Deliverable Requirements:
Requested Turnaround Time and/or Special Instructions:
Standard TAT

Temp Blank °C: 3.6° # 202
or Ambient [ ]
(See attached Sample Receipt Form)

Chain of Custody Seal (Circle)
INTACT IF BROKEN ABSENT
(See attached Sample Receipt Form)

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CLIENT: Fisheries Research + Consulting
CONTACT: Sarah O'Neal PHONE NO: 360 918 4352
PROJECT NAME: Pebble Drilling Sump Project
PROJECT/ PWSD/ PERMIT#:
REPORTS TO: Sarah O'Neal
E-MAIL: sarahlouiseoneal@ak.net
INVOICE TO: Fisheries Research + Consulting
QUOTE #:
P.O. #:

SGS Reference #:

Page 2 of 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	Preservative Used / TYPE C=COMP G=GRAB W=Multi-Incremental Solid											REMARKS/ LOC ID
								TSS	Any Field Alk, TB, pH, Cond								
(11)-K (1) 5-0	1023113sumlws004	10/23/11	15:25	W3	4	G		✓	✓								RS/RSD

Collected/Relinquished By: (1)	Date	Time	Received By:
[signature]	10/24/11	10:50	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received For Laboratory By:
	10/25/2011	0945	[signature]

DOD Project? YES (NO)
Cooler ID:
Data Deliverable Requirements:
Requested Turnaround Time and/or Special Instructions: Standard TAT
Temp Blank °C: 3.6° # 202
or Ambient [ ]
(See attached Sample Receipt Form)
Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
(See attached Sample Receipt Form)

[ ] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

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CLIENT: Fisheries Research + Consulting
CONTACT: Sarah O'Neal PHONE NO: 360 918 4362
PROJECT NAME: Pebble Drilling Sump Project
PROJECT/PWSID/PERMIT#:
REPORTS TO: Sarah O'Neal
E-MAIL: Sarahlouiseoneal@ak.net
INVOICE TO: Fisheries Research + Consulting
QUOTE #:
P.O. #:

SGS Reference #:

Page 1 of 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	Preservative Used: TYPE C = COMP G = GRAB	GRO	DRO/ORO	BTEX	PAH	DOC	Sulfide	NH3, Total P Kjeldahl	Total Metals	Dissolved Metals	REMARKS/ LOC ID
	~~[illegible]~~	~~[illegible]~~		~~[illegible]~~		~~[illegible]~~										
A-D	1023115U01WS005	102311	15:45	WS	8	G		✓		✓	✓	✓	✓	✓	✓	
A-B	1023115U01WS2005	102311	16:00	WS	8	G		✓		✓	✓	✓	✓	✓	✓	
A	1023115U01WS3005	102311	12:00	WS	4	G		X		X	X	~~[illegible]~~				
A	1023115U01WS4002	102311	20:45	WS	1											Equip blank
A	1023115U01WS5001	102311	20:50	WS	1											DI H2O blank

Collected/Relinquished By: (1)	Date	Time	Received By:
[signature]	10/24	1050	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received for Laboratory By:
	10/25/11	0845	[signature]

DOD Project? YES NO
Cooler ID:
Data Deliverable Requirements:
Requested Turnaround Time and-or Special Instructions:
Standard TAT

Temp Blank °C: 2.6 of 35
or Ambient [ ]
(See attached Sample Receipt Form)

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT
(See attached Sample Receipt Form)

[ ] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-[illegible]
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

http://www.sgs.com/terms_and_conditions.htm

F016_SGS_COC_ak(dom)(r06/03/2010)

SGS

SGS North America Inc.
CHAIN OF CUSTODY RECORD

1115255

www.us.sgs.com

CLIENT: Fisheries Research + Consulting
CONTACT: Sarah O'Neal PHONE NO: 360 918 9352
PROJECT NAME: Pebble Drilling Sump Project PROJECT/ PWSID/ PERMIT#:
REPORTS TO: Sarah O'Neal E-MAIL: sarahlouise oneal@ak.net
INVOICE TO: Fisheries Research + Consulting QUOTE #:

SGS Reference #:

Page 2 of 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	Preservative Used:	TYPE C = COMP G = GRAB M = MUR Interrupted Note	TSS	SOY ER CI AIK, TDS	REMARKS/ LOC ID
06-H	102311SU0W1SP05	102311	15:45	WS	2	G		✓	✓	
06-I	102311SU0W0S205	102311	1600	WS	2	G		✓	✓	

Collected/Relinquished By: (1)	Date	Time	Received By:
[signature] 10/24/11	[illegible]	1100	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date 10/25/2011	Time 0815	Received For Laboratory By: [signature]

GOO Project? YES (NO)
Cooler ID:

Data Deliverable Requirements:

Requested Turnaround Time and-or Special Instructions:
Standard TAT

Temp Blank °C: 2.0-4.5
or Ambient [ ]
(See attached Sample Receipt Form)

Chain of Custody Seal: (Circle)
IF, SR
(INTACT) BROKEN ABSENT
(See attached Sample Receipt Form)

[ ] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

http://www.sgs.com/terms_and_conditions.htm

FR16_SGS_COC_electronic(v06/05/2010)

SGS

1115255

SAMPLE RECEIPT FORM

Review Criteria:	Condition:	Comments/Action Taken:
Were **custody seals** intact? Note # & location, if applicable. COC accompanied samples?	Yes (No) N/A (Yes) No N/A	1- 1F, 1R 2- 1F, 1R
Temperature blank compliant* (i.e., 0-6°C after correction factor)? * *Note: Exemption permitted for chilled samples collected less than 8 hours ago.* Cooler ID: 1 @ 2.1° w/ Therm.ID: 35 Cooler ID: 2 @ 6.4° w/ Therm.ID: 202 Cooler ID: 3 @ 4.5° w/ Therm.ID: 35 Cooler ID: 4 @ 3.4° w/ Therm.ID: 35 Cooler ID: 5 @ 2.6° w/ Therm.ID: 202 *Note: If non-compliant, use form FS-0029 to document affected samples/analysis.* If samples are received without a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & **"COOLER TEMP"** will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note "ambient" or "chilled." **If temperature(s) <0°C, were all sample containers ice free?**	Yes (No) N/A (6) @ 2.6° # 35 Yes No (N/A)	3- 1R intact, 1F Broken 4- 1R intact 5- 1F intact 6- 1F, 1R intact Becker COC seal was not secured with packing tape
Delivery method (specify all that apply): (Client) USPS Alert Courier Road Runner AK Air Lynden Carlile ERA PenAir FedEx UPS NAC Other: → *For WO# with airbills, was the WO# & airbill info recorded in the Front Counter eLog?*	Note airbill/tracking # See Attached (or N/A) Yes No (N/A)	
→ For samples received with payment, note amount ($) and cash / check / CC (circle one). (N/A) → For samples received in FBKS, ANCH staff will verify all criteria are reviewed. SRF Initiated by: (N/A)		
Do samples **match COC*** (i.e., sample IDs, dates/times collected)? * *Note: Exemption permitted if times differ <1hr; in which case, use times on COC.* Were analyses requested unambiguous?	(Yes) No N/A (Yes) No N/A	Per project encouraged, BTEX is 8260 method
Were samples in **good condition** (no leaks/cracks/breakage)? Packing material used (specify all that apply): (Bubble Wrap) Separate plastic bags Vermiculite Other:	(Yes) No N/A	
Were all VOA vials **free of headspace** (i.e., bubbles ≤6 mm)? Were all soil VOAs **field extracted** with MeOH+BFB? Were the bottles provided by SGS? (Note apparent exceptions.)	Yes (No) N/A Yes No (N/A) (Yes) No N/A	Sample 102311 S001 WS604 has one vial with HS >6mm
Were **proper containers** (type/mass/volume/preservative*) used? * *Note: Exemption permitted for waters to be analyzed for metals.* Were **Trip Blanks** (i.e., VOAs, LL-Hg) in cooler with samples?	(Yes) No N/A (Yes) No N/A	
For **special handling** (e.g., "MI" or foreign soils, lab filter, limited volume, Ref Lab), were bottles/paperwork flagged (e.g., sticker)?	(Yes) No N/A	
For preserved waters (other than VOA vials, LL-Mercury or microbiological analyses), was **pH verified and compliant**? If pH was adjusted, were bottles flagged (i.e., stickers)?	(Yes) No N/A (Yes) No (N/A)	Lab05-0344-062412 016, 017
For **RUSH/SHORT Hold Time** or **site-specific QC** (e.g., BMS/BMSD/BDUP) samples, were the COC & bottles flagged (e.g., stickers) accordingly? For RUSH/SHORT HT, was email sent?	Yes No (N/A)	
For any question answered "No," has the PM been notified and the problem resolved (or paperwork put in their bin)?	(Yes) No N/A	SRF Completed by: [illegible] PM = N/A
Was **PEER REVIEW** of ***sample numbering/labeling*** completed (i.e., compare WO# on containers to COC, unique lab ID on each container, LIMS container labels used?) Was selection of ***"Bill to"*** client **PEER REVIEW**ed?	(Yes) No N/A Yes No N/A	Peer Reviewed by: [illegible] Metrics: 1942

Additional notes (if applicable):
031, 032, 033, 034, 035 TB ~~Low~~ Limited Volume Run BTEX per Steve C. 402-D
015-C Limited Volume 501-T
Collection time on 003-F is 1240, other bottles 003 are 1230

Note to Client: Any "no" circled above indicates non-compliance with standard procedures and may impact data quality.

SGS

SGS North America Inc.
200 W. Potter Dr., Anchorage, AK 99518
3180 Peger Rd., Fairbanks, AK 99701

P: 907-562-2343, F: 907-561-5301
P: 907-474-8656, F: 907-474-9685

Sample Kit Request

☐ Client pickup Date: 9/30/2011 Time: 16:00
☐ Deliver to client:
☐ Shipment Method:
Airline Carrier:
Airbill Number:
Date to ship by:
Notes:

Kit request taken by: SRC Date: 9/30/2011
Kit prepared by: SRC Date: 9/30/2011
Kit checked by: SRC Date: 9/30/2011
Kit shipped by: Date:

Estimated date for samples returning to the lab:

Client Name: Fisheries Research Consulting
Ordered By: Sarah O'Neal
Phone/Fax: 360-918-4332
Project Name: Pebble Drilling Water Sampling
Quote #:
Delivery:

Regular units

PM Reminders:
☐ Track all Lot# ☐ SOW/QAPP
☐ Quote # ☐ Project Notice ( )
☐ Total # Containers includes bottles for % Solids
☐ Regulatory/Special Requirements
☐ DQOs
☐ Problem Matrices

Notes:

No. Samples	Matrix	Analysis	Container Size	Container Type	Preservative	Sample Size (ml or g) TOTAL	Required Qnt	Data Hold	Lab Qnt	Qnt Alert
15	water	GRO	3 x 40 mL	VOA vials	HCl	80	1200	14 days		45
		DRO/RRO	2 x 250mL	amber	HCl	85	1275	7 days		30
		VOC	3 x 40 mL	VOA vials	HCl	180	2700	14 days		45
		SVOC	1 x 1L	amber	none	220	3300	7 days		15
		PAH	1 x 1L	amber	none	180	2700	7 days		15
		TOC	1 x 250mL	amber	HCl	55	825	28 days		15
		DOC	1 x 250mL	amber	HCl	55	825	28 days		15
		sulfide	1 x 250mL	HDPE	NaOH+ZnAc	40	600	7 days		15
		N+N, Total Phos, ammonia	1 x 250mL	HDPE	H2SO4	100	1500	28 days		15
		cyanide	1 x 60mL	HDPE	NaOH	60	900	14 days		15
		total metals (incl. Hg)	1 x 500mL	HDPE	HNO3	220	3300	28/180 days		15
		dissolved metals (incl. Hg)	1 x 500mL	HDPE	HNO3	220	3300	28/180 days		15
		TSS	1 x 1L	HDPE	none	20	300	7 days		15
		SO4, F, Cl, Alk, TDS, pH, Cond	1 x 500mL	HDPE	none	140	2100	7 days		15
						total	24825			

nitrate N3 = 25
total P = 45
ammonia = 30

SO4, F, Cl = 60
PAH 20
20
TDS 90

cond = 20
metals = 180
Hg = 40

Long, Alesha (Anchorage)

From: Crupi, Steven R (Anchorage)
Sent: Saturday, October 08, 2011 4:55 PM
To: Long, Alesha (Anchorage)
Subject: Profile build for NEW client
Attachments: Profile build FRC Pebble project 10-8-11.xls; Kit request Pebble 9-30-11rev.xls; Profile build FRC Pebble project 10-8-11.pdf

Alesha,

The client picked up bottles on Friday, the 7th, and will be collecting next week. Guessing samples will be in-house 10/12/11. It is a new client and I think I have all the details covered on the attached (be sure to look at 'Notes' section at bottom of profile form), but let me know if questions. You know where to find me. ☺

The client will be a credit card pay, intending to pay after login is complete and prebill generated.

Steve

Steven R. Crupi
Alaska Division Project Manager
SGS North America, Inc.
200 W. Potter Dr.
Anchorage, AK 99518
USA
(907) 550-3213 (direct)
(907) 562-2343 (main)
Steven.Crupi@sgs.com

Data Deliverables At: labonline.sgs.com

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NEW Client: Fisheries Research Consulting
Project Name/#: Pebble Project
NPDL #:
NPDES or APDES#:
Quote #: verbal
Ongoing project? ☑ No ☐ Yes
Estimated date/time of arrival at the lab: 10/12/2011

Profile #:
Profile Reviewed by/Date:
Reports To: Sarah O'Neal
E-mail: sarahlouiseoneal@g
PO#:
Project Notice Needed? ☐ Y
IF a PN is needed, this serves as both the Profile Bu

TAT: ☑ Standard (10 working days)
To Preliminary/final: ☐ Working days ☐ Calendar
To Final/EDD: ☐ Working days ☐ Calendar
To QC Package: ☐ Working days ☐ Calendar

Sample Retention: ☐ Default "3" (for flag 17) (14 days after FREV)
☐ 30 days after FREV "1"
☐ 60 days after FREV "2"
☐ 1 year after FREV "C"
☐ 14 days after QAQC "4"
☑ 60 days after QAQC "5"
☐ 90 Days after QAQC "6"

EDD: ☐ None ☑ DataView ☐ SEDD ☐ COELT ☐ ERPMS-PCF ☐ EI
☐ EQUIS (specify): ☐ Other (specify):

DOD? ☐ Yes ☑ No (Commercial)

Report Format:
☐ Alaska
☐ Alaska_Level_2
☐ Alaska_Level_2_with_ND
☐ Standard_Level_2
☑ Standard_Level_2_HS
☐ Standard_Level_2_with_ND

Data Package: ☑ Level 2 ☐ Level 3 ☐ Level 4
Flagging: ☑ J flag Remember: All DOD reports have J flags.

**Note: IF the project is DOD, then the default report format is Standard with J flags for results >DL and <
as well as numerical results with a U for non-detects at the LOD. These are required by the DOD QS**

Note: All reports, data packages and EDDs are provided electronically via LabView; however, older contracts may require special arrangements (i.e., hardcopy, CDs). Note specifics.

LabView Account Provided? ☐ Yes ☑ No - Explain:
Are Hardcopies of data package required? No
How many copies of CD required? None
Site Specific QC Required? No
Are MS/MSDs billable? (See Qt) ☑ Yes ☐ No
Are Trip Blanks billable? (See Qt) ☑ Yes ☐ No

CUSTOM COMPOUNDS: If work is for DOD or Permitting, verify compound requirements. Please list compounds needed to be added and or deleted.

Parameter/Method	Matrix	Acode

Invoicing: ☑ Same as "Report to" ☐ Use the following:
Attention: Sarah O'Neal c/o Fisheries Research Consulting
Address: 6601 Chevigny Street
City, State, Zip: Anchorage, AK 99502
Phone/Fax: 360-918-4352 (cell)

Other notes: Client will be paying by credit card upon sample login. See attached kit request for testing and unit rates. Joyce Doughty. VOC8260, SVOC8270, PAH SIM are full 'normal' list. Cyanide is total cyanide only. Hg is 245.1. ICPM should be the same full list of metals used for the Pebble Project. N+N will be coming out of a preserved bottle.

ak.net

Yes ☑ No

ldReview & PN.

days

days

days

RPMS-LDF

LOQ,

M.

, provided by

IS metals

Long, Alesha (Anchorage)

From: Crupi, Steven R (Anchorage)
Sent: Friday, October 21, 2011 11:01 AM
To: Long, Alesha (Anchorage)
Subject: RE: Profile build for NEW client

Correction:

DOC should stay in the profile

From: Crupi, Steven R (Anchorage)
Sent: Friday, October 21, 2011 10:40 AM
To: Long, Alesha (Anchorage)
Subject: RE: Profile build for NEW client

Alesha,

Please update this profile to remove –

- SVOC8270
- TOC
- DOC
- Cyanide

Samples will arrive on Monday. Thanks!

Steve

From: Long, Alesha (Anchorage)
Sent: Sunday, October 09, 2011 9:19 AM
To: Crupi, Steven R (Anchorage)
Subject: RE: Profile build for NEW client

Just to confirm I get the metals list is the same as pebble, I'm assuming then that you want LL 200.8 vs regular?

From: Crupi, Steven R (Anchorage)
Sent: Saturday, October 08, 2011 4:55 PM
To: Long, Alesha (Anchorage)
Subject: Profile build for NEW client

Alesha,

The client picked up bottles on Friday, the 7th, and will be collecting next week. Guessing samples will be in-house 10/12/11. It is a new client and I think I have all the details covered on the attached (be sure to look at 'Notes' section at bottom of profile form), but let me know if questions. You know where to find me. ☺

The client will be a credit card pay, intending to pay after login is complete and prebill generated.

Steve

Steven R. Crupi
Alaska Division Project Manager
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(907) 562-2343 (main)
Steven.Crupi@sgs.com

Data Deliverables At: labview.sgs.com

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Returned Bottles Inventory

Name of individual returning bottles: _____

Date Received: 11/04/2011

Client Name: Fisheries Research Consulting

Received by: Justin A. Nelson

Project Name: Pebble drilling sump project

SGS PM: Steve Crupi

Preservative:	sulfuric	HCl/HCl	HCl	HNO3	NaOH	other	vials of MeOH
HDPE/Nalgene:							
1-L	1 (16)						
500-ml	(17)			6 (28)			
250-ml		9 (8)				2 n Na/NaOH 9 (8)	
125-ml							
60-mL other					(30)		
Amber Glass:							
1-L BP	7 (40)						
500-ml BP							
250-ml BP			24 (57)				
125-ml BP							
8-oz SS							
4-oz SS							
4-oz w/ septa							
40-ml VOA vial			76 (44)				
other							
Subtotal:	(73) 8	9 (8)	100 (101)	6 (28)	(30)	9 (8)	

--- The bottom of this form should be completed by the Project Manager, who will determine how apply charges. ---

Note: Returned bottles (regardless of size/prec.) are billed back at $4/bottle ***unless otherwise quoted.***
These prices are only for bottles returned to the lab for disposal.
Unused/unreturned bottles are billed separately. Please see Accounting for current price list.

Amount to Invoice Client: $ 1520

WO#: 1115255

*Circled numbers denote unreturned bottles

M 11/04/2011