

Deloitte & Touche

Faro Mine Complex 2008 Groundwater Assessment at Medium Priority Waste Rock Areas

Task 20 - FINAL

Prepared for

Deloitte and Touche Inc.

On behalf of

Faro Mine Closure Planning Office



Prepared by



Project Reference Number
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May 2009

Faro Mine Complex
2008 Groundwater Assessment at
Medium Priority Waste Rock Areas
Task 20 - FINAL

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Executive Summary

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<u>Consultant:</u>	SRK Consulting (Canada) Inc.
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In 2004, Robertson GeoConsultants, Inc. (RGC) presented a review of existing groundwater and surface water quality and potential groundwater seepage areas for the Faro and Vangorda/Grum waste rock dumps. RGC identified select areas of interest and classified them according to high, medium and low priority based on water quality trends and perceived relative importance in regards to likelihood of waste rock dump seepage. The areas identified as high priority have been assessed previously. The sites identified as medium priority were addressed in this program based on the RGC recommendations and a site visit with the Technical Advisory Team in August 2008.

The scope of the 2008 program consisted of installing monitoring wells, completing slug tests and developing and collecting samples from as many of the medium priority areas as possible. In addition, the water quality data from each of the medium priority areas was used to assess the need for further characterization or groundwater interception.

Water quality results suggest that the majority of medium priority areas that could be sampled have low likelihood of significant impact from waste rock seepage. The Zone II monitoring wells will be interpreted in conjunction with available surface water data from upstream of the rock drain to determine if further insight can be gained into the unexpected high zinc level upstream of the Zone II outwash area. Depending on the results of this assessment, the cause of the relatively high concentrations at this location may require further investigation.

Monitoring wells with icing issues will have to be remediated in 2009 once air temperatures increase. Monitoring wells with limited water volumes should either (i) not be purged prior to sampling, or (ii) be purged, then allowed to refill before sampling.

All of the monitoring locations should be added to the routine groundwater monitoring program and additional results assessed with those presented herein to determine if additional investigation is required.

The proposed location below the Vangorda Pit should be completed in 2009, if an appropriate drill is available for use in conjunction with other programs.

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1 Introduction and Scope of Report

This DRAFT report presents results of the 2008 groundwater investigations at the medium priority waste rock (MPWR) areas. The objective of this investigation was to obtain lithologic and water quality data from areas around the Faro and Vangorda/Grum mine sites that have been identified as potentially important gaps.

The report is organized as follows:

- A brief background review of previous investigations and conclusions on groundwater conditions in medium priority areas are presented;
- The 2008 field program objectives and scope are described;
- The results of the 2008 field program are presented; and
- A summary of conclusions and recommendations is presented.

Drill logs, testing results and water quality analyses are compiled in the appendices.

The MPWR project is identified in the 2008/09 Deloitte & Touche Inc. (D&T) project list as Task 20, and as Project #4.3.5 within the project list used by the Faro Project Management Team (FPMT).

2 Background

In 2004, Christoph Wels of Robertson GeoConsultants, Inc. (RGC) presented a review of existing groundwater and surface water quality and potential groundwater seepage areas for the Faro and Vangorda/Grum waste rock dumps (memo entitled *Initial Review of Groundwater Quality downstream of Faro, Grum and Vangorda WRDs, Yukon Territory, July 14, 2004*). RGC identified select areas of interest and classified them according to high, medium and low priority based on water quality trends and perceived relative importance in regards to likelihood of waste rock dump seepage. Areas showing high or rapidly increasing levels of contaminant concentrations were considered areas to be high priority in relation to further investigation and assessment of collection requirements. The following two areas were classified as high priority and have been addressed as part of separate investigations:

1. The Emergency Tailings Area (ETA); and
2. Intermediate Dump draining towards the North Fork Rose Creek (NFRC) downstream of the rock drain (The S-cluster).

As part of the overall closure planning, uncertainty was sufficiently high in regards to water quality in many areas considered medium priority that initial exploratory drilling and groundwater quality assessment was recommended. These are the areas on which 2008/09 Task 20 focussed.

Information gained from these areas would allow for appropriate planning in the closure planning. Table 1 summarizes the general locations of the Medium Priority areas.

Table 1: Location Summary for Medium Priority Groundwater Areas

Faro Mine	
1	Toe of the Main Dump between the S-cluster and Emergency Tailings Area (ETA).
2	Below Faro Mill adjacent to the ETA
3	Guardhouse Creek below the Faro Mill
4	Up gradient of Zone 2 Outwash Area
5	Down gradient of Zone 2 Outwash Area
Grum Mine	
6	South of Grum Dump
Vangorda Mine	
7	Vangorda Creek below Vangorda Pit

Justification for each of the areas was as follows:

1. Between monitoring well P96-6 (at toe of Intermediate Dump along S-cluster access road) and P96-8 (at toe of Intermediate Dump alongside the Faro Creek channel, at the ETA), there is a reach along the toe of the Intermediate dump of approximately 1150 meters in length for which little to no groundwater quality information is available. As part of the 1996 Integrated Comprehensive Abandonment Plan (ICAP), a series of test pits were completed in this area, water quality from which suggested little impact from dump seepage, but water quality has not been monitored since. As this reach presents a potentially large area from which seepage could emanate, further investigation was warranted.
2. No information is available for groundwater quality seeping from the area of the Faro mill that does not report to the ETA. To determine if groundwater seeping from the mill area may require interception or management and may bypass the proposed ETA collection system, additional monitoring was recommended.
3. The pre-mining alignment for Guardhouse Creek trends from the Northwest waste rock dumps, alongside the northwest side the Faro Mill foundation pad and discharges into the Rose Creek Tailings Facility. The Northwest Interceptor Ditch (NID) was installed to divert clean water prior to interaction with mine related stockpiles or waste rock and discharge below the Rose Creek Valley dams. Below the NID, surface seepage into or draining towards the pre-mining Guardhouse Creek alignment has historically had high dissolved metals concentrations and indications of waste rock seepage. Additional monitoring wells were recommended within the pre-mining Guardhouse Creek channel, near the Guardhouse itself, to determine if groundwater beneath the pre-mining alignment is impacted.
4. The Zone II outwash area has previously been identified as a potential source of contamination to the North Fork of Rose Creek (NFRC) and the permeable materials underneath it. No water quality information has been available for immediately upstream of Zone II to allow assessment of any potential upstream sources, nor has there been appropriate monitoring of permeable materials under the NFRC downstream of the Zone II area. Monitoring wells were recommended upstream and downstream of the Zone II area.

5. Monitoring below the Grum Dump has historically focused on areas near the alignment of Grum Creek, immediately above Vangorda Creek. While additional monitoring wells have since been installed to allow assessment of areas further to the southwest, along the toe of the Grum Dumps, closest to Vangorda Creek, no monitoring wells existed along the southwest side of Grum Dump, where pre-mining drainages exist. Additional monitoring wells were recommended for this area.
6. No monitoring or characterization has been completed of permeable materials underneath or along Vangorda Creek, down gradient of the Vangorda Pit. As Vangorda Pit water is of poor quality, characterization of permeable materials and groundwater quality along the Vangorda Creek alignment was recommended. A target area immediately below the haul road was identified as a reasonable area for such characterization and monitoring wells recommended.

3 Program Objectives and Work Program

3.1 Program Objectives

The objective of the MPWR project was to characterise the general groundwater regime in medium priority areas that have typically not been investigated, or that have been identified for additional work to fill key knowledge gaps as closure planning for the Faro Mine Complex (FMC) progresses.

The scope of the 2008 program was to install monitoring wells, complete slug tests and develop and collect samples from as many of the medium priority areas as possible. In addition, the water quality data from each of the medium priority areas would be used to assess the need for further characterization or groundwater interception. Table 2 summarizes the planned medium priority program based on previous recommendations and a site visit involving SRK and the Technical Advisory Team (TAT) in early August 2008.

Table 2: Planned Medium Priority Locations and Monitoring Wells

Area	Target Stratum (or Strata)	Number of Proposed Drill Locations & Drill Type	Number of Completed Monitoring Wells
Upper Guardhouse Ck	Overburden/weathered bedrock	1 Sonic	2 at different depths in one location
Zone 2 adjacent to North Fork of Rose Creek	Overburden/weathered bedrock	2 Sonic	4 (two at each location)
Vangorda, downstream of the pit	Bedrock	1 Diamond	deferred until 2009
Zone 2 adjacent to the North Fork of Rose Creek	Bedrock	1 Diamond	No diamond drilling done
Grum Dump, along west edge	Overburden/weathered bedrock	3 Sonic	3 (one at each location)
Below Mill, near ETA	Overburden/weathered bedrock	1 Sonic	2 at different depths in one location
Downstream Toe of Faro Main Dump, west of S-wells area	Overburden/weathered bedrock	1 Sonic	2 at different depths in one location

3.2 Work Program

The program for the MPWR areas involved the following core tasks:

1. Drilling and monitoring well installation, including well development;
2. Testing and sampling of monitoring wells; and
3. Analysis and reporting.

The drilling and well installation was performed by Boart Longyear Inc. of Calgary, with supervision by SRK. A Nodwell-mounted sonic drill was used to complete MPWR area monitoring wells in overburden or weathered bedrock. Overburden drill core and bedrock chips were logged continuously by SRK staff as recovered. Monitoring wells were installed with help of the drill crew. All monitoring wells were developed and slug tested. Samples were collected from each monitoring well and submitted to ALS Laboratory Group for analysis (see section 4.1 for more details).

The sonic drill arrived on site on about August 19, 2008 and drilling commenced at the S-well area (08/09 Task 24) the following day. Drilling on the MPWR areas commenced on August 21 and finished by September 2, 2008.

The Sonic drilling for the MPWR areas proceeded more quickly than expected, and by August 25, 2008, all of the sonic holes on the Faro side of the FMC had been completed. The only remaining holes were the three adjacent to the Grum dump and along Vangorda Creek. At that point, the project was slightly under budget, and it became logical to consider extending the budget for the MPWR program so that the remaining sonic holes at the MPWR areas could be completed. Following a round of communications between SRK, D&T, FPMT and the TAT, approval-in-principle was granted to complete the additional drilling (new D&T task number (26-4). The drill was moved to the Grum waste rock dump.

The only medium priority location that could not be completed as part of the 2008 program was below the Vangorda Pit, along Vangorda Creek. This location is to be a bedrock monitoring location, drilled with sufficient core recovery and bedrock testing to characterize potentially permeable bedrock. However, since the sonic drill is not well suited to bedrock drilling, this location was deferred on the understanding that a drill suitable for bedrock coring will be mobilized to site for this and other drilling targets. A track-mounted combination air rotary/diamond drill (“combination” drill), operated by Geotech Drilling Services Ltd. of Prince George, was also on site but was only used to complete the drilling at the S-wells area (Task 24), as stated in work proposal.

4 Program Results

4.1 Drilling and Installations

Twelve MPWR monitoring wells were completed during the 2008 program. Drilling and well installation were overseen by Dan Mackie and Jacek Scibek of SRK. Table 3 summarises the drilling results. Drill hole locations are shown on Figures 1 to 3.

A single 50 mm (two-inch) PVC monitoring well was completed in each drillhole. Monitoring wells installed using sonic methods are 50 mm (2-inch) diameter PVC with 10 or 20-slot PVC screens. Screen sandpacks use 10/20 or 20/40 filter sand, covering the area of each screen and extending a minimum of 0.5 m above the top of the screen.

A 0.5 m bentonite chip seal was installed on top of filter sand and the remaining annular space was filled to ground surface with bentonite grout or bentonite chips.

Monitoring wells were developed using dedicated 16 mm (5/8 inch) Waterra tubing, which was left in each drillhole upon completion.

At five locations, an additional sonic borehole was drilled to provide a nested pair of monitoring wells at different depths:

- one shallow completed in the most permeable overburden aquifer unit encountered at each drill hole location; and
- one “deep” borehole drilled and completed into weathered bedrock and the top of competent bedrock.

Monitoring well installation, testing and water sample collection were completed by Dan Mackie and Jacek Scibek and the SDS crew between approximately August 20 and September 2, 2008.

Table 3 summarises monitoring well completed. Monitoring well locations are shown on Figures 1 to 3. Completion logs are included in Appendix A.

Table 3: Medium Priority Monitoring Well Summary

Well ID	Easting *	Northing *	Location	Ground Elev. (masl) *	Stick-up Elevation (masl) *	Screen Depth (mbgs)	Material
SRK08-P9	583804.0	6913440.0	Toe Main Dump	1147.00	1147.82	3.05 to 6.10	W.BR & BR
SRK08-P10A	582720.0	6914055.0	Below Mill – Deep	1119.00	1119.72	10.06 to 13.11	W.BR
SRK08-P10B	582720.0	6914057.0	Below Mill – Shallow	1119.00	1119.86	4.57 to 7.62	Diamict (snd, grvl, silt)
SRK08-P11A	582585.0	6914573.0	Guardhouse Creek – Deep	1143.00	1143.71	9.14 to 12.19	W. BR
SRK08-P11B	582584.0	6914574.0	Guardhouse Creek – Shallow	1143.00	1143.77	3.05 to 6.10	Silty Snd & Grvl
SRK08-P12A	585348.0	6913506.0	Up stream of Zone II – Deep	1106.00	1106.67	9.14 to 12.19	W.BR
SRK08-P12B	585345.0	6913509.0	Up stream of Zone II – Shallow	1106.00	1106.75	4.57 to 7.62	Snd, grvl, W. BR
SRK08-P13A	585216.0	6913262.0	Down stream of Zone II – Deep	1097.00	1097.55	7.32 to 10.36	W.BR
SRK08-P13B	585213.0	6913263.0	Down stream of Zone II – Shallow	1097.00	1097.81	3.05 to 6.10	Snd & Grvl
SRK08-P14	591761.0	6903706.0	Grum Dump southwest	1242.00	1242.67	6.10 to 9.14	W.BR
SRK08-P15	591961.0	6903534.0	Grum Dump southwest	1183.00	1183.37	4.57 to 7.62	W.BR & BR
SRK08-P16	592322.0	6902964.0	Grum Dump southwest	1111.00	1111.6	6.10 to 9.14	W.BR & BR

* Notes and Abbreviations:

Coordinates are UTM NAD 83; elevations in metres above sea level (masl); metres below ground surface (mbgs)

Coordinates based on hand-held GPS readings. Accuracy generally +/- 5m

MW = Monitoring Well

PW = Pumping Well

BR = Bedrock

W.BR = Weathered Bedrock

Snd = Sand

Grvl = Gravel

4.2 Hydraulic Testing

Slug testing was completed on all drillholes with sufficient water to allow testing using solid PVC slugs and a vented pressure transducer. Multiple tests were completed at each location to provide information for assessment of monitoring well development, directional bias and conformance with basic slug testing assumptions. Where possible, test data were collected during installation and removal of the slug. If sufficient water was available in the drillhole, two different size slugs were used, 1.5 meters and 2.5 meters. For all locations, tests 1 and 2, then 3 and 4, represent installation and removal of the slug; in effect falling and rising head tests. Slug testing was completed multiple days after installation and after development.

Data were analyzed using multiple methods to provide improved sense of error related to curve matching. The following monitoring wells could not be tested:

- Monitoring well SRK08-P9 could not be tested due to low water levels.
- Monitoring well SRK08-P10b, the shallow completion at this location, could not be tested as it was dry.
- Monitoring wells SRK08-P13a and P13b could not be tested as they were frozen at depth at time of testing.

Testing results are summarized in Table 4. Slug testing data and curve matches are provided in Appendix B

Table 4: Summary of Hydraulic Testing

		Bouwer-Rice	Hvorslev	Cooper et al		
Monitoring Wells	Test	K (m/s)	K (m/s)	K = T / b (m/s)	S _s	Avg K (m/s)
SRK08-P10A	1	1.8E-06	2.3E-06	3.2E-06	1.E-06	2.4E-06
	2	1.5E-06	1.9E-06	2.3E-06	1.E-06	1.9E-06
SRK08-P11A	1	2.0E-05	2.1E-05	7.7E-06	1.E-05	1.6E-05
	2	1.8E-05	2.1E-05	8.1E-06	1.E-05	1.6E-05
	3	2.2E-05	2.4E-05	9.0E-06	1.E-05	1.8E-05
	4	2.0E-05	2.2E-05	8.1E-06	1.E-05	1.7E-05
SRK08-P11B	1	7.3E-05	8.4E-05	1.5E-05	1.E-01	5.7E-05
	2	9.7E-05	1.1E-04	1.8E-05	1.E-01	7.5E-05
	3	7.4E-05	7.4E-05	1.2E-05	1.E-01	5.3E-05
	4	1.1E-04	1.4E-04	2.3E-05	1.E-01	9.1E-05
SRK08-P12A	1	2.9E-05	3.4E-05	1.6E-05	1.E-03	2.6E-05
	2	3.2E-05	4.0E-05	2.0E-05	1.E-03	3.1E-05
	3	2.2E-05	2.7E-05	1.5E-05	1.E-03	2.1E-05
	4	3.1E-05	3.4E-05	1.9E-05	1.E-03	2.8E-05
SRK08-P12B	1	3.0E-04	3.8E-04	3.7E-04	1.E-06	3.5E-04
	2	3.1E-04	3.7E-04	3.1E-04	1.E-06	3.3E-04
	3	2.8E-04	3.5E-04	2.8E-04	1.E-06	3.0E-04
	4	2.5E-04	3.3E-04	2.9E-04	1.E-06	2.9E-04
SRK08-P14	1	6.9E-05	9.5E-05	2.2E-05	1.E-01	6.2E-05
	2	7.3E-05	9.6E-05	2.5E-05	1.E-01	6.5E-05
SRK08-P15	1	2.3E-05	2.7E-05	1.8E-05	1.E-07	2.3E-05
	2	1.6E-05	1.9E-05	2.1E-05	1.E-07	1.9E-05
	3	2.6E-05	3.1E-05	0.0E+00	1.E-07	1.9E-05
	4	1.6E-05	1.9E-05	1.8E-05	1.E-07	1.8E-05
SRK08-P16	1	4.0E-06	5.3E-06	7.2E-06	1.E-06	5.5E-06
	2	5.5E-06	7.3E-06	1.1E-06	1.E-01	4.6E-06

A number of conclusions are presented from these results:

- Multi-test comparison at SRK08-11b suggests a possible directional bias (as indicated by differences in interpreted K between paired tests [ie. 1 and 2 or 3 and 4]). This may be related to drillhole development or monitoring well completion.
- The multiple test methods used to determine K are all generally founded on the same principles but use different techniques for curve matching and determination of K. As such, all values should theoretically be the same. Differences result from using different portions of data to match curves for different methods, small differences in best fit lines, or differences related only to the way in which data is formatted. For the purpose of this screening assessment, an average of the values is considered reasonable.
- Specific storage values should be viewed with caution. Typically, storage is not quantified with slug testing, as values can be subject to minor variations in curve matching.
- Hydraulic conductivity in weathered bedrock zones is generally not significantly less permeable than overburden. The only exception is at the SRK08-12 location, where weathered bedrock may be about one order of magnitude less permeable than the screened overburden unit.
- All of the test results can be considered indicative of moderate permeability. The zone in SRK08-P12b, with the highest K values, is within sandy units alongside the NFRC.

For all areas, if further work is completed, additional hydraulic testing should be completed to provide improved confidence in hydraulic parameters.

4.3 Water Sampling

Two rounds of sample collection have been completed for the medium priority monitoring wells. The first was completed by SRK immediately after monitoring well installation and development. A second round was completed by AECOM on November 5, 2008. Table 5 summarizes sulphate and zinc results. Full analytical results are presented in Appendix C.

Table 5: Summary of Water Quality Results

ID	Post Installation			5-Nov-08	
	Date	SO ₄ (mg/L)	Zn-D (mg/L)	SO ₄ (mg/L)	Zn-D (mg/L)
SRK08-P9	2-Sep-08	487	0.01	Developed Dry	
SRK08-P10a	n/a			2000	0.0819
SRK08-P10b	Dry			Dry	
SRK08-P11a	26-Aug-08	210	0.0028	Frozen	
SRK08-P11b	26-Aug-08	330	0.0058	Frozen	
SRK08-P12a	27-Aug-08	154	0.978	170	1
SRK08-P12b	27-Aug-08	86.9	0.207	76	0.229
SRK08-P13a	Frozen			Frozen	
SRK08-P13b	Frozen			Frozen	
SRK08-P14	17-Sep-08	294	0.0317	490	0.0078
SRK08-P15	17-Sep-08	578	0.0076	Not Accessible due to snow	
SRK08-P16	18-Sep-08	331	0.006	400	0.0092

The following problems were encountered when trying to sample a number of the monitoring wells:

- SRK08-P9, below the Faro Main Dump, does not have a significant water column and was developed dry in early November.
- SRK08-P10b, the shallow monitoring well below the Faro mill, was dry both immediately after installation and again in early November. The screen in this monitoring well, which is just above the overburden-bedrock interface, is likely above the water table.
- SRK08-P11a & b, the two monitoring wells along Guardhouse Creek, were open after installation but frozen on November 5. The water levels in both wells were close to the ground surface after installation, so they may become accessible again in spring and summer.
- SRK08-P13a & b were fully developed and froze at depth. Shallow permafrost is likely present in this location but should be verified in spring or summer.
- SRK08-P15, to the southwest of the Grum Dump, was inaccessible on November 5 due to snow cover.

The results of the analyses, while only preliminary due to the low number of samples, indicate that the majority of locations that could be sampled have a relatively low likelihood of current contamination from waste rock seepage. Monitoring locations below the toe of the main dump, along Guardhouse Creek and along the southwest side of the Grum Dump do not show indications of waste rock seepage. SRK08-P12a, the deep, weathered bedrock, completion upstream of the Zone II outwash area, has zinc concentrations approaching 1 mg/L on both sampling dates. Sulphate is quite low. The zinc levels are low compared to many other areas at site, including the Zone II outwash area itself, but are somewhat high for what was expected to be a relatively unimpacted area. SRK08-P10a, screened in weathered bedrock at a location below the Faro mill, shows relatively high sulphate levels, but zinc levels remain low.

5 Conclusions and Recommendations

Water quality results suggest that the majority of medium priority areas that could be sampled have low likelihood of significant impact from waste rock seepage. The Zone II monitoring wells will be interpreted in conjunction with available surface water data from upstream of the rock drain to determine if further insight can be gained into the unexpected high zinc level upstream of the Zone II outwash area. Depending on the results of this assessment, the cause of the relatively high concentrations at this location may require further investigation.

Monitoring wells with icing issues will have to be remediated. SRK08-P11 is anticipated to thaw once air temperatures increase. SRK08-P13 may require more significant measures to get through the ice layer. This should be attempted during mid to late summer, when ambient air temperatures are high.

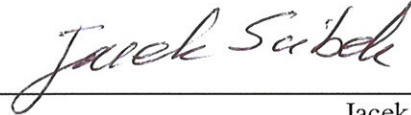
Monitoring wells with limited water volumes should either (i) not be purged prior to sampling, or (ii) be purged, then allowed to refill before sampling.

All of the monitoring locations should be added to the routine groundwater monitoring program and additional results assessed with those presented herein to determine if additional investigation is required.

The proposed location below the Vangorda Pit should be completed in 2009, if an appropriate drill is available for use in conjunction with other programs.

This report, "1CD003.118 – Faro Mine Complex, 2008 Groundwater Assessment at Medium Priority Waste Rock Areas, Task 20 - FINAL," was prepared by SRK Consulting (Canada) Inc.

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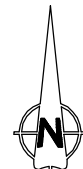
6 References

SRK, 2008a. Proposal for Faro 2008/09 Groundwater Program - Medium Priority Waste Rock Areas. Memo from SRK to D&T (September 4, 2008).

SRK, 2008b. Preliminary Results – 08/09 Task 20 (4.3.5) Medium Priority Waste Rock Areas. Memo from SRK to D&T (December 12, 2008).

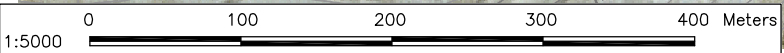
RGC, 2004. Memo from RGC.

Figures



Legend	
	SRK08-P16 2008 Groundwater Monitoring Well
	R10 Surface Water Monitoring Station
	Other Groundwater Monitoring Well

Contour Interval: 2m
 Date of Photography: 03/07/25
 Scale of Photography: 1:20,000
 Survey control derived from existing 1:20,000 photography
 Survey control based on: UTM Projection, NAD27, Zone 8
 Compiled by The ORTHOSHOP, Calgary, September 2003
 WO 8856



SRK Consulting
 Engineers and Scientists
 Vancouver B.C.

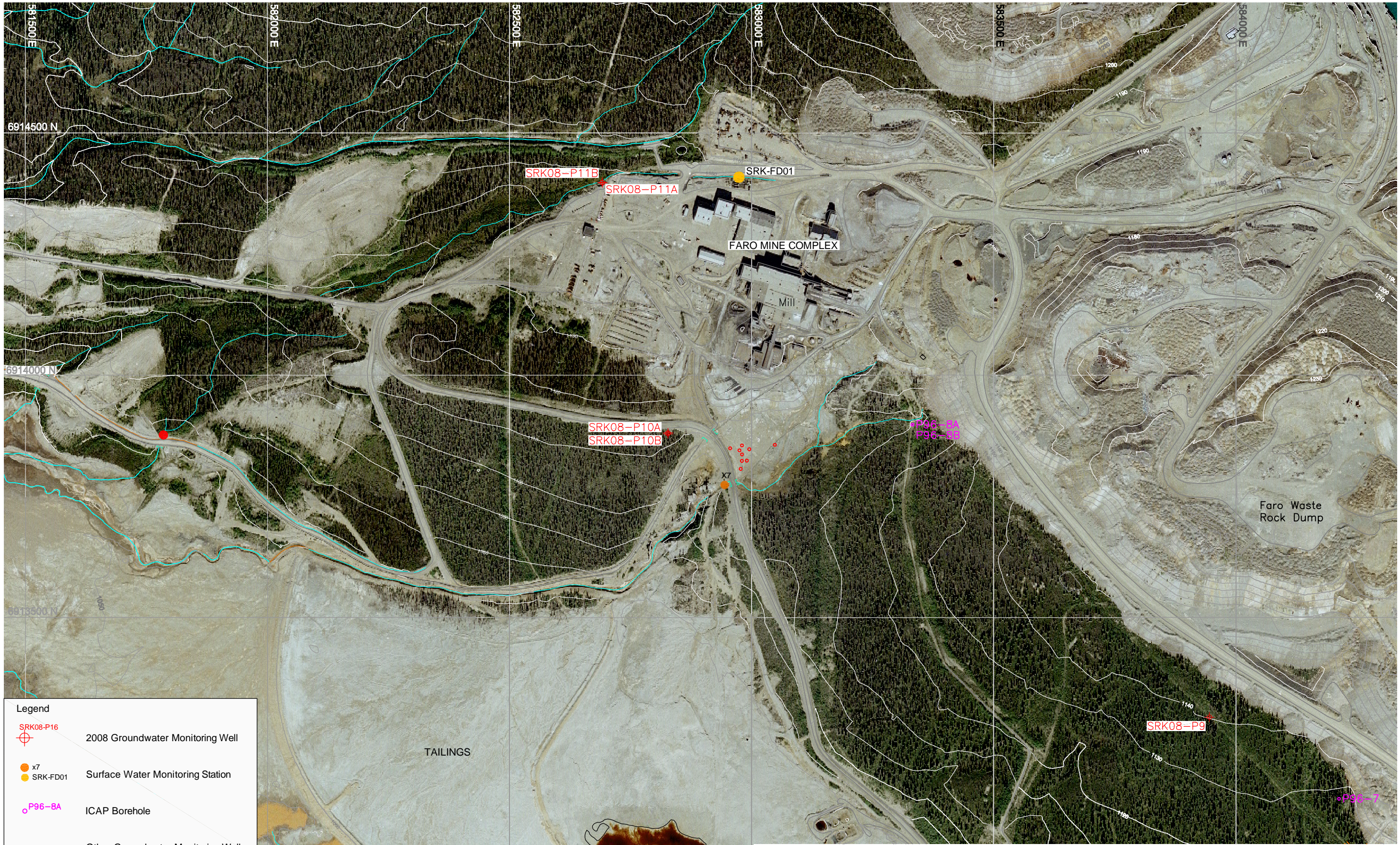
SRK JOB NO.: 1CD003.118.0400
 FILE NAME: 2008_Faro_MPWells_Locations.dwg

Deloitte & Touche

FARO MINE COMPLEX

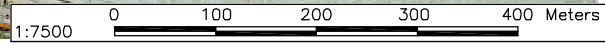
Faro Mine Site – Medium Priority Groundwater Seepage Investigation			
Location Map (Zone 2 Area)			
DATE:	APPROVED:	FIGURE:	
Dec. 2008	DM	1	

J:\01_SITES\FARO\1000_Deloitte_from_GE_Projects\Acad-Faro\2008_Acad_Dwg\2008_Faro_MPWells_Locations.dwg



Legend	
	SRK08-P16 2008 Groundwater Monitoring Well
	X7 Surface Water Monitoring Station
	P96-8A ICAP Borehole
	Other Groundwater Monitoring Well

Contour Interval: 2m
 Date of Photography: 03/07/25
 Scale of Photography: 1:20,000
 Survey control derived from existing 1:20,000 photography
 Survey control based on: UTM Projection, NAD27, Zone 8
 Compiled by The ORTHOSHOP, Calgary, September 2003
 WO 8856



SRK Consulting
 Engineers and Scientists
 Vancouver B.C.

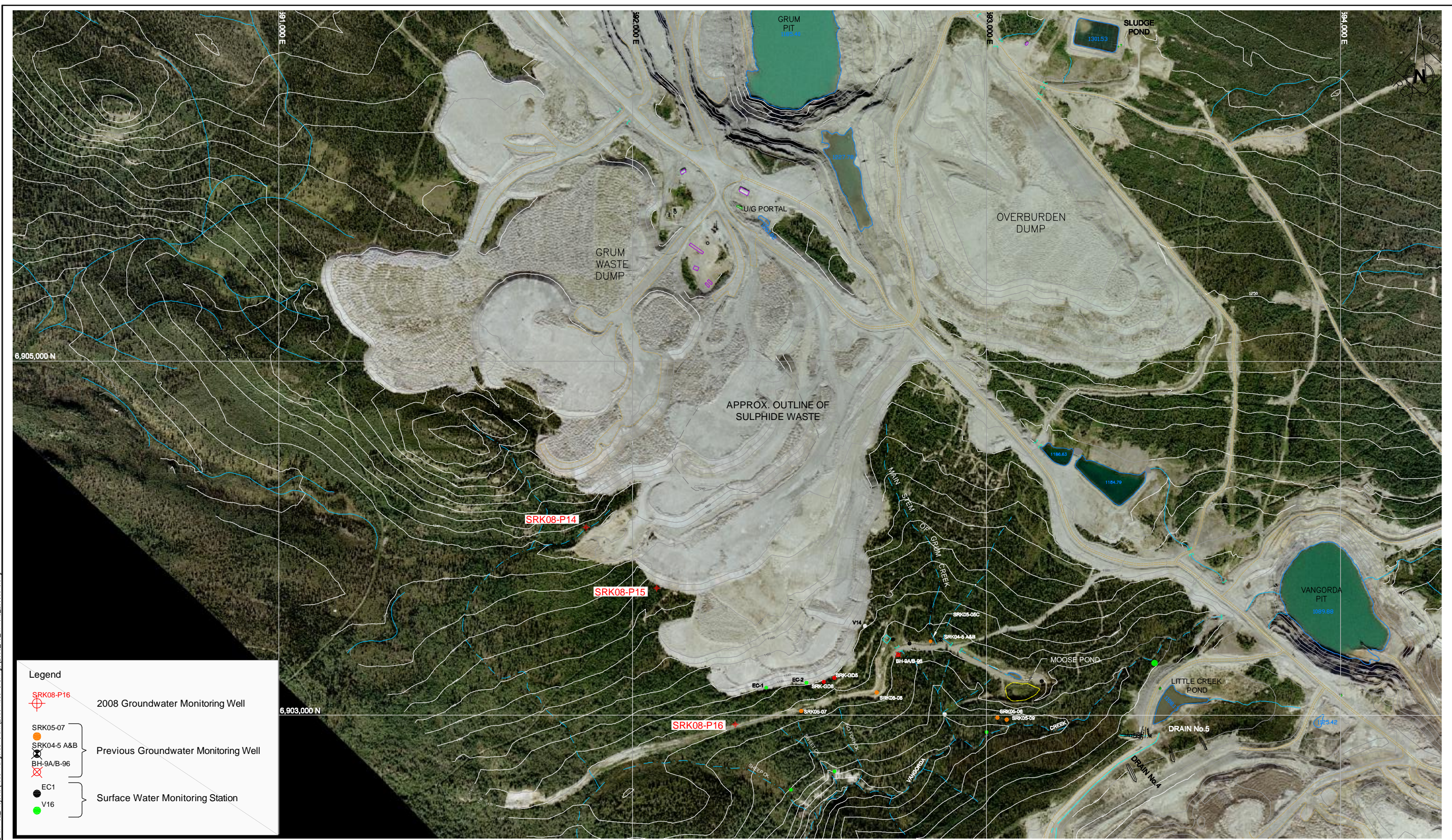
SRK JOB NO.: 1CD003.118.0400
 FILE NAME: 2008_Faro_MPWells_Locations.dwg

Deloitte & Touche

FARO MINE COMPLEX

Faro Mine Site – Medium Priority Groundwater Seepage Investigation		
Location Map (Mill Area)		
DATE: Dec. 2008	APPROVED: DM	FIGURE: 2

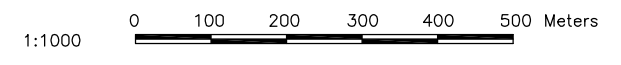
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Legend

- ⊕ SRK08-P16 2008 Groundwater Monitoring Well
- SRK05-07 } Previous Groundwater Monitoring Well
- ⊗ SRK04-5 A&B } Previous Groundwater Monitoring Well
- ⊗ BH-9A/B-96 } Previous Groundwater Monitoring Well
- EC1 } Surface Water Monitoring Station
- V16 } Surface Water Monitoring Station

Contour Interval: 2m
 Date of Photography: 03/07/25
 Scale of Photography: 1:20,000
 Survey control derived from existing 1:20,000 photography
 Survey control based on: UTM Projection, NAD27, Zone 8
 Compiled by The ORTHOSHOP, Calgary, September 2003
 WO 8856



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SRK JOB NO.: 1CD003.118.0400
 FILE NAME: 2008_VG_MPWells_Locations.dwg

Deloitte & Touche

FARO MINE COMPLEX

Faro Mine Site – Medium Priority
 Groundwater Seepage Investigation

**Location Map
 (Grum Area)**

DATE: Feb. 2009	APPROVED: DM	FIGURE: 3
--------------------	-----------------	--------------

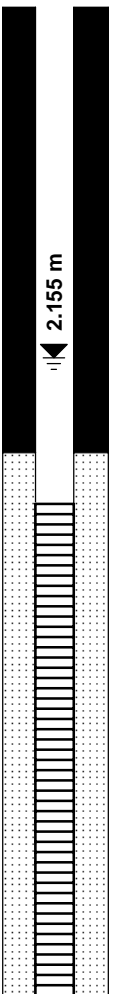

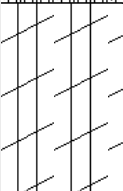
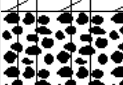
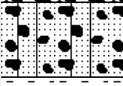

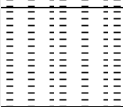

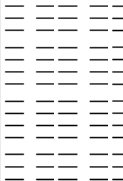
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Appendix A
Drillhole Logs

PROJECT No: 1CD003.118
 SITE: FARO
 CLIENT: Deloitte & Touche

 DATE: Aug. 23, 2008
 LOGGED BY: J. Scibek
 DRILL HOLE: SRK08-P9

 EASTING: 583699
 NORTHING: 6913614
 ELEVATION: 1147

DEPTH (m)	WELL	LITHO SYMBOL	DETAILED LITHOGRAPHY	HYDROSTRATIGRAPHY	K (m/s)	COMMENTS	
0			Ground Surface			0.82 m stickup	
			Soil soil				
			Clayey Silt grey clayey silt with organic debris and trace fine gravel				Bentonite chips to ground surface
			Clayey Silt with Gravel grey clayey silt with fine gravel and weathered rock pieces				
			Diamict compacted diamict (silt/clay and sand & fine-grs gravel and cobbles)				
			Weathered Bedrock brown-grey highly weathered bedrock, crumbly	WEATHERED BEDROCK AQUIFER	No slug test.		
			slightly weathered bedrock (ang pieces and powder with crumbly rock frags, 1 grey to white powder from sonic drill)		Bails dry easily on development.		10/20 filter sand
			highly weathered bedrock, grey to orange, flaky crumbly		Refills over about 12-24 hrs		20-slot 2" PVC screen
			Shist/phyllite Bedrock dark grey bedrock, shist/phyllite (rounded disks from sonic drill)				
8							

NOTES: NAD 83 (hand-held Garman GPS)

PROJECT No: 1CD003.118
 SITE: FARO
 CLIENT: Deloitte & Touche

DATE: Aug. 23, 2008
 LOGGED BY: J. Scibek
 DRILL HOLE: SRK08-P10 A & B

EASTING: See
 NORTHING: Notes
 ELEVATION: 1119.0

DEPTH (m)	WELL A	WELL B	LITHO SYMBOL	DETAILED LITHOGRAPHY	HYDROSTRATIGRAPHY	K (m/s)	COMMENTS
0				Ground Surface			
0 to 1				Clayey Silt grey clayey SILT, soft, with minor fine to coarse gravel (sub rounded to sub ang)			10a - 0.72 m stickup 10b - 0.86 m stickup
1 to 2							2" schedule 40 PVC riser pipe
2 to 3							8b bentonite chips to surface
3 to 3.5				Silt and Sand grey-brown SILT and crs SAND with angular gravel, clayey			
3.5 to 3.8				Silt with Gravel SILT with gravel, tan color			
3.8 to 4.5				Clayey Sand and Gravel brown fine-crs clayey SAND and fine GRAVEL (ang to sub ang); loose			
4.5 to 5.0				Boulder grey-green BOULDER			20-slot 2" PVC screen
5.0 to 5.8				Sand and Gravel diamict: brown-orange clayey-silty med sub-ang SAND to fine ang GRAVEL with cobbles; compacted unit			10/20 filter sand
5.8 to 6.8				Clay with Gravel diamict: grey CLAY with angular fine GRAVEL and sub-ang cobbles			
6.8 to 7.0				Boulder BOULDER, grey metam. rock, powder+frags from drilling			
7.0 to 8.0				Gravel and Sand clayey angular fine GRAVEL and coarse SAND (angular)			
						DRY	

NOTES: NAD 83 (hand-held Garman GPS)

10a 582720, 6914055, Ground Elev = 1119 masl
 10b 582723, 6914055, Ground Elev = 1119 masl

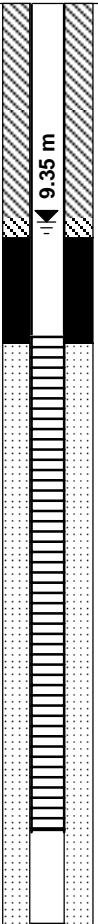
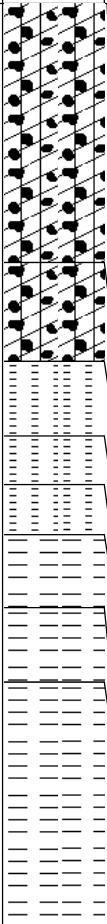
Reviewed By: DM

FILE

PROJECT No: 1CD003.118
SITE: FARO
CLIENT: Deloitte & Touche

DATE: Aug. 23, 2008
LOGGED BY: J. Scibek
DRILL HOLE: SRK08-P10 A & B

EASTING: See
NORTHING: Notes
ELEVATION: 1119.0

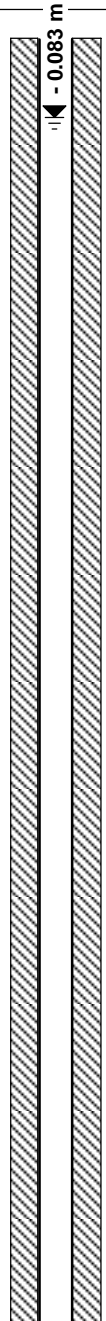
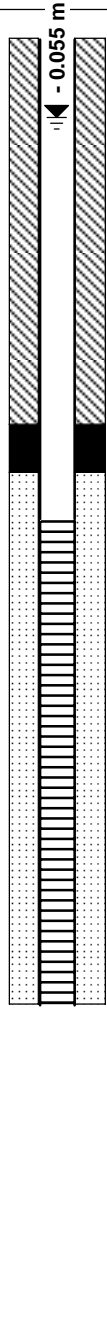
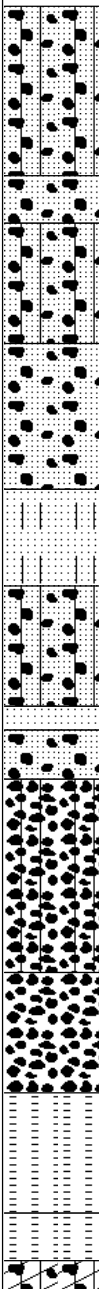
DEPTH (m)	WELL A	WELL B	LITHO SYMBOL	DETAILED LITHOGRAPHY	HYDROSTRATIGRAPHY	K (m/s)	COMMENTS						
9	 <p style="text-align: center;">9.35 m</p>			Cobbles washed cobbles	WEATHERED BEDROCK AQUIFER	2 x 10-6	8a - 0.65 m bentonite chip seal on sand. Grout to surface 10/20 filter sand 20-slot 2" PVC screen 0.59 m sump End cap						
				Boulder BOULDER (sharp angular frags, fine gravel, some clay)									
				Gravel and Sand orange-grey clayey angular fine GRAVEL and crs SAND with cobble									
				Clay, Sand, and Gravel diamict: orange-grey CLAY/silt and SAND & sub-ang fine-crs GRAVEL; rusty spots									
				diamict: same as above but with more sub-round coarse gravel									
				Weathered Bedrock weathered bedrock (green-grey)									
				very highly weathered bedrock (almost grey clay)									
				weathered bedrock									
				Bedrock very weathered bedrock to clay, with very angular fine gravel (bedr chungs, weahtered, but not clay yet)									
				bedrock (phyllite?)									
				bedrock									
10													
11													
12													
13													
14													
15													
16													

NOTES: NAD 83 (hand-held Garman GPS)

PROJECT No: 1CD003.118
 SITE: FARO
 CLIENT: Deloitte & Touche

 DATE: Aug. 24, 2008
 LOGGED BY: J. Scibek
 DRILL HOLE: SRK08-P11 A & B

 EASTING: See
 NORTHING: Notes
 ELEVATION: 1143

DEPTH (m)	WELL A	WELL B	LITHO SYMBOL	DETAILED LITHOGRAPHY	HYDROSTRATIGRAPHY	K (m/s)	COMMENTS
0				Ground Surface Silty Sand with Gravel grey silty fine-med sand with fine gravel and organic debris ("fill material")	OVERBURDEN AQUIFER		11a - 0.71 m stickup 11b - 0.77 m stickup water level above ground surface 2" schedule 40 PVC riser pipe
1				Sand and Gravel grey wet fine-coarse sand and fine angular gravel with minor silt			
2				Silty Sand with Gravel dark grey-brown silty fine sand with angular fine gravel ("channel deposit")			
3				Sand and Gravel grey coarse sand and fine gravel (sub rounded to angular)			
4				Silty Sand and Organics dark grey fine-med slightly silty sand and organic debris (no coarse material)			
4				Silty Sand with Cobbles grey/dark grey silty fine sand with cobbles			
5				Sand orange fine-med sand with minor silt			
5				Sand and Gravel dark grey medium sand and angular gravel (possibly broken boulder or cobbles)			
6				Silty Gravel brown, silty very angular fine gravel (loose), again possibly broken boulder			
6				Gravel fine gravel (weathered angular rock pieces, some fine gravel)			
7	Weathered Boulder brown-grey weathered boulder						
8					CLAYEY AQUITARD	7 x 10-5 11b - 0.3 m bentonite chip seal on sand. Grout to surface 10/20 filter sand 20-slot 2" PVC screen	

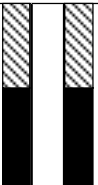

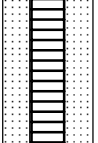

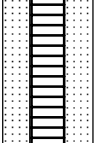

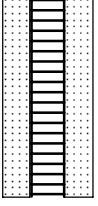



NOTES: NAD 83 (hand-held Garman GPS)

 11a 582588, 6914570, Ground Elev = 1143 masl
 11b 582591, 6914573, Ground Elev = 1143 masl

PROJECT No: 1CD003.118
SITE: FARO
CLIENT: Deloitte & Touche

DATE: Aug. 24, 2008
LOGGED BY: J. Scibek
DRILL HOLE: SRK08-P11 A & B

EASTING: See
NORTHING: Notes
ELEVATION: 1143

DEPTH (m)	WELL A	WELL B	LITHO SYMBOL	DETAILED LITHOGRAPHY	HYDROSTRATIGRAPHY	K (m/s)	COMMENTS
9				brown-grey weathered boulder (clayey fine gravel and sand, very angular, crumbly, consists of weathered calcareous rock) Clay with Sand and Gravel clay with very angular coarse sand and fine gravel consisting of weathered boulder	WEATHERED BEDROCK AQUIFER	2 x 10 ⁻⁵	11a - 0.61 m betonite chip seal on sand. Grout to surface
10				Silty/Clayey Gravel grey silty/clayey very angular fine gravel (weathered rock fragments)			10/20 filter sand
11				Silty Clay with gravel grey silty clay with angular fine gravel			20-slot 2" PVC screen
12				Weathered Rock weathered rock (fragments of fine gravel size, powder from drilling - I grey)			
				Clay with Gravel stiff grey clay with angular fine gravel (weathered rock), minor sand, compacted - all this is weathered bedrock			
				Bedrock bedrock (hot powder, ang frags, hard drilling)			
13							
14							
15							
16							

NOTES: NAD 83 (hand-held Garman GPS)

MONITORING WELL LOG

SHEET 2 of 3

PROJECT No: 1CD003.118
 SITE: FARO
 CLIENT: Deloitte & Touche

DATE: Aug. 24, 2008
 LOGGED BY: J. Scibek
 DRILL HOLE: SRK08-P12 A & B

EASTING: See
 NORTHING: Notes
 ELEVATION: 1106

DEPTH (m)	WELL A	WELL B	LITHO SYMBOL	DETAILED LITHOGRAPHY	HYDROSTRATIGRAPHY	K (m/s)	COMMENTS
9				Weathered Bedrock grey weathered bedrock (crumbly, hard pieces, dry from sonic drilling) soft, crumbly, grey weathered bedrock, moist		3 x 10 ⁻⁵	20-slot 2" PVC screen 12a - 0.3 m bentonite chip seal on sand. Grout to surface 10/20 filter sand
10				light grey hard crumbly weathered rock (dry from sonic drilling)			
11				Clay with gravel stiff grey clay, dry, with minor fine gravel (consisting of weathered rock, sub round or decomposing in round shapes)			COMPETENT DECOMPOSED BEDROCK
12				Weathered Rock weathered rock in form of stiff clay/weath. rock pieces, with cubic quartz grains and few less weathered pieces			
13				grey-white weathered rock, crumbly, also contains some quartz grains in cube shapes with sharp edges (grains that were left over from completely weathered bedrock - to clay)			
14				white-grey crumbly, clay-rich, weathered rock, with occasional stiff clay and quartz grains (again cubes)			
15							
16							

NOTES: NAD 83 (hand-held Garmin GPS)

Reviewed By: DM

FILE

PROJECT No: 1CD003.118
SITE: FARO
CLIENT: Deloitte & Touche

DATE: Aug. 24, 2008
LOGGED BY: J. Scibek
DRILL HOLE: SRK08-P12 A & B

EASTING: See
NORTHING: Notes
ELEVATION: 1106

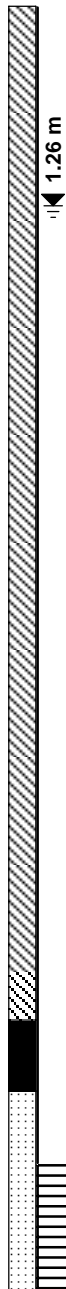
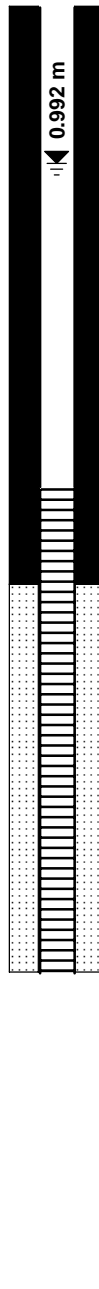
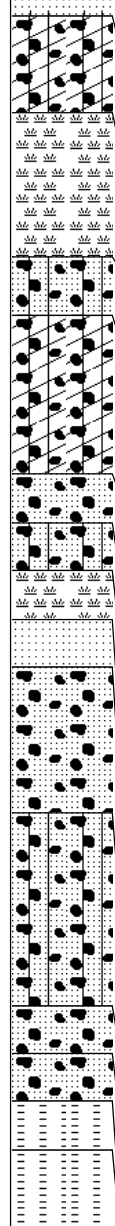
DEPTH (m)	WELL A	WELL B	LITHO SYMBOL	DETAILED LITHOGRAPHY	HYDROSTRATIGRAPHY	K (m/s)	COMMENTS
17			≡ ≡ ≡ ≡				
18							
19							
20							
21							
22							
23							
24							

NOTES: NAD 83 (hand-held Garman GPS)

PROJECT No: 1CD003.118
 SITE: FARO
 CLIENT: Deloitte & Touche

 DATE: Aug. 25, 2008
 LOGGED BY: J. Scibek
 DRILL HOLE: SRK08-P13 A & B

 EASTING: See
 NORTHING: Notes
 ELEVATION: 1097

DEPTH (m)	WELL A	WELL B	LITHO SYMBOL	DETAILED LITHOGRAPHY	HYDROSTRATIGRAPHY	K (m/s)	COMMENTS
0				Ground Surface Silty Sand grey silty fine sand with 20% organic content/wood debris, grass, and sub-round fine gravel Clay with Gravel and Sand brown clay with coarse gravel and fine sand (angular) Clayey Peat black-grey, clayey peat, clay is firm, organic content ? 75% Sand and Silty Gravel dark grey fine sand to fine sub-round gravel, silty Silty-Clayey Sand and Gravel diamict: grey silty-clayey fine sand and sub rounded-sub angular fine-coarse gravel and cobble Gravel with Sand brown fine sub round gravel with fine-med sand and organic (peat/wood) Silty Sand with Gravel grey silty fine to coarse sand with fine sub-rounded gravel Peat with Cobbles and Silty Sand organic debris (peat) with cobbles and silty fine sand (brown-grey) Sand grey silty fine sand, wet Sand and Gravel grey coarse sand and sub round to sub angular fine gravel with silty sand Silty Sand with Gravel grey silty fine-coarse sand with fine gravel (sub round) and trace organic debris Sand with Gravel grey coarse sand with sub round fine gravel	BOTH PIEZOS FROZEN AT ~ 2.0 m AQUIFER ASSUMED BELOW PERMAFROST BUT BASE OF PERMAFROST IS UNKNOWN	FROZEN	13a - 0.55 m stickup 13b - 0.81 m stickup 2" schedule 40 PVC riser pipe 13b - Bentonite chips to ground surface 20-slot 2" PVC screen 10/20 filter sand 13a - 0.46 m bentonite chip seal on sand. Grout to surface 10/20 filter sand 20-slot 2" PVC screen

NOTES: NAD 83 (hand-held Garman GPS)

13a 585094, 6913478, ground elev = 1097 masl

13b 585094, 6913478, ground elev = 1097 masl

Monitoring wells about 3 m apart

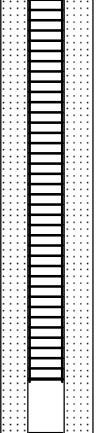
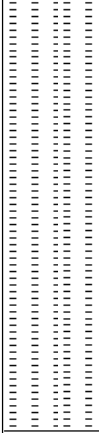
Reviewed By: DM

FILE

PROJECT No: 1CD003.118
SITE: FARO
CLIENT: Deloitte & Touche

DATE: Aug. 25, 2008
LOGGED BY: J. Scibek
DRILL HOLE: SRK08-P13 A & B

EASTING: See
NORTHING: Notes
ELEVATION: 1097

DEPTH (m)	WELL A	WELL B	LITHO SYMBOL	DETAILED LITHOGRAPHY	HYDROSTRATIGRAPHY	K (m/s)	COMMENTS
9				brown coarse sand with sub-round to angular gravel, minor fine sand, contact with orange-brown weathered rock Weathered Rock brown-orange-grey very weathered rock		FROZEN	0.34 m sump End cap
10				grey (dark-light) weathered bedrock, clay alteration at 28 FT, 32 FT (each 1 FT long) between crumbly rock sections			
11							
12							
13							
14							
15							
16							

NOTES: NAD 83 (hand-held Garman GPS)

PROJECT No: 1CD003.118
 SITE: FARO
 CLIENT: Deloitte & Touche

 DATE: Aug. 25, 2008
 LOGGED BY: J. Scibek
 DRILL HOLE: SRK08-P14

 EASTING: 591765.5
 NORTHING: 6903693.5
 ELEVATION: 1242

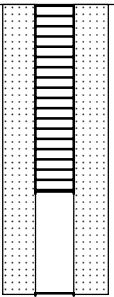
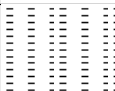



DEPTH (m)	WELL	LITHO SYMBOL	DETAILED LITHOGRAPHY	HYDROSTRATIGRAPHY	K (m/s)	COMMENTS
0			Ground Surface			
0.67			Silty Sand fill of rock pieces, silty fine sand (not sampled but visible on ground - drill pushed through)	AQUITARD		0.67 m stickup
1.0			Clayey Sand with Gravel grey clayey fine sand with sub-ang fine gravel (fill) and organic layer below with plant roots			
1.5			Sand light grey-white clean fine sand			2" schedule 40 PVC riser pipe
2.0			Organic brown organic soil			
2.5			Clayey Sand with Cobble grey clayey fint-med sand, with cobble			
3.0			Clay with Sand and Gravel brown soft clay, with angular coarse sand and sub-angular gravel, trace organics			
3.5			Clayey Sand grey clayey diamict: clayey fine sand/clay matrix, angular-sub angular gravel and coarse sand			
4.0			Clay and Gravel dark grey soft clay and coarse sub rounded gravel			
4.5			Clay Sand grey soft clay and coarse sand (v angular), fine-coarse gravel with cobbles			
5.0			Clayey Gravel with Sand grey-tan clayey coarse gravel (sub-ang to ang.) with fine gravel, fine-coarse sand, and weathered bedrock pieces (crumbly)	AQUIFER: WEATHERED BEDROCK & OVERLYING PERMEABLE SEDIMENTS		0.3 m bentonite chip seal on sand. Grout to surface
5.42			Sand fine-coarse sand with fine sub-ang. gravel (washed out at end of sample)			
6.0			Silty Sand with Gravel grey silty fine sand with sub-round fine gravel			
6.5			Weathered Rock weathered rock			20-slot 2" PVC screen
7.0			Boulder grey-rusty "fresh" rock (boulder?), very angular fine gravel sized pieces, clean washed			
7.5			Decomposed Rock rusty-yellow decomposed rock (to clay) with less weathered crumbly gravel-sized rock pieces			
8.0					6 x 10 ⁻⁵	

NOTES: NAD 83 (hand-held Garman GPS)

PROJECT No: 1CD003.118
 SITE: FARO
 CLIENT: Deloitte & Touche

 DATE: Aug. 25, 2008
 LOGGED BY: J. Scibek
 DRILL HOLE: SRK08-P14

 EASTING: 591765.5
 NORTHING: 6903693.5
 ELEVATION: 1242

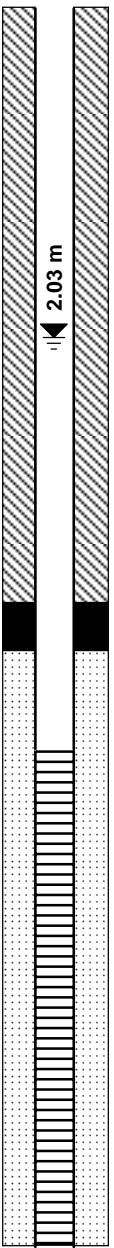
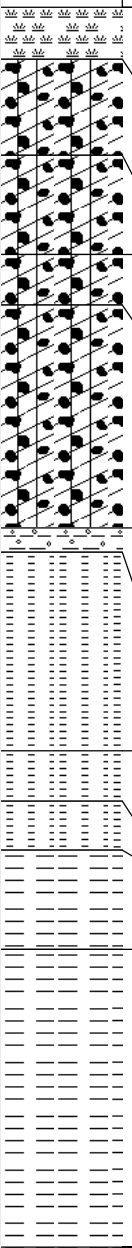
DEPTH (m)	WELL	LITHO SYMBOL	DETAILED LITHOGRAPHY	HYDROSTRATIGRAPHY	K (m/s)	COMMENTS
9			Weathered Bedrock brown-grey-rusty weathered bedrock, crumbly with clay			0.61 m sump End cap
			weathered bedrock (stiff clay, grey, with weathered rock pieces - gravel sized)			
			grey hard crumbly weathered bedrock			
			light grey hard weathered bedrock			
10						
11						
12						
13						
14						
15						
16						

NOTES: NAD 83 (hand-held Garman GPS)

PROJECT No: 1CD003.118
 SITE: FARO
 CLIENT: Deloitte & Touche

 DATE: Aug. 26, 2008
 LOGGED BY: J. Scibek
 DRILL HOLE: SRK08-P15

 EASTING: 591961
 NORTHING: 6903534
 ELEVATION: 1183

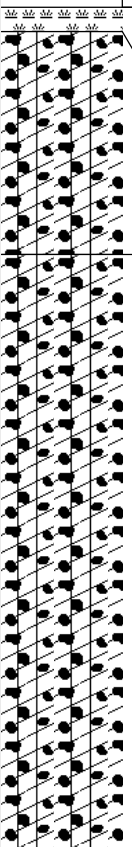
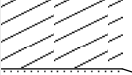
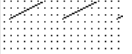

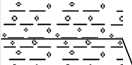
DEPTH (m)	WELL	LITHO SYMBOL	DETAILED LITHOGRAPHY	HYDROSTRATIGRAPHY	K (m/s)	COMMENTS								
0			Ground Surface Organic brown-black organic soil with thin white fine sand layer (ash?)			0.37 m stickup								
1			Clay and Gravel dark grey soft clay interlayered with grey (tan) clay and sub-ang. fine-coarse gravel tan-grey clay with sub-ang. fine gravel (clay is > 70% volume)			WEATHERED BEDROCK AQUIFER	2" schedule 40 PVC riser pipe							
2			grey clay with angular fine gravel (at end of run washed out gravel from sample extraction) grey soft clay and fine sub-round to sub-ang. gravel					0.3 m bentonite chip seal on sand. Grout to surface						
3			Clay with Weathered Rock grey stiff clay with weathered rock pieces						10/20 filter sand					
4			Weathered Bedrock grey weathered bedrock							20-slot 2" PVC screen				
5			light grey weathered rock (grey clay with weathered rock) - this is more weathered zone than above hard slightly weathered rock								2 x 10⁻⁵			
6			Bedrock bedrock (not weathered)											
7			bedrock (not weathered)											
8														

NOTES: NAD 83 (hand-held Garman GPS)

PROJECT No: 1CD003.118
 SITE: FARO
 CLIENT: Deloitte & Touche

 DATE: Aug. 26, 2008
 LOGGED BY: J. Scibek
 DRILL HOLE: SRK08-P16

 EASTING: 592151
 NORTHING: 6903132
 ELEVATION: 1111

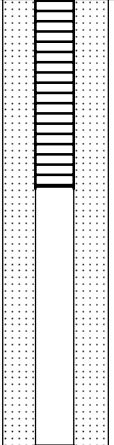




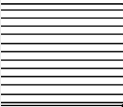
DEPTH (m)	WELL	LITHO SYMBOL	DETAILED LITHOGRAPHY	HYDROSTRATIGRAPHY	K (m/s)	COMMENTS
0			Ground Surface			
0 to 5.665			Clayey Organic grey clayey organic soil Clay with Sand and Gravel diamict: grey clay with fine-coarse sand (angular) and fine-coarse gravel (sub round to angular) grey clay with med-coarse sand and fine ang-sub ang. gravel	AQUITARD		0.6 m stickup
5.665 to 6.1			Clayey Weathered Rock grey clayey very weathered rock (mostly clay)			2" schedule 40 PVC riser pipe
6.1 to 6.2			Clayey Sand grey very clayey fine sand			0.61 m bentonite chip seal on sand. Grout to surface
6.2 to 7.0			Weathered Bedrock weathered bedrock: grey soft clay with fine-coarse angular sand, minor fine gravel and cobble sized pieces grey weathered bedrock (few rusty-brown spots), crumbly-soft	WEATHERED BEDROCK AQUIFER		10/20 filter sand
7.0 to 8.0					5 x 10-6	20-slot 2" PVC screen

NOTES: NAD 83 (hand-held Garman GPS)

PROJECT No: 1CD003.118
 SITE: FARO
 CLIENT: Deloitte & Touche

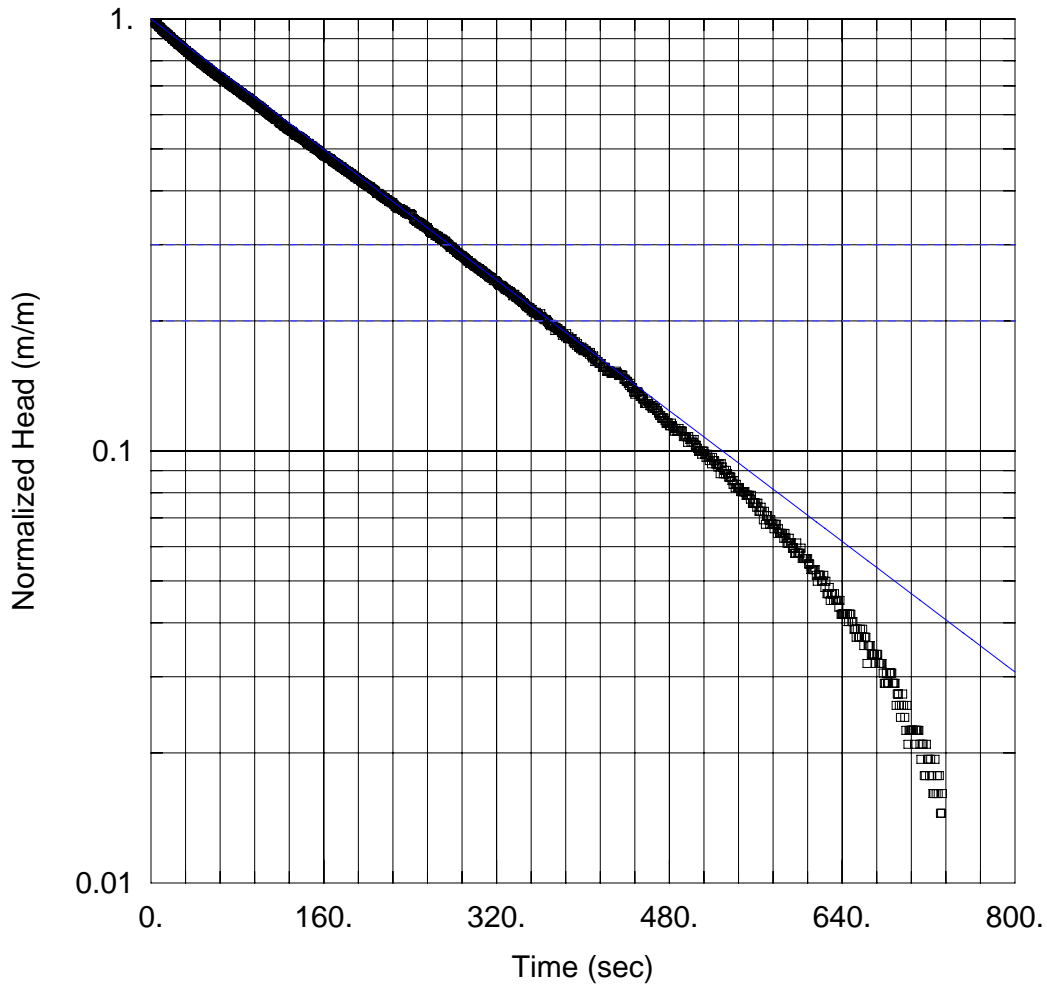
 DATE: Aug. 26, 2008
 LOGGED BY: J. Scibek
 DRILL HOLE: SRK08-P16

 EASTING: 592151
 NORTHING: 6903132
 ELEVATION: 1111

DEPTH (m)	WELL	LITHO SYMBOL	DETAILED LITHOGRAPHY	HYDROSTRATIGRAPHY	K (m/s)	COMMENTS
9			clayey weathered rock: grey clay and coarse angular sand, minor coarse quartz grains and unweathered phyllite gravel-sized pieces			1.64 m sump
			dark grey weathered rock (clay with very angular coarse sand to v. angular fine gravel - sharp rockpieces)			
			weathered rock, soft crumbly, with clay			
			hard, crumbly, slightly weathered phyllite rock			
10			Bedrock grey bedrock			
11						
12						
13						
14						
15						
16						

NOTES: NAD 83 (hand-held Garman GPS)

Appendix B
Hydraulic Testing Data



WELL TEST ANALYSIS

Data Set: Z:\...\P10a_Test 1.aqt
 Date: 04/09/09

Time: 13:39:49

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P10A slug
 Test Date: 9/7/2008

AQUIFER DATA

Saturated Thickness: 3.8 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P10A-Test1)

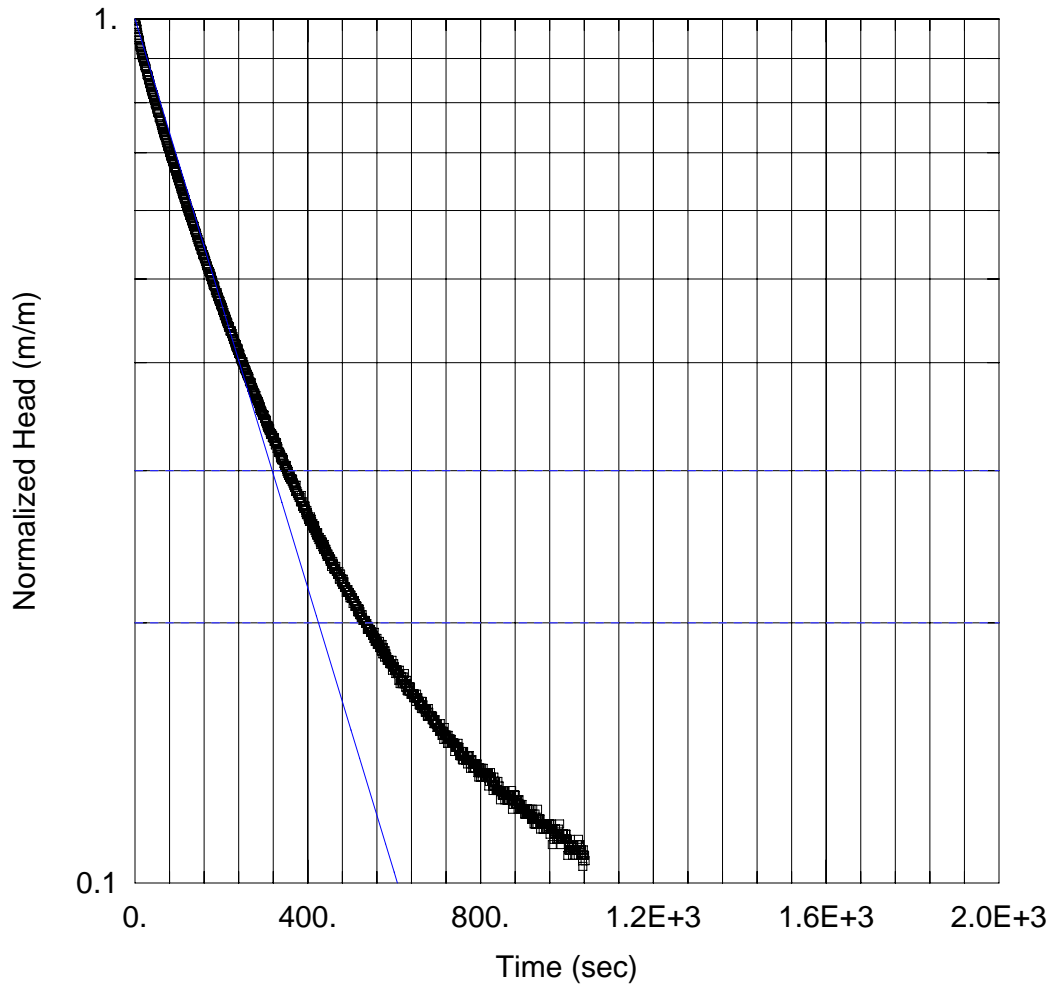
Initial Displacement: 0.621 m
 Total Well Penetration Depth: 3.7 m
 Casing Radius: 0.0257 m

Static Water Column Height: 3.8 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 1.764E-6 m/sec

Solution Method: Bouwer-Rice
 y0 = 0.621 m



WELL TEST ANALYSIS

Data Set: Z:\...\P10a_Test 2.aqt
 Date: 04/09/09

Time: 13:25:55

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P10A slug
 Test Date: 9/7/2008

AQUIFER DATA

Saturated Thickness: 3.8 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P10A-Test2)

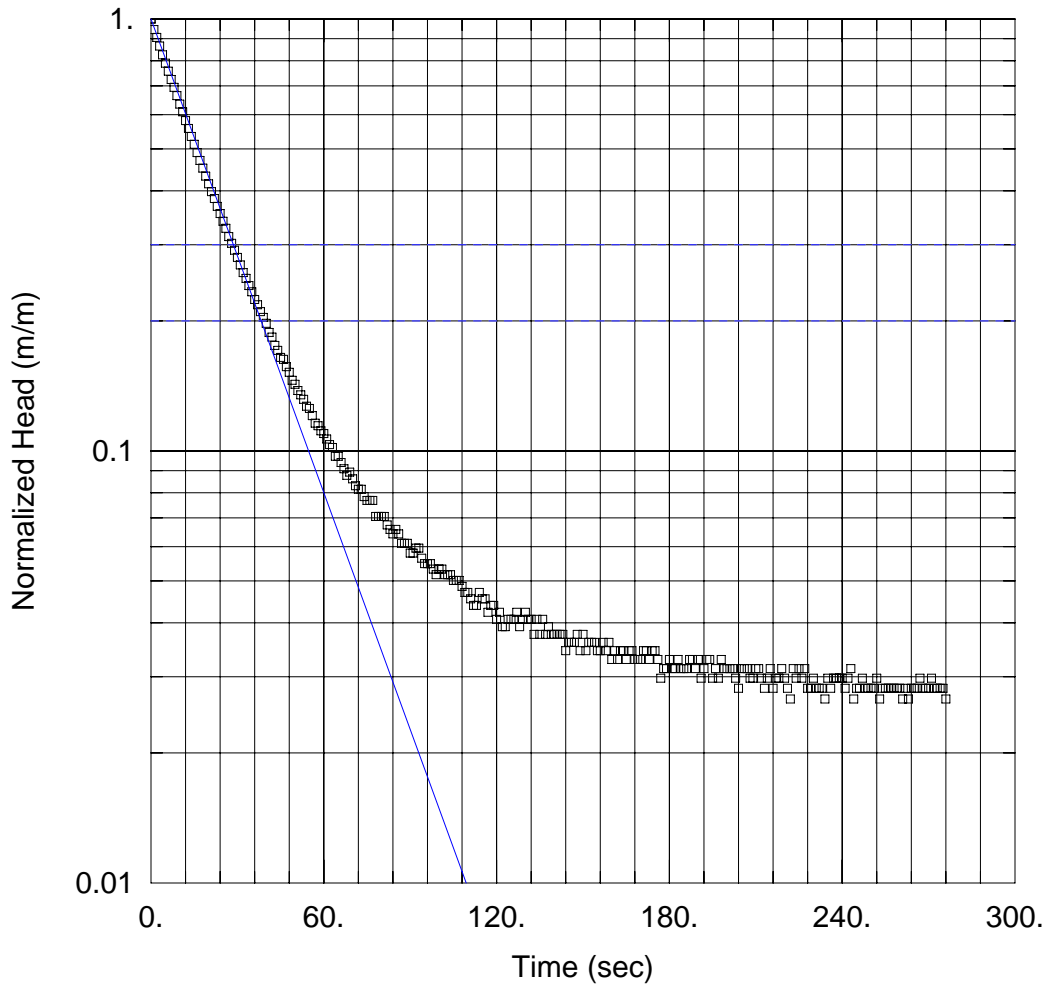
Initial Displacement: 0.641 m
 Total Well Penetration Depth: 3.7 m
 Casing Radius: 0.0257 m

Static Water Column Height: 3.8 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 1.536E-6 m/sec

Solution Method: Bouwer-Rice
 y0 = 0.641 m



WELL TEST ANALYSIS

Data Set: Z:\...\P11a_Test 1.aqt
 Date: 04/09/09

Time: 13:26:04

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P11A slug
 Test Date: 9/1/2008

AQUIFER DATA

Saturated Thickness: 12.3 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P11A-Test1)

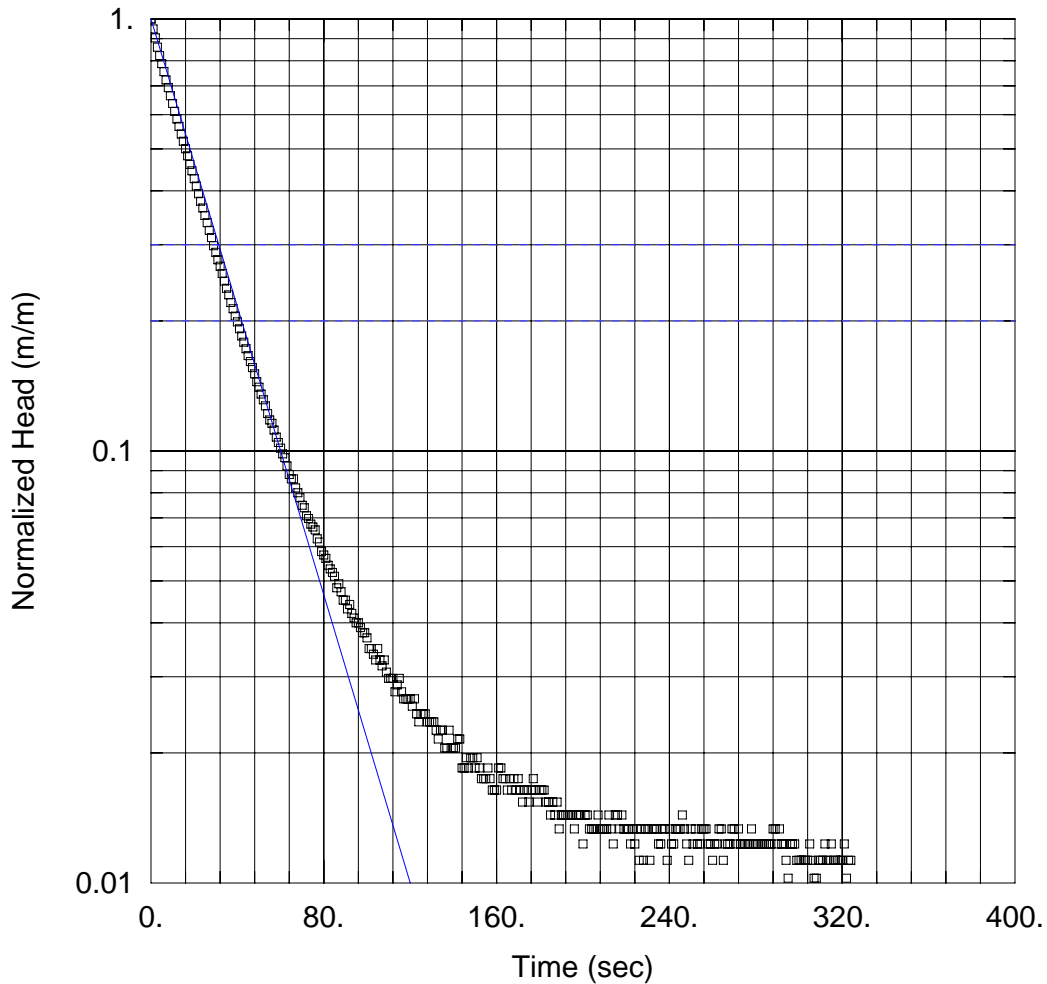
Initial Displacement: 0.638 m
 Total Well Penetration Depth: 12.2 m
 Casing Radius: 0.0257 m

Static Water Column Height: 13.1 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 2.025E-5 m/sec

Solution Method: Bower-Rice
 y0 = 0.638 m



WELL TEST ANALYSIS

Data Set: Z:\...\P11a_Test 2.aqt
 Date: 04/09/09

Time: 13:26:13

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P11A slug
 Test Date: 9/1/2008

AQUIFER DATA

Saturated Thickness: 12.3 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P11A-Test2)

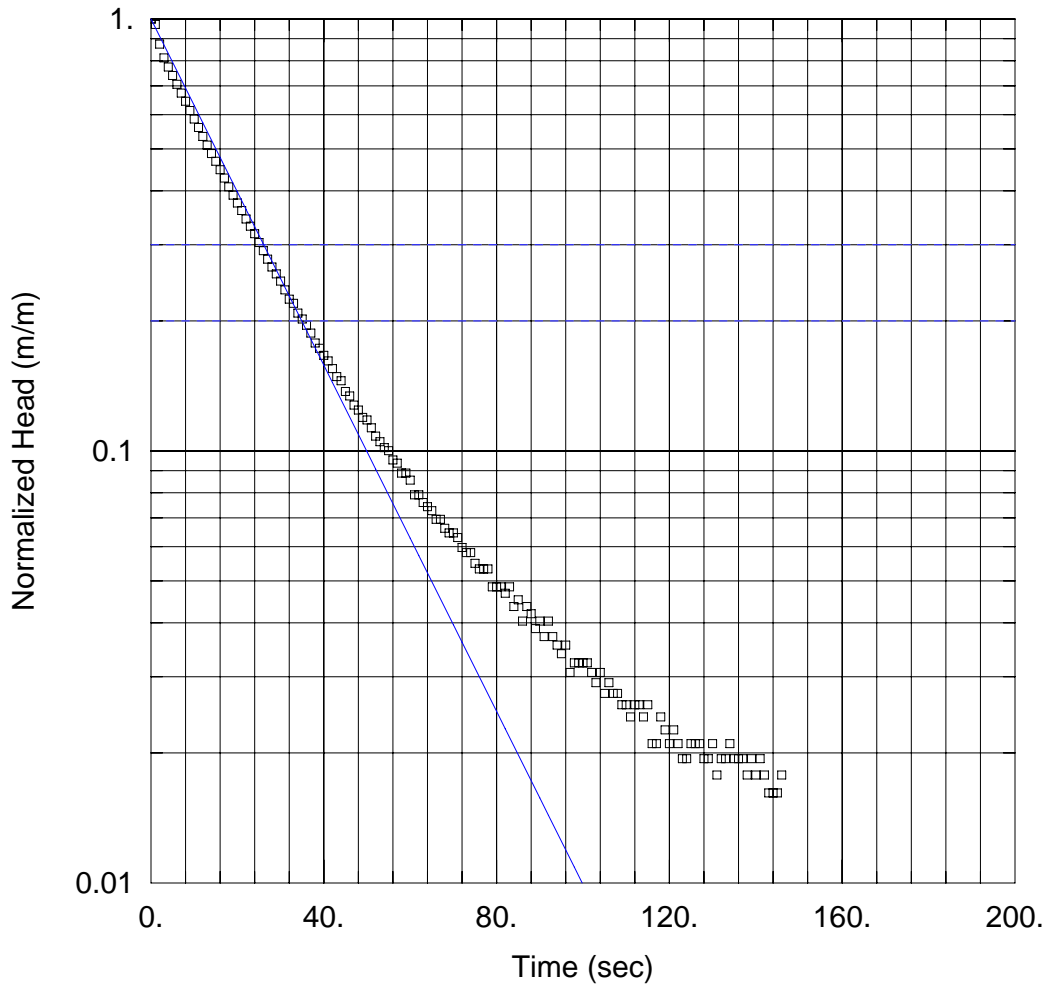
Initial Displacement: 0.975 m
 Total Well Penetration Depth: 12.2 m
 Casing Radius: 0.0257 m

Static Water Column Height: 13.1 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 1.847E-5 m/sec

Solution Method: Bower-Rice
 y0 = 0.975 m



WELL TEST ANALYSIS

Data Set: Z:\...\P11a_Test 3.aqt
 Date: 04/09/09

Time: 13:26:52

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P11A slug
 Test Date: 9/1/2008

AQUIFER DATA

Saturated Thickness: 12.3 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P11A-Test3)

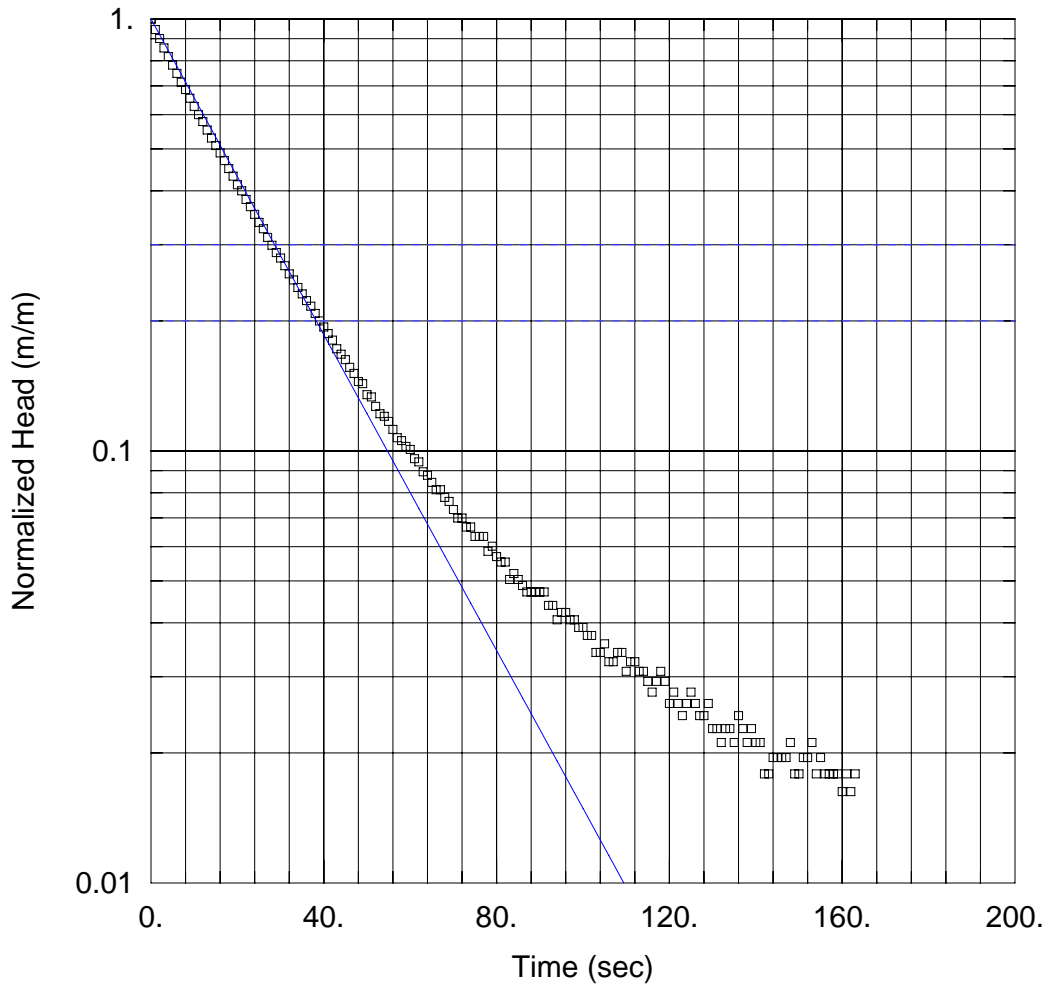
Initial Displacement: 0.619 m
 Total Well Penetration Depth: 12.2 m
 Casing Radius: 0.0257 m

Static Water Column Height: 13.1 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 2.221E-5 m/sec

Solution Method: Bower-Rice
 y0 = 0.619 m



WELL TEST ANALYSIS

Data Set: Z:\...\P11a_Test 4.aqt
 Date: 04/09/09

Time: 13:25:40

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P11A slug
 Test Date: 9/1/2008

AQUIFER DATA

Saturated Thickness: 12.3 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P11A-Test4)

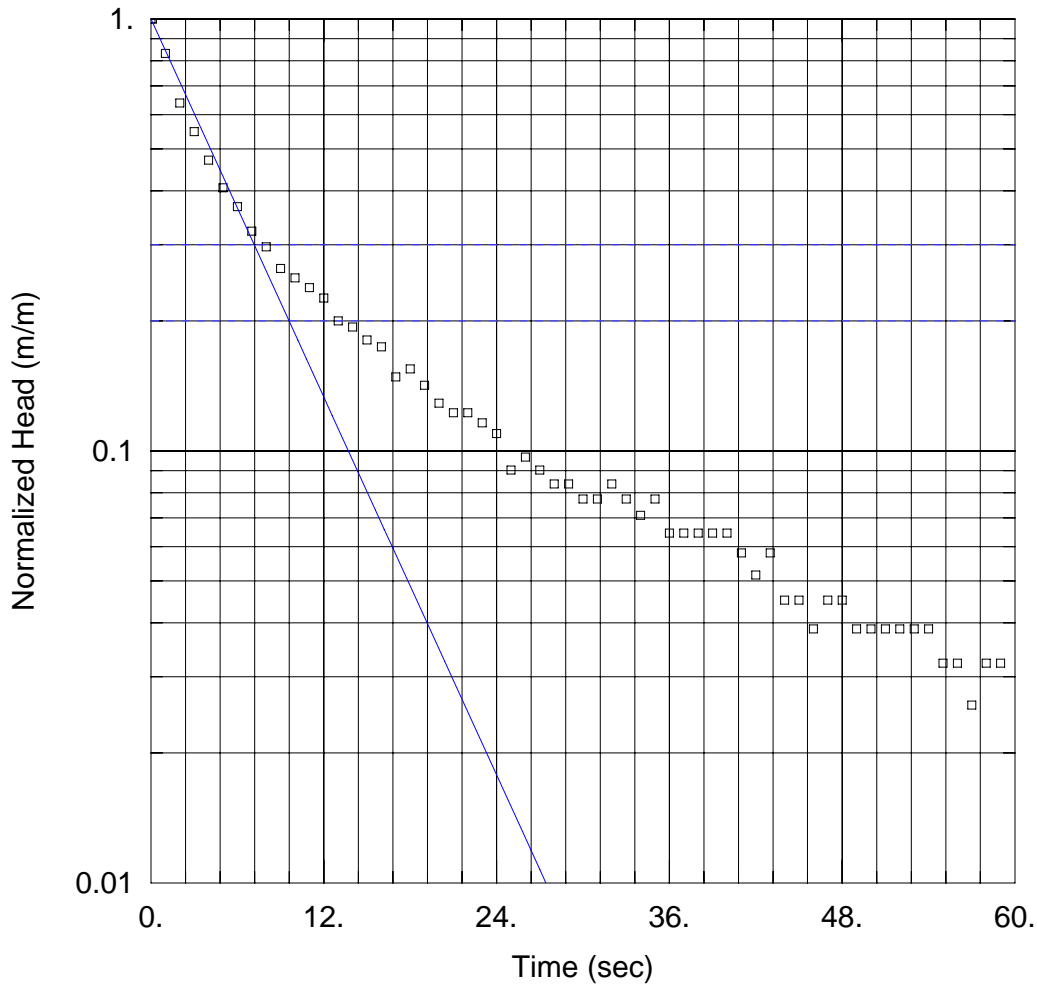
Initial Displacement: 0.615 m
 Total Well Penetration Depth: 12.2 m
 Casing Radius: 0.0257 m

Static Water Column Height: 13.1 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 2.025E-5 m/sec

Solution Method: Bower-Rice
 y0 = 0.615 m



WELL TEST ANALYSIS

Data Set: Z:\...\P11B_Test 1.aqt
 Date: 04/09/09

Time: 13:29:15

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P11B slug
 Test Date: 9/1/2008

AQUIFER DATA

Saturated Thickness: 6.2 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P11B-Test1)

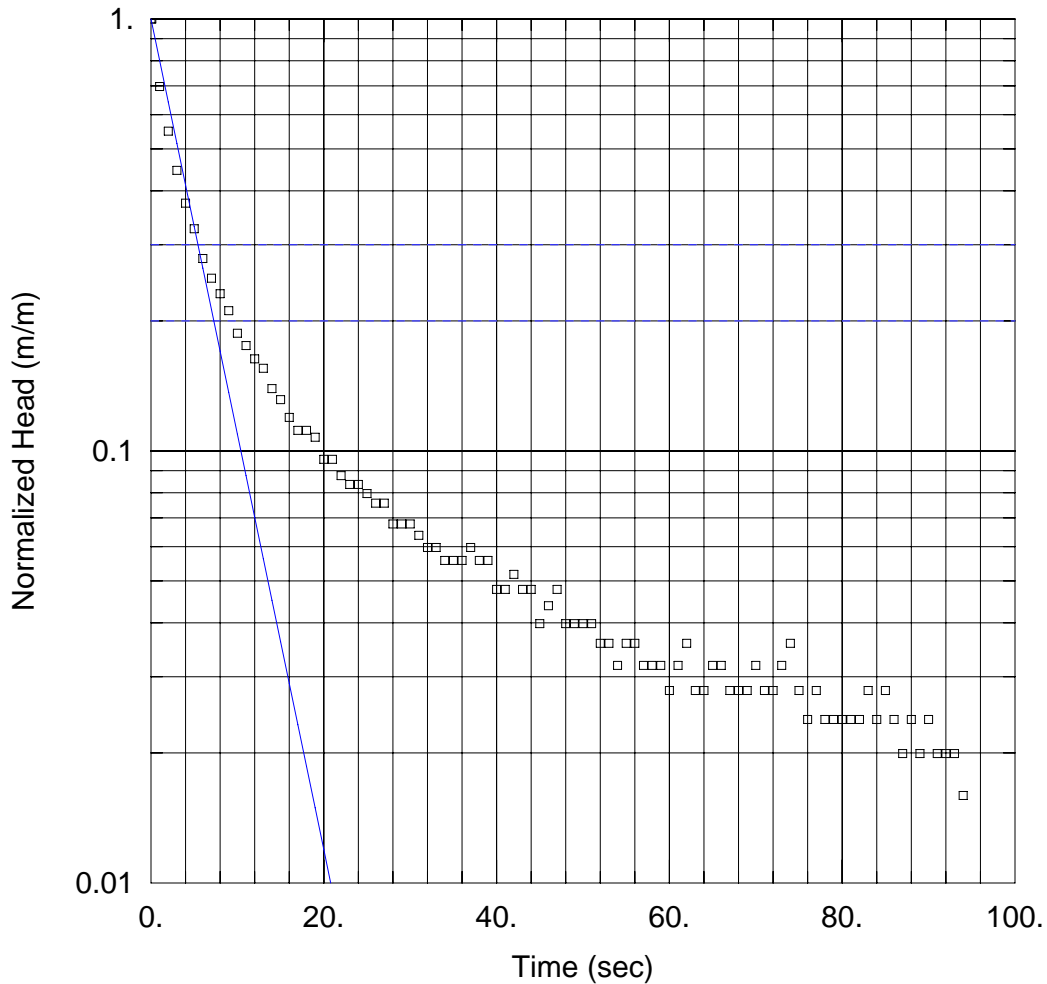
Initial Displacement: 0.155 m
 Total Well Penetration Depth: 6.1 m
 Casing Radius: 0.0257 m

Static Water Column Height: 13.1 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 7.353E-5 m/sec

Solution Method: Bower-Rice
 y0 = 0.155 m



WELL TEST ANALYSIS

Data Set: Z:\...\P11B_Test 2.aqt
 Date: 04/09/09

Time: 13:29:16

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P11B slug
 Test Date: 9/1/2008

AQUIFER DATA

Saturated Thickness: 6.2 m

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (P11B-Test2)

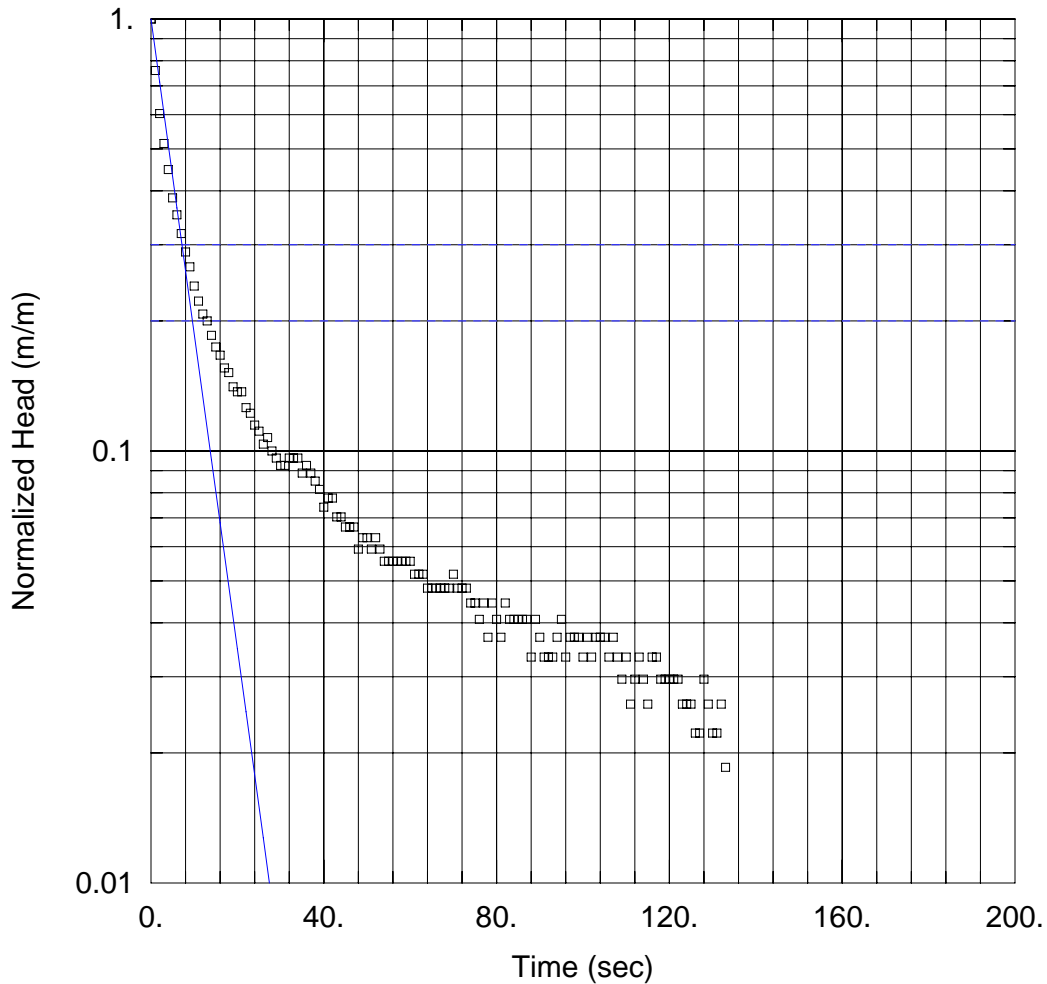
Initial Displacement: 0.251 m
 Total Well Penetration Depth: 6.1 m
 Casing Radius: 0.0257 m

Static Water Column Height: 13.1 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 $K = 9.693E-5$ m/sec

Solution Method: Bower-Rice
 $y_0 = 0.251$ m



WELL TEST ANALYSIS

Data Set: Z:\...\P11B_Test 3.aqt
 Date: 04/09/09

Time: 13:29:18

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P11B slug
 Test Date: 9/1/2008

AQUIFER DATA

Saturated Thickness: 6.2 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P11B-Test3)

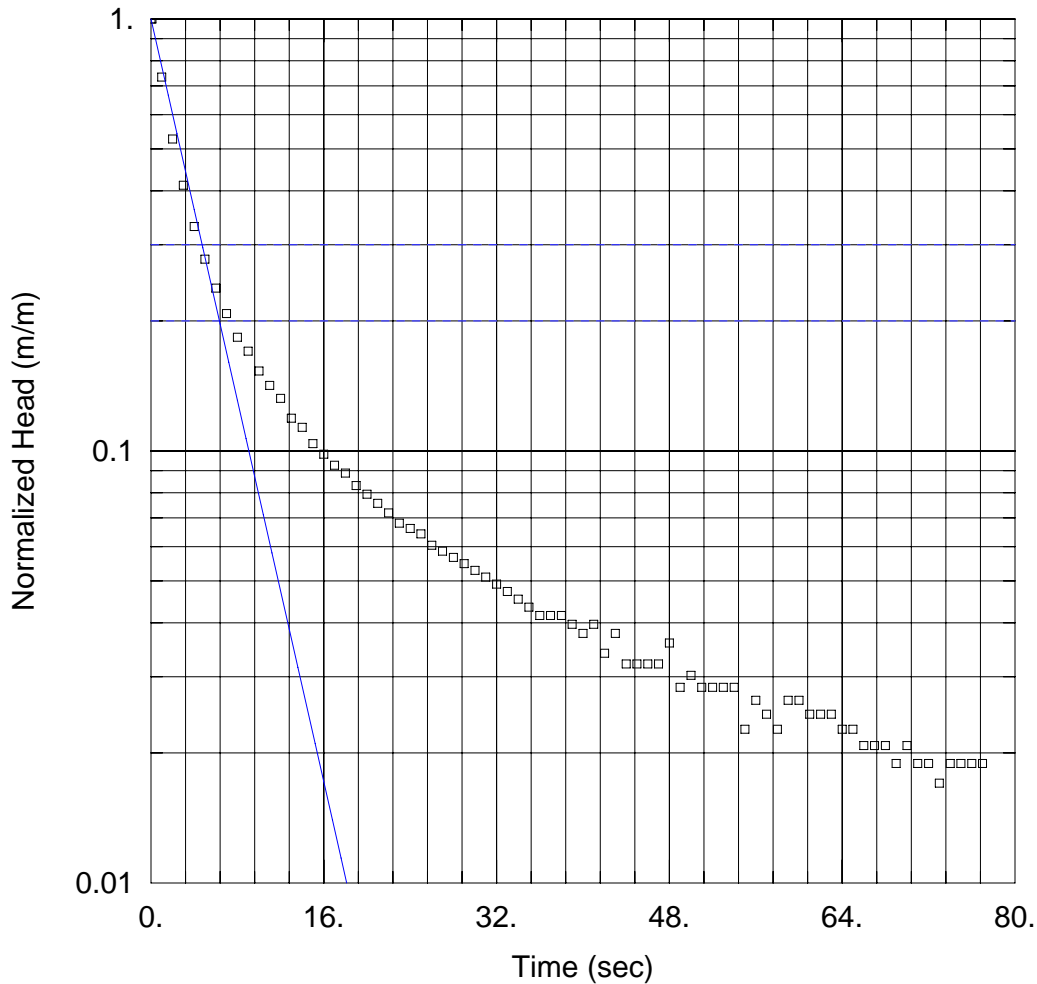
Initial Displacement: 0.27 m
 Total Well Penetration Depth: 6.1 m
 Casing Radius: 0.0257 m

Static Water Column Height: 13.1 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 7.353E-5 m/sec

Solution Method: Bouwer-Rice
 y0 = 0.27 m



WELL TEST ANALYSIS

Data Set: Z:\...\P11B_Test 4.aqt
 Date: 04/09/09

Time: 13:29:19

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P11B slug
 Test Date: 9/1/2008

AQUIFER DATA

Saturated Thickness: 6.2 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P11B-Test4)

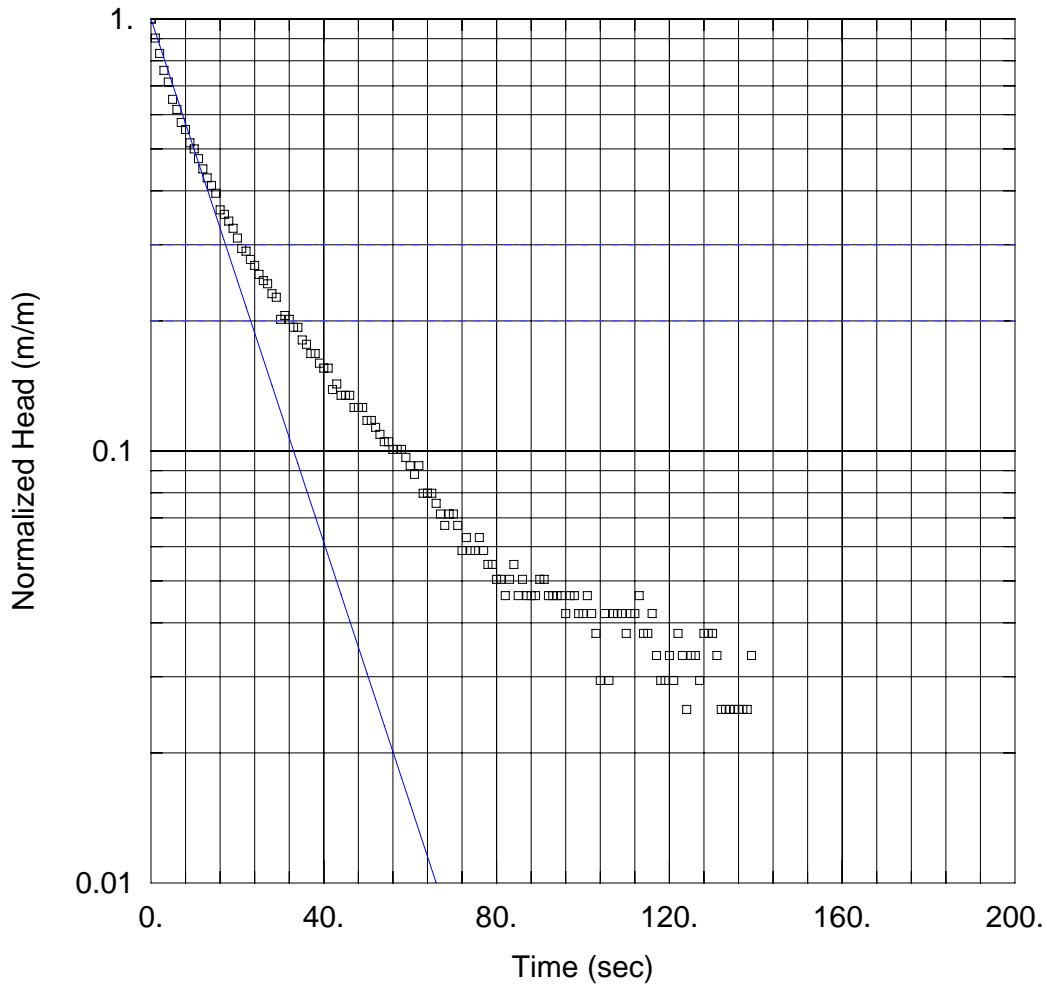
Initial Displacement: 0.529 m
 Total Well Penetration Depth: 6.1 m
 Casing Radius: 0.0257 m

Static Water Column Height: 13.1 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 0.0001113 m/sec

Solution Method: Bower-Rice
 y0 = 0.529 m



WELL TEST ANALYSIS

Data Set: Z:\...\P12A_Test 1.aqt
 Date: 04/09/09

Time: 13:29:20

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P12A slug
 Test Date: 8/27/2008

AQUIFER DATA

Saturated Thickness: 4.7 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P12A - Test1)

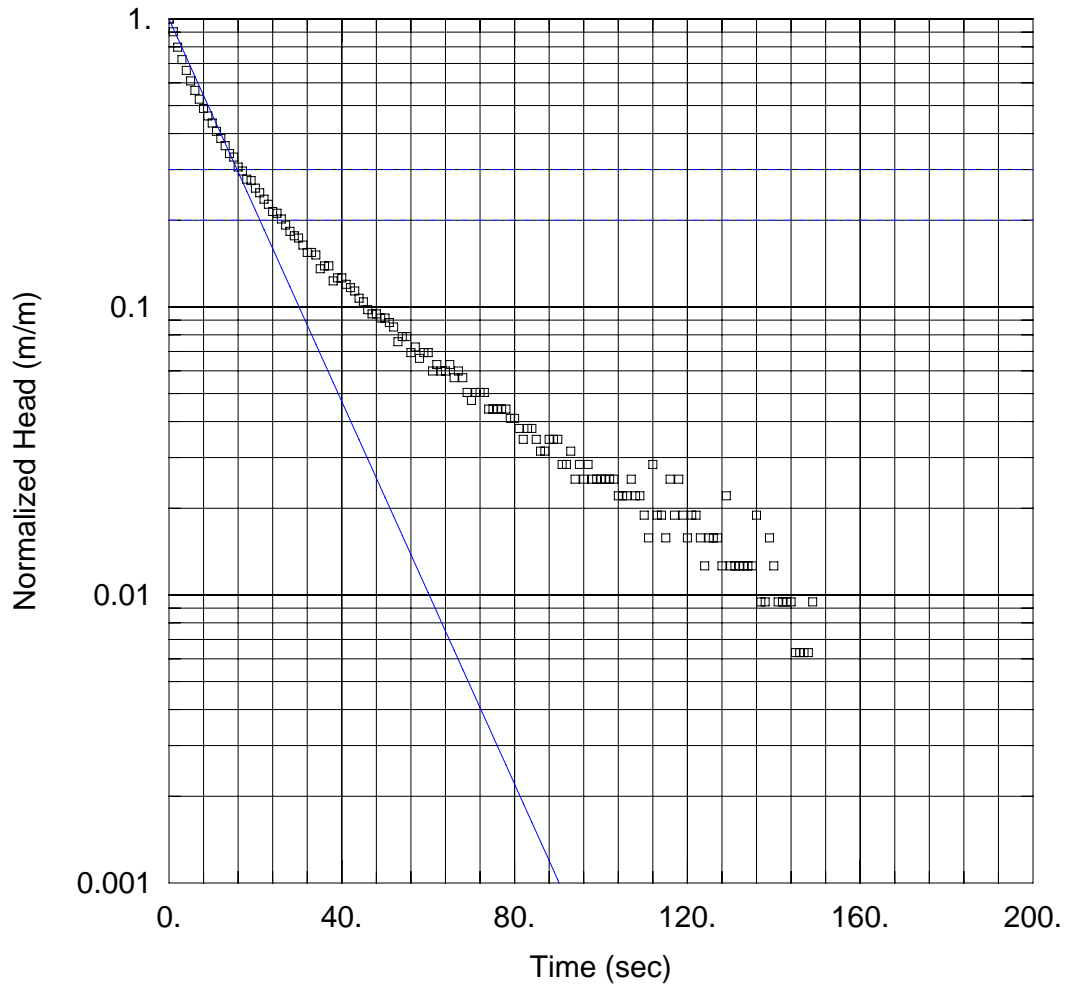
Initial Displacement: 0.238 m
 Total Well Penetration Depth: 4.6 m
 Casing Radius: 0.0257 m

Static Water Column Height: 4.7 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 2.927E-5 m/sec

Solution Method: Bower-Rice
 y0 = 0.238 m



WELL TEST ANALYSIS

Data Set: Z:\...\P12A_Test 2.aqt
 Date: 04/09/09

Time: 13:29:13

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P12A slug
 Test Date: 8/27/2008

AQUIFER DATA

Saturated Thickness: 4.7 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P12A - Test2)

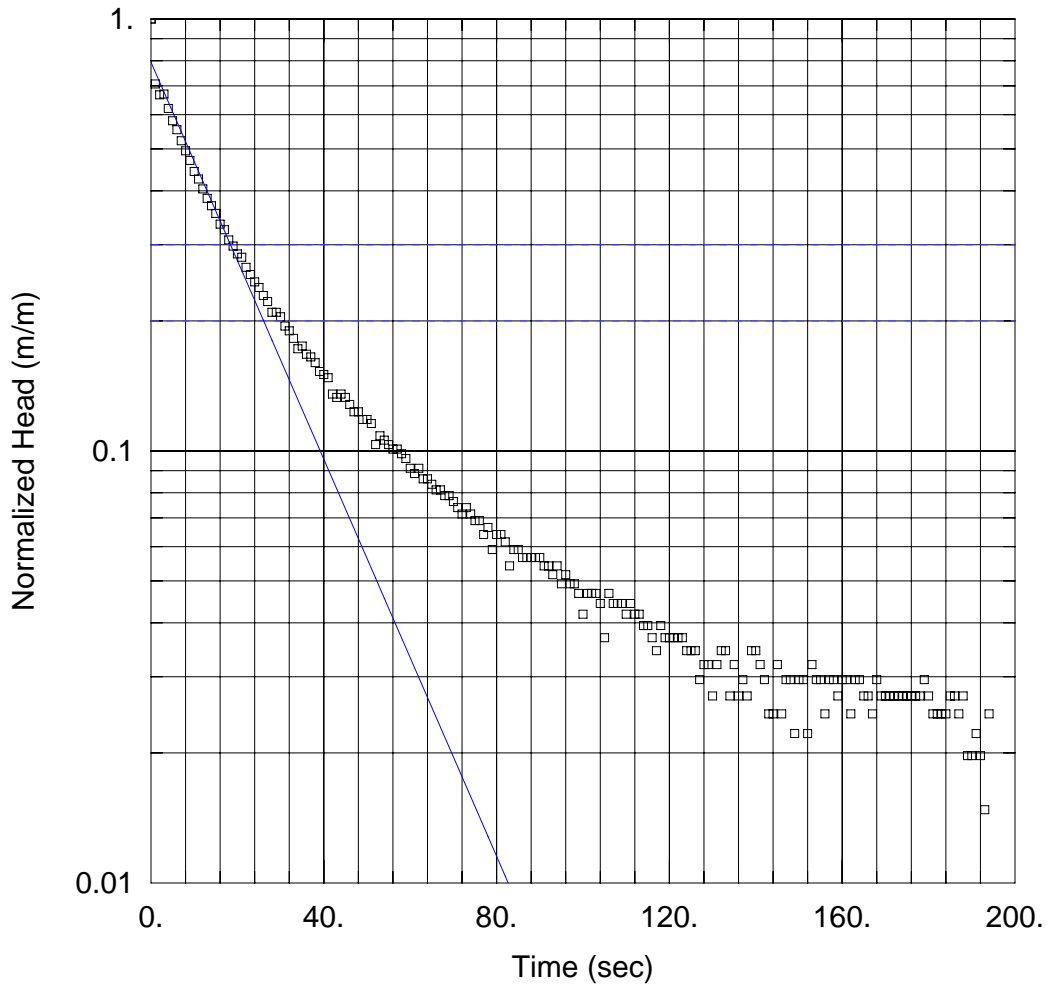
Initial Displacement: 0.317 m
 Total Well Penetration Depth: 4.6 m
 Casing Radius: 0.0257 m

Static Water Column Height: 4.7 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 3.21E-5 m/sec

Solution Method: Bower-Rice
 y0 = 0.317 m



WELL TEST ANALYSIS

Data Set: Z:\...\P12A_Test 3.aqt
 Date: 04/09/09

Time: 13:30:45

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P12A slug
 Test Date: 8/27/2008

AQUIFER DATA

Saturated Thickness: 4.7 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P12A - Test3)

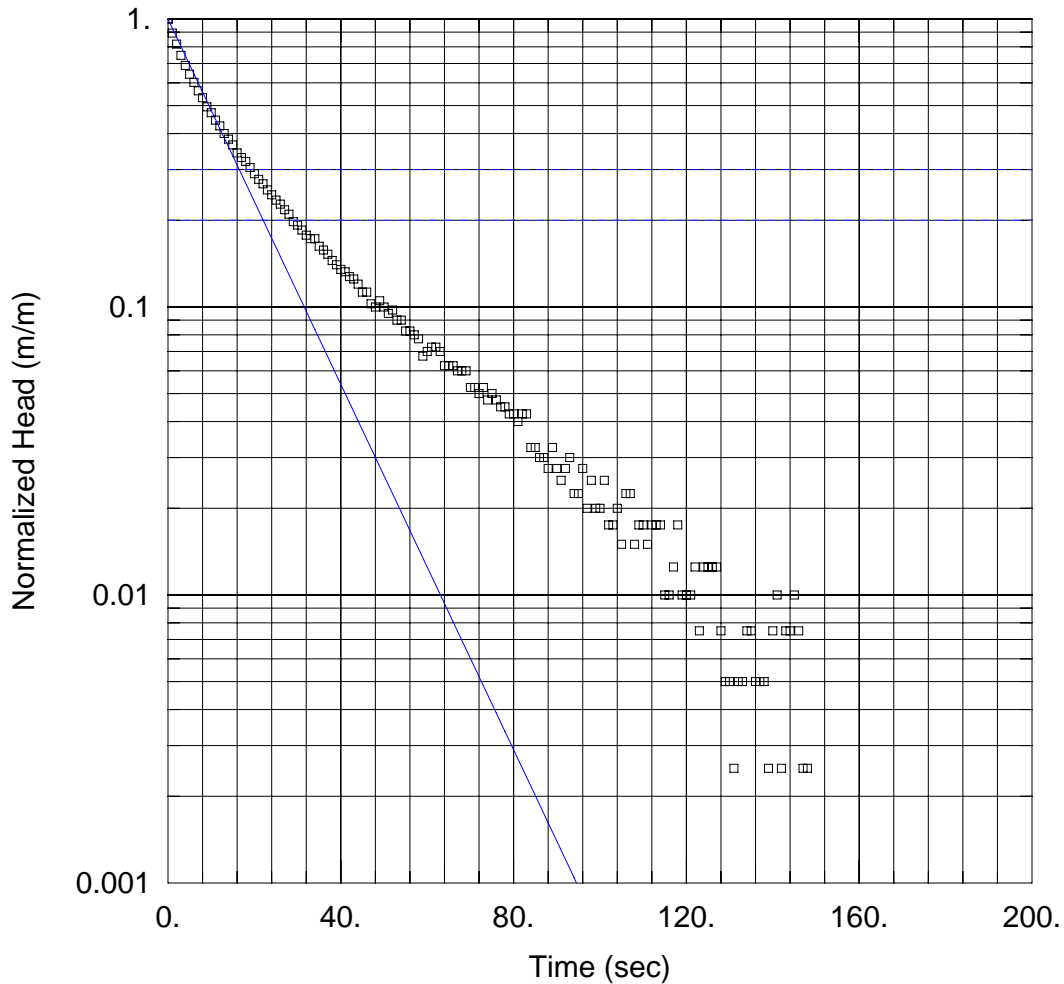
Initial Displacement: 0.406 m
 Total Well Penetration Depth: 4.6 m
 Casing Radius: 0.0257 m

Static Water Column Height: 4.7 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 2.221E-5 m/sec

Solution Method: Bower-Rice
 y0 = 0.3225 m



WELL TEST ANALYSIS

Data Set: Z:\...\P12A_Test 4.aqt
 Date: 04/09/09

Time: 13:30:47

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P12A slug
 Test Date: 8/27/2008

AQUIFER DATA

Saturated Thickness: 4.7 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P12A - Test4)

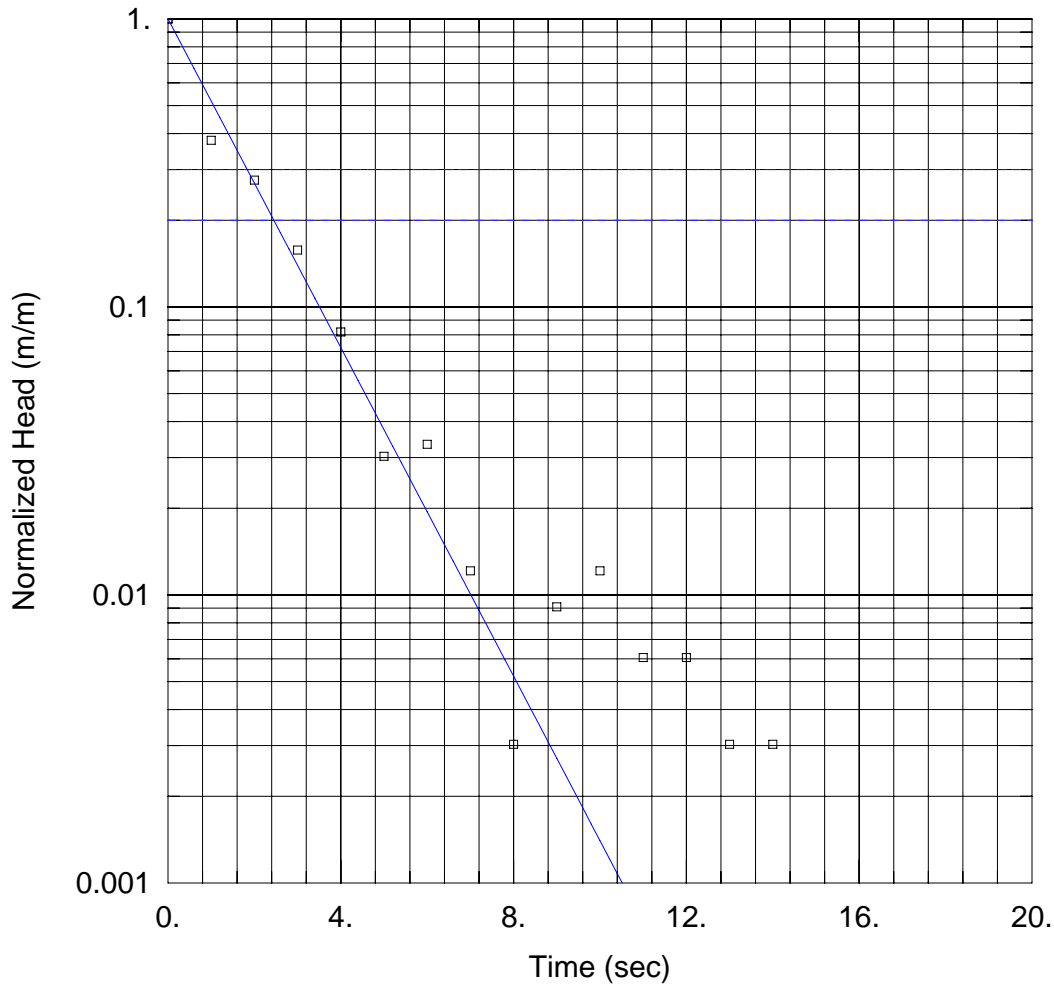
Initial Displacement: 0.4 m
 Total Well Penetration Depth: 4.6 m
 Casing Radius: 0.0257 m

Static Water Column Height: 4.7 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 3.065E-5 m/sec

Solution Method: Bower-Rice
 y0 = 0.4 m



WELL TEST ANALYSIS

Data Set: Z:\...\P12B_Test 1.aqt
 Date: 04/09/09

Time: 13:30:48

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P12B slug
 Test Date: 9/16/2008

AQUIFER DATA

Saturated Thickness: 6.4 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P12B - Test1)

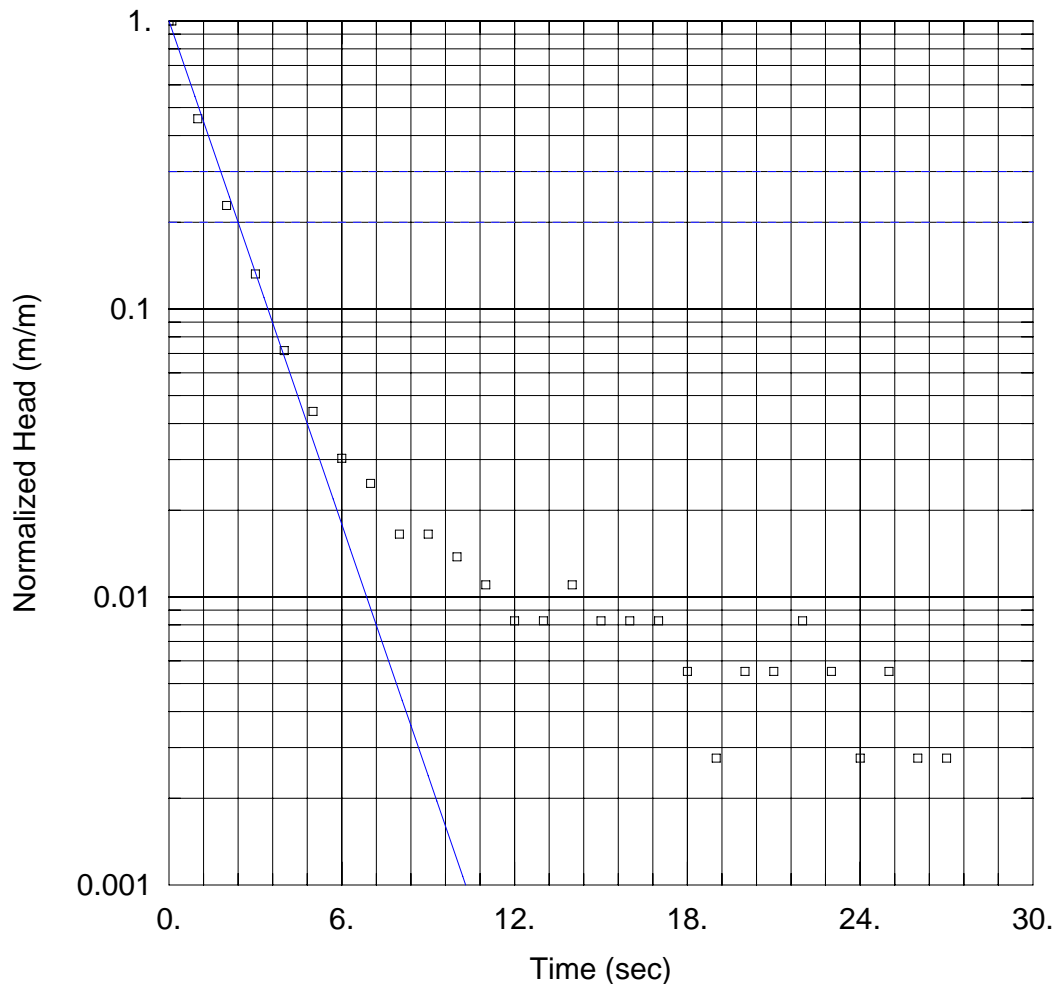
Initial Displacement: 0.33 m
 Total Well Penetration Depth: 6.4 m
 Casing Radius: 0.0257 m

Static Water Column Height: 6.4 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 0.0003003 m/sec

Solution Method: Bouwer-Rice
 y0 = 0.33 m



WELL TEST ANALYSIS

Data Set: Z:\...\P12B_Test 2.aqt
 Date: 04/09/09

Time: 13:30:49

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P12BA slug
 Test Date: 9/16/2008

AQUIFER DATA

Saturated Thickness: 6.4 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P12B - Test2)

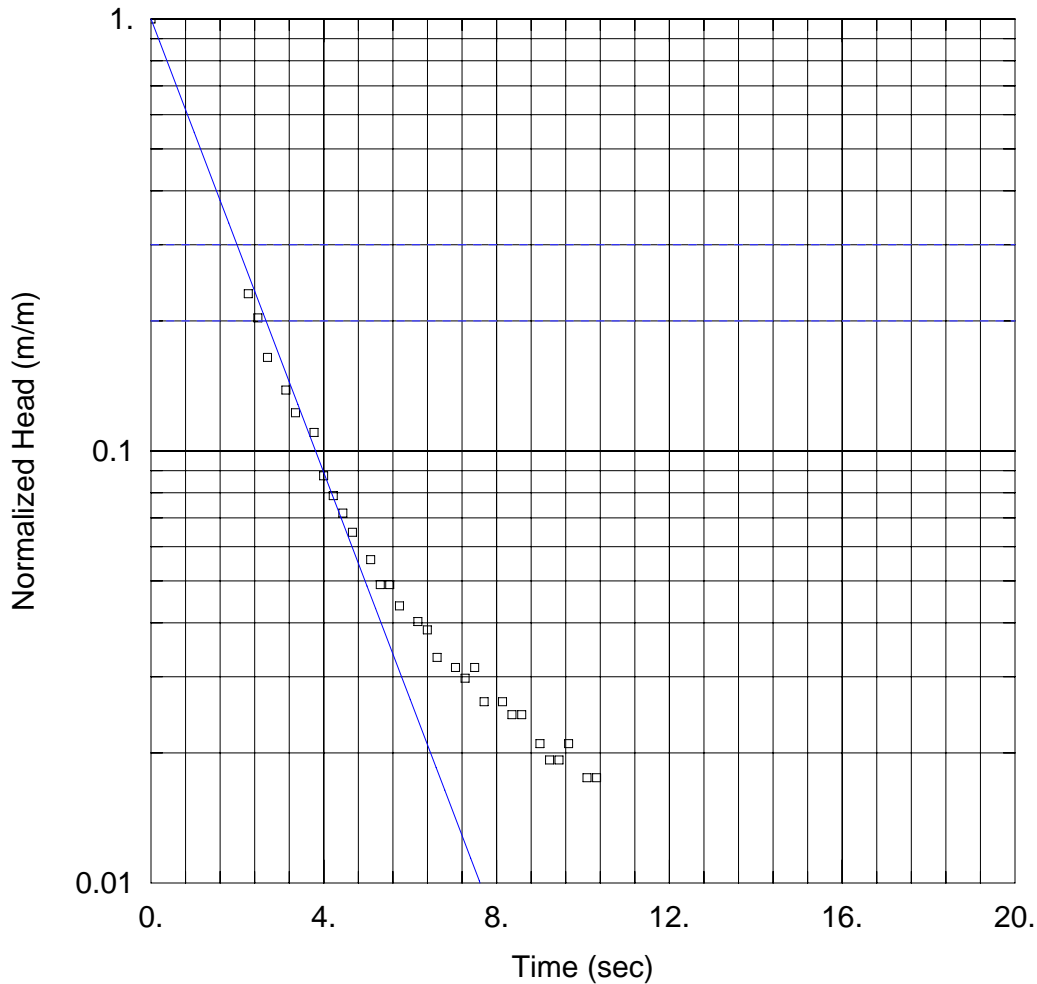
Initial Displacement: 0.363 m
 Total Well Penetration Depth: 6.4 m
 Casing Radius: 0.0257 m

Static Water Column Height: 6.4 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 0.0003065 m/sec

Solution Method: Bouwer-Rice
 y0 = 0.363 m



WELL TEST ANALYSIS

Data Set: Z:\...\P12B_Test 3.aqt
 Date: 04/09/09

Time: 13:30:51

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P12B slug
 Test Date: 9/16/2008

AQUIFER DATA

Saturated Thickness: 6.4 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P12B - Test3)

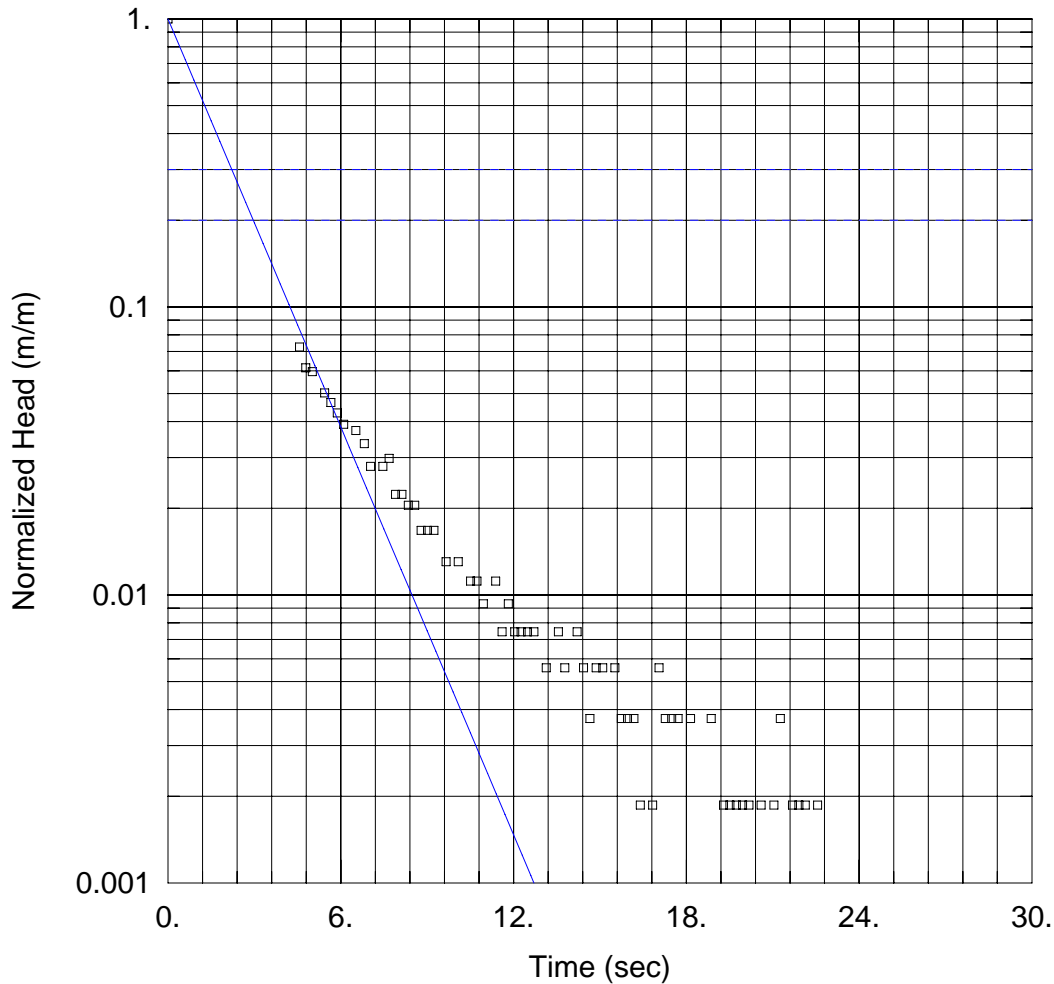
Initial Displacement: 0.571 m
 Total Well Penetration Depth: 6.4 m
 Casing Radius: 0.0257 m

Static Water Column Height: 6.4 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 0.0002763 m/sec

Solution Method: Bower-Rice
 y0 = 0.571 m



WELL TEST ANALYSIS

Data Set: Z:\...\P12B_Test 4.aqt
 Date: 04/09/09

Time: 13:30:44

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P12B slug
 Test Date: 9/16/2008

AQUIFER DATA

Saturated Thickness: 6.4 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P12B - Test4)

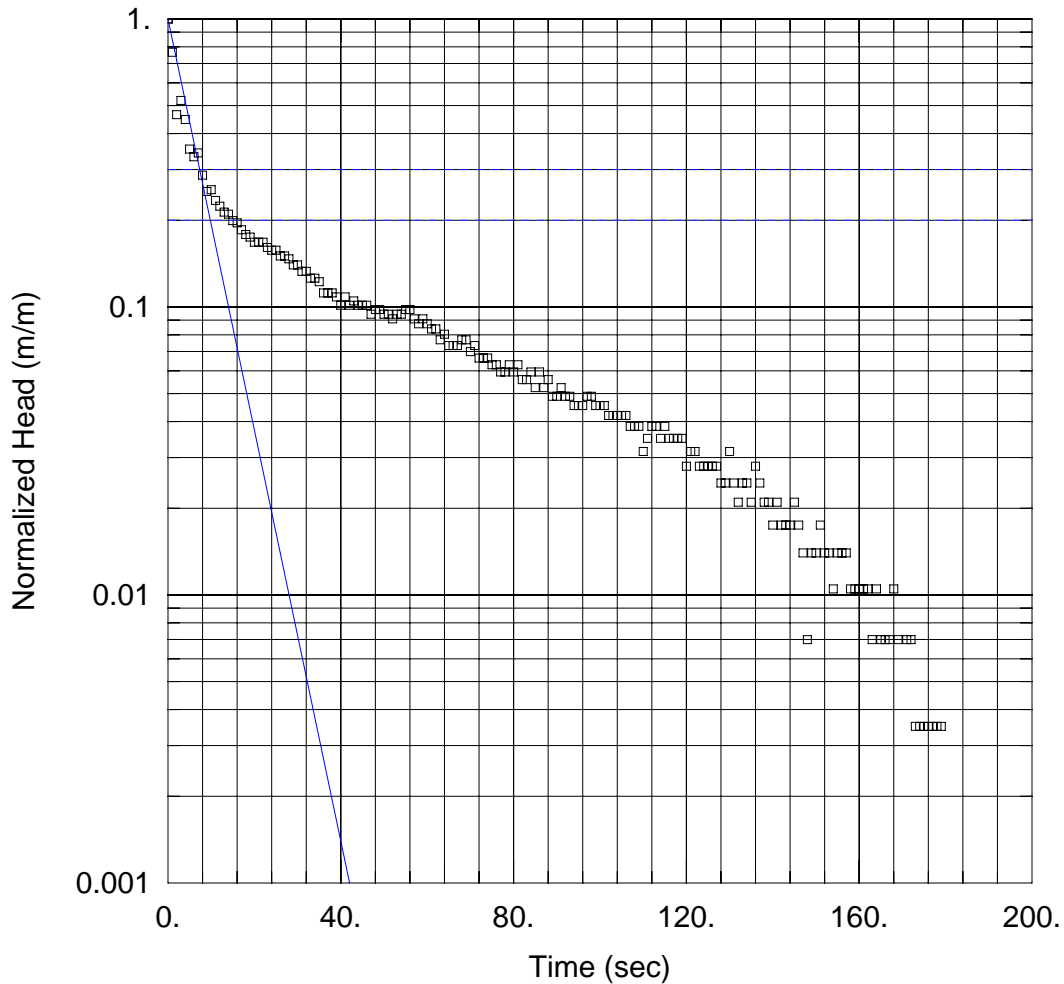
Initial Displacement: 0.537 m
 Total Well Penetration Depth: 6.4 m
 Casing Radius: 0.0257 m

Static Water Column Height: 6.4 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 0.0002485 m/sec

Solution Method: Bower-Rice
 y0 = 0.537 m



WELL TEST ANALYSIS

Data Set: Z:\...\P14_Test 1.aqt
 Date: 04/09/09

Time: 13:33:25

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P14 slug
 Test Date: 9/17/2008

AQUIFER DATA

Saturated Thickness: 3.7 m

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (P14 - Test1)

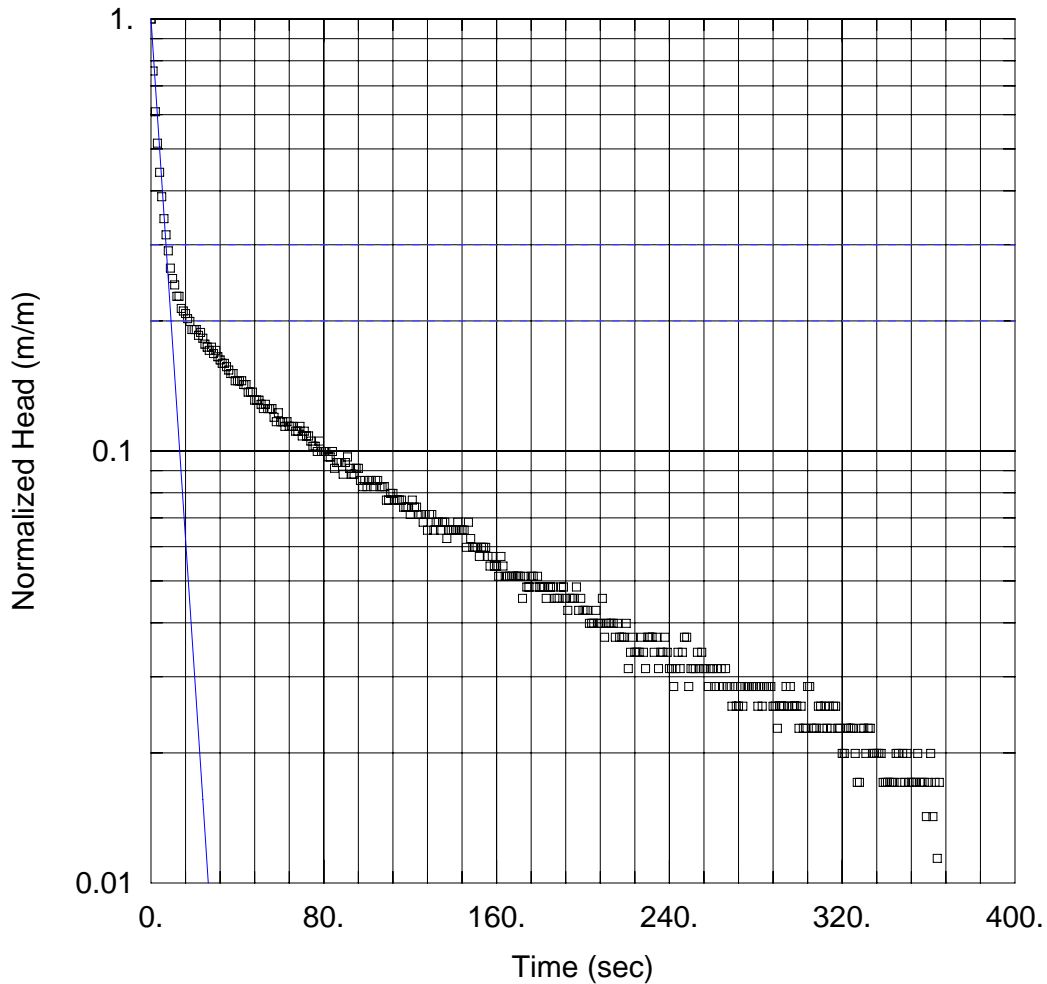
Initial Displacement: 0.286 m
 Total Well Penetration Depth: 3.7 m
 Casing Radius: 0.0257 m

Static Water Column Height: 3.7 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 $K = 6.884E-5$ m/sec

Solution Method: Bower-Rice
 $y_0 = 0.286$ m



WELL TEST ANALYSIS

Data Set: Z:\...\P14_Test 2.aqt
 Date: 04/09/09

Time: 13:33:26

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P14 slug
 Test Date: 9/17/2008

AQUIFER DATA

Saturated Thickness: 3.7 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P14 - Test2)

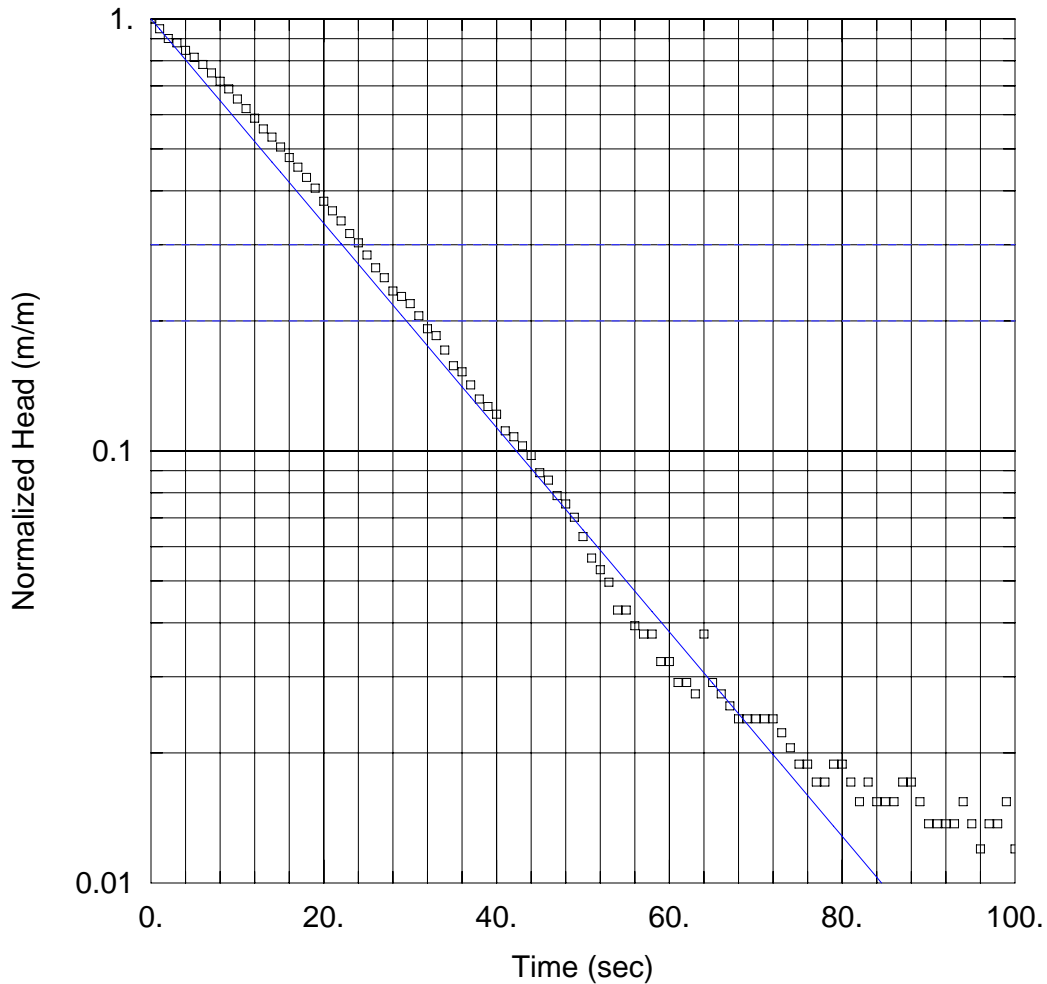
Initial Displacement: 0.351 m
 Total Well Penetration Depth: 3.7 m
 Casing Radius: 0.0257 m

Static Water Column Height: 3.7 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 7.262E-5 m/sec

Solution Method: Bower-Rice
 y0 = 0.351 m



WELL TEST ANALYSIS

Data Set: Z:\...\P15_Test 1.aqt
 Date: 04/09/09

Time: 13:33:27

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P15 slug
 Test Date: 9/17/2008

AQUIFER DATA

Saturated Thickness: 5.6 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P15 - Test1)

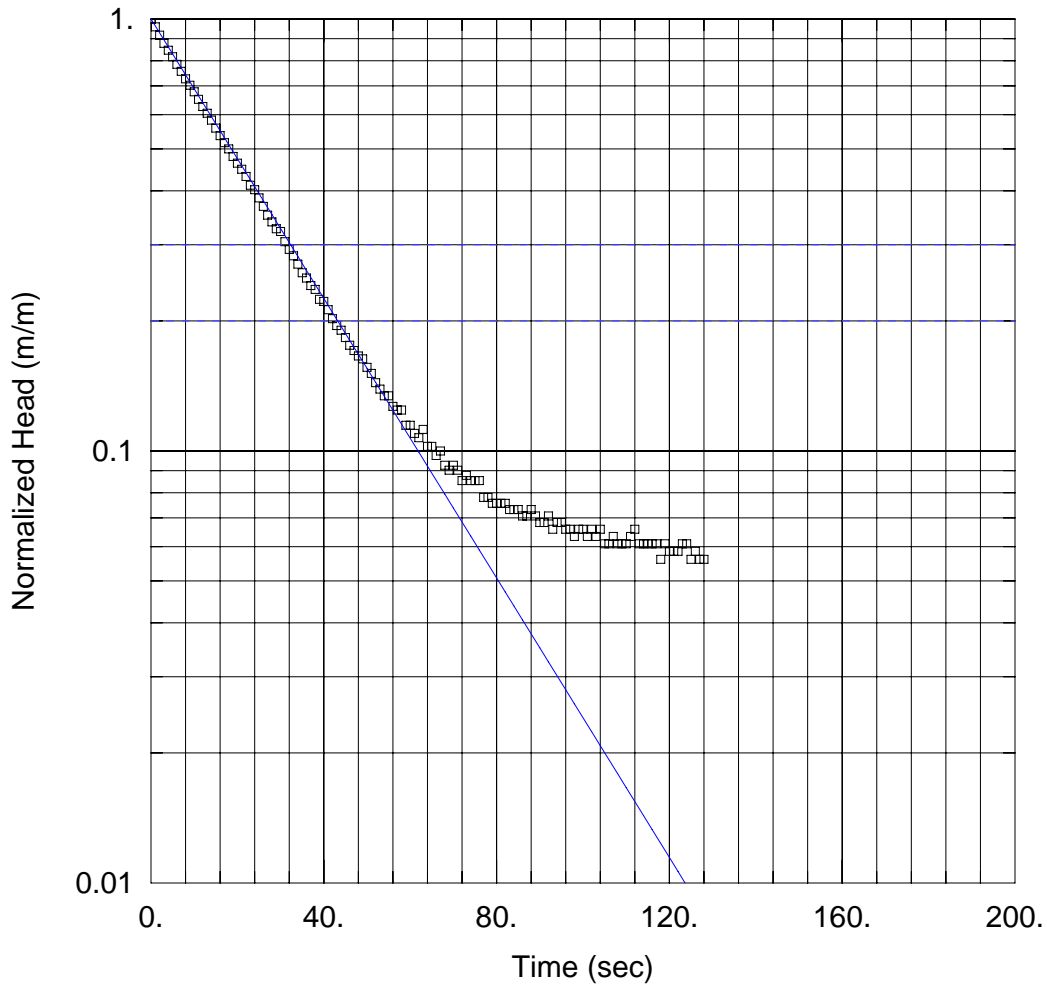
Initial Displacement: 0.584 m
 Total Well Penetration Depth: 5.5 m
 Casing Radius: 0.0257 m

Static Water Column Height: 5.6 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 2.349E-5 m/sec

Solution Method: Bower-Rice
 y0 = 0.584 m



WELL TEST ANALYSIS

Data Set: Z:\...\P15_Test 2.aqt
 Date: 04/09/09

Time: 13:33:29

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P15 slug
 Test Date: 9/17/2008

AQUIFER DATA

Saturated Thickness: 5.6 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P15 - Test2)

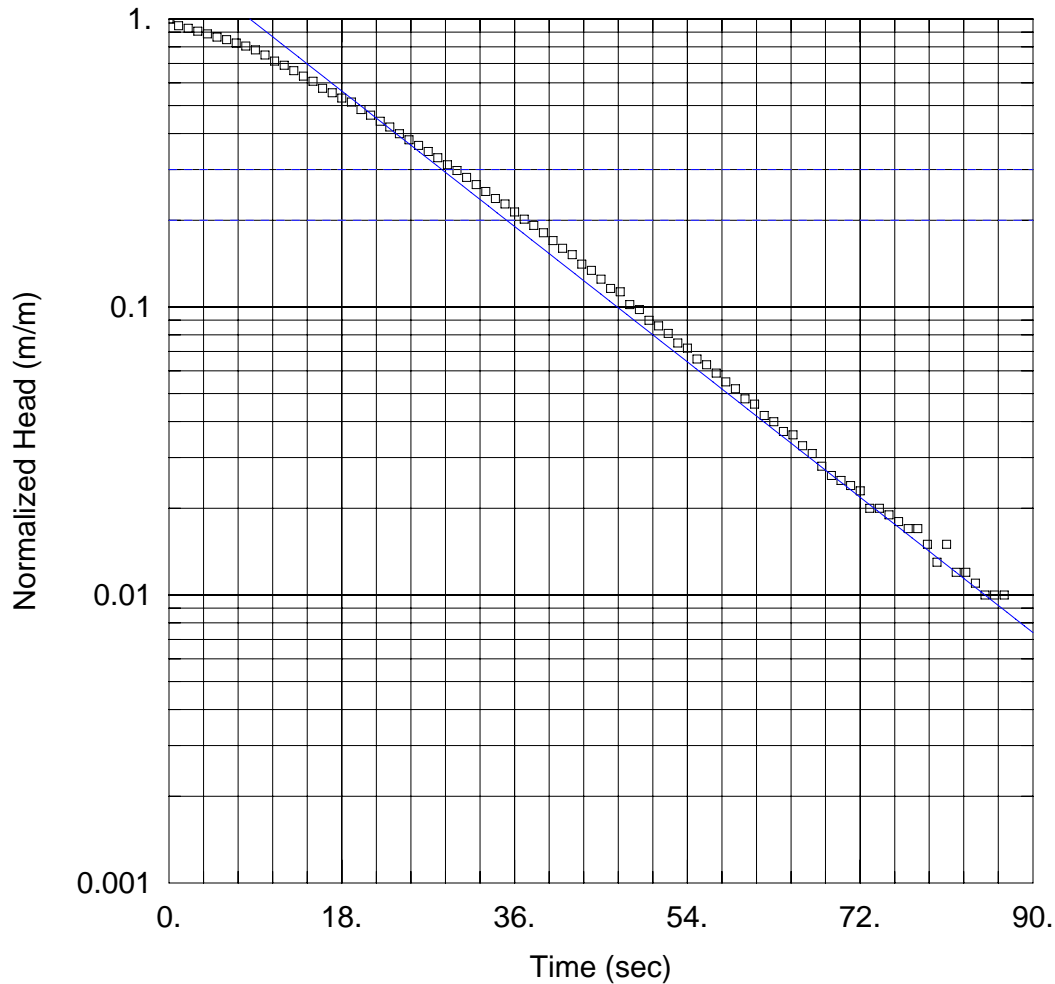
Initial Displacement: 0.41 m
 Total Well Penetration Depth: 5.5 m
 Casing Radius: 0.0257 m

Static Water Column Height: 5.6 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 1.607E-5 m/sec

Solution Method: Bower-Rice
 y0 = 0.41 m



WELL TEST ANALYSIS

Data Set: Z:\...\P15_Test 3.aqt
 Date: 04/09/09

Time: 13:33:30

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P15 slug
 Test Date: 9/17/2008

AQUIFER DATA

Saturated Thickness: 5.6 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P15 - Test3)

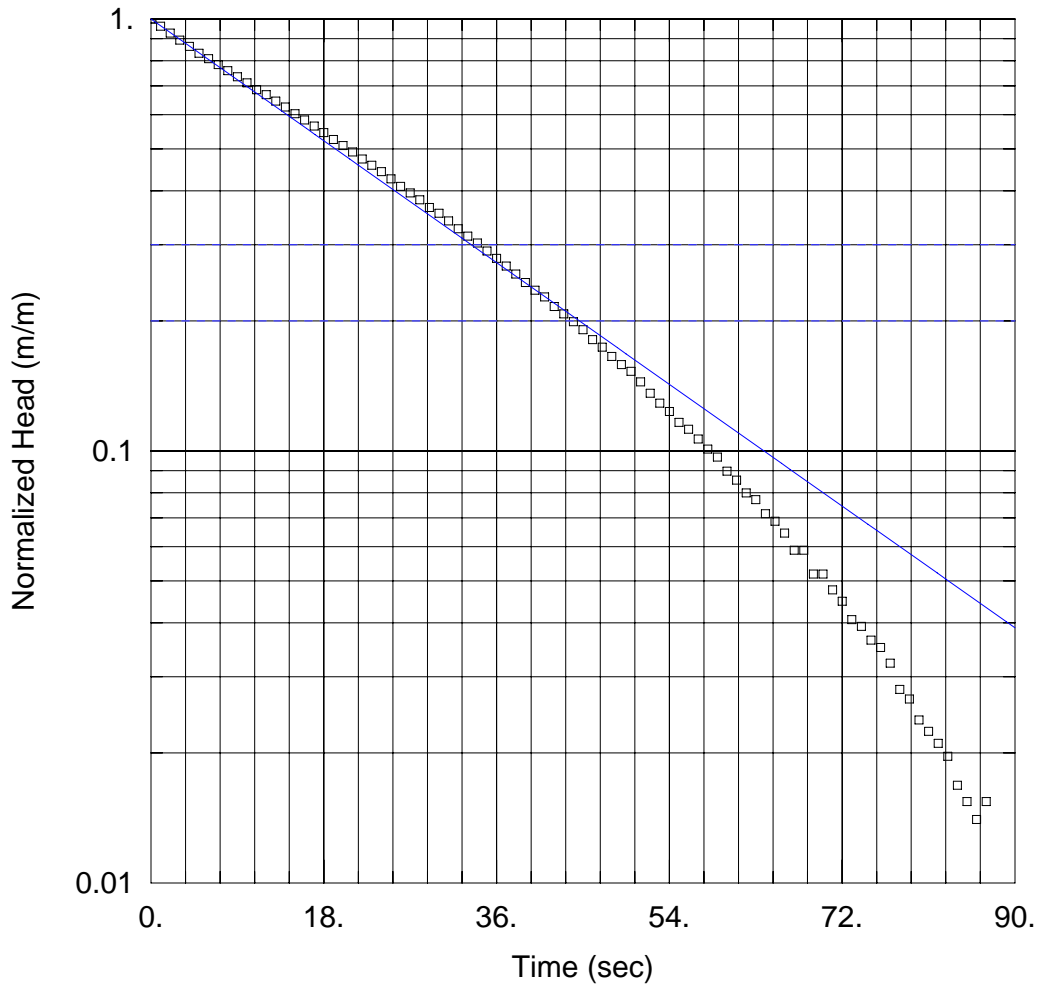
Initial Displacement: 1.001 m
 Total Well Penetration Depth: 5.5 m
 Casing Radius: 0.0257 m

Static Water Column Height: 5.6 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 2.594E-5 m/sec

Solution Method: Bower-Rice
 y0 = 1.661 m



WELL TEST ANALYSIS

Data Set: Z:\...\P15_Test 4.aqt
 Date: 04/09/09

Time: 13:33:31

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P15 slug
 Test Date: 9/17/2008

AQUIFER DATA

Saturated Thickness: 5.6 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P15 - Test4)

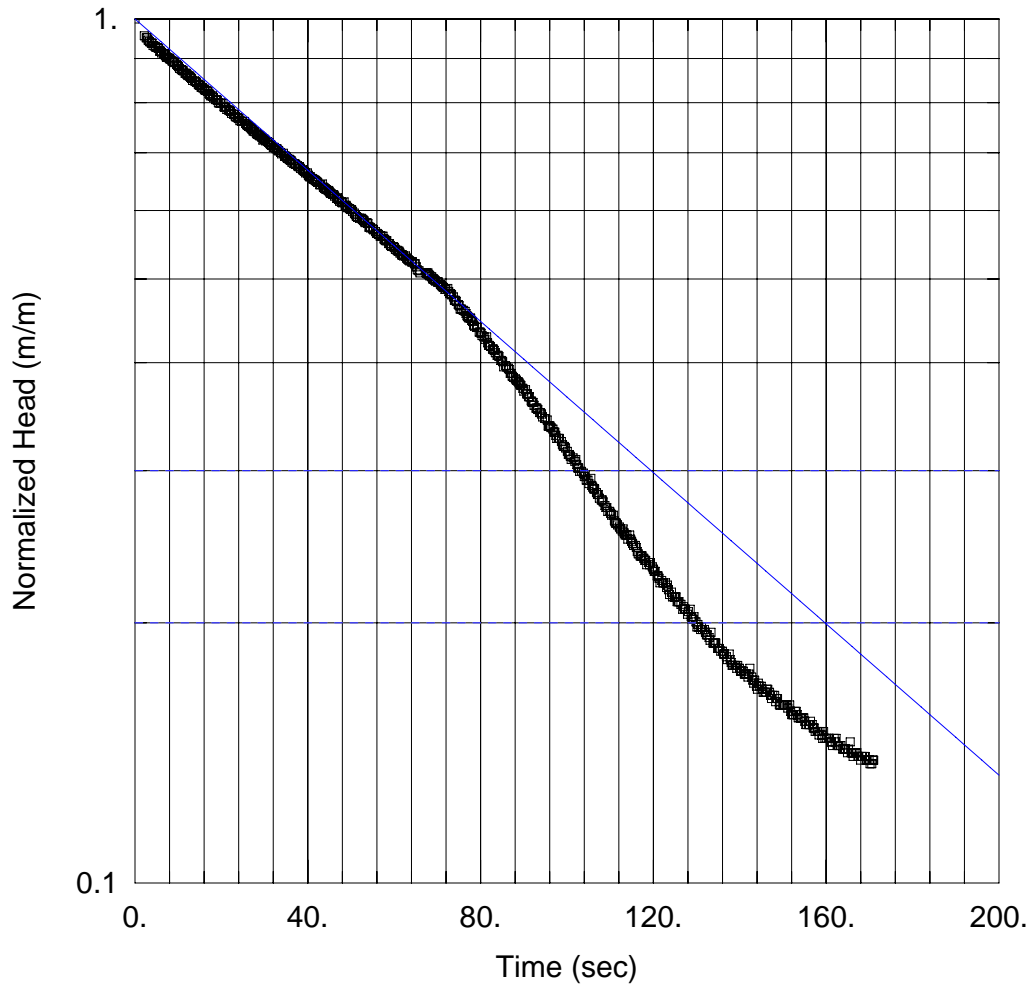
Initial Displacement: 0.713 m
 Total Well Penetration Depth: 5.5 m
 Casing Radius: 0.0257 m

Static Water Column Height: 5.6 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 1.555E-5 m/sec

Solution Method: Bower-Rice
 y0 = 0.713 m



WELL TEST ANALYSIS

Data Set: Z:\...\P16_Test 1.aqt
 Date: 04/09/09

Time: 13:36:32

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P16 slug
 Test Date: 9/17/2008

AQUIFER DATA

Saturated Thickness: 3.5 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P16 - Test1)

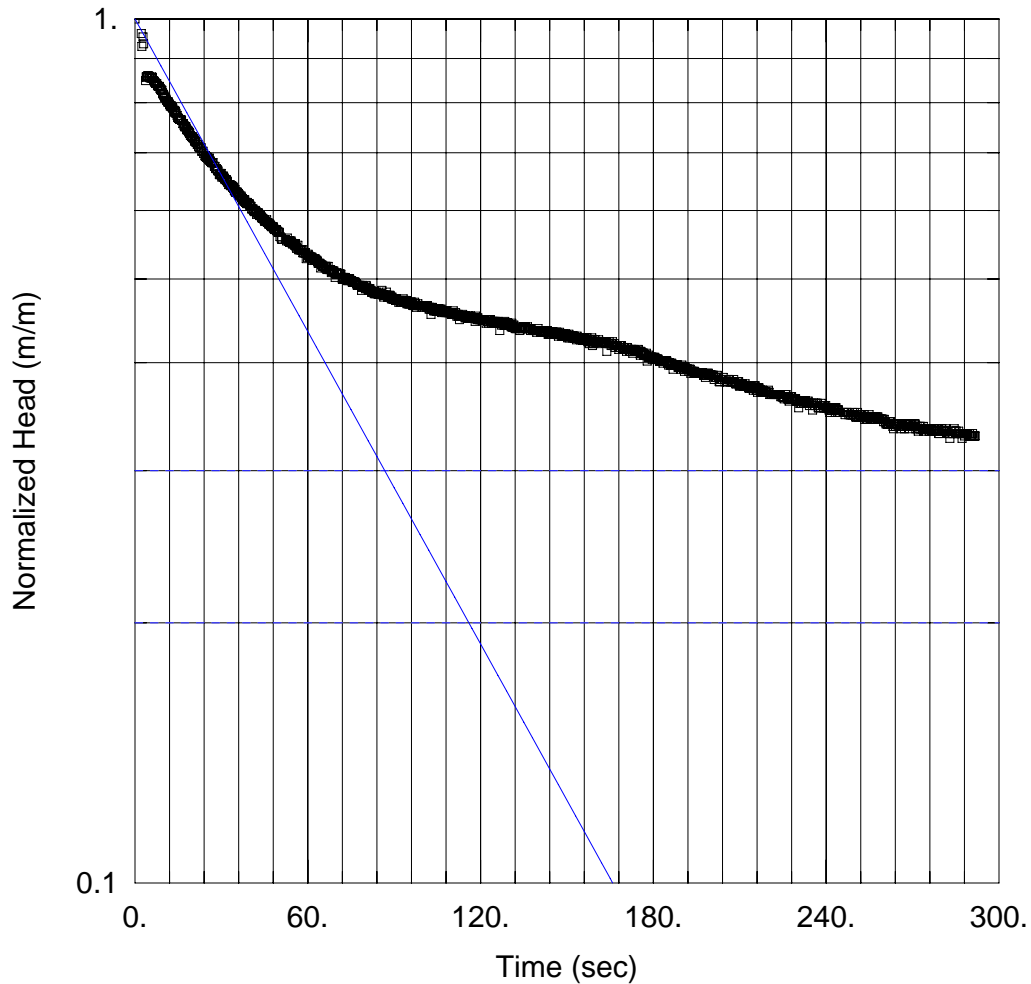
Initial Displacement: 0.728 m
 Total Well Penetration Depth: 3.4 m
 Casing Radius: 0.0257 m

Static Water Column Height: 3.5 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 4.028E-6 m/sec

Solution Method: Bouwer-Rice
 y0 = 0.728 m



WELL TEST ANALYSIS

Data Set: Z:\...\P16_Test 2.aqt
 Date: 04/09/09

Time: 13:33:23

PROJECT INFORMATION

Company: SRK Consulting
 Client: Deloitte & Touche
 Project: 1CD003.118 Task 20
 Location: Faro Mine
 Test Well: P16 slug
 Test Date: 9/17/2008

AQUIFER DATA

Saturated Thickness: 3.5 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P16 - Test2)

Initial Displacement: 0.468 m
 Total Well Penetration Depth: 3.4 m
 Casing Radius: 0.0257 m

Static Water Column Height: 3.5 m
 Screen Length: 3. m
 Well Radius: 0.0257 m

SOLUTION

Aquifer Model: Confined
 K = 5.549E-6 m/sec

Solution Method: Bouwer-Rice
 y0 = 0.468 m

Appendix C
Water Quality Data

Your Project #: 80632-6
Site#: FARO
Site: FARO
Your C.O.C. #: 38471-03, 38471-01

Attention: Kai Woloshyn
GARTNER LEE
2251 - 2nd AVENUE
WHITEHORSE, YT
CANADA Y1A 5W1

Report Date: 2008/11/17

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A861389
Received: 2008/11/07, 16:25

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
Alkalinity - Water	14	2008/11/13	2008/11/13	BRN SOP-00264 R2.0	Based on SM2320B
Chloride by Automated Colourimetry	14	N/A	2008/11/13	BRN-SOP 00234 R1.0	Based on EPA 325.2
Conductance - water	14	N/A	2008/11/13	BRN SOP-00264 R2.0	Based on SM-2510B
Hardness (calculated as CaCO3)	14	N/A	2008/11/14		
Ion Balance	14	N/A	2008/11/14		
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	14	N/A	2008/11/14	BRN SOP-00206	Based on EPA 200.8
Elements by ICPMS Low Level (dissolved) ¶	14	N/A	2008/11/14	BRN SOP-00206	Based on EPA 200.8
Filter and HNO3 Preserve for Metals	14	N/A	2008/11/13	BRN WI-00006 R1.0	Based on EPA 200.2
pH Water	14	N/A	2008/11/13	BRN SOP-00264 R2.0	Based on SM-4500H+B
Sulphate by Automated Colourimetry	14	N/A	2008/11/13	BRN-SOP 00243 R1.0	Based on EPA 375.4

* Results relate only to the items tested.

(1) SCC/CAEAL

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ROB MACARTHUR, BBY Customer Service
Email: rob.macarthur@maxxamanalytics.com
Phone# (604) 444-4808 Ext:253

=====
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

Total cover pages: 1

Maxxam Job #: A861389
Report Date: 2008/11/17

GARTNER LEE
Client Project #: 80632-6
Site Reference: FARO

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID	M67633	M67634	M67635	M67636	M67637	M67638						
Sampling Date	2008/11/05	2008/11/05	2008/11/05	2008/11/05	2008/11/05	2008/11/03						
Units	SRK08-P10A	RDL	SRK08-P12A	QC Batch	SRK08-P14	RDL	SRK08-SBR1	RDL	QC Batch			
Preparation												
Filter and HNO3 Preservation	N/A	FIELD	N/A	ONSITE	FIELD	FIELD	N/A	FIELD	N/A	ONSITE		
Calculated Parameters												
Ion Balance	N/A	0.92	0.01	2728988	1.1	2728988	0.97	0.95	0.01	0.91	0.01	2728988
Misc. Inorganics												
Alkalinity (Total as CaCO3)	mg/L	430	0.5	2730144	330	2730144	210	320	0.5	240	0.5	2730144
Anions												
Dissolved Sulphate (SO4)	mg/L	2000	50	2732564	76	2738484	490	400	5	3300	50	2732564
Dissolved Chloride (Cl)	mg/L	59	5	2732547	1.9	2732547	1.7	1.4	0.5	5.3	0.5	2732547
Physical Properties												
Conductivity	uS/cm	3400	1	2730143	730	2730143	1200	1200	1	4200	1	2730143
pH	pH Units	7.6	6.6	2730138	6.6	2730138	7.8	8.0	7.1	7.1	7.1	2730138

Maxxam ID	M67639	M67640	M67641	M67642					
Sampling Date	2008/11/03	2008/11/03	2008/11/03	2008/11/03					
Units	SRK08-SBR2	SRK08-SBR3	SRK08-SBR4	SRK08-SP7A	RDL	QC Batch	RDL	QC Batch	
Preparation									
Filter and HNO3 Preservation	N/A	FIELD	FIELD	FIELD	N/A	ONSITE	FIELD	N/A	ONSITE
Calculated Parameters									
Ion Balance	N/A	0.89	1.0	2728988	0.92	2728988	0.99	0.01	2728988
Misc. Inorganics									
Alkalinity (Total as CaCO3)	mg/L	330	460	2730144	140	2730144	210	0.5	2730144
Anions									
Dissolved Sulphate (SO4)	mg/L	2400	1800	2738484	6500	2732564	2300	50	2738484
Dissolved Chloride (Cl)	mg/L	4.9	1.8	2732547	5.4	2732547	4.6	0.5	2732547
Physical Properties									
Conductivity	uS/cm	3600	3400	2730143	7100	2730143	3500	1	2730143
pH	pH Units	7.3	7.8	2730138	7.2	2730138	7.1	7.1	2730138

N/A = Not Applicable
RDL = Reportable Detection Limit

Maxxam Job #: A861389
Report Date: 2008/11/17

GARTNER LEE
Client Project #: 80632-6
Site Reference: FARO

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID	M67643	M67644	M67645	M67646		
Sampling Date	2008/11/03	2008/11/03	2008/11/03	2008/11/03		
Units	SRK08-SP7B	SRK08-SP7C	SRK08-SPW1	SRK08-SPW2	RDL	QC Batch
Preparation						
Filter and HNO3 Preservation	N/A	N/A	FIELD	FIELD	N/A	ONSITE
Calculated Parameters						
Ion Balance	N/A	0.99	0.98	0.96	0.01	2728988
Misc. Inorganics						
Alkalinity (Total as CaCO3)	mg/L	57	290	210	0.5	2730144
Anions						
Dissolved Sulphate (SO4)	mg/L	5800	5300	210	5	2732564
Dissolved Chloride (Cl)	mg/L	6.8	6.7	1.5	0.5	2732547
Physical Properties						
Conductivity	uS/cm	6400	6300	880	1	2730143
pH	pH Units	6.7	6.7	6.8	7.1	2730138

N/A = Not Applicable
RDL = Reportable Detection Limit

Maxxam Job #: A861389
Report Date: 2008/11/17

GARTNER LEE
Client Project #: 80632-6
Site Reference: FARO

LOW LEVEL DISSOLVED METALS - WATER (WATER)

Maxxam ID	M67633	M67634	M67635	M67636	M67637	M67638			
Sampling Date	2008/11/05	2008/11/05	2008/11/05	2008/11/05	2008/11/05	2008/11/03			
	SRK08-P10A	SRK08-P12A	SRK08-P12B	SRK08-P14	SRK08-P16	SRK08-SBR1	RDL	QC Batch	
Dissolved Metals by ICPMS									
Dissolved Aluminum (Al)	mg/L	0.021	0.063	0.0551	0.0041	0.0050	0.0002	0.001	2730132
Dissolved Antimony (Sb)	mg/L	0.0003	0.0002	0.0003	0.00022	0.00014	0.0002	0.0001	2730132
Dissolved Arsenic (As)	mg/L	0.0004	0.0006	0.0008	0.00025	0.00034	0.0002	0.0001	2730132
Dissolved Barium (Ba)	mg/L	0.0342	0.0352	0.0845	0.0971	0.156	0.0002	0.0241	2730132
Dissolved Beryllium (Be)	mg/L	<0.00005	0.00071	0.00039	<0.00001	<0.00001	0.00001	0.00085	2730132
Dissolved Bismuth (Bi)	mg/L	<0.00003	<0.00003	<0.000005	<0.000005	<0.000005	0.000005	<0.00003	2730132
Dissolved Boron (B)	mg/L	<0.3	<0.3	<0.05	<0.05	<0.05	0.05	<0.3	2730132
Dissolved Cadmium (Cd)	mg/L	0.00041	<0.00003	0.000054	0.00040	0.00044	0.00005	<0.00003	2730132
Dissolved Chromium (Cr)	mg/L	<0.0005	0.0008	0.0002	0.0002	0.0001	0.0001	0.0005	2730132
Dissolved Cobalt (Co)	mg/L	0.00813	0.00806	0.00397	0.00390	0.000221	0.00005	0.0126	2730132
Dissolved Copper (Cu)	mg/L	0.0012	<0.0003	0.00017	0.00283	0.00033	0.00005	0.0008	2730132
Dissolved Iron (Fe)	mg/L	0.011	14.8	5.99	0.009	0.003	0.001	37.5	2730132
Dissolved Lead (Pb)	mg/L	0.00020	0.00017	0.000020	0.000088	0.000032	0.00005	0.00026	2730132
Dissolved Lithium (Li)	mg/L	0.009	0.100	0.0867	0.0070	0.0059	0.0005	0.088	2730132
Dissolved Manganese (Mn)	mg/L	0.395	0.840	0.586	0.0386	0.0135	0.00005	5.12	2730132
Dissolved Mercury (Hg)	mg/L	<0.00005	<0.00005	<0.00001	0.00001	0.00001	0.00001	0.00006	2730132
Dissolved Molybdenum (Mo)	mg/L	0.0021	0.0003	0.00014	0.00150	0.00170	0.00005	0.0006	2730132
Dissolved Nickel (Ni)	mg/L	0.0164	0.0165	0.00544	0.00131	0.00176	0.00002	0.0785	2730132
Dissolved Phosphorus (P)	mg/L	<0.01	0.02	<0.0002	<0.0002	<0.0002	0.002	<0.01	2730132
Dissolved Selenium (Se)	mg/L	0.0003	<0.0002	<0.00004	0.00215	0.00228	0.00004	<0.0002	2730132
Dissolved Silicon (Si)	mg/L	7.4	9.7	9.1	4.8	3.5	0.1	9.0	2730132
Dissolved Silver (Ag)	mg/L	<0.00003	<0.00003	0.000010	0.000006	<0.000005	0.000005	<0.00003	2730132
Dissolved Strontium (Sr)	mg/L	1.29	1.04	0.734	0.956	0.931	0.00005	2.89	2730132
Dissolved Thallium (Tl)	mg/L	0.00003	0.00004	0.000052	0.000005	0.000012	0.000002	<0.00001	2730132
Dissolved Tin (Sn)	mg/L	0.00005	<0.00005	0.00002	0.00004	0.00006	0.00001	<0.00005	2730132
Dissolved Titanium (Ti)	mg/L	0.004	0.015	0.0014	0.0006	0.0006	0.0005	0.005	2730132
Dissolved Uranium (U)	mg/L	0.0315	0.00064	0.00103	0.00376	0.0144	0.000002	0.00150	2730132
Dissolved Vanadium (V)	mg/L	<0.001	<0.001	<0.0002	<0.0002	<0.0002	0.0002	<0.001	2730132
Dissolved Zinc (Zn)	mg/L	0.0819	1.00	0.229	0.0078	0.0092	0.0001	1.13	2730132
Dissolved Zirconium (Zr)	mg/L	0.0007	0.0008	0.0027	<0.0001	0.0002	0.0001	<0.0005	2730132
Dissolved Calcium (Ca)	mg/L	730	178	119	206	193	0.05	754	2734256
Dissolved Magnesium (Mg)	mg/L	76.2	50.2	29.4	41.6	48.4	0.05	309	2734256
Dissolved Potassium (K)	mg/L	13.9	3.16	3.66	0.97	2.11	0.05	9.81	2734256
Dissolved Sodium (Na)	mg/L	97.5	24.9	15.8	3.79	8.03	0.05	25.6	2734256
Dissolved Sulphur (S)	mg/L	661	54	31	166	133	3	1060	2734256

RDL = Reportable Detection Limit

Maxxam Job #: A861389
Report Date: 2008/11/17

GARTNER LEE
Client Project #: 80632-6
Site Reference: FARO

LOW LEVEL DISSOLVED METALS - WATER (WATER)

Maxxam ID	M67639	M67640	M67641	M67642	
Sampling Date	2008/11/03	2008/11/03	2008/11/03	2008/11/03	
Units	SRK08-SBR2	SRK08-SBR3	SRK08-SBR4	SRK08-SPTA	QC Batch
Misc. Inorganics	RDL	RDL	RDL	RDL	RDL
Dissolved Hardness (CaCO3)	2330	2190	5530	2440	2727773
	mg/L	0.5	0.5	0.5	0.5

RDL = Reportable Detection Limit

Maxxam Job #: A861389
Report Date: 2008/11/17

GARTNER LEE
Client Project #: 80632-6
Site Reference: FARO

LOW LEVEL DISSOLVED METALS - WATER (WATER)

Maxxam ID	M67639	M67640	M67641	M67642				
Sampling Date	2008/11/03	2008/11/03	2008/11/03	2008/11/03				
	SRK08-SBR2	SRK08-SBR3	SRK08-SBR4	SRK08-SPTA	RDL	QC Batch		
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.023	0.013	0.001	0.01	0.026	0.001	2730132
Dissolved Antimony (Sb)	mg/L	0.0004	<0.0001	0.0001	0.001	<0.0001	0.0001	2730132
Dissolved Arsenic (As)	mg/L	0.0014	0.0004	0.0001	0.001	0.0047	0.0001	2730132
Dissolved Barium (Ba)	mg/L	0.0353	0.0207	0.0001	0.001	0.0258	0.0001	2730132
Dissolved Beryllium (Be)	mg/L	0.00011	<0.00005	0.00005	0.0005	0.00056	0.00005	2730132
Dissolved Bismuth (Bi)	mg/L	<0.00003	<0.00003	0.00003	0.0003	<0.00003	0.00003	2730132
Dissolved Boron (B)	mg/L	<0.3	<0.3	0.3	3	<0.3	0.3	2730132
Dissolved Cadmium (Cd)	mg/L	0.00428	<0.00003	0.00003	0.0003	0.00014	0.00003	2730132
Dissolved Chromium (Cr)	mg/L	<0.0005	<0.0005	0.0005	0.005	<0.0005	0.0005	2730132
Dissolved Cobalt (Co)	mg/L	0.0274	0.00289	0.00003	0.0003	0.0264	0.00003	2730132
Dissolved Copper (Cu)	mg/L	0.0004	0.0014	0.0003	0.003	<0.0003	0.0003	2730132
Dissolved Iron (Fe)	mg/L	14.3	0.099	0.005	0.05	54.8	0.005	2730132
Dissolved Lead (Pb)	mg/L	0.00761	0.00005	0.00003	0.0003	0.00027	0.00003	2730132
Dissolved Lithium (Li)	mg/L	0.071	0.077	0.003	0.03	0.080	0.003	2730132
Dissolved Manganese (Mn)	mg/L	20.1	0.104	0.0003	0.003	6.31	0.0003	2730132
Dissolved Mercury (Hg)	mg/L	0.00005	<0.00005	0.00005	0.0005	<0.00005	0.00005	2730132
Dissolved Molybdenum (Mo)	mg/L	0.0029	0.0003	0.0003	0.003	<0.0003	0.0003	2730132
Dissolved Nickel (Ni)	mg/L	0.296	0.0180	0.0001	0.001	0.0739	0.0001	2730132
Dissolved Phosphorus (P)	mg/L	<0.01	<0.01	0.01	0.1	<0.01	0.01	2730132
Dissolved Selenium (Se)	mg/L	0.0003	0.0006	0.0002	0.002	<0.0002	0.0002	2730132
Dissolved Silicon (Si)	mg/L	10.7	5.8	0.5	5	13.1	0.5	2730132
Dissolved Silver (Ag)	mg/L	<0.00003	<0.00003	0.00003	0.0003	<0.00003	0.00003	2730132
Dissolved Strontium (Sr)	mg/L	1.57	1.23	0.0003	0.003	1.74	0.0003	2730132
Dissolved Thallium (Tl)	mg/L	0.00002	0.00004	0.00001	0.0001	<0.00001	0.00001	2730132
Dissolved Tin (Sn)	mg/L	<0.00005	<0.00005	0.00005	0.0005	<0.00005	0.00005	2730132
Dissolved Titanium (Ti)	mg/L	0.004	0.005	0.003	0.03	0.005	0.003	2730132
Dissolved Uranium (U)	mg/L	0.0144	0.0310	0.00001	0.0001	0.00323	0.00001	2730132
Dissolved Vanadium (V)	mg/L	<0.001	<0.001	0.001	0.01	<0.001	0.001	2730132
Dissolved Zinc (Zn)	mg/L	36.3	0.0426	0.0005	0.005	2.56	0.0005	2730132
Dissolved Zirconium (Zr)	mg/L	<0.0005	<0.0005	0.0005	0.005	<0.0005	0.0005	2730132
Dissolved Calcium (Ca)	mg/L	435	464	0.05	0.5	577	0.05	2734256
Dissolved Magnesium (Mg)	mg/L	302	251	0.05	0.5	242	0.05	2734256
Dissolved Potassium (K)	mg/L	7.23	7.06	0.05	0.5	8.29	0.05	2734256
Dissolved Sodium (Na)	mg/L	21.7	62.4	0.05	0.5	21.2	0.05	2734256
Dissolved Sulphur (S)	mg/L	759	673	3	30	847	3	2734256

RDL = Reportable Detection Limit

Maxxam Job #: A861389
Report Date: 2008/11/17

GARTNER LEE
Client Project #: 80632-6
Site Reference: FARO

LOW LEVEL DISSOLVED METALS - WATER (WATER)

Maxxam ID	M67643	M67644	M67645	M67646	
Sampling Date	2008/11/03	2008/11/03	2008/11/03	2008/11/03	
Units	SRK08-SP7B	SRK08-SP7C	SRK08-SPW1	SRK08-SPW2	QC Batch
Misc. Inorganics	RDL	RDL	RDL	RDL	RDL
Dissolved Hardness (CaCO3)	4970	5010	428	5310	2727773
	mg/L	mg/L	mg/L	mg/L	mg/L
		0.5	0.5	0.5	0.5

RDL = Reportable Detection Limit

Maxxam Job #: A861389
Report Date: 2008/11/17

GARTNER LEE
Client Project #: 80632-6
Site Reference: FARO

LOW LEVEL DISSOLVED METALS - WATER (WATER)

Maxxam ID	M67643		M67644		M67645		M67646			
	2008/11/03	SRK08-SP7B	2008/11/03	SRK08-SP7C	2008/11/03	SRK08-SPW1	2008/11/03	SRK08-SPW2		
Sampling Date	Units	RDL	RDL	RDL	RDL	RDL	RDL	RDL	QC Batch	
Dissolved Metals by ICPMS										
Dissolved Aluminum (Al)	mg/L	0.077	0.104	0.004	0.052	0.001	0.001	0.05	0.01	2730132
Dissolved Antimony (Sb)	mg/L	<0.0004	<0.0004	0.0004	0.0001	0.0001	0.0001	<0.001	0.001	2730132
Dissolved Arsenic (As)	mg/L	0.0130	0.0130	0.0004	0.0036	0.0001	0.0001	0.002	0.001	2730132
Dissolved Barium (Ba)	mg/L	0.0337	0.0346	0.0004	0.0260	0.0001	0.0001	0.018	0.001	2730132
Dissolved Beryllium (Be)	mg/L	0.0004	0.0003	0.0002	0.00117	0.00005	0.00005	<0.0005	0.0005	2730132
Dissolved Bismuth (Bi)	mg/L	<0.0001	<0.0001	0.0001	<0.00003	0.00003	0.00003	<0.0003	0.0003	2730132
Dissolved Boron (B)	mg/L	<1	<1	1	<0.3	0.3	0.3	<3	3	2730132
Dissolved Cadmium (Cd)	mg/L	0.0001	<0.0001	0.0001	0.00004	0.00003	0.00003	0.0382	0.0003	2730132
Dissolved Chromium (Cr)	mg/L	<0.002	<0.002	0.002	<0.0005	0.0005	0.0005	<0.005	0.005	2730132
Dissolved Cobalt (Co)	mg/L	0.0473	0.0471	0.0001	0.00996	0.00003	0.00003	0.0306	0.0003	2730132
Dissolved Copper (Cu)	mg/L	<0.001	<0.001	0.001	<0.0003	0.0003	0.0003	0.006	0.003	2730132
Dissolved Iron (Fe)	mg/L	75.2	76.0	0.02	22.3	0.005	0.005	0.07	0.05	2730132
Dissolved Lead (Pb)	mg/L	0.0002	0.0008	0.0001	0.00015	0.00003	0.00003	0.0006	0.0003	2730132
Dissolved Lithium (Li)	mg/L	0.19	0.19	0.01	0.065	0.003	0.003	0.16	0.03	2730132
Dissolved Manganese (Mn)	mg/L	78.7	79.6	0.001	1.16	0.0003	0.0003	80.5	0.003	2730132
Dissolved Mercury (Hg)	mg/L	<0.0002	<0.0002	0.0002	<0.00005	0.00005	0.00005	<0.0005	0.0005	2730132
Dissolved Molybdenum (Mo)	mg/L	<0.001	<0.001	0.001	<0.0003	0.0003	0.0003	<0.003	0.003	2730132
Dissolved Nickel (Ni)	mg/L	0.310	0.313	0.0004	0.0273	0.0001	0.0001	2.16	0.001	2730132
Dissolved Phosphorus (P)	mg/L	<0.04	<0.04	0.04	<0.01	0.01	0.01	<0.1	0.1	2730132
Dissolved Selenium (Se)	mg/L	0.0009	<0.0008	0.0008	<0.0002	0.0002	0.0002	0.002	0.002	2730132
Dissolved Silicon (Si)	mg/L	15	14	2	15.0	0.5	0.5	13	5	2730132
Dissolved Silver (Ag)	mg/L	<0.0001	<0.0001	0.0001	<0.00003	0.00003	0.00003	<0.0003	0.0003	2730132
Dissolved Strontium (Sr)	mg/L	2.04	2.07	0.001	0.529	0.0003	0.0003	2.07	0.003	2730132
Dissolved Thallium (Tl)	mg/L	<0.00004	<0.00004	0.00004	<0.00001	0.00001	0.00001	<0.0001	0.0001	2730132
Dissolved Tin (Sn)	mg/L	<0.0002	<0.0002	0.0002	<0.00005	0.00005	0.00005	<0.0005	0.0005	2730132
Dissolved Titanium (Ti)	mg/L	0.01	0.01	0.01	0.006	0.003	0.003	0.04	0.03	2730132
Dissolved Uranium (U)	mg/L	0.00091	0.00094	0.00004	0.00056	0.00001	0.00001	0.0068	0.0001	2730132
Dissolved Vanadium (V)	mg/L	<0.004	<0.004	0.004	<0.001	0.001	0.001	<0.01	0.01	2730132
Dissolved Zinc (Zn)	mg/L	123	125	0.002	1.14	0.0005	0.0005	336	0.005	2730132
Dissolved Zirconium (Zr)	mg/L	<0.002	<0.002	0.002	<0.0005	0.00005	0.00005	<0.005	0.005	2730132
Dissolved Calcium (Ca)	mg/L	468	469	0.2	106	0.05	0.05	492	0.5	2734256
Dissolved Magnesium (Mg)	mg/L	923	933	0.2	39.9	0.05	0.05	990	0.5	2734256
Dissolved Potassium (K)	mg/L	12.0	12.0	0.2	4.19	0.05	0.05	12.4	0.5	2734256
Dissolved Sodium (Na)	mg/L	32.1	33.3	0.2	9.45	0.05	0.05	40.7	0.5	2734256
Dissolved Sulphur (S)	mg/L	1920	1960	10	75	3	3	2040	30	2734256

RDL = Reportable Detection Limit

Maxxam Job #: A861389
Report Date: 2008/11/17

GARTNER LEE
Client Project #: 80632-6
Site Reference: FARO

LOW LEVEL DISSOLVED METALS - WATER (WATER) Comments

Sample	M67633-01	Elements by ICPMS Low Level (dissolved): Detection limits raised due to sample matrix.
Sample	M67634-01	Elements by ICPMS Low Level (dissolved): Detection limits raised due to sample matrix.
Sample	M67638-01	Elements by ICPMS Low Level (dissolved): Detection limits raised due to sample matrix.
Sample	M67639-01	Elements by ICPMS Low Level (dissolved): Detection limits raised due to sample matrix.
Sample	M67640-01	Elements by ICPMS Low Level (dissolved): Detection limits raised due to sample matrix.
Sample	M67641-01	Elements by ICPMS Low Level (dissolved): Detection limits raised due to sample matrix.
Sample	M67642-01	Elements by ICPMS Low Level (dissolved): Detection limits raised due to sample matrix.
Sample	M67643-01	Elements by ICPMS Low Level (dissolved): Detection limits raised due to sample matrix.
Sample	M67644-01	Elements by ICPMS Low Level (dissolved): Detection limits raised due to sample matrix.
Sample	M67645-01	Elements by ICPMS Low Level (dissolved): Detection limits raised due to sample matrix.
Sample	M67646-01	Elements by ICPMS Low Level (dissolved): Detection limits raised due to sample matrix.
Sample	M67641-01	Na, K, Ca, Mg, S by CRC ICPMS (diss.): Detection limits raised due to sample matrix.
Sample	M67643-01	Na, K, Ca, Mg, S by CRC ICPMS (diss.): Detection limits raised due to sample matrix.
Sample	M67644-01	Na, K, Ca, Mg, S by CRC ICPMS (diss.): Detection limits raised due to sample matrix.
Sample	M67646-01	Na, K, Ca, Mg, S by CRC ICPMS (diss.): Detection limits raised due to sample matrix.

Maxxam Job #: A861389
Report Date: 2008/11/17

GARTNER LEE
Client Project #: 80632-6
Site Reference: FARO

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spike		Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
2730132	Dissolved Arsenic (As)	2008/11/14	101	75 - 125	95	75 - 125	<0.00002	mg/L	NC	25
2730132	Dissolved Beryllium (Be)	2008/11/14	105	75 - 125	99	75 - 125	<0.00001	mg/L	5.5	25
2730132	Dissolved Cadmium (Cd)	2008/11/14	100	75 - 125	98	75 - 125	<0.000005	mg/L	8.2	25
2730132	Dissolved Chromium (Cr)	2008/11/14	102	75 - 125	97	75 - 125	<0.00001	mg/L	NC	25
2730132	Dissolved Cobalt (Co)	2008/11/14	100	75 - 125	96	75 - 125	<0.000005	mg/L	0.4	25
2730132	Dissolved Copper (Cu)	2008/11/14	NC	75 - 125	102	75 - 125	<0.000005	mg/L	NC	25
2730132	Dissolved Lead (Pb)	2008/11/14	104	75 - 125	101	75 - 125	<0.000005	mg/L	NC	25
2730132	Dissolved Lithium (Li)	2008/11/14	110	75 - 125	100	75 - 125	<0.00005	mg/L	1.9	25
2730132	Dissolved Nickel (Ni)	2008/11/14	100	75 - 125	97	75 - 125	<0.00002	mg/L	1.6	25
2730132	Dissolved Selenium (Se)	2008/11/14	NC	75 - 125	100	75 - 125	<0.00004	mg/L	NC	25
2730132	Dissolved Uranium (U)	2008/11/14	111	75 - 125	102	75 - 125	<0.000002	mg/L	3.9	25
2730132	Dissolved Vanadium (V)	2008/11/14	102	75 - 125	92	75 - 125	<0.00002	mg/L	NC	25
2730132	Dissolved Zinc (Zn)	2008/11/14	NC	75 - 125	100	75 - 125	<0.00001	mg/L	0.6	25
2730132	Dissolved Aluminum (Al)	2008/11/14					<0.00002	mg/L	5.9	25
2730132	Dissolved Antimony (Sb)	2008/11/14					<0.00002	mg/L	NC	25
2730132	Dissolved Barium (Ba)	2008/11/14					<0.00002	mg/L	4.8	25
2730132	Dissolved Bismuth (Bi)	2008/11/14					<0.000005	mg/L	NC	25
2730132	Dissolved Boron (B)	2008/11/14					<0.05	mg/L	NC	25
2730132	Dissolved Iron (Fe)	2008/11/14					<0.001	mg/L	1.1	25
2730132	Dissolved Manganese (Mn)	2008/11/14					<0.00005	mg/L	0.7	25
2730132	Dissolved Mercury (Hg)	2008/11/14					0.00002, RDL=0.00001	mg/L	NC	25
2730132	Dissolved Molybdenum (Mo)	2008/11/14					<0.00005	mg/L	NC	25
2730132	Dissolved Phosphorus (P)	2008/11/14					<0.002	mg/L	NC	25
2730132	Dissolved Silicon (Si)	2008/11/14					<0.1	mg/L	4.9	25
2730132	Dissolved Silver (Ag)	2008/11/14					<0.000005	mg/L	NC	25
2730132	Dissolved Strontium (Sr)	2008/11/14					<0.00005	mg/L	4.4	25
2730132	Dissolved Thallium (Tl)	2008/11/14					<0.00002	mg/L	11.8	25
2730132	Dissolved Tin (Sn)	2008/11/14					<0.00001	mg/L	NC	25
2730132	Dissolved Titanium (Ti)	2008/11/14					<0.00005	mg/L	NC	25
2730132	Dissolved Zirconium (Zr)	2008/11/14					<0.00001	mg/L	15.0	25
2730143	Conductivity	2008/11/13			98	80 - 120	<1	uS/cm	0.4	25
2730144	Alkalinity (Total as CaCO3)	2008/11/13	100	80 - 120	98	80 - 120	<0.5	mg/L	0.7	25
2732547	Dissolved Chloride (Cl)	2008/11/13	109	80 - 120	99	80 - 120	<0.5	mg/L	NC	20
2732564	Dissolved Sulphate (SO4)	2008/11/13	NC	75 - 125	89	80 - 120	<0.5	mg/L	11.2	20
2734256	Dissolved Calcium (Ca)	2008/11/14					<0.05	mg/L	4.1	25
2734256	Dissolved Magnesium (Mg)	2008/11/14					<0.05	mg/L	2.0	25
2734256	Dissolved Potassium (K)	2008/11/14					<0.05	mg/L	0.6	25
2734256	Dissolved Sodium (Na)	2008/11/14					<0.05	mg/L	2.3	25

Maxxam Job #: A861389
Report Date: 2008/11/17

GARTNER LEE
Client Project #: 80632-6
Site Reference: FARO

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spike		Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
2734256	Dissolved Sulphur (S)	2008/11/14					<3	mg/L	0.4	25
2738484	Dissolved Sulphate (SO4)	2008/11/15	108	75 - 125	94	80 - 120	0.9, RDL=0.5	mg/L	6.1	20

N/A = Not Applicable
NC = Non-calculable
RDL = Reportable Detection Limit
RPD = Relative Percent Difference

INVOICE INFORMATION:
 Company Name: #2448 AECOM
 Contact Name: Kai Woloshyn
 Address: 2251 - 2nd AVENUE
 WHITEHORSE YT Y1A 5W1
 Phone: (867) 633-6474 Fax: (867) 633-6321
 Email: kai.woloshyn@aecom.com

REPORT INFORMATION (if differs from invoice):
 Quotation #: A80323
 P.O. #: 40632-6
 Project #: FARO
 Site Location: FARO
 Sampled By:

LABORATORY USE ONLY:
 MAXXAM JOB #: A861389
 BOTTLE ORDER #: 38471
 CHAIN OF CUSTODY #: [Barcode]
 PROJECT MANAGER: ROB MCCARTHUR
 C63847-03-01

REGULATORY CRITERIA:
 CCMF

SPECIAL INSTRUCTIONS:
 Ultra low level metals

ANALYSIS REQUESTED (Please be specific):
 General chemistry
 pH, conductivity
 Chloride, sulphate
 Hardness, iron, alkalinity

TURNAROUND TIME (TAT) REQUIRED:
 Regular (Standard) TAT: []
 (will be applied if Rush TAT is not specified)
 Standard TAT = 5-7 Working days for most tests.
 Please note - Standard TAT for certain tests such as BOD and Dissolve/Forms are > 5 days - contact your Project Manager for details.
 Job Specific Rush TAT (if applies to entire submission) []
 Date Required: [] Time Required: []
 Rush Confirmation Number: []

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form
 SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Comments
1	SRK08-P10A	Nov 5 '08	Water	Y	Y	
2	SRK08-P12A					
3	SRK08-P12B					
4	SRK08-P14					
5	SRK08-P16					
6	SRK08-SBR1	Nov 3 '08				
7	SRK08-SBR2					
8	SRK08-SBR3					
9	SRK08-SBR4					
10	SRK08-SP7A					

RECEIVED BY: (Signature/Print)
 Kai Woloshyn

RECEIVED BY: (Signature/Print)
 AS

Date: (YY/MM/DD)
 08/11/08

Date: (YY/MM/DD)
 Nov 7 08

Time:
 10:25

Time Sensitive

Temperature (°C) on Receipt
 4.87

Condition of Sample on Receipt
 OK SIF NO

Custody Seal Intact on Container?
 Yes No

White: Maxxam Yellow: Client

IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

Maxxam Analytics International Corporation aka Maxxam Analytics
 8577 Commerce Court, Burnaby, British Columbia Canada V5A 4N5 Tel: (604) 444-4608 Fax: (604) 444-4611 www.maxxamanalytics.com

INVOICE INFORMATION:
 Company Name: #2448 AECOM
 Contact Name: Kai Woloshyn
 Address: 2251 - 2nd AVENUE
 WHITEHORSE YT Y1A 5W1
 Phone: (867)633-6474 Fax: (867)633-6321
 Email: kai.woloshyn@aecom.com

REPORT INFORMATION (if differs from invoice):
 Company Name:
 Contact Name:
 Address:
 Phone:
 Email:

PROJECT INFORMATION:
 Quotation #: A80323
 P.O. #: 80632-6
 Project #: FARO
 Project Name:
 Site Location:
 Sampled By:

Laboratory Use Only:
 MAXXAM JOB #:
 BOTTLE ORDER #: 38471
 CHAIN OF CUSTODY #:
 PROJECT MANAGER: ROB MACARTHUR
 CF3847-01-01

REGULATORY CRITERIA:
 Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SPECIAL INSTRUCTIONS:
 ultra low level metals

ANALYSIS REQUESTED (Please be specific):
 Dissolved Metals
 General Chemistry
 (PH, conductivity, alkalinity, chlorides, sulphate, hardness, ion balance)

TURNAROUND TIME (TAT) REQUIRED:
 RELEASE: PROVIDE ADVANCE NOTICE FOR FINISH PRODUCTS
 Regular (Standard) TAT:
 (will be applied if Rush TAT is not specified)
 Standard TAT = 5-7 Working days for most tests
 Please note: Standard TAT for certain tests such as BOD and Dissolved Metals are > 5 days - contact your Project Manager for details.
 Job Specific Rush TAT (if applies to entire submission)
 Date Required: _____ Time Required: _____
 Rush Confirmation Number: _____

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered? (Y/N)	General Chemistry	(PH, conductivity, alkalinity, chlorides, sulphate, hardness, ion balance)	ANALYSIS REQUESTED (Please be specific)	Time	Time Sensitive	Temperature (°C) on Receipt	Condition of Sample on Receipt	Custody Seal Intact on Receipt?
1	SRK09 - SP7B	Nov 3, 08	Water/NY	Y	Y	Y	Y		2	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
2	SRK09 - SP7C			Y	Y	Y	Y		↓	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
3	SRK09 - SPW1			Y	Y	Y	Y		↓	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
4	SRK09 - SPW2			Y	Y	Y	Y		↓	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
5										<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
6										<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
7										<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
8										<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
9										<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
10										<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

RELEASING BY: (Signature/Print) Kai Woloshyn
 Date: (YY/MM/DD) 08/11/06
 Time: 10:30

RECEIVED BY: (Signature/Print)
 Date: (YY/MM/DD)
 Time:

Laboratory Use Only:
 Condition of Sample on Receipt: OK SIF Yes No
 Temperature (°C) on Receipt: _____
 Time Sensitive:

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.



Environmental Division

Certificate of Analysis

SRK CONSULTING (CANADA) INC.

ATTN: DAN MACKIE

SUITE 2200
1066 WEST HASTINGS ST.
VANCOUVER BC V6E 3X2

Reported On: 19-SEP-08 05:13 PM

Revision: 1

Lab Work Order #: **L678707**

Date Received: **05-SEP-08**

Project P.O. #: 1CD003.112
Job Reference: FARO GROUNDWATER 2008
Legal Site Desc:
CofC Numbers: C064218

Other Information:

Comments:

Some of the metals detection limits were increased due to high levels of metals in these samples.


LINDSAY JONES
Account Manager

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATORY.
ALL SAMPLES WILL BE DISPOSED OF AFTER 30 DAYS FOLLOWING ANALYSIS. PLEASE CONTACT THE LAB IF YOU
REQUIRE ADDITIONAL SAMPLE STORAGE TIME.

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L678707-1	L678707-2	L678707-3	L678707-4	L678707-5
		Description					
		Sampled Date	31-AUG-08	31-AUG-08	30-AUG-08	30-AUG-08	02-SEP-08
		Sampled Time					
		Client ID	SRK08-SP7A	SRK08-SP7B	SRK08-SP8A	SRK08-SP8B	SRK08-P9
Grouping	Analyte						
WATER							
Physical Tests	Colour, True (CU)		141	151	147	73.9	<5.0
	Conductivity (uS/cm)		3260	6610	2740	1300	1290
	Hardness (as CaCO3) (mg/L)		2000	5160	1140	745	762
	pH (pH)		6.31	6.41	6.39	6.78	7.90
	Total Suspended Solids (mg/L)		215	108	349	315	104
	Total Dissolved Solids (mg/L)		3420	8430	2610	1020	1010
	Turbidity (NTU)		658	539	662	595	84.5
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)		225	61.9	427	284	269
	Ammonia as N (mg/L)		0.203	0.458	0.293	0.266	0.0232
	Bromide (Br) (mg/L)		<5.0	<5.0	<5.0	<0.050	<0.050
	Chloride (Cl) (mg/L)		<50	<50	<50	1.38	1.77
	Fluoride (F) (mg/L)		<2.0	<2.0	<2.0	0.260	0.133
	Sulfate (SO4) (mg/L)		2140	5680	1470	481	487
Organic / Inorganic Carbon	Total Organic Carbon (mg/L)		6.85	18.4	7.44	3.01	3.64
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)		0.0313	0.063	0.0273	0.0393	<0.0020
	Antimony (Sb)-Dissolved (mg/L)		<0.00050	<0.0020	<0.00050	<0.00020	<0.00020
	Arsenic (As)-Dissolved (mg/L)		0.00523	0.0028	0.00586	0.00076	0.00029
	Barium (Ba)-Dissolved (mg/L)		0.0298	0.0346	0.0212	0.0466	0.111
	Beryllium (Be)-Dissolved (mg/L)		<0.0025	<0.010	<0.0025	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)		<0.0025	<0.010	<0.0025	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)		<0.050	<0.20	<0.050	<0.020	<0.020
	Cadmium (Cd)-Dissolved (mg/L)		<0.00025	<0.0010	<0.00025	<0.00010	<0.00010
	Calcium (Ca)-Dissolved (mg/L)		485	489	287	192	243
	Chromium (Cr)-Dissolved (mg/L)		<0.0025	<0.010	<0.0025	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)		0.0223	0.0430	0.00654	0.00770	0.00128
	Copper (Cu)-Dissolved (mg/L)		0.00065	<0.0020	0.00064	0.00043	0.00178
	Iron (Fe)-Dissolved (mg/L)		50.8	76.5	29.2	20.7	<0.030
	Lead (Pb)-Dissolved (mg/L)		<0.00025	<0.0010	<0.00025	<0.00010	0.00011
	Lithium (Li)-Dissolved (mg/L)		0.072	0.16	0.079	0.048	0.012
	Magnesium (Mg)-Dissolved (mg/L)		191	956	102	64.6	37.7
	Manganese (Mn)-Dissolved (mg/L)		4.22	75.8	1.68	1.50	0.133
	Molybdenum (Mo)-Dissolved (mg/L)		0.00075	0.0015	0.00035	0.00089	0.00549
	Nickel (Ni)-Dissolved (mg/L)		0.0536	0.329	0.0154	0.0105	0.0101
	Phosphorus (P)-Dissolved (mg/L)		<0.30	<0.60	<0.30	<0.30	<0.30
	Potassium (K)-Dissolved (mg/L)		8.9	11.5	5.1	5.3	6.1
	Selenium (Se)-Dissolved (mg/L)		<0.0050	<0.020	<0.0050	<0.0020	<0.0020
	Silicon (Si)-Dissolved (mg/L)		15.7	13.4	14.4	13.1	6.00
	Silver (Ag)-Dissolved (mg/L)		<0.000050	<0.00020	<0.000050	<0.000020	<0.000020

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L678707-6	L678707-7	L678707-8	L678707-9	L678707-10
		26-AUG-08	26-AUG-08	27-AUG-08	27-AUG-08	29-AUG-08
		SRK08-P11A	SRK08-P11B	SRK08-P12A	SRK08-P12B	SRK05-SP6
Grouping	Analyte					
WATER						
Physical Tests	Colour, True (CU)	10.4	<5.0	124	9.1	7.2
	Conductivity (uS/cm)	707	879	1240	819	2070
	Hardness (as CaCO3) (mg/L)	391	492	647	402	1270
	pH (pH)	7.92	7.74	6.25	6.38	7.72
	Total Suspended Solids (mg/L)	699	63.6	431	711	1010
	Total Dissolved Solids (mg/L)	504	665	597	685	1860
	Turbidity (NTU)	1290	80.9	534	1300	1320
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	273	175	154	380	147
	Ammonia as N (mg/L)	0.0293	0.0498	0.0831	0.0378	0.0219
	Bromide (Br) (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Chloride (Cl) (mg/L)	<0.50	<0.50	0.67	<0.50	0.57
	Fluoride (F) (mg/L)	0.210	0.134	0.222	0.217	0.138
	Sulfate (SO4) (mg/L)	210	330	154	86.9	1160
Organic / Inorganic Carbon	Total Organic Carbon (mg/L)	3.97	3.08	3.89	3.70	8.79
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0034	0.0026	0.0956	0.0704	0.0458
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00020	0.00031	<0.00020	<0.00050
	Arsenic (As)-Dissolved (mg/L)	0.00011	<0.00020	0.00112	<0.00020	<0.00050
	Barium (Ba)-Dissolved (mg/L)	0.0562	0.0407	0.0574	0.0965	0.0633
	Beryllium (Be)-Dissolved (mg/L)	<0.00050	<0.0010	<0.0010	<0.0010	<0.0025
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050	<0.0010	<0.0010	<0.0010	<0.0025
	Boron (B)-Dissolved (mg/L)	<0.010	<0.020	<0.020	<0.020	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000050	0.00043	<0.00010	0.00011	<0.00025
	Calcium (Ca)-Dissolved (mg/L)	127	151	177	115	347
	Chromium (Cr)-Dissolved (mg/L)	<0.00050	<0.0010	0.0087	0.0032	<0.0025
	Cobalt (Co)-Dissolved (mg/L)	0.00126	0.00159	0.00982	0.0109	<0.00050
	Copper (Cu)-Dissolved (mg/L)	0.00081	0.00089	0.00051	0.00061	0.00244
	Iron (Fe)-Dissolved (mg/L)	0.178	0.073	17.9	3.83	<0.030
	Lead (Pb)-Dissolved (mg/L)	0.000088	0.00010	0.00013	<0.00010	<0.00025
	Lithium (Li)-Dissolved (mg/L)	0.0085	<0.010	0.102	0.084	<0.025
	Magnesium (Mg)-Dissolved (mg/L)	17.9	27.8	49.6	28.2	97.5
	Manganese (Mn)-Dissolved (mg/L)	0.0854	1.30	0.991	0.784	0.0837
	Molybdenum (Mo)-Dissolved (mg/L)	0.00141	0.00171	0.00154	0.00026	<0.00025
	Nickel (Ni)-Dissolved (mg/L)	0.00143	0.0149	0.0127	0.0066	<0.0025
	Phosphorus (P)-Dissolved (mg/L)	<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Dissolved (mg/L)	3.6	3.7	3.9	3.8	4.7
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0020	<0.0020	<0.0020	<0.0050
	Silicon (Si)-Dissolved (mg/L)	6.55	6.94	10.8	9.48	5.31
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000020	<0.000020	<0.000020	<0.000050

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L678707-11			
		Description				
		Sampled Date	29-AUG-08			
		Sampled Time				
		Client ID	SRK08-DP5			
Grouping	Analyte					
WATER						
Physical Tests	Colour, True (CU)		14.7			
	Conductivity (uS/cm)		7240			
	Hardness (as CaCO3) (mg/L)		6000			
	pH (pH)		6.83			
	Total Suspended Solids (mg/L)		689			
	Total Dissolved Solids (mg/L)		10200			
	Turbidity (NTU)		860			
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)		111			
	Ammonia as N (mg/L)		0.164			
	Bromide (Br) (mg/L)		<25			
	Chloride (Cl) (mg/L)		<250			
	Fluoride (F) (mg/L)		<10			
	Sulfate (SO4) (mg/L)		6230			
Organic / Inorganic Carbon	Total Organic Carbon (mg/L)		29.8			
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)		0.13			
	Antimony (Sb)-Dissolved (mg/L)		<0.010			
	Arsenic (As)-Dissolved (mg/L)		<0.010			
	Barium (Ba)-Dissolved (mg/L)		0.0322			
	Beryllium (Be)-Dissolved (mg/L)		<0.050			
	Bismuth (Bi)-Dissolved (mg/L)		<0.050			
	Boron (B)-Dissolved (mg/L)		<1.0			
	Cadmium (Cd)-Dissolved (mg/L)		0.0753			
	Calcium (Ca)-Dissolved (mg/L)		407			
	Chromium (Cr)-Dissolved (mg/L)		<0.050			
	Cobalt (Co)-Dissolved (mg/L)		0.967			
	Copper (Cu)-Dissolved (mg/L)		0.015			
	Iron (Fe)-Dissolved (mg/L)		13.9			
	Lead (Pb)-Dissolved (mg/L)		<0.0050			
	Lithium (Li)-Dissolved (mg/L)		<0.50			
	Magnesium (Mg)-Dissolved (mg/L)		1210			
	Manganese (Mn)-Dissolved (mg/L)		69.0			
	Molybdenum (Mo)-Dissolved (mg/L)		<0.0050			
	Nickel (Ni)-Dissolved (mg/L)		2.37			
	Phosphorus (P)-Dissolved (mg/L)		<0.90			
	Potassium (K)-Dissolved (mg/L)		15.3			
	Selenium (Se)-Dissolved (mg/L)		<0.10			
	Silicon (Si)-Dissolved (mg/L)		8.54			
	Silver (Ag)-Dissolved (mg/L)		<0.0010			

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L678707-1	L678707-2	L678707-3	L678707-4	L678707-5
		Description					
		Sampled Date	31-AUG-08	31-AUG-08	30-AUG-08	30-AUG-08	02-SEP-08
		Sampled Time					
		Client ID	SRK08-SP7A	SRK08-SP7B	SRK08-SP8A	SRK08-SP8B	SRK08-P9
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		21.3	32.8	17.0	14.0	14.8
	Strontium (Sr)-Dissolved (mg/L)		1.40	1.96	1.12	0.687	1.62
	Thallium (Tl)-Dissolved (mg/L)		<0.00050	<0.0020	<0.00050	<0.00020	<0.00020
	Tin (Sn)-Dissolved (mg/L)		<0.00050	<0.0020	<0.00050	<0.00020	<0.00020
	Titanium (Ti)-Dissolved (mg/L)		<0.010	<0.020	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)		0.00295	0.00167	0.00153	0.00250	0.00779
	Vanadium (V)-Dissolved (mg/L)		<0.0050	<0.020	<0.0050	<0.0020	<0.0020
	Zinc (Zn)-Dissolved (mg/L)		1.64	96.8	0.444	0.359	0.0100

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L678707-6	L678707-7	L678707-8	L678707-9	L678707-10
		Description					
		Sampled Date	26-AUG-08	26-AUG-08	27-AUG-08	27-AUG-08	29-AUG-08
		Sampled Time					
		Client ID	SRK08-P11A	SRK08-P11B	SRK08-P12A	SRK08-P12B	SRK05-SP6
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		6.9	8.3	29.7	15.7	46.0
	Strontium (Sr)-Dissolved (mg/L)		0.399	0.407	1.06	0.705	0.834
	Thallium (Tl)-Dissolved (mg/L)		<0.00010	<0.00020	<0.00020	<0.00020	<0.00050
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00020	<0.00020	<0.00020	<0.00050
	Titanium (Ti)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)		0.00163	0.00125	0.00197	0.00128	0.00320
	Vanadium (V)-Dissolved (mg/L)		<0.0010	<0.0020	<0.0020	<0.0020	<0.0050
	Zinc (Zn)-Dissolved (mg/L)		0.0028	0.0058	0.978	0.207	0.0726

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L678707-11			
Grouping	Analyte				
WATER					
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)	67.5			
	Strontium (Sr)-Dissolved (mg/L)	1.83			
	Thallium (Tl)-Dissolved (mg/L)	<0.010			
	Tin (Sn)-Dissolved (mg/L)	<0.010			
	Titanium (Ti)-Dissolved (mg/L)	<0.030			
	Uranium (U)-Dissolved (mg/L)	0.0025			
	Vanadium (V)-Dissolved (mg/L)	<0.10			
	Zinc (Zn)-Dissolved (mg/L)	376			

Reference Information

Additional Comments for Sample Listed:

Samplenum	Matrix	Report Remarks	Sample Comments
Methods Listed (if applicable):			
ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
ALK-COL-VA	Water	Alkalinity by Colourimetric (Automated)	APHA 310.2
This analysis is carried out using procedures adapted from EPA Method 310.2 "Alkalinity". Total Alkalinity is determined using the methyl orange colourimetric method.			
ALK-PCT-VA	Water	Alkalinity by Auto. Titration	APHA 2320 "Alkalinity"
This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.			
ANIONS-BR-IC-VA	Water	Bromide by Ion Chromatography	APHA 4110 "Determination of Anions by IC
This analysis is carried out using procedures adapted from APHA Method 4110 "Determination of Anions by Ion Chromatography" and EPA Method 300.0 "Determination of Inorganic Anions by Ion Chromatography". Anions routinely determined by this method include: bromide, chloride, fluoride, nitrate, nitrite and sulphate.			
ANIONS-CL-IC-VA	Water	Chloride by Ion Chromatography	APHA 4110 "Determination of Anions by IC
This analysis is carried out using procedures adapted from APHA Method 4110 "Determination of Anions by Ion Chromatography" and EPA Method 300.0 "Determination of Inorganic Anions by Ion Chromatography". Anions routinely determined by this method include: bromide, chloride, fluoride, nitrate, nitrite and sulphate.			
ANIONS-F-IC-VA	Water	Fluoride by Ion Chromatography	APHA 4110 "Determination of Anions by IC
This analysis is carried out using procedures adapted from APHA Method 4110 "Determination of Anions by Ion Chromatography" and EPA Method 300.0 "Determination of Inorganic Anions by Ion Chromatography". Anions routinely determined by this method include: bromide, chloride, fluoride, nitrate, nitrite and sulphate.			
ANIONS-SO4-IC-VA	Water	Sulfate by Ion Chromatography	APHA 4110 "Determination of Anions by IC
This analysis is carried out using procedures adapted from APHA Method 4110 "Determination of Anions by Ion Chromatography" and EPA Method 300.0 "Determination of Inorganic Anions by Ion Chromatography". Anions routinely determined by this method include: bromide, chloride, fluoride, nitrate, nitrite and sulphate.			
CARBONS-TOC-VA	Water	Total organic carbon by combustion	APHA 5310 "TOTAL ORGANIC CARBON (TOC)"
This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)".			
COLOUR-TRUE-VA	Water	Color (True) by Spectrometer	APHA 2120 "Color"
This analysis is carried out using procedures adapted from APHA Method 2120 "Color". Colour (True Colour) is determined by filtering a sample through a 0.45 micron membrane filter followed by analysis of the filtrate using the platinum-cobalt colourimetric method. Aparent Colour is determined without prior sample filtration. Colour is pH dependent. Unless otherwise indicated, reported colour results pertain to the pH of the sample as received, to within +/- 1 pH unit.			
EC-PCT-VA	Water	Conductivity (Automated)	APHA 2510 Auto. Conduc.
This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.			
HARDNESS-CALC-VA	Water	Hardness	APHA 2340B
Hardness is calculated from Calcium and Magnesium concentrations, and is expressed as calcium carbonate equivalents.			
MET-DIS-ICP-VA	Water	Dissolved Metals in Water by ICPOES	EPA SW-846 3005A/6010B
This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves filtration (EPA Method 3005A) and analysis by inductively coupled plasma -			

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
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optical emission spectrophotometry (EPA Method 6010B).

MET-DIS-LOW-MS-VA	Water	Dissolved Metals in Water by ICPMS(Low)	EPA SW-846 3005A/6020A
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This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves preliminary sample treatment by filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).

NH3-COL-VA	Water	Ammonia by Color	APHA 4500-NH3 "Nitrogen (Ammonia)"
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This analysis is carried out, on unpreserved samples, using procedures adapted from APHA Method 4500-NH3 "Nitrogen (Ammonia)". Ammonia is determined using the phenate colourimetric method.

PH-PCT-VA	Water	pH by Meter (Automated)	APHA 4500-H "pH Value"
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This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

TDS-VA	Water	Total Dissolved Solids by Gravimetric	APHA 2540 C - GRAVIMETRIC
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This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, TDS is determined by evaporating the filtrate to dryness at 180 degrees celsius.

TSS-VA	Water	Solids by Gravimetric	APHA 2540 D - GRAVIMETRIC
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This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.

TURBIDITY-VA	Water	Turbidity by Meter	APHA 2130 "Turbidity"
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This analysis is carried out using procedures adapted from APHA Method 2130 "Turbidity". Turbidity is determined by the nephelometric method.

**** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies. The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:**

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA		

GLOSSARY OF REPORT TERMS

Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in environmental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.

The reported surrogate recovery value provides a measure of method efficiency.

mg/kg (units) - unit of concentration based on mass, parts per million

mg/L (units) - unit of concentration based on volume, parts per million

N/A - Result not available. Refer to qualifier code and definition for explanation

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

ALS
 ENVIRONMENTAL
 ATTN ANNE LANGRIS
 L678707

excellence in analytical testing

1988 Triumph Street, Vancouver, BC Canada V5L 1K5 Tel: 604-253-4188 Toll Free: 1-800-665-0243 Fax: 604-253-6700
 #2-21 Highfield Circle SE, Calgary, AB Canada T2C 5N6 Tel: 403-214-5431 Toll Free: 1-866-722-6231 Fax: 403-214-5430
 #2 - 8820 100th Street, Fort St. John, BC Canada V1J 3W9 Tel: 250-785-8281 Fax: 250-785-8286

www.alsenviro.com

SEND REPORT TO:
 COMPANY: SRK Consulting
 ADDRESS: 2200-1066 West Hastings St.
 CITY: Vancouver PROV: BC POSTAL CODE: V6E3X2
 TEL: CONTACT: Dan Mackie
 PROJECT NAME AND NO.: Faro Groundwater 2008 SAMPLER: DMJS
 QUOTE NO.: 1CD003.112 ALS CONTACT: Andre Langlais

CHAIN OF CUSTODY FORM

REPORT FORMAT: PDF, Excel, CC; reports to gfagerlund@srk.com and dmackie@srk.com

ANALYSIS REQUESTED:

SAMPLE IDENTIFICATION	DATE / TIME COLLECTED		MATRIX	See attached parameter list	Dis. Metals (filter/preserved)	Routine	NOTES (sample specific comments, due dates, etc.)
	YYYY-MM-DD	TIME					
SRK08-SP7a	31-Aug-08		water	X	X	X	possible high zinc and sulphates
SRK08-SP7b	31-Aug-08		water	X	X	X	possible high zinc and sulphates
SRK08-SP8a	30-Aug-08		water	X	X	X	possible high zinc and sulphates
SRK08-SP8b	30-Aug-08		water	X	X	X	possible high zinc and sulphates
SRK08-P9	2-Sept-08		water	X	X	X	possible high zinc and sulphates
SRK08-P11a	26-Aug-08		water	X	X	X	possible high zinc and sulphates
SRK08-P11b	26-Aug-08		water	X	X	X	possible high zinc and sulphates
SRK08-P12a	27-Aug-08		water	X	X	X	possible high zinc and sulphates
SRK08-P12b	27-Aug-08		water	X	X	X	possible high zinc and sulphates
SRK05-SP6	29-Aug-08		water	X	X	X	possible high zinc and sulphates
SRK08-DP5	29-Aug-08		water	X	X	X	possible high zinc and sulphates

TURN AROUND REQUIRED: Routine
 SPECIFY DATE: _____ (surcharge may apply)
 SEND INVOICE TO: SRK
 INVOICE FORMAT:
 SPECIAL INSTRUCTIONS:

FOR LAB USE ONLY

Relinquished By: Dan Mackie DATE: 4-Sept-08 RECEIVED BY: DATE: TIME:
 Relinquished By: DATE: TIME: RECEIVED BY: DATE: TIME:

Cooler Seal Intact? Yes ___ No ___ N/A Cooling Method? _____
 Sample Temperature: _____ °C
 Frozen? Yes ___ No ___ Ice ___ None ___

Samples preserved as per ALS requirements



Environmental Division

Certificate of Analysis

SRK CONSULTING (CANADA) INC.

ATTN: DAN MACKIE

SUITE 2200
1066 WEST HASTINGS ST.
VANCOUVER BC V6E 3X2

Reported On: 24-SEP-08 05:09 PM

Lab Work Order #: **L684850**

Date Received: **19-SEP-08**

Project P.O. #:

Job Reference: 1CD003.112

Legal Site Desc: FARO MINE-S-CLUSTER

CofC Numbers: C064219

Other Information:

Comments: Please note that some of the detection limits were increased due to high levels of metals in these samples.

LINDSAY JONES
Account Manager

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATORY.
ALL SAMPLES WILL BE DISPOSED OF AFTER 30 DAYS FOLLOWING ANALYSIS. PLEASE CONTACT THE LAB IF YOU
REQUIRE ADDITIONAL SAMPLE STORAGE TIME.

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L684850-1	L684850-2	L684850-3	L684850-4	L684850-5
		Description					
		Sampled Date	15-SEP-08	12-SEP-08	15-SEP-08	17-SEP-08	11-SEP-08
		Sampled Time					
		Client ID	SRK 08- SPW2	SRK 08- SBR3	SRK 08- SBR4	SRK 08- P14	SRK 08- SBR2
Grouping	Analyte						
WATER							
Physical Tests	Colour, True (CU)		29.5	<5.0	7.1	<5.0	19.3
	Conductivity (uS/cm)		6400	2150	4260	921	3450
	Hardness (as CaCO3) (mg/L)		5230	1230	3190	570	2430
	pH (pH)		7.39	7.95	7.34	8.14	7.48
	Total Suspended Solids (mg/L)		206	<3.0	176	397	80.8
	Total Dissolved Solids (mg/L)		7790	1830	4870	660	3500
	Turbidity (NTU)		69.8	4.09	77.7	410	72.6
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)		190	371	155	211	232
	Ammonia as N (mg/L)		0.0630	0.0068	0.101	0.0236	0.225
	Bromide (Br) (mg/L)		<5.0	<0.50	<5.0	<0.050	<5.0
	Chloride (Cl) (mg/L)		<50	<5.0	<50	<0.50	<50
	Fluoride (F) (mg/L)		<2.0	<0.20	<2.0	0.061	<2.0
	Sulfate (SO4) (mg/L)		5340	1060	3130	294	2320
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)		<0.050	0.0057	0.381	<0.0020	0.021
	Antimony (Sb)-Dissolved (mg/L)		<0.0050	<0.00050	<0.0050	0.00022	<0.0010
	Arsenic (As)-Dissolved (mg/L)		<0.0050	0.00055	<0.0050	0.00033	0.0011
	Barium (Ba)-Dissolved (mg/L)		0.0236	0.0438	0.0738	0.0890	0.0685
	Beryllium (Be)-Dissolved (mg/L)		<0.025	<0.0025	<0.025	<0.0010	<0.0050
	Bismuth (Bi)-Dissolved (mg/L)		<0.025	<0.0025	<0.025	<0.0010	<0.0050
	Boron (B)-Dissolved (mg/L)		<0.50	<0.050	<0.50	<0.020	<0.10
	Cadmium (Cd)-Dissolved (mg/L)		0.0269	<0.00025	0.0162	<0.00010	0.00470
	Calcium (Ca)-Dissolved (mg/L)		517	270	343	173	396
	Chromium (Cr)-Dissolved (mg/L)		<0.025	<0.0025	<0.025	<0.0010	<0.0050
	Cobalt (Co)-Dissolved (mg/L)		0.0363	0.00144	0.102	0.00034	0.0412
	Copper (Cu)-Dissolved (mg/L)		0.0108	0.00241	<0.0050	0.00360	0.0030
	Iron (Fe)-Dissolved (mg/L)		<0.15	<0.030	2.12	<0.030	7.97
	Lead (Pb)-Dissolved (mg/L)		<0.0025	0.00048	<0.0025	0.00021	0.00502
	Lithium (Li)-Dissolved (mg/L)		<0.25	0.048	<0.25	<0.010	0.107
	Magnesium (Mg)-Dissolved (mg/L)		956	135	566	33.5	349
	Manganese (Mn)-Dissolved (mg/L)		66.5	0.118	37.7	0.0393	20.9
	Molybdenum (Mo)-Dissolved (mg/L)		<0.0025	0.00031	0.0051	0.00187	0.00577
	Nickel (Ni)-Dissolved (mg/L)		1.88	0.0107	1.11	0.0021	0.228
	Phosphorus (P)-Dissolved (mg/L)		<1.5	<0.30	<1.5	<0.30	<0.30
	Potassium (K)-Dissolved (mg/L)		14	5.4	13	<2.0	9.6
	Selenium (Se)-Dissolved (mg/L)		<0.050	<0.0050	<0.050	<0.0020	<0.010
	Silicon (Si)-Dissolved (mg/L)		12.3	4.53	10.2	4.94	10.7
	Silver (Ag)-Dissolved (mg/L)		<0.00050	<0.000050	<0.00050	<0.000020	<0.00010
	Sodium (Na)-Dissolved (mg/L)		42	35.9	29	3.6	31.8

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L684850-6	L684850-7	L684850-8	L684850-9
		Description				
		Sampled Date	08-SEP-08	17-SEP-08	18-SEP-08	09-SEP-08
		Sampled Time				
		Client ID	SRK 08- SBR1	SRK 08- P15	SRK 08- P16	SRK 08- SPW4
Grouping	Analyte					
WATER						
Physical Tests	Colour, True (CU)	39.1	<5.0	<5.0	12.4	
	Conductivity (uS/cm)	2880	1600	1050	6780	
	Hardness (as CaCO3) (mg/L)	2000	1030	654	5160	
	pH (pH)	7.27	8.04	8.08	7.18	
	Total Suspended Solids (mg/L)	121	909	1080	1210	
	Total Dissolved Solids (mg/L)	2890	1280	752	8640	
	Turbidity (NTU)	126	1070	1340	1580	
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	256	365	284	171	
	Ammonia as N (mg/L)	0.108	0.0174	0.179	0.0533	
	Bromide (Br) (mg/L)	<2.5	<0.050	<0.050	<5.0	
	Chloride (Cl) (mg/L)	<25	1.10	0.81	<50	
	Fluoride (F) (mg/L)	<1.0	0.085	0.060	<2.0	
	Sulfate (SO4) (mg/L)	1840	578	331	5780	
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.022	<0.0050	0.0031	<0.10	
	Antimony (Sb)-Dissolved (mg/L)	<0.0010	0.00056	0.00028	<0.010	
	Arsenic (As)-Dissolved (mg/L)	0.0081	0.00055	0.00043	<0.010	
	Barium (Ba)-Dissolved (mg/L)	0.0337	0.0858	0.136	0.0307	
	Beryllium (Be)-Dissolved (mg/L)	<0.0050	<0.0025	<0.0010	<0.050	
	Bismuth (Bi)-Dissolved (mg/L)	<0.0050	<0.0025	<0.0010	<0.050	
	Boron (B)-Dissolved (mg/L)	<0.10	<0.050	<0.020	<1.0	
	Cadmium (Cd)-Dissolved (mg/L)	<0.00050	<0.00025	<0.00010	0.101	
	Calcium (Ca)-Dissolved (mg/L)	485	267	189	411	
	Chromium (Cr)-Dissolved (mg/L)	<0.0050	<0.0025	<0.0010	<0.050	
	Cobalt (Co)-Dissolved (mg/L)	0.0091	0.00072	0.00058	<0.010	
	Copper (Cu)-Dissolved (mg/L)	0.0039	0.00216	0.00072	0.028	
	Iron (Fe)-Dissolved (mg/L)	24.4	0.062	<0.030	<0.060	
	Lead (Pb)-Dissolved (mg/L)	0.0402	<0.00025	<0.00010	<0.0050	
	Lithium (Li)-Dissolved (mg/L)	0.078	<0.025	<0.010	<0.50	
	Magnesium (Mg)-Dissolved (mg/L)	192	88.3	44.4	1000	
	Manganese (Mn)-Dissolved (mg/L)	3.25	0.0618	0.0617	91.8	
	Molybdenum (Mo)-Dissolved (mg/L)	0.00091	0.00148	0.00252	<0.0050	
	Nickel (Ni)-Dissolved (mg/L)	0.0647	0.0221	0.0033	2.58	
	Phosphorus (P)-Dissolved (mg/L)	<0.30	<0.30	<0.30	<0.60	
	Potassium (K)-Dissolved (mg/L)	9.2	<2.0	2.6	13.5	
	Selenium (Se)-Dissolved (mg/L)	<0.010	<0.0050	<0.0020	<0.10	
	Silicon (Si)-Dissolved (mg/L)	11.3	5.23	4.15	12.7	
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.000050	<0.000020	<0.0010	
	Sodium (Na)-Dissolved (mg/L)	20.6	4.3	7.1	33.5	

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L684850-1	L684850-2	L684850-3	L684850-4	L684850-5
		Description					
		Sampled Date	15-SEP-08	12-SEP-08	15-SEP-08	17-SEP-08	11-SEP-08
		Sampled Time					
		Client ID	SRK 08- SPW2	SRK 08- SBR3	SRK 08- SBR4	SRK 08- P14	SRK 08- SBR2
Grouping	Analyte						
WATER							
Dissolved Metals	Strontium (Sr)-Dissolved (mg/L)		2.02	0.730	1.38	0.710	1.52
	Thallium (Tl)-Dissolved (mg/L)		<0.0050	<0.00050	<0.0050	<0.00020	<0.0010
	Tin (Sn)-Dissolved (mg/L)		<0.0050	<0.00050	<0.0050	<0.00020	<0.0010
	Titanium (Ti)-Dissolved (mg/L)		<0.050	0.010	<0.050	<0.010	0.010
	Uranium (U)-Dissolved (mg/L)		0.00720	0.0177	0.00376	0.00324	0.0112
	Vanadium (V)-Dissolved (mg/L)		<0.050	<0.0050	<0.050	<0.0020	<0.010
	Zinc (Zn)-Dissolved (mg/L)		233	0.0232	119	0.0317	28.6

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L684850-6	L684850-7	L684850-8	L684850-9	
		Description					
		Sampled Date	08-SEP-08	17-SEP-08	18-SEP-08	09-SEP-08	
		Sampled Time					
		Client ID	SRK 08- SBR1	SRK 08- P15	SRK 08- P16	SRK 08- SPW4	
Grouping	Analyte						
WATER							
Dissolved Metals	Strontium (Sr)-Dissolved (mg/L)		1.93	0.942	0.746	1.87	
	Thallium (Tl)-Dissolved (mg/L)		<0.0010	<0.00050	<0.00020	<0.010	
	Tin (Sn)-Dissolved (mg/L)		<0.0010	<0.00050	<0.00020	<0.010	
	Titanium (Ti)-Dissolved (mg/L)		<0.010	0.010	0.010	<0.020	
	Uranium (U)-Dissolved (mg/L)		0.00230	0.0179	0.0116	0.0037	
	Vanadium (V)-Dissolved (mg/L)		<0.010	<0.0050	<0.0020	<0.10	
	Zinc (Zn)-Dissolved (mg/L)		1.13	0.0076	0.0060	355	

Reference Information

Additional Comments for Sample Listed:

Samplenum	Matrix	Report Remarks	Sample Comments
Methods Listed (if applicable):			
ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
ALK-COL-VA	Water	Alkalinity by Colourimetric (Automated)	APHA 310.2
This analysis is carried out using procedures adapted from EPA Method 310.2 "Alkalinity". Total Alkalinity is determined using the methyl orange colourimetric method.			
ANIONS-BR-IC-VA	Water	Bromide by Ion Chromatography	APHA 4110 "Determination of Anions by IC
This analysis is carried out using procedures adapted from APHA Method 4110 "Determination of Anions by Ion Chromatography" and EPA Method 300.0 "Determination of Inorganic Anions by Ion Chromatography". Anions routinely determined by this method include: bromide, chloride, fluoride, nitrate, nitrite and sulphate.			
ANIONS-CL-IC-VA	Water	Chloride by Ion Chromatography	APHA 4110 "Determination of Anions by IC
This analysis is carried out using procedures adapted from APHA Method 4110 "Determination of Anions by Ion Chromatography" and EPA Method 300.0 "Determination of Inorganic Anions by Ion Chromatography". Anions routinely determined by this method include: bromide, chloride, fluoride, nitrate, nitrite and sulphate.			
ANIONS-F-IC-VA	Water	Fluoride by Ion Chromatography	APHA 4110 "Determination of Anions by IC
This analysis is carried out using procedures adapted from APHA Method 4110 "Determination of Anions by Ion Chromatography" and EPA Method 300.0 "Determination of Inorganic Anions by Ion Chromatography". Anions routinely determined by this method include: bromide, chloride, fluoride, nitrate, nitrite and sulphate.			
ANIONS-SO4-IC-VA	Water	Sulfate by Ion Chromatography	APHA 4110 "Determination of Anions by IC
This analysis is carried out using procedures adapted from APHA Method 4110 "Determination of Anions by Ion Chromatography" and EPA Method 300.0 "Determination of Inorganic Anions by Ion Chromatography". Anions routinely determined by this method include: bromide, chloride, fluoride, nitrate, nitrite and sulphate.			
COLOUR-TRUE-VA	Water	Color (True) by Spectrometer	APHA 2120 "Color"
This analysis is carried out using procedures adapted from APHA Method 2120 "Color". Colour (True Colour) is determined by filtering a sample through a 0.45 micron membrane filter followed by analysis of the filtrate using the platinum-cobalt colourimetric method. Aparent Colour is determined without prior sample filtration. Colour is pH dependent. Unless otherwise indicated, reported colour results pertain to the pH of the sample as received, to within +/- 1 pH unit.			
EC-PCT-VA	Water	Conductivity (Automated)	APHA 2510 Auto. Conduc.
This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.			
HARDNESS-CALC-VA	Water	Hardness	APHA 2340B
Hardness is calculated from Calcium and Magnesium concentrations, and is expressed as calcium carbonate equivalents.			
MET-DIS-ICP-VA	Water	Dissolved Metals in Water by ICPOES	EPA SW-846 3005A/6010B
This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves filtration (EPA Method 3005A) and analysis by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).			
MET-DIS-LOW-MS-VA	Water	Dissolved Metals in Water by ICPMS(Low)	EPA SW-846 3005A/6020A
This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures involves preliminary sample treatment by filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
		Ammonia by Color	APHA 4500-NH3 "Nitrogen (Ammonia)"

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
NH3-COL-VA	Water		
This analysis is carried out, on unpreserved samples, using procedures adapted from APHA Method 4500-NH3 "Nitrogen (Ammonia)". Ammonia is determined using the phenate colourimetric method.			
PH-PCT-VA	Water	pH by Meter (Automated)	APHA 4500-H "pH Value"
This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode			
TDS-VA	Water	Total Dissolved Solids by Gravimetric	APHA 2540 C - GRAVIMETRIC
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, TDS is determined by evaporating the filtrate to dryness at 180 degrees celsius.			
TSS-VA	Water	Solids by Gravimetric	APHA 2540 D - GRAVIMETRIC
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.			
TURBIDITY-VA	Water	Turbidity by Meter	APHA 2130 "Turbidity"
This analysis is carried out using procedures adapted from APHA Method 2130 "Turbidity". Turbidity is determined by the nephelometric method.			

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies. The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA		

GLOSSARY OF REPORT TERMS

Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in environmental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.

The reported surrogate recovery value provides a measure of method efficiency.

mg/kg (units) - unit of concentration based on mass, parts per million

mg/L (units) - unit of concentration based on volume, parts per million

N/A - Result not available. Refer to qualifier code and definition for explanation

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

