

Exhibit A

Scope of Work

WATER ACTIVITY NAME - Missouri Heights Ground Water Monitoring Program, Phase II

GRANT RECIPIENT – Basalt Water Conservancy District

FUNDING SOURCE - Colorado Basin Account - \$25,000

BACKGROUND

The Basalt Water Conservancy District (District) is both the sponsoring agency and the official applicant for this grant. The District is a quasi-governmental body organized in 1963 under Section 37-45-101, et seq. C.R.S. This makes the District an eligible entity for grant funding under the terms of Senate Bill 06-179. The District is governed by an eight member Board of Directors representing seven geographical divisions within the District's boundary. The District is funded by a mill levy assessed on property owners within the District's boundary and fees assessed on water allotment contracts. Its annual operating budget is approximately \$300,000.

The District was created for the purposes of conserving, developing, and stabilizing water supplies for the benefit of users within the Roaring Fork Valley. Today, the District operates a comprehensive water supply plan that provides 422 domestic, agricultural, and commercial contractees with dependable legal water supplies. The District's water rights are used to benefit its contractees, by allowing them to continue to divert water at their well, spring, or surface diversion in times of shortage when their use would otherwise be curtailed. The District owns substantial domestic, municipal, and agricultural direct flow water rights, and maintains several reservoir storage contracts with the US Bureau of Reclamation for the release of water from Ruedi and Green Mountain Reservoirs.

The District supplies augmentation water for a number of contracts located on Missouri Heights. Missouri Heights is located on a broad mesa above the Roaring Fork River, near Carbondale, Colorado. Expanding development on Missouri Heights has led to increased groundwater withdrawals and new demand for District water allotment contracts. Augmentation releases for Missouri Heights' well contracts present a unique augmentation situation. The wells deplete the Missouri Heights aquifer, but the augmentation releases do not provide direct, physical recharge to the aquifer. The lack of direct recharge has raised concerns that Missouri Heights contracts will deplete the local aquifer.

In order to monitor the effects of well withdrawals on the aquifer, the District implemented Phase I of the Missouri Heights Ground Water Monitoring Program in 1982. Phase I monitored water levels at three wells and four springs in the vicinity of Missouri Heights. A monthly, instantaneous measurement was taken at each of the seven

sites. The frequency of data collection provided the basis for a reconnaissance level assessment of fluctuations in ground water levels and their relationship to climatic trends, increased development, and changing land use patterns. An initial review of Phase I data by Resource Engineering, Inc. (RESOURCE) indicated that Missouri Heights ground water levels were not being significantly depleted by increased water demand. Furthermore, the Study found that the aquifer's water level was heavily influenced by climatic patterns (dry, average, and wet years) and transbasin importation of irrigation water. However, the Study also identified several limitations with the data and sampling methodology that prevented drawing more detailed conclusions about Missouri Heights ground water behavior. Specifically, the sampling frequency overlooked short term fluctuations (i.e. fluctuations on a daily or weekly basis). The behavior at the spring sites was highly erratic and could only be used as a proxy for ground water levels. Climatic data was calculated using a climate model and regionally available weather station data, not site specific data. Finally, the spatial distribution of the well sites was insufficient to facilitate conclusions about regional aquifer health.

This grant request is being submitted for assistance with Phase II of the Missouri Heights Ground Water Monitoring Program. Phase II of the Ground Water Monitoring Program is intended to address the limitations of Phase I and provide a more detailed understanding of the influences of development on the Missouri Heights aquifer. In order to accomplish this, the District plans to establish six monitoring well sites equipped with continuous recording devices. Additionally, the District will install a remote precipitation gage on Missouri Heights. Data will be collected at these sites for a period of five years. At the end of the five year study period the data will be analyzed and summarized in a report by RESOURCE. This report will provide a valuable tool for a number of public and private entities in the Roaring Fork Valley. Specifically, the report will accomplish the following:

- Help the District assess its ability to adequately augment water allotment contract holders on Missouri Heights.
- Assist the Division of Water Resources in administering and protecting vested water rights on or influenced by Missouri Heights, including Colorado Water Conservation Board's instream flow water rights on the Roaring Fork River.
- The report will be made available to the Missouri Heights Well Users Association and other private well owners. It will facilitate planning for future development and water use on Missouri Heights.

Grant funding is being requested from the Colorado Basin Account in the amount of \$25,000. The District would provide \$25,000 in matching funds (50%) towards the total project cost of \$50,000.

SUMMARY OF TASKS

The Basalt Water Conservancy District (District) will direct Resource Engineering, Inc. (RESOURCE), as part of their on-going technical assistance to the District, to perform the work necessary to complete Phase II of the Missouri Heights Ground Water

Monitoring Program. RESOURCE has provided technical support to the District since 1982. Moreover, RESOURCE assisted with the database management and data analysis for Phase I of the Monitoring Program (Note: the data collection was sub-contracted to a third party). RESOURCE employs a diverse staff with decades of combined experience in monitoring program design, data collection, database management and ground water data analysis.

Phase II of the Ground Water Monitoring Program is intended to expand on the data and analysis completed during Phase I. Phase II will provide a more detailed understanding of whether, or not, increased water development and changing water uses are influencing the Missouri Heights aquifer. In order to accomplish this, RESOURCE plans to add 3 wells to the existing monitoring program (for a total of 6 monitoring wells) and cease monitoring of the three spring sites. Each monitoring well will be equipped with a device that will take water level readings once every hour. The new wells will be located to optimize site distribution for future data analysis. In addition to the well monitoring, RESOURCE will install a remote precipitation gage. This gage will provide site specific data regarding snow and rainfall for Missouri Heights. Data will be collected at these sites for a period of five years.

During the 5 year data collection period RESOURCE will make biannual visits to each of the 7 study sites (i.e. 6 study wells and 1 precipitation gage). During each visit RESOURCE will download data collected by the measurement devices. At this time RESOURCE will also perform routing maintenance on the instruments and study sites. The data collected during the biannual visits will be checked for quality and incorporated into a database.

At the end of the five year study period the data will be analyzed and summarized in a report by RESOURCE. The analysis will focus on using local fluctuations measured at the six well study sites to characterize regional aquifer behavior. Trends in aquifer level will be compared to key influences on the aquifer, including precipitation inputs, transbasin diversion inputs and increased well withdrawals. RESOURCE expects to identify which influences are dominant and characterize the general health and vitality of the aquifer.

The primary deliverable product associated with the BWCD Application is a summary report to be completed in January, 2013. The report will be publicly available and will provide a detailed analysis of the Missouri Heights water balance (i.e. input from precipitation and transbasin diversions balanced against output from well withdrawals and ground water migration). The other deliverable associated with the project will be a database of Missouri Heights ground water levels. This database will be included with the final, summary report. It will also be available, upon request, during the study period. Additional interim deliverables were not included with this project in order to minimize costs.

Missouri Heights Ground Water Monitoring Program – Phase II: Budget

Equipment Purchase, Siting and Setup: \$23,700

Data Collection: \$13,800

Analysis and Reporting: \$12,500

Estimated Total: \$50,000

Table 1: Missouri Heights Ground Water Monitoring Program - Phase II, Estimated Costs

Item	Quantity	Units	Unit Cost	Total Cost
Climatic Monitoring				
Campbell Scientific Rain Gage w/ Snowfall Adapter	1	Instruments	\$ 3,300.00	\$ 3,300.00
Rain Gage Siting	6	Hours	\$ 82.00	\$ 492.00
Rain Gage Installation	6	Hours	\$ 82.00	\$ 492.00
Aquifer Level Monitoring				
Level TROLL Water Level Gage	6	Instruments	\$ 2,000.00	\$ 12,000.00
Level TROLL Communication Adapter	1	Instruments	\$ 325.00	\$ 325.00
Level Troll Housing	6	Materials	\$ 650.00	\$ 3,900.00
New Well Location Siting	10	Hours	\$ 82.00	\$ 820.00
Level Troll Installation	20	Hours	\$ 82.00	\$ 1,640.00
Data Collection				
2007 Biannual Data Collection and Equipment Maintenance	2	Visits	\$ 656.00	\$ 1,312.00
2007 Data Management and QA/QC	10	Hours	\$ 82.00	\$ 820.00
2008 Biannual Data Collection and Equipment Maintenance*	2	Visits	\$ 688.80	\$ 1,377.60
2008 Data Management and QA/QC*	10	Hours	\$ 86.10	\$ 861.00
2009 Biannual Data Collection and Equipment Maintenance*	2	Visits	\$ 723.24	\$ 1,446.48
2009 Data Management and QA/QC*	10	Hours	\$ 90.41	\$ 904.05
2010 Biannual Data Collection and Equipment Maintenance*	2	Visits	\$ 759.40	\$ 1,518.80
2010 Data Management and QA/QC*	10	Hours	\$ 94.93	\$ 949.25
2011 Biannual Data Collection and Equipment Maintenance*	2	Visits	\$ 797.37	\$ 1,594.74
2011 Data Management and QA/QC*	10	Hours	\$ 99.67	\$ 996.72
2012 Biannual Data Collection and Equipment Maintenance*	2	Visits	\$ 837.24	\$ 1,674.48
2012 Data Management and QA/QC*	10	Hours	\$ 104.66	\$ 1,046.55
Final Report				
Data Analysis	64	Hours	\$ 104.66	\$ 6,697.93
Report Preparation	40	Hours	\$ 104.66	\$ 4,186.20
Peer Review	16	Hours	\$ 104.66	\$ 1,674.48
Estimated Cost				\$ 50,029.29

*The hourly billing rate for activities after 2007 is based on a 5% annual increase.

SCHEDULE

Table 1: Ground Water Monitoring Program, Phase II, Implementation Schedule

Month and Year	Activity
December - April 2007/2008	Siting of new monitoring locations including the wells and weather station
May 2008	Weather Station Installation
May 2008	Pressure Transducer (i.e. Level Troll) Installation
May 2008	1st Biannual Data Collection and Equipment Maintenance
May 2008	Water Quality Laboratory Analysis
May 2008	Data Entry, Management, and QA/QC
October 2008	2nd Biannual Data Collection and Equipment Maintenance
October 2008	Data Entry, Management, and QA/QC
May 2009	1st Biannual Data Collection and Equipment Maintenance
May 2009	Data Entry, Management, and QA/QC
July 2009	Monitoring Equipment Maintenance
October 2009	2nd Biannual Data Collection and Equipment Maintenance
October 2009	Data Entry, Management, and QA/QC
May 2010	1st Biannual Data Collection and Equipment Maintenance
May 2010	Data Entry, Management, and QA/QC
October 2010	2nd Biannual Data Collection and Equipment Maintenance
October 2010	Data Entry, Management, and QA/QC
May 2011	1st Biannual Data Collection and Equipment Maintenance
May 2011	Data Entry, Management, and QA/QC
July 2011	Monitoring Equipment Maintenance
October 2011	2nd Biannual Data Collection and Equipment Maintenance
October 2011	Data Entry, Management, and QA/QC
May 2012	1st Biannual Data Collection and Equipment Maintenance
May 2012	Data Entry, Management, and QA/QC
October 2012	2nd Biannual Data Collection and Equipment Maintenance
October 2012	Data Entry, Management, and QA/QC
October 2012	Water Quality Laboratory Analysis
November 2012	Analysis of Water Level and Water Quality Data
December 2012	Report Preparation
January 2013	Submittal of Report to BWCD, CWCB, and other regional entities

PAYMENT

Payment will be made based on actual expenditures and invoicing by the water activity sponsor. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed.

All products, data and information developed as a result of this grant must be provided to CWCB in hard copy and electronic format as part of the project documentation.