RIO GRANDE SILVER, INC.

November 25, 2014

RECEIVED
DEC 05 2014
DIVISION OF RECLAMATION MINING AND SAFETY

Division of Reclamation, Mining and Safety
Attention: Minerals Program
1313 Sherman Street, Suite 215
Denver Colorado 80203-2273

Re: Response to Bulldog Mine Operation, Permit No. M-1977-215, Amendment AM-02, Technical Adequacy Review Letter. October 10, 2014

Minerals Program,

Please find enclosed Rio Grande Silver's responses to each question in the October 10, 2014 Technical Adequacy Review Letter.

Exhibit O

- The list of landowners was revised to include the USFS.
- Map O-1 does not need to be revised at this time.

Exhibit U

- Clarification is provided for LOI% in Table 2 – Major Geochemistry for Three Primary Rock Types in the Bulldog Area.
  **LOI – Loss of Ignition: analysis conducted by heating (~1000C) or thermo gravimetric techniques (TGA) that estimates the volatile (water, CO2, etc.) contents (% weight) of a sample.

Exhibit U, Part (8)(b)

- There are no known seeps or springs southeast of the Bulldog Mine, whose flow or quality can be attributed to the groundwater of the Bulldog Mine. The volcanic rock in the Creede mining district consists of rhyolitic tuffs, flows and breccias that have low primary porosity and permeability. Groundwater therefore preferentially follows and is contained in secondary permeability and porosity created by faults and fractures. The Bulldog Mine workings create open space for groundwater to pool. Work done by Steven and Eaton (1975) describes a deeply circulating hydrothermal system. The depth of the hydrothermal circulation was 1.6 to approximately 3 km (Barton et al., 1977).

625 USFS Road 504.1A P.O. Box 610 Creede, CO 81130
719-658-1080 Fax 719-658-1082

Work done by Hayba (1993) states that it is reasonable that the current hydrologic system follows the same preferential pathway (Bulldog Mountain fault system) created during the formation of the Creede graben. The south end of the Bulldog fault system terminates into the structural margin of the Creede Caldera creating a deep down gradient secondary fault/fracture system for groundwater that is preferential to seeps and springs southeast of the Bulldog mine.

Exhibit U, Part (9)(c)

- Rio Grande Silver (RGS) acknowledges that the Division deems the groundwater analytes and detection limits appropriate and that the proposed groundwater sampling program in the EPP is not yet approved. Regardless, RGS commenced with the groundwater sampling program in June 2014 and continues to sample quarterly.

Exhibit U, Part (11)(b) and (c)

- Rio Grande Silver (RGS) acknowledges that the Division deems the surface water monitoring sites and list of analytes appropriate and that the surface water sampling program in the EPP is not yet approved. RGS commenced with sampling of the W-Flume and WB-Alt surface water sampling locations in May 2011 and the Windy Gulch locations (WGL-001, 9360 Basin-002, 9700 Weir-003 and WGU-004) in 2008. RGS continues to sample these locations quarterly.

Exhibit U, Part (12)

- This section has been corrected. There are four (4) groundwater sampling sites that are being sampled. This includes monitoring well HW-2 and drive points DP-3, DP-4 and DP-5. Map G-3 in Appendix 4 correctly shows these locations.
- With the current level of activity, RGS believes the ongoing surface and groundwater sampling programs east and southeast of the Bulldog Mine, although not approved at this time, are adequate and therefore did not propose any additional monitoring wells. In addition to the ongoing sampling programs, RGS submitted water quality data from the Rio Grande Silver commercial water well (Appendix 1, Figure 3) located on the south side of the Admin building. See Appendix 4, Map G-1 for well location. The well is located southeast of the Bulldog mine. The collar elevation of the well is 9355 feet and the depth is 420 feet putting the elevation of the bottom of the well at 8935 feet. Analytical results from the RGS well indicate good groundwater quality southeast of the Bulldog Mine.

- RGS will submit quarterly WQ sampling analysis in a timely manner after independent third party validation is completed.

Rule 8.3.2(a), Emergency Response Plan

- The contact persons list in the Emergency Response Plan has been updated.

Appendix 1, Figures 3,4 and 5, Water Quality Analysis

- RGS concurs with the Division's determination that the water quality analyses do not meet the criteria to be labeled confidential according to the Hard Rock Rules and Regulations (Rule 1.3(3), Rule 5.2.1(2)). A revised Appendix 1 is included removing "CONFIDENTIAL" from Figures 3, 4 and 5.

Appendix Q, Proof of Mailing Notice to Board of County Commissioners and to Conservation District

- Copies of the signed green receipts are included for Exhibit Q.

The Division states that the Bulldog Mine permit was initially approved with a post-mining plan of "recreation". In reviewing the September 15, 1977 Application for Mining and Reclamation Permit (BOND51642 in the Laserfiche WebLink) that was approved on January 25, 1978 (BOND62074 in the Laserfiche WebLink) states that the following areas will be reclaimed to:

Area A and F – "reclaimed to historical sites"

Areas B, D, and E – reclaimed to wildlife habitat

Area C – If reclaimed, slopes will be graded into existing topography, scarified and re-vegetated with grass mixtures. The access road to the current lined holding pond TP-2 and new core storage area are in Area C.

Based on this review and the current reclamation plan that calls for current disturbance to be re-contoured, covered with topsoil and seeded with approved grass mix, RGS would like the post mining land use to remain "wildlife habitat".

If there was a subsequent change to the permit designating the post mining land use as "recreation", for the reasons stated in the previous paragraph, RGS would like to change the post mining land use to "wildlife habitat" in this Amendment AM-02.

Exhibit R, Proof of Filing Amendment with County Clerk and Recorder

- All materials associated with the Technical Adequacy Review Letter have been placed with the County Clerk and Recorder and a receipt is included.
- Two copies of all materials are included. One labeled for the Durango Field Office.

All of the Division's questions have been addressed in this response letter and the appropriate Exhibits and Appendices have been revised accordingly and are included in this response..

Please call or email if you have questions.

Thank you,

Randy McClure

Randy McClure
General Manager
Rio Grande Silver, Inc.
rmcclure@hecla-mining.com
970-317-5355

Permit No. M1977-215 Amendment AM-02

Response to October 10, 2014 Technical Adequacy Review Letter

November 25, 2014

Exhibit O – Updated

Owners of Record of Affected Land (Surface Area) and Owners of Substances to be Mined

1) Owners of Record of Affected Land – Surface Rights Only

2) Owners of Record of Affected Land – Surface and Mineral Rights

3) U.S. Forest Service – Public Land Management Agency

Owners of Record of Affected Land – Surface Rights Only

Owner	Address	Claim
William D. and Cathy Philbern	11682 Hwy 149, South Fork, CO 81154	Conejos MS 7463
James McCullough N 1/2 Philip R. and Marbeth Bach S1/2	PO Box 1048, Stratford, TX 79084 191 W. Winterhaven Dr. Pueblo, CO 81007	Giant MS 8165
Herbert R. and Susan M. Wesson	10706 Sagewind Dr, Houston, TX 77089	Conejos No. 2 MS 8306
Ronald G., Donald and Kindra Rounds	PO Box 344, Creede, CO 81130	Black Chief MS 8339
William D. and Cathy Philbern	11682 Hwy 149, South Fork, CO 81154	Puzzle MS 9535
Richard A. Winters	9585 S. Flower Way, Littelton, CO 80127	Baker 35 AM MS 20901
James H. and Peggy Boydston N1/2 Alfred Jr. and Jeannie Kay Biernat S1/2	620 Raynolds Ave, Canon City, CO 81212 3502 S. Hampton, Dallas TX 75224	Baker 2 AM MS 20901

Owner	Address	Property
Malcom and Delfina P. Roeber	PO Box 192, Creede, CO 81130	Amethyst Heights
Michelle R. and Damian S. Richardson	PO Box 123, Creede, CO 81130	Amethyst Heights
Beverly S. and Edward J. Stroch	PO Box 637, Creede, CO 81130	Amethyst Heights
Jerry and Dorothy Hominick	1303 E. Main Ste B, Fredricksburg, TX 78624	Amethyst Heights
County Development, Inc.	612 W. Travis ST., Fredricksburg, TX 78624	Amethyst Heights
City of Creede	PO Box 457, Creede, CO 81130	City of Creede

Owner of Record of Affected Land – Surface and Mineral Rights

Rio Grande Silver, Inc.
USFS Road 504.1A
Creede, CO 81130

United States Department of Agriculture

Forest Service – Rio Grande National Forest
13308 W Highway 160
Del Norte, CO 81132

Refer to Map O-1, Appendix 4 for ownership and claim locations.

Permit No. M1977-215 Amendment AM-02

Response to October 10, 2014 Technical Adequacy Review Letter

November 21, 2014

Exhibit Q

Proof of Mailing of Notices to Board of County Commissioners and Soil Conservation District

1) Proof of mailing to Mineral County Board of Commissioners

2) Proof of mailing to Rio Grande Conservation District

3) Signed proof of receipt of delivery to Mineral County Board of Commissioners

4) Signed proof of receipt of delivery to Rio Grande Conservation District

7009 0820 0000 7045 5751

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CERTIFIED MAIL™ RECEIPT
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CREEDE CO 81130
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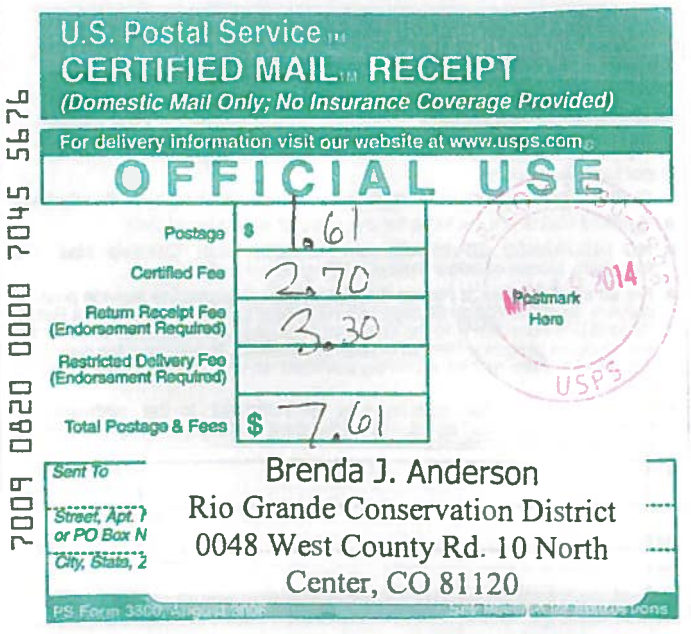
Postage	$ $1.61	0730
Certified Fee	$3.30	01
Return Receipt Fee (Endorsement Required)	$2.70	Postmark Here
Restricted Delivery Fee (Endorsement Required)	$0.00	
Total Postage & Fees	$ $7.61	05/19/2014

Sent To
Street, Apt. No.; or PO Box No.
City, State, ZIP+4

Mineral County Government
Attn: County Commissioners
PO Box 70
Creede, CO 81130

PS Form 3800, August 2006



7009 0820 0000 7045 5676

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For delivery information visit our website at www.usps.com®
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Postage	$ 1.61	
Certified Fee	2.70	
Return Receipt Fee (Endorsement Required)	3.30	Postmark Here
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	$ 7.61	

Sent To
Street, Apt. No.; or PO Box No.
City, State, ZIP+4

Brenda J. Anderson
Rio Grande Conservation District
0048 West County Rd. 10 North
Center, CO 81120

PS Form 3800, August 2006

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mineral County Government
Attn: County Commissioners
PO Box 70
Creede, CO 81130

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☒ Agent ☐ Addressee

B. Received by (Printed Name) Libby Lamb | C. Date of Delivery 5-19-14

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7009 0820 0000 7045 5751

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Brenda J. Anderson
Rio Grande Conservation District
0048 West County Rd. 10 North
Center, CO 81120

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Brenda J. Anderson ☒ Agent ☐ Addressee

B. Received by (Printed Name) B Anderson | C. Date of Delivery 5-21-2014

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7009 0820 0000 7045 5676

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

Permit No. M1977-215 Amendment AM-02

Response to October 10, 2014 Technical Adequacy Review Letter

November 25, 2014

Exhibit R

Proof of Placing with County Clerk and Recorder for Public Review

1) Proof of Placing with Mineral County Clerk and Recorder for Public Review

COUNTY CLERK
SEAL
MINERAL CO. COUNTY

Wanda S Johnson 11/25/14

BULLDOG MINE OPERATION

Permit No. M1977-215 Amendment AM-02

Response to October 10, 2014 Technical Adequacy Review Letter

November 25, 2014

Designated Mining Operation Environmental Protection Plan

Exhibit U

Introduction

On May 24, 2013 the Division of Reclamation, Mining and Safety (Division) issued a Notice of Final Determination to Rio Grande Silver, Inc. (RGS) classifying the Bulldog Mine as a Designated Mining Operation (DMO) pursuant to Rule 7.2.3(1). RGS accepted the Division's determination that the Bulldog Mine is a DMO, and as such, RGS agreed to conform to Rule 7.2.3(2) as described below.

Pursuant to Rule 7.2.3(2)(a), RGS has developed an Environmental Protection Plan (EPP) for components currently in place. In a joint meeting held on May 14, 2013, the Division and RGS agreed the Bulldog EPP will address the following:

1 - Waste rock placement on surface
2 - Surface water and groundwater monitoring plans
3 - Storm water controls
4 - Emergency response plan

Due to decreases in metal prices in 2013, it was determined that it is not economic to continue with exploration and predevelopment activities at the Bulldog Mine Operation at this time. A notice of Temporary Cessation starting December 31, 2013 was filed with the Division. Once the project is deemed economic due to an increase in metal prices, rehabilitation and exploration activities in the Bulldog Mine will resume. As of January 1, 2014, RGS has five employees on site. All monitoring and reporting requirements associated with the Bulldog Plan of Operations, 112d-2 permit, Storm Water Management Plan (SWMP) and Spill Prevention Control and Countermeasure Plan (SPCCP) will continue. RGS will keep all permitting requirements active and current in anticipation of resumption in exploration and pre-development activities.

Potential future components that at this time have not been designed, constructed or implemented will not be addressed in the EPP. RGS is currently determining through pre-feasibility and feasibility studies the economics of the Bulldog project. Until such studies determine project viability, construction and operation of a water treatment plant, the need for additional waste rock storage, mining/milling operations, and tailings disposal are not currently

envisioned. If the decision is made to construct any of these components, the EPP will be amended.

6.4.21 Exhibit U

(1) This EPP will describe how Rio Grande Silver, Inc. will assure compliance with the provisions of the Act and Rules in order to protect all areas that have the potential to be affected. Components that will be addressed are: 1) waste rock on the surface, 2) surface and groundwater monitoring plans, 3) storm water controls and 4) emergency response plan. Per Section 8.3, recommendations made by the Colorado Parks and Wildlife (CPW) for the protection of wildlife are not applicable at this time as there are no designated chemicals used or stored on site, toxic or acid forming materials or acid mine drainage. Potential acid forming materials are addressed in section 1(c)(iv) with a waste rock characterization plan.

1(a) Not applicable

1(b) Not applicable

1(c)(i) Leach facilities, or heap leach pad – Not applicable

(ii) Tailings Storage or Disposal Areas – Not applicable at this time. Future consideration. Five quarters of groundwater monitoring will be addressed prior to future tailing storage.

(iii) Impoundments - Not applicable at this time. Future consideration.

(iv) Waste Rock Placement on Surface

The current scope of work on the Bulldog is focused on exploration activities including the excavation of a 14-ft wide by 14-ft high by 1906-ft long decline (-1%) to access the historic workings to further advance the exploration program. Waste rock generated through this excavation was removed from underground and placed in the designated, permitted storage area (9400 Waste Rock Storage Facility - 9400 WRSF). The 9400 WRSF was prepared according to the approved technical revision (TR-22). Waste rock from the decline was placed on the working bench of the 9400 WRSF by rubber-tired mine trucks or LHD units. Once sufficient material filled the bench, it was pushed over the crest of the dump to create the slopes and level the top of the 9400 WRSF (9400 portal pad).

The geometry of the current 9400 WRSF is shown in Appendix 4, Map U-4. As the waste rock was pushed over the crest, it formed a dump face at the angle of repose of the material. A safety berm, equal to ½ of the tire height of the operating vehicles, is maintained along the crest. A berm will be maintained at the edge of the permitted boundary to prevent loose or rolling material from leaving the area. At the time of reclamation, the waste rock material will be dozed to form a 2H to 1V (2:1) final slope (Appendix 4, Map U-5). As shown in this figure, the wedge of material steeper than 2:1

is pushed down until a 2:1 slope is formed. Once final shaping of the WRSF is complete, growth medium will be placed as a cover and seeded.

Current Waste Rock Storage Facility

Waste rock generated by recent development activity in the 9400 Decline has been placed on the 9400 WRSF. Placement of the waste rock has been achieved by the methods described above. Currently, there is approximately 13,900 cubic yards (35,000 tons) contained in the 9400 WRSF (Appendix 4, Map U-4).

Future Waste Rock Deposition

If underground exploration, development or mining activities should progress in the future, more waste rock will be generated. The WRSF will be expanded to accommodate this additional material (Appendix 4, Map U-4). There is room available within the current permitted area for additional waste rock.

Waste Rock Characterization Plan

The decline was completed in September of 2013 and intersected the Creede Formation and Willow Creek Member (the same units that were historically intersected). Of the 1,906-ft total decline length (includes muck bay and pull-outs), the Creede Formation accounts for 1,532 feet, or roughly 77%, of the material removed and stockpiled on the surface. The remaining material placed on the new 9400 WRSF is from the Willow Creek Member. Appendix 4, Maps U-4 and U-6 depict the current decline and historic incline alignments in plan view and cross-section, respectively, with the geologic units encountered.

Based upon review of historic Acid Base Accounting (ABA) results and current observations of the historic 9360 WRSF located onsite (sitting underneath the current 9400 WRSF), it is expected that material from the exploration decline (comprised of the same material from historic work) is unlikely to be acid generating. Geochemical evaluations will be conducted to further characterize the current decline material for acid generation and metals mobility potential. The geochemical evaluation will consist of the following tests (details of procedures and parameters can be found in Appendix 5):

- Acid Base Accounting (ABA) to quantify acid neutralization potential (ANP) and acid generating potential (AGP);
- Meteoric Water Mobility Procedure (MWMP) testing to assess metals mobility potential;
- Humidity Cell Tests (HCT) to simulate weathering that will allow for further acid generation prediction and characterization of metals mobility potential.

Results and analyses of the sampling program will be submitted at the completion of testing. Sampling will be conducted on both the Creede Formation and the Willow Creek

Member. Composite samples of the two rock types will also be tested in proportionate percentages to simulate final proportions placed at the surface. Shotcrete was used to stabilize the walls and as a flash coat on every advance face. This face was then drilled and blasted and mucked out; therefore the waste rock pile includes minor amounts of shotcrete. Static tests will be completed on composite samples of the two rock types, with and without shotcrete, in order to make inference as to the influence of the shotcrete. A detailed sample program is outlined in Table 1.

Table 1. Current and Pending Geochemical Testing of Bulldog 9400 Waste Rock Samples

Sample	Sample Type	Percentage Creede Formation	Percentage Willow Creek	Percentage Shotcrete	Rationale	Status (as of 03/10/2014)
Creede Formation - 1391'	ABA	100wt%			Establish a baseline for Creede Formation and assess variability of conglomerate unit	Complete - results under review
Creede Formation – 1391'	HCT	100wt%			Assess acid-generating potential and metals mobility of Creede Formation	Complete - results under review
Creede Formation - 380'	ABA	100wt%			Establish a baseline for Creede Formation and assess variability of conglomerate unit	Complete - results under review
Willow Creek	ABA		100wt%		Establish a baseline for Willow Creek Member	Pending
Willow Creek + Creede Formation	ABA + MWMP	77wt%	23wt%		Determine characteristics of composite samples in same proportions as excavated from decline	Pending
Willow Creek + Creede Formation + Shotcrete	ABA + MWMP	75.5vol%	21.5vol%	3vol%	Determine characteristics of composite with shotcrete samples in same proportions as currently in WRSF	Pending
Willow Creek + Shotcrete	ABA		97vol%	3vol%	Determine characteristics of Willow Creek + shotcrete	Pending
Creede Formation + Shotcrete	ABA	97vol%		3vol%	Determine characteristics of Creede Formation + shotcrete	Pending
Willow Creek + Creede Formation	HCT	77wt%	23wt%		Assess acid-generating potential and metals mobility of Creede Formation and Willow Creek Member in same proportions as excavated form the decline	Pending

Analytical Information

In the Bulldog Mine area, three primary rock units are present – the younger Creede Formation, and two members of the Bachelor Caldera Sequence (Campbell Mountain Member and Willow Creek Member, as described by Lipman, 2006). The Creede Formation consists of fine- to coarse-grained sandstones and conglomerates with minor amounts of talus breccia, thinly-bedded lacustrine tuffs and tuff breccias. Mineralogy of the Creede Formation is dominated by quartz (>70%) with minor amounts of feldspar

and accessory minerals (see Table 2, Major Element Geochemistry). The Willow Creek and Campbell Mountain members consist of rhyolitic to rhyodacitic ash flow tuff and air fall tuff volcanic outflow facies. While the Willow Creek and Campbell Mountain members vary in character, they are geochemically and mineralogically similar containing primarily quartz (>74%) with minor feldspar and accessory minerals (see Table 2, Major Element Geochemistry). Although the Campbell Mountain Member has not yet been encountered at the current scope of development, RGS anticipates that this rock type will be encountered in future work, and will be considered in more detail at that time.

Table 2. Major Element Geochemistry for Three Primary Rock Types in the Bulldog Area

		Bachelor Caldera Sequence	
Major Element	**Creede Formation**	**Willow Creek Member***	**Campbell Mountain Member**
SiO2%	72.5	74.4	74.1
Al2O3%	13.15	11.7	12.2
Fe2O3%	2.24	1.24	1.83
CaO%	0.45	0.42	0.28
MgO%	0.45	0.18	0.16
Na2O%	1	0.59	1.19
K2O%	8.2	8.6	9.06
Cr2O3%	<0.01	<0.01	<0.01
TiO2%	0.41	0.2	0.26
MnO%	0.03	0.1	0.04
P2O5%	0.12	0.04	0.13
SrO%	0.01	0.02	0.01
BaO%	0.1	0.07	0.11
***LOI%*	2.45	1.29	0.72
Total%	***101.11***	***98.85***	***100.09***

*Analysis completed on sample from Equity Mine approximately 6 miles north.
Whole rock geochemistry completed by ICP analysis by ALS Laboratories. Sample preparation completed in Nevada, USA. ICP analysis completed in Vancouver, BC, Canada.
**LOI – Loss on Ignition: analysis conducted by heating (~1000C) or thermo gravimetric techniques (TGA) that estimates the volatile (water, CO2, etc.) contents (% weight) of a sample.

(2) Maps - Appendix 4

(3) Other Agencies Environmental Protection Measures - Refer to the USFS Bulldog Plan of Operations, July 2012 and Decision Notice-Finding of No Significant Impact (FONSI) May 29, 2013.

(4) Other Permits and Licenses - Refer to Updated Exhibit M.

(5) Designated Chemical Evaluation – Not applicable at this time. Future consideration.

(6) Designated Chemicals and Materials Handling – Not Applicable as there are no Designated Chemicals being stored or used on site. For materials currently on site, refer to SPCCP, Appendix 3.

(6)(a) - Not applicable

(6)(b) - Not applicable

(6)(c) - Not applicable

(7) Facilities Evaluation

(7)(a) Site-specific conditions

The following list presents the major facilities on site and their associated footprint areas:

Building Name	Area (Sq. Ft.)	Area (acres)
Office Building	6,070.70	0.14
Sidewalk	592.08	0.01
Water Room	448.96	0.01
Total Office	***7,111.74***	***0.16***
Batch Plant	2,314.81	0.05
Warming Shed	707.50	0.02
Total Batch Plant	***3,022.31***	***0.07***
Conex	***832.43***	***0.02***
Shop	2,019.05	0.05
Concrete Drive	864.95	0.02
Total Shop	***2,884.00***	***0.07***
Fuel Containment	402.67	0.01
Vehicle Fuel Containment	200.85	0.00
Secondary Containment	538.49	0.01
Total Fuel Containment	***1,142.01***	***0.02***
Storage Shed	***73.87***	***0.00***
Core Shed	***3,218.55***	***0.07***
Conex	***138.60***	***0.00***
Total Buildings	***18,423.51***	***0.41***

These facilities are located at the south end of the Bulldog Mine site. Environmental protection measures are designed to control sediments from storm water runoff and for diesel fuel

containment. All facilities are contained within the Bulldog Exploration Project Stormwater Management Plan (SWMP), Certification No. COR-040173. Refer to Appendix 2 for Storm Water Designs and SWMP. Diesel fuel containment and storage of petroleum products are addressed in the Bulldog Underground Exploration Project SPCCP in Appendix 3.

The facilities are separated into two distinct groups, based on the direction of storm water runoff. Storm water runoff and controls for both groups are detailed in the SWMP as well as in Appendix 2 "Report on the Adequacy of Storm Water Runoff Structures".

The first is the administrative complex facilities group. See Figures 1 and 6 in Appendix 2. This group includes the office, core shed, shop, storage shed and a conex. Storm water runoff from this group flows southward to the disturbed area boundary. All runoff is directed towards a sediment trap constructed of rock and soil berms. The sediment trap is designed as a filter to trap sediments. Water exiting the sediment trap flows down a reclaimed slope, subsequently exiting the property. Storm water runoff is affected by the high concentration of impervious ground in this area. The buildings occupy 30% of the drainage area. The remaining ground is typically bare soil, compacted by vehicular traffic.

The second group of buildings includes the batch plant, diesel storage building and fuel station. Runoff from these areas is northward, towards Windy Gulch. See Figures 1 and 6 Appendix 2. Runoff control is achieved by the use of rock and soil berms and straw wattles. Additionally, runoff water velocity is slowed by travel over a long, gently sloping grassy drainage area. Stormwater runoff is less affected by the building footprints, as buildings in this group occupy only 10% of the total drainage area. Ground consists of partly barren soil and partly reclaimed grassy soils. The control and storage of petroleum products is contained in this group. Diesel is stored in an above-ground 5,200 gallon shop-built double wall tank (AST) providing an intrinsic containment of 100% of tank capacity. The AST is housed within a lined poly dike MPE® secondary containment with a capacity of 6,941 gallons providing 110% of the tank capacity. The AST and secondary containment system are enclosed within a metal building. A fueling containment pad in front of the building provides protection from minor spills associated with fuel deliveries and fueling of site mobile equipment. Other petroleum products are stored in a conex in manufacturer containers of 5 gallons or less.

The 9400 portal area consists of the 9400 portal gate, an air compressor, electrical transformers and switch gear and a portal heater. Stormwater runoff is controlled by rock berms. See Figures 1 and 7, Appendix 2.

Two temporary lined holding ponds were constructed in 2011 after Technical Revision Approval, Revision No. TR-17. Temporary Holding Pond #1 (TP1) is located approximately 900 feet southeast of the 9400 portal and has a storage capacity of 122,825 gallons. Temporary Holding Pond #2 (TP2) is located approximately 1.5 miles south of the Bulldog site within the reclaimed Historic Tailings Pond #2 and has a storage capacity of 25.04 acre-feet. The temporary holding ponds were constructed to hold near surface, meteoric water encountered during the construction of the 9400 Level Decline. The 9400 Level Decline was completed in

September 2013. Water pumping from the 9400 Level Decline stopped on October 24, 2013 with a total of 3,142,047 total gallons (9.64 acre-feet) pumped and stored in TP2 (water was trucked from TP1 to TP2). The water in TP2 will be allowed to evaporate. See Figures 1, 3, and 7, Appendix 2.

The 9700 portal area includes a portal gate to the 9700 level and a flat work area. A straw wattle is placed below the portal area to control stormwater runoff in this area. See Figure 4, Appendix 2

The Vent Raise area consists of a metal riser placed onto a borehole from the mine. The purpose of the Vent Raise is to aid in ventilating the underground workings. The site includes rock berms and wattles to control stormwater runoff. See Figure 2, Appendix 2.

(7)(b) Not applicable

(7)(c) Not applicable

(7)(d) Not applicable

(7)(e) Not applicable

(7)(f) Not applicable for designated chemicals. Refer to Appendix 2 "Report on the Adequacy of Storm Water Runoff Structures" for discussion on controls to divert stormwater around the potential acid forming material located in the 9400 WRSF Further discussion regarding this material is also addressed in section (1)(c)(iv) – Waste Rock Placement on Surface.

(8) Groundwater Information

Groundwater in the area of the Bulldog Mine is controlled by an extensive fracture system that resulted from the complex faulting of the Creede Graben. Groundwater flow is generally from the northwest to the southeast along the Bulldog fault system. There is no groundwater discharge or acid mine drainage associated with the historic Bulldog Mine and there are no known surface or groundwater impacts from current activities.

(8)(a) See Appendix 4, Map G-1

(8)(b) There are no known aquifers at or within two miles of the Bulldog site. The Bulldog fault system, part of the complex faulting related to the Creede Graben, is a known subsurface water bearing fracture system. The Bulldog fault system generally strikes N15W and groundwater flows in a northwest to southeast direction. The groundwater in the historic Bulldog workings is approximately 9,240 feet in elevation. See Appendix 4, Map G-2.

(8)(c) Not applicable

(8)(d) Not applicable

(8)(e) DMO activities which may impact surface waters are addressed in the SWMP. There are no current DMO activities that may impact groundwater.

(9) Groundwater Quality Data

(9)(a) RGS has no existing groundwater uses at this time. Future groundwater uses will be addressed when applicable. Water well uses and depths within 2 miles of the Bulldog site are shown on Map G-1 in Appendix 4.

(9)(b) RGS has not conducted groundwater monitoring in the affected areas. A groundwater sampling program will begin in 2014 and be conducted quarterly after inception until the five quarter requirement is met at which time sampling frequency will be re-evaluated to ensure ongoing monitoring of baseline and site conditions.

(9)(c) Analytical detection limits and groundwater quality parameters are shown in Figure 1, Appendix 1

(10) Surface Water Control and Containment Facilities Information

Surface Water Information
Surface water streams in the area of the Bulldog Mine are West Willow Creek and Windy Gulch. West Willow Creek is a stream impaired from historic mining along the Amethyst Vein starting in 1891. The Bulldog Mine is located adjacent to Windy Gulch, which is an ephemeral stream and tributary to Willow Creek that generally flows in the spring during April and May due to melting snow. There are years when the snowpack is too low to produce measurable flow.

There is no discharge or evidence of acid mine drainage into surface water flows in the area of the Bulldog Mine.

(10)(a) Potential pollutants at the site consist primarily of sediments transported by runoff. Where practical, runoff from undisturbed areas will be directed away from disturbed sites by the use of diversion ditches or berms. Runoff water falling on disturbed areas will be controlled by collection ditches, berms and/or contour grading. Where practical, runoff will be directed to detention basins or other detention type structures. The purpose of these structures will be to reduce runoff velocity and promote sediment deposition. Where detention basins cannot be created, runoff will be controlled to prevent erosion through the use of rip-rap lined channels, low velocity aprons and/or other low energy type structures.

(i) Not Applicable

(ii) Not Applicable

(iii) There are six sites of disturbance at the Bulldog Mine operation. These areas have been defined as the 1) Ventilation Raise area, 2) TP2 area, 3) 9700 Portal Area, 4) 9400 Waste Rock Storage Facility (WRSF), 5) Administration Complex area and 6) 9400 Portal area.

Each area has a defined drainage basin associated with it for calculations of runoff and peak discharge. Two of the areas have been intentionally designed to detain runoff water; the TP2 area and the 9400 WRSF. In these areas, topographic lows, or detention basins formed by berms are used to detain runoff and promote sediment deposition. There are no plans to detain runoff in the other 4 areas. Rainfall for all of the sites has been estimated from the 25-year, 24-hour storm event. Runoff and peak discharge calculations were made using procedures found in the USDA TR-55 document.

For details, see the "Report on the Adequacy of Storm Water Runoff Structures", Appendix 2.

(10)(b) Refer to SWMP, Appendix 2

(11) Surface Water Quality Data

(11)(a) Existing surface water receiving stream standards:
Willow Creek Segment 7: Mainstem of West Willow Creek from the Park Regent Mine dump to the confluence with East Willow Creek, Mainstem of Willow Creek, including all tributaries (Windy Gulch) from the confluence of East and West Willow Creeks to the confluence with the Rio Grande River.
Classification: Aquatic Cold Life 2, Recreation E, Agriculture

Rio Grande River Segment 4a: Mainstem of the Rio Grande from a point immediately above the confluence with West Willow Creek to the confluence of the South Fork of the Rio Grande River.
Classification: Aquatic Life Cold 1, Recreation E, Water Supply, Agriculture

RGS uses water from a draw point in Willow Creek at the confluence of Windy Gulch and Willow Creek for exploration core drilling. The exploration core drilling occurs north of the Bulldog Mine as part of a Surface Plan of Operations with the USFS and is permitted through Notices of Intent with DRMS.

(11)(b) Five successive calendar quarters of water quality data for Willow Creek sample sites WB-Alt and WW-Flume are shown in Figure 4, Appendix 1.

Windy Gulch sample results from 2008, 2010, 2011 and 2012 for WGL-001, 9360 Basin-002, 9700 Weir-003 and WGU-004 are shown in Figure 5, Appendix 1. There was not sufficient surface water in Windy Gulch in 2009 and 2013 to collect samples.

(11)(c) Analytical detection limits and surface water quality parameters are shown in Figure 2, Appendix 1.

(12) Water Quality Monitoring Plan

Surface Water Quality Monitoring Plan – RGS has conducted a quarterly district surface water sampling program since 2008. The sampling program is ongoing and water quality data from six sample locations will be included in this section to meet the required Surface Water Quality Data, four locations in Windy Gulch and two in Willow Creek.

Windy Gulch is an ephemeral stream and typically only flows in the spring (April/May) in years when there is sufficient snow pack to create runoff. RGS has collected samples in the Spring of 2008, 2010, 2011 and 2012. Analytical results are shown in Figure 5, Appendix 1. There was not sufficient flow to collect samples in 2009 and 2013. Sample parameters for Windy Gulch samples through 2012 are a reduced suite compared to the quarterly district surface water sampling program. Windy Gulch sample parameters will be increased to match the quarterly district sample parameters starting in 2014. Refer to Figure 2 in Appendix 1 for sample parameters.

Windy Gulch Sample ID	Description
WGL-001	Located in Windy gulch just above the confluence with Willow Creek
9360 Basin-002	Located just down gradient of the 9360 waste rock dump
9700 Weir-003	Located approximately 1,000 feet south of the 9700 waste rock dump
WGU-004	Located immediately above the Bachelor Loop road in Windy Gulch

Water quality data from five (5) successive calendar quarters for W-B-Alt and W-Flume are located in Figure 4, Appendix 1.

Willow Creek Sample ID	Description
WB-Alt	Located approximately 800 feet above the confluence of Windy Gulch
WW-Flume	Located approximately 225 feet below the confluence of Windy Gulch

RGS will monitor the ephemeral 9360 seep at the toe of the historic 9360 WRSF and will sample if sufficient flow is available.

Refer to Map G-3 in Appendix 4 for sample locations.

RGS will submit quarterly surface WQ sampling analysis in a timely manner after independent third party validation is completed.

Groundwater Quality Monitoring Plan – RGS has not previously conducted a groundwater quality monitoring program.

There is currently no underground access so all groundwater quality data will be taken from one existing Monitoring Well (HW-2) and three Drive Points installed by Water Management Consultants, Inc. for Homestake Mining Company between October 27 and November 8, 1998. Groundwater quality data will begin in 2014 and be conducted quarterly after inception until the five quarter requirement is met. Once this requirement is met, sampling frequency will be re-evaluated to ensure ongoing monitoring of baseline and site conditions. The sample sites for groundwater monitoring are monitoring well HW-2 and Drive Points DP-3, DP-4 and DP-5. Refer to Map G-3 in Appendix 4 for locations.

Monitoring Well	Description
HW-2	Surface casing set to a depth of 10 feet. The hole was drilled to a depth of 35 feet and completed to 33.6 feet using 2-inch diameter, Schedule 40 PVC casing and screen. Screen interval was set between 18.6 and 33.6 feet.
Drive Points	Drive Points are 2-inch diameter galvanized pipe with the bottom 30 inches perforated wrapped with stainless steel mesh.
DP-3	61 inch completion depth
DP-4	91 inch completion depth
DP-5	72 inch completion depth

Windy Gulch is an ephemeral stream and typically only runs in April and May if there is sufficient snow pack. The shallow monitoring wells may see periods throughout the year where there is not enough water to collect samples. Samples will be taken on wells that have sufficient water.

RGS will submit quarterly groundwater WQ sampling analysis in a timely manner after independent third party validation is completed.

(13) Climate - Not applicable

(14) Geochemical Data and Analysis - Refer to Table 2. Major Element Geochemistry for Three Primary Rock Types in the Bulldog Area in Section 1(c)(iv) Analytical Information, page 5.

(15) Construction Schedule Information - Not applicable at this time. Future consideration.

(16) Quality Assurance and Quality Control Program - Not applicable at this time. Future consideration.

(17) Plant Growth Medium - Not applicable

(18) Wildlife Protection - Not applicable

(19) Disposal of mine tailings and sludges in mine workings - Not applicable at this time. Future consideration.

BULLDOG MINE OPERATION

Permit No. M1977-215 Amendment AM-02

Response to October 10, 2014 Technical Adequacy Review Letter

November 25, 2014

Designated Mining Operation Environmental Protection Plan

Rule 8

The following sections address the notification and reporting responsibilities (8.1 and 8.2), and Emergency Response Plan (8.3) of Rio Grande Silver, Inc. (RGS) as requirement of the Environmental Protection Plan (EPP). The items are addressed by stated section and subsection for completeness.

8.1 Situations That Require Emergency Notification by Rio Grande Silver, Inc.

RGS shall notify the Office of Colorado Division of Reclamation, Mining, and Safety or DRMS, as soon as reasonably practicable, but no later than twenty-four (24) hours, after RGS has knowledge of a failure or imminent failure for any of the following:

(a) any impoundment, embankment, stockpile or slope that poses a reasonable potential danger to human health, property or the environment;

(b) any Environmental Protection Facility designed to contain or control designated chemicals or process solutions as identified in the permit;

(c) Not Applicable;

(d) Not Applicable.

8.2 Operators General Notification Responsibilities for Reporting Emergency Conditions

8.2.1 Emergency Reporting Procedure

Telephone notice shall be given to DRMS as follows:

(a) during regular business hours (8:00 am to 5:00 pm, on working days), the notice shall be given to:

Colorado Division of Reclamation, Mining, and Safety

Main Office- Denver

1313 Sherman Street, Room 215

Denver, CO 80203

1-303-866-3567

(b) or, outside regular business hours, or if the Office cannot be contacted, notice shall be given to:

Colorado Department of Local Affairs

1313 Sherman Street, Room 518

Denver, CO 80203

1-303-864-7720

Specify to this agency, that the emergency authority is coordinated through the DRMS, and to activate that Division's response network.

8.2.2 Emergency Notification Information Required

Information required by RGS when reporting the emergency are:

(a) that this is notification of an emergency as required by Rule 8;

(b) the nature of the condition, including any chemicals and toxic or acid producing materials involved;

(c) an estimate of the quantity of any chemical, toxic or acid forming material that has been or could be released;

(d) the time and duration of the occurrence and if it is on-going, or urgency to the pending situation;

(e) any known or anticipated impacts to human health, property or the environment;

(f) precautions and corrective actions taken by the RGS; and

(g) the contact name(s) and number(s) of RGS approved emergency response personnel.

8.2.3 Follow-up Notice Requirements

As soon as is practicable after an emergency situation or condition is reported and addressed, but within five (5) working days, RGS shall provide a written report of the event to DRMS. The report shall contain the following:

(a) actions taken to respond to and correct the emergency situation or condition;

(b) any known or anticipated adverse impacts to human health, property or the environment;

(c) name(s), address(s), telephone and fax numbers of RGS, that are approved contact personnel, for additional information and follow-up by DRMS;

(d) monitoring and analyses that are necessary to evaluate the situation and corrective actions, copies of all pertinent data; and

(e) results of RGS investigation(s) to assess the conditions or circumstances that created the emergency situation, and what corrective or protective measures will be taken to prevent a similar event from occurring in the future.

8.3 Emergency Response Plan for Designated Chemicals

In compliance with Subsection 6.4.21 of the Mineral Rules and Regulations for Hard Rock, Metal, and Designated Mining Operations, which describes the purpose of an Environmental Protection Plan, RGS is required to have the following Section 8.3 on file with the DRMS. It is RGS's sole responsibility to provide timely updates of the responsible personnel and their phone numbers to the DRMS.

8.3.1 Not Applicable

8.3.2 Minimum Requirements – Submitting Other Agency Plans

Please refer to the Storm Water Management Plan (SWMP) in Appendix 2, and the Spill Prevention, Control, and Countermeasure Plan (SPCCP) in Appendix 3 included in the permit for applicable emergency procedures related to the Bulldog site.

(a) Responsible Personnel - The General Manager of the Bulldog site, or a designee, will be the Primary Emergency Coordinator and will be on site and in charge in the event of an emergency;

Primary Emergency Coordinator	**Secondary Emergency Coordinator**
Randy McClure General Manager 970-317-5355	Jonathan Moore Project Geologist 970-946-2745

(b) Currently, the Bulldog site is not engaged in milling or any extractive metallurgy that uses 'designated chemicals' or generates process solutions through the use of 'designated chemicals'. Therefore, '*an outline of emergency response procedures to be followed by mine or plant personnel in the event of an emergency involving designated chemicals or acidic or toxic materials*' is Not Applicable. Please refer to the SWMP and SPCC plans in the body of the permit for emergency response procedures

that are relevant to regulated materials used and stored and surface activities on the Bulldog site;

(c) Not Applicable, there are no 'designated chemicals', as defined by Rule 1, Section 1.1(13), stored or used on the Bulldog site;

(d) Not Applicable, see (c).

Appendix 1

Water Quality Test Results

Figure 1 – Groundwater quality parameters and analytical detection limits

Figure 2 – Surface water quality parameters and analytical detection limits

Figures 3, 4 and 5

Figure 3 – Groundwater analytical results

Groundwater sampling will begin in 2014 and results will be reported in Figure 3

Figure 4 – Surface water analytical results for Willow Creek

Figure 5 – Surface water analytical results for Windy Gulch

Figure 3

SANGRE DE CRISTO (SDC) LABORATORY, INC.

Tierra Del Sol Industrial Park - 2329 Lava Lane - P.O. Box 642, Alamosa, CO 81101
Tel: 719-589-1024 FAX: 719-589-3697 email address: sdc@sangrelabs.com

DATE COLLECTED: 02/20/13
SYSTEM NAME: RIO GRANDE SILVER INC
MAILING ADDRESS: P.O. BOX 610, CREEDE, CO 81130
TIME COLLECTED: 7:45 AM **COUNTY:** MINERAL
CONTACT PERSON: TOM DAY **WATER TYPE:** PRIVATE WELL
TEL. NUMBER: 970-903-7550 **COLLECTED BY:** NOT SPECIFIED
SAMPLE LOCATION: 625 USFS RD. 504.1A @ ADMIN OFFICE, BATHROOM SINK

LABORATORY INFORMATION:

LAB SAMPLE NO: 33696-97
DATE RECEIVED: 02/20/13 **REPORT DATE:** 3/1/2013

PARAMETER	(mg/L) RESULTS	(mg/L) MCL	(mg/L) LAB MDL	METHOD
ALKALINITY HARDNESS	21.9	**	0.001	2320A-B
ARSENIC	ND	0.01	0.001	200.9
ALUMINUM	0.021	0.2*	0.010	200.9
CHROMIUM	ND	0.100	0.0008	200.9
CADMIUM	0.0006	0.005	0.0002	200.9
CHLORIDE	14.3	250*	0.001	300.0
COPPER	0.05	1.3	0.001	200.9
FLUORIDE	0.25	4.0	0.019	300.0
IRON	0.882 EXCEEDS	0.3*	0.024	300.0
LEAD	0.006	0.015	0.0006	200.9
MANGANESE	0.036	0.3*	0.021	200.9
NITRATE	1.6	10	0.19	300.0
NITRITE	ND	1.0	0.09	300.0
PH	6.0 LOW	6.0 - 7.8	0-14	150.1
PHOSPHATE	ND	ZERO	0.10	300.0
SODIUM	18.0	20.0	0.5	200.9
SULFATE	140.3	250*	1.0	300.0
TDS(Total Dissolved Solids)	255	500	1.0	160.1
ZINC	1.0	5.0	0.005	200.9

* Secondary MCL based on aesthetics
** Does not have a MCL
mg/L = Milligrams per liter
MCL = Maximum Contaminant Level
ND= Not detectable at laboratory's MDL
Lab MDL = Laboratory Method Detection Limit

Alkalinity hardness interpretation:
Soft water = 0 - 17.1 mg/L
Slightly hard water = 17.1 - 60 mg/L
Moderately hard water = 60 - 120 mg/L
Hard water = 120 - 180 mg/L
Very hard water = 180 mg/L & Above

Reviewed & Approved by: *E. V.igil* Date: 3/1/13

SANGRE DE CRISTO (SDC) LABORATORY, INC.

Tierra Del Sol Industrial Park - 2329 Lava Lane - P.O. Box 642, Alamosa, CO 81101
Tel: 719-589-1024 FAX: 719-589-3697 email address: sdc@sangrelabs.com

DATE COLLECTED: 02/20/13
SYSTEM NAME: RIO GRANDE SILVER INC
MAILING ADDRESS: P.O. BOX 610, CREEDE, CO 81130
TIME COLLECTED: 7:45 AM **COUNTY:** MINERAL
CONTACT PERSON: TOM DAY **WATER TYPE:** PRIVATE WELL
970-903-7550 **COLLECTED BY:** NOT SPECIFIED
SAMPLE LOCATION: 625 USFS RD. 504.1A @ ADMIN OFFICE, BATHROOM SINK

LABORATORY INFORMATION:

LAB SAMPLE NO: 33696-97
DATE RECEIVED: 02/20/13 **REPORT DATE:** 3/1/2013

PARAMETER	RESULTS (mg/L)	MCL (mg/L)	LAB MDL (mg/L)	METHOD
MERCURY	0.0004	2.0	0.0001	245.2
SILVER	0.0007	0.3	0.0002	200.9

* Secondary MCL based on aesthetics
** Does not have a MCL
mg/L = Milligrams per liter
MCL = Maximum Contaminant Level
ND= Not detectable at laboratory's MDL
Lab MDL = Laboratory Method Detection Limit

Reviewed & Approved by: *E. V.igil* Date: 3/1/13

Figure 4

Surface Water analytical results for Willow Creek.

Sample Locations:

1) W-B-Alt
2) W-Flume

Refer to Map G-3, Appendix 4 for sample locations.

NOTE: Analytical reports received from AZC Laboratories, Inc. (ACZ) from November 2012 through November 2013 include results from sample locations other than W-B-Alt and W-Flume due to the sequence of sampling in the field and the order ACZ received the samples. This is a result of W-B-Alt and W-Flume being part of the RGS quarterly district sampling program. RGS will send a separate submittal to ACZ for sample sites W-B-Alt and W-Flume going forward so future analytical reports in Figure 4 will only contain W-B-Alt and W-Flume analytical reports.

Figure 5

Surface Water analytical results for Windy Gulch.

Sample Locations:

1) WGL
2) 9360 Basin
3) 9700 Weir
4) WGU

NOTE: Sample parameters for Windy Gulch samples through 2012 are a reduced suite compared to the quarterly district surface water sampling program. Windy Gulch sample parameters will be increased to match the quarterly district sample parameters starting in 2014. Samples through 2012 were sent to Sangre De Cristo Laboratory, Inc. Beginning in 2014, Windy Gulch samples will be sent to ACZ to be consistent with the Willow Creek samples shown in Figure 4.

Refer to Map G-3, Appendix 4 for sample locations.