CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

CLEANUP AND ABATEMENT ORDER NO. R5-2014-YYYY

FOR

ATLANTIC RICHFIELD COMPANY

WALKER MINE
PLUMAS COUNTY

This Order is issued to Atlantic Richfield Company (Atlantic Richfield or ARCO or Discharger) pursuant to Water Code section 13304, which authorizes the Central Valley Regional Water Quality Control Board (Central Valley Water Board or Board) to issue Cleanup and Abatement Orders, and Water Code section 13267, which authorizes the Board to issue Orders requiring the submittal of technical reports.

The Central Valley Water Board finds:

1. The Walker Mine (mine) is an abandoned underground copper mine located about 15 miles northeast of Quincy in Plumas County, California, on nearly 800 acres of private property within the Plumas National Forest. The site includes APNs 009-080-001, 009-090-001, 009-090-002 and 009-100-009, Sections 5, 6, 7 and 8, T24N, R12E, and Sections 29, 30, 31 and 32, T25N, R12E Mount Diablo Base and Meridian as shown in Attachments A, B, and C.

2. Acid mine drainage and other pollutants (notably copper) from the mine discharge or threaten to discharge to Dolly Creek and other waters of the state within the Little Grizzly Creek watershed, impairing beneficial uses and creating a condition of pollution or nuisance.

3. The Walker Mining Company (Walker) acquired the mine around 1915 and began mining around 1916. International Smelting and Refining Company (International) acquired the controlling interest in Walker in approximately 1918. International was a wholly-owned subsidiary of, and later merged into, the Anaconda Copper Mining Company (Anaconda).

4. Anaconda, International and Walker concurrently operated the mine beginning in approximately 1918. They ceased production in approximately 1941 and ceased all operations in approximately 1943. Walker filed for bankruptcy in approximately 1944, and its assets were sold in approximately 1945. The mine has been a continuous source of pollutants to the watershed from at least the time production ceased.

5. Atlantic Richfield is the successor by merger to Anaconda and is therefore properly named as Discharger and is legally responsible for complying with this Order.

BACKGROUND

6. Most active exploration and mining took place during the 1920s and 1930s. In the late 1930s, the mine was the largest copper mine in California, with at times more than 600 employees. Between 1916 and 1941, the mine produced approximately 6 million tons of ore. (Steffen Robertson & Kirsten ["SRK"], November 1985 [Prosecution Team Exhibit 14]).

7. The mine had an on-site mill and about 13 miles of underground workings containing twelve working levels and 3,300 feet of vertical shafts. The 700 Level Adit (700 level adit) was the main haulage level to access ore, and the 700 level adit portal (portal) is the lowest point at which the underground workings reach the surface. Other openings and land disturbances related to the Central and Paiute workings of the mine are located elsewhere on the site. The total void volume of the underground workings is estimated to be 543 million gallons (SRK, November 1985).

8. The mine's mill and concentrator were located a short distance from the 700 level portal. The mill and concentrator initially discharged tailings into a small pond below the mill. By 1920, tailings discharged as slurry were conveyed by wooden chute or trough about 0.75 miles to a tailings impoundment adjacent to the mine on land administered by the United States Forest Service (Forest Service) within the Plumas National Forest. The Walker Mine Tailings is the subject of separate but related proceedings involving Atlantic Richfield and the Forest Service.

9. A hearing on this matter took place on 27/28 March 2014, in accordance with the Hearing Notice and Procedure and California Code of Regulations, title 23, sections 648-648.8. The Central Valley Regional Water Board heard relevant evidence and testimony to decide whether to adopt, modify, or reject the proposed order.

WATER QUALITY ISSUES

10. The 700 level portal, mill and concentrator are located along Dolly Creek, which is a tributary to Little Grizzly Creek. The tailings impoundment is located at the confluence of Dolly Creek and Little Grizzly Creek. Other mine openings and mining waste from the Central and Paiute workings are located in the Nye Creek and Ward Creek drainages. Little Grizzly Creek, Nye Creek and Ward Creek are all tributary to Indian Creek, which is a tributary to the North Fork of the Feather River. All are waters of the state and of the United States.

11. "Mining Waste" is defined under Water Code section 13050, subdivision (q)(1), as *"all solid, semisolid, and liquid waste materials from the extraction, beneficiation, and processing of ores and minerals. Mining waste includes, but is not limited to, soil, waste rock, and overburden, as defined in Public Resources Code section 2732, and tailings, slag, and other processed waste materials…."*

12. The mining waste at the mine contains metals including copper, which oxidizes and become soluble when exposed to water. As such, mining waste at the mine is classified as Group B mining waste in accordance with Title 27 of the California Code of Regulations, section 22480(b)(2)(B), "*mining wastes that consist of or contain nonhazardous soluble pollutants of concentrations which exceed water quality objectives for, or could cause, degradation of waters of the state;*"

13. The mine includes waste management units for the treatment, storage, or disposal of mining waste (*Mining Unit*) as defined in Title 27, section 22470.

14. The mine and tailings together have discharged metals and acid mine drainage (AMD) into Dolly Creek from at least the time production ceased in 1941, if not earlier. The mine and tailings discharged enough metals and AMD to eliminate aquatic life in Little Grizzly Creek to the confluence with Indian Creek 10 miles downstream. (Central Valley Water Board Resolution 58-180 [adopting waste discharge requirements for Walker Mine] see also L.E. Trumbull, Walker Mine Report, October 5, 1957 [Prosecution Exhibit 20; documenting fish mortality in Little Grizzly Creek caused by drainage from the mine and tailings].)

15. Until 1987, the 700 level adit was the primary source of pollution in Dolly Creek and Little Grizzly Creek. The adit acted as a conduit for AMD and metals leached when groundwater or surface inflows from upper openings contacts mineralized areas of the worked out ore body and mining waste within the underground workings.[1]

16. In November 1987, pursuant to Resolution No. 86-057, the Central Valley Water Board installed an engineered concrete plug, or seal, 2,700 feet inside the 700 level adit in order to stop AMD discharges from the underground ore zone to surface waters of Dolly Creek.

17. The seal impounds groundwater and surface inflows within the mine, flooding much of the underground workings. The impounded water is acidic and contains metals leached through contact with the mined out ore body and mining waste behind the seal. The Central Valley Water Board maintains access and regularly monitors the seal for effectiveness, leakage and hydrostatic pressure.

18. The seal has successfully eliminated most or all of the direct discharge of AMD and metals through the 700 level adit. Immediately after installation, there was no flow passing the mine seal. In subsequent years, a small seepage has been observed dripping from existing rock joints near the upper left hand corner of the seal. This seepage rate has been estimated at approximately 0.15 gpm at a hydraulic head of 140 feet. The seepage accumulates in a pool at the downstream toe of the seal which drains into a small ditch on the floor of the 700 level adit and then seeps into the floor within 200 feet of the seal.

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[1] In 1985, SRK estimated that AMD was discharging from the 700 level adit at 275 gallons per minute (gpm) (SRK, November 1985.) This flow rate compares well with a reported 300 gpm mine pumping rate referenced in Milling Methods at the Concentrator of the Walker Mining Company (U.S. Bureau of Mines, Information Circular 6555, March 1932 [Prosecution Exhibit 49]).

19. Hydrostatic pressure data indicates that the water level behind the seal varies seasonally, peaking after the spring snowmelt, and then gradually declining during the remainder of the year (see Figure 1, attached). Impounded water apparently seeps through joints, fractures, and faults into the deep groundwater system using the underground workings as a conduit. The fate of this subsurface release of AMD from the mine is not known but could pose a long term threat to groundwater or surface water.

20. There is an occasional discharge of approximately 2 to 5 gallons per minute at the portal which appears to be from shallow groundwater infiltration from the hillside directly above the timber supported section (first 900 feet) of the 700 level adit. This discharge is not acidic, but it does contain copper and other metals.

21. Since 1957, the Central Valley Water Board and others have regularly collected and analyzed surface water samples from the mine. Attachment D shows the current water quality sampling locations used by the Central Valley Water Board. Copper concentrations exceeding water quality objectives have been detected in the portal drainage, the settling pond, Dolly Creek, the tailings impoundment and Little Grizzly Creek. However, as illustrated in Figure 2 (attached), samples taken from Dolly Creek below the Walker Mine access road (between the portal area and the tailings impoundment) show a significant drop in copper concentrations after the mine seal was installed in 1987.

22. However, copper related to exposed mining wastes continues to exceed water quality objectives. Figure 3 (attached) shows exceedances in copper in Dolly Creek after installation of the seal. Figure 4 (attached) compares water quality in Dolly Creek immediately upstream of the mine with that in Dolly Creek immediately downstream, and shows that the mine site causes exceedances in copper in Dolly Creek. The apparent source of the continuing elevated levels of copper is leachate being generated by surface water run-off from rainfall and/or snowmelt that comes in contact with the 700 level adit, the ruins of the mill and concentrator, exposed mining waste piles in and around the portal area, mining waste in the Dolly Creek drainage and mining waste in the tailings impoundment.

23. Mining waste associated with the Central and Piute ore bodies in the Nye Creek and Ward Creek drainages poses a potential threat to water quality. The Central and Piute workings also contain subsidence areas, waste piles and open shafts which pose safety hazards.

24. Figure 5 (attached) shows copper levels and pH in the water seeping through and around the mine seal, as measured from the shallow pool at the base of the mine seal plug. Figure 5 shows that water impounded behind the seal is highly acidic, and contains extremely high levels of copper. Figure 6 (attached) shows copper levels in the settling pond below the portal several times higher than the water quality objective. Although the seal appears to be sound for the moment, the passage of time coupled with the exposure of the seal and surround rock to the highly acidic impounded water poses a threat to the integrity of the seal. Failure of the seal and/or settling pond could result in significant discharges of AMD

and/or copper into Dolly Creek, with likely catastrophic harm to beneficial uses for many miles downstream.

25. The Walker Mine was an underground mining operation. The underground mine workings include access tunnels, drifts, cross-cuts and other openings where ore was accessed and removed for processing. The underground mine workings are the source of all mine waste at the surface of the mine and tailings. In addition, the underground mine workings are now conduits by which groundwater becomes AMD through contact with exposed ore and mine waste within the underground workings, and by which the AMD would reach the surface but for the mine seal.

26. Since 1984, the Central Valley Water Board has spent more than $2.6 million on the Walker Mine acid mine drainage abatement project.

OWNERSHIP AND REGIONAL BOARD ACTION AFTER 1945

27. Safeway Signal Corporation purchased the mine property out of Walker's bankruptcy proceedings in April, 1945. Subsequent ownership of the property is listed in the Chain of Title Guarantee shown in Prosecution Exhibit 48. Central Valley Water Board staff has been unable to locate successors to the owners prior to Robert Barry, who took ownership in 1965 and may have been involved in the earlier ownership groups.

28. In 1991, the Central Valley Water Board obtained a $1.5 million stipulated judgment against then-owners Robert Barry and Calicopia Corporation, and others, wherein the Board agreed to hold Calicopia and the other defendants harmless for pollution at the site. Money from the judgment was paid into the State Water Pollution Cleanup and Abatement Account. Money from this account has been used to maintain the mine seal and perform other work in accordance with the Walker Mine Acid Mine Drainage Abatement Project Operations and Maintenance Procedures (Central Valley Water Board, May 1997).

29. In 1997, Cedar Point Properties (CPP) acquired most of the mine property at tax auction, and remains the title owner of most of the site.[2] Shortly after CPP purchased the site, the Central Valley Water Board issued Cleanup and Abatement Order No. 97-715 directing CPP to apply for an NPDES permit and to continue remedial efforts. CPP did not comply. In 1999, the State Water Resources Control Board (State Board) and the Central Valley Water Board reached a settlement with CPP over legal responsibility for cleanup, remediation, and abatement activities at the Walker Mine, wherein the Board agreed to hold the other defendants harmless for pollution at the site. That settlement agreement was later incorporated into a 2004 stipulated judgment. CPP remains potentially liable, but its corporate status has been suspended and it appears to be inactive and insolvent.

[2] CPP acquired all of the private parcels except APN 009-090-002, a small parcel which was acquired by Clifford and Bunny Brown. In 1997, the Board determined that there was no evidence of pollution being discharged from the Brown parcel sufficient to trigger permitting requirements or enforcement action (see 24 September 1997 letter [Prosecution Exhibit 15]).

30. The Central Valley Water Board retains legal access to the site for remediation purposes through the 1991 and 2004 stipulated judgments. Pursuant to this right of access, the Board may authorize the Discharger to access the site for remediation purposes.

31. Atlantic Richfield was not a party to the 1991 or 2004 stipulated judgments.

32. The Central Valley Water Board sought to begin negotiations with Atlantic Richfield for past and future environmental remediation activities at the mine as early as 1997, but Atlantic Richfield resisted and nothing of substance came from those attempts.

33. In December 1999, the Board proposed to name Atlantic Richfield as a discharger for the tailings impoundment (tentative order revising WDRs No. 91-017), but the new WDRs were never finalized against Atlantic Richfield based on Atlantic Richfield's resistance and the Board's then-understanding of Anaconda's involvement at the mine. The tailings WDRs were finalized against Forest Service in Order No. 5-00-028.

34. During a 2005 lawsuit, the Forest Service and Atlantic Richfield obtained a consent decree whereby Atlantic Richfield provided $2.5 million for future response costs involved with federal CERCLA remedial activities at the tailings impoundment. That decree did not address the mine property, the mine property is not subject to any CERCLA action, and the Central Valley Water Board was not a party to the 2005 lawsuit or consent decree.

ATLANTIC RICHFIELD OPERATOR LIABILITY

35. In 1987, Atlantic Richfield conveyed the Anaconda Geological Documents Collection to the University of Wyoming. The Anaconda Geological Documents Collection is a publicly accessible database containing hundreds of documents related to the Walker Mine and Tailings. The database became available online sometime after 1999. Central Valley Regional Board staff recently obtained and reviewed relevant documents from the Anaconda Geological Documents Collection and other sources.

36. Substantial evidence in the record shows that Anaconda, International and Walker concurrently operated the mine and tailings from 1918 through at least 1941. Anaconda and International staff acting on Anaconda and International's behalf regularly directed specific operation and exploration activities at the mine and tailings, particularly during critical periods. These activities included exploration, ore location, mine development work (e.g., placement of underground mine workings to access and remove ore) and removal of ore, all of which directly resulted in the condition of discharge and threatened discharge currently at the mine and tailings. Anaconda and International's involvement at the mine and tailings went well beyond what is normally expected of a responsible corporate parent. Evidence and findings describing Anaconda and International's direct operation of the mine and tailings are contained in Prosecution Exhibits 1 [archive documents] and 2 [Declaration of Dr. Quivik], and are incorporated here.

37. Anaconda and International directed specific pollution-causing activities at Walker Mine and Tailings. Atlantic Richfield is liable as Anaconda and International's successor.

LEGAL PROVISIONS

38. Section 303(d) of the Federal Clean Water Act (CWA) requires states to identify waters not attaining water quality standards (referred to as the 303(d) list). Dolly Creek and Little Grizzly Creek below the Walker Mine have been identified by the Central Valley Water Board as an impaired water bodies because of high aqueous concentrations of copper and zinc.

39. Once a water body is identified as impaired and added to the 303d list, the CWA requires the states to develop a Total Daily Maximum Load (TMDL) for the water body. The Central Valley Water Board will develop a TMDL for Dolly Creek and Little Grizzly Creek by 2020, unless the cleanup action proposed herein results in the attainment of the water quality objectives.

40. The Central Valley Water Board's *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, 4th Edition* (Basin Plan) designates beneficial uses of the waters of the State, establishes water quality objectives (WQOs) to protect these uses, and establishes implementation policies to implement WQOs. The designated beneficial uses of the North Fork of the Feather River and its tributaries are municipal and domestic supply; hydropower generation; water contact recreation; non-contact water recreation; cold freshwater habitat; spawning, reproduction, and/or early development; and wildlife habitat.

41. The beneficial uses of underlying groundwater, as stated in the Basin Plan, are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

42. Because the site contains mining waste as described in Water Code sections 13050, closure of the Mining Unit(s) must comply with the requirements of Title 27 California Code of Regulations, sections 22470 through 22510 and with such provisions of the other portions of Title 27 that are specifically referenced in that article.

43. Affecting the beneficial uses of waters of the state by exceeding applicable WQOs constitutes a condition of pollution as defined in Water Code section 13050, subdivision (l)(1).

44. Water Code section 13304, subdivision (a) states in part that:

> *"Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a Regional Water Board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited*

where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the Regional Water Board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts. Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant."

45. Water Code section 13304, subdivision (b), authorizes the Central Valley Water Board to perform cleanup, abatement, or remedial work where necessary to prevent substantial pollution, nuisance, or injury to waters of the state. Water Code section 13304, subdivision (c), authorizes the Central Valley Water Board to seek reimbursement from the Discharger for the costs associated with such cleanup, abatement or remedial work.

46. The State Water Resources Control Board (State Board) has adopted Resolution No. 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under CWC Section 13304*. Resolution No. 92-49 sets forth the policies and procedures to be used during an investigation or cleanup of a polluted site and requires that cleanup levels be consistent with State Board Resolution No. 68-16, the *Statement of Policy With Respect to Maintaining High Quality of Waters in California*. Resolution No. 92-49 and the Basin Plan establish cleanup levels to be achieved. Resolution No. 92-49 requires waste to be cleaned up to background, or if that is not reasonable, to an alternative level that is the most stringent level that is economically and technologically feasible in accordance with Title 23, section 2550.4. Any alternative cleanup level to background must: (1) be consistent with the maximum benefit to the people of the state; (2) not unreasonably affect present and anticipated beneficial use of such water; and (3) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Board.

47. Chapter IV of the Basin Plan contains the *Policy for Investigation and Cleanup of Contaminated Sites*, which describes the Central Valley Water Board's policy for managing contaminated sites. This policy is based on Water Code sections 13000 and 13304, California Code of Regulations, title 23, division 3, chapter 15; California Code of Regulations, title 23, division 2, subdivision 1; and State Board Resolution Nos. 68-16 and 92-49. The policy addresses site investigation, source removal or containment, information required to be submitted for consideration in establishing cleanup levels, and the basis for establishment of soil and groundwater cleanup levels.

48. The State Board's Water Quality Enforcement Policy states in part: "*At a minimum, cleanup levels must be sufficiently stringent to fully support beneficial uses, unless the Central Valley Water Board allows a containment zone. In the interim, and if restoration of*

background water quality cannot be achieved, the Order should require the discharger(s) to abate the effects of the discharge." (Water Quality Enforcement Policy, p. 35).

49. Water Code section 13267 states, in part:

> *"(b)(1) In conducting an investigation, the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or, discharging, or who proposes to discharge waste within its region . . . shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."*

50. The Discharger is named in this Order because through its actions and/or by virtue of its ownership of the site, it has caused or permitted waste to be discharged or deposited where it has discharged and threatens to discharge to waters of the state and has created and threatens to create a condition of pollution or nuisance.

51. In accordance with Water Code section 13304, the Discharger must take all actions necessary to clean up and abate the discharge and threatened discharge of all mining waste from the Mine (including the ongoing monitoring and maintenance of the seal), restore the affected waters to background conditions (i.e., the water quality that existed before mining activities began), and reimburse the Central Valley Water Board for the Board's expenditures associated with the mine.

52. In accordance with Water Code section 13267, the reports required herein are necessary to formulate a plan to remediate the wastes at the mine, to assure protection of waters of the state, and to protect public health and the environment.

53. Failure to comply with the remedial provisions of this Order may result in enforcement action(s), which may include the imposition of administrative civil liability pursuant to Water Code section 13350 (up to $5,000 per day of violation) or 13385 (up to $10,000 per day of violation). Failure to comply with the reporting provisions of this Order may result in enforcement action(s), which may include the imposition of administrative civil liability pursuant to Water Code section 13268 (up to $5,000 per day of violation).

54. Issuance of this Order is being taken for the protection of the environment and as such is exempt from provisions of the California Environmental Quality Act (CEQA) (Pubic Resources Code section 21000 et seq.) in accordance with California Code of Regulations, title 14, sections 15061(b)(3), 15306, 15307, 15308, and 15321. This Order generally requires the Discharger to submit plans for approval prior to implementation of cleanup activities at the Site. Mere submittal of plans is exempt from CEQA as submittal will not cause a direct or indirect physical change in the environment and/or is an activity that

cannot possibly have a significant effect on the environment. CEQA review at this time would be premature and speculative, as there is simply not enough information concerning the Discharger's proposed remedial activities and possible associated environmental impacts. If the Board determines that implementation of any plan required by this Order will have a significant effect on the environment, the Board will conduct the necessary and appropriate environmental review prior to Executive Officer's approval of the applicable plan. The Discharger will bear the costs, including the Board's costs, of determining whether implementation of any plan required by this Order will have a significant effect on the environment and, if so, in preparing and handing any documents necessary for environmental review. If necessary, the Discharger and a consultant acceptable to the Board shall enter into a memorandum of understanding with the Board regarding such costs prior to undertaking any environmental review.

55. The Central Valley Water Board provided Atlantic Richfield with a draft copy of this order, along with all of the attachments and documents referenced in the draft, on 29 April 2013. Atlantic Richfield provided comments on 3 June 2013. Central Valley Water Board staff has prepared the Response to Comments addressing the Discharger's comments and describing how the Order has been changed as a result. The Response to Comments findings are incorporated here by reference.

IT IS HEREBY ORDERED pursuant to Water Code Sections 13304 and 13267, that

1. Atlantic Richfield, its agents, successors, and assigns, shall investigate the discharges and threatened discharges of waste, clean up the waste, and abate the effects of the waste, forthwith, from the Walker Mine.

2. The work shall be completed in conformance with Title 27 California Code of Regulations ("Title 27"), sections 22470 through 22510, State Board Resolution No. 92-49 and with the Central Valley Water Board's Basin Plan (in particular the Policies and Plans listed within the Control Action Considerations portion of Chapter IV), any other applicable state and local laws, and consistent with California Health and Safety Code, Division 20, chapter 6.8.

3. "Forthwith" means as soon as is reasonably possible. Compliance with this requirement shall include, but not be limited to, completing the tasks listed below.

TASKS

4. **By 30 May 2014**, the Discharger shall take control of the mine for remedial purposes necessary to clean-up and abate the discharge of all mining waste and restore the affected water to background conditions (i.e., the water quality that existed before the discharge began). This would include at a minimum the operation and maintenance of the 700 level adit and the concrete plug or seal, and managing all mine waste and preventing discharges of mine waste to waters of the state. The Central Valley Water Board hereby authorizes Atlantic Richfield to access the site for remediation purposes pursuant to the Board's legal access to the site under the 1991 and 2004 stipulated judgments, to the extent necessary

to comply with this Order. The Discharger shall submit a report on **30 May 2014** describing measures taken to obtain control of the mine for remedial purposes.

5. The Discharger shall reimburse the Central Valley Water Board for reasonable costs associated with oversight of the investigation and remediation of the mine, including the Central Valley Water Board's previous expenditures for remedial actions, pursuant to Water Code section 13304, subdivision (c)(1). Within **30 days** of the effective date of this Order, the Discharger shall provide the name and address where the invoices shall be sent. Failure to provide a name and address for invoices and/or failure to reimburse the Central Valley Water Board's oversight costs in a timely manner shall be considered a violation of this Order. If the Central Valley Water Board adopts Waste Discharge Requirements (WDRs), review of reports related to writing of the WDRs and all compliance measures thereafter would be subject to the fees required by issuance of the Order and the reimbursement for associated costs under this requirement would no longer apply.

6. The Discharger shall investigate, identify, and classify all sources of mining waste in compliance with Title 27 section 22480. This would include at a minimum all mining waste associated with surface impoundments, waste piles, tailings and leachate associated with mining at the site. The Discharger shall submit the following reports related to characterization of the mining waste:

    a. **By 27 June 2014,** submit a work plan to identify all mining waste as defined in Water Code section 13050, subdivision (q)(1) at the mine. This work plan shall include a strategy/plan to characterize and classified the mining waste in compliance with Title 27 section 22480 and the extent to which the site is degrading water quality above background concentrations. This work plan shall also include a method to establish a Water Quality Protection Standard (Water Standard) per Title 27 section 20390.

    b. **By 31 December 2014,** submit a characterization report that identifies all mine waste locations and basis for classification of mine waste at each location per the work plan submitted above. All the laboratory data shall be submitted with the characterization report. This report shall also include the establishment of the Water Standard.

7. **By 30 April 2015,** submit a work plan and Time Schedule to close and maintain the mine in compliance with Title 27 sections 22470 through 22510 and to remediate the site in such a way to prevent future releases of mining waste (copper and other pollutants) to surface and ground waters.

8. **By 30 June 2015**, submit a Report of Waste Discharge with a complete characterization of the waste discharged in accordance with Water Code section 13260, subdivision (k). The Report of Waste Discharge shall also be in compliance with Title 27 section 21710 et seq., and include a short and long term monitoring plan per Title 27 section 22500. The mine

waste units shall meet the construction standards in Title 27 section 22490, and the closure and post closure maintenance requirements in Title 27 section 22510.

9. **Beginning 90 Days after Central Valley Water Board approval of the Work Plan and Time Schedule defined in item 4. above,** submit regular quarterly reports documenting progress in completing remedial actions.

10. **By 31 December 2017,** complete all remedial actions and submit a final construction report.

11. Responsibilities for the water quality problems associated with the mine and the Walker Mine acid mine drainage abatement project shall end when the mine no longer poses a threat to water quality.

REPORTING

12. When reporting data, the Discharger shall arrange the information in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner as to illustrate clearly the compliance with this Order.

13. Fourteen days prior to conducting any fieldwork, the Discharger shall submit a Health and Safety Plan that is adequate to ensure worker and public safety during the field activities in accordance with Title 8, section 5192.

14. As required by the California Business and Professions Code sections 6735, 7835, and 7835.1, all reports shall be prepared by a registered professional or their subordinate and signed by the registered professional.

15. All reports must be submitted to the Central Valley Water Board as both paper and electronic copies. Electronic copies of all reports and analytical results are to be submitted over the Internet to the State Water Board Geographic Environmental Information Management System database (GeoTracker) at http://geotracker.swrcb.ca.gov. Electronic copies are due to GeoTracker concurrent with the corresponding hard copy. Electronic submittals shall comply with GeoTracker standards and procedures as specified on the State Water Board's web site.

16. The Discharger shall notify Central Valley Water Board staff at least five working days prior to any onsite work, testing, or sampling that pertains to environmental remediation and investigation and is not routine monitoring, maintenance, or inspection.

GENERAL

17. Any person signing a document submitted under this Order shall make the following certification:

> *"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."*

18. In the event that compliance with any deadlines set forth in this Order becomes impossible, despite the timely good faith efforts of the Discharger, due to circumstances beyond the control of the Discharger or its agents, employees, contractors, consultants and any other person acting on the Discharger's behalf, and which could not have been reasonably foreseen and prevented or minimized by the exercise of due diligence by the Discharger, the Discharger shall notify the Executive Officer in writing within five (5) days of the date that the Discharger first knew of the event or circumstance that caused or would cause a violation of this Order, and in any event no later than the applicable compliance deadline. The written notice shall describe the reason for the nonperformance and specifically refer to this Paragraph. The Discharger shall take all reasonable measures to avoid and minimize such delays. The written notice shall also describe the anticipated length of time the delay may persist, the cause or causes of the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The determination as to whether the circumstances were beyond the control of the Discharger and their agents will be made by the Executive Officer. Where the Executive Officer concurs that compliance was or is impossible, despite the timely good faith efforts of the Discharger, due to circumstances beyond the control of the Discharger that could not have been reasonably foreseen and prevented by the exercise of reasonable diligence by the Discharger, a new final compliance deadline shall be established. Where the Executive Officer does not concur that compliance was or is impossible, the Discharger may be subject to additional enforcement action for failure to comply with this Order.

19. This Order in no way limits the authority of the Central Valley Water Board to institute additional enforcement actions or to require additional investigation and cleanup at the Site consistent with the Water Code.

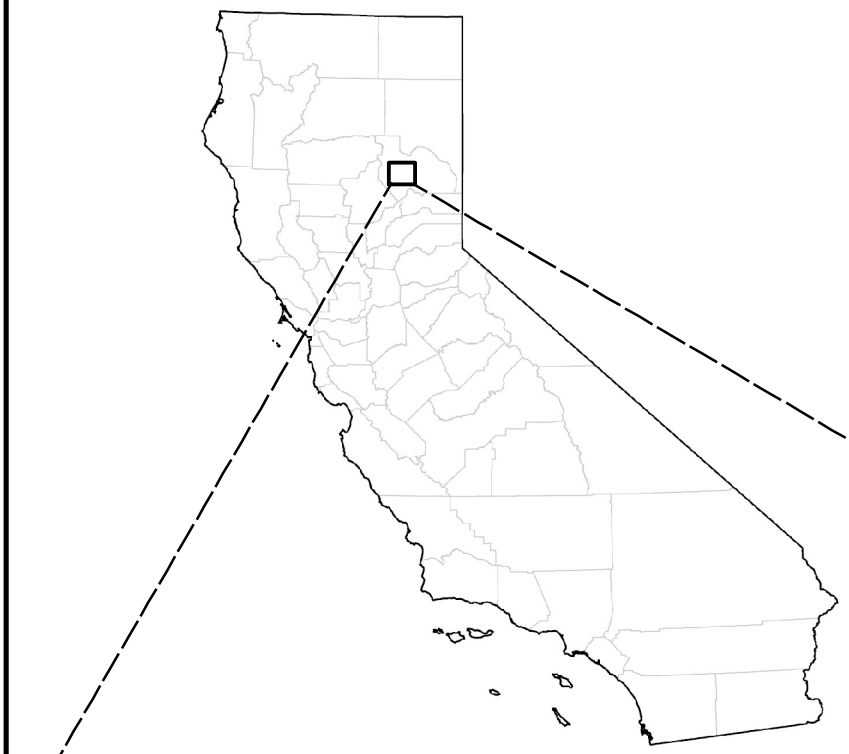
20. This Order is effective upon the date of adoption. Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday (including mandatory furlough days), the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

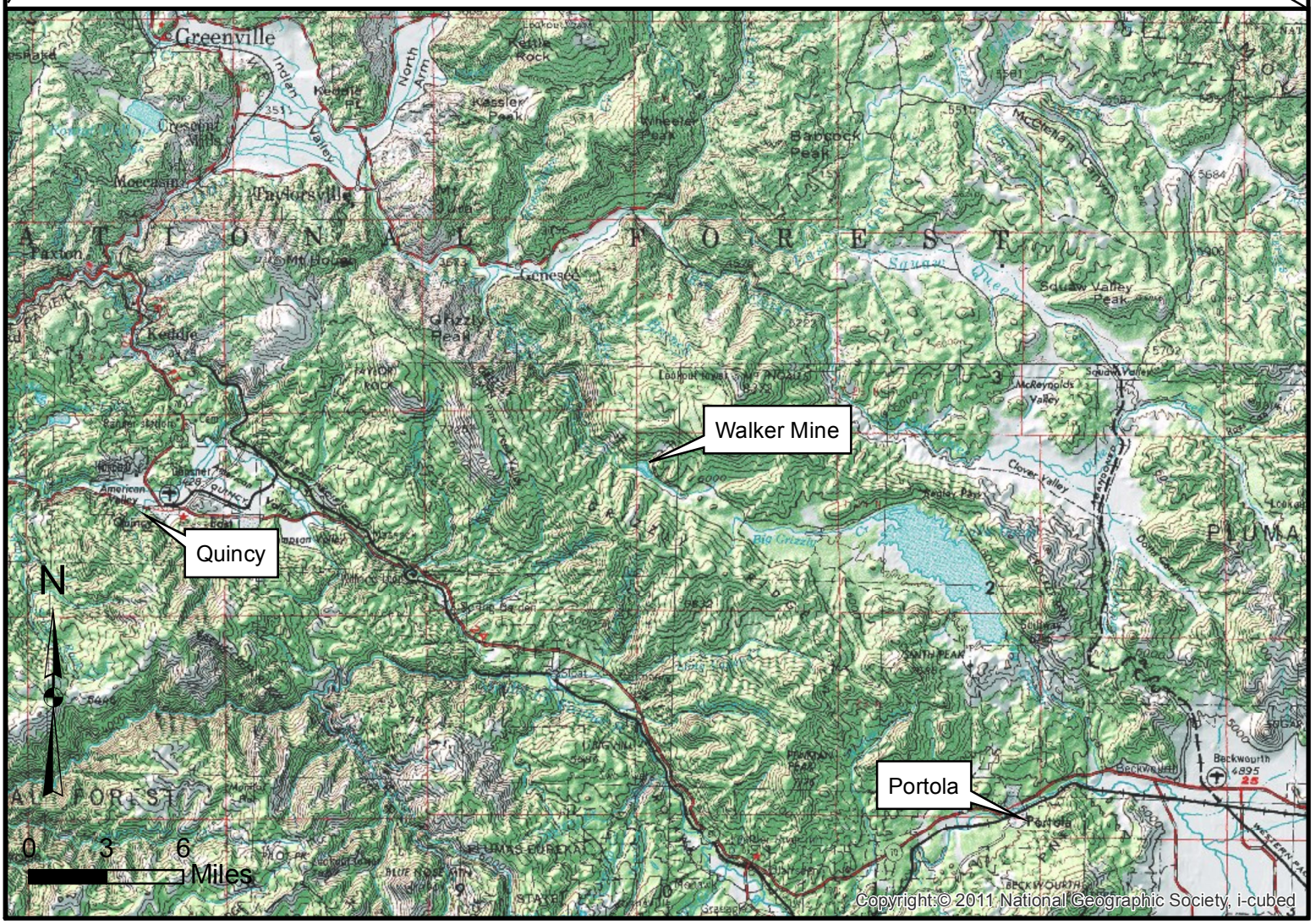
I, Pamela Creedon, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _____, 2014.

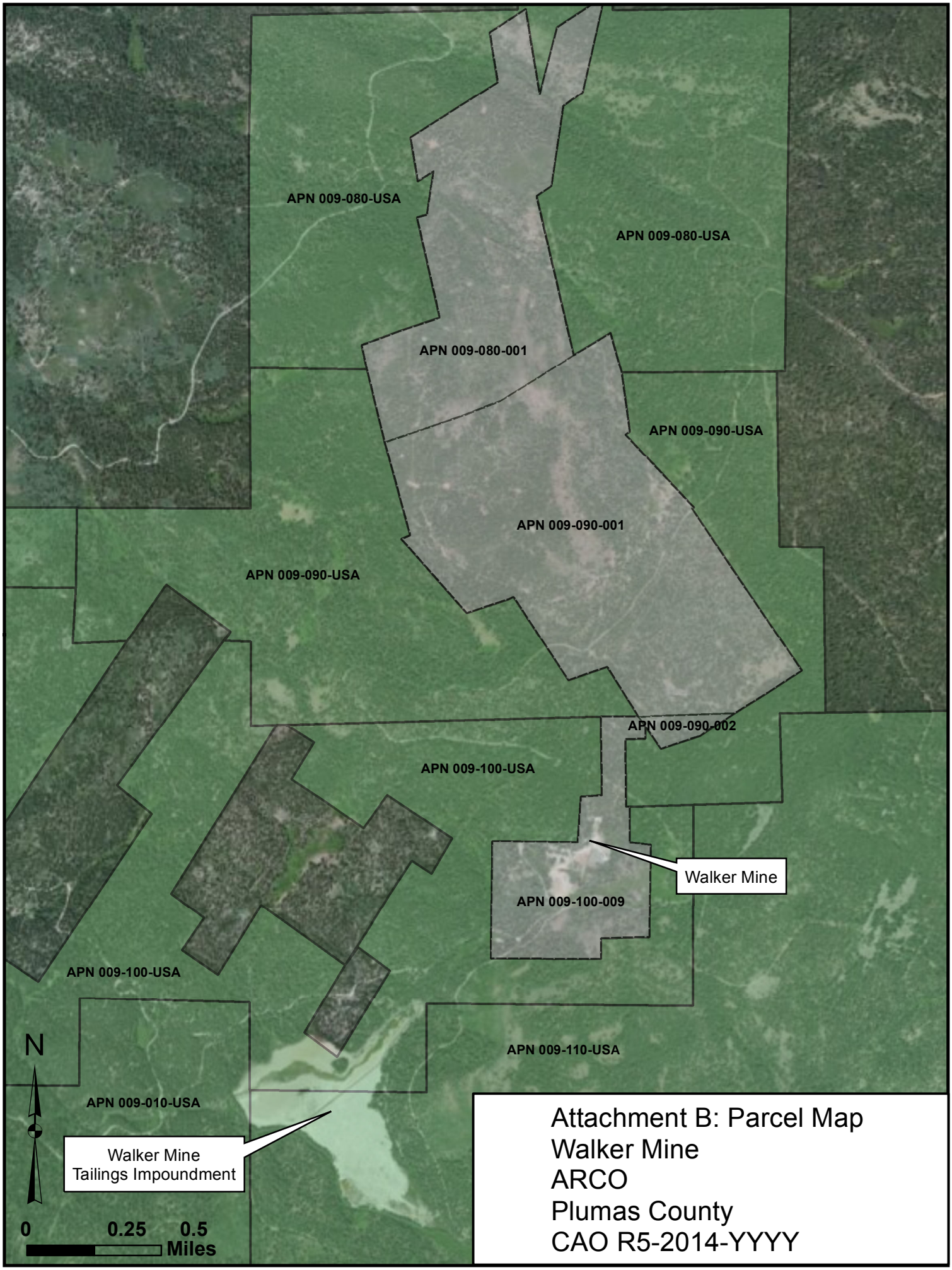
_____
PAMELA C. CREEDON Executive Officer

_____
(Date)

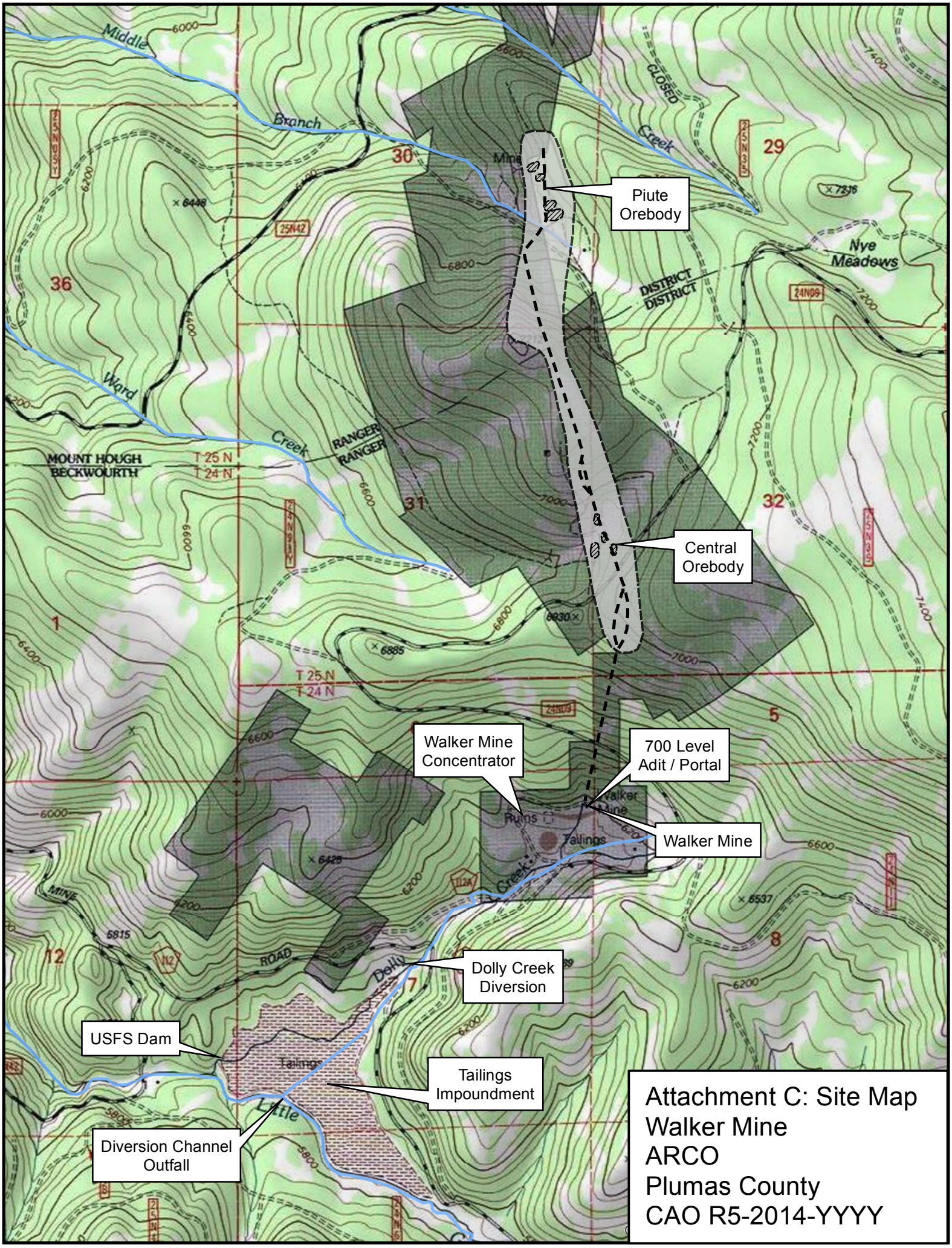
Attachment A: Location Map
Walker Mine
ARCO
Plumas County
CAO R5-2014-YYYY







Attachment B: Parcel Map
Walker Mine
ARCO
Plumas County
CAO R5-2014-YYYY



Attachment C: Site Map
Walker Mine
ARCO
Plumas County
CAO R5-2014-YYYY

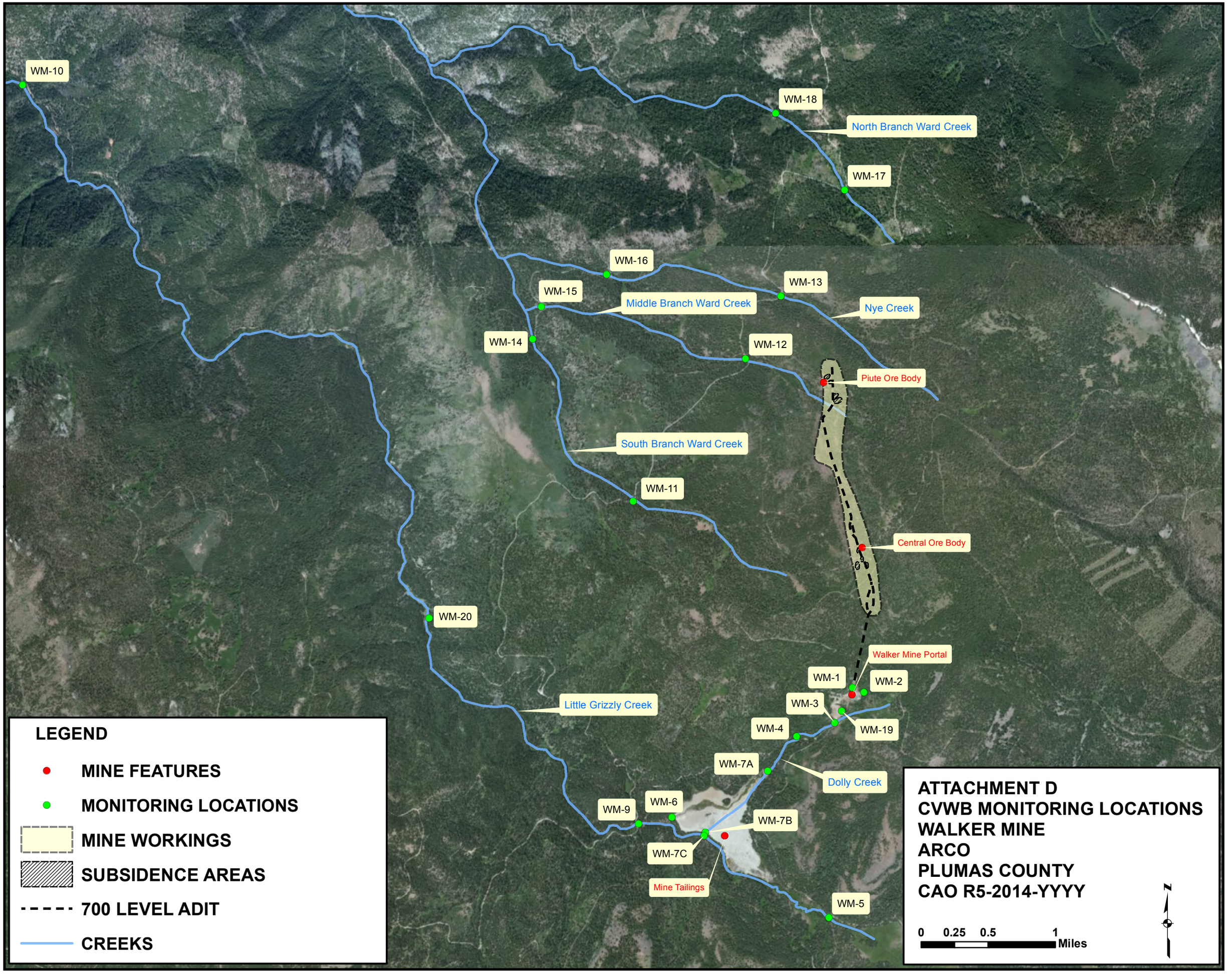

WM-10
WM-18
North Branch Ward Creek
WM-17
WM-16
WM-15
Middle Branch Ward Creek
WM-13
Nye Creek
WM-14
WM-12
Piute Ore Body
South Branch Ward Creek
WM-11
Central Ore Body
WM-20
Walker Mine Portal
WM-1
WM-2
WM-3
WM-19
Little Grizzly Creek
WM-4
WM-7A
Dolly Creek
WM-6
WM-9
WM-7B
WM-7C
Mine Tailings
WM-5
LEGEND
MINE FEATURES
MONITORING LOCATIONS
MINE WORKINGS
SUBSIDENCE AREAS
700 LEVEL ADIT
CREEKS
ATTACHMENT D
CVWB MONITORING LOCATIONS
WALKER MINE
ARCO
PLUMAS COUNTY
CAO R5-2014-YYYY
0 0.25 0.5 1
Miles
N

Figure 1: Concrete Seal Pressure Head and Snow Water Content
CAO R5-2014-YYYY
Atlantic Richfield Company
Walker Mine, Plumas County

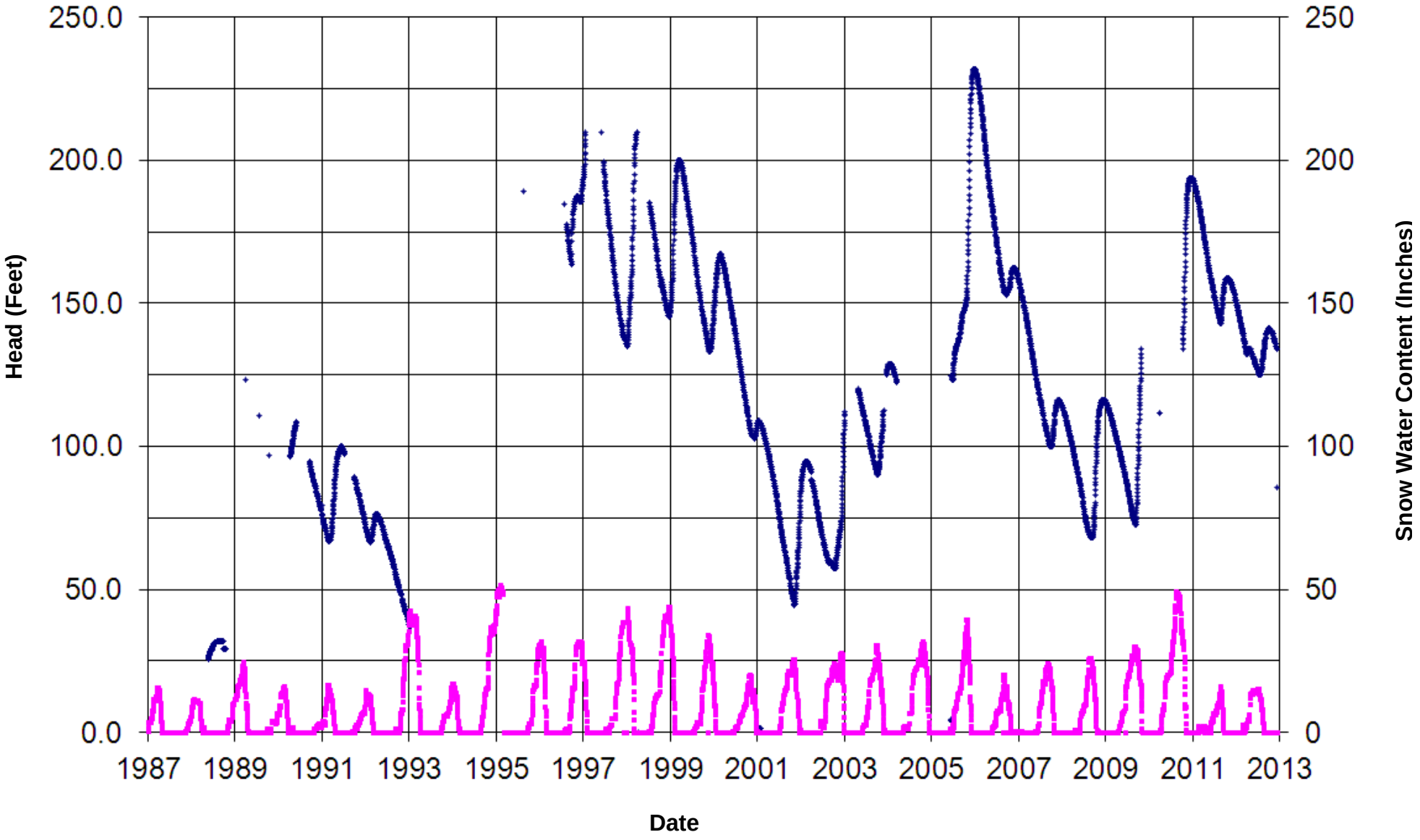


Figure 2: Copper in Dolly Creek Downstream (WM-3)
CAO R5-2014-YYYY
Atlantic Richfield Company
Walker Mine, Plumas County

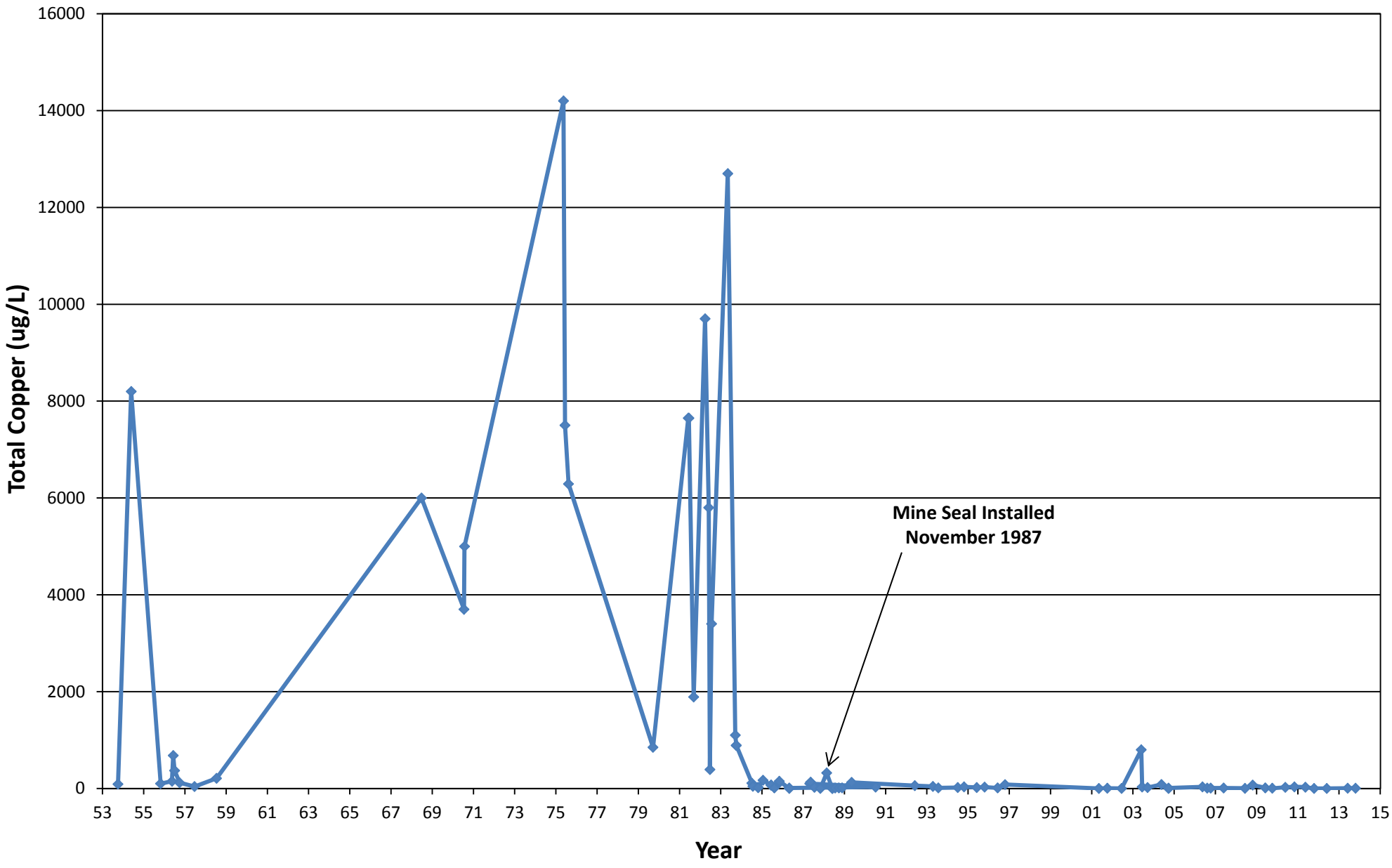
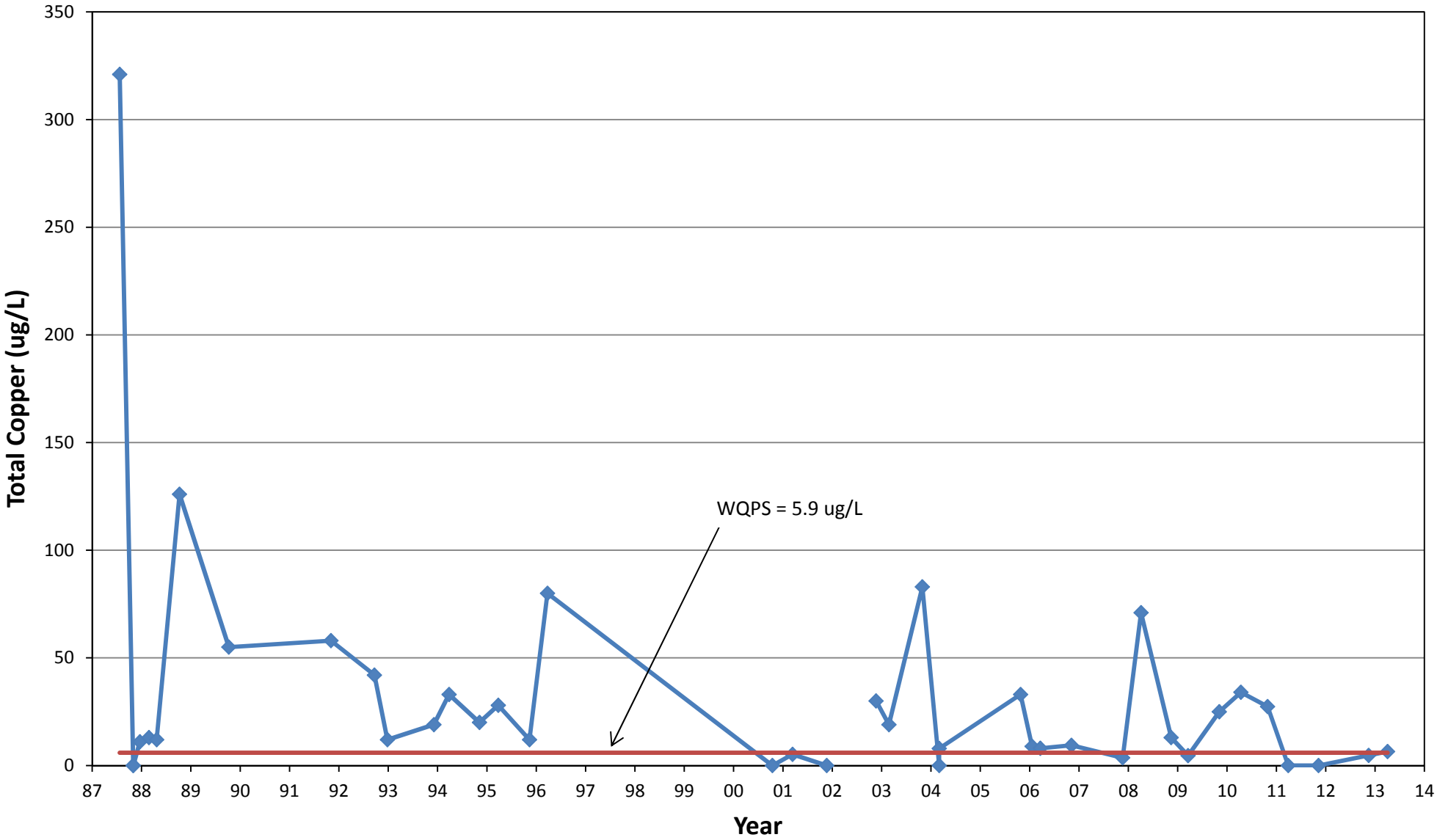


Figure 3: Copper in Dolly Creek Downstream, Post Plug (WM-3)
CAO R5-2014-YYYY
Atlantic Richfield Company
Walker Mine, Plumas County



Notes: *Possible outlier (800 ug/L) not included in dataset graph , 6/11/2003
*WQPS of 5.9 ug/L determined by an average Hardness of 62 mg/L for the above range

Figure 4: Comparison of Copper Concentrations Upstream and Downstream of Walker Mine & Mill Complex
CAO R5-2014-YYYY
Atlantic Richfield Company
Walker Mine, Plumas County

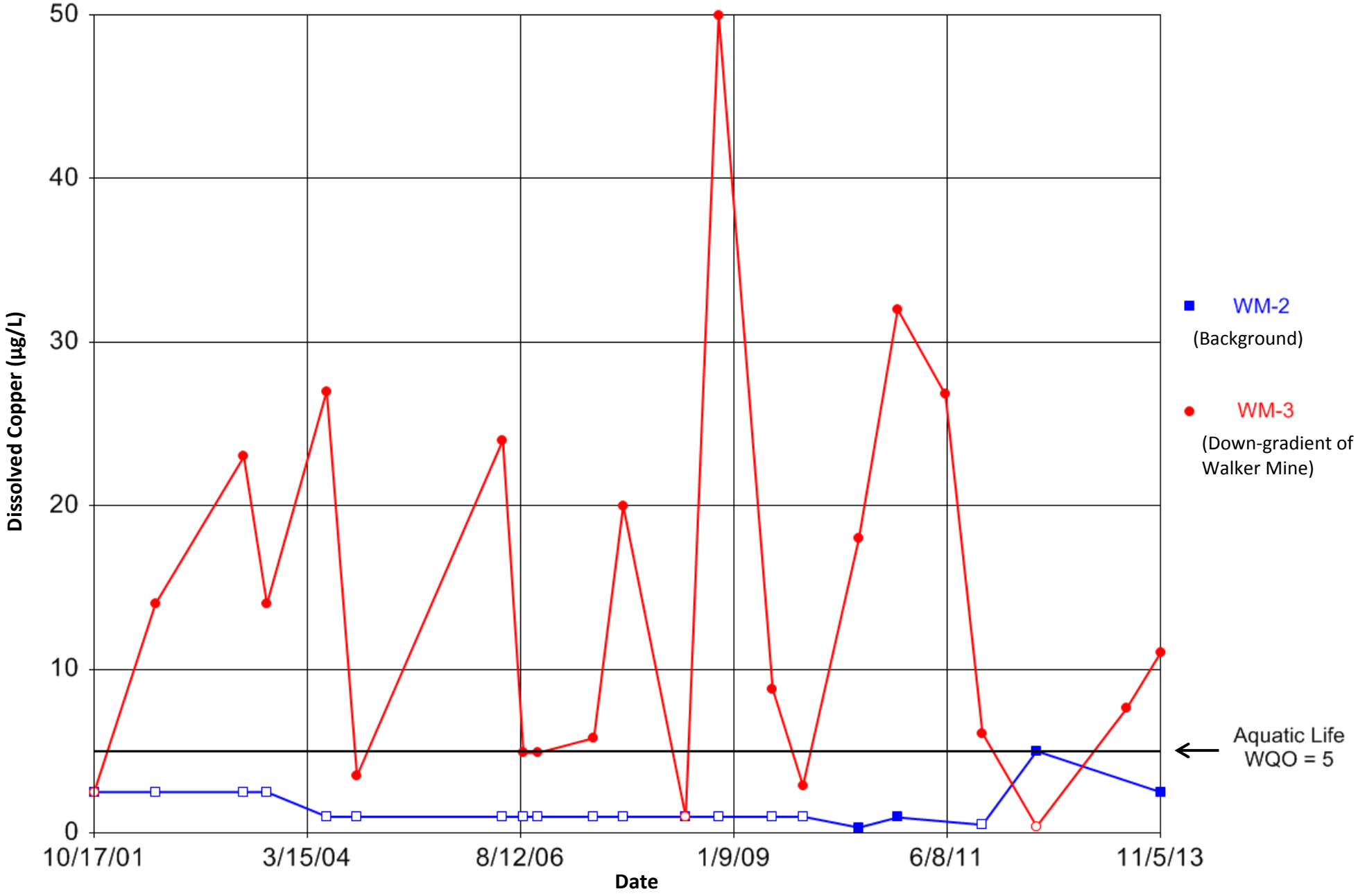


Figure 5: Copper Concentrations and pH Contained Behind Mine Plug (WM-30)
CAO R5-2014-YYYY
Atlantic Richfield Company
Walker Mine, Plumas County

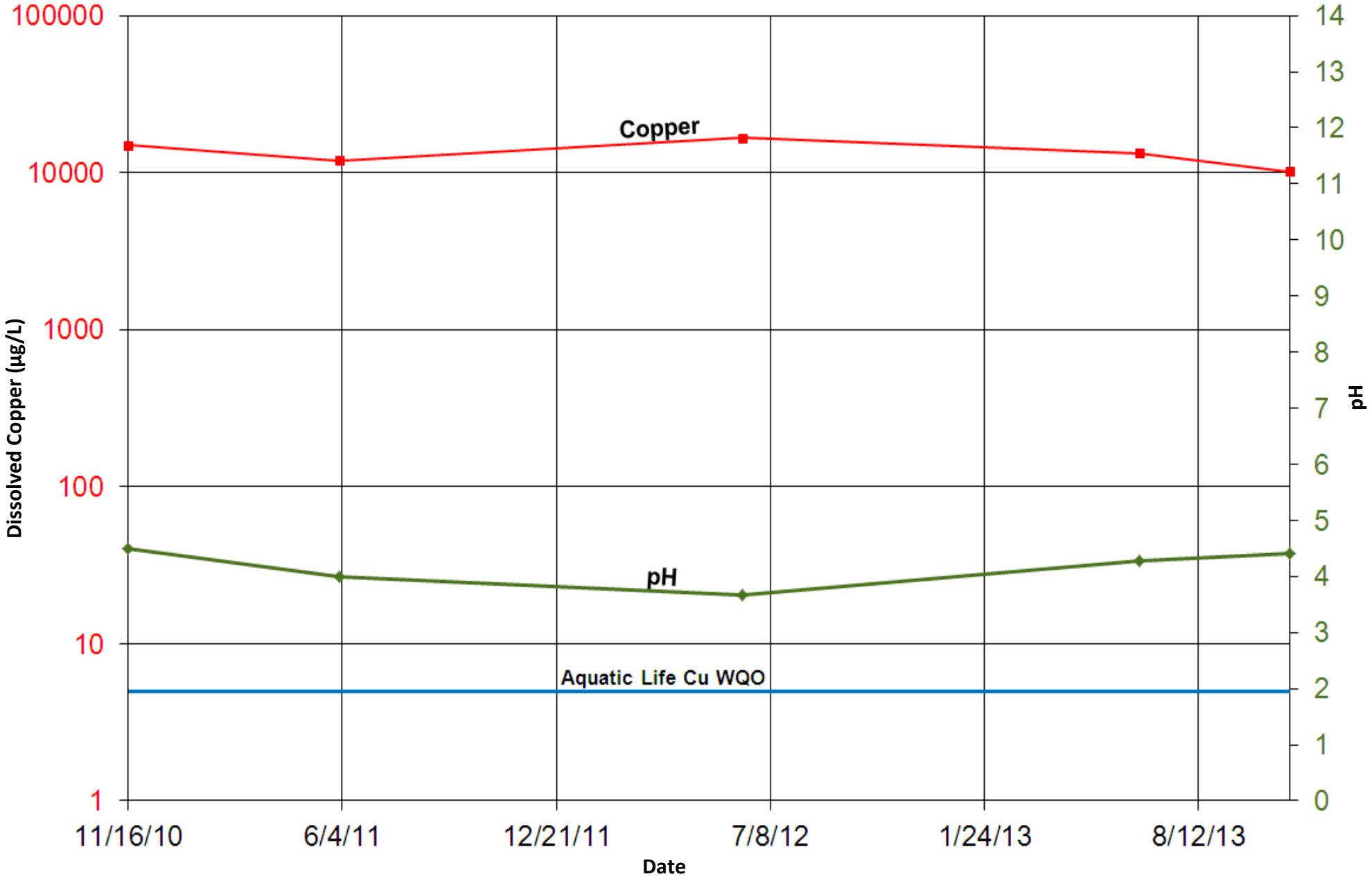
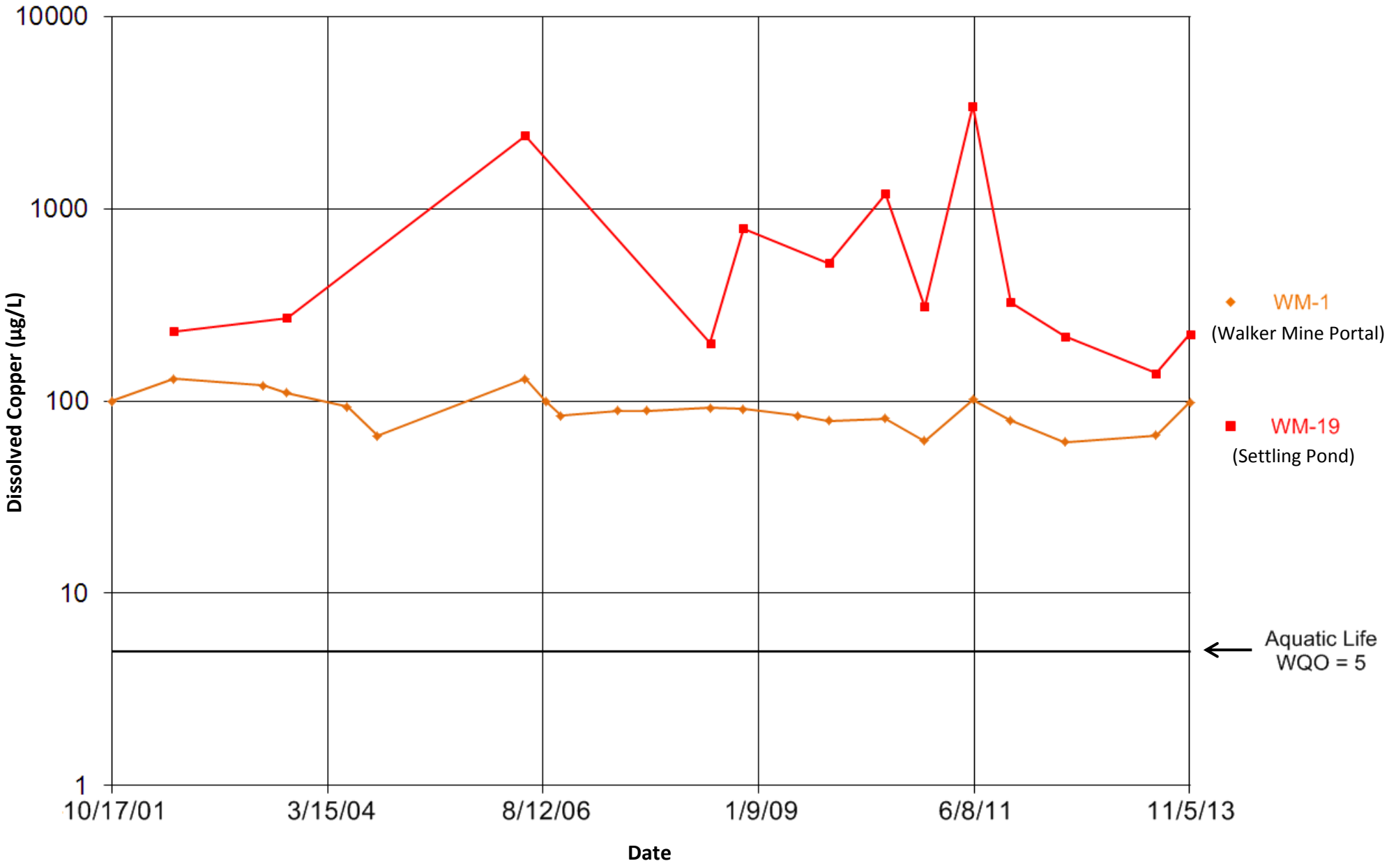



Figure 6: Potential Risk of Water Quality Degradation Posed by Portal Discharge & Settling Pond (WM-1 & WM 19)
CAO R5-2014-YYYY
Atlantic Richfield Company
Walker Mine, Plumas County