CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California
Regional Water Quality Control Board

APPLICATION/REPORT OF WASTE DISCHARGE
GENERAL INFORMATION FORM FOR
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

I. FACILITY INFORMATION

A. Facility:

Name: Marble Mountain Ranch, Inc.			
Address: 92520 HWY 96			
City: Somes Bar	County: Siskiyou	State: CA	Zip Code: 95568
Contact Person: Barbara A. Brenner		Telephone Number: 916-468-0625	

B. Facility Owner:

Name: Douglas and Heidi Cole			Owner Type (Check One) 1. [✔] Individual 2. [ ] Corporation 3. [ ] Governmental Agency 4. [ ] Partnership 5. [ ] Other:
Address: 92520 HWY 96			
City: Somes Bar	State: CA	Zip Code: 95568	
Contact Person: Douglas T. Cole	Telephone Number: 530-469-3322	Federal Tax ID: 47-38255422	

C. Facility Operator (The agency or business, not the person):

Name: Marble Mountain Ranch, Inc.			Operator Type (Check One) 1. [ ] Individual 2. [✔] Corporation 3. [ ] Governmental Agency 4. [ ] Partnership 5. [ ] Other:
Address: 92520 Hwy 96			
City: Somes Bar	State: CA	Zip Code: 95568	
Contact Person: Douglas T. Cole	Telephone Number: 530-469-3322		

D. Owner of the Land:

Name: see attached page 1 of Form 200 Additional Pages			Owner Type (Check One) 1. [ ] Individual 2. [ ] Corporation 3. [✔] Governmental Agency 4. [ ] Partnership 5. [ ] Other:
Address:			
City:	State:	Zip Code:	
Contact Person:	Telephone Number:		

E. Address Where Legal Notice May Be Served:

Address: 92520 Hwy 96		
City: Somes Bar	State: CA	Zip Code: 95568
Contact Person: Douglas T. Cole	Telephone Number: 530-469-3322	

F. Billing Address:

Address: Same as Owner		
City:	State:	Zip Code:
Contact Person:	Telephone Number:	

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II. TYPE OF DISCHARGE

Check Type of Discharge(s) Described in this Application (A or B):

☐ **A. WASTE DISCHARGE TO LAND** ☑ **B. WASTE DISCHARGE TO SURFACE WATER**

Check all that apply:

- ☐ Domestic/Municipal Wastewater Treatment and Disposal
- ☐ Cooling Water
- ☐ Mining
- ☐ Waste Pile
- ☐ Wastewater Reclamation
- ☐ Animal Waste Solids
- ☐ Land Treatment Unit
- ☐ Dredge Material Disposal
- ☐ Surface Impoundment
- ☐ Industrial Process Wastewater
- ☐ Animal or Aquacultural Wastewater
- ☐ Biosolids/Residual
- ☐ Hazardous Waste (see instructions)
- ☐ Landfill (see instructions)
- ☐ Storm Water
- ☑ Other, please describe: hydroelectric power generation

III. LOCATION OF THE FACILITY

Describe the physical location of the facility.

1. Assessor's Parcel Number(s)	2. Latitude	3. Longitude
Facility: See attached page 1.	**Facility:** See attached page 1.	**Facility:** See attached page 1.
Discharge Point:	**Discharge Point:**	**Discharge Point:**

IV. REASON FOR FILING

- ☐ New Discharge or Facility
- ☐ Changes in Ownership/Operator (see instructions)
- ☐ Change in Design or Operation
- ☐ Waste Discharge Requirements Update or NPDES Permit Reissuance
- ☐ Change in Quantity/Type of Discharge
- ☑ Other: See attached page 1 of Form 200 Additional Pages

V. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Name of Lead Agency: See attached page 2 of Form 200 Additional Pages.

Has a public agency determined that the proposed project is exempt from CEQA? ☐ **Yes** ☐ **No**

If Yes, state the basis for the exemption and the name of the agency supplying the exemption on the line below.

Basis for Exemption/Agency: _____

Has a "Notice of Determination" been filed under CEQA? ☐ **Yes** ☐ **No**

If Yes, enclose a copy of the CEQA document, Environmental Impact Report, or Negative Declaration. If no, identify the expected type of CEQA document and expected date of completion.

Expected CEQA Documents:

☐ **EIR** ☐ **Negative Declaration** **Expected CEQA Completion Date:** _____

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VI. OTHER REQUIRED INFORMATION

Please provide a COMPLETE characterization of your discharge. A complete characterization includes, but is not limited to, design and actual flows, a list of constituents and the discharge concentration of each constituent, a list of other appropriate waste discharge characteristics, a description and schematic drawing of all treatment processes, a description of any Best Management Practices (BMPs) used, and a description of disposal methods.

Also include a site map showing the location of the facility and, if you are submitting this application for an NPDES permit, identify the surface water to which you propose to discharge. Please try to limit your maps to a scale of 1:24,000 (7.5' USGS Quadrangle) or a street map, if more appropriate.

VII. OTHER

Attach additional sheets to explain any responses which need clarification. List attachments with titles and dates below:

See additional pages.

You will be notified by a representative of the RWQCB within 30 days of receipt of your application. The notice will state if your application is complete or if there is additional information you must submit to complete your Application/Report of Waste Discharge, pursuant to Division 7, Section 13260 of the California Water Code.

VIII. CERTIFICATION

"I certify under penalty of law that this document, including all attachments and supplemental information, were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Print Name: DOUGLAS T. COLE Title: CEO

Signature: Douglas T. Cole Date: 6/24/17

FOR OFFICE USE ONLY

Date Form 200 Received:	Letter to Discharger:	Fee Amount Received:	Check #:

State of California
Form 200 Additional Pages

ID. OWNER OF THE LAND

Doug and Heidi Cole (Applicant) are the owners of the land on which the majority of the facility is located, including the Marble Mountain Ranch (Ranch) and the ditch from the hydropower unit to the outfall point. However, the point of diversion (POD) in Stanshaw Creek and the diversion canal to approximately the forebay at the hydropower unit are located in the Klamath National Forest. The diversion canal pre-dates the establishment of the Klamath National Forest and is not subject to a formal lease or special-use permit.

III. LOCATION OF THE FACILITY

Marble Mountain Ranch is located in Siskiyou County and consists of Assessor's Parcel #s 026-290-200-000 (43.17 acres), 023-290-240-000 (4.20 acres) and 026-290-270-000 (0.05 acres). The facility is located along Highway 96 in Somes Bar, California (Latitude 41.472068° and Longitude -123.502383°) (Figure 1. *Project Location and Vicinity*). The ditch supplying water to the Ranch originates in Stanshaw Creek (tributary to Klamath River at River Mile [RM] 76.1). The POD is about 0.68 miles upstream of the Highway 96 crossing at Latitude 41.47918741° and Longitude -123.50004043°. The point of discharge is located on a tributary to Irving Creek (tributary to Klamath River at RM 75) at Latitude 41.470480° and Longitude -123.496934°.

IV. REASON FOR FILING

This filing is in response to a notice of violation and order.

A Cleanup and Abatement and Water Code Section 13267(b) Order Number R1-2016-0031 (Order) was issued by the North Coast Water Quality Control Board on 4 August 2016 to address a diversion ditch within the ranch that diverts water from Stanshaw Creek to Irving Creek (Attachment A). The diversion ditch outfall discharges into an unnamed tributary to Irving Creek. The Order alleges that there is a potential for point source discharges of sediment-laden waters associated with ditch containment failures and sediment discharges from the Irving Creek outfall. The Order requires investigation and cleanup in compliance with the Water Code, the Water Quality Control Plan for the North Coast Region, and other applicable Regional Water Board plans, policies, and regulations. The order identifies two primary allegations:

1. Eroding slopes below the diversion ditch and transports of earthen material into Stanshaw Creek, and

2. Sedimentation at the discharge into the tributary to Irving Creek.

This General Information Form for Waste Discharge Requirements addresses allegation 2, sedimentation at the discharge into an ephemeral stream tributary to Irving Creek.

V. CALIFORNIA ENVIRONMENTAL QUALITY ACT

A California Environmental Quality Act (CEQA) determination has yet to be made. It is presumed that the North Coast Water Quality Control Board would serve as the lead agency and that the project is exempt from CEQA.

The basis for the exemption is Section 15301: Existing Facility. The diversion and associated facilities are existing facilities that require regular maintenance. The improvement plan does not expand the use or footprint of the existing facilities.

VI. OTHER REQUIRED INFORMATION

Existing Configuration of Discharge

The following discussion is summarized from Cascade Stream Solutions (2014). An in-channel hand-constructed gravel-and-cobble dam diverts flows up to approximately 3 cubic feet per second. Water is used for both consumptive and non-consumptive uses:

- Irrigation of pastures for livestock, a greenhouse, garden, orchard, and landscaping,
- Water supply for commercial and private kitchens, toilets, laundry, and drinking water,
- Evaporation and transpiration from water storage for fire suppression, and
- Power generation.

Water from the diversion enters a ditch and is gravity-fed to the ranch. A junction at approximately 0.5 mile along the ditch conveys water to the southwest to a treatment plan or to the southeast to a forebay and penstock for power generation and irrigation. The diversion ditch has lined and unlined reaches. Return flow from power generation is discharged to a tributary of Irving Creek. Less than five percent of the water used for hydropower generation is used as a heat sink to regulate power supplied to the transmission system. This flow is diverted in a 1- to 2-inch diameter pipe prior to the jet that powers the Pelton wheel to a heat sink resistor. Electricity in excess of the ranch's need powers the heat sink resistor and heats the water that runs through the resistor to avoid overloading the electrical system. The heated water is returned to a ditch that flows to a detention pond. From the pond, water flows in a ditch and outfalls to a tributary to Irving Creek (Figure 2. *Configuration of the Marble Mountain Ranch Discharge*). Outflows to Irving Creek have created an active erosional feature, that is evolving to a naturally stable environment. (Fiori GeoSciences, Stanshaw Creek Diversion Ditch Sediment Source Assessment, Prepared for Doug and Heidi Cole, Somes Bar, California, Prepared by Rocco Fiori, Engineering Geologist,(P.E.)((Dated 4 April 2017). p. 10.)

Investigation

Fiori GeoSciences (2016, 2017) was hired by the Applicant to assess the potential for ditch-related sediment and turbidity to impact the Waters of California. Based on these assessments, the proposed improvement for the outfall to the tributary to Irving Creek is described below.

Proposed Improvements at the Outfall to the Tributary to Irving Creek

To address erosion at the point of discharge to the tributary to Irving Creek, the discharge system would be reconfigured (Figure 2).

The proposed reconfiguration would bypass the existing detention pond and convey water discharged from the hydroelectric facility directly to the outfall in a new 24-inch culvert (Figure 2). The culvert would be aligned to direct flows away from the edge of the slope to eliminate erosive forces. Further, several large rootwads from downed trees on the property will be installed at the base of the existing point of outfall to serve as flow velocity dissipation devices and reduce erosional activity (Attachment B). The culvert will be designed such that flows are directed onto the rootwads for maximum energy dissipation, in order to reduce scouring and sediment production.

Rootwads are often used as a natural revetment material to resist erosive flows on streambanks and serve to create habitat complexity and hydraulic diversity for fish and invertebrates when used in an aquatic setting. Rootwads decompose over time, allowing live vegetation to slowly restore the protected area to a more natural function. During installation, the rootwad fan will be oriented into the outfall flow, with the remaining portion of the tree trunk removed or buried and secured with rocks. Attachment B shows an example anchoring system for a rootwad revetment installation in a stream setting. The fan of the rootwad(s) will be of sufficient size to provide full cover over the existing, exposed soil at the base of the outfall.

Construction Schedule

The construction and implementation of the rootwad revetment can occur outside the season of diversion such that no flowing waters are present at the time of construction. The proposed improvements can be implemented in the dry season following authorization of this Form.

Best Management Practices Implemented During Construction of the Outfall

During installation of the culvert and rootwad, Best Management Practices (BMPs) will be implemented to minimize downstream effects. The following BMPs will be utilized:

- All work will be conducted when no flowing water is present within the diversion ditch, the outfall, or the Irving Creek tributary.
- Standard erosion control BMPs (i.e., silt fencing, straw waddles) will be implemented, as appropriate, to prevent sediment from entering watercourses.
- Rootwads to be placed at the base of the outfall will first be cleaned of sediment/soil in an upland location to reduce downstream sedimentation following installation.
- No impacts to existing Waters of the U.S. or Waters of the State will occur as a result of the improvements. All equipment will work from outside of the adjacent tributary to Irving Creek.

Monitoring Plan

A monitoring plan is included in Attachment C. The monitoring plan has previously been provided to the North Coast Regional Water Quality Control Board and was accepted. The previously received monitoring plan included water quality sampling and testing once every two weeks.

Water quality testing on a bi-weekly basis is cost prohibitive based on estimates the Coles have received of over $1,200 for each sample. Infomation related to the Coles availability to pay for any improvements at Marble Mountain Ranch have been previously submitted to the Water Board on January 4, 2017. Based on that information and the expense of water

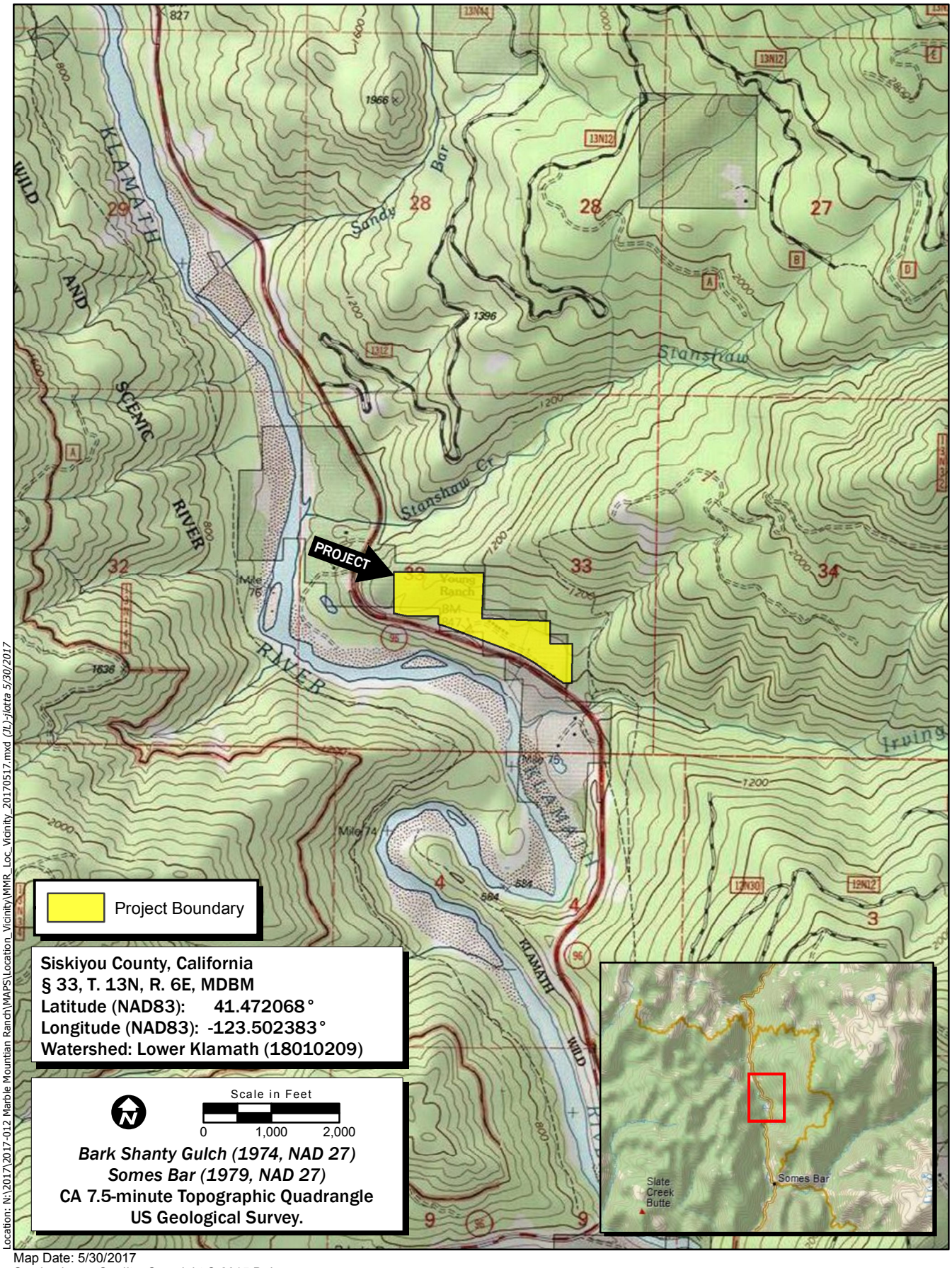
quality testing, the Coles propose sampling on a monthly basis for the first six months discharges occur. Provided no exceedances beyond background exceedances from Stanshaw Creek are discovered, the Coles will scale back to testing to once every three (3) months when discharges occur. The proposed changes are reflected in the sampling plan included as Attachment C.

REFERENCES

Cascade Stream Solutions, LLC. 2014. Marble Mountain Ranch Water Rights Investigation: Water Use Technical Memorandum. Prepared for Mid Klamath Watershed Council, Orleans, California. Prepared by Joey Howard, P.E. License # 53319, Cascade Stream Solutions, LLC. Ashland, Oregon. 18 November 2014. 37pp.

Fiori GeoSciences. 2016. Technical Memorandum: Sediment Delivery Potential from Failures on the Stanshaw Creek Diversion Ditch. Prepared for Will Harling, Mid-Klamath Watershed Council, Orleans, California and Douglas and Heidi Cole, Marble Mountain Ranch, Somes Bar, California. Prepared by: Rocco Fiori, Engineering Geologist, PG8066. May 14, 2016. 4pp.

Fiori GeoSciences. 2017. Stanshaw Creek Diversion Ditch: Sediment Source Assessment. Prepared for Doug and Heidi Cole. Somes Bar, California. Prepared by Rocco Fiori, Engineering Geologist (PG8066). Dated 4 April 2017. 18pp.



Location: N:\2017\2017-012 Marble Mountian Ranch\MAPS\Location_Vicinity\MMR_Loc_Vicinity_20170517.mxd (JL)-jlotta 5/30/2017

Map Date: 5/30/2017
Service Layer Credits: Copyright:© 2015 DeLorme
Copyright:© 2013 National Geographic Society, i-cubed

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Figure 1. Project Location and Vicinity

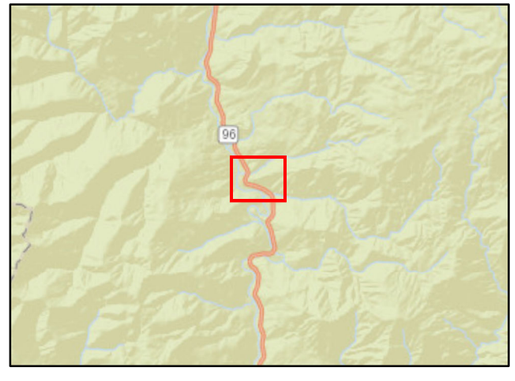
2017-012 Marble Mountian Ranch

Figure 2. Configuration of the Marble Mountain Ranch Discharge

Map Features

- Project Boundary
- Pond
- Canal
- Diversion Ditch
- Proposed Bypass
- Streams
- Diversion Outfall
- Penstock
- Point of Diversion

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community



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2017-012 Marble Mountian Ranch

Scale in Feet
0 400 800

Base Source: NAIP 2016

Map Date: 5/30/2017

LIST OF ATTACHMENTS

Attachment A – Cleanup and Abatement and Water Code Section 13267(b) Order Number R1-2016-0031

Attachment B – 7 April 2017 Letter Regarding Proposed Improvements to the Irving Outfall

Attachment C – Marble Mountain Ranch Water Quality Sampling Plan 9 September 2016 Amended 27 June 2017

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

CLEANUP AND ABATEMENT

AND

WATER CODE SECTION 13267(b) ORDER NO. R1-2016-0031
DOUGLAS AND HEIDI COLE, ASSESSOR PARCEL NUMBER 026-290-200
WDID 1A15024NSI

SISKIYOU COUNTY

This Order is issued to Douglas and Heidi Cole (hereinafter referred to as Dischargers) based on provisions of Water Code section 13304, which authorizes the North Coast Regional Water Quality Control Board (Regional Water Board) to issue a Cleanup and Abatement Order ("Order"), and Water Code section 13267, which authorizes the Regional Water Board to require the preparation and submittal of technical and monitoring reports.

The Executive Officer finds, with respect to the Dischargers' acts, or failure to act, the following:

1. **Purpose of the Order:** This Order requires the Dischargers to eliminate the threat of future discharges and to clean up and abate the effects of discharges of soil, rock and miscellaneous debris into Irving Creek, Stanshaw Creek, and the Klamath River. These watercourses are considered waters of the state, as well as waters of the United States. (References hereinafter to waters of the United States are inclusive of waters of the state.)[1] The Dischargers maintain a diversion ditch from Stanshaw Creek to Irving Creek. The Dischargers operate the ditch to provide water to the Marble Mountain Ranch (Ranch), for domestic uses, as well as to generate electricity, and to fill and maintain a small pond for recreational use and potentially fire protection. The upper segment of the ditch carries water from Stanshaw Creek to the Marble Mountain Ranch. Tailwater from the Pelton wheel used for power generation flows through the property to the pond. Overflows from the pond flow to a discharge point where they enter Irving Creek. Water in the upper segment of the ditch periodically overtops or breaches portions of its outboard containment berm, eroding slopes below the ditch.

[1] The Regional Water Board administers and enforces the Clean Water Act (CWA). The CWA regulates what it refers to as "navigable waters" and defines those waters as "waters of the United States." Waters of the United States have been interpreted broadly by the agencies responsible for implementing the CWA to include all traditionally navigable waters and their tributaries. (40 C.FR. § 122.2) The Porter-Cologne Water Quality Control Act (Porter Cologne) provides the Regional Water Board additional authority to regulate discharges of waste into "waters of the state." (Water Code § 13260.) The term "water of the state" is defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." (Water Code § 13050(3).) All waters of the United States that are within the boundaries of California are also waters of the state for purposes of Porter-Cologne.

In some cases, water escaping from the ditch flows to and transports earthen material into downslope watercourses, including Stanshaw Creek and, potentially, the Klamath River.

Outflows to Irving Creek have created a significant active erosional feature, representing a chronic source of sediment discharges into Irving Creek. Point source discharges of sediment-laden waters associated with ditch containment failures and chronic sediment discharges from the Irving Creek outfall occur without authorization from applicable federal, state, and local agencies, including the Regional Water Board. This Order requires investigation and cleanup in compliance with the Water Code, the Water Quality Control Plan for the North Coast Region (Basin Plan), and other applicable Regional Water Board plans, policies, and regulations.

2. **Responsible Parties:** The Dischargers, as the property owners and operators of the ditch are discharging or creating a threat of discharge, and are responsible parties for purposes of this Order.

    a. Per records from the Siskiyou County Assessor-Recorder's Office, Douglas and Heidi Cole are the owners of record for the property identified as Assessor Parcel 026-290-200.

    b. The Regional Water Board reserves the right to amend this CAO to add additional responsible parties when/if those parties are identified.

3. **Location and Description:** The Marble Mountain Ranch is located approximately 8 miles north of Somes Bar, in Siskiyou County at 92520 Highway 96. The ditch supplying water to the Ranch originates in Stanshaw Creek (tributary to Klamath River at river mile 76.1) and discharges into Irving Creek (tributary to Klamath River at river mile 75). The Point of Diversion (POD) is located on Stanshaw Creek, about 0.68 miles upstream of the Highway 96 crossing.

4. **History:** According to records from the Siskiyou County Assessor-Recorder's Office, Douglas and Heidi Cole purchased the Ranch in March of 2007. There is no record of the Ranch or the diversion ditch having prior regulatory oversight or history with the Regional Water Board. The diversion has reportedly been in place since the 1800s, supplying a variety of uses to landowners over the years with the most recent landowners being the Dischargers.

5. **Basis of Order:** Periodic failure of the ditch, and the Dischargers' activities to operate and maintain the ditch, as detailed below, created and/or threaten to create, conditions of pollution or nuisance in waters of the state by unreasonably impacting water quality and beneficial uses.

a. During an inspection of the diversion ditch and the Ranch on February 12, 2015, Regional Water Board staff identified 19 locations along the upper ditch where the ditch has failed or has the potential to fail.

b. The primary failure mechanisms were identified as: 1) cut bank slumps that block the ditch and cause flows to overtop the berm; 2) water infiltrates into and seeps through the berm, and causes the berm to fail eroding underlying soils and hillslopes; and 3) as noted above, cumulative sediment inputs reduce the ditch capacity and increase the risk of overtopping as ditch capacity is diminished, particularly increasing the potential for failure in areas where the berm is low or has been damaged. Due to the operation and maintenance of the ditch, failures and repairs constitute an annual and chronic discharge of sediment to waters of the state, including Stanshaw and Irving Creeks, and potentially directly to the Klamath River.

c. The diversion ditch outfall discharges onto a steep slope with an abrupt drop into a short unnamed tributary to Irving Creek. This discharge causes significant slope erosion and chronic delivery of substantial volumes of sediment into Irving Creek and the Klamath River.

6. **Beneficial Uses and Water Quality Objectives:** The Basin Plan designates beneficial uses, establishes water quality objectives, contains implementation programs for achieving objectives, and incorporates by reference, plans and policies adopted by the State Water Resources Control Board. Stanshaw and Irving creeks are tributaries of the Klamath River within the Middle Klamath River Hydrologic Area, which under section 303(d) of the federal CWA is listed as impaired for sediment, temperature, microcystin, organic enrichment/low dissolved oxygen, and nutrients. On September 7, 2010, the State Water Resources Control Board adopted a Resolution approving amendments to the Water Quality Control Plan for the North Coast Region to establish: (1) Site Specific Dissolved Oxygen Objectives for the Klamath River; (2) an Action Plan for the Klamath River Total Maximum Daily Loads (TMDLs) Addressing Temperature, Dissolved Oxygen, Nutrient, and Microcystin impairments in the Klamath River; and (3) an Implementation Plan for the Klamath and Lost River basins. On December 28, 2010, the United States Environmental Protection Agency approved the TMDLs for the Klamath River in California pursuant to CWA section 303(d)(2). The Action Plan indicates that temperature impairments in the Klamath are attributable in part to excess sediment loads from anthropogenic sources, and encourages parties responsible for existing sediment sources to take steps to inventory and address those sources. Existing and potential beneficial uses for the Ukonom Hydrologic Subarea of the Middle Klamath River Hydrologic Area potentially affected by the activities described herein include the following: Municipal and Domestic Supply (MUN); Agricultural Supply (AGR); Industrial Service Supply (IND); Industrial Process Supply (PRO); Ground Water Recharge (GWR); Freshwater Replenishment Groundwater Recharge (GWR); Freshwater Replenishment (FRSH); Navigation (NAV); Hydropower Generation (POW);

Water Contact Recreation (REC-1); Non-contact Water Recreation (REC-2); Commercial and Sport Fishing (COMM); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); Wildlife Habitat (WILD); Rare Threatened or Endangered Species (RARE); Migration of Aquatic Organisms (MIGR); Spawning, reproduction, and/or Early Development (SPWN); and Aquaculture (AQUA) and Native American Culture (CUL). Beneficial uses of any specifically identified water body generally apply to all of its tributaries. These include Stanshaw Creek, Irving Creek, and any tributaries thereto.

Section 3 of the Basin Plan contains water quality objectives that specify limitations on certain water quality parameters not to be exceeded as a result of waste discharges. These include, but are not limited to the following:

a. **Suspended Material**: Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

b. **Settleable Material**: Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.

c. **Sediment**: The suspended sediment load and suspended discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

d. **Turbidity**: Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.

7. **Failure to Obtain Necessary Permits:** Regional Water Board staff determined that discharges of waste earthen material associated with ditch operation, maintenance, and failure, including point source discharges of sediment-laden water to waters of the state has occurred without coverage under either a National Pollutant Discharge Elimination System (NPDES) permit, waste discharge requirements, or a waiver thereof.

8. **Clean Water Act Violations:** Section 301(a) of the CWA provides certain exceptions to "the discharge of any pollutant by any person shall be unlawful." (33 U.S.C. § 1311(a).) One of the exceptions allowed for under the CWA is the discharge from a point source as authorized by a permit granted pursuant to the National Pollutant Discharge Elimination System (NPDES) under section 402 of the CWA. (33 U.S.C. § 1342.) The CWA prohibits the discharge of any pollutant from a point source into waters of the United States without an NPDES permit. Evidence observed by staff along the upper ditch indicated that the ditch had overtopped or caused the berm to fail at several locations.

While staff did not follow the erosion path below each failure point to confirm that flows reached downstream surface waters, staff did observe a number of points where the flows reached Stanshaw Creek. In each case, such a flow, carrying sediment and/or other mobilized materials and delivering them into a surface water represents a point source discharge of waste, requiring an NPDES permit.

9. Water Code Violations:

a. Water Code section 13376 requires any person discharging or proposing to discharge pollutants to waters of the United States to file a report of waste discharge. Each case where the ditch has failed and flows have discharged into Stanshaw Creek or the Klamath River represents a violation of Water Code section 13376 due to the discharge of sediment-laden water into waters of the United States without first filing a report of waste discharge. In addition, the chronic discharge of sediment into Irving Creek associated with the erosion feature at the ditch outfall represents an ongoing violation, and a discharge of waste without a report of waste discharge and/or waste discharge requirements.

b. Water Code section 13304(a) states, in relevant part:

"Any person who has discharged or discharges waste into waters of this state in violation of any waste discharge requirements or other order or prohibition issued by a regional 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 causes, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional 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."

c. Sediment, when discharged to waters of the state, is a "waste" as defined in Water Code section 13050. The Dischargers have discharged waste directly into surface waters of Stanshaw Creek, an unnamed tributary to Irving Creek, and to Irving Creeks, which are tributaries of the Klamath River.

d. The beneficial uses of the Klamath River discussed above in Finding 6 also apply to Stanshaw and Irving creeks.

e. "Pollution" is defined by Water Code section 13050, subdivision (l)(1) as, an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following:
   i. The waters for beneficial uses; or
   ii. Facilities which serve these beneficial uses.

f. "Nuisance" is defined by Water Code section 13050, subdivision (m) as, anything which meets all of the following requirements:
   i. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
   ii. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
   iii. Occurs during, or as a result of, the treatment or disposal of wastes.

g. The Dischargers' ditch operations and maintenance activities, and chronic ditch failures result in the relatively continuous unauthorized discharge of waste into surface waters and have created, and threaten to create, a condition of pollution by unreasonably affecting the beneficial uses of waters of the state.

10. **Basin Plan Violations:** The Water Quality Control Plan for the North Coast Region (Basin Plan) contains specific standards and provisions for maintaining high quality waters of the state that provide protection to the beneficial uses listed above. The Basin Plan's Action Plan for Logging, Construction and Associated Activities (Action Plan) includes two prohibitions (Page 4-29.00 of the 2011 Basin Plan):

    a. **Prohibition 1** - "The discharge of soil, silt, bark, slash, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature into any stream or watercourse in the basin in quantities deleterious to fish, wildlife, or other beneficial uses is prohibited."
    b. **Prohibition 2** - "The placing or disposal of soil, silt, bark, slash, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature at locations where such material could pass into any stream or watercourse in the basin in quantities which could be deleterious to fish, wildlife, or other beneficial uses is prohibited."

    Evidence observed by staff during the inspection suggests that flows in the ditch chronically overtop portions of the ditch and, at times, cause the ditch berm to fail, and potentially transport that material into Stanshaw Creek or the Klamath River.

    Ditch maintenance/repair includes rebuilding or reinforcing the berm, in effect placing additional material at locations where it can transported into watercourses in the event of a ditch failure.

11. Cleanup and Abatement Action Necessary: Sediment discharges associated with improperly constructed and maintained ditches and chronic erosion and sedimentation at the Irving Creek outfall, operated by the Dischargers have occurred, and have the potential to continue to occur. Restoration, cleanup, and mitigation action is required on the part of the Dischargers to ensure that the existing conditions of pollution or nuisance are addressed, that threatened unauthorized discharges from the ditch are prevented, and that any impacts to beneficial uses are mitigated. The current conditions represent priority violations and the issuance of a cleanup and abatement order pursuant to Water Code section 13304 is appropriate and consistent with policies of the Regional Water Board.

12. Technical Reports Required: Water Code section 13267(a) provides that the Regional Water Board may investigate the quality of any water of the state within its region in connection with any action relating to the Basin Plan. Water Code section 13267 (b) provides that the Regional Water Board, in conducting an investigation, may require Dischargers to furnish, under penalty of perjury, technical or monitoring program reports. The technical reports required by this Order are necessary to assure compliance with this Order and to protect the waters of the state. The technical reports are further necessary to demonstrate that appropriate methods will be used to clean up waste discharged to surface waters and watercourses and to ensure that cleanup complies with Basin Plan requirements. In accordance with Water Code section 13267(b), the findings in this Order provide the Dischargers with a written explanation and evidence with regard to the need to implement cleanup, abatement and restoration actions and submit reports. The Dischargers named in this Order own and/or operate the feature from which waste was discharged, and thus are appropriately responsible for providing the reports.

13. California Environmental Quality Act: Issuance of this Order is being taken for the protection of the environment and to enforce the laws and regulations administered by the Regional Water Board and as such is exempt from provisions of the California Environmental Quality Act (CEQA) (Public Resources Code § 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 Dischargers to submit plans for approval prior to implementation of cleanup and restoration activities at the Site. CEQA exempts mere submittal of plans as submittal will not cause a direct or indirect physical change in the environment and/or cannot possibly have a significant effect on the environment. CEQA review at this time is premature and speculative, as there is simply not enough information concerning the Discharger's proposed remedial activities and possible associated environmental impacts.

If the Regional Water Board determines that implementing any plan required by this Order will have a significant effect on the environment that is not otherwise exempt from CEQA, the Regional Water Board will conduct the necessary and appropriate

environmental review prior to approval of the applicable plan. The Dischargers will bear the costs, including the Regional Water Board's costs, of determining whether implementing any plan required by this Order will have a significant effect on the environment and, if so, in preparing and handling any documents necessary for environmental review. If necessary, the Dischargers and a consultant acceptable to the Regional Water Board shall enter into a memorandum of understanding with the Regional Water Board regarding such costs prior to undertaking any environmental review.

REQUIRED ACTIONS

IT IS HEREBY ORDERED that, pursuant to Water Code sections 13304 and 13267, Douglas and Heidi Cole (Dischargers) shall clean up and abate the impacts to water quality in accordance with the scope and schedule set forth below and provide the following information. The Dischargers shall obtain all necessary permits for the activities required in this Order.

1. Retain an appropriately licensed and experienced California Licensed Professional(s) to evaluate, and provide recommendations on the following:

Evaluate the operation of the Pelton wheel to determine if there are methods of diversion operation that would increase efficiency and reduce the required volume of the diversion, such as piping the diversion flow for example. Provide a report including recommendations based upon this evaluation. The evaluation shall consider the following:

a. Water balance – in vs. out;
b. Water quality review – in vs. out;
c. Review onsite water needs and usage, and hydropower generation;
d. Review opportunities to optimize water needs and usage for power generation;
e. Review opportunities to reduce water loss or head loss; and
f. Design a delivery system that optimizes water conservation.

In the event that this evaluation concludes that a piped delivery system is appropriate, develop a plan to decommission the ditch by removing the outboard berm and restoring all affected watercourses. In addition, provide design standards for slope restoration and outsloping to ensure evenly distributed surface flows. All bare soils shall be stabilized with erosion controls and replanted with native vegetation. **Submit all information and recommendations as described above on or before 5:00 pm October 15, 2016.**

2. Retain an appropriately licensed and experienced California- licensed professional to evaluate, assess, and develop a Restoration and Monitoring Plan (RMP) to restore and stabilize the head cut and slope at the outlet of the Stanshaw Creek diversion to the unnamed tributary of Irving Creek. Submit

the plan by **September 10, 2016** to the Executive Officer for review and approval.

a. The RMP shall (1) restore the vegetative and hydrological functions of the damaged streams to ensure the long term recovery of the affected streams; and (2) replant the slopes and streamside areas with native vegetation to prevent erosion and sediment delivery to streams.
b. The RMP shall include and apply best management practices for all current and planned work associated with construction activities affecting, or having the potential to impact, the ditch outfall, unnamed tributary and Irving Creek. The RMP shall contain, at a minimum, design and construction standards, specifications, and designs for stream restoration, surface drainage controls, erosion control methods and standards for unanticipated precipitation during restoration, compaction standards, an implementation schedule, a monitoring and reporting plan, and success criteria meeting the requirements specified herein.
c. The RMP shall include map(s) and/or project designs at 1:12000 or larger scale (e.g., 1:6000) that delineate existing site conditions including existing channels, the projected restored slopes and stream channels, illustrating all restoration plan work points, spoil disposal sites, re- planting areas, and any other factor that requires mapping or site construction details to complete the scope of work.
d. The RMP shall include a time schedule for completing the work including receiving any necessary permits from State, County and/or federal agencies that may be required. The time schedule must adhere to any regulatory deadlines prescribed by the State Water Resource Control Board or North Coast Regional Water Quality Control Board.
e. To ensure a successful re-vegetation/earthen stabilization effort, site restoration and mitigation, the Discharger shall monitor and report for five years. All tree and shrub plantings must have a minimum of 85% success of thriving growth at the end of five years with a minimum of two consecutive years (two growing seasons) of monitoring after the removal of irrigation. Planting shall be adequately spaced to ensure adequate vegetative cover to control surface erosion and increase soil stability. In the event the re-planting fails, re-planting is required and the monitoring shall be extended for another five years until the 85% success rate of vegetation re-establishment is accomplished. The Dischargers are responsible for replacement planting, additional watering, weeding, invasive/exotic eradication, or any other practice to achieve the success criteria.
f. The RMP must include a time schedule for completing the work, including receiving any necessary permits from State, County and/or federal agencies that may be required. The time schedule must describe and include installing temporary erosion control measures prior to October 15, 2016 and completion of slope and ditch outlet restoration by October 15, 2017.
g. A monitoring plan is required for all site restoration and replanting to determine the success of stream restoration efforts and re-vegetation. The monitoring plan

must include regularly scheduled inspections, and established monitoring photo points of sufficient number to document the site recovery for five years or until the Site is restored, mitigation is complete, vegetation is reestablished, erosion is no longer ongoing and meets the success criteria in the approved RMP. These photo-documentation points shall be selected to document the stability of the tributaries. The Dischargers shall prepare a site map with the photo-documentation points clearly marked. Prior to and immediately after implementing the restoration and/or mitigation, the Dischargers shall photographically document the pre- and post-conditions of the tributaries at the pre-selected photo-documentation points. The Dischargers shall submit the pre-restoration photographs, the post-restoration photographs, and the map with the locations of the photo-documentation points to the Water Board as part of the as-built report as defined below.;

h. The monitoring plan must include regularly scheduled inspection dates. We recommend October 15, January 5, and March 1 of each year, and a monitoring report is required within 30 days of each inspection. Monitoring Reports shall summarize monitoring results; describe any corrective actions made or proposed to address any failures of the Site and restoration measures (features to be assessed for performance and potential failure include, but are not limited to, erosion controls, stream bed and bank erosion, sediment discharges, work, and re-vegetation); and include narrative and photo documentation of any necessary mitigation and evidence of successful restoration and Site recovery for five years, or until Site recovery meets the approved success criteria. At the conclusion of restoration work, when the site is stable and the monitoring program has been fulfilled, submit a Summary report by **January 1, 2021 or the year that site remediation and replanting meets the approved success criteria**. The Executive Officer or designee will review the report and determine if the site meets all the requirements and the Order can be terminated.

3. In the event that the delivery system will require continued operation of all or a portion of the diversion ditch, retain an appropriately qualified and experienced California-licensed professional to evaluate and submit a report to the Executive Officer for review and approval by **October 15, 2016.** The report shall include the following:

a. Evaluation of the entire ditch system, identifying all features and locations susceptible to failure by any of the physical processes and mechanisms described herein, (including but not limited to ditch seepage, berm fill saturation, upslope cutbank stability), and identifying where there is potential for sediment delivery to receiving waters in the event of a failure.

Specify appropriate corrective action measures or steps to take, including design and construction standards and an implementation schedule to complete the

defined scope of work. In addition, assess all areas of past failures to determine if the features reach Stanshaw Creek and deliver sediment and represent future delivery routes that require mitigation, propose mitigation as necessary to control sediment delivery and surface flows in the event of future failures or during annual rainfall events.

b. A ditch operation and maintenance plan that includes an inspection and maintenance schedule and identifies any permits required for the scope of work anticipated. The plan should include proposed measures to ensure that the slopes above the ditch do not collapse into or block the ditch, that water seepage from the ditch does not saturate underlying materials and result in failure, that the ditch does not overtop the berm, that the berm does not fail, and that sediment does not deliver from the ditch to waters of the state. The plan must also include specifications for measures to be constructed and/or incorporated to prevent further erosion and sediment delivery from the discharge point to Irving Creek, and to restore and stabilize the channel between the discharge point and Irving Creek.

4. Regardless of the ultimate water delivery system, the following additional measures shall be taken by **September 10, 2016** to protect water quality:

a. Assess slopes between the upper ditch and Stanshaw creek and the streambed of Stanshaw Creek and Irving Creek and the unnamed tributary to Irving Creek for stored sediment deposits and erosional sources associated with the past and current failures of the ditch. Identify all erosional issues and those that should be corrected, propose corrective measures and provide a schedule for implementing corrective measures.

b. Ensure that water used onsite, conveyed in the ditch and discharged does not adversely impact waters of the state. Develop a sampling plan to assess the quality of water in the ditch as it passes through the ranch property for potential sources of fecal coliform, total coliform, total petroleum hydrocarbons, temperature, and nutrients. The sampling plan shall assess water quality above the diversion and ranch complex, and below the ranch complex to evaluate if there are any pollutants entering the surface waters from the ditch or pond. Submit the Sampling Plan for approval by the Executive Officer by **September 10, 2016**. Upon approval implement the sampling plan and provide results of the sampling by **November 1, 2016**. In the event that sampling identifies inputs of constituents of concern, then develop a plan to remedy the discharges and submit the plan by **December 1, 2016** to the Executive Officer for review and approval.

5. Progress reports are due quarterly the first of the month starting on **October 1, 2016**. Quarterly progress report deadlines shall be January 1, April 1, July 1, and October 1 through January 1, 2022. Progress reports should include an update on project development and permitting, a description of steps taken to develop and

implement the required plans, and any unforeseen circumstances that may affect progress on meeting the deadlines and requirements of this Order. Progress reports will continue until the RMP is fully implemented.

6. **By October 15, 2018,** complete all approved restoration and mitigation measures**.**

7. **By December 15, 2018**, submit a Completion Report for the Restoration, and Monitoring Plan including an as built report. The Completion Report shall accurately depict all restoration and/or mitigation measures and document that the above plan(s) to restore, compensate for, avoid and minimize any further impacts to waters of the state and United States have been fully implemented.

GENERAL REQUIREMENTS AND NOTICES

8. **Duty to Use Qualified Professionals:** The Dischargers shall have the documentation, plans, and reports required under this Order prepared under the direction of appropriately qualified professionals. As required by the California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. The Dischargers shall include a statement of qualification and registration numbers, if applicable, of the responsible lead professionals in all plans and reports required under this Order. The lead professional shall sign and affix their registration stamp, as applicable, to the report, plan, or document.

9. **Signatory Requirements:** All technical reports submitted by the Discharger shall include a cover letter signed by the Discharger, or a duly authorized representative, certifying under penalty of law that the signer has examined and is familiar with the report and that to his or her knowledge, the report is true, complete, and accurate. The Discharger shall also state if they agree with any recommendations/ proposals and whether they approve implementation of said proposals. 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.

10. **Notice of Change in Ownership or Occupancy:** The Discharger shall file a written report on any changes in the Site's ownership or occupancy and/or any changes in responsible party or parties operating the ditch. This report shall be filed with the

Regional Water Board no later than 30 days prior to a planned change and shall reference the number of this Order.

11. **Submissions:** All monitoring reports, technical reports or notices required under this Order shall be submitted to: the Assistant Executive Officer and Stormer Feiler:

    Assistant Executive Officer - Shin-Roei Lee
    Shin-Roei.Lee@waterboards.ca.gov
    Stormer.Feiler@waterboards.ca.gov

    By mail to: North Coast Regional Water Quality Control Board, 5550 Skylane Blvd. Suite A, Santa Rosa, CA 95403

12. **Other Regulatory Requirements:** The Dischargers shall obtain all applicable local, state, and federal permits necessary to fulfill the requirements of this Order prior to beginning the work.

13. **Cost Recovery:** Pursuant to Water Code section 13304, the Regional Water Board is entitled to, and may seek reimbursement for, all reasonable costs it actually incurs to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.

14. **Delayed Compliance:** If for any reason, the Dischargers are unable to perform any activity or submit any document in compliance with the schedule set forth herein, or in compliance with any work schedule submitted pursuant to this Order and approved by the Assistant Executive Officer, the Dischargers may request, in writing, an extension of the time specified. The extension request shall include justification for the delay. Any extension request shall be submitted as soon as a delay is recognized and prior to the compliance date. An extension may be granted by revision of this Order or by a letter from the Assistant Executive Officer.

15. **Potential Liability:** If the Dischargers fail to comply with the requirements of this Order, this matter may be referred to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability. Failure to comply with this Order may result in the assessment of an administrative civil liability up to $10,000 per violation per day, pursuant to California Water Code sections 13268, 13350, and/or 13385. The Regional Water Board reserves its right to take any enforcement actions authorized by law, including but not limited to, violation of the terms and condition of this Order.

16. **No Limitation of Water Board Authority.** This Order in no way limits the authority of the Regional Water Board to institute additional enforcement actions or to require additional investigation and cleanup of the Site consistent with the Water Code. This Order may be revised as additional information becomes available.

17. **Modifications.** Any modification to this Order shall be in writing and approved by the Executive Officer of the Regional Water Board, including any potential extension requests.

18. **Requesting Review by the State Water Board:** Any person aggrieved by this or any final action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and Title 23, California Code of Regulations, section 2050 et al. 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, the State Water Board must receive the petition 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.

This Order is effective upon the date of signature.

_____

Matthias St. John
Executive Officer

16_0031_MarbleMountainRanch_CAO

ATTACHMENT B

7 April 2017 Letter Regarding Proposed Improvements to the Irving Outfall

7 April 2017

Mr. Matthias St. John
North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

RE: Marble Mountain Ranch (WDID 1A15024NSI) – Proposed Improvements to Irving Creek Outfall

Dear Mr. St. John:

ECORP Consulting, Inc. (ECORP) has been retained for regulatory assistance on behalf of Douglas and Heidi Cole, owners of Marble Mountain Ranch (Owners). A Cleanup and Abatement and Water Code Section 13267(b) Order Number R1-2016-0031 (Order) was issued by the North Coast Water Quality Control Board (NCWQCB) on 4 August 2016 to address a diversion ditch within the property that diverts water from Stanshaw Creek to Irving Creek. The diversion ditch outfall discharges into an unnamed tributary to Irving Creek. The Order identified this outfall as an active erosional feature leading to sediment discharges into Irving Creek and the Klamath River.

A Sediment Source Assessment (*Stanshaw Creek Diversion Ditch Sediment Source Assessment*; Fiori GeoSciences, April 04 2017) has been prepared to identify sources of erosion and sedimentation and to recommend remedial measures. According to the Sediment Source Assessment, the outfall was estimated to have an erosion rate of 0.3 cubic yards per year and an incision rate of approximately 4 inches per year over the 21-year period since the culvert was installed in 1996. However, this feature may now have a reduced incision rate due to erosion into more resistant material. A photograph of the existing outfall is provided in Attachment A. ECORP is providing information on proposed remediation actions for this outfall.

Proposed Remediation Actions

The Sediment Source Assessment recommends simple, low cost actions to address erosion at outfall. To implement this suggested approach, a new culvert designed to direct flows away from the edge of slope will be installed. In addition, several large rootwads from downed trees on the property will be installed at the base of the outfall to serve as flow velocity dissipation devices and reduce erosional activity. The culvert will be designed such that flows are directed onto the rootwads for maximum energy dissipation, in order to reduce scouring and sediment production.

Rootwads are typically used as a natural revetment material to resist erosive flows on streambanks and serve to create habitat complexity and hydraulic diversity for fish and invertebrates when used in an aquatic setting. Rootwads decompose over time, allowing live vegetation to slowly restore the protected area to a more natural function. During installation, the rootwad fan will be oriented into the outfall flow, with the remaining portion of the tree trunk removed or buried and secured with rocks (see Attachment B for example rootwad revetment installation in a stream setting to show how anchoring may be achieved). The fan of the rootwad(s) used will be of sufficient size to provide full cover over the existing, exposed soil at the base of the outfall.

2 2 Warren Drive Rocklin, CA 77 Tel (1) 782- 100 Fax (916) 782- 134 Web www.ecorpconsulting.com

Best Management Practices

During installation of the culvert and rootwad, Best Management Practices (BMPs) will be implemented to minimize downstream effects. The following BMPs will be utilized:

- All work will be conducted when no flowing water is present within the diversion ditch, the outfall, or the Irving Creek tributary.
- Standard erosion control BMPs (i.e., silt fencing, straw waddles) will be implemented, as appropriate, to prevent sediment from entering watercourses.
- Rootwads to be placed at the base of the outfall will first be cleaned of sediment/soil in an upland location to reduce downstream sedimentation following installation.
- No impacts to existing Waters of the U.S. or Waters of the State will occur as a result of the improvements. All equipment will work from outside of the adjacent tributary to Irving Creek.

With this letter, the Owners request authorization from the NCWQCB to proceed with the aforementioned remediation actions in order to reduce the minor erosion occurring at the site of the outfall. The Owners would very much appreciate an expeditious review of this proposal, as the excess rootwads and heavy equipment necessary to facilitate their installation will only be available on the Marble Mountain Ranch during the month of April 2017.

Please contact me at bwatson@ecorpconsulting.com or (916) 782-9100 if you have any questions, or require any additional information.

Sincerely,

Ben Watson
Senior Regulatory Project Manager

Attachment(s)

LIST OF ATTACHMENTS

Attachment A – Photographs

Attachment B – Example Rootwad Revetment Installation

ATTACHMENT A

Photographs

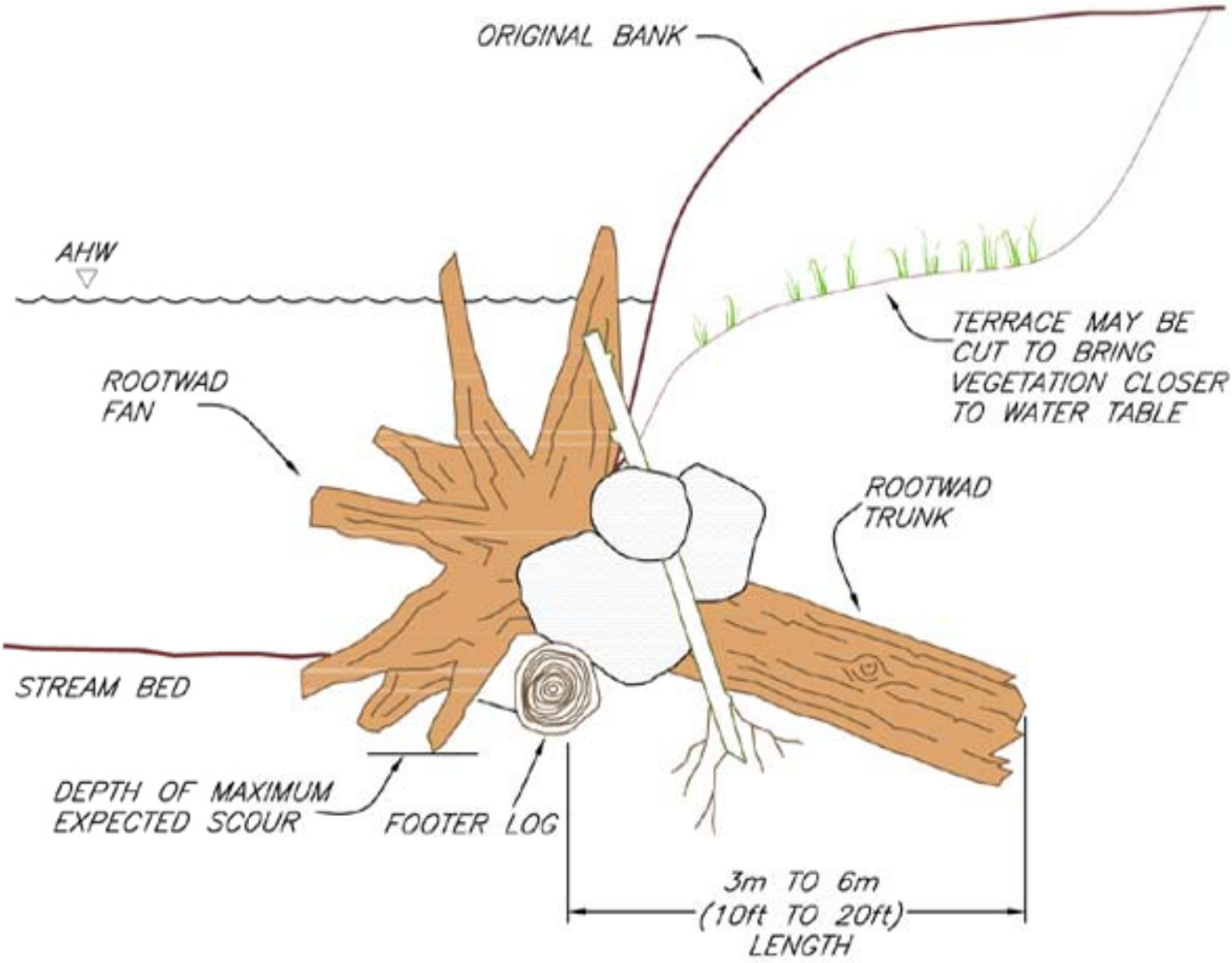
Photo #1. Existing Irving Creek Outfall. Taken by Fiori Geosciences.

Photo #2. Example Rootwad. Photograph taken 28 March 2017.

Photo #3. Example Rootwad. Photograph taken 28 March 2017.

ATTACHMENT B

Example Rootwad Revetment Installation



ROOTWAD REVETMENT CROSS-SECTION

WATER QUALITY SAMPLING PLAN
Marble Mountain Ranch

Submitted by:
Douglas Cole
September 9, 2016
Amended 27 June 2017

TABLE OF CONTENTS

Water Quality Monitoring
Sampling and Analysis Plan

This Water Quality Monitoring Sampling and Analysis Plan ("Plan") describes the surface water quality monitoring activities undertaken at the Marble Mountain Ranch, located at 92520, Highway 96 in Somes Bar, in Siskiyou County. The water quality sampling described in this plan will occur during water discharge activities at Marble Mountain Ranch that coincide with hydroelectric generation at the ranch. Marble Mountain Ranch is owned and operated by Douglas and Heidi Cole (the "Coles"). Douglas Cole will be responsible for implementing this Plan, his contact information is as follows:

Telephone number: (530) 469-3322
Email address: guestranch@marblemountainranch.com

1. SAMPLING DESIGN

a. Number and Location of Discharge Points

Marble Mountain Ranch has a single discharge point. That discharge point is only active when water is being diverted and used for hydroelectric power generation. Discharge is made to an unnamed tributary of Irving Creek. The map attached in Appendix A identifies the discharge point from Marble Mountain Ranch to the unnamed tributary to Irving Creek as "Discharge Point".

b. Number and Location of Monitoring Points

In addition to the single discharge point, the map attached in Appendix A also shows all monitoring points that will be used under this Plan. The first monitoring point is located just above the point of diversion in Stanshaw Creek and labeled on the map in Appendix A as "Point A". The second monitoring point is located near the discharge point to the unnamed tributary to Irving Creek. The second monitoring point is labeled on the map in Appendix A as "Point B".

The selected monitoring points comply with the requirements in Cleanup and Abatement Order No. R1-2016-0031 ("CAO") for a water quality monitoring plan. Page 11, paragraph 4(b) of the CAO provides that the "sampling plan shall assess water quality above the diversion and ranch complex, and below the ranch complex to evaluate if there are any pollutants entering the surface waters from the ditch or pond." The first monitoring point, Point A, collects water "above the diversion and ranch complex" and the second monitoring point, Point B, collects water "below the ranch complex." Water taken from these sampling points will be used to "evaluate if there are any pollutants entering the surface waters from the ditch or pond."

c. Description of Typical Discharge Patterns

Marble Mountain Ranch does not engage in discharge to waters of the state year round. Discharge only occurs when the Coles divert water to use for hydroelectric power generation. During low flow periods in Stanshaw Creek, the Coles forbear exercising their full pre-1914 right to divert 3 cfs of water and do not divert water for hydroelectric power generation. Therefore, during low flow periods, there is no discharge of water. All water that is diverted during low flow periods is put to beneficial use at Marble Mountain Ranch.

During high flow periods in Stanshaw Creek, the Coles divert water for hydroelectric power generation that is then discharged at the discharge point to the unnamed tributary to Irving Creek. High flow periods generally coincide with the wet season and last until late May or early June. While this time period is the general trend of when discharge from Marble Mountain Ranch is expected to occur, when high flow periods exist outside this timeframe, discharge may also occur.

d. Timing of Monitoring

During discharge periods, samples for water quality monitoring will be taken from each monitoring point once monthly for six months. (The frequency of sampling is partially dictated by the high cost of water testing. See cost estimate for testing in Appendix B). Reports of the testing of these samples will be provided on a quarterly basis with the progress reports the Coles are required to submit under paragraph 5 on Page 11 of the CAO on January 1, April 1, July 1, and October 1 of each year until January 1, 2022 unless an exceedance is detected by the monitoring. If after the first six months of monitoring, there are no water quality exceedances, water quality monitoring will continue quarterly during any discharge period through January 1, 2022.

2. SAMPLING METHODS

Water temperature will be collected using a standard temperature gauge capable of detecting water temperature to one tenth of a degree Celsius. A field data sheet for documenting sampling conditions is attached in Appendix C.

Sampling Protocol

a) At each monitoring point, label all bottles with the monitoring point name, date, and time with pencil or indelible marker.
b) Sample near the middle of the channel flow when safe. The location should be deep enough to submerge the sampling probes and the bottles without disturbing bottom sediment.
c) If the flow is not deep enough to submerge the probes, a bucket grab can be used. To do this, a clean bucket is rinsed three times with water from the flowing channel, and then filled to use for probe sampling. Care should be taken to take a representative sample from the center of the water column (not just from the surface flow).
d) Document any field condition that may affect the result on the Field Data Sheet. This may include timing and amount of most recent rain, amount of flow, etc.
e) Collecting a Grab Sample.
    i) Wear clean disposable gloves.
    ii) Rinse each bottle with stream water by partially filling the bottle, replacing the bottle cap, shaking and pouring out water downstream of where you are standing. Do this three times so that the bottle has been thoroughly rinsed. Omit this step if the bottle contains sample preservative (typical in nutrient sampling bottles).
    iii) Collect a sample from the center of the flow, facing up-stream. Submerge the bottle slowly, obtaining a sample representing the entire water column (not just the surface).
f) Samples will be chilled on wet ice and maintained at <6^{o}C until testing.
g) Toxicity laboratory tests must be initiated within 48 hours of sampling. Nutrient tests must be initiated within 48 hours unless the sample is preserved with acid.

3. SAMPLE HANDLING AND CUSTODY

The container requirements, sample volume, initial preservation and holding times for samples being sent to the laboratory for analysis will be determined by the laboratory retained to test the samples. No matter the water quality lab retained, the water quality samples will arrive at the lab within 48 hours unless the samples are preserved.

a. Chain of Custody:

A chain of custody ("COC") form is used to document the change in possession of the samples from the time they are collected to the time they are analyzed. This is standard sampling practice and is a way to ensure that the samples arrive at the laboratory with the proper information and proper handling en route. A copy of the COC will be retained with the field data sheet. The Sampler must sign off on the COC (relinquishing signature) upon shipping or transfer to laboratory staff (receiving signature). The following information will be included on the COC form:

- Project name and contact info: Marble Mountain Ranch, Doug Cole, (530) 469-3322
- Sampling site names: Monitoring Point A or Monitoring Point B
- Sample date and time
- Name of sample collector
- Analysis requested
- Receiving signature, time and date
- Relinquishing signature, time and date

A sample COC form is attached to this Plan as Appendix D.

b. Transport

Prior to transport to the laboratory, ice chests will be filled with wet ice (preferably in tied-off plastic bags). Bottle lids will be checked for tightness prior to shipping. All sample containers will be clearly labeled with the unique site name, date, and time, with an indelible marker. Samples will be shipped in insulated containers using same day delivery or overnight freight.

4. ANALYTICAL METHODS

Table 4 describes the constituents to be monitored under this Plan and the reporting limit for that constituent. The constituents included in Table 4 are those that are required under the paragraph 4(b) on page 11 of the CAO. All nutrients listed for testing are those that are also tested by the Karuk Tribe. The Karuk Tribe are stakeholders in the Stanshaw Creek system and have been involved in the discussions regarding the diversion at Marble Mountain Ranch for years.

Table 4. Individual discharge monitoring methods

Parameter	Reporting Limit	Units
Fecal Coliform	EPA standard	CFU/100 ml
Total Coliform	EPA standard	CFU/100 ml
Total petroleum hydrocarbons	50-100	µg/l
Temperature	0.1	ºC
Nutrients, including:	---	---
Total Phosphorus	0.002	mg/l
Soluble Reactive Phosphorus	0.001	mg/l
Ammonia	0.010	mg/l
NO3 + NO2	0.010	mg/l
Total Nitrogen	0.050	mg/l
Chloro A	0.1	mg/l
Phaeo A	0.1	mg/l
Total Suspended Solids	0.5	mg/l
Volatile Suspended Solids	0.5	mg/l
Dissolved Organic Carbon	0.250	mg/l
Turbidity	0.10	FNU/NTU
Alkalinity	1.00	mg/l
CBOC	2.00	mg/l

5. REPORTING

Data collected by this Plan will be submitted quarterly to the North Coast Regional Water Quality Control Board as part of the Coles quarterly progress reports on January 1, April 1, July 1, and October 1 of each year until January 1, 2022 during any discharge period unless an exceedance is detected. The report will include:

- A narrative description of the discharge period;
- Location of sampling sites and a map detailing that location;
- Sampling and analytical methods used;
- Photos obtained from all monitoring sites, clearly labeled with location and date;
- Laboratory data reports (including quality assurance (QA) data);

Appendix A. Water Quality Sampling Locations

Appendix A.
Water Quality Sampling Locations

Map Features

- Project Boundary
- Pond
- Canal
- Diversion Ditch
- Proposed Bypass
- Streams
- Point of Diversion
- Penstock
- Discharge Point
- Water Quality Sample Point

Point A

Point B

Stanshaw Crk

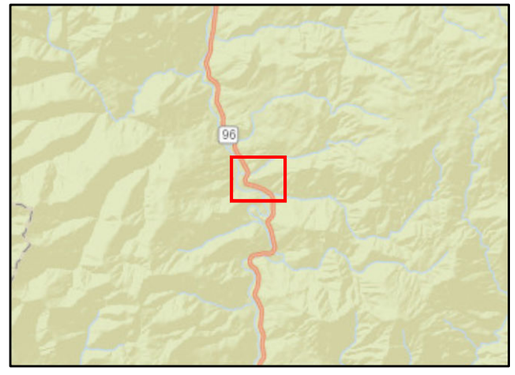
Irving Crk

96

1

2

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: N:\2017\2017-012 Marble Mountain Ranch\MAPS\Hydro\WaterQuality\v1\WMR_WaterQualitySampling_20170627.mxd (NRG)-mgoolsby 6/27/2017

2017-012 Marble Mountian Ranch

Scale in Feet
0 600

DRAFT

Base Source: NAIP 2016

Map Date: 6/27/2017

Appendix B. Field Data Sheet

Water Quality Data Sheet

Sample Location Information:

Sample Site Name: _____

Latitude: _____ **Longitude:** _____ **Datum** (circle one):NAD 83 NAD 27

Sample Location:(circle one) Bank Mid channel

Sample Collection Information:

Sample Date:_____ **SampleTime**:_____

Sample Event Type (circle one): Wet (Storm Runoff) or Dry (Irrigation Runoff) **Precipitation last 18 hours** (circle one): None <1" >1"

Sampling Personnel: _____**Site Photo Numbers**: _____

Grab Samples Collected:

Bottle Types (circle all that apply): Amber Glass, Polyethylene

Parameters to be analyzed (circle all that apply):

Field Probe Measurements: Instrument Used:_____ Pre-monitoring calibration date/time:_____

Turbidity (FNU/NTU)	Water Temp (°C)

Comments: (Useful comments include water color, odor, presence of trash or other debris that can influence water quality and any special conditions encountered

Appendix C. Analytical Quote for Water Testing

Basic Laboratory, Inc.
2218 Railroad Avenue
Redding, CA 96001
(530) 243-7234
(530) 243-7494 Fax

ANALYTICAL QUOTE

CLIENT: ECORP CONSULTING, INC.
2525 WARREN DRIVE
ROCKLIN, CA 95677

ATTENTION: JEFF MEYER

PROJECT: WATER QUALITY TESTING

TURN AROUND TIME: STANDARD 10 WORKING DAYS

DATE: 6/5/2017
CELL PHONE: 916-390-5829
OFFICE PHONE: 916-577-9568
OFFICE FAX: 916-782-9134

QUOTE#: 6517JM
START DATE: 6/6/2017
EXPIRATION: 5/31/2018

ANALYSIS	METHOD	MATRIX	QUANTITY	UNIT PRICE	EXTENDED PRICE
Total & Fecal Coliform - MPN 15	SM 9221 B/E	SW	2	$44.00	$88.00
TPH	EPA 1664A	SW	2	$80.00	$160.00
Total Phosphorus	SM 4500P E	SW	2	$36.00	$72.00
Ortho Phosphorus	SM 4500P E	SW	2	$25.60	$51.20
Ammonia as N	EPA 350.1	SW	2	$36.00	$72.00
Total Nitrigen (NO3+NO2, TKN)	Various	SW	2	$80.00	$160.00
Total Suspended Solids	SM 2540D	SW	2	$22.40	$44.80
Total Volatile Suspended Solids	SM 2540E	SW	2	$30.40	$60.80
Dissolved Organic Carbon	SM 5310C	SW	2	$56.00	$112.00
Turbidity	SM 2130B	SW	2	$20.00	$40.00
Alkalinity	SM 2320B	SW	2	$20.00	$40.00
Chloro / Pheo A Pigment Group	SM 10200H	SW	2	$108.00	$216.00
BOD - Carbonaceous	SM 5210	SW	2	$52.00	$104.00
Sample Handling and Disposal Fee	N/A	SW	2	$1.00	$2.00

SW - Surface Water

TOTAL: $1,222.80

NOTE: ALL PRICES ARE CONFIDENTIAL. ANY BREACH OF CONFIDENTIALITY WILL VOID ALL QUOTATIONS.

Basic Laboratory, Inc.
Project Manager: Jennifer McCurdy **Date:** 6/5/2017

For new clients, COD payment may be required initially to establish an account. Payment in full is due at the time of sample drop off. Sampling containers will be provided and shipped to the client address listed above (or to an otherwise agreed upon address) at no additional charge. The cost of shipping the samples back to the laboratory is the responsibility of the client unless otherwise negotiated.

Accepted By
Authorized Signature/Title: _____ **Date:** _____

Analytical Services
2017

Basic Laboratory, Inc.
2218 Railroad Avenue
Redding, CA 96001
(530) 243-7234
(530) 243-7494 Fax

Basic Laboratory, Inc. of Redding, California was founded in 1992, and has since grown from a small, family operated laboratory, into a full service analytical testing laboratory. With our constantly growing team of trained scientists, we have an extensive range of technical and management experience in the environmental laboratory industry. Basic Laboratory, Inc. is certified by the State of California Environment Laboratory Accreditation Program (#1677), and operates under a written Quality Assurance (QA) Plan that includes, among other things, independent onsite audits and participation in Performance Evaluation Studies for Water Supply, Water Pollution, and Hazardous Waste. All personnel are trained to follow the QA plan and each Standard Operating Procedure as written for each test method. Our goal is to provide our clients with the highest quality analytical services available. Since our inception, we have striven to make our clients individual needs top priority, and to do our best to make the complete testing process as user friendly as possible. We are delighted to provide our clients with custom designed sampling programs, customized reporting formats, onsite sampling, complete project management, as well as to simply answer basic questions. We have no minimum charge requirements, enabling us to help just about anyone. Our website can be found at www.basiclab.com.

Discounts are available for quantity of samples or tests. Please request a formal quote for your project.

Turnaround Times are normally 10 business days (excluding Holidays) for our in house tests. Turnaround times for samples sent to our subcontracting laboratories are normally 15 – 20 business days (excluding Holidays).

Rush Turnaround Times may be available with a surcharge, but must be approved before samples are received. Delays may occur to all turnaround times due to the type of testing requested, the sample matrix, and sample workload. Samples received after 3:00pm will be logged in the following day. Reports received by email, fax, or verbally satisfies turnaround time requirements. Surcharges are as follows: Same Day: 200%, Next Day: 150%; 2-Day: 100%; 3-Day: 75%; 4-Day: 65%; 5-Day: 50%; 8-Day: 35%.

Samples bottles and coolers are available to you at no charge and may be shipped to your specified location (with a fee).

Sampling and Pickup Services are available to you for a nominal fee.

Sample Receiving is open Monday through Friday from 8:00am to 5:00pm (excluding Holidays). After hours sample receiving may be available upon request. Applicable after hours surcharge applies.

Specialized Reporting (EDD, QC, etc) are available to you upon request. Additional reporting fees may apply.

Sample Storage and Disposal. We store your samples for 30 days before disposing of them. A nominal sample disposal fee applies for each sample received. Upon request, we may ship samples back to you or we may store them for an additional time period. Applicable surcharges may apply.

Payment must be made within 30 days of invoice receipt.

Subcontracting prices and turnaround times may change at any time without notice.

Appendix D. Example Chain of Custody Form

CHAIN OF CUSTODY EXAMPLE FROM EPA

Survey				**Samplers:** Signature					
Station Number	Station Location	Date	Time	Sample Type			Seq. No.	No. Of Containers	Analysis Required
				Water		Air			
				Comp	Grab.				
Relinquished by: Signature			**Received by:** Signature						**Date/Time**
Relinquished by: Signature			**Received by:** Signature						**Date/Time**
Relinquished by: Signature			**Received by:** Signature						**Date/Time**
Relinquished by: Signature			**Received by Mobile Laboratory for Field analysis:** Signature						**Date/Time**
Dispatched by:		**Date/Time**	**Received for Laboratory by:** Signature						**Date/Time**
Method of Shipment:									