UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 8

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IN THE MATTER OF

Robert Gregg Sease

Respondent.

ADMINISTRATIVE ORDER ON CONSENT HEARING OF FRK

Docket No. CWA-08-2014-0024

I. INTRODUCTION

1. This Administrative Order on Consent (Consent Order) is entered into voluntarily by the United States Environmental Protection Agency (EPA) and Robert Gregg Sease (Respondent). This Consent Order concerns restoration of environmental damage caused by allegedly illegal discharges of dredged or fill material to Sheep Creek and its adjacent wetlands in Sections 5, 7, and 8, Township 45 North, Range 5 East of the N.M.P.M., Saguache County, Colorado (the Site).

II. STATUTORY AUTHORITY

2. This Consent Order is issued under section 309(a) of the Clean Water Act (CWA), 33 U.S.C. § 1319(a). The authority to issue this Consent Order has been properly delegated to the Assistant Regional Administrator of the Office of Enforcement, Compliance and Environmental Justice, EPA Region 8. This Consent Order is based on the following findings of violation of section 301(a) of the CWA, 33 U.S.C. § 1311(a), which, among other things, prohibits the discharge of pollutants into waters of the United States except as in compliance with section 404 of the CWA, 33 U.S.C. § 1344.

III. PARTIES BOUND

3. This Consent Order shall apply to and be binding upon the EPA and upon Respondent and Respondent's agents, successors, and assigns. Each signatory to this Consent Order certifies that he is authorized to execute and legally bind the party he represents to this Consent Order. No change in the ownership of the Site shall alter Respondent's responsibilities under this Consent Order unless the EPA, Respondent, and the transferee agree in writing to allow the transferee to assume such responsibilities. Additionally, no later than thirty (30) calendar days prior to such transfer, Respondent shall notify the EPA at the address specified in paragraph 37, below.

IV. STATEMENT OF THE PARTIES

4. The following FINDINGS OF FACT AND OF VIOLATION are made solely by the EPA. In signing this Consent Order, Respondent neither admits nor denies the FINDINGS OF FACT AND OF VIOLATION. As such, and without any admission of liability, Respondent consents to the issuance of this Consent Order and agrees to abide by all of its conditions. Respondent waives any and all remedies, claims for relief and otherwise available rights to judicial or administrative review that Respondent may have with respect to any issue of fact or law set forth in this Consent Order, including any right of judicial review under the Administrative Procedure Act, 5 U.S.C. §§ 701-706. Respondent further agrees not to challenge the jurisdiction of the EPA or the FINDINGS OF FACT AND OF VIOLATION below in any proceeding to enforce this Consent Order or in any action under this Consent Order.

V. FINDINGS OF FACT AND OF VIOLATION

Respondent is an individual with a primary place of residence of 4413 Orofino Place
Castle Rock, CO 80108. Respondent also owns a place of residence at the Site of 28890 CO Road 33
Ee, Saguache, Colorado 81149.

 At all relevant times, Respondent owned, leased, controlled and/or operated the Site, including Sheep Creek and its adjacent wetlands.

7. Sheep Creek is a relatively permanent tributary to San Luis Lake. From the Site, Sheep Creek flows approximately 3.1 miles to Saguache Creek, which flows approximately 60 miles to San Luis Creek, which flows approximately 20 miles to San Luis Lake. San Luis Lake is currently used, or was used in the past, or may be susceptible to use by interstate or foreign travelers, for recreational or other interstate or foreign commerce.

8. Sometime during the week of August 24, 2009, Respondent and/or persons acting on his behalf removed approximately sixty (60) undecreed stream impoundments from within Sheep Creek at the Site. The dredged material removed from Sheep Creek was side-casted along the creek's banks and placed directly within adjacent wetlands at the Site.

9. On September 2, 2009, the U.S Army Corps of Engineers (Corps) conducted an inspection of the Site. The Corps found that Respondent and/or persons acting on his behalf discharged dredged or fill material into Sheep Creek and its adjacent wetlands during Respondent's removal of approximately sixty (60) undecreed stream impoundments within Sheep Creek at the Site without a permit required by section 404 of the CWA, 33 U.S.C. § 1344. The late August 2009 activities conducted by Respondent and/or by persons acting on his behalf violated section 301 of the CWA, 33 U.S.C. § 1311.

10. On January 13, 2010, the Corps referred the CWA violations described in paragraphs 8 and 9 to the EPA for enforcement in accordance with the "Memorandum of Agreement Between the Department of the Army and the Environmental Protection Agency Concerning Federal Enforcement of the Section 404 Program of the Clean Water Act," dated January 19, 1989.

11. On June 9, 2011, the EPA issued a Findings of Violations and Administrative Order for Compliance, Docket No. CWA-08-2011-0015 (June 9, 2011, Order), to Respondent for the CWA violations described in paragraphs 8 and 9. The June 9, 2011, Order specified the nature of the CWA violations and described actions necessary for Respondent to achieve compliance with sections 301 and 404 of the CWA.

12. On September 29, 2011, the EPA approved Respondent's Restoration Plan submitted on September 19, 2011, by Bikis Water Consultants, LLC, for the: (1) removal of all dredged or fill material that was discharged into the waters and wetlands at the Site; and (2) restoration, to their preimpact configuration and/or grade, of the waters and wetlands that were impacted as a result of Respondent's unauthorized discharges of dredged or fill material at the Site.

13. In letters to the EPA dated November 14th and 16th, 2011, Respondent's legal counsel stated that Respondent had advised him that the work set forth in the September 19, 2011, Restoration Plan had been completed, except for some small areas where the work would be completed the next day.

14. Sometime between September 2011 and August 2012, Respondent and/or persons acting on his behalf discharged dredged or fill material into Sheep Creek and its adjacent wetlands at approximately 86 locations over 1.66 miles of Sheep Creek at the Site. Some, if not all, of the dredged or fill material that was required to be removed as part of the September 19, 2011, Restoration Plan had been discharged back into Sheep Creek and its adjacent wetlands at the Site by Respondent and/or persons acting on his behalf.

15. On July 24, 2012, the Colorado Division of Water Resources (CODWR) informed the Corps and the EPA about Respondent's ongoing activities in Sheep Creek and its adjacent wetlands at the Site that CODWR observed during an inspection of the Site on July 18, 2012.

16. On August 29, 2012, a multi-agency inspection was conducted at the Site with Respondent, Respondent's legal counsel, and Bikis Water Consultants, LLC. The agencies participating in this inspection included the Corps, the EPA, and the CODWR. During this inspection, the EPA and the Corps found that Respondent and/or persons acting on his behalf discharged dredged or fill material into Sheep Creek and its adjacent wetlands at approximately 86 locations over 1.66 miles of Sheep Creek at the Site without a permit required by section 404 of the CWA.

17. The activities described in paragraph 14 were performed using common earthmoving vehicles and equipment, all of which were operated by Respondent and/or by persons acting on its behalf.

18. Respondent is a "person" as defined in section 502(5) of the CWA, 33 U.S.C. § 1362(5).

19. The discharged dredged or fill material referenced above is and was at all relevant times "dredged material" or "fill material" within the meaning of 33 C.F.R. § 323.2(c) or 33 C.F.R. § 323.2(e), respectively, and "pollutants" within the meaning of § 502(6) of the CWA, 33 U.S.C. § 1362(6).

20. Sheep Creek and its adjacent wetlands filled and disturbed by Respondent's unauthorized activities provided various functions and values, including: wildlife habitat for birds, mammals, reptiles and amphibians; water quality enhancement; flood attenuation; and/or aesthetics.

21. The vehicles and equipment described in paragraph 17, above, are and were at all relevant times each a "point source" as defined in section 502(14) of the CWA, 33 U.S.C. § 1362(14).

22. Sheep Creek and its adjacent wetlands referenced above are and were at all relevant times "waters of the United States" as defined in 33 C.F.R. § 328.3(a) and therefore "navigable waters" as defined in section 502(7) of the CWA, 33 U.S.C. § 1362(7).

23. The placement of dredged or fill material into Sheep Creek and its adjacent wetlands constitutes the "discharge of pollutants" as defined in section 502(12) of the CWA, 33 U.S.C. § 1362(12).

24. Section 301(a) of the CWA, 33 U.S.C. § 1311(a), prohibits, among other things, the discharge of pollutants by any person into waters of the United States except as in compliance with section 404 of the CWA, 33 U.S.C. § 1344(a).

25. Section 404 of the CWA, 33 U.S.C. § 1344, sets forth a permitting system authorizing the Secretary of the Army, acting through the Chief of Engineers of the Corps, to issue permits for the discharge of dredged or fill material into navigable waters which are defined as waters of the United States.

26. According to 33 C.F.R. § 323.3(a), a permit issued by the Corps is required for the discharge of dredged or fill material into waters of the United States, unless an exemption pursuant to 33 C.F.R. § 323.4 applies.

27. Respondent is not and never has been authorized by a permit issued pursuant to section 404 of the CWA, 33 U.S.C. § 1344, to conduct any of the activities described in paragraph 14.

28. The activities conducted by Respondent and/or by persons acting on his behalf as described in paragraph 14 violate section 301(a) of the CWA, 33 U.S.C. § 1311(a). Each discharge of

pollutants from a point source by Respondent into waters of the United States without the required permits issued pursuant to section 404 of the CWA, 33 U.S.C. § 1344, constitutes a violation of section 301(a) of the CWA, 33 U.S.C. § 1311(a). Each day the discharges remain in place without the required permits constitutes an additional day of violation of section 301(a) of the CWA.

29. The activities conducted by Respondent and/or by persons acting on his behalf as described in paragraph 14 violate the June 9, 2001 Order that was issued by the Administrator of EPA under § 309(a) of the CWA, 33 U.S.C. § 1319(a),

30. Activities to be carried out under this Consent Order are remedial, not punitive, and are necessary to achieve the CWA's objective "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters," as specified in section 101(a) of the CWA, 33 U.S.C. § 1251(a). Restoration and mitigation are appropriate to address the actual and potential harm to water quality, aquatic habitat, and wildlife habitat, as well as other functions and values, caused by Respondent's unpermitted activities.

 A penalty settlement for the actions cited in paragraph 28 is being formalized in a Consent Agreement in a separate proceeding under 40 C.F.R. part 22.

This Consent Order was issued after consultation and coordination with the Corps*
Albuquerque District, Durango Regulatory Office.

VI. ORDER FOR COMPLIANCE

Based upon the foregoing FINDINGS OF FACT AND OF VIOLATION, and pursuant to the authority vested in the Administrator of the EPA pursuant to section 309(a) of the CWA, 33 U.S.C. § 1319(a), as properly delegated to the Assistant Regional Administrator of the Office of Enforcement, Compliance and Environmental Justice, EPA Region 8, it is hereby ORDERED:

33. Respondent shall immediately terminate all unauthorized discharges of dredged or fill material, now and in the future, into waters of the United States, unless specifically authorized by the Corps under a valid permit issued pursuant to section 404 of the CWA, 33 U.S.C. § 1344. This

prohibition includes all mechanical land clearing, dredging, filling, grading, leveling, installation of utilities, construction, and any other activities that result in a discharge of dredged or fill material into waters of the United States.

34. Prior to execution of this Consent Order, Respondent submitted a Second Restoration Plan for Sheep Creek Ranch, dated June 4, 2014, (hereinafter, the 2nd Plan) to the EPA that provides for restoration of the impacts to Sheep Creek and its adjacent wetlands at the 86 locations described in paragraphs 14 and 16, above. The 2nd Plan, attached hereto as Attachment 1, is approved by the EPA, and Respondent shall implement the 2nd Plan.

- Performance of the Plan shall be a condition of any Corps' authorization for the past discharges and proposed future discharges into waters and wetlands at the Site. The parties acknowledge and agree that their mutual intent in entering into this Consent Order is that the 2nd Plan shall be fully implemented according to the schedule set forth in the 2nd Plan, after obtaining all necessary permits and approvals from the Corps and other governmental authorities, unless a shorter time frame is specified in these permits or approvals.
- b. Respondent shall monitor the success of the restoration project at least annually beginning during the calendar year in which Respondent completes the final earthwork and planting required by the 2nd Plan, and continuing for five (5) calendar years after the date of final planting required in the 2nd Plan. Respondent may discontinue annual monitoring earlier than that date if the success of the entire restoration project required in the 2nd Plan has been fully demonstrated and accepted in writing by the EPA and the Corps. Respondent shall submit each annual monitoring report to the EPA and the Corps no later than December 31st of the year covered by that report. If any annual monitoring report demonstrates that the restoration project is not making progress toward meeting the criteria for

success set forth in the 2nd Plan, Respondent shall submit the analysis required in subsection c., below.

c. In the event that any part of the restoration project fails to meet the criteria for success set forth in the 2nd Plan, Respondent will repair, replace and maintain any improvements necessary to meet the criteria for success of the 2nd Plan.
Respondent shall submit to the EPA and the Corps, in its annual report or upon realization of project failure, an analysis of the project's failure (if applicable) and proposed corrective actions for correcting all deficiencies in the restoration project. The proposed corrective actions shall include provisions for adequately monitoring the effectiveness of the measures proposed to correct the deficiencies and shall be submitted to the EPA and Corps for approval.

35. Upon receiving the final executed Consent Order, Respondent shall obtain all necessary permits to implement the 2^{nd} Plan and then commence all restoration activities in accordance with the 2^{nd} Plan, including the time frames specified therein, and all granted permits. Respondent shall demonstrate that all necessary permits have been granted by providing complete copies of all such permits, and any amendments thereto, to the EPA within seven (7) calendar days of issuance of each permit.

36. This Consent Order is not a permit or an authorization to place or discharge dredged or fill material in waters of the United States. Respondent shall consult with the Corps at the address and telephone number below to determine if any work to be performed pursuant to this Consent Order requires a permit from the Corps under section 404 of the CWA. If any such permit is required, Respondent shall obtain such permit(s) and provide a copy or copies to the EPA pursuant to paragraph 37, below, prior to initiating any work that is to be performed pursuant to this Consent Order.

> U.S. Army Corps of Engineers Durango Regulatory Office 1970 E. 3rd Avenue, Suite #109

Durango, CO 81301 Telephone: 970- 259-1604 Facsimile: 970-259-1658

37. Respondent shall submit all notifications under this Consent Order, and related

correspondence to:

a.

Kenneth M. Champagne, 8ENF-W U.S. Environmental Protection Agency, Region 8 1595 Wynkoop Street Denver, CO 80202-1129 Telephone: 303-312-6608 Facsimile: 303-312-7518

All notifications and related correspondence also shall be provided to:

James Eppers, 8ENF-L U.S. Environmental Protection Agency, Region 8 1595 Wynkoop Street Denver, CO 80202-1129 Telephone: 303-312-6893 Facsimile: 303-312-6953

38. In addition to the notification requirements set forth in paragraph 36, after issuance of any Corps authorization for the restoration work, Respondent shall submit all notifications and correspondence to the Corps in accordance with the terms and conditions in the Corps permit(s).

39. The 2nd Plan and any other deliverables, reports, specifications, schedules, and attachments required by this Consent Order are, upon approval by the EPA, incorporated into this Consent Order. Any non-compliance with the 2nd Plan, deliverables, reports, specifications, schedules, permits, or attachments shall be deemed a failure to comply with this Consent Order and shall be subject to EPA enforcement.

40. Respondent shall allow, or use its best efforts to allow, access by any authorized representatives of the EPA, the Corps, and CODWR, or any of the agencies' contractors, upon proper presentation of credentials, to sites and records relevant to this Consent Order for any of the following purposes:

To inspect and monitor progress of the activities required by this Consent Order;

b. To inspect and monitor compliance with this Consent Order; and

c. To verify and evaluate data and other information submitted to the EPA.

This Consent Order shall in no way limit or otherwise affect the EPA's authority, or the authority of any other governmental agency, to enter the Site, conduct inspections, have access to records, issue notices and orders for enforcement, compliance, or abatement purposes, or monitor compliance pursuant to any statute, regulation, permit, or court order.

This Consent Order shall be effective upon receipt by Respondent of a fully executed copy.

42. Issuance of this Consent Order shall not be deemed an election by the United States to forego any civil or criminal action to seek penalties, fines or other appropriate relief under the CWA for violations giving rise to the Consent Order.

43. The EPA agrees to submit all notifications and correspondence to:

Robert Gregg Sease 4413 Orofino Place Castle Rock, CO 80108

44. Any party hereto may, by notice, change the address to which future notices shall be sent or the identities of the persons designated to receive notices hereunder.

45. If an event causes or may cause delay in the achievement of the requirements of this Consent Order, Respondent shall notify the EPA orally as soon as possible and in writing within ten working days from the date Respondent first knew of such event or should have known of such event by exercise of due diligence, whichever is earlier. Respondent's written notice shall specify the length of the anticipated delay, the cause(s) of the delay, the measures taken or to be taken by Respondent to minimize the delay and a timetable by which those measures will be or have been implemented. Notification to the EPA pursuant to this paragraph of any anticipated delay, by itself, shall not excuse the delay or the obligation of Respondent to comply with requirements and deadlines of this Consent Order, unless the EPA grants in writing an extension of the applicable requirement or deadline. 46. If Respondent demonstrates to the EPA's satisfaction that the delay or anticipated delay has been or will be caused by circumstances beyond Respondent's control (including the control of any of Respondent's agents and contractors) that Respondent could not have foreseen and prevented despite Respondent's best efforts to fulfill the requirement, the EPA may excuse performance or extend the time for performance of such requirement for a period not to exceed the actual delay resulting from such circumstances. The EPA's determination on these matters shall be made as soon as possible, and in writing within ten working days, after the receipt of Respondent's written notification of the event. The parties agree that changed economic circumstances or financial inability to complete the work shall not be considered circumstances beyond the control of Respondent.

- 47. Each party shall bear its own costs and attorneys fees in connection with this matter.
- 48. Respondent understands and acknowledges the following:
 - a. Section 309(d) of the CWA, 33 U.S.C. § 1319(d), authorizes civil penalties of up to \$37,500 per day for each violation of an order issued by the Administrator of the EPA under section 309(a) of the CWA, 33 U.S.C. § 1319(a).
 - Compliance with the terms and conditions of this Consent Order shall not be construed to relieve Respondent of his obligations to comply with any applicable federal, state or local law or regulation.

c. Failure by Respondent to complete the tasks described herein in the manner and time frame specified pursuant to this Consent Order may subject Respondent to a civil action under section 309 of the CWA, 33 U.S.C. § 1319, for violation of this Consent Order.

> UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 8, Complainant

Sierro Gddie

Eddie A. Sierra Acting Assistant Regional Administrator Office of Enforcement, Compliance and Environmental Justice 1595 Wynkoop Street Denver, CO 80202

Robert Gregg Sease, Respondent

egg Sease By:

Date: 03-10-14

Date: 06/23/ 2014

ATTACHMENT 1

1.10 M 1.0 M 1.0 M 1.5



SECOND RESTORATION PLAN FOR SHEEP CREEK RANCH FOR FINDINGS OF VIOLATION AND ADMINISTRATIVE ORDER FOR COMPLIANCE, DOCKET NO. CWA-08-2011-0015

Prepared for: Mr. Robert Gregg Sease 4413 Orofino Place Castle Rock, Colorado 80108

Prepared by: Bikis Water Consultants, LLC info@BikisWater.com www.BikisWater.com

June 4, 2014

555RiverGate Lane, Suite B4-82 Durango, Colorado 81301 Tele: 970.385.2340 Fax: 970.385.2341

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1.0 INTRODUCTION/PURPOSE

This Second Restoration Plan for Sheep Creek Ranch (Ranch) was prepared to restore unpermitted activities in waters of the U.S. which occurred on the Ranch in 2012, after work described in the September 2011 Restoration Plan (First Plan) was completed. The goal of this Second Plan is to meet the requirements of Section 404 of the Clean Water Act and Colorado water law with alleged fill activities in Sheep Creek and adjacent wetlands, based on conditions at the Ranch in May 2013.

The work in this plan includes all of the work included in the April 11, 2013 Order issued by the District court in Alamosa in Case No. 2007CW53, which includes, as modified by the Colorado Division of Water Resources (CDWR): 1) work to remove obstructions in Sheep Creek at the 86 locations identified by the CDWR in May 2014 (this list was slightly different than the list provided in the April 11, 2013 Order); 2) work on the Feeder Ditch; 3) modifications to Horse Shoe Pond No. 2; and 4) work on the diversion box to Ditch Lateral No. 5. All of this work is to correct activities that are allegedly in violation of Colorado water law, as described in an affidavit by Division 3 Engineer Craig Cotten dated August 16, 2012. The work in this plan also includes eight areas that were identified as unauthorized fill under Section 404 of the Clean Water Act by the U.S. Environmental Protection Agency (USEPA). Many of the sites included in this Second Plan are at sites which were included in the First Plan.

The purpose of this plan is to describe the work that will be completed at the Ranch to remove the unpermitted dredged and fill material that was placed into Sheep Creek and adjacent wetlands to: 1) restore the wetlands and creek to their pre-impact grade and condition; and 2) bring the Ranch into compliance with Colorado water law.

This plan was prepared consistent with guidelines entitled "U.S. Environmental Protection Agency, Region 8 - Clean Water Act Section 404 Enforcement: Removal/Restoration Plans and Habitat Mitigation /Monitoring Proposals" and with the "404(b)(1) Guidelines" set forth in 40 CFR Part 230. In addition, this plan includes the following information: 1) a detailed work plan; 2) a delineation of wetlands and waters of the U.S. included in the restoration; 3) locations of existing natural features and improvements; 4) grading, planting, and monitoring plans; 5) drawings of the restoration work to be accomplished; and 6) a description of the costs to prepare and implement the plan.

June 4, 2014

Bikis Water Consultants, LLC

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1.1 BACKGROUND

The First Plan for Sheep Creek Ranch was prepared in September 2011 to describe the work to be completed to restore 92 sites identified on the Ranch where unpermitted fill was placed into Sheep Creek and/or adjacent wetlands, as required by the "Findings of Violation and Administrative Order for Compliance, Docket No. CWA-08-2011-0015" (Order) that was issued to Mr. Robert Gregg Sease by USEPA on June 9, 2011. Most of the unauthorized fills in the First Plan were the result of work directed on-site by the CDWR to remove material placed in Sheep Creek in alleged violation of Colorado water law. The rocks and fill were originally placed in Sheep Creek by Mr. Sease largely for the purposes of improving fish habitat and channel stability.

The First Plan was approved by USEPA in the fall of 2011, and Mr. Sease completed most of the work in the First Plan sometime in the fall of 2011. BWC was not notified that the work was going to be done, but was notified in October 2011 that the work was completed and was asked to observe the work to document its condition. Accordingly, BWC visited the Ranch on October 24 and November 2, 2011 to observe the work. Based on observations on these days, it appeared that most of the work in the First Plan was completed consistent with the plan. This work was documented with photographs.

In late summer of 2012, BWC was contacted by Mr. Sease and the CDWR regarding alleged new work in Sheep Creek and adjacent wetlands. BWC attended a field meeting at the Ranch on August 29, 2012 with staff from USEPA and the CDWR to observe Sheep Creek on the Ranch. Based on this meeting, it appeared that additional work was completed on the Creek without proper authorization from the USEPA and CDWR.

The CDWR filed a Sixth Citation for contempt of court to Mr. Sease on March 26, 2013. This citation was based on fieldwork by CDWR which identified 86 sites of rock and fill in Sheep Creek that were allegedly causing increased evaporation or illegal diversions from the Creek. GPS coordinates and figures showing the locations of the fills were included in an affidavit from Mr. Cotten and attached as Exhibit A in the Citation. The Alamosa County District Court issued an order to complete the work on April 11, 2013. Specifically, the Sixth Citation and Order from the court sought actions claimed necessary to bring the Creek into compliance with state water law, as follows:

- 1. Removal of 86 obstructions and impoundments in Sheep Creek.
- 2. Modifications to the Feeder Ditch at Horseshoe Pond No. 2.
- Modification to the outlet works for Horseshoe Pond No. 2 to reduce the surface area of the pond to its previously approved size.
- 4. Modification to the diversion box for Ditch Lateral No. 5.

In order to resolve the alleged violations without further controversy or proceedings, Mr. Sease voluntarily agreed to carry out all of the actions sought by CDWR, to the sole satisfaction of CDWR and to the satisfaction of USEPA, and his agreement was embodied in the April 11, 2013 court Order. Accordingly, this Second Plan does not represent an independent judgment by BWC of work necessary for legal compliance, but rather describes work necessary to carry out requirements of CDWR and USEPA.

All of the above sites were observed with staff from USEPA and CDWR on May 21 and 22, 2013. A draft of this Second Plan was prepared for review in August 2013. The comments received from CDWR, USEPA and the U.S. Army Corps of Engineers (Corps) were incorporated in to this final plan. Therefore, the work in this plan represents all the work claimed as needed by USEPA and required by the court to bring Sheep Creek into compliance with both Section 404 of the Clean Water Act and Colorado water law at the time of preparation of this plan.

1.2 BASIS OF PLAN

This Second Plan was prepared based on fieldwork completed at the Ranch in 2011, and additional fieldwork on May 20 to 22, and June 27, 2013. This work included observations of conditions at the alleged violation sites, including the nature of the alleged violations, delineation of wetlands, and observations of Sheep Creek. This Plan was also prepared based on review of existing information related to the site, including digital aerial photographs.

The specific work to be done at each of the 86 alleged obstructions and impoundments was specified in the field by Mr. Cotten on May 21 and 22, 2013, with input from the USEPA. BWC has not completed any evaluation of possible effects on channel stability from the work specified by the CDWR. Observations of Sheep Creek downstream of the Ranch indicate that the Creek does have rocks (cobbles) on its bed and banks which stabilize the channel. Removal of rocks

from the channel, as directed by Mr. Cotten, may result in de-stabilization of the channel and channel degradation. BWC is not responsible for any channel degradation or changes in channel stability as a result of the work specified by CDWR.

2.0 PROJECT DESCRIPTION

The Ranch consists of approximately 320 acres located in portions of Section 5, 7, and 8, Township 45 N, Range 5E N.M.P.M. in Saguache County, Colorado. Figure 1 is a vicinity map of the Ranch. Sheep Creek, which is a small, perennial tributary to Saguache Creek, flows through the Ranch.

Saguache Creek is a perennial stream in its headwaters near the confluence of Sheep Creek, but has been affected by agricultural activities downstream in the San Luis Valley where its channel and flow path are not distinct. In the Order, USEPA contends that Saguache Creek is tributary to San Luis Lake. This conclusion has not been confirmed in this Second Plan.

Soil and rock were placed on the banks of Sheep Creek and in adjacent wetlands in August 2009 when approximately 60 instream structures were removed from the Creek, as directed on site by the CDWR. The First Plan addressed the restoration of these areas. It appears that most of the work in the First Plan was completed in the fall of 2011, but that some of the material removed, plus new imported material, was placed back in the creek and wetlands sometime in 2012.

The work in this plan includes:

- <u>Removal of instream impoundments and obstructions-86 Sites</u>. The removal of rock, dead willows, and soil at 86 locations where material is acting as an impoundment or impeding the flow of water in Sheep Creek, according to CDWR. Work at these sites also includes restoration of stream banks, revegetation, and planting of new willows and alders. These sites were identified by CDWR and are shown on Figures 2a and 2b. Most of these sites are also of interest to USEPA since they entail placement of fill material into a water of the U.S.
- <u>Removal of fill and restoration of wetlands-Eight Sites</u>. Fill material placed in wetlands will be removed at eight sites where it appears fill was placed sometime in

2012, and the areas restored to their original condition and functions (Figures 2a and 2b). These sites were identified by USEPA, and are not of concern to CDWR.

- 3. <u>Modification of bank stabilization work</u>. Bank stabilization work, which included placement of rock (mainly cobbles) on the banks of Sheep Creek above and below the ordinary high water mark (OHWM), and grading, seeding, and mulching of the areas, was completed in select areas sometime in 2012. Some of this work did not result in the discharge of fill material into a water of the U.S. Of the portion that did, most of the work will be removed and the area restored; however, it is requested to retain bank stabilization where it is providing a bank stabilization function and the removal of the work would result in adverse impacts to Sheep Creek or adjacent wetlands. Figure 4 shows the locations of the bank stabilization.
- 4. <u>Completion of work on the Feeder Ditch near Horseshoe Pond No. 2.</u> Work previously required by CDWR at the Feeder Ditch will be completed. This includes completion of filling of a portion of the ditch, protection of the fill area with rock, and restoration of the swale from the ditch to Horseshoe Pond No. 2.
- Modification of the outlet works for Horseshoe Pond No. 2. The outlet for this pond will be re-constructed to provide and maintain the water surface area required by CWDR.
- Modification of the headgate to Ditch Lateral No. 5. This structure will be restored to its previous condition with a locking diversion structure (head gate).

Work at each of the 86 instream sites, and 8 additional USEPA-only sites, will generally include the following sequence of activities, as appropriate (see the more detailed descriptions of the work at each site in Section 3.2):

- Removal of rocks, dead willows, and soil from Sheep Creek and/or its banks and/or adjacent wetlands and disposal of all material in designated upland stockpile areas.
- Re-grading of the stream banks and disturbed areas to their original contours.
- · Seeding with upland or wetland seed mixes, as appropriate, and mulching.
- · Planting of willows and alders.

No wetlands will be impacted by the work. Access routes for equipment have been identified to avoid any unintentional impacts. The banks of Sheep Creek and existing riparian vegetation will also be protected. Additional measures for site protection are included in Section 3.4.

2.1 RESPONSIBLE PARTY

The party responsible for completing the work included in this Plan is:

Robert Gregg Sease 4413 Orofino Place Castle Rock, Colorado 80108 303-594-0050

This Plan was prepared by:

Dave Mehan, P.W.S. Bikis Water Consultants LLC 555 RiverGate Lane, Suite B4-82 Durango, Colorado 81301 970-385-2340

3.0 INFORMATION FOR REMOVAL AND RESTORATION PLAN

3.1 EXISTING PHYSICAL CONDITIONS

The portion of the Ranch for the work included in this plan is an approximate 1.66-mile reach of Sheep Creek and adjacent, relatively flat, irrigated pastureland. Water from a ditch referred to as the Feeder Ditch and from the Sheep Creek Ditch, along with laterals, has been used by the present and previous owners to irrigate the pasture. The pasture and area next to the creek have been grazed for years.

Sheep Creek is a relatively small perennial stream on the Ranch with moderate sinuosity and an average gradient of 1.37 percent. The creek formed in alluvial materials; channel banks generally consist of soil and are armored by plant roots, including from willows (*Salix spp.*) and Alders (*Alnus tenuifolia*), and rock. The channel consists of alternating riffles and pools, with riffles stabilized by cobbles and some sediment deposition in pools. While a detailed

characterization of the channel was not completed for this Plan, Sheep Creek would likely be classified as a "Type E" stream according to "Applied River Morphology" (Rosgen, D. 1996).

Figure 3 shows information related to soils and wetlands on the Ranch. According to the Web Soil Survey (http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm), the soil in the area along the creek is Torsido loam, which is described as a poorly drained soil derived from alluvium located on valley floors. The surface soil is a loam which is underlain by clay loam and very gravelly sand at a depth of greater than 23 inches. Torsido loam is listed as a hydric soil due to poor drainage and a high water table. Field observations found soils along the creek to be variable. Surface soils (A and B horizons) are typically loam, silt loam, or clay loam soils. Gravel and stones occur in many areas and make digging of soil pits difficult. A histic epipedon occurs in several areas indicating the presence of a fen.

National Wetlands Inventory (NWI) mapping of the Ranch shows five discontinuous areas of freshwater emergent wetlands on the Ranch (see Figure 3). This mapping does not correspond well with field observations of the presence of wetlands on the Ranch.

Wetlands were delineated in the areas of fill and also areas required for work for this Plan (material stockpiles, access routes, and adjacent areas) using the "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region" (U.S. Army Corps of Engineers May 2010). In 2011, fieldwork was completed on May 12, May 26, June 16, August 31, and September 1, and included observations of vegetation communities, soils, and hydrologic conditions. Additional fieldwork was completed on June 27, 2013. The occurrence of plant species in wetlands was determined from the updated May 2012 National Wetland Plant List (Intermountain Region). Pits were dug to observe soils and soil colors were determined using Munsell Soil Color Charts (Kollmorgen Instruments 1988). Lastly, observations of surface and groundwater were made. This included observations on water flow in the Feeder Ditch and irrigation of fields. Observations were recorded on Wetland Determination Data Forms (WDDFs) and photographs were taken.

WDDFs are provided in Appendix A. The wetlands along the creek are affected by historical grazing and irrigation practices. Most of the wetlands include a mix of both wetland (hydrophytic) and upland species. Table 1 lists the plant species found in wetlands along the creek and indicates the frequency of occurrence of the species. As this table indicates, 34 species of plants were observed in wetlands. The more common species (shown as "very

common" in Table 1 include: Rocky Mountain iris (*Iris missouriensis*), tufted hairgrass (*Deschampsia caespitosa*), beaked sedge (*Carex utriculata*), wheatgrass (*Agropyron spp.*), cinquefoil (*Potentilla spp.*), Baltic rush (*Juncus balticus*), and hoary aster (*Machaeranthera canescens*). Upland weeds, including dandelion (*Taraxicum officinale*), kochia (*Kochia scoparia*), and thistle (*Circium spp.*) are also relatively common in the wetlands. Three types of wetlands occur, as follows:

- 1. Wet meadow wetlands. These occur in fields away from the creek and are dominated by relatively drier species (and ones found to increase under grazing) including Baltic rush, iris, foxtail barley (*Hordeum jubatum*), cinquefoil, field sedge (*Carex praegracilis*), bluegrass (*Poa pratensis*), wheatgrass, yarrow (*Achillea lanulosa*) and weeds, including dandelion, kochia, and thistle. In many places, these wetlands are influenced by irrigation water and have been affected by historical grazing. Iris and Baltic rush have been found to increase under grazing pressure.
- Sedge grass wetlands. These wetlands occur in bands along the creek and close to the water surface, and on lower terraces. Dominant species in this wetland type include: tufted hairgrass, beaked sedge, spikerush (*Eleocharis spp.*), redtop (*Agrostis gigantea*), and mint (*Mentha arvensis*). Several areas exist with a histic epipedon and are fens. This wetland type is less affected by irrigation water on the Ranch.
- Shrub riparian wetlands. Wetlands dominated by several species of willow and alders with an understory of sedges, Baltic rush, and wetland grasses occur along the creek. The best examples of this wetland type occur in the northern part of the Ranch.

The functions provided to the greatest degree by the wetlands are bank stability and forage for livestock. The riparian wetlands also provide functions for wildlife and aquatic food chain support.

Wetlands do not occur in areas along the creek that are well above the OHWM of the creek. Examples of this are at WDDFs 2, 3, 6, 7, 8, and 9 (see Appendix A). The dry banks may be due to incisement of the channel over the years which may have lowered associated groundwater levels and reduced the amount of overbank flooding. Capillary rise is likely insufficient to sustain a wetland plant community in these areas. The vegetation community is not dominated by hydrophytes and hydric soil indicators are lacking in uplands along the creek. As previously noted, removal of the instream structures under the direction of the CDWR damaged creek banks, shrubs, and the channel bottom in certain locations.

There is no flood plain mapping for Sheep Creek. Likewise, detailed topographic mapping of the

Ranch does not exist. Figures 2a and 2b show the existing improvements on the Ranch which include a ranch house, stable, several out-buildings, the "House Pond", driveway, and parking area - all of which are located away from Sheep Creek. Improvements near the creek include: the Feeder Ditch and laterals, Horseshoe Ponds Nos. 1 and 2, the Corral Pond No. 1 (the other Corral Ponds have been filled by the owner per direction of the CDWR), and several ranch roads and creek crossings.

3.2 PROPOSED PHYSICAL CONDITIONS

3.2.1 Instream Impoundments and Obstructions

Figures 2a and 2b show the locations of the 86 sites identified by the CDWR in the Sixth Citation, plus the other areas on work included in this plan. Table 2 provides descriptions of the existing conditions at the sites. Table 3a describes the work that will be completed at the 86 obstructions, per instructions provided specifically by Mr. Cotten in the field on May 21 and 22, 2013. "Work Plans" for each site are included on the photographs of the sites in Appendix B.

Most of the material to be removed from the instream impoundment/obstruction sites is either 0.5- to 1.5-foot angular rock or 0.33- to 0.5-foot cobbles. In addition, dead willows will be removed at several sites.

No toxic or objectionable materials exist in the rocks and willows to be removed from the creek. There are no issues with removal and stockpiling of the materials from a toxicity or pollutant standpoint.

Fieldwork was completed to identify areas for stockpiling and disposal of the fill materials, and designated stockpile (storage) areas are shown on Figures 2a and 2b. All storage areas are relatively flat, upland areas located away from Sheep Creek or wetlands. Other considerations for defining the storage areas include: 1) proximity to the areas of fill; 2) the need to minimize having to cross the creek to dispose of fill materials; and 3) access given the network of fences and gates on the Ranch. A total of 21 designated stockpiles were identified, as shown on

Figures 2a and 2b. Photographs of the upland stockpile areas are included in Appendix C. Section 3.2.7 provides more information on use of the stockpiles.

3.2.2 Restoration of Wetland Fills

Table 3b describes the work to be completed at the additional eight sites identified by USEPA where fill was allegedly placed in wetlands without a Section 404 permit. The locations of these sites are shown in Figures 2a and 2b, and Work plans are included in Appendix D.

The following work will be completed at these sites:

- Fill will be removed to the approximate elevations of the original grade. All removed materials will be stockpiled at the approved stockpile areas (See Section 3.2.7 for information on the stockpile areas).
- The areas will be fine-graded to restore the original grade, to the extent feasible.
- Wetland vegetation will be restored by a combination of seeding and planting of containerized willows.

USEPA also requested an evaluation of whether fill material was placed in wetlands where Mr. Sease built concrete abutments for a creek crossing, but never finished the work (in the vicinity of CDWR Sites 13 and 14, see Figure 2a and Figure 4). Historical aerial photographs of this area are limited. An October 12, 1999 black and white aerial clearly shows a road cutting across the ranch to the northeast towards Sheep Creek where there is presently a road (see Figure 2a). This road is not evident on a paper black and white photograph taken in December 1950. BWC was not able to locate any aerial photographs between 1950 and 1999 with a good image of the area.

The area was observed on June 27, 2013. WDDFs were completed on both sides of the fill at the areas shown on Figure 4 (see WDDFs 2 and 3 in Appendix A). The criteria for wetlands were not met at either site. This part of the ranch has been irrigated and grazed for years. The subject area is located well above Sheep Creek to the east and does not appear to be affected by overbank flooding or shallow groundwater associated with the creek.

It was concluded that the fill in this area does not appear to be placed in wetlands. Some material was likely placed below the OHWM of Sheep Creek and will be restored as part of the

removal of the old concrete abutments and work shown on Figures B-13 and B-14 in Appendix B.

3.2.3 Bank Stabilization Work

Work was completed to grade the banks of Sheep Creek and armor the banks with rocks to prevent further erosion. This work was done on one or both banks of the creek towards the northern part of the ranch. The work, which is shown on Figure 4 and in the photographs in Appendix E, included: placement of rock on creek banks both above and below the OHWM; grading of banks, placement of soil on the rocks, and seeding and mulching. Observations indicate that most of the work is in good to excellent condition with growth of seeded vegetation (see photographs E-1 to E-8 in Appendix E).

Figure 4 shows the areas of bank stabilization work. Based on field observations, it is estimated that a total of approximately 941 linear feet (LF) of bank stabilization work was completed (on both banks). This included approximately 821 LF of work likely in wetlands or below the OHWM of the creek, and approximately 120 LF of work in uplands or above the OHWM.

It is proposed to remove all the rocks and materials placed in wetlands or below the OHWM at bank stabilization (BS) areas BS-2, BS-4, and BS-5 for a total of 491 LF (Figure 4). The following sequence of work will be completed at these areas:

- Rock and soil will be removed from the area and disposed of in one of the designated stockpile areas.
- The banks will be graded to what is believed to be the original contours, based on observations of adjacent areas.
- Willows and/or alders will be planted, as shown on the plans (see Appendix E).
- · Disturbed areas will be seeded and mulched.

It is proposed to retain the work at BS-1 (where the rock was placed above the OHWM; see Figure E-1 in Appendix E), and at BS-2W and BS-3 for a total of 450 LF. Most of the lower bank at BS-2W is wetland and the work is in excellent condition (Figure E-5). The rocks armor the bank and provide bank stabilization. Removal of the rock would likely damage the bank. The rocks at BS-3 are below the OHWM and on the outside bend of the creek where they deflect

flow and protect the bank (see Figure E-6). The work is in excellent condition and removal of the rock would result in damage to Sheep Creek or adjacent wetlands and possibly result in degradation to channel banks from high flows in the future. Willows and alders would be planted 4-foot on-center for all reaches where the bank stabilization work is retained. Fieldwork for this plan indicates the following characteristics for the amount of fill that would be retained in waters of the U.S.:

- 330 LF of bank stabilization work (note: this equals 450 LF minus the 120 LF in uplands at BS-1).
- 13 cubic yards (CY) of clean fill and rock retained below the OHWM or in adjacent wetlands.
- An average of 0.04 CY per LF of material in a water of the U.S.

As described in Section 3.6 of this plan, all areas where fill would be retained in a water of the U.S. would have a performance standard of 75 percent survival of willows and alders.

The areas will be monitored, as described in Section 4.0.

3.2.4 Feeder Ditch at Horseshoe Pond No. 2

Work at this site is needed to bring it into compliance with previous orders/citations issued by CDWR for compliance with state water law. The work at this site, which was specified in the filed on May 21, 2013 by Mr. Cotten is shown on Figures F-1, F-2 and F-3 in Appendix F, and includes the following:

- Filling of 37.5 LF of the Feeder Ditch between the stakes placed in the field (see Figure F-1) with native soil material. The beginning of this new fill is at approximately the starting point of the fill in the Feeder Ditch that was authorized under Section 404 by the Corps on October 20, 2010. The new fill material will be compacted to match the existing grade.
- Placement of angular rip-rap at the start of the fill in item 1 above to armor the plug in the Feeder Ditch (see Figure F-2).

 Restoration of the first part of the swale between the Feeder Ditch and Horseshoe Pond No. 2 to allow for water in the Feeder Ditch to flow freely into the pond (Figure F-3).

3.2.5 Outlet Works for Horseshoe Pond No. 2

The existing outlet works for Horseshoe Pond No. 2 consists of 6- and 8-inch PVC pipes with screens on the intakes. The intakes are at fixed elevations which control the water surface in the pond. According to CDWR, the surface area of the pond is currently around 3,700 square-feet (SF), which is larger than the required area of 3,330 SF. Based on information provided by CDWR, Horseshoe Pond No. 2 should be at 22.5 percent of its original size with no changes to Horseshoe Pond No. 1. The 3,330 SF represents 22.5 percent of the "old surface area" of 14,802 SF shown on drawings by Davis Engineering. In addition, the intakes of the pipes reportedly get clogged by algae and may not flow freely to Sheep Creek.

The proposed plan is to remove the small of the two PVC pipes (the 6-inch pipe) and replace it with a 12-inch culvert with rip rap, as shown on Figure G-1 (see Appendix G). The invert of the culvert will be set at the same elevation as the existing upper pipe since survey information shows the surface area of the pond to be approximately 3,700 SF at this elevation. The pond will be filled at the areas shown in Figure G-2 with clean rock and fill to reduce the surface area by the 370 SF needed. All areas of the original pond outside of the 3,330 SF allowed will be filled so that they are at least 8-inches higher than the water surface when it is 3,330 SF. In addition, the work will be surveyed by the licensed surveyor to demonstrate compliance with the state's requirements.

3.2.6 Diversion Box for Ditch Lateral No. 5

A diversion structure that can be locked will be installed at the location of Ditch Lateral No. 5 to allow for water in the ditch to either be diverted back to Sheep Creek or allowed to flow further along the ditch. The new box will have wing walls and be constructed to prevent water from flowing around or under the box. The location of this structure is indicated on Figure 2b. A schematic is shown in Figures H-1 and H-2 in Appendix H.

3.2.7 Stockpile Areas

The limits of each stockpile will be marked in the field. It is envisioned that the stockpiles will be permanent features so that material deposited at them will remain at that location. No material

will be placed back in the channel of Sheep Creek or wetlands under this plan. Each stockpile will be graded to minimize its height, and have stable side-slopes of no steeper than 3:1 (horizontal to vertical). Soil will be placed on the stockpiles, to the extent possible, and the stockpiles will be seeded with the upland seed mix (Table 5) and mulched.

3.3 IMPLEMENTATION PLAN

The work described in the previous section will be completed by the selected and approved contractor under the supervision of staff from CDWR, and Mr. Sease's selected representative. All work will be completed as specified in the plan(s) for the site, and the conditions included in the Section 404 permit issued for the work. The work will be completed after receiving necessary approvals from the Corps and U. S. Bureau of Land Management (USBLM). Several of the sites may be located on USBLM land and approval from them is needed before the work can be done.

The work will be documented by photographs, video, and notes. Any deviations in the work for a site will be approved ahead of time by CDWR and USEPA.

3.4 SITE PROTECTION

The following measures will be used to ensure there are no inadvertent impacts to wetlands or Sheep Creek from the work:

- 1. The limits of wetlands, the Sheep Creek channel, and the restoration work will be marked in the field at each restoration site prior to beginning of the work.
- Trucks and equipment will use the designated access areas shown on Figures 2a and 2b. Fill storage sites have been identified on both sides of the creek to avoid multiple creek crossings by equipment being used to dispose of the soil and rock.
- Equipment will only cross Sheep Creek at the locations shown on Figures 2a and 2b to complete work on the other side of the creek. The two areas represent old creek crossings on the Ranch. No new creek crossings will be constructed.
- The areas for soil and rock disposal are located in uplands away from any wetlands and Sheep Creek, and also in areas not subject to flooding or erosion.

- The work will be completed in the late spring of 2014 following snowmelt runoff (See Section 7.0).
- The work will be observed in the field by a qualified scientist to ensure compliance with this plan.

3.5 ACTUAL RESTORED PHYSICAL CONDITIONS

Due to the small size of each of the restoration sites and relatively simple nature of the work to be completed, it is proposed that as-built drawings not be provided prior to planting. Instead, the work and progress towards meeting the stated measures of success will be documented with photographs.

3.6 SUCCESS CRITERIA

The goals of the work are twofold: 1) to meet the requirements of the CDWR to eliminate the impoundments/obstructions in Sheep Creek and, 2) to fully restore the wetlands and banks of Sheep Creek impacted by fills and the work in this plan back to their original (pre-impact) condition and functions. Accordingly, the following success criteria will apply to the restoration areas.

3.6.1 Criteria for CDWR Sites

The purpose of the CDWR sites is to remove rock and willows and complete the other work specified by CDWR to reduce the increased water lost from the work in Sheep Creek. Therefore, each site will be deemed to be successful when all of the work shown on the plan for the site is completed. Completion of the work at each site will be documented with photographs and field notes.

It is likely that the channel of Sheep Creek will adjust horizontally and/or vertically after the work required by the CDWR is completed. This could occur because the existing rocks in the creek and on the banks provide stabilization from flow in the creek, and once removed, the force of the water will erode the finer, underlying materials in the channel and on the banks. The result of this is that it will appear that new rock has been placed in the channel when, in fact, it is native (existing) rock that has been exposed. If this phenomenon is found to occur, the CDWR will be notified to verify its occurrence.

3.6.2 Criteria for USEPA

Each wetland restoration site will be deemed to be successful when measurements and observations show the area has achieved:

- A cover of wetland plant species at least as high as the adjacent wetland area (which is typically 60 to 80 percent).
- Dominance by at least two wetland species.
- A survival rate of planted willows and alders of at least 75 percent.
- Less than 10 percent cover of the site by noxious, upland weeds.

It will be assumed that the functions of the wetland restoration areas have been restored upon achieving the above success criteria.

4.0 MONITORING PLAN

The work at each site will be documented with photographs and observations at the completion of the work at the site. The sites will then be observed and documented as follows:

- End of growing season 2014 (by October 1, 2014).
- Beginning of growing season 2015.
- End of additional growing seasons for a minimum of 5-years.

The Mitigation Rule and Regulatory Guidance Letter 08-03 required compensatory mitigation areas to be monitored for a minimum of five full years following completion of the restoration/mitigation work. USEPA may consider a written request to reduce the five-year monitoring requirement after submittal of at least two consecutive annul monitoring reports which demonstrate that all the success criteria have been met, including through field verification by the USEPA or Corps.

Annual monitoring will consist of the following at each site:

1. Photographic documentation of the site.

- 2. Visual estimation of the percent coverage of species present.
- 3. Visual estimate of the percent cover of noxious upland weeds.
- 4. Observation of the survival of planted trees and shrubs.
- 5. Notes on any remedial measures needed.

Observations will be recorded on a standard field form. In addition, the storage areas will be observed for:

- 1. Success of upland seeding.
- 2. Evidence of excessive soil erosion.
- 3. Excessive invasion by noxious weeds.

4.1 REPORTING

A Work Summary report will be submitted by December 31, 2014. This report will document the work completed in 2014. Annual monitoring reports will then be submitted by December 31 of each year until the success criteria are met. The annual monitoring reports will include all field data sheets.

In addition, as described in Section 3.6.1, the CDWR will be notified of the exposure of native rock in the channel or on the banks due to natural channel adjustment processes as a result of the removal of rock which is currently armoring the channel bottom and banks. This will be done to avoid misunderstanding about the origin of rock in the channel in the future.

5.0 CONTINGENCY MEASURES

Deficiencies will be noted at the restoration sites in the Annual Monitoring reports. Such deficiencies could include:

- Lack of germination of wetland seed mix.
- Grazing or trampling by livestock.
- Invasion by noxious weeds.

- Excessive erosion.
- Death of planted willows and alders.

Potential measures to rectify deficiencies will depend on the specifics, but could include:

- Re-seeding.
- Re-mulching.
- Fencing to prevent grazing.
- Application of approved herbicides (in strict accordance with the label instructions).
- Re-planting of willows.
- Installation of sediment controls (e.g., silt fence).

6.0 FUNDING AND IMPLEMENTATION

All of the land on which the work described in this Plan will occur is on land owned by Mr. Sease, the responsible party. The land is an agricultural ranch and there is no zoning or other land use regulations which would prevent completion of the work.

Mr. Sease will implement this plan and be responsible for all work completed, including any contingency measures, to achieve the success criteria. The responsible party has the financial capabilities to complete this work. The estimated cost for the work is \$60,000.

7.0 SCHEDULE

All of the work in the channel included in this Second Plan will be completed within 20 days of USEPA signing the Administrative Order on Consent, and the remaining work outside of the channel will be completed by July 15, 2014--necessary approvals (from the Corps and USBLM) and adverse weather or unusual conditions aside (e.g., high flows in Sheep Creek). The USEPA will be notified of the date of completion of the work within two weeks after the work is done.

Mr. Sease's selected representative will be on the site to observe the work being completed in compliance with this Second Plan. It is understood that staff from CDWR will also be on the site to observe the work. The work will be documented by Mr. Sease's selected representative as necessary, including with notes, photographs, and GPS data points.

Reports will be submitted as detailed in Section 4.1

8.0 SECTION 404 PERMITTING

The work described in this plan entails the removal of rocks, soil, and dead willows from Sheep Creek and adjacent wetlands, and the restoration of impacted areas. No fill or dredged material will be placed in a water of the U.S. for this work, except for at the Feeder Ditch (Appendix F) and Horseshoe Pond No.2 (Appendix G). Clean fill will be placed in a 37.5 foot reach of the Feeder Ditch, and clean, angular rock will be placed at the end of the ditch. Portions of the original areas of Horseshoe Pond No. 2 will be filled to keep the pond surface area to less than 3,330 square-feet.

Observations of the ranch in May and June 2013 indicate that bank stabilization work was completed in 2012 along certain reaches of Sheep Creek. This work, the locations for which are shown on Figure 4, entailed placement of rock (mostly rounded cobbles) on the banks of the creek, covering of the rock with soil, grading, seeding, and mulching. In most areas it appears that rock and/or soil were placed at or below the OHWM of Sheep Creek. It does not appear that wetlands were impacted by the work in most areas. The bank stabilization work is in excellent condition with stable banks and good revegetation success. Photographs of the work are included in Appendix E.

While the bank stabilization work may be in excellent condition and provide functions for bank stabilization, authorization under Section 404 was not received for the work. On behalf of Mr. Sease, it is requested that the bank stabilization shown at the areas on Figure 4 and described in Section 3.2.3 be retained and authorized under Section 404. Reasons for consideration of permitting this work include:

 The work is in excellent condition presently and it appears likely that it will stay that way in the future.
- The work greatly improved the condition of the stream banks in the areas which were trampled by historic grazing activities.
- The work provides bank stabilization functions.
- It would likely be more destructive to remove the work (rocks) and leave soil banks in place. These banks would be subject to erosion by the creek in the future,

For this consideration, Mr. Sease has agreed to:

- Maintain the work in operable condition.
- Plant containerized willows and alders on the banks where the work was done at a spacing of 4 feet, on center.
- Monitor the condition of the work and success of the willow plantings as part of the monitoring plan for the other work included in this plan.

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Tables

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Table 1. Plant Species in Wetlands⁽¹⁾ Sheep Creek Ranch

Common Name	Scientific Name	Abbreviation	Occurrence in Wetlands ⁽²⁾	Frequency ⁽³⁾
Alder	Alnus incana	AT	FACW	RC
Baltic rush	Juncus balticus	JB	FACW	VC
Beaked sedge	Carex utriculata	CU	OBL	VC
Bluejoint reed grass	Calamagrostis canadensis	CC	FACW	RC
Cinquefoil	Potentilla spp.	P	FAC	VC
Curley dock	Rumex crispus	RC	FAC	C
Currant	Ribes inerme	RI	FAC	R
Dandelion	Taraxicum officinale	TO	FACU	RC
Field sedge	Carex praegracilis	CP	FACW	RC
Fireweed	Epilobium angustifolium	EA	FACU	C
Foxtail barley	Hordeum jubatum	HJ	FAC	VC
Fringed sage	Artemisia frigida	AF	UPL	RC
Hoary aster	Machaeranthera canescens	MC	FACU	VC
Horsetail	Equisetum arvense	ER	FAC	RC
Kentucky bluegrass	Poa pratensis	PP	UPL	RC
Kochia	Kochia scoparia	KS	UPL	C
Manna grass	Glyceria elata	GE	FACW	R
Nettle	Urtica gracilis	UG	FAC	RC
Prairie thermopsis	Thermopsis rhombifolia	TR	FAC	C
Rabbitbrush	Chrysothamnus nauseosus	CN	UPL	R
Redtop	Agrostis alba	AA	FACW	C
Reed canary grass	Phalaris arundinacea	PA	FACW	R
Rocky Mountain iris	Iris missouriensis	IM	OBL	VC
Shrubby cinquefoil	Pentaphylloides floribunda	PF	FACW	RC
Sloughgrass	Beckmannia syzigachne	BS	OBL	R
Spike rush	Eleocharis palustris	ES	OBL	RC
Thistle	Circium spp.	C	FAC	RC
Timothy grass	Phleum pratense	PH	UPL	RC
Tufted hairgrass	Deschampsia caespitosa	DC	FACW	VC
Wheatgrass	Agropyron spp.	A	FACU	C
Wild mint	Mentha arvensis	MA	FACW	VC
Wild rye	Elymus canadensis	EC	FAC	R
Willow	Salix spp	S	≥ FAC	C
Yarrow	Achillea lanulosa	AL	FACU	VC
Upland weed	NA	UW	UPL	C

Notes:

 Based on observations in May, June, and August 2011.
 Ratings per "May 2012 Updated National Wetland Plant List for Intermountain Region", as follows: OBL = obligate; FACW = facultative wetland; FAC = facultative; FACU = facultative upland; and UPL = upland.

3) Based on field observations as follows: R = rare; RC = relatively common; C = common; VC = very common.

Table 2. Summary of Conditions at Instream Impoundment/ Obstruction Sites and Other Sites Included in Plan Sheep Creek Ranch

Site No (1)	Location Coordinates ^[2]		USEPA	Description		
Site NO.	X	Y	Plan No	Deachphon		
1	373004	4226909	F88	Site at approved stream crossing where some rocks remain in the creek.		
2	373004	4226876		Angular rocks in middle of channel.		
4	373037	4226829		Previous restoration site with excess rocks in channel.		
4A	373037	4226829	F83	Previous restoration site with fill pile on west bank.		
5	373058	4226751	F82	Previous restoration site with rocks remaining in channel.		
6	373056	4226745		Large rocks in channel.		
7	373074	4226732	F91	Large rocks in channel.		
9	373083	4226642		Old cobbles on east bank; new cobbles on west bank.		
11	373081	4226536	F78	Cobbles on west bank. Rocks in channel.		
11A	373081	4226536	1.	Scattered rocks in wetland on west bank near Site 11.		
12	373073	4226469	F77	Rocks placed on banks constrict the creek. Fill placed on west bank.		
12A	373073	4226469		Fill on bank and plant willows.		
13	373058	4226396	F75,F78	Area where two concrete abutments were constructed years ago for a bridge crossing Rocks exist in channel and on backs.		
14	373073	4226376	E71 E73	3 Rocks exist on banks and in channel below old creek crossing.		
15	373071	4226346	FEQ	Rock exists in creek. Bank stabilization on both banks		
16	373071	4226318	105	Willows in middle of channel blocking flow		
17	373064	4226303	-	Rocks evist in creek		
18	373066	4220000	FED	Two large make on hanks. Books evict in channel		
10	373000	4220207	F00	Parks quist is shared. Bask stabilization on west hank		
19	373073	4220229	FOT	Rocks exist in channel. Dank stabilization on west bank.		
20	373064	4226209		Rocks exist in channel.		
21	373092	4220190		ROCKS EXIST IN SIDE Channel and on both banks.		
22	3/30/8	4226150	F03	Willows, rocks and dirt exist in the channel.		
23	373069	4226117	F62	Rocks exist in channel at construction. Bank stabilization on west bank.		
23A	373044	4226060	F61	Large rocks on both banks. Rocks exist in channel.		
24	373044	4226060	F60	Cobbles on banks and in channel at old creek crossing.		
25	373003	4226029	12	Rocks in channel for short reach		
25A	372967.3436	4225990.903		Dead willows and rocks in channel.		
25B	372958	4225968		Rocks exist in channel. Large rocks on both banks.		
26	372958	4225968		Rocks exist in channel and on both banks.		
27	372952	4225942		Rocks and willows exist in channel and rocks exist on both banks.		
28	372957	4225915		Dead willows and rocks in channel.		
29	372939	4225897		Dead willows and rocks in channel.		
30	373043	4226016		Dead willows and rocks in channel.		
31	373041	4226013		Rocks in channel below ditch headgate for diversion dam.		
.32	373021	4225969	F56	Rocks exist in channel and on banks.		
33	373009	4225938	F55	Rocks exist in channel.		
34	373002	4225924	F54	Rocks exist in channel and on east bank.		
35	372986	4225905	F53	Rocks exist in channel and on both banks.		
36	372974	4225900	F52	Large rocks on west bank. Rocks on east bank and in channel.		
37	372960	4225893	F50	Fill in wetland on west bank. Rocks exist in channel and on east bank.		
38	372948	4225879	F49	Rocks exist in channel.		
39	372920	4225869		Rocks exist in channel at approved creek crossing.		
40A	372884	4225845	F46	Rocks exist in channel at two locations.		
40B	372884	4225845	F46	Five to six rocks in split channel.		
41	372865	4225826		Bocks exist in channel as diversion dam for ditch headpate.		
42	372824	4225781	F42	aree rocks exists on channel bottom and banks		
43	372817	4225748	F41	Rocks exist in channel, rocks placed on pact hank		
44	372701	4225732	F30	Rocks exist in channel, hanks depraded		
45	372703	4225732	1.99	Porke on sides of chonnel		
40	372795	4220720	537	Packs svist in channel		
40	272703	4220700	F31	Poole svist in channel		
40	070700	422008/	COF	College is sharped side sharped		
49	372783	422500/	F35	Cobbles in channel, created sloe-channel.		
30	3/2/66	4225627	+32	Previous USEPA site with excess rocks, new cobbles in channel.		
51	372776	4225595	F31	Previous USEPA site with new cooples in channel and on both banks. Large rocks placed along both sides of channel for bank protection.		
52	372751	4225577	F30	Three large rocks on east bank. Some cobbles and disturbance on the west bank.		
53A	372734	4225564	F29	Cobbles placed on both banks.		

Table 2. Summary of Conditions at Instream Impoundment/ Obstruction Sites and Other Sites Included in Plan Sheep Creek Ranch

Cite Ma (1)	Location Coordinates ⁽²⁾		LICEDA	Description		
Site No.	X Y		Pisn No.			
54	372718	4225553	F28	New cobbles on both banks and in the creek for approximately 35 feet of channel.		
55	372710	4225528	F27	Large rocks on west bank, new cobbles in channel and on both banks, and fill and cobbles up against willows on the east bank.		
56	372693	4225514	F26	Several old willows in creek, cobbles and sod placed on west bank.		
57	372681	4225497	F25	Several large rocks on both banks; cobbles in channel and on west bank.		
Site No. ^[1] Location Coordin 54 372718 4 55 372710 4 56 372693 4 57 372681 4 58 372664 4 59 372666 4 60 372632 4		4225478	F24	15 to 20 moderate-sized rocks are in the channel.		
59	372656	4225470	1	Large willows in channel, some larger rocks on banks.		
60	372632	4225472		Dead willows in channel; some rocks in channel.		
61	372625	4225469	-	New cobbles on both banks.		
62	372616	4225433	F22	Large rocks on west bank with smaller rocks on east bank; some rocks in creek.		
63	372597	4225403	F21	Dead willows in channel; three to four large rocks on banks.		
64	372590	4225376	F20	Large willow and two large rocks in channel.		
65A	372586	4225365		Rocks on bank.		
66	372588	4225327		Rock in channel for approximately 40 feet.		
67	372585	4225304	F18	3 large willows in creek; large rock on east bank.		
68	372578	4225289		Moderate sized rock in channel for approximately 25 feet.		
69	372574	4225278	F17	cobbles placed in creek for approximately 10 feet. Note: large rocks on west bank are considered old fill and not required to be removed, per USEPA.		
70	372577	4225269		One large rock on west bank; 10 to 15 rocks in channel.		
71	372559	4225240	F15	Two large rocks on banks create constriction. Rock in channel for approximately 25 feet.		
72	372543	4225230	F14	Rocks in channel for approximately 30 feet. New rocks on east bank.		
73A	372532	4225215		Several large rocks in channel along with cobbles.		
73B	372532	4225215		Several large rocks in channel along with cobbles.		
74	372508	4225196	F13	Several willows in channel along with scattered rocks.		
75A	372473	4225173	F12	Large rocks on both banks are constricting the channel. Cobbles in channel for approximately 50 feet.		
75B	372461	4225130		Angular rocks in channel.		
76	372461	4225130	F11	Small ditch on east bank. Rock in channel for approximately 20 feet.		
77	372441	4225094	F10	Rocks at head of two channels in the area. Pile of cobbles on the west bank.		
77A	372441	4225094	F10	Cobbles on west bank.		
78A	372424	4225052	F10	Pile of angular rock in wetland on west bank.		
78B	372437	4225079		Cobbles on both banks and in channel at old crossing.		
79	372424	4225052	F9	Large rocks on bank create constriction. Rocks placed on both banks upstream of large rocks.		
80	372423	4224998	F5	Large rock up against willow on the east bank. Rock in channel for approximately 25 feet.		
81	372397	4224988	F4	Two to three rocks in split channel on the east side.		
82	372397	4224975	F3	Rocks in channel for approximately 25 feet. Cobbles on west bank.		
83	372401	4224965		Rocks in channel for approximately 10 feet		
84	372400	4224950	F2	Two large rocks on banks create constriction. Rock in channel for approximately 25 feat		
85	372384	4224923	F1	Three large rock on banks. Rock in channel for approximately 15 feet		
86	372359	4224906	1	Rock in channel at southern property boundary.		
6	511 A.S. 44	TALETONO	F78	Pile of cobbles on west bank		

Notes: USEPA = U.S. Environmental Protection Agency CDWR = Colorado Division of Water Resources Highlighted rows = USEPA-only site

Footnotes: 1) Numbering per the CDWR. 2) Per GPS coordinates provided by CDWR.

Table 3a. Description of Work at Instream Sites Required by the State Sheep Creek Ranch

Site	Loc	ation	LISEDA	Description	Work Plan
No.(1)	X	Y	Plan No.	Description	No. ⁽³⁾
1	373004	4226909	F88	Remove rocks from channel to lower upstream water surface. Remove rocks from west bank, re- grade, seed and mulch.	B-1
2	373004	4226876		Remove approximately seven rocks from middle of channel.	B-2
4	373037	4226829	F85	Remove small cobble bar and excess rocks in channel downstream.	B-4
5	373058	4226751	F82	Remove eight to ten rocks in channel.	B-5
6	373056	4226745		Remove five to six larger rocks from middle of channel.	B-6
7	373074	4226732	F91	Remove rocks from channel for approximately 15 feet.	B-7
9	373083	4226642		Remove rocks from channel for approximately 25 feet. Remove cobbles from west bank, re-grade, seed and mulch. Plant two willows on past bank	B-9
11	373081	4226536	F78	Bemove rocks in channel and widen	B-11
12	373073	4226469		move fill from wetland on west bank, seed, mulch and plant three willows. Remove rocks from nks and channel to lower water level upstream and plant three willows along creek.	
13	373058	4226396	F75, F76	emove old concrete abutments and remove rock in channel. Re-grade, seed and mulch both banks. ant six willows.	
14	373073	4226376	F71, F73	Remove large rocks on banks and rock in channel to lower water surface upstream by 1.5 feet. Restore banks on both sides. Note: the old creek crossing can remain upstream of site.	B-14A,14B
15	373071	4226346	F69	Remove rocks in channel to lower upstream water surface. Widen channel at constriction.	B-15
16	373071	4226318		Remove willows from middle of channel. Also remove any underlying rocks.	B-16
17	373064	4226303		Remove rocks in channel for approximately 20 feet.	B-17
18	373066	4226267	F68	Remove rocks in channel for approximately 15 feet. Large rocks on bank to remain.	B-18
19	373075	4226229	F67	Remove rocks from channel for approximately 30 feet.	B-19
20	373084	4226209		Remove rocks from channel for approximately 30 feet. Plant three willows	B-20
21	373092	4226190		Remove rocks from channel for approximately 25 feet. Also remove rocks from both banks, re-grade, seed, mulch and plant four willows.	B-21
22	373078	4226150	F63	Remove willows, rocks and dirt from channel to restore flow. Rocks on bank can remain.	B-22
23	373069	4226117	F62	Remove rocks from channel at constriction to lower upstream water level. Remove fill from east bank, re-grade, seed and mulch. Plant two willows on east bank. Note: large rocks on west bank to remain.	B-23
23A	373044	4226060	F61	Large rocks on both banks. Rocks exist in channel.	B-23A
24	373044	4226060	F60	Remove cobbles from banks and channel to restore area and eliminate crossing. Seed and mulch banks and plant four willows.	B-24
25	373003	4226029		Remove rocks in channel. Plant three willows.	B-25A
25A	372967	4225991		Remove willows and rocks in channel for 15 feet.	B-25A
25B	372967	4225991	-	Remove four to five large rocks. Remove rocks from bottom. Plant five willows.	B-25B
26	372958	4225968		Remove rocks in channel for approximately 25 feet. Remove rocks from both banks, seed and mulch banks. Remove one willow in water at bend on east side	B-26
27	372952	4225942		Remove willows in channel Remove rocks in channel. Seed and mulch west bank.	B-27
28	372957	4225915		Remove dead willows from channel upstream. Remove rocks from channel for approximately 30 feet to lower the water surface.	B-28
29	372939	4225897		Remove dead willows from channel and underlying rocks. Live willows along channel can remain.	B-29
30	373043	4226016		Remove dead willows in channel and underlying rocks for approximately 20 feet.	B-30
31	373041	4226013		Remove rocks from channel to lower water surface upstream by approximately 1 foot.	B-31
32	373021	4225969	F56	Remove rocks from channel for approximately 12 feet. Large rocks on west bank to remain.	B-32
33	373009	4225938	F55	Remove rocks from channel for approximately 15 feet.	B-
34	373002	4225924	F54	Remove rocks from channel for approximately 10 feet. Remove rocks from east bank, re-grade, seed and mulch bank. Plant 2 willows	B-34
35	372986	4225905	F53	Remove rocks from channel for approximately 25 feet. Remove rocks from both banks, re-grade, seed and mulch. Plant three willows on east bank.	B-35
36	372974	4225900	F52	Remove rocks from channel for approximately 20 feet. Remove all but the largest rock on the west bank. Note: rocks on east bank to remain.	B-36
37	372960	4225893	F50	Remove fill on west bank, seed and mulch area. Remove rocks from channel for approximately 15 feet.	B-37
38	372948	4225879	F49	Remove rocks in channel. Seed and mulch both banks. Plant three willows.	B-38
39	372920	4225869		Remove largest rocks from drop. Re-grade bottom to reduce the slope and lower upstream water level around 1 foot. Note: An approved creek crossing exists at this site and should be maintained by the work.	B-39
	1			IN WORK.	

Table 3a. Description of Work at Instream Sites Required by the State Sheep Creek Ranch

Site No. ⁽¹⁾	Loc	ation Y	USEPA	Description	Work Plan No. ⁽²⁾
40A	372884	4225845	F46	Remove five to six rocks from small channel upstream. Remove rocks in channel for approximately 20 feet to lower water level. Plant four willows.	B-40A
40B	372884	4225845	F46	Remove five to six rocks from channel.	B-40B
41	372865	4225826	1.10	Remove rocks in channel to lower upstream water surface approximately 1 foot	B-41
42	372824	4225781	F42	Remove one large rock on channel bottom. Remove largest rock on west bank and two largest rocks on east bank. Remove rock and cobbles in channel for ± 25 feet. Re-grade, seed and mulch both banks.	B-42
43	372817	4225748	F41	Remove rocks from channel for approximately 20 feet. Remove larger rocks from east bank. Re- grade, seed and mulch east bank. Plant two willows.	B-43
44	372791	4225732	F39	move rocks from channel for approximately 20 feet. Re-grade east banks, seed and mulch. Plant se willows.	
45	372793	4225720		move approximately six large rocks in channel.	
46	372789	4225708	F37	Remove rocks from channel for approximately 20 feet to lower the invert.	B-46
48	372783	4225687		Remove rocks in channel for approximately 15 feet.	B-48
49	372783	4225667	F35	Remove rocks in channel for approximately 35 feet to lower invert approximately 2 feet. Re-grade, seed and mulch both banks. Plant three willows	B-49A,49B
50	372766	4225621	F32	Remove rock in channel for approximately 20 feet. Remove rocks from both banks, re-grade, seed and mulch. Plant two willows on east bank.	B-50
51	372776	4225595	F31	Remove rock in channel for approximately 40 feet. Remove rocks from both banks, re-grade, seed and mulch. Plant three willows on east bank.	B-51
52	372751	4225577	F30	Remove two large rocks on east bank, re-grade, seed and mulch. Remove rock and cobbles in channel for ± 20 feet. Re-seed and mulch west bank.	B-52
54	372718	4225553	F28	Remove rocks from channel for approximately 35 feet. Remove cobbles from lower bank, re-grade, seed and mulch.	B-54
55	372710	4225528	F27	Remove two large rocks from west bank, re-grade bank, seed and mulch. Remove cobbles from hannel for approximately 30 feet. Remove cobbles from both banks, re-grade, seed and mulch banks	
56	372693	4225514	F26	Remove willows from channel; also remove any rocks under willows. Remove cobbles from west ban re-grade seed and mulch.	
57	372681	4225497	F25	Remove large rocks on both banks at constriction. Remove rocks in channel for approximately 25 feet. Re-grade, seed and mulch banks. Plant two willows on east bank.	B-57
58	372664	4225478	F24	Remove 15 - 20 rocks in channel. Seed and mulch both banks.	B-58
59	372656	4225470	1.1	Remove large willows in channel and any underlying rocks. Remove rocks from west bank, re-grade, seed and mulch.	B-59
60	372632	4225472		Remove old willows in channel and rocks for approximately 25 feet.	B-60
61	372625	4225469		Remove rocks in channel for approx 25 feet. Remove cobbles from lower banks on both banks. Re- grade, seed and mulch banks. Plant three willows_	B-61
62	372616	4225433	F22	Remove large rocks from banks/channel. Remove rock and cobble in channel for ± 25 feet. Remove fill from east bank, re-grade, seed and mulch. Plant three willows.	B-62
63	372597	4225403	F21	Remove three to four large rocks on banks and widen channel at constriction. Remove rocks in channel for \pm 30 feet to lower invert 1 to 2 feet. Re-grade banks, seed and mulch. Plant two willows.	B-63
64	372590	4225376	F20	Remove large willow in channel and two large rocks on banks. Widen channel and remove rock for ± 10 feet on east side to carry the flow. Re-grade banks, seed and mulch.	B-64
66	372588	4225327	2.50	Remove rock in channel for approximately 40 feet. Widen channel to top width of approximately 5 feet. Re-seed and mulch bare spot on east bank.	B-66
67	372585	4225304	F18	Remove 3 large willows in channel. Remove rocks on east bank, re-grade, seed and mulch. Plant three willows on east bank.	B-67
68	372578	4225289		Remove rock in channel for approximately 25 feet.	B-68
69	372574	4225278	F17	Remove rock in channel for approximately 10 feet.	B-69
70	372577	4225269		Remove 10-15 rocks in channel. Remove one large rock on west bank. Re-grade, seed and mulch. Plant 2 willows on west bank.	B-70
71	372559	4225240	F15	Remove two large rocks on banks and rock in channel for approximately 25 feet. Re-grade, seed and mulch both banks.	B-71
72	372543	4225230	F14	Remove rocks in channel for approximately 30 feet. Remove rocks on east bank, re-grade, seed and mulch area. Plant three willows on east bank. Note: USEPA determined that the rocks on the west bank are old and can remain.	B-72
73A	372532	4225215		Remove large rocks in channel for approximately 15 feet.	B-73A
73B	372532	4225215		Remove large rock an smaller rocks in channel for ± 10 feet.	B-73B

Table 3a. Description of Work at Instream Sites Required by the State Sheep Creek Ranch

Site	Site Location		2010		Work Plan
No.(1)	X	Y	Plan No.	Description	No.(3)
74	372508	4225196	F13	Remove willows in channel and also any rocks under them. Remove scattered rocks.	B-74
75A	372473	4225173	F12	emove large rocks on both banks to widen the channel. Remove rocks in channel for approximately feet. Re-grade both banks, seed and mulch. Also plant four willows.	
75B	372461	4225130	1.	Remove angular rocks in channel.	B-75B
76	372461	4225130	F11	Fill in ditch on east bank. Remove rock from channel for approximately 20 feet.	B-76
77	372441	4225094	F10	Remove rock from heads of two channels.	B-77
78B	372437	4225079		emove cobbles from both banks, seed and mulch. Remove and spread cobbles in channel for poroximately 15 feet to lower the invert approximately 8 inches.	
79	372424	4225052	F9	Remove two large rocks that create a constriction and rocks in channel for approximately 40 feet. Remove rocks on both banks and from both channels downstream. Re-grade, seed and mulch. Plant six willows.	
80	372423	4224998	F5	Remove large rock up against the willow on the east bank. Remove rocks in channel for approximately 25 feet. Re-seed and mulch the west bank.	B-80
81	372397	4224988	F4	Remove two to three rocks in small channel on east side.	B-81
82	372397	4224975	F3	Remove rocks from channel for approximately 20 feet. Remove cobbles from the west bank and re- seed and mulch.	B-82
83	372401	4224965		Remove rocks from channel for approximately 10 feet.	B-83
84	372400	4224950	F2	Remove large rock on west bank, re-grade, seed and mulch. Remove scattered rocks in the channel. Plant two willows on the west bank.	
85	372384	4224923	F1	amove large rock on west bank, re-grade, seed and mulch bank. Remove rock from channel for aproximately 15 feet. Plant two willows on west bank.	
86	372359	4224906		Remove rock from both channels for approximately 5 feet on the Sease property.	B-86

Notes:

USEPA = U.S. Environmental Protection Agency CDWR = Colorado Division of Water Resources

Footnotes: 1) Numbering per the CDWR. 2) Per GPS coordinates provided by CDWR.

3) See plans in Appendix B.

Table 3b. Description of Work at Sites Required by USEPA Only Sheep Creek Ranch

Location Coordinates ⁽¹⁾ 2010 USEPA X Y Plan No.		2010	Description		
		Description	No. ⁽²⁾		
В			F78	Remove rocks from wetland by hand.	
4A	373037	4226829	F83	Remove pile of fill in wetland on west bank, seed and mulch.	
11A	373081	4226536		Remove cobbles from west bank, re-seed and mulch. Plant four willows.	
12A	373073	4226469		Remove fill from wetland on west bank, seed, mulch and plant three willows.	
53A	372734	4225564	F29	Remove cobbles from both banks, re-grade, seed and mulch. Plant two willows on west bank.	
65A	372586	4225365		Plant four willows.	
77A	372441	4225094	F10	Remove cobble pile on west bank, seed and mulch. Plant three willows on west bank.	D-77A
78A	372424	4225052	F9	Remove pile of rock in wetland.	D-78A

Notes:

USEPA = U.S. Environmental Protection Agency CDWR = Colorado Division of Water Resources

Footnotes:

1) Per GPS coordinates.

2) See work plans in Appendix D.

Table 4. Wetland Seed Mix⁽¹⁾ Sheep Creek Ranch

Common Name	Scientific Name	Percent Composition	Lbs PLS/AC
Baltic rush	Juncus balticus	20	0.58
Beaked sedge	Carex utriculata	20	3.9
Field sedge	Carex praegracilis	20	2.6
Foxtail barley	Hordeum jubatum	15	9.6
Rocky Mountain iris	Iris missouriensis	5	20.0
Tufted hairgrass	Deschampsia caespitosa	20	0.7
	Total:	100%	37.38

(0.86 lbs/1,000 square feet)

Notes:

Lbs PLS/AC = pounds of pure live seed per acre.

Footnotes:

1) Based on 200 seeds per square foot. Actual seed mix may vary depending on availability of seeds.

Table 5. Upland Seed Mix⁽¹⁾ Sheep Creek Ranch

Common Name	Scientific Name	Percent Composition	Lbs PLS/AC
Alpine bluegrass	Poa alpina	15	1.3
Blue grama	Bouteloua gracilis	10	1.1
Slender wheatgrass	Agropyron trachycaulum	25	13.7
Timothy grass	Phleum pratense	25	1.7
Western wheatgrass	Agropyron smithii	25	19.8
	Total:	100%	37.6

(0.86 lbs/1,000 square feet)

Notes:

Lbs PLS/AC = pounds of pure live seed per acre.

Footnotes:

1) Based on 200 seeds per square foot. Actual seed mix may vary depending on availability of seeds.

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Figures







Appendix A: Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

nvestigator(s): MEHAN	Section, Township, Range:	
andform (hillslope, terrace, etc.):	Local relief (concave, convex, none): Slope (%):
Subregion (LRR):	Lat: Long:	Datum:
Soil Map Unit Name: Torsido Losm		WM classification: hydric
		instances present? Tes No
Ve Vegetation, Soil, or Hydrology national summary OF FINDINGS - Attach site map should be a site map should be site map should be a site map should be site ma	urally problematic? (If needed, explain howing sampling point locations,	n any answers in Remarks.) transects, important features, et

VEGETATION – Use scientific names of plants.

L

Tree Stratum (Plot size:) 1)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: (A)
3			_	Total Number of Dominant Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size:)		= Total Co	over	Percent of Dominant Species 100'. (A/B)
1. Salis Spp			ZFOL	Total % Cover of: Multiply by:
3			_	OBL species x 1 = FACW species x 2 = FAC species x 2 =
5		= Total Co	over	FACU species X 3 = FACU species X 4 = UPL species X 5 =
1. <u>fris misspurisasus</u>	20	1	OBL	Column Totals: (A) (B)
3 D J. Balticus	20	-	1)	Prevalence index = B/A =
+ P. Concellit	10		EN	/1 - Danid Test for Hydrophytic Vegetation
5 Pag acatents	Tr	_	FACH	2. Dominance Test is 250%
6 Put that				2. Dominiance leday is C2.01
7		_		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
0				5 - Wetland Non-Vascular Plants'
10				Problematic Hydrophytic Vegetation ¹ (Explain)
11				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	_70	_= Total Co	ver	
1				Hydrophytic
2% Bare Ground in Herb Stratum		= Total Co	over	Present? Yes V No
Remarks:				

Profile Descrip	otion: (Describe to the	depth needed to docu	ment the indi	icator o	or confirm	the absence of in	ndicators.)
Depth _	Matrix	Rede	ox Features			and the second second	Charles I.
(inches)	Color (moist) %	Color (moist)	%]	'ype'	Loc	Texture	Remarks
0-6 1	0×241	_		C	M	eL	
				_	_		
	contration D=Denlation	DU-Dadurad Uatrix C	S-Couered o	Coste		raine ²) or stin	n: Pl=Ponetining M=Matrix
Hydric Soil Ind	ficators: (Applicable)	to all LRRs, unless othe	erwise noted	.)	d Sand G	Indicators f	or Problematic Hydric Soils ¹ :
Histosol (A	1)	Sandy Redox	(\$5)			2 cm Mi	uck (A10)
Histic Epip	edon (A2)	Stripped Matri	x (S6)			Red Par	rent Material (TF2)
Black Histi	c (A3)	Loamy Mucky	Mineral (F1)	(except	MLRA 1	Very Sh	allow Dark Surface (TF12)
Hydrogen	Sulfide (A4)	Loamy Gleyed	Matrix (F2)			Other (E	Explain in Remarks)
Depleted B	Below Dark Surface (A1	1) Depleted Matr	ix (F3)				
Thick Dark	Surface (A12)	Redox Dark S	urface (F6)			³ Indicators o	f hydrophytic vegetation and
Sandy Mut	cky Mineral (S1)	Depleted Dark	Surface (F7)	6. E		wetland t	hydrology must be present,
Sandy Gle	yed Matrix (S4)	Redox Depres	sions (F8)			unless di	sturbed or problematic.
Restrictive La	yer (if present):					1	
Type:						A	1/
Depth (inch	es):					Hydric Soll Pre	esent? Yes V No
Remarks:						1	
HYDROLOG	Y						
Wetland Hydr	ology Indicators:						
Primary Indical	tors (minimum of one re	quired; check all that ap	ply)			Seconda	ry Indicators (2 or more required)
Surface W	ater (A1)	Water-S	ained Leaves	s (B9) (except	Wate	er-Stained Leaves (B9) (MLRA 1, 2
High Wate	r Table (A2)	MLR	A 1, 2, 4A, an	d 4B)		1 4	A, and 4B)
Saturation	(A3)	Salt Crus	st (B11)			V Drain	nage Patterns (B10)
Water Mar	ts (B1)	Aquatic	Invertebrates	(B13)		Dry-	Season Water Table (C2)
		man and a start of the start of					

Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Screek Vecentral Concare Surface	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living I Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LRI (B7)Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) (C6) FAC-Neutral Test (D5) R A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge,	No Depth (inches): No Depth (inches): No Depth (inches): No Depth (inches): monitoring well, aerial photos, previous inspection	Vetland Hydrology Present? Yes No
Remarks: r	ECENKU Irributia return flo	ws - still ory Now, though.

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WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

nvestigator(s): MEHAN			Section, Township, Range:	
andform (hillslope, terrace, etc.):			Local relief (concave, convex, none):	Slope (%):
Subregion (LRR):		Lat:	Long:	Datum:
Soil Map Unit Name: Torsido	Loom		NWI classifica	nion: hydric
Are Vegetation, Soil, or Are Vegetation, Soil, or SUMMARY OF FINDINGS - A	Hydrology Hydrology ttach site r	naturally prot	Dematic? (If needed, explain any answer sampling point locations, transects,	esent? Yes <u>V</u> No s in Remarks.) important features, (
Hydrophytic Vegetation Present?	Yes	No	In the Completion	
Hydric Soil Present?	Yes	No	within a Wetland? Yes	No
Wetland Hydrology Present /	res	NO		

			Status	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
2			_	Total Number of Dominant Species Across All Strata: (B)
Sanling/Shnih Stratum (Piot size:		= Total Co	over	Percent of Dominant Species
1 Crysollomyr Noused D.S	10		FACU	Prevalence Index worksheet:
2 Artimeters Provideto	5		FRU	Total % Cover of: Multiply by:
3 Enlin	10		>For	OBL species x 1 =
4		-		FACW species x 2 =
5				FAC species x 3 =
	25	- Total C	ouor	FACU species x4 =
Herb Stratum (Plot size:)			UVEI	UPL species x 5 =
1. PED DIRTENSIS	25	V	FACU	Column Totals: (A) (B)
2 AGrowwrod Spp	15	V	h	Prevalence Index - D/A -
3. Tempine boltiens	1.0	V	FALM	Hydrophytic Vegetation Indicators:
4 Hardfum Tubothm	tr		FAL	1 - Rand Test for Hydrophytic Venetation
5 Pats Hillo	10	V	ZFOL	2 - Dominance Test (Store
6				3. Dravalance Index is <3.01
7				A Mambalagiani Adaptetiana ¹ (Drawide supporting
8				data in Remarks or on a separate sheet)
0				5 - Wetland Non-Vascular Plants ¹
				Problematic Hydrophytic Vegetation ¹ (Explain)
10				Indicators of hydric soil and wetland hydrology must
	- KII	Tunto		be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	00	_= Total Co	over	
1				Hydrophytic /
2				Present? Yes No
% Bare Ground in Herb Stratum _ 2 O		_= Total Co	over	
Remarks:				

SOIL

Profile Description: (Describe to the d	epth needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type' Loc'	Texture Remarks
0-6 102 0/2/1 41		DL VEry nocky
and the second se		the second s
¹ Type: C=Concentration, D=Depletion, F	RM=Reduced Matrix, CS=Covered or Coated Sand Gr	rains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to	all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils3:
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	Seattle of the second second second
I NICK Dark Surface (A12)	Redox Dark Surface (F6)	indicators of hydrophytic vegetation and
Sandy Gleved Matrix (S4)	Redox Depressions (FR)	unless disturbed or problematic
Restrictive Layer (if present):		
Туре:		
Depth (inches):		Hydric Soil Present? Yes No
Remarks		
HYDROLOGY Wetland Hydrology Indicators:		
Primary Indicators (minimum of one requ	uired; check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1)	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)	MLRA 1, 2, 4A, and 4B)	4A, and 4B)
Saturation (A3)	Salt Crust (B11)	Drainage Patterns (B10)
Water Marks (B1)	Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Oxidized Rhizospheres along Living Ro	ots (C3) Geomorphic Position (D2)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C	6) FAC-Neutral Test (D5)
Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRR A	A) Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery	(B7) Other (Explain in Remarks)	Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surfa	ce (B8)	
Field Observations:	w / particular	
Surface Water Present? Yes	Depth (inches):	
Water Table Present? Yes	No V Depth (inches):	
Saturation Present? Yes	No V Depth (inches): Wet	land Hydrology Present? Yes No //
Describe Recorded Data (stream gauge	, monitoring well, aerial photos, previous inspections)	, if available:
Remarks: Locoted	ow high book above a	used timbotian iretuin
Amt		
HI UND I		

At R4

WETLAND DETERMINATION DATA FORM	- Western Mountains,	Valleys, and Coast Region
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Applicant/Owner: 01200 52A53	Section, Tox	vnship, Range:	Sampling Point:
Landform (hillslope, terrace, etc.):	Local relief	(concave, convex, none):	Slope (%):
Subregion (LRR):	Lat:	Long:	Datum:
Soil Map Unit Name: Torsido LOAM		NWI clas	suffication hudric.
Are climatic / hydrologic conditions on the site typ	pical for this time of year? Yes	No (If no, explain	in Remarks.)
Are climatic / hydrologic conditions on the site typ Are Vegetation, Soil, or Hydrolog Are Vegetation, Soil, or Hydrolog SUMMARY OF FINDINGS – Attach s	pical for this time of year? Yes y significantly disturbed? y naturally problematic? ite map showing sampling	No (If no, explain Are "Normal Circumstanc (If needed, explain any ar g point locations, transe	in Remarks.) es* present? Yes No nswers in Remarks.)

Tree Stratum (Plot size:	1 (A) <u>4</u> (B) <u>2511</u> (A/B) Auttiphy by:
2. Total Number of Dominant 3.	4(B) 2 <u>5'/</u> (A/B) Aultiply by:
Sapling/Shrub Stratum (Plot size:	2.51/(A/B)
Poch Fruiticassa Tr Foch Prevalence Index worksheet Crusthonnins Convills Tr UPL OBL species x1= Artenssia Fri Cido S UPL OBL species x1= Artenssia Fri Cido S UPL OBL species x1= Artenssia Fri Cido S UPL OBL species x1= FACW species x2= FACW species x2= FACU species x2= Indervalue Prevalence Index X4= UPL species x3= Indervalue S QBL S Column Totals: (A) Indervalue S QBL S Column Totals: (A) Indervalue S QBL S Column Totals: (A) Indervalue S QBL Prevalence Index = B/A = Hydrophytic Vegetation Indicator Indervalue S QD V UP 2 Dominance Test is >50% Indervalue S Indervalue Indervalue S S S Indervalue	Aultiply by:
$\frac{CrijjSHkonniks}{Artensols} + on ils from ils from ils for here is solved in the indicator indicator is solved in the indicator indicator$	
Implementation Imple	
Image: Stratum (Plot size:)	·
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	(8)
Dratus balticus Diation Diation Diation Diation Diation Diation Prevalence Index = B/A = Draticus balticus Diation	(3)
Dividiant Dividiant A pietro B A B A B A B A B A B A B A B A B A B A B A B B <td></td>	
TARATICHA OPPICINGE TARATICHA OPPICINGE TARATICHA OPPICINGE 20 40 40 1 - Rapid Test for Hydrophytic 20 40 20 40 20 500 20	5:
2 Dominance Test is >50% APD 2 Dominance Test is >50% 5 POT GIACING CON pile 10 Foc 3 Prevalence Index is \$3.0" 7 DESCHOMOSIO COESONIOSO 4 bank 5 Focw 4 Morphological Adaptations"	Vegetation
DESCHOMOSIO COESONIOSO E bank 5 FOLW 4- Morphological Adaptations	
USCHOMASIA COESANDIA COMMAN TACW 4 - Morphological Adaptations	
data in Remarks or on a se	(Provide supporting parate sheet)
5 - Wetland Non-Vascular Plan	ts'
10. Problematic Hydrophytic Vege	ation ¹ (Explain)
Indicators of hydric soil and wetlan	d hydrology must
= Total Cover be present, unless disturbed or pro	blematic.
1. Hudronbutic	
Vegetation	. /
% Bare Ground in Herb Stratum = Total Cover Present? Yes	No 2
Remarks:	

SOIL

		2
Sampling	Point:	2

Denth Matrix	Redox Features	
nches) Color (moist) %	Color (moist) % Type1 Loc2	Texture Remarks
18 10×12/	NUNC	4 hord to dis > 8"
		Contine
veric Soil Indicators: (Applicable to all	Res unless otherwise noted)	Indicators for Problematic Hydric Solis ¹
Historol (A1)	Sandy Redne (CE)	2 cm Music (A10)
Histic Enjoed on (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA	1) Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loarny Gleved Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	
_ Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
_ Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
lestrictive Layer (if present):		
Type:	_	1
Depth (inches):		Hydric Soil Present? Tes NO V
	NO TEODY TEOTURES.	
YDROLOGY Netland Hydrology Indicators:	NO TEODY TEOTURS.	
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one require	ed; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1)	ed; check all that apply) Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2
YDROLOGY Vetland Hydrology Indicators: Surface Water (A1) High Water Table (A2)	ed; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
YDROLOGY Vetland Hydrology Indicators: <u>Primary Indicators (minimum of one require</u> Surface Water (A1) High Water Table (A2) Saturation (A3)	ed; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ed; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ed; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ed; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Dense of Dense difference (C1)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Roots (C3) Geomorphic Position (D2) Shellow Agridant (D3)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Image Series (B5)	ed; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Revent Iron Reduction in Tilled Solit	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) tron Deposits (B5) Surface Soli Cracke (B5)		Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) S (C6) FAC-Neutral Test (D5) R A) Baised Ant Mounts (D5) (LBP A)
YDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) tron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagent (A C TEODX TEOTARS. ad; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR Other (Explain in Remarks)	Secondary Indicalors (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) (C6) FAC-Neutral Test (D5) (R A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) tron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (International Imagery (Imagery (Imagery (Imagery	ad; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR B7) Other (Explain in Remarks) (B8)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Field Observations:	ed; check all that apply) 	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes	A C TEODX TEOTARS. ad; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) tron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Imagery Vegetated Concave Surface Field Observations: Surface Water Present? Yes	A C TEODX TEOTARS. ad; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) fron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes	A C TEODX TEOTARS. A C TEODX TEOTARS. A C TEODX TEOTARS. A C TEODX TEOTARS. A C C C C C C C C C C C C C C C C C C	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) tron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	ad; check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one require		Secondary Indicators (2 or more required)
YDROLOGY Primary Indicators (minimum of one require 	A C TEODX TEOTARS. ad; check all that apply)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Costs (C3) Geomorphic Position (D2) Shallow Aquitard (D3) (C6) FAC-Neutral Test (D5) (R A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No
YDROLOGY Primary Indicators (minimum of one required)	ACC TEODX TEOTARS. ad; check all that apply)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) (C6) FAC-Neutral Test (D5) (RA) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No
YDROLOGY Primary Indicators (minimum of one required)	ad: check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one require	ACC TECHOX TECHNES. ad; check all that apply)	Secondary Indicators (2 or more required)

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WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Investigator(s): MEHAN	Sec.	ction, Township, Range:	
Landform (hillslope, terrace, etc.):	Lo	cal relief (concave, convex, none):	Stope (%):
Subregion (LRR):	Lat:	Long:	Datum:
Soil Map Unit Name: Torsido L	oam	NWI classifica	ation: hydric
Are climatic / hydrologic conditions on the	site typical for this time of year?	Yes No (If no, explain in Re	emarks.)
Are climatic / hydrologic conditions on the Are Vegetation, Soil, or Hy Are Vegetation, Soil, or Hy SUMMARY OF FINDINGS - Atta	site typical for this time of year? ydrology significantly dis ydrology naturally proble ach site map showing si	P Yes No (If no, explain in Resturbed? Are "Normal Circumstances" piematic? (If needed, explain any answer ampling point locations, transects,	emarks.) resent? Yes No s in Remarks.) , important features, et

Tree Stratum (Plot size:) 1)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:
23		_	_	Total Number of Dominant Species Across All Strata: (B)
4		= Total Co	ver	Percent of Dominant Species (A/B) That Are OBL, FACW, or FAC: (A/B)
1				Prevalence Index worksheet: Total % Cover of: Multiply by:
3				OBL species x 1 = FACW species x 2 =
4	_			FAC species x 3 =
Herb Stratum (Plot size:		= Total Co	wer	FACU species x 4 = UPL species x 5 =
1. JUNINY holdIN	20	1	FACH	Column Totals: (A) (B)
3 ACHILLED LOOM 1030	5		hp	Prevalence Index = B/A =
4. AS-opyron app			np	- P- Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
6		_	_	3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants1
10	_			Problematic Hydrophytic Vegetation ¹ (Explain)
11	101)	- Total Co		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	1.0	1012100	vei	
1				Hydrophytic /
2 % Bare Ground in Herb Stratum	100	= Total Co	ver	Present? Yes V No
Remarks:		1		

Profile Des	cription: (Describe	to the depth	needed to docu	ment the	indicator	or confin	m the absence	of indicators.)
Depth	Matrix		Redo	x Feature	s			
(inches)	Color (moist)	%	Color (moist)	%	Type	Loc2	Texture	Remarks
5-6	10×2 3/1	95		3	C	M	CL_	Kiy Lora to dkr
						_		······································
¹ Type: C=C Hydric Soil Histosc Histic E Black H Hydrog Deplete	Concentration, D=De Indicators: (Applie of (A1) Epipedon (A2) fistic (A3) en Sulfide (A4) ed Below Dark Surfa	pletion, RM=R cable to all LI 	teduced Matrix, C RRs, unless othe Sandy Redox Stripped Matri Loamy Mucky Loamy Gleyed Depleted Matri	S=Covere erwise no (S5) x (S6) Mineral (F Matrix (F ix (F3)	ed or Coal ted.) =1) (excep 2)	ed Sand	Grains. ² Lo Indicato 2 cr Rec 1) Ver Oth	cation: PL=Pore Lining, M=Matrix. ors for Problematic Hydric Soits ³ : m Muck (A10) d Parent Material (TF2) ry Shallow Dark Surface (TF12) her (Explain in Remarks)
Thick E Sandy Sandy	Dark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4)		_ Redox Dark S _ Depleted Dark _ Redox Depres	urface (F6 Surface (isions (F8	5) (F7))		"Indicati wetla unles	ors of hydrophytic vegetation and and hydrology must be present, ss disturbed or problematic.
Restrictive Type: Depth (ii	Layer (if present):		_				Hydric Sol	Il Present? Yes No
Remarks:								
HYDROLO	DGY			-				
Wetland H	ydrology Indicators	one required:	check all that an	olv)			Seco	ondary Indicators (2 or more required)
	in the product of the second		Wales C	ained Les		lovenet		Water-Stained Leaves (89) (MI RA 1

R7

Primary indicators (minimum of one required, cr	reck all that apply)	Secondary indicators (2 of more required)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsety Vegetated Concave Surface (B8)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? Yes No. Water Table Present? Yes No. Saturation Present? Yes No. (includes capillary fringe) Describe Recorded Data (stream gauge, monitor Remarks:	Depth (inches): Depth (inches): Depth (inches): Depth (inches): Depth (inches): Wetland oring well, aerial photos, previous inspections), if an ICW Spot NEO/ Swalt - Sustained by water Arc	Hydrology Present? Yes <u>V</u> No <u>Vailable:</u> Flw. Likely Not om shelp crek,

Project/Site: ShEEP CIFER R Applicant/Owner: GIEGE SEAS	anch City/County:	State: CO	Sampling Date: 8 8/ 11 Sampling Point:
investigator(s): MEHAN	Section, Town	ship, Range:	
Landform (hillslope, terrace, etc.):	Local relief (c	oncave, convex, none):	Slope (%):
Subregion (LRR):	Lat:	Long:	Datum:
Soil Map Unit Name: Torsido LOAN	1	NWI classif	lication: hydric
Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrolog Are Vegetation, Soil, or Hydrolog	pical for this time of year? Yes ny significantly disturbed? ny naturally problematic?	No (If no, explain in Are "Normal Circumstances" (If needed, explain any answ	Remarks.) [•] present? Yes <u>V</u> No <u></u> No <u></u>
SUMMARY OF FINDINGS - Attach s	site map showing sampling	point locations, transect	s, important features, etc
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No Is the s No within	Sampled Area a Wetland? Yes	No
Remarks:			

1	% Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FA	<u> </u>	(A)
234		_	_	Total Number of Dominant Species Across All Strata: Percent of Dominant Species	3	(B)
Sapling/Shrub Stratum (Plot size:)		= Total Co	ver	That Are OBL, FACW, or FA	c. <u>700 7.</u>	(A/B)
1			_	Prevalence Index worksher Total % Cover of	et: Multiply by:	
2				OBL species	x1=	
3				FACW species	x2=	3
4				FAC species	x 3 =	
5				FACU species	x4=	
Herb Stratum (Plot size:	1	= Total Co	over	UPL species	x 5 =	
1 DEschamon Coevaitory	75	V	FACU	Column Totals:	(A)	(B)
2. POTENTILA GRECILS	10	V	FOL	Prevalence Index = B/	A =	
3 poter	Y		FACU	Hydrophytic Vegetation In	dicators:	
A PLANTAGO SOL	T/		FAC	1 - Rapid Test for Hydro	phytic Vegetation	
5. COTEX MOZOROCIAS	15	V	FALW	2 - Dominance Test is >	50%	
6. Achillso langloss	Tr			3 - Prevalence Index is :	\$3.0'	
7. Hurdsun Jubetun	14			4 - Morphological Adapt	ations ¹ (Provide su	poorting
BC Utriculate 5	TI		DAL	data in Remarks or o	n a separate sheet	1)
9				5 - Wetland Non-Vascul	ar Plants ¹	
10		_		Problematic Hydrophytic	Vegetation' (Expl	ain)
11	- 1			¹ Indicators of hydric soil and	wetland hydrology	must
Woody Vine Stratum (Plot size:)	100	= Total Co	ver	be present, unless disturbed	or problematic.	
1				Hydrophytic	1	
2		_		Vegetation		
% Bare Ground in Herb Stratum		_= Total Co	ver	Presentr tes	NO	
Remarks:						

-		
-	-	

DIL		company cant
rofile Description: (Describe to th	e depth needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix	Redox Features	The second s
nches) Color (moist)	% Color (moist) % Type* Loc*	Remarks
-14 10×n -11		r Fibric
ype: C=Concentration, D=Depletio	n, RM=Reduced Matrix, CS=Covered or Coated Sand G	rains. ² Location; PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (Applicable	to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ² :
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
_ Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
_ Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (TF12)
_ Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
_ Depleted Below Dark Surface (A	11) Depleted Matrix (F3)	A construction of the second second
_ Thick Dark Surface (A12)	Redox Dark Surface (F6)	Indicators of hydrophytic vegetation and
_ Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
_ Sandy Gleyed Matrix (54)	Redox Depressions (F8)	unless disturbed or problematic.
Time:		
Type.		Muddie Sall Dessent 2 Yes /
Depth (inches).		Hydric Son Fresentr Tes _ Ho_
Remarks:		
YDROLOGY Vetland Hydrology Indicators:		
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one	required; check all that apply)	Secondary Indicators (2 or more required)
Remarks: YDROLOGY Vetland Hydrology Indicators: <u>Primary Indicators (minimum of one none none none none none none no</u>	required; check all that apply) Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2
YDROLOGY Yetland Hydrology Indicators: Primary Indicators (minimum of one i Surface Water (A1) High Water Table (A2)	required; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)
YDROLOGY YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one i Surface Water (A1) High Water Table (A2) Saturation (A3)	required; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10)
YDROLOGY Yetland Hydrology Indicators: Primary Indicators (minimum of one I Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	required; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLOGY Yetland Hydrology Indicators: Primary Indicators (minimum of one I Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	required; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one I Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	required; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C bots (C3) Geomorphic Position (D2)
Vertiand Hydrology Indicators: Primary Indicators (minimum of one I Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	required; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Ro — Presence of Reduced Iron (C4)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3)
Vertiand Hydrology Indicators: Primary Indicators (minimum of one I Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	required; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Ro — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C saturation Visible on Aerial Imagery (C Stallow Aquitard (D3) FAC-Neutral Test (D5)
VDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one I Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	required; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Ro — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C Stunted or Stressed Plants (D1) (LRR /	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Saturation Visible on Aerial Imagery (C Stallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A)
VDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one i Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima	required; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Ro — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C — Stunted or Stressed Plants (D1) (LRR / pery (B7) — Other (Explain in Remarks)	 Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Sots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Yetland Hydrology Indicators: Primary Indicators (minimum of one i Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Snarsely Vegetated Concave Si	required; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Titled Soils (C Stunted or Stressed Plants (D1) (LRR / gery (B7) Other (Explain in Remarks)	 Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Yetland Hydrology Indicators: Primary Indicators (minimum of one I Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave So Field Observations:	required; check all that apply)	 Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Yetland Hydrology Indicators: Primary Indicators (minimum of one I Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) fron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave So Field Observations: Surface Water Present?	required; check all that apply)	 Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
YDROLOGY Yetland Hydrology Indicators: Primary Indicators (minimum of one I)	required; check all that apply)	 Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Xemarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one I Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave So Field Observations: Surface Water Present? Yes Water Table Present? Yes	required; check all that apply)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Saturatin Visible on Aerial Imagery (C Saturation Visible on Aerial Im
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one I Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Street Observations: Surface Water Present? Yes Saturation Present? Yes	required; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilted Soils (C Stunted or Stressed Plants (D1) (LRR A) gery (B7) Other (Explain in Remarks) Inface (B8) No Depth (inches): No Depth (inches): Wei	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Cl Saturation Visible on Aerial Imag
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one in the second seco		Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Stallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) ttand Hydrology Present? Yes No
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one I) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Images Sparsely Vegetated Concave So Field Observations: Surface Water Present? Yes Saturation Present? Yes Surorible Record	required; check all that apply)	
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one in surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Streid Observations: Surface Water Present? Yes, Water Table Present? Yes, Water Table Present? Yes, Saturation Present? Yes, Saturation Present? Yes, Remarks: Remarks:	required; check all that apply)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Saturatin Visible on Aerial Imagery (C Saturation Visible on Aerial Im
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one in surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Street Field Observations: Surface Water Present? Yes Nater Table Present? Yes Saturation Present? Yes Includes capillary fringe) Describe Recorded Data (stream ga Remarks: Semarks:	required: check all that apply)	Secondary Indicators (2 or more required)

Project/Site: ShEEP CIFEE RAN Applicant/Owner GIEGE SEASE	city/County: 5	State: C	N+Y Sampling Date: 8/1/11
Investigator(s): MEHAN	Section, Towns	hip, Range:	Camping Fourt
Landform (hillslope, terrace, etc.):	Local relief (co	ncave, convex, none):	Slope (%):
Subregion (LRR):	Lat:	Long:NWI	classification: hydric
Are climatic / hydrologic conditions on the site typical Are Vegetation, Soil, or Hydrology Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS – Attach site	for this time of year? Yes significantly disturbed? naturally problematic? map showing sampling p	No (If no, exp Are "Normal Circumsta (If needed, explain any point locations, tran	lain in Remarks.) ances" present? Yes <u>V</u> No <u>vanswers in Remarks.</u>) Disects, important features, et

5

	Absolute	Dominant Indicator	Dominance Test worksheet:
1)	% Cover	Species / Status	Number of Dominant Species (A)
2			Total Number of Dominant
3			Species Across All Strata: (B)
4		= Total Cover	Percent of Dominant Species 33-/. (A/B
Sapling/Shrub Stratum (Plot size:)	To	ZPAL	Prevalence Index worksheet:
1 Stol 12 Sol	-4-		Total % Cover of: Multiply by:
2			OBL species x1 =
3			FACW species x 2 =
			FAC species x 3 =
		= Total Cover	FACU species x 4 =
Herb Stratum, (Plot size:)	~		UPL species x 5 =
1. DESCHAMATIO CAESPHUSS	5	- Forw	Column Totals: (A) (B)
2 DUTENTING GIACOLYS	_30_	FAU	Prevalence Index = B/A =
3. Anonymot tochis	25	- up	Hydrophytic Vegetation Indicators:
4 AGROPHING SPP	_ 20	Vap	1 - Rapid Test for Hydrophytic Vegetation
5	_		2 - Dominance Test is >50%
6			3 - Prevalence Index is ≤3.01
7			 4 - Morphological Adaptations¹ (Provide supportin data in Remarks or on a separate sheet)
9			5 - Wetland Non-Vascular Plants'
10			Problematic Hydrophytic Vegetation ¹ (Explain)
11	- Andrews		¹ Indicators of hydric soil and wetland hydrology must
	100	= Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		-	the Management of the second second
1			- Hydrophytic
2			- Present? Yes No
% Bare Ground in Herb Stratum _2.5		_= Total Cover	
Remarks:	Ant	the lin an	L
10003 160	20000	male in po	ac.

DIL		Sampling Point:
rofile Description: (Describe to the depth n	eeded to document the indicator or conf	firm the absence of indicators.)
Depth Matrix	Redox Features	- and a second
inches) Color (moist) % (Color (moist) % Type' Loc'	Texture Remarks
0-6 1023/3 100	-	VSIL STONEY
	and the second	
Type: C=Concentration, D=Depletion, RM=Rec	duced Matrix, CS=Covered or Coated Sand	Grains. ² Location: PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (Applicable to all LRF	Rs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
_ Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA	(1) Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
_ Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	
_ Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
lestrictive Layer (if present):		
Туре:		The second secon
Depth (inches):		Hydric Soil Present? Yes No
Remarks:		
YDROLOGY Wetland Hydrology Indicators:		
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply)	Secondary Indicators (2 or more required)
Primary Indicators (minimum of one required; Cl Surface Water (A1)	heck all that apply) Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2
Primary Indicators (minimum of one required; cl Surface Water (A1) High Water Table (A2)	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A. and 4B)
Primary Indicators: Primary Indicators (minimum of one required; cl Surface Water (A1) High Water Table (A2) Soluration (A3)	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Corst (B11)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; cl Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marker (P1)	heck all that apply) Water-Stained Leaves (89) (except MLRA 1, 2, 4A, and 4B) Satt Crust (811) Acustic Invertebrates (813)	Secondary Indicators (2 or more required) — Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) — Drainage Patterns (B10) Dry Season Water Table (C2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic Invertebrates (B13) Houstic Coder (C1)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 3 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imageny (C
Primarks: Primary Indicators: Primary Indicators (minimum of one required; cl Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Diff Deposits (B2)	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Outdoor 6 Discontegen Sulfide Odor (C1)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Commercial Pacifics (D2)
Remarks: YDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Processor of Bodiused Inc. (C1)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Roots (C3) Geomorphic Position (D2) Shellow Aguitant (D2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Isro Bodynetics Table Con-	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) EAC Nexter Table (C5)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3) Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) s (C6) FAC-Neutral Test (D5) R A) Raised Ant Mounds (D6) (LRR A)
YDROLOGY Wetiand Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR Other (Explain in Remarks)	Secondary Indicators (2 or more required)
YDROLOGY Wetiand Hydrology Indicators: Primary Indicators (minimum of one required; Cl Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR Other (Explain in Remarks)	Secondary Indicators (2 or more required)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR Other (Explain in Remarks)	Secondary Indicators (2 or more required)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR Other (Explain in Remarks) Depth (inches):	Secondary Indicators (2 or more required)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary Indicators (2 or more required)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary Indicators (2 or more required)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary Indicators (2 or more required)
Primarks: YDROLOGY Vetiand Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches): Noring well, aerial photos, previous inspection	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Saturation Visible on Aerial Imag
Remarks: YDROLOGY Wetiand Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Satt Crust (B11) Aquatic invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LR Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary Indicators (2 or more required)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply)	Secondary Indicators (2 or more required)
Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply)	Secondary Indicators (2 or more required)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; cl	heck all that apply)	Secondary Indicators (2 or more required)

R32

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Investigator(s): MEHAN		Section, Township, Range:	
Landform (hillslope, terrace, etc.):		Local relief (concave, convex, none): Si	ope (%):
Subregion (LRR);	Lat:	Long: Dat	um:
Soil Map Unit Name: Torsido Logm		NW classification: hyd	ric
Are Vegetation Soil or Hydrology	naturally p	roblematic? (If needed, explain any answers in Remarks.)	P_ 110
SUMMARY OF FINDINGS - Attach site m	ap showin	g sampling point locations, transects, important f	eatures, et
SUMMARY OF FINDINGS – Attach site ma Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present?	No V No V	g sampling point locations, transects, important f	eatures, et

VEGETATION - Use scientific names of plants.

<u>Tree Stratum</u> (Plot size:) 1)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:
2			_	Total Number of Dominant Species Across All Strata: (B)
Sonling/Shoch Stratum /Dist size-		= Total Co	ver	That Are OBL, FACW, or FAC:(0'0' /,(A/B)
1. Jalix Jap	_		2FAC	Prevalence Index worksheet
2				OBL species x1=
3				FACW species x2 =
4				FAC species x 3 =
5				FACU species x 4 =
Herb Stratum (Plot size:)		_= Total Co	NPT -	UPL species x 5 =
1 1015	40	V	HIN	Column Totals: (A) (B)
2 potentille Geocilis	20	V	FAC	Prevalence index = B/A =
3. JUNCLAS bolticus	05_	V	Foche	Hydrophytic Vegetation Indicators:
1 Circium	_ <u>T/</u>		hp	1_Rapid Test for Hydrophytic Vegetation
5. Achillan	-M		11	_V2 - Dominance Test is >50%
6. sayoyrow			<u> </u>	3 - Prevalence Index is ≤3.01
7. tosolium,	5		1)	4 - Morphological Adaptations1 (Provide supporting
8. CHILLOUNS THEIMUP SIS	-1-		FIC	data in Remarks or on a separate sheet)
9 PUCINELLIA	_ 10		tec	5 - Wetland Non-Vascular Plants'
10				Problematic Hydrophytic Vegetation' (Explain)
11				Indicators of hydric soil and wetland hydrology must
Worth Vine Stratum (Plot size		= Total Co	wer	be preach, uncas disturbed of proventeur.
1				14. december 41
				Vegetation 1/
% Bare Ground in Herb Stratum		= Total Co	over	Present? Yes No
Remarks:				
And and a second se				

l

Profile Description: (Describe to th	he depth needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix	Redox Features	
inches) Color (moist)	% Color (moist) % Type ¹ Loc ²	Texture Remarks
1-12 (DIR 3/1	NONS	Grenning struct
Type: C=Concentration, D=Depletio	n, RM=Reduced Matrix, CS=Covered or Coated Sand G	rains. ² Location: PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (Applicable	to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils":
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shallow Dark Surface (1F12)
Depleted Below Dark Surface (A)	11) Depletert Matrix (F3)	_ Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
_ Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
Restrictive Layer (if present):		
Type:		
Depth (inches):		Hudnic Soil Present? Yes No. 1/
		The source source and the
Remarks:	No redox fedures	
Remarks: YDROLOGY	No redox fedures	
Remarks: IYDROLOGY Wetland Hydrology Indicators:	No redox fedures	
Remarks: TYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one	NG REDOX PEDINSU	Secondary Indicators (2 or more required)
Remarks: TYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one 	required; check all that apply) Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 1)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one - Surface Water (A1) High Water Table (A2)	MG (200x ftdurs) required: check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 1 4A, and 4B)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3)	required; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Sait Crust (B11)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 1 4A, and 4B) Drainage Patterns (B10)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	required; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Remarks: Primary Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	required; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
Remarks: PYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one - Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	required; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Ro	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C pots (C3) Geomorphic Position (D2)
Remarks: PYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	M6 (200x ftAwrs) required; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Ro — Presence of Reduced Iron (C4)	
Remarks: PYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one - Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	M6 (200x PEAMS) required; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Ro — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C	Secondary Indicators (2 or more required)
Remarks: PYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	M6 (200x PEAMS) required; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Ro — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C — Stunted or Stressed Plants (D1) (LRR A	Secondary Indicators (2 or more required)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image	M6 (200x ftAwr&) required: check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Ro — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C — Stunted or Stressed Plants (D1) (LRR A gery (B7) — Other (Explain in Remarks)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Saturation Visible on Aerial I
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Images Sparsely Vegetated Concave Surface Soil Cracks (S6)	M6 (200x ftAwrs) required; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Ro — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C — Stunted or Stressed Plants (D1) (LRR A gery (B7) — Other (Explain in Remarks) urface (B8)	Secondary Indicators (2 or more required)
Remarks: PYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Images Sparsely Vegetated Concave So Field Observations:	M6 (200x ftAwrs) required; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Ro — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C — Stunted or Stressed Plants (D1) (LRR / gery (B7) — Other (Explain in Remarks) urface (B8)	Secondary Indicators (2 or more required)
Remarks: PYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave So Field Observations: Surface Water Present? Yes	N6 (200x RANS required; check all that apply)	
Remarks: PYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave So Field Observations: Surface Water Present? Yes Water Table Present? Yes	N6 (200x Reduces required: check all that apply)	Secondary Indicators (2 or more required)
Remarks: PYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imat Sparsely Vegetated Concave Si Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	N6 (200x AAAAS required: check all that apply)	Secondary Indicators (2 or more required)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imat Sparsely Vegetated Concave St Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream ga	N6 (200x MANSI required; check all that apply)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Saturation Visible on
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave Si Field Observations: Surface Water Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream ga	N6 (200x Market required: check all that apply)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5) A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks: PYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one	N6 (200x ALAWS required: check all that apply)	Secondary Indicators (2 or more required)

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WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Applicant/Owner. GIEGE STASE		State: CO	Sampling Point:
Investigator(s):		_ Section, Township, Range:	
Landform (hillslope, terrace, etc.):		Local relief (concave, convex, none):	Slope (%):
Subregion (LRR):	Lat:	Long:	Datum:
Soil Map Unit Name: Torsido Loam	10	NWI classific	ation: hydric
Are climatic / hydrologic conditions on the site typica	I for this time of	vear? Yes / No (If no evolain in R	omarie)
Are Vegetation, Soil, or Hydrology Are Vegetation, Soil, or Hydrology	significant	Ily disturbed? Are "Normal Circumstances" p problematic? (If needed, explain any answe	resent? Yes V No
Are Vegetation, Soil, or Hydrology _ Are Vegetation, Soil, or Hydrology _ SUMMARY OF FINDINGS - Attach site	significant naturally p map showip	Ily disturbed? Are "Normal Circumstances" p problematic? (If needed, explain any answe ag sampling point locations, transects	vresent? Yes V No rs in Remarks.) , important features, et

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species	2	
1				That Are OBL, FACW, or FAC:		_ (A)
3		_		Total Number of Dominant Species Across All Strata:	4	_ (B)
4		= Total Co	ver	Percent of Dominant Species That Are OBL, FACW, or FAC:	50	(A/B)
Sapling/Shrub Stratum (Plot size:)				Prevalence Index worksheet:		
1				Total % Cover of:	Multiply by:	
2				OBL species	(1=	- A.
3				FACW species	2=	
4				FAC species	3=	
5				FACU species	4=	
Hat Stratum (Plat size:		= Total Co	ver	UPL species	.5=	_
Hero Stratum (Pior Size.	30	V	IA PL	Column Totals: (A)	(B)
1. (14/14/1	20		CRI			- (-)
2. <u>Tris</u>	2 ()	V	1.0	Prevalence Index = B/A =	_	
3. Darepylos spp			The l	Hydrophytic Vegetation Indic	ators:	
A JUNCAS DALFILLA	- 10		FALM	1 - Rapid Test for Hydroph	ytic Vegetation	
5. FSTUCA SPE	- 10		ILP	_ 2 - Dominance Test is >50	%	
6. Tarasicam aristinalo	- 17		110	3 - Prevalence Index is ≤3.	0'	
8. BARARDER WIEdy MUSTAN	- 1'		MP_	4 - Morphological Adaptati data in Remarks or on a	ons ¹ (Provide su a separate shee	(pporting
9				5 - Wetland Non-Vascular	Plants ¹	
10				Problematic Hydrophytic V	egetation ¹ (Expl	lain)
11				¹ Indicators of hydric soil and we	tiand hydrology	must
Wash Vise Stratum /Dist size		= Total Co	ver	be present, unless disturbed or	problematic.	_
Woody Vine Stratum (Piot size)				a ante an		
1				Vegetation		
2		= Total Co	ver	Present? Yes	NO	
% Bare Ground in Herb Stratum						

Profile Des	scription: (Describe to	the depth need	ded to docum	nent the i	indicator	or confirm	n the absenc	e of indicators.)
Depth	Matrix		Redo	x Feature	\$			
(inches)	Color (moist)	% Col	or (moist)	%	Type	Loc	Texture	Remarks
1-12	10110 42,91		SNONE	_	-		34	GIDNNIG STRUCTURE
				_	_			
			-	_	_	_	-	
Type: C=0	Concentration, D=Deplet	ion, RM=Reduc	xed Matrix, CS	=Covere	d or Coate	ed Sand G	rains. ² L	ocation: PL=Pore Lining, M=Matrix.
ydric Soi	il Indicators: (Applicab	le to all LRRs,	unless other	wise not	ted.)		Indica	tors for Problematic Hydric Solls ³ :
_ Histoso	ol (A1)	Si	andy Redox (S	55)			_ 2	cm Muck (A10)
_ Histic E	Epipedon (A2)	St	ripped Matrix	(S6)			R	ed Parent Material (TF2)
_ Black I	nisuc (A3)	- 4	Damy Mucky M	Ameral (F	1) (excep	MLRA 1		ery Snallow Dark Sufface (TF12)
_ nyorog	ed Below Dark Surface /	A11) - LC	enleted Materia	(F3)	2)		_ 0	mer (Explain in Remarks)
Thick I	Dark Surface (A12)		edox Dark Su	face (F6)		³ Indica	ators of hydrophytic vegetation and
Sandy	Mucky Mineral (S1)	D	epleted Dark	Surface (, F7)		we	tland hydrology must be present,
Sandy	Gleyed Matrix (S4)	R	edox Depress	ions (F8)			uni	ess disturbed or problematic.
estrictive Type:	e Layer (if present):							
Type: Depth (i Remarks:	e Layer (if present): inches):		(cda	. 5	= +u	K 1	Hydric So	bil Present? Yes No
Restrictive Type: _ Depth (i Remarks:	e Layer (if present):	NG	red o	is Fr	te tu	د ځا	Hydric So	oil Present? Yes <u>No</u> Vo
YDROL	e Layer (if present): inches):	NO	i redo	y Fr	to tu	د ع	Hydric So	bil Present? Yes No K
YDROLO	e Layer (if present): inches): OGY lydrology Indicators:	NO	i redo	3 F	eo tu	د ع	Hydric So	oil Present? Yes <u>No </u>
YDROLO Vettand H	OGY Inches): OGY Indicators: dicators: dicators (minimum of one	NC e required; chec	k all that app	st Fr	eo tu	د ع	Hydric So	condary Indicators (2 or more required)
YDROLO Vetland H Primary Inc. Surfac	e Layer (if present): inches): OGY lydrology Indicators: dicators (minimum of one æ Water (A1)	NC e required; chec	k all that app Water-Sta	M ined Lea	E. +4	د ع/ except	Hydric So	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2
YDROLO Vetland H Primary Inc Surfac High V	e Layer (if present): inches): OGY lydrology Indicators: dicators (minimum of one xe Water (A1) Water Table (A2) wins (A2)	NC e required; chec	k all that app Water-Sta MLRA	W) inted Lea	(s +4) ves (B9) (and 4B)	except	Hydric So	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 1 4A, and 4B)
YDROLO YUROLO	OGY Iydrology Indicators: dicators (minimum of one we Water (A1) Water Table (A2) ation (A3) Made (P1)	e required; chec	k all that app Water-Sta MLRA Salt Crust	M) inted Leas 1, 2, 4A, (B11)	ves (B9) (and 4B)	except	Hydric Se	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Drav Season Water Table (C2)
YDROLO Vettand H Primary Inc Satura Water Satura	OGY Inches):	e required; chec	k all that app Water-Sta MLRA Salt Crust Aquatic In	M) lined Lea 1, 2, 4A, (B11) svertebral	Ves (B9) (and 4B) des (B13)	except	Hydric So	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imageney (C
Vetland H Primary Inc Satura Water Sedim Drife D	OGY inches):	e required; chec	* all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen	M) inted Lea 1, 2, 4A, (B11) vertebral Sulfide (Rhizeenh	(F + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 +	except	Hydric So Sec	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2)
YDROLO Vetland H Primary Inc Surfac High V Satura Water Sedim Drift D	OGY inches): inches): inches): inches): inches): inches): OGY indicators: inches): inches	e required; chec	* all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized	M) inned Lea 1, 2, 4A, (B11) wertebral Sulfide (Rhizosph of Reduct	Ves (B9) (and 4B) (es (B13) Odor (C1) eres along and iron (C	except	Hydric So Sec pots (C3)	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3)
Vettand H Primary Inc Sedim Sedim Sedim Drift D Algal M Iron D	OGY winches): odgy winches): odgy winches): odgy winches): odgy odgy winches): odgy odgy winches): odgy odgy winches): odgy odgy winches): odgy od	e required; ches	k all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized Presence Recent In	M) ined Lea 1, 2, 4A, (B11) vvertebrat Sulfide (Rhizosph of Reduc	ves (B9) (and 4B) es (B13) Odor (C1) eres along ced Iron (C	except	Hydric Se Sec oots (C3)	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
YDROLO Vetland H Primary Inc Satura Water Sedim Drift D Algal M Iron Do Surfac	OGY Iydrology Indicators: dicators (minimum of one we Water (A1) Water Table (A2) ation (A3) Marks (B1) ment Deposits (B2) weposits (B3) Mat or Crust (B4) reposits (B5) we Soil Cracks (B6)	e required; chec	k all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent In Stunted o	W) ined Lea 1, 2, 4A, (B11) suffice (Rhizosph of Reduc on Reduc r Stresse	ves (B9) (and 4B) des (B13) Odor (C1) eres along ced Iron (C tion in Till d Plants ()	except	Hydric Se 	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Pattems (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Vertiand H Primary Inc Sedim Primary Inc Surfac Water Sedim Drift D Algal M Iron Do Surfac Incon Do	OGY Inches): Inches	e required; chec	k all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent In Stunted o Other (Ex	W) inned Lea 1, 2, 4A, (B11) suffide (Rhizosph of Reduc on Reduc r Stresse plain in R	ves (B9) (and 4B) des (B13) Odor (C1) eres along ced Iron (C tion in Till d Plants (Cemarks)	except Living Ro (24) ed Soils (C D1) (LRR)	Hydric Se See Dots (C3)	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Vettand H Primary Inc Sedim Satura Water Sedim Drift D Algal M Iron Do Surfac Surfac	e Layer (if present): inches): OGY lydrology Indicators: dicators (minimum of one æ Water (A1) Vater Table (A2) ation (A3) Marks (B1) ment Deposits (B2) beposits (B3) Mat or Crust (B4) eposits (B5) æ Soil Cracks (B6) ation Visible on Aerial Im ely Vegetated Concave S	e required; chec agery (B7) Surface (B8)	k all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized Presence Recent In Stunted o Other (Ex	M) inned Lea 1, 2, 4A, (B11) sulfide (Rhizosph of Reduc on Reduc r Stresse plain in R	ves (B9) (and 4B) les (B13) odor (C1) eres along ced Iron (C tion in Till d Plants (temarks)	except Living Ro (A) ed Soils (C D1) (LRR	Hydric Se Sec Sots (C3)	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Restrictive Type: Depth (i Remarks: YDROL(Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D Algal M Iron D Surfac Inunda Sparse	OGY inches):	e required; chec agery (B7) Surface (B8)	* all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent In Stunted o Other (Ex	M) inned Lea 1, 2, 4A, (B11) vertebral Sulfide (Rhizosph of Reduc on Reduc r Stresse plain in R	ves (B9) (and 4B) es (B13) Odor (C1) eres along ced Iron (C tion in Till d Plants (cemarks)	except Living Ro (4) ed Soils (C D1) (LRR	Hydric So 	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 44, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Restrictive Type: Depth (i Remarks: YDROLO Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D Algal M Iron Do Surfac Sparso Field Obse Surface W	OGY inches): inches): inches): inches): OGY inches):	e required; ches agery (B7) Surface (B8)	x all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized Presence Recent In Stunted o Other (Ex	M) inned Lea 1, 2, 4A, (B11) vertebral Sulfide (Rhizosph of Reduc on Reduc r Stresse plain in R	ves (B9) (and 4B) es (B13) Odor (C1) eres along ced Iron (C tion in Till d Plants (cemarks)	except except (4) ed Soils (C D1) (LRR)	Hydric So 	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Restrictive Type: Depth (i Remarks: YDROLO Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D Algal M Iron Di Surfac Surface W Water Tab	OGY Inches): Inche	e required; ches agery (B7) Surface (B8)	x all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized Presence Recent In Stunted o Other (Ex	M) inned Lea 1, 2, 4A, (B11) vertebrat Sulfide (Rhizosph of Reduc on Reduc r Stresse plain in R	ves (B9) (and 4B) es (B13) Odor (C1) eres along sed Iron (C tion in Tilli d Plants (temarks)	except	Hydric Se Sec 	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Restrictive Type: Depth (i Remarks: YDROL(Wetland H Primary Inc Surfac High V Satura Vater Sedim Drift D Algal M Iron Do Surfac Surface W Water Tab Saturation	e Layer (if present): inches): OGY lydrology Indicators: dicators (minimum of one ze Water (A1) Water Table (A2) ation (A3) Marks (B1) ment Deposits (B2) Deposits (B3) Mat or Crust (B4) eposits (B5) ze Soil Cracks (B6) ation Visible on Aerial Im ely Vegetated Concave S ervations: fater Present? Yes Present? Yes	No No No No No	k all that app Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized I Presence Recent In Stunted o Other (Ex Depth (in Depth (in Depth (in	M) inned Lea 1, 2, 4A, (B11) ivertebral Sulfide (Rhizosph of Reduc on Reduc r Stresse plain in R inches): inches):	ves (B9) (and 4B) des (B13) Odor (C1) eres along ced Iron (C tion in Till d Plants (cemarks)	except	Hydric Se Sec Dots (C3)	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

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Soil dry at 12" Locating 3 above creek andry bank, away from inigation. Remarks:

RTB

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

nvestigator(s): MEHAN	Section,	, Township, Range: State: Sar	npung Point:
andform (hillslope, terrace, etc.):	Local re	elief (concave, convex, none).	Slope (%):
Subregion (LRR):	Lat:	Long:	Datum:
Soil Map Unit Name: Torsido LOAN	2	NWI classification	: hydric
Are Vegetation, Soil, or Hydrolog Are Vegetation, Soil, or Hydrolog SUMMARY OF FINDINGS - Attach s	y naturally problemati site map showing samp	c? (If needed, explain any answers in pling point locations, transects, in	Remarks.) portant features, e
Hydrophytic Vegetation Present? Yes	No No	Is the Sampled Area within a Wetland? Yes	No /
Hydric Son Fresence i i es			

Tree Stratum (Plot size:) 1)	Absolute % Cover	Species?	Status	Number of Dominant Specie That Are OBL, FACW, or FA	s 2	(A)
2			_	Total Number of Dominant Species Across All Strata:	3	(B)
4	_	= Total Co	ver	Percent of Dominant Specie That Are OBL, FACW, or FA	c: <u>66</u>	(A/B)
1				Prevalence Index workshe Total % Cover of:	et: Multiply by	c
2				OBL species	x1=	
3				FACW species	x 2 =	
5				FAC species	x 3 =	
•.		= Total Co	over	FACU species	_ ×4=	
Herb Stratum (Plot size:	50	./	140	UPL species	_ x5=	
1. DERONGEN FACHYCOULINM			FALL		(A)	(B)
2. Holdfum shathin	- 15		FALL	Prevalence Index = B	/A =	
3. POT GARCING	- 10		For	Hydrophytic Vegetation In	dicators:	
4. NONTILA TANK LOSA			Follo	1 - Rapid Test for Hydro	phytic Vegetatio	n
5. AFTEM 2010 Printing	To		Lung	_ 2 · Dominance Test is >	50%	
- Massache The Augsir	-11-		FOC	3 - Prevalence Index is	S3.0	
1- Marpha 11471- 1313			11:0	data in Remarks or o	ations (Provide on a separate sh	eet)
ð				5 - Wetland Non-Vascu	lar Plants ¹	
10				Problematic Hydrophyti	c Vegetation ¹ (E	xplain)
11				¹ Indicators of hydric soil and	wetland hydrolo	gy must
		= Total Co	over	be present, unless disturbed	or problematic.	
Woody Vine Stratum (Plot size:)		-				
1				Hydrophytic		
2			-	Present? Ves	No V	1
% Bare Ground in Herb Stratum		_= Total Co	over	Tesentr Tes_		-
Remarks: but n	non Con	VE- 1	3 A G.	DALLER LIVER	1000	
out .				op yrow, o to	1	

	puon: (Descrin	e to the dem	th needed t	o docum	ent the	indicator	or confirm	n the absenc	e of indic	ators 1			
epth	Matrix	te an acp		Redo	Feature	s	or commit	a une ausent	e or muic				
ches)	Color (moist)	%	Color (m	oist)	%	Type	Loc	Texture		Rema	arks		
-6 1	oxa dy		0000	5		1.1	-	SI.	WSn.	hand	to	116	Stro
			- 1400	_	2		_			100			
					_	_	_					_	_
e: C=Con	centration, D=D	epletion, RM	Reduced N	atrix, CS	=Covere	d or Coat	ed Sand G	Brains, ² L	ocation: P	L=Pore Lin	ing, N	=Matri	x
Histosol (A Histic Epip Black Histi Hydrogen Depleted E Thick Dark Sandy Mu Sandy Gle	A1) bedon (A2) ic (A3) Sulfide (A4) Below Dark Surf k Surface (A12) icky Mineral (S1) been Matrix (S4)	ace (A11)	Sandy Strippe Loamy Loamy Deplet Redox Deplet	Redox (S d Matrix Mucky M Gleyed I ad Matrix Dark Sur ed Dark S Denress	(S6) (S6) Matrix (F) (F3) rface (F6) Surface (F8)	F1) (excep 2) () (F7)	MLRA 1) _ 2 _ R) _ V _ 0 ³ Indic: we	cm Muck (ed Parent ery Shallov ther (Expla ators of hydro tland hydro less disturt	A10) Material (TF v Dark Surf in in Rema drophytic ve blogy must I	=2) ace (T rks) egetati be pre	F12) ion and isent,	
trictive La	ver (if present)		- Neoux	Ucpiess	ions (ro)			- uni	ess distant	eu or proor	cindu	.	
lvpe:													1
Depth (inch	es):							Hydric S	oil Presen	17 Yes		No	V
narks:				019	150	101	And	1. 50					
emarks:				No	150	xox.	fent	turss					
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NB
WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Applicant/Owner: <u>GY 26G</u> SERSE State: CO Sampling Point: Y Investigator(s): <u>MEHAN</u> (BWC) Section, Township, Range: Stet: <u>SC</u> 5,7,8, <u>T</u> 45N, <u>ASE</u> N/M F Landform (hillslope, terrace, etc.):	Project/Site: ShSED CIEEK RANC	b City/County: SAGU	Ache COUNTY Sampling Date: 6/12/13
Investigator(s): MEHAN (BWC) Section, Township, Range: SEC 5,7,8,745N, & SE N/M F Landform (hillistope, terrace, etc.): Local relief (concave, convex, none): Stope (%): Subregion (LRR): Lat: 38° 10' 30'' N/ Long: LoC * 27' 00'' W Datum: Datum: Soil Map Unit Name: Tor Si d b Low M - Hydrologic NWI classification:	Applicant/Owner: (1966 SEASE		State: Sampling Point:
Landform (hillislope, terrace, etc.):	Investigator(s): MEHAN (BWC	Section, Township, Ra	nge: SEC 5,7, 8, THSN, RSE NMPM
Subregion (LRR):	Landform (hillslope, terrace, etc.):	Local relief (concave,	convex, none): Slope (%):
Soil Map Unit Name: TOT SI & D LOA M - byd/ic NWI classification: Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) Are Vegetation	Subregion (LRR):	Lat 38° 10' 30' N	Long: 106 27'00" W Datum: NAD 83
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	Soil Map Unit Name: Torsido Lon	m - bydric	NWI classification:
Are Vegetation	Are climatic / hydrologic conditions on the site typica	al for this time of year? Yes No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologynaturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? YesNoIs the Sampled Area within a Wetland? Hydrophytic Vegetation Present? YesNoIs the Sampled Area within a Wetland? Wetland Hydrology Present? YesNoNo	Are Vegetation, Soil, or Hydrology _	significantly disturbed? Are *	"Normal Circumstances" present? Yes V No
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No Hydrology Present? Yes Yes No Is the Sampled Area within a Wetland? Yes No Remarks: This is a relatively dry 4Far. No No No No VEGETATION - Use scientific names of plants. Area Species? Status Dominant Indicator Dominant Species Number of Dominant Species Z (A)	Are Vegetation, Soil, or Hydrology _	naturally problematic? (If ne	eeded, explain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No Hydroc Soll Present? Yes Yes No Is the Sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes Yes No within a Wetland? Yes No Remarks: This is A relatively dry Year. No Wetland Hydrology Present? No No VEGETATION - Use scientific names of plants. Mosolute Dominant Indicator Dominance Test worksheet: 1. Mumber of Dominant Species 1. Yes Z (A)	SUMMARY OF FINDINGS - Attach site	map showing sampling point l	ocations, transects, important features, etc.
Remarks: This is a relatively dry 4Far. VEGETATION - Use scientific names of plants. Image: Stratum (Plot size:) Absolute Dominant Indicator Species? Status Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Z (A)	Hydrophytic Vegetation Present? Yes_V Hydric Soll Present? Yes_V Wetland Hydrology Present? Yes_L	No Is the Sampled within a Wetlar	Area nd? Yes No
VEGETATION – Use scientific names of plants. Tree Stratum (Plot size:) Absolute % Cover Dominant Indicator Species? Dominance Test worksheet: 1. Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)	Remarks: This is a relatively	dry year.	
Tree Stratum (Plot size:) Absolute Dominant Indicator Dominance Test worksheet: 1.	VEGETATION – Use scientific names o	f plants.	and the second se
	<u>Tree Stratum</u> (Plot size:) 1)	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:
2 Total Number of Dominant (B)	23		Total Number of Dominant
Sapling/Shrub Stratum (Plot size:) = Total Cover That Are OBL, FACW, or FAC: (A/B)			

	Absolute	Dominant Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size:) 1	% Cover	Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
23.			Total Number of Dominant - Species Across All Strata:	2	(B)
4		= Total Cover	Percent of Dominant Species That Are OBL_FACW, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plot size:)	10	1/ >FAC	Prevalence Index worksheet:		
1. <u>Opin opp</u>	- 1.	P SINC	Total % Cover of:	Multiply by:	-
3			OBL species x	1=	-
a			FACW species x	2 =	_
a			FAC species x:	3 =	-
ð	10	- Tatal Course	FACU species x	4 =	-
Herb Stratum (Plot size:	-1-0	- Jotal Cover	UPL species x	5=	_
1. Slenchorse polystris	- 50	VOBL	Column Totals: (A)		_ (B)
2 AUA ALATANA AUA 2	5	FAC	Prevalence Index = B/A =		
3. Potentila	5	FAC	Hydrophytic Vegetation Indica	tors:	-
4.			1/ Rapid Test for Hydrophyt	ic Vegetation	
5.			V2 - Dominance Test is >50%	ie regenater.	
6.			3 - Prevalence Index is <3.01		
7			4 - Morphological Adaptation data in Remarks or on a s	s ¹ (Provide sup	porting
ô	_		5 - Wetland Non-Vascular Pl	ants	
10			Problematic Hydrophytic Vec	etation ¹ (Explai	n)
10			¹ Indicators of bydric soil and well	and hydrology n	nust
11	1/17)	= Total Count	be present, unless disturbed or p	roblematic.	
Woody Vine Stratum (Plot size:)	100	- Total Gover			
1			Hydrophytic	-	
2			Vegetation		
% Bare Ground in Herb Stratum		= Total Cover	Present? Yes	No	
Remarks:	£ 1 3				-
Jolix May	nticola !				
_					

US Army Corps of Engineers

Western Mountains, Valleys, and Coast - Version 2.0

SOIL

Depui	Matrix	in the second second	Rec	lox Feature	S		S				
(inches)	Color (moist)	%	Color (moist)	%	Type	Loc		exture		Ren	narks
8-0	10 YR 2/1	i una					Sa	6	VEry	Roel	cy
	2.54 40						11	9			1
		_		-			-		-		
									-		
									-	_	
	-	_				-			1		
-		_	-			_	_				
-			10000			_	-	-	-		
		-							-	-	
Type: C=C	Concentration, D=D	epletion, RN	Reduced Matrix,	CS=Covere	d or Coate	ed Sand C	Grains.	2L0	cation: I	PL=Pore Li	ning, M=Matrix.
Hydric Soil	Indicators: (App	icable to al	LRRs, unless oth	erwise not	ted.)			Indicat	ors for P	roblemati	c Hydric Soils":
Histoso	ol (A1)		Sandy Redox	(\$5)				20	m Muck	(A10)	
Histic E	Epipedon (A2)		Stripped Matr	ix (S6)				Re	d Parent	Material (T	F2)
Black H	tistic (A3)		Loamy Mucky	Mineral (F	1) (except	t MLRA 1)	Ver	y Shallo	w Dark Sur	face (TF12)
Hydrog	en Sulfide (A4)		Loamy Gleye	d Matrix (F2	2)			0#	er (Expl	ain in Rema	arks)
Depiete	ark Surface (A12)	108 (A11)	Depleted Mat	IDK (F3)				3 Indicat	ore of hu	dronhulie u	has noteton
Sandy	Mucky Mineral (S1)		Depleted Dar	k Surface (H	F7)			well	and hydr	ology must	be present.
Sandy	Gleyed Matrix (S4)		Redox Depre	ssions (F8)	-			unle	ss distur	bed or prob	lematic.
Restrictive	Layer (if present)						T		-		1
Type:											. /
Depth (in	nches):						Hy	dric Soi	Presen	t? Yes	No
	001	Very	hara 16 0	- 01	> 0 1						
YDROLO	DGY	Very	hard 160		> 0 ,		_		_		
YDROLC Wetland Hy	OGY ydrology Indicator	8:	hard 160		> 0 ,						
YDROLO Wetland Hy Primary Indi	OGY vdrology Indicator	s:	Nard 76 Ø	ply)	» 0 ,			Seco	ndary In	dicators (2	or more required)
YDROLO Wetland Hy Primary Indi	OGY vdrology Indicator icators (minimum o Water (A1)	s:	hard 16 d	ply) tained Leav	/es (B9) (e	except			ndary In Water-St	dicators (2 ained Leav	or more required) es (69) (MLRA 1, 2
Wetland Hy Primary Indi Surface High W	OGY vdrology Indicator icators (minimum o Water (A1) vdrology Indicator icators (minimum o Water (A1) vdrology Indicator	s:	hard 16 d ed; check all that ap Water-S MLR Solution	ply) tained Leav	> () ves (B9) (e and 4B)	except			ndary in Vater-St 4A, ar	dicators (2 ained Leav nd 4B)	or more required) es (B9) (MLRA 1, 2
Primary Indi Surface High W Saturati	OGY vdrology Indicator icators (minimum o Water (A1) Vater Table (A2) ion (A3) April (B1)	s:	nard 16 d ed; check all that ap Water-S MLR Salt Cru Accustio	DIV) tained Leav A 1, 2, 4A, st (B11)	ves (B9) (e and 4B)	except			ndary In Water-St 4A, ar Drainage	dicators (2 ained Leav nd 4B) Patterns (1	<u>or more required)</u> es (69) (MLRA 1, 2 310)
Primary Indi Surface High W Saturati Water M Sedime	OGY vdrology Indicator icators (minimum o water (A1) later Table (A2) ion (A3) Marks (B1) wt Deposits (B2)	s:	hard 16 d ad; check all that ap Water-S MLR Salt Cru Aquatic Hudrons	ply) tained Leav A 1, 2, 4A, 1 st (B11) invertebrate	ves (B9) (e and 4B) es (B13)	except			ndary In Water-St 4A, ar Drainage Dry-Seas	dicators (2 ained Leav nd 4B) Patterns (1 on Water 1 on Water 1	or more required) es (B9) (MLRA 1, 2 310) able (C2)
Primary Indi Primary Indi Surface High W Saturati Water M Sedime Drift De	OGY vdrology indicator icators (minimum o Water (A1) vdrology indicator water (A1) vdrology indicator vdrology indicato	s:	ed; check all that ap Water-S MLR Salt Cru Aquatic Hydroge	ply) tained Leav A 1, 2, 4A, i st (B11) invertebrate n Sutfide O	ves (B9) (e and 4B) es (B13) vdor (C1)	except	note (C		ndary In Water-St 4A, ar Drainage Dry-Seas Saturatio	dicators (2 ained Leav nd 4B) Patterns (1 on Water 1 n Visible or	or more required) es (B9) (MLRA 1, 2 B10) Table (C2) ta Aerial Imagery (CS
Primary Indi Surface High W Saturati Water M Sedime Drift De Aloal M	OGY vdrology indicator icators (minimum o e Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4)	s:	NATO 16 0 ed; check all that ap Water-S MLR Salt Cru Aquatic Hydroge Oxidized Presence	ply) tained Leav A 1, 2, 4A, 1 st (B11) invertebrate n Sutfide O I Rhizosphe e of Beduco	ves (B9) (e and 4B) es (B13) edor (C1) eres along ed iron (C	except Living Ro	pots (C	<u>Seco</u>	ndary In Water-St 4A, ar Drainage Dry-Seas Saturatio Seomorp Shallow	dicators (2 ained Leav nd 4B) Patterns (1 on Water 1 n Visible or hic Position	or more required) es (B9) (MLRA 1, 2 310) Table (C2) n Aerial Imagery (C9 n (D2)
Wetland Hy Primary Indi Surface High W Saturati Water M Sedime Drift De Algal M Iron De	DGY vdrology Indicator icators (minimum o e Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5)	s:	NATO 16 0 ad; check all that ap Water-S MLR Salt Cru Aquatic Hydroge Oxidized Presenc Recent I	ply) tained Leav A 1, 2, 4A, i st (B11) Invertebrate n Sutfide O I Rhizosphe e of Reduct	ves (B9) (e and 4B) es (B13) dor (C1) eres along ed fron (C4)	Living Ro 4) d Soils (C	oots (C		ndary In Vater-St 4A, ar Drainage Dry-Seas Saturatio Seomorp Shallow /	dicators (2 ained Leav nd 4B) Patterns (1 non Water 1 n Visible or hic Position Aquitard (D trai Test (D	or more required) es (B9) (MLRA 1, 2 B10) able (C2) n Aerial Imagery (C9 n (D2) 3)
YDROLC Wetland Hy Primary Indi Surface High W Saturati Water M Sedime Drift De Algal M Iron De Surface	OGY vdrology indicator icators (minimum o Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5) a Soil Cracks (B6)	s:	Nard 76 76 0	ply) tained Leav A 1, 2, 4A, i st (B11) Invertebrate n Sulfide O I Rhizosphe e of Reduct ron Reduct or Stressed	ves (B9) (e and 4B) es (B13) edor (C1) eres along ed Iron (C4) ion in Tille I Plants (D	Except Living Ro 4) d Soils (C	oots (C 26) A)		Indary In Water-St 4A, au Drainage Dry-Seas Saturatio Seomorp Shallow / FAC-Neu Raised A	dicators (2 ained Leav nd 4B) Patterns (1 n Visible or hic Position Aquitard (D tral Test (E nt Mounds	or more required) es (B9) (MLRA 1, 2 B10) Fable (C2) th Aerial Imagery (C9 h (D2) 3) D5) (D6) (LRR A)
YDROLC Wetland Hy Primary Indi Surface High W Saturati Water M Sedime Drift De Algal M Iron De Surface Inundat	OGY vdrology Indicator icators (minimum o Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria	s: fone require	Marci 16 d ed; check all that ap Water-S MLR Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted 37) Other (E	ply) tained Leav A 1, 2, 4A, i st (B11) invertebrate n Sulfide O I Rhizosphe e of Reduct ron Reduct or Stressed xplain in Re	ves (B9) (e and 4B) es (B13) vdor (C1) eres along ed Iron (C4) ion in Tille I Plants (D emarks)	Living Ro 4) d Soils (C	oots (C :6) A)		Indary In Water-St 4A, ar Drainage Dry-Seas Saturatio Seomorp Shallow J FAC-Neu Raised A Frost-Hei	dicators (2 ained Leav nd 4B) Patterns (1 no Water 1 no	or more required) es (B9) (MLRA 1, 2 B10) Table (C2) th Aerial Imagery (C9 th (D2) 3) 55) (D6) (LRR A) pocks (D7)
YDROLC Wetland Hy Primary Indi Surface High W Saturati Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel	OGY vdrology indicator icators (minimum o Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) reposits (B3) lat or Crust (B4) posits (B5) a Soil Cracks (B6) tion Visible on Aeria by Vegetated Conce	I Imagery (E ve Surface	Nard 76 76 0 ed; check all that ap Water-S MLR Salt Cru Aquatic Hydroge Oxidized Presence Recent I Stunted 37) Other (E (B8)	ply) tained Leav A 1, 2, 4A, 1 st (B11) Invertebrate n Sutfide O I Rhizosphe e of Reduce ron Reduce or Stressed xplain in Re	ves (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tille I Plants (D emarks)	except Living Ro 4) d Soils (C 11) (LRR /	oots (C 26) A)		Indary In Water-St 4A, at Drainage Dry-Seas Saturatio Saturatio Saturatio Geomorp Shallow / FAC-Neu Raised A Frost-Hei	dicators (2 ained Leav nd 4B) Patterns (1 on Water T n Visible or hic Position Aquitard (D drail Test (D nt Mounds ave Humme	or more required) es (B9) (MLRA 1, 2 310) Table (C2) n (D2) 3) 25) (D6) (LRR A) ocks (D7)
YDROLO Wetland Hy Primary Indi Surface High W Saturati Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel Field Obser	OGY vdrology Indicator icators (minimum o Water (A1) Vater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5) e Soil Cracks (B6) tion Visible on Aeria by Vegetated Concer rvations:	I Imagery (E ve Surface	Nard 16 0 ed; check all that ap Water-S MLR Salt Cru Aquatic Hydroge Oxidized Presence Recent I Stunted 37) Other (E (B8)	ply) tained Leav A 1, 2, 4A, 1 st (B11) invertebrate n Sutfide O I Rhizosphe e of Reduct or Stressed xplain in Re	ves (B9) (e and 4B) es (B13) ed (C1) eres along ed Iron (C4) ion in Tille I Plants (D emarks)	Except Living Ro 4) d Soils (C 11) (LRR /	oots (C :6) A)	3)	ndary In Water-St 4A, au Drainage Dry-Seas Saturatio Saturatio Saturatio Saturatio Shallow / FAC-Neu Raised A Frost-Hea	dicators (2 ained Leav nd 4B) Pattems (1 on Water 1 n Visible or hic Position Aquitard (D that Test (D nt Mounds ave Humme	or more required) es (B9) (MLRA 1, 2 310) Table (C2) th Aerial Imagery (C9 th (D2) 3) (D6) (LRR A) pocks (D7)
YDROLC Wetland Hy Primary Indi Surface High W Saturati Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel Surface Wat	DGY vdrology Indicator icators (minimum o e Water (A1) vater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5) e Soil Cracks (B6) ion Visible on Aeria by Vegetated Conca rvations: ter Present?	I Imagery (E ve Surface Yes	Nard 76 76 d	ply) tained Leav A 1, 2, 4A, i st (B11) Invertebrate n Sutfide O I Rhizosphe e of Reduct or Stressed xplain in Re inches):	ves (B9) (e and 4B) es (B13) edor (C1) eres along ed Iron (C4) ion in Tille I Plants (D emarks)	Living Ro 4) d Soils (C	oots (C 26) A)		Indary In Water-St 4A, au Drainage Dry-Seas Saturatio Seconorp Shallow / FAC-Neu Raised A Frost-Hei	dicators (2 ained Leav nd 4B) Pattems (1 on Water T n Visible or hic Position Aquitard (D trai Test (C nt Mounds ave Humme	or more required) es (B9) (MLRA 1, 2 B10) able (C2) a Aerial Imagery (C9 n (D2) 3) 55) (D6) (LRR A) ocks (D7)
YDROLC Wetland Hy Primary Indi Surface High W Saturati Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel Field Obser Surface Wal Water Table	OGY vdrology Indicator icators (minimum o a Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5) a Soil Cracks (B6) tion Visible on Aeria by Vegetated Concer rvations: ter Present? a Present?	I Imagery (E ve Surface Yes	Nard 76 76 d	ply) tained Leav A 1, 2, 4A, 1 st (B11) Invertebrate on Sulfide O I Rhizosphe e of Reduct or Stressed xplain in Re inches):	ves (B9) (e and 4B) es (B13) edor (C1) eres along ed Iron (C4) ion in Tille I Plants (D emarks)	Living Ro 4) d Soils (C	oots (C :6) A)		Indary In Water-St 4A, ar Drainage Dry-Seas Saturatio Seomorp Shallow / FAC-Neu Raised A Frost-Her	dicators (2 ained Leav nd 4B) Patterns (1 Patterns (1 n Visible or hic Position Aquitard (D tral Test (1 nt Mounds ave Humme	or more required) es (B9) (MLRA 1, 2 B10) Table (C2) th Aerial Imagery (CS n (D2) 3) D5) (D6) (LRR A) pocks (D7)
YDROLC Wetland Hy Primary Indi Surface High W Saturati Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel Field Obser Surface Water Saturation F	OGY vdrology indicator icators (minimum o Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria by Vegetated Conca rvations: ter Present? Present? Present?	I Imagery (E ve Surface Yes Yes	Nard 76 76 d	ply) tained Leav A 1, 2, 4A, i st (B11) invertebrate n Sulfide O I Rhizosphe e of Reduct or Stressed xplain in Re inches): inches):	ves (B9) (e and 4B) es (B13) vdor (C1) eres along ed Iron (C4) ion in Tille i Plants (D emarks)	Living Ro 4) d Solls (C 11) (LRR /	oots (C :6) A) tland i	 	Indary In Water-St 4A, ar Drainage Dry-Seas Saturatio Seconorp Shallow / FAC-Neu Raised A Frost-Hea	dicators (2 ained Leav nd 4B) Patterns (1 on Water 1 n Visible or hic Position Aquitard (D trai Test (D nt Mounds ave Humme nt? Yes	or more required) es (B9) (MLRA 1, 2 B10) Table (C2) n Aerial Imagery (C9 n (D2) 3) D5) (D6) (LRR A) pocks (D7)
YDROLC Wetland Hy Primary Indi Surface High W Saturati Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel Field Obser Surface Wai Water Table Saturation F includes ca Describe Re	DGY vdrology Indicator icators (minimum o Water (A1) Vater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) posits (B3) lat or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria by Vegetated Conca rvations: ter Present? Present? Present? pillary fringe) acorded Data (stream	I Imagery (E ve Surface Yes Yes Yes	Nard 76 76 d	ply) tained Leav A 1, 2, 4A, 1 st (B11) Invertebrate on Sulfide O I Rhizosphe e of Reduct or Stressed xplain in Re inches): inches): I photos, pr	ves (B9) (e and 4B) es (B13) edor (C1) eres along ed Iron (C4) ion in Tille I Plants (D emarks)	Living Ro 4) d Soils (C 11) (LRR /	bots (C 26) A) tland I		Indary In Water-St 4A, ar Drainage Dry-Seas Saturatio Seomorp Shallow / FAC-Neu Raised A Frost-Her In Prese	dicators (2 ained Leav nd 4B) Pattems (1 on Water T n Visible or hic Position Aquitard (D trai Test (C nt Mounds ave Humme ave Humme	or more required) es (B9) (MLRA 1, 2 B10) Table (C2) th Aerial Imagery (C9 th (D2) 3) D5) (D6) (LRR A) pocks (D7)
YDROLO Wetland Hy Primary Indi Surface High W Saturati Water N Sedime Drift De Algal M Iron De Surface Inundat Sparsel Field Obser Surface Wal Water Table Saturation F (includes ca Describe Re	OGY vdrology Indicator icators (minimum o e Water (A1) Vater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5) e Soil Cracks (B6) ition Visible on Aeria by Vegetated Concer rvations: ter Present? Present? Present? Present? Present? pollary fringe) ecorded Data (streaget)	I Imagery (E ve Surface Yes Yes Yes Yes	No / Depth (No / Depth (ply) tained Leav A 1, 2, 4A, 1 st (B11) invertebrate n Sutfide O I Rhizosphe e of Reduce or Stressed xplain in Re inches): inches): I photos, pr	ves (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tille Plants (D emarks)	Except Living Ro 4) d Soils (C 11) (LRR / 	oots (C C) A) tland I		Indary In Water-St 4A, at Drainage Dry-Seas Saturatio Geomorp Shallow / FAC-Neu Raised A Frost-Hea	dicators (2 ained Leav nd 4B) Patterns (1 on Water 1 n Visible or hic Position Aquitard (D tral Test (D nt Mounds ave Humme nt? Yes	or more required) es (B9) (MLRA 1, 2 B10) Table (C2) th Aerial Imagery (C9 th (D2) 3) (D6) (LRR A) pocks (D7)
YDROLO Wetland Hy Primary Indi Surface High W Saturati Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel Field Obser Surface Water Table Saturation F (includes ca Describe Re Remarks:	OGY vdrology Indicator icators (minimum o e Water (A1) Vater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5) e Soil Cracks (B6) idon Visible on Aeria by Vegetated Conca rvations: ter Present? Present? Present? pollary fringe) acorded Data (stream)	I Imagery (E ves Surface Yes Yes Yes Yes Xes Z m gauge, m	Nard 76 76 d ed; check all that ap Water-S MLR Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted 37) Other (E (B8) No Depth (No Depth (No Depth (No Depth (ply) tained Leav A 1, 2, 4A, 1 st (B11) invertebrate in Sutfide O I Rhizosphe e of Reduce or Stressed xplain in Reduction xplain xplain in Reduction xplain xplain xplain xplain xplain xplain xplain xplain	ves (B9) (e and 4B) es (B13) ed tron (C1) eres along ed tron (C4) ion in Tille d tron (C4) ion	Elving Ro 4) d Soils (C 11) (LRR) Wer spections)	bots (C 26) A) thand i	<u>Seco</u> 	Indary In Water-St 4A, au Drainage Dry-Seas Saturatio Seomorp Shallow / FAC-Neu Raised A Frost-Hea In Prese	dicators (2 ained Leav nd 4B) Patterns (1 on Water T n Visible or hic Position Aquitard (D that Test (D nt Mounds ave Humme nt? Yes,	or more required) es (B9) (MLRA 1, 2 B10) able (C2) n Aerial Imagery (C9 n (D2) 3) 55) (D6) (LRR A) ocks (D7)
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YDROLC Wetland Hy Primary Indi Surface High W Saturati Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel Field Obser Surface Water Table Saturation F (includes ca Describe Re Remarks:	OGY vdrology indicator icators (minimum o Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) aposits (B3) lat or Crust (B4) posits (B5) a Soil Cracks (B6) ion Visible on Aeria by Vegetated Conca rvations: ter Present? Present? Present? pipillary fringe) acorded Data (stread	I Imagery (E ve Surface Yes Yes Tes C C c c +	Nard 76 76 d ed; check all that ap Water-S MLR Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted 37) Other (E (B8) No Depth (No Depth (N	ply) tained Leav A 1, 2, 4A, i st (B11) invertebrate n Sulfide O I Rhizosphe e of Reduct or Stressed xplain in Re inches): inches): inches): inches): inches): 0 \{ \{ \} \)	Ares (B9) (e and 4B) es (B13) and 4B) es (B13) and 4B) es (B13) and 4B) eres along ed Iron (C4) ion in Tille I Plants (D ermarks)	Living Ro 4) d Solls (C 11) (LRR) Wer spections)	bots (C S6) A) thand i	<u>Seco</u> 	Indary In Water-St 4A, ar Drainage Dry-Seas Saturatio Seomorp Shallow / FAC-Neu Raised A Frost-Hea In Prese	dicators (2 ained Leav nd 4B) Patterns (1 on Water 7 n Visible or hic Position Aquitard (D tral Test (C nt Mounds ave Humme nt? Yes	or more required) es (B9) (MLRA 1, 2 B10) Table (C2) th Aerial Imagery (C3 n (D2) 3) D5) (D6) (LRR A) ocks (D7)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

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2.

Sampling Point:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

noticant/Owner (41961+ SEASE				State: CO Sampling Paint: 0
MEHAN (RI	NC)	Section Town	shin Dar	SEC ED & TUEN & SE NMA
vestigation(s).		Jecoon, row	isinp, ruai	Ne. 0-2 31 (0 / 1 431) 135 1/11
andform (hillslope, terrace, etc.):		Local relief (c	incave, c	Slope (%):
ubregion (LRR):	Lat	10 10 30		Long: 100 21 00 VV Datum: MAD C
oil Map Unit Name: 075100 L	on hy	and		NWI classification:
re dimatic / hydrologic conditions on the site	typical for this time of ye	ear? Yes	No_	(If no, explain in Remarks.)
re Vegetation, Soil, or Hydrol	ogy significantly	disturbed?	Are "	Normal Circumstances" present? Yes No
re Vegetation, Soil, or Hydrol	ogy naturally pr	oblematic?	(If ne	eded, explain any answers in Remarks.)
UMMARY OF FINDINGS - Attach	site map showing	g sampling	point la	ocations, transects, important features, etc
Hydrophytic Vegetation Present? Ye	s No			
Hydric Soil Present? Ye	s No	is the	a Wetlan	Area
Wetland Hydrology Present? Ye	s No	water	a weben	
EGETATION - Use scientific nam	es of plants.	-	-	
	Absolute	Dominant la	dicator	Dominance Test worksheet:
Tree Stratum (Plot size:) 1.	% Cove	Species?	Status	Number of Dominant Species (A)
2	(Total Number of Dominant
3				Species Across All Strata: (B)
4			-	Percent of Dominant Species
		= Total Cove	ar i	That Are OBL, FACW, or FAC: 10 (A/B)
Sapling/Shrub Stratum (Plot size:				Prevalence Index worksheet:
				Total % Cover of: Multiply by:
				OBL species x1=
				FACW species x2=
				FAC species x 3 =
		= Total Cove	r	FACU species x4 =
Herb Stratum (Plot size:)		_		UPL species x 5 =
JUE MISSOURISASIS		1	ACM	Column Totals: (A) (B)
Toroneun othernols	20		ACU	Prevalence Index = B/A =
JUNCUS Archeus	10		NUM	Hydrophytic Vegetation Indicators:
POD PRATENSIS	Tr		DAT	1 - Rapid Test for Hydrophytic Vegetation
Tritolium pratense	40		VJA	2 - Dominance Test is >50%
A Graphian 2m. This			ACV	3 - Prevalence Index is ≤3.01
l			_	4 - Morphological Adaptations' (Provide supporting
3				5 - Metland Non-Vascular Plants ¹
				Problematic Hudronbudic Venetation ¹ (Emisia)
10			-	Indicators of hudric soil and welland hudrolony must
11	90	Tabl	-	be present, unless disturbed or problematic.
Noody Vine Stratum (Plot size:	10	_= Total Cove		
1		13/18		Hydrophytic
2				Vegetation
		= Total Cove	r	Present? Yes No K
% Bare Ground in Herb Stratum	1			

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SOIL

Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type Loc ²	Texture Remarks
6 10 YR 3/2	NONE	sic hord to dec
Type: C=Concentration, D=Depletion, RM	A=Reduced Matrix, CS=Covered or Coated Sand G	Grains. ² Location: PL=Pore Lining, M=Matrix.
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
_ Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	Station of the day of the state
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F6)	wetland bytrology must be present
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless disturbed or problematic.
testrictive Layer (if present):		
Туре:		1
Depth (inches):		Hydric Soll Present? Yes V No
(DROLOGY	oil very own - No redox	frotwas
YDROLOGY Yetland Hydrology Indicators:	ed: check all that apply)	FEO TWAS
Verland Hydrology Indicators: trimary Indicators (minimum of one require Surface Water (A1)	ed; check all that apply) Water-Stained Leaves (B9) (except	FEO THAS Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2
VDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2)	ed; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	FEO FWZS <u>Secondary Indicators (2 or more required)</u> <u>Water-Stained Leaves (B9) (MLRA 1, 2</u> 4A, and 4B)
VDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3)	ed; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	FEO FWZS <u>Secondary Indicators (2 or more required)</u> Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10)
VDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one requin _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1)	ed; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	FEO FWAS Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
VDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ed; check all that apply) 	Fto fWrt Secondary Indicators (2 or more required)
Verland Hydrology Indicators: Verland Hydrology Indicators:	ed; check all that apply) 	Secondary Indicators (2 or more required)
VDROLOGY Vetland Hydrology Indicators: trimary Indicators (minimum of one requin _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1) _ Sediment Deposits (B2) _ Drift Deposits (B3) _ Algal Mat or Crust (B4)	ed; check all that apply) 	Fto fW45
VDROLOGY Vetland Hydrology Indicators: trimary Indicators (minimum of one requin _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1) _ Sediment Deposits (B2) _ Drift Deposits (B3) _ Algal Mat or Crust (B4) _ Iron Deposits (B5) Surface Soil Cracks (B6)	ed; check all that apply) 	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one requin _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1) _ Sediment Deposits (B2) _ Drift Deposits (B3) _ Algal Mat or Crust (B4) _ Iron Deposits (B5) _ Surface Soil Cracks (B6) _ Inundation Visible on Aerial Imagery (1)	ed; check all that apply) 	Secondary Indicators (2 or more required)
VDROLOGY Vetland Hydrology Indicators: trimary Indicators (minimum of one requin Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Md Observations:	ed: check all that apply) 	File Secondary Indicators (2 or more required)
VDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface ield Observations: Urface Water Present?	ed; check all that apply) 	Fight HVALS
VDROLOGY Vetland Hydrology Indicators: trimary Indicators (minimum of one requin Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface ield Observations: urface Water Present? Yes	ed; check all that apply) 	Fto fW45
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one requin	ed: check all that apply) 	Fto HWAS
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one requin	ed: check all that apply) 	File Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: Yimary Indicators (minimum of one requin	ed: check all that apply) $= \frac{Water-Stained Leaves (B9) (except)}{MLRA 1, 2, 4A, and 4B)}$ $= \frac{Salt Crust (B11)}{Salt Crust (B11)}$ $= Aquatic Invertebrates (B13)$ $= Hydrogen Sulfide Odor (C1)$ $= Oxidized Rhizospheres along Living Ro = Presence of Reduced Iron (C4) = Recent Iron Reduction in Titled Soils (O = Stunted or Stressed Plants (D1) (LRR A) = Other (Explain in Remarks) = No \frac{V}{V} Depth (inches): Well nonitoring well, aerial photos, previous inspections) = 1 + 100' from crest is a comparison of the second se$	$f_{E0} + W_{E} \int \frac{\text{Secondary Indicators (2 or more required)}}{2} \\ & \underline{\qquad} \text{Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)} \\ & \underline{\qquad} \text{Drainage Patterns (B10)} \\ & \underline{\qquad} \text{Drainage Patterns (D10)} \\ & $
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requiners)	ed: check all that apply) $= \frac{Water-Stained Leaves (B9) (except)}{MLRA 1, 2, 4A, and 4B)}$ $= \frac{Salt Crust (B11)}{Salt Crust (B11)}$ $= Aquatic Invertebrates (B13)$ $= Hydrogen Sulfide Odor (C1)$ $= Oxidized Rhizospheres along Living Ro = Presence of Reduced Iron (C4) = Recent Iron Reduction in Titled Soils (O = Stunted or Stressed Plants (D1) (LRR A) = Other (Explain in Remarks) = No \frac{V}{V} Depth (inches): Well homitoring well, aerial photos, previous inspections) = 1 \pm 100' from crest in Cast in$	File Secondary Indicators (2 or more required)

US Army Corps of Engineers

Western Mountains, Valleys, and Coast - Version 2.0

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

ppicanuowner: (77705) FAAZ		Constant of the	State: Sampling Point:
vestigator(s): MEHAN (BWC)	Sed	ion, Township, Ra	ange: SEC 5,7, 8, T45N, KSE NMF
ndform (hillslope, terrace, etc.):	Loc	al relief (concave,	convex, none): Slope (%):
bregion (LRR):	Lat: _38°	10 30 N	Long: 106 27'00" W Datum: NAD 8
il Map Unit Name: Torsido Lon	n - hydri	6	NWI classification:
e climatic / hydrologic conditions on the site typical	for this time of year?	Yes No	(If no, explain in Remarks.)
Venetation Soil or Hydrology	/ significantly distu	rbed? Are	"Normal Circumstances" present? Yes No V
Vegetation Soil or Hydrology	naturally problem	atic? (If p	eeded explain any answers in Remarks)
UMMARY OF FINDINGS - Attach site	nap showing sa	mpling point I	locations, transects, important features, etc
Hydrophytic Vegetation Present? Yes	No		
tydric Soil Present? Yes	No	Is the Sampled	a Area
Netland Hydrology Present? Yes	_ No /	WILLIN'S WELL	
remarks: This is a relatively of poot.	ly year. a	rea has b	the evolution of the second of the
EGETATION - Use scientific names of	plants.	minant Indiantes	Design Training to the
ree Stratum (Plot size:)	% Cover Sp	ecies? Status	Number of Dominant Species
			That Are OBL, FACW, or FAC: (A)
			Total Number of Dominant
h <u></u>			Species Across All Strata:(B)
	= T	otal Cover	Percent of Dominant Species 100 (A/B)
Sapling/Shrub Stratum (Plot size:			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
			OBL species x1 =
•			FACW species x 2 =
		_	FAC species x3=
·		ntal Count	FACU species x4=
lerb Stratum (Plot size:)		otal Cover	UPL species x 5 =
CATEX PLAS GRACULS	5	FACH	Column Totals: (A) (B)
POD Proteisur	10	FOC	Prevalence Index = 8/A =
JUCKE Arcticus	70_	FACW	Hydrophytic Vegetation Indicators:
I This MI ASOLIMENSIN	5	FROW	1- Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
			3 - Prevalence Index is <3.0 ¹
			4 - Morphological Adaptations ¹ (Provide supporting
			data in Remarks or on a separate sheet)
h			- 5 - Wetland Non-Vascular Plants
0			Provemasc riverophysic vegetation" (Explain)
1	90		be present, unless disturbed or problematic.
Voorty Vine Stratum (Plot size:	_70_=Te	otal Cover	
Total they be start to be date	45/14	E	Hydrophytic
			Vegetation
	= Te	otal Cover	Present? Yes No No
6 Bare Ground in Herb Stratum			

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SOIL

Depth Matrix	Redox Features	-
inches) Color (moist) %	<u>Color (moist) % Type' Loc²</u>	Texture Remarks
<u>6 10 Ve 1/2</u>		si cloy very hand to dife
ype: C=Concentration, D=Depletion, R	M≖Reduced Matrix, CS=Covered or Coated Sand	Grains. ² Location: PL≈Pore Lining, M≂Matrix.
ydric Soil Indicators: (Applicable to a	II LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils":
_ Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Hilsuc (A3)	Loamy Mucky Mineral (F1) (except MLRA	(1) very snallow Dark Surface (1112)
Depleted Below Dark Surface (A11)	Loany Geyed Matrix (F2) Depleted Matrix (F3)	Outer (Explain th Remarks)
Thick Dark Surface (A12)	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Gleyed Matrix (\$4)	Redox Depressions (F8)	unless disturbed or problematic.
testrictive Layer (if present):		
Туре:		
Depth (inches):		Hydric Soil Present? Yes No_/
(DROLOGY		
YDROLOGY Yetland Hydrology Indicators:		Secondary Indiantes (9 annual secondary)
Verland Hydrology Indicators:	red; check all that apply)	Secondary Indicators (2 or more required)
Permarks: (DROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one requir _ Surface Water (A1) With Water Table (A2)	red; check all that apply) Water-Stained Leaves (B9) (except	Secondary Indicators (2 or more required) — Water-Stained Leaves (69) (MLRA 1, 2 40 and 48)
Verland Hydrology Indicators: Virmary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Subtration (A2)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Soli Court (B11)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Decisions Rotters (210)
Verland Hydrology Indicators: trimary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B12)	Secondary Indicators (2 or more required) — Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) — Drainage Patterns (B10) Dry. Season Water Table (C2)
VDROLOGY Vetland Hydrology Indicators: Inimary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Setiment Denosits (B2)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secondary Indicators (2 or more required) — Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) — Drainage Patterns (B10) — Dry-Season Water Table (C2) Saturation Visible on Aerial Impact (C2)
Verland Hydrology Indicators: <u>trimary Indicators (minimum of one requin</u> Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizosnbergs alone Living F	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Boots (C3) Geomorphic Position (O2)
Verland Hydrology Indicators: Verland Hydrology Indicators:	red; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living F Presence of Reduced Iron (C4)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Roots (C3) Geomorphic Position (D2) Shallow Aguitard (D3)
Verland Hydrology Indicators: Verland Hydrology Indicators: Virmary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	red; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living F — Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) (C6) FAC-Neutral Test (D5)
Verland Hydrology Indicators: trimary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	red; check all that apply) 	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) (C6) FAC-Neutral Test (D5) R A) Raised Ant Mounds (D6) (LRR A)
Vetland Hydrology Indicators: rimary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Veoetated Concave Surface	red; check all that apply) 	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) (C6) FAC-Neutral Test (D5) R A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
VDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one requin Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface ield Observations:	red; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living F — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils — Stunted or Stressed Plants (D1) (LRF (B7) — Other (Explain in Remarks) (88)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) (C6) FAC-Neutral Test (D5) R A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Vetland Hydrology Indicators: Trimary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Surface Water Present? Yes	red; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living F — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils — Stunted or Stressed Plants (D1) (LRF (B7) — Other (Explain in Remarks) (B8) No Depth (inches):	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) (C6) FAC-Neutral Test (D5) R A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Veriand Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface ield Observations: Surface Water Present? Yes	red; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living F — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils — Stunted or Stressed Plants (D1) (LRF (B7) — Other (Explain In Remarks) (88) No V Depth (inches):	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) (C6) FAC-Neutral Test (D5) R A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks: YDROLOGY Vetiand Hydrology Indicators: ?rimary Indicators (minimum of one requir	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living F Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Stunted or Stressed Plants (D1) (LRF (B7) Other (Explain in Remarks) (B8) No Depth (inches): No Depth (Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) (C6) FAC-Neutral Test (D5) R A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Vetland Hydrology Present? Yes No
Remarks: YDROLOGY Vetland Hydrology Indicators: 2rimary Indicators (minimum of one requir	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living F Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solls Stunted or Stressed Plants (D1) (LRF (B7) Depth (inches): No Depth (inches): Depth (inches): No Depth (inch	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Saturation Visible on Aerial Imag
Remarks: YDROLOGY Vetland Hydrology Indicators: 2rimary Indicators (minimum of one requir	med: check all that apply)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C3 Geomorphic Position (D2) Shallow Aquitard (D3) (C6) FAC-Neutral Test (D5) RA) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No V No Woff this User.
Vertiand Hydrology Indicators: trimary Indicators (minimum of one requires) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Saturation Present? Yes	red: check all that apply)	Secondary Indicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators: 'rimary Indicators (minimum of one requires) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface ield Observations: urface Water Present? Yes aturation Present? Yes includes capillary fringe) escribe Recorded Data (stream gauge, rescribe Recorded Data (stream gauge) Streamarks: St	red: check all that apply)	Secondary Indicators (2 or more required)

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Uh 220 LICEN	RANCH		City/County	DAGU	ACAC (OWVY Sampling Date: 0/1/13
pplicant/Owner (1705)	(ALZ)				State:Sampling Point:
ivestigator(s): /1 C HN/V	(BWC)		Section, To	wnship, Ra	nge: Jec 57, 8, 145N, NSE NME
andform (hillslope, terrace, etc.):			Local relief	(concave,	convex, none): Slope (%):
ubregion (LRR):			5 10	30 N	Long: 106 71 00" W Datum: MAD 8
oil Map Unit Name: Tor Sid	o Loam	- hyd	116		NWI classification:
re dimatic / hydrologic conditions on t	the site typical for t	his time of yea	r? Yes	No	(If no, explain in Remarks.)
re Vegetation, Soil, or	Hydrology	significantly of	disturbed?	Are '	"Normal Circumstances" present? Yes No
re Vegetation, Soil, or	Hydrology	naturally prol	blematic?	(If ne	eeded, explain any answers in Remarks.)
UMMARY OF FINDINGS - A	ttach site may	showing	samplin	g point l	ocations, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes	No			
Hydric Soll Present?	Yes_	No	with	in a Wetlau	nd? Yes No
Wetland Hydrology Present?	Yes_/	No			
EGETATION - Use scientific	c names of pla	nts.			
Tree Stratum (Plot size:		Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species
1					That Are OBL, FACW, or FAC: (A)
2					Total Number of Dominant
3					Species Across All Strata: (B)
4			= Total Co	ver	Percent of Dominant Species 100 (A/B)
Sapling/Shrub Stratum (Plot size: _		10	V	SEAC	Prevalence Index worksheet:
1. DAIL SP		_10_	-	2170	Total % Cover of: Multiply by:
2					OBL species x 1 =
3					FACW species x2=
6				-	FAC species x3 =
		10	= Total Co	ver	FACU species x4 =
Herb Stratum (Plot size:		00	./		UPL species x 5 =
1. ElEDGHARIT		- 00	VE	FACH	Column Totals: (A) (B)
2 AGROSHI OLDA				tacid	Prevalence Index = B/A =
3. CANY DIREGROUIS				Macw	Hydrophytic Vegetation Indicators:
4. POTENTINO				MAC	
5					12 - Dominance Test is >50%
6					3 - Prevalence Index is ≤3.0'
7	-ile				 4 - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)
8		_	*		5 - Wetland Non-Vascular Plants'
9					Problematic Hydrophytic Vegetation ¹ (Explain)
11					¹ Indicators of hydric soil and welland hydrology must
		100	= Total Co	ver	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		50/20		
1					Hydrophytic y
2					Present? Yes No
			= Total Co	ver	11000101 100 NO
% Bare Ground in Herb Stratum					

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Western Mountains, Valleys, and Coast - Version 2.0

SOIL

(inches) Color (moist)		Reuc	ox reatures	5		and the second	
6 IOYR 3	- %	Color (moist)	%	Type	Loc2	Texture	Remarks
	1			C	m	16	
6-10 2.5Y %	<u> </u>		_			Salo	Sondy
Type: C=Concentration, D=De Hydric Soil Indicators: (Appli Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surfa Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (If present): Tune:	pletion, RM= icable to all I	Reduced Matrix, C RRs, unless othe Sandy Redox (Stripped Matrix Loamy Mucky Loamy Gleyed Depleted Matrix Redox Dark St Depleted Dark Redox Depress	S=Coveren rwise not (S5) (S5) (S5) Mineral (F Matrix (F2) (F3) urface (F6) Surface (F8)	d or Coat. ed.) () (excep () 7)	ed Sand C	Srains. ² Lo Indicat 2 c Re V Ve Ot ³ Indicat wett l	Decation: PL=Pore Lining, M=Matrix. Nors for Problematic Hydric Soils ³ : m Muck (A10) d Parent Material (TF2) ry Shallow Dark Surface (TF12) her (Explain in Remarks) tors of hydrophytic vegetation and and hydrology must be present, iss disturbed or problematic.
Type:						in the second	1/
Depth (inches):						Hydric So	il Present? Yes // No
YDROLOGY Vetland Hydrology Indicators	s:	check all that any	NV)	-		Sac	ondary lodicators (2 or more required)
YDROLOGY Vetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1)	s: one required	check all that app Water-Sta	Hy) ained Leav	res (89) (except	Sec	ondary Indicators (2 or more required) Water-Stained Leaves (89) (MLRA 1, 2
YDROLOGY Vetland Hydrology Indicators Inimary Indicators (minimum of Surface Water (A1) High Water Table (A2)	s: one required	; check all that app Water-Sta MLRA	Ny) ained Leav	res (B9) (1 and 48)	except	<u>Sec</u>	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
YDROLOGY Vetland Hydrology Indicators Inimary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	s: (one required	check all that app Water-Sta MLRA Satt Crust	Ny) ained Leav 1, 2, 4A, : t (B11)	res (B9) (4 and 4B)	except	<u>Sec</u>	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
YDROLOGY Vetland Hydrology Indicators minary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	s: one required	check all that app Water-Sta MLRA Salt Crust Soutic In	Ny) ained Leav 1, 2, 4A, 3 t (B11) hvertebrate	res (B9) (4 and 4B) es (B13)	except	<u>Sec</u>	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLOGY Vetland Hydrology Indicators Primary Indicators (minimum of 	s: one required	<u>check all that app</u> Water-Sta MLRA Saft Crust Aquatic Ir Hydrogen	Ny) ained Leav 1, 2, 4A, i t (B11) nvertebrate n Suifide O	res (B9) (4 and 4B) es (B13) dor (C1)	except	<u>Sec</u>	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9
YDROLOGY Vetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	s: fone required	<u>check all that app</u> Water-Sta MLRA Satt Crust Aquatic Ir Hydrogen Oxidized	Ny) ained Leav 1, 2, 4A, i t (B11) nvertebrate n Sulfide O Rhizosphe	res (B9) (4 and 4B) rs (B13) dor (C1) eres alonc	except	Sec 	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS Geomorphic Position (D2)
YDROLOGY Vetland Hydrology Indicaton Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	s: one required	check all that app Water-Sta MLRA Salt Crust Aquatic Ir Hydrogen Oxidized Presence	Ny) ained Leav 1, 2, 4A, 1 t (B11) nvertebrate n Sulfide O Rhizosphe of Reduce	es (B9) (d and 4B) is (B13) dor (C1) eres along ed fron (C	except) Living Ro 24)	<u>Sec</u>	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9 Geomorphic Position (D2) Shallow Aquitard (D3)
YDROLOGY Netland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	s: one required	check all that app Water-Sta MLRA Salt Crust Aquatic Ir Hydrogen Oxidized Presence Recent fr	Ny) ained Leav 1, 2, 4A, i t (B11) nvertebrate o Sulfide O Rhizosphe of Reduct	es (B9) (a and 4B) is (B13) dor (C1) ires along ed fron (C ion in Tilk	except) Living Ro 24) ed Soils (C	Sec 	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (CS Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
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Appendix B: Work Plans for Instream Impoundment/Obstructions (86 Sites Required by CDWR)



Figure B-1. Work plan for site 1.



Figure B-2. Work plan for site 2.



Figure B-4. Work plan for site 4.



Figure B-5. Work plan for site 5.



Figure B-6. Work plan for site 6.



Figure B-7. Work plan for site 7.



Figure B-9. Work plan for site 9.

Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-11. Work plan for site 11.

Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-12 . Work plan for site 12.



Figure B-13 . Work plan for site 13.



Figure B-14. Work plan for site 14.



Figure B-14. Work plan for site 14 (continued).

Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-16. Work plan for site 16.



Figure B-17. Work plan for site 17.



Figure B-18. Work plan for site 18.

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Figure B-19. Work plan for site 19.



Figure B-20. Work plan for site 20.



Figure B-21. Work plan for site 21.



Figure B-22. Work plan for site 22.

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Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-23. Work plan for site 23.



Figure B-23A. Work plan for site 23A.



Figure B-24 . Work plan for site 24.

Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-25. Plan for Site 25.



Figure B-25A . Work plan for site 25A.



Figure B-25B. Work plan for site 25B.



Figure B-26. Work plan for site 26.

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Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-27. Work plan for site 27.



Figure B-28. Work plan for site 28.

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Figure B-29. Work plan for site 29.



Figure B-30. Work plan for site 30.

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Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-31. Work plan for site 31.



Figure B-32. Work plan for site 32.

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Figure B-34. Work plan for site 34.

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Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-35. Work plan for site 35.



Figure B-36. Work plan for site 36.



Figure B-37. Work plan for site 37.



Figure B-38. Work plan for site 38.

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Figure B-39. Work plan for site 39.



Figure B-40A. Work plan for site 40A.

Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-40B. Work plan for site 40B.



Figure B-41. Work plan for site 41.

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Figure B-43. Work plan for site 43.

Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-45. Work plan for Sites 45.

Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B- 46. Work plan for Site 46.



Figure B-48. Work plan for Site 48.

Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-49B. Work Plan for Site 49.




Figure B-51. Work plan for Site 51.



Figure B-52. Work plan for Site 52.

Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-55. Work plan for Site 55.



Figure B-57. Work plan for Site 57.



Figure B-59. Work plan for Site 59.

Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-61. Work plan for Site 61.



Figure B-63. Work plan for site 63.

Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-64. Work plan for site 64.



Figure B-66. Work plan for site 66.



Figure B-67. Work plan for site 67.

Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-68. Work plan for site 68.



Figure B-69. Work plan for site 69.



Figure B-70. Work plan for site 70.



Figure B-71. Work plan for site 71.



Figure B-73A. Work plan for site 73A.



Figure B-74. Work plan for site 74.



Figure B-75A. Work plan for site 75A.



Figure B-75B. Work plan for site 75B.



Figure B-76. Work plan for site 76.



Figure B-77. Work plan for site 77.



Figure B-78B. Work plan for site 78B.



Figure B-80. Work plan for site 80.

Appendix B Work Plans for Instream Impoundment/Obstructions



Figure B-82. Work plan for site 82.



Figure B-83. Work plan for site 83.



Figure B-84. Work plan for site 84.



Figure B-86. Work plan for site 86.

Appendix C: Photographs of Storage Disposal Areas

Appendix C Photographs of Disposal Areas



Figure C-1. Storage Area 1.



Figure C-3. Storage Area 5.



Figure C-2. Storage Area 3.



Figure C-4. Storage Area 6.

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Appendix C Photographs of Disposal Areas



Figure C-5. Storage Area 7.



Figure C-7. Storage Area 10 (white flowers are yarrow).



Figure C-6. Storage Area 8.



Figure C-8. Storage Area 12.

Appendix C Photographs of Disposal Areas



Figure C-9. Storage Area 13.



Figure C-11. Storage Area 16.



Figure C-10. Storage Area 14.



Figure C-12. Storage Area 17.

Appendix C Photographs of Disposal Areas



Figure C-13. Storage Area 18.



Figure C-14. Storage Area 19.



Figure C-15. Storage Area 20.

Appendix D: Work Plans for Wetland Fills USEPA-only Sites

Appendix D Work Plans for Wetland Fills - USEPA-Only Sites



Figure D-4A. Work plan for site 4A.



Figure D-2. Work plan for Site B (near CDWR Site 11). r Consultants, LLC P:\Project Files\15

Appendix D Work Plans for Wetland Fills - USEPA-Only Sites



Figure D-11A. Work plan for site 11A.



Figure D12A. Work plan for Site 12A (near CDWR Site 12).

Appendix D Work Plans for Wetland Fills - USEPA-Only Sites



Figure D-53A. Work plan for Site 53A.



Figure D-65A. Work plan for site 65A.

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Appendix D Work Plans for Wetland Fills - USEPA-Only Sites



Figure D-77A. Work plan for site 77A.



Figure D-78A. Work plan for site 78A.

Bikis Water Consultants, LLC May 2, 2014 Appendix E: Work Plans for Bank Stabilization Sites and Old Fills

Appendix E Work Plans for Bank Stabilization Sites and Old Fills



Figure E-1. Bank stabilization above the ordinary high water mark (OHWM) of Sheep Creek at BW-1. Material to remain.



Figure E-2. Bank stabilization with some rocks in the creek BS-2.

Appendix E Work Plans for Bank Stabilization Sites and Old Fills



Figure E-3. Bank stabilization at BS-2. Material to be removed.



Figure E-4. Bank stabilization at BS-2. Material to be removed.

Appendix E Work Plans for Bank Stabilization Sites and Old Fills



Figure E-5. bank stabilization at BS-2W. Rocks to remain since banks are wetland.



Figure E-6. Bank stabilization at BS-3. Rocks to remain since they protect the outside bend.

Appendix E Work Plans for Bank Stabilization Sites and Old Fills



Figure E-7. Rocks below OHWM to be removed at BS-5..



Figure E-8. Work at BS-4. Rocks to be removed.

Appendix E Work Plans for Bank Stabilization Sites and Old Fills



Figure E-9. Pasture to south of area with ranch road and concrete abutments.



Figure E-10. Pasture to north or area with ranch road and concrete abutments.
Appendix F: Work Plans for Feeder Ditch



Figure F-1 Work plan for Feeder Ditch.



Figure F-2. Work plan for Feeder Ditch.

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Appendix F Work Plans for Feeder Ditch



Figure F-3. Work plan for Feeder Ditch.

Propagation III III

Appendix G: Plan for New Outlet for Horseshoe Pond No. 2

Appendix G Plan for New Outlet for Horseshoe Pond No. 2



Figure G-1. Plan for Horseshoe Pond No. 2 outlet.



Figure G-2. Plan for Horseshoe Pond No. 2.

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Appendix H: Plan for New Diversion Box for Ditch No. 5

Appendix H Plan for New Diversion Box for Ditch No. 5



Figure H-1. Plan for new diversion box for Ditch Lateral No. 5 (looking northeast).



Figure H-2. Plan for new diversion box for Ditch Lateral No. 5 (looking east towards Sheep Creek).

