

**OPERATING PERMIT APPLICATION
MONTANA LIMESTONE RESOURCES**

**APPENDIX A-5
BASELINE WETLANDS REPORT**

October, 2014

BASELINE WETLAND AND WATERBODY INVENTORY
MONTANA LIMESTONE RESOURCES PROJECT
GRANITE COUNTY, MONTANA

Prepared for:

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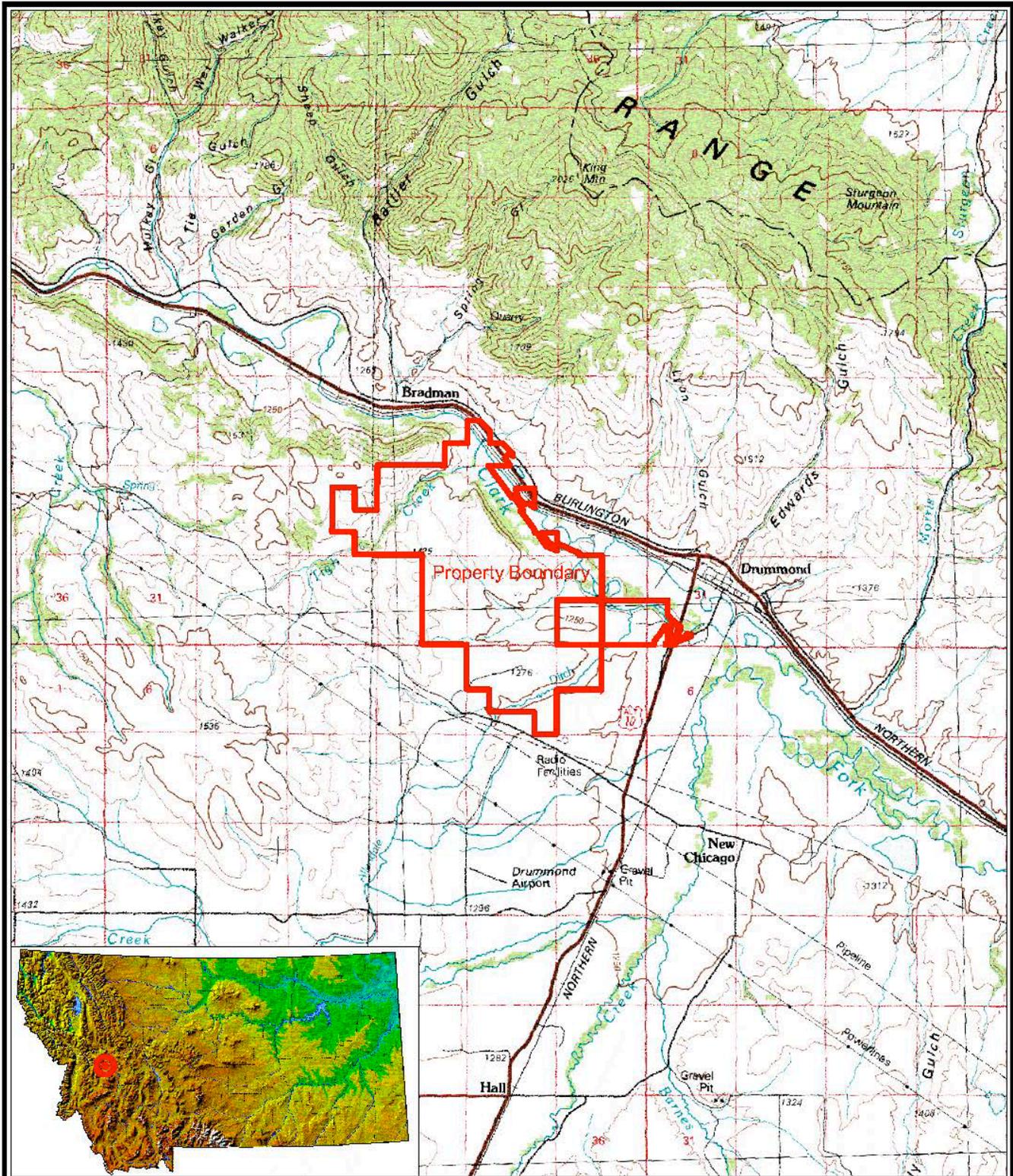
1.0 INTRODUCTION

Montana Limestone Resources, LLC (MLR) intends to develop a limestone mine and processing plant approximately two miles west of Drummond, Montana in Granite County. In support of this project, WESTECH Environmental Services, Inc. (WESTECH) inventoried wetlands and waterbodies within the area of the proposed development. The Project area is shown on Figure 1, including all or portions of Sections 1 and 2, T10N, R13W; Section 31, T11N, R12W; and Sections 23, 25-28 and 34-36, T11N, R13W. This inventory will be used to help prepare a 404 Application to the U.S. Army Corps of Engineers (USACE) if project activities result in the placement of dredge or fill materials in waters of the U.S. (WUS), including wetlands. The wetland delineation presented in this report may be reviewed by USACE, who would then provide jurisdictional determinations of WUS. A number of the wetlands identified in this report may not be jurisdictional.

The study area climate is continental, having cold winters and warm summers with a growing season extending from April to September in most years. Weather data collected at Drummond were examined for the 30-year period (NRCS 2003). The average annual temperature is 42.9 degrees Fahrenheit (F), ranging from an average minimum of 11.4 degrees F in January to an average maximum of 84.2 degrees F in July. During the growing season average temperatures range from 43 to 65 degrees F. Precipitation averages 13.4 inches annually, ranging from 0.6 inches in February to 1.9 inches in June, with the greatest precipitation occurring in May and June.

Geology of the area (Montana Bureau of Mines and Geology 2009) consists of Tertiary sedimentary formations at lower elevations in the southern portion of the study area. Higher elevations in the northern portion of the study area are comprised of a Mississippian carbonate formation (limestone), and Tertiary igneous formations comprised of andesite, basalt and rhyolite. The Clark Fork River floodplain comprises Quaternary unconsolidated alluvium.

The 2013 field inventory was conducted July 2-3, July 18, and September 21 by Dean Culwell, Dan Culwell, Ken Scow and Ed Darfler. Data analysis and report preparation were conducted by Dean Culwell, Ken Scow and Nancy Horn, with computer graphics and analysis by Dan Culwell.



USGS 100k: Missoula East

Montana Limestone Resources Project Area General Location



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SCALE: 1:100,000
DATE: 04/25/13
DRAWN BY: DC
CHECKED BY: KS
FILE: MLR13_Location.dwg

FIGURE

1

SHEET: 1 of 1

2.0 DELINEATION METHODS

Wetlands and waterbodies were identified and delineated using the routine on-site approach described in the 1987 USACE Wetland Delineation Manual (Environmental Laboratory 1987) and the final Regional Supplement to the Manual: Western Mountains, Valleys and Coast Region (WMVC) (USACE 2010). Wetlands were classified using a combination of hydrogeomorphic classes (Smith *et al.* 1995, Brinson 1995) and vegetation types (Cowardin *et al.* 1979). Standard data forms (from the regional supplement) were completed to assess wetland hydrology, hydric soils and hydrophytic vegetation at potentially jurisdictional sites along drainages, floodplains, subirrigated areas, at springs or seeps, and around ponds. Specific methods of inventory are presented below.

Background and supplementary sources of data for the delineation were obtained from various environmental baseline studies conducted in 2013 for the MLR Project, including surface and groundwater hydrology (Hydrometrics 2014), soils (Baker and Corry 2014) and vegetation (Scow 2014). Other resources included high-resolution aerial photographs flown in 2013 (true color), site-specific topographic maps (5-foot contour intervals), and wetland mapping completed by the Montana Natural Heritage Program (MTNHP 2014).

Data from the investigations cited above were used to assist in determining areas to be field-surveyed. Specific drainages and other areas of potential wetlands were walked. Wetland and upland plots were sampled in key locations, and data were recorded on USACE wetland determination field forms (Appendix C), which serve as worksheets for determining the presence/absence of wetland hydrology, hydric soils, and hydrophytic vegetation. Supplementary wetlands determination data were recorded in field maps and notebooks. A total of 24 wetland and riparian area plots, and 81 upland vegetation plots were sampled. Data for upland plots are presented in Scow (2014). Photographs of wetlands and waterbodies are included in Appendix D.

Wetlands in areas to be potentially disturbed were mapped in the field using Trimble GPS units. Wetlands in portions of the study area where disturbances were not contemplated were mapped using a combination of aerial photograph interpretation and MTNHP wetland mapping. Maps were created using the AutoCAD Map 3D program. Mapped wetlands and waterbodies were assigned unique labels based on stream names.

Wetland hydrology indicators, hydric soils indicators and hydrophytic vegetation are used in combination to determine whether an area meets USACE criteria for wetlands (Environmental Laboratory 1987). The next three sections discuss how the three wetland components were assessed to identify and delineate wetlands.

2.1 Wetland Hydrology

The presence of wetland hydrology is inferred from hydrologic indicators of repeated, extended episodes of inundation or soil saturation (*e.g.*, surface water, sediment deposits, algal mats, water-stained leaves) (Environmental Laboratory 1987). The MLR Project baseline hydrologic investigation

(Hydrometrics 2014) and baseline vegetation inventory (Scow 2014) informed the Wetland/WUS delineation and indicated drainages and other areas where wetland hydrology may be present within the proposed disturbance areas. Field investigations included walking specific drainages and noting the presence and extent of hydrologic indicators, and mapping seeps and springs. Shallow pits (at least 18 inches deep) excavated for hydric soil investigations at wetland plots and adjacent upland sites were also used to determine presence and depth of saturation.

2.2 Hydric Soils

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (USDA Soil Conservation Service 1991). Generally, hydric soils are saturated, flooded, or ponded for one week or more during the period when soil temperatures are above biologic zero (41 degrees Fahrenheit or 5 degrees Celsius), as defined in USDA Soil Conservation Service (1975). These soils typically support hydrophytic vegetation and exhibit distinctive characteristics (e.g. redox features, gleying, histic epipedons) that result from repeated, extended periods of saturation; these characteristics tend to persist in the soils during both wet and dry periods. A recent compilation of hydric soils indicators is included in USDA Natural Resources Conservation Service (2005, 2006). Region-specific indicators are discussed in USACE (2010).

As with wetland hydrology, previous investigations were used to identify areas for intensive surveys. Shallow pits at least 18 inches deep were dug in areas of suspected hydric soils. Soil horizons and characteristics were described and any hydric soil indicators present were noted. Pits were also dug at some locations to verify upland boundaries.

2.3 Hydrophytic Vegetation

The USACE wetlands delineation methodology uses a plant community approach to determine whether a site has hydrophytic vegetation, dominated by species that require or can tolerate prolonged inundation or soil saturation during the growing season (Environmental Laboratory 1987; USACE 2010). The USACE, in cooperation with the US Fish and Wildlife Service (USFWS), NRCS, and the Environmental Protection Agency (EPA), developed the “National Wetland Plant List”, in which vascular plant species are assigned a wetland indicator status based on frequency of occurrence in wetlands (Lichvar 2012). Final status was determined by a National Panel and ten Regional Panels. The major indicator status categories include obligate wetland species (OBL), facultative wetland species (FACW), facultative species (FAC), facultative upland species (FACU) and upland species (UPL), as briefly explained below:

Wetland Indicator Status	Definition*
Obligate Wetland (OBL)	Almost always occur in wetlands
Facultative Wetland (FACW)	Usually occur in wetlands, but may occur in non-wetlands
Facultative (FAC)	Occur in wetlands or non-wetlands
Facultative Upland (FACU)	Usually occur in non-wetlands, but may occur in wetlands
Obligate Upland (UPL)	Almost never occur in wetlands

**More complete definitions are given by Lichvar et al. (2012).*

The facultative categories include species that occur in both wetlands and non-wetlands to varying degrees. Any species not on the list is presumed to be an upland species. The National List is composed of ten region-specific subsets of the list; the WMVC Region list (Lichvar 2012) was used for the MLR Project.

Vascular plant species were tallied on variable-sized plots at each sampling site by structural stratum (tree, sapling/shrub, herb, or woody vine). USACE formulas were used to determine dominant species in each stratum based on ocular estimates of percent cover for each species. An area has hydrophytic vegetation when more than 50 percent of the dominant species from all strata are OBL, FACW, and/or FAC species (the dominance test). In addition to the dominance test, a prevalence index was calculated for each sample site; this test is based on all species present, not just dominant species. Visual observations of other hydrophytic vegetation indicators such as plant morphological adaptations to prolonged wet conditions and presence of wetland non-vascular plants were also incorporated into hydrophytic vegetation determinations. A Project area list of vascular plant species is included as Appendix B. Taxonomic nomenclature follows Lesica (2012) and includes synonymy from Lichvar (2012).

Wetland inventory plot numbers start with RW-82. The initial 81 plots were sampled in upland areas, and are discussed in the baseline vegetation report (Scow 2014).

3.0 DELINEATION RESULTS

3.1 Potential Waters of the U.S. (WUS)

The traditional navigable water (TNW) nearest the Project area is the Clark Fork River about 265 river miles downstream of the Project at the Montana/Idaho border. WUS, as defined in 33 CFR Part 328, encompass all major streams and their tributary streams, ponds and wetlands within the Project area. Wetlands are a regulatory subset of WUS that require additional investigation, delineation and avoidance/mitigation measures to comply with Section 404(b)(1) of the Clean Water Act. Wetlands and waterbodies within the Project area are shown on Plate 1 along with each segment's Cowardin classification (Cowardin *et al.* 1979). Non-wetland stream segments are displayed in a different color on Plate 1 to differentiate them from wetland polygons.

3.2 Results by Wetland Component

The following discussion provides a summary overview for each of the three wetland components inventoried throughout the Project area.

3.2.1 Wetland Hydrology

Wetland hydrology indicators within the Project area occur primarily within streamside riparian and floodplain zones, on low terraces adjacent to main stream channels, downslope from seeps and springs, and in some swales and depressions. Areas of artificial wetland hydrology occur along irrigation ditches, irrigated agricultural fields and old channels that receive irrigation return flow. Many of the areas exhibiting wetland hydrology are not flooded or saturated year-round but retain water from snowmelt runoff, seasonal stream channel overflow, and/or rainfall events.

Tributary drainages in the upland portion of the study area generally have steep side slopes and narrow stream bottoms along most of their course, and have ephemeral flows. Wetland hydrology in these drainages, if present, tends to occur in narrow zones along the drainage bottom and relies primarily on seasonal snowmelt and precipitation. Wetland hydrology indicators typically include primary indicators of seasonal inundation or prolonged saturation such as water marks, sediment, drift deposits or salt crusts. At some sites, wetland hydrology was inferred from secondary indicators such as drainage patterns and geomorphic position.

The Clark Fork River has developed a broad floodplain containing abandoned oxbows and overflow channels. Seasonal river channel overflow and irrigation return water captured by these areas allow for areas of wetland hydrology with a greater retention time for wetland hydrology conditions. Surface water, high water table and/or soil saturation were observed at several of these sites.

Wetland hydrology along the perennial creek on the east side of the Project area occurs as a fringe along the streambanks and on low terraces adjacent to the creek. In some areas, wetland hydrology is provided by seepage areas above the valley floor.

3.2.2 Hydric Soils

Soils throughout the Project area are described in the baseline soils inventory (Baker and Corry 2014). Native soils were typically formed in colluvium or alluvium derived from various parent materials. Geology in the Project area is variable, consisting of Tertiary sedimentary clays along the southern boundary, with basalt and andesite along the western boundary (Berg 2005). In contrast, formations such as Mississippian Madison limestone desposits overlying the Pennsylvanian Amsden and Quadrant Formations occupy the central portion of the Project area.

Hydric soils are typically found along the Clark Fork River floodplain in overflow channels and irrigated fields. Other areas with hydric soils include spring/seep areas in narrow drainages and low terraces along the perennial creek on the east side of the Project area. In most of these locations the soils are finely textured loams. Soil horizons are often difficult to identify due to mixing from cattle trampling when soils are muddy. Redox features are the most common hydric soil indicator, as well as saturated soils often with groundwater within 18 inches of the surface.

3.2.3 Hydrophytic Vegetation

Vegetation community types in the Project area, including wetland and riparian types, are described in the baseline vegetation inventory (Scow 2014). Table 1 lists riparian and wetland vegetation types and corresponding plot numbers for this inventory. Herbaceous types are the most prevalent in the Project area with sedge types most common. Nebraska sedge, woolly sedge and southern beaked sedge dominate various sites. Common cattail-dominated wetlands represent the wettest sites but are uncommon. Redtop is common on more disturbed sites. Two herbaceous riparian types dominated by Kentucky bluegrass and smooth brome do not support a prevalence of hydrophytic vegetation (Table 2), and are riparian but not wetland on the Clark Fork River floodplain.

Two shrub-dominated types were sampled: the sandbar willow/red-osier dogwood community type supports hydrophytic vegetation while the western snowberry community type is dominated by upland species (Table 2). Riparian forest types dominated by black cottonwood, Rocky Mountain juniper or quaking aspen typically are non-wetland, although facultative species often dominate.

3.3 Results by Drainage

Each wetland and waterbody inventoried and delineated in the field, or identified from aerial photography interpretation and MTNHP mapping, was digitally mapped as presented in Plate 1.

Mapped wetlands and waterbodies were assigned unique labels based on the drainage basins in which they occurred, named for streams and tributaries as shown below:

Label (Plate 1)	Drainage	Number of Wetland/ Waterbody Labels
CF	Clark Fork River and floodplain	120 / 7
CFT	Clark Fork tributaries	2 / 4
M	Unnamed Perennial Creek	9 / 2
MD	Unnamed Perennial Creek ditches and seepage areas	9 / -
FCT	Flint Creek tributary	1 / -
T	Tigh Creek	- / 2

Table 1
Riparian and Wetland Vegetation Types Identified in the Montana Limestone Resources
Project Area, Granite County, Montana, 2013.

VEGETATION TYPE	PLOT NUMBERS ¹	n
RIPARIAN AND WETLAND (RW) TYPES		24
Herbaceous types		(15)
<i>Poa pratensis</i> community type (Kentucky bluegrass c.t.)	RW 85	1
<i>Agrostis stolonifera</i> community type (Redtop c.t.)	RW 95, RW 98	2
<i>Bromus inermis</i> community type (Smooth brome c.t.)	RW 83	1
<i>Typha latifolia</i> community type (Common cattail c.t.)	RW 89, RW 96	2
<i>Carex nebraskensis</i> community type (Nebraska sedge c.t.)	RW 93, RW 94, RW 97, RW 105	4
<i>Carex pellita</i> habitat type (Woolly sedge h.t.)	RW 86, RW 92	2
<i>Carex utriculata</i> habitat type (Southern beaked sedge h.t.)	RW 87, RW 88, RW 91	3
Shrub types		(3)
<i>Symphoricarpos occidentalis</i> community type (Western snowberry c.t.)	RW 84	1
<i>Salix exigua/Cornus sericea</i> community type (Sandbar willow/red-osier dogwood c.t.)	RW 90, RW 103	2
Conifer and Deciduous Forest types		(6)
<i>Juniperus scopulorum/Cornus sericea</i> habitat type (Rocky Mountain juniper/red-osier dogwood h.t.)	RW 102	1
<i>Populus balsamifera/Symphoricarpos occidentalis</i> community type (Black cottonwood/western snowberry c.t.)	RW 82, RW 101	2
<i>Populus balsamifera/Cornus sericea</i> community type (Black cottonwood/red-osier dogwood c.t.)	RW 99	1
<i>Populus tremuloides/Cornus sericea</i> habitat type (Quaking aspen/red-osier dogwood h.t.)	RW 100, RW 104	2
TOTAL SAMPLE SITES		24

¹Plot locations are shown on the wetland delineation map (Plate 1).

Table 2
Percent Hydrophytic Composition for Wetland and Riparian Plots,
Montana Limestone Resources Project, 2013

Plot	Community or Habitat Type	Dominance Test	Prevalence Index
RW-82	Black cottonwood/Rocky Mountain Juniper	60	3.29
RW-83	Smooth brome	40	4.20
RW-84	Western snowberry	50	3.66
RW-85	Kentucky bluegrass	67	3.09
RW-86	Woolly sedge	83	1.67
RW-87	Southern beaked sedge	100	1.25
RW-88	Southern beaked sedge	100	1.21
RW-89	Common cattail	100	1.24
RW-90	Sandbar willow/red-osier dogwood	88	2.35
RW-91	Southern beaked sedge	100	1.25
RW-92	Baltic rush/sedge/common spikesedge	100	1.66
RW-93	Nebraska sedge (Creeping meadow foxtail)	60	3.06
RW-94	Nebraska sedge (redtop)	100	2.55
RW-95	Redtop (foxtail barley)	86	2.60
RW-96	Common cattail	100	1.13
RW-97	Nebraska sedge	100	2.16
RW-98	Redtop (Baltic rush)	100	2.67
RW-99	Black cottonwood/Rocky Mountain juniper	56	3.43
RW-100	Quaking aspen/red-osier dogwood (Rocky Mountain juniper)	45	3.74
RW-101	Black cottonwood/Rocky Mountain juniper	63	3.42
RW-102	Rocky Mountain juniper/red-osier dogwood	56	4.51
RW-103	Sandbar willow/red-osier dogwood	91	2.43
RW-104	Quaking aspen/red-osier dogwood	78	3.23
RW-105	Nebraska sedge	83	2.21

Appendix A presents a line item list of selected features for each wetland/waterbody label, including Cowardin code, HGM code, acreage or linear measurement, waters type, lat/long location and local waterway drainage. A summary of wetland and waterbody measurements is given by drainage in Table 3. Appendix B is a list of vascular plant species recorded at wetland inventory sites, and Appendix C compiles all field forms completed for the 2013 inventory. Digital photographs of inventory sites are included as Appendix D.

Table 3
Preliminary Summary of Wetland Acreage, Non-wetland Pond Acreage and Length of Non-wetland Streams by Drainage, Montana Limestone Resources Project, 2013.

WUS Drainage Designation*	Wetland Area (Acres)	Non-wetland Pond Area (Acres)	Non-wetland Stream Length (Feet)
CF	148.44	0.79	13, 319
CFT	0.25	---	11, 665
M	17.80	---	15, 230
MD	4.94	---	---
FCT	3.92	---	---
T	---	0.11	10, 210
PROJECT TOTAL	175.35	0.90	50,424

*See Plate 1:

- CF Clark Fork River and floodplain
- CFT Clark Fork tributaries
- M Unnamed Perennial Creek
- MD Unnamed Perennial Creek ditches and seepage areas
- FCT Flint Creek Tributary
- T Tigh Creek

3.3.1 Clark Fork River and Floodplain (CF)

Wetlands on the Clark Fork River floodplain occur on low terraces and within high flow channels. Hydrology is typically provided by spring flows, although flood irrigation and irrigation return water provide longer-term hydrology. Vegetation communities are variable and diverse, ranging from hydric common cattail sites to the high-mesic sandbar willow community type. Riparian forest dominated by black cottonwood is generally non-wetland. A relatively large farmed wetland supported by flood irrigation is also present on the floodplain, although most hay meadows and pastures on the floodplain are non-wetland. Several irrigation ditches are present in support of agricultural activities.

The preliminary delineation of WUS (Table 3) indicated 148 acres of wetlands associated with the Clark Fork River floodplain, of which 11 percent was unconsolidated shore (gravel bars, sand bars, etc.), 5 percent was palustrine aquatic bed, 53 percent was palustrine emergent, and 31 percent was palustrine scrub-shrub (following Cowardin *et al.* 1979). There was 0.8 acre of non-wetland WUS preliminarily identified, associated with three non-wetland ponds (PUB) on the Clark Fork floodplain. Non-wetland stream reaches of the Clark Fork River and its overflow channels totaled 13,319 feet (Table 3) in the Project area, including 10,688 feet of the Clark Fork River mainstem and 2,631 feet of overflow channels.

3.3.2 Clark Fork Tributaries (CFT)

Two ephemeral flow drainages tributary to the Clark Fork River support narrow wetlands below seepy areas. Occasional flow in these drainages (which come together within the Project area) is captured in irrigation ditches prior to reaching the river and no defined stream channel connects to the Clark Fork.

Both areas were once developed for livestock watering with stock tanks and piping but have not been maintained (see photograph for plot RW 94 in Appendix D). Livestock trampling when the sites are wet has mixed soil profiles and created a hummocky surface. Species common to disturbed wet sites are dominant, including redtop, foxtail barley, and Nebraska sedge.

The two wetland areas (PEMA) combined comprised 0.25 acre. Non-wetland stream reaches on four Clark Fork tributary drainages totaled 11,665 feet.

3.3.3 Unnamed Perennial Stream (M)

An unnamed perennial stream crosses the eastern side of the Project area, running generally from southwest to northeast connecting to the Clark Fork River near the east edge of the Project area. Wetlands are intermittent occurring as a narrow fringe, or more extensive on low terraces and slope seepage areas (see photographs of plots RW 93, RW 96 and RW 97 in Appendix D). Nebraska sedge typically dominates these heavily grazed wetland sites, with common cattail sporadically dominant in wetter areas.

Wetlands associated with the stream totaled about 18 acres (Table 3), and were almost entirely palustrine emergent, temporarily flooded (PEMA) types. Non-wetland stream reaches comprised 15,230 feet total length in the Project area.

3.3.4 Miscellaneous Ditches and Ditch Seepage Areas (MD)

An irrigation diversion from the unnamed drainage discussed above feeds water seasonally to ditches irrigating hay meadows on the Clark Fork River floodplain. These ditches support a narrow fringe of hydrophytic species in some areas. Localized wet areas are present where leakage from the ditch has resulted in seasonal flooding and saturation.

Ditches and ditch seepage areas associated with the unnamed perennial stream comprised 5 acres of palustrine emergent wetland, including 2 acres of artificially flooded, excavated ditches (PEMKx) and 3 acres of seepage areas (PEMK).

3.3.5 Flint Creek Tributary (FCT)

The Montana Natural Heritage Program delineated a temporarily-flooded palustrine emergent wetland near the south-central margin of the Project area. This broad swale is fed by upslope irrigation water that eventually enters an irrigation ditch at the Project boundary. Irrigation ditches carry water east towards Flint Creek.

The palustrine emergent wetland mapped by MTNHP totals about 4 acres.

3.3.6 Tigh Creek (T)

Tigh Creek is an ephemeral flow drainage in the northwestern portion of the Project area. Flow is present only for short durations during snowmelt and heavy rain events. No defined channel is present connecting to the Clark Fork River where the creek enters the Clark Fork floodplain. Upstream of the floodplain, the drainage channel is intermittently composed of incised channel segments and broad swales, both supporting upland vegetation.

Length of the Tigh Creek mainstem totaled 10,210 feet of (intermittently incised) non-wetland stream within the Project area (Table 3). A non-wetland, temporarily flooded pond in the Tigh Creek drainage comprised 0.11 acre.

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Appendix A

Montana Limestone Resources Project Line Item Delineation of Wetlands and Waterbodies, 2013.

Appendix A

Montana Limestone Resources Line Item Delineation of Wetlands and Waterbodies, 2013.

Waters_Name	Cowardin_Code	HGM_Code	Measurement_Type	Amount	Units	Waters_Types	Latitude	Longitude	Local_Waterway
CF2	PSSA	Riverine	Area	0.96	Acres	RPWWD	46.69317	-113.20567	Clark Fork River
CF3	PSSA	Riverine	Area	0.51	Acres	RPWWD	46.69361	-113.20538	Clark Fork River
CF4	PSSA	Riverine	Area	0.11	Acres	RPWWD	46.69357	-113.20568	Clark Fork River
CF5	PEMA	Depression	Area	0.17	Acres	RPWWN	46.69437	-113.20419	Clark Fork River
CF6	PSSA	Depression	Area	0.19	Acres	RPWWN	46.69415	-113.20386	Clark Fork River
CF7	PEMA	Riverine	Area	0.55	Acres	RPWWN	46.69235	-113.20584	Clark Fork River
CF8	PSSA	Depression	Area	0.70	Acres	RPWWN	46.69348	-113.20308	Clark Fork River
CF9	PABH	Riverine	Area	0.33	Acres	RPWWD	46.69172	-113.20412	Clark Fork River
CF10	PSSA	Riverine	Area	0.77	Acres	RPWWD	46.69160	-113.20385	Clark Fork River
CF12	PSSA	Riverine	Area	0.05	Acres	RPWWN	46.69089	-113.20372	Clark Fork River
CF13	PABF	Riverine	Area	0.51	Acres	RPWWN	46.69032	-113.20442	Clark Fork River
CF14	PEMA	Riverine	Area	0.14	Acres	RPWWN	46.68913	-113.20509	Clark Fork River
CF15	PSSA	Depression	Area	1.32	Acres	RPWWN	46.68958	-113.20038	Clark Fork River
CF16	PSSA	Riverine	Area	1.07	Acres	RPWWD	46.68955	-113.20111	Clark Fork River
CF17	PSSA	Depression	Area	1.03	Acres	RPWWN	46.68982	-113.19893	Clark Fork River
CF19	PSSA	Riverine	Area	2.20	Acres	RPWWD	46.68788	-113.19964	Clark Fork River
CF20	PEMC	Depression	Area	0.25	Acres	RPWWN	46.68823	-113.19898	Clark Fork River
CF21	PEMA	Depression	Area	0.53	Acres	RPWWN	46.68910	-113.19787	Clark Fork River
CF23	PSSA	Depression	Area	0.66	Acres	RPWWN	46.68786	-113.19848	Clark Fork River
CF26	PEMA	Riverine	Area	0.21	Acres	RPWWN	46.68544	-113.20415	Clark Fork River
CF27	PABF	Riverine	Area	1.48	Acres	RPWWN	46.68439	-113.20338	Clark Fork River
CF28	PEMA	Riverine	Area	0.15	Acres	RPWWN	46.68437	-113.20208	Clark Fork River
CF29	PEMA	Riverine	Area	0.31	Acres	RPWWN	46.68239	-113.20153	Clark Fork River
CF30	PSSA	Riverine	Area	0.26	Acres	RPWWN	46.68170	-113.20006	Clark Fork River
CF33	PSSA	Riverine	Area	0.58	Acres	RPWWN	46.67992	-113.19587	Clark Fork River
CF34	PSSA	Riverine	Area	0.27	Acres	RPWWN	46.68081	-113.19478	Clark Fork River
CF36	PSSA	Riverine	Area	1.71	Acres	RPWWD	46.68275	-113.19442	Clark Fork River
CF38	PSSA	Riverine	Area	0.48	Acres	RPWWD	46.68332	-113.19439	Clark Fork River
CF40	PSSA	Riverine	Area	1.41	Acres	RPWWD	46.68155	-113.19370	Clark Fork River
CF41	PSSA	Riverine	Area	0.85	Acres	RPWWD	46.68131	-113.19189	Clark Fork River
CF42	PEMC	Depression	Area	0.29	Acres	RPWWN	46.67904	-113.19837	Clark Fork River
CF43	PSSA	Depression	Area	1.53	Acres	RPWWN	46.67863	-113.19788	Clark Fork River
CF44	PEMC	Depression	Area	0.50	Acres	RPWWN	46.67804	-113.19731	Clark Fork River

Appendix A

Montana Limestone Resources Line Item Delineation of Wetlands and Waterbodies, 2013.

Waters_Name	Cowardin_Code	HGM_Code	Measurement_Type	Amount	Units	Waters_Types	Latitude	Longitude	Local_Waterway
CF45	PSSA	Depression	Area	0.97	Acres	RPWWN	46.67793	-113.19679	Clark Fork River
CF47	PSSA/PEMA	Riverine	Area	4.70	Acres	RPWWN	46.67610	-113.19298	Clark Fork River
CF48	PSSA	Riverine	Area	0.10	Acres	RPWWN	46.67844	-113.19300	Clark Fork River
CF49	PSSA	Riverine	Area	1.04	Acres	RPWWN	46.67732	-113.19384	Clark Fork River
CF50	PSSA	Riverine	Area	0.15	Acres	RPWWN	46.67735	-113.19292	Clark Fork River
CF51	PEMA	Riverine	Area	0.16	Acres	RPWWN	46.67559	-113.19317	Clark Fork River
CF52	PEMA	Riverine	Area	0.39	Acres	RPWWN	46.67521	-113.19238	Clark Fork River
CF53	PSSA	Riverine	Area	0.18	Acres	RPWWN	46.67604	-113.19139	Clark Fork River
CF54	PEMA	Riverine	Area	1.00	Acres	RPWWN	46.67551	-113.19008	Clark Fork River
CF55	PEMA	Riverine	Area	0.94	Acres	RPWWN	46.67573	-113.18821	Clark Fork River
CF56	PSSA	Riverine	Area	0.13	Acres	RPWWN	46.67505	-113.18783	Clark Fork River
CF57	PSSA	Riverine	Area	0.26	Acres	RPWWN	46.67637	-113.18705	Clark Fork River
CF58	PSSA	Riverine	Area	0.42	Acres	RPWWD	46.67634	-113.18614	Clark Fork River
CF59	PABH	Riverine	Area	0.06	Acres	RPWWD	46.67498	-113.18587	Clark Fork River
CF60	PSSA	Riverine	Area	0.40	Acres	RPWWN	46.67452	-113.18664	Clark Fork River
CF61	PEMA	Riverine	Area	1.14	Acres	RPWWN	46.67468	-113.18943	Clark Fork River
CF62	PABF	Riverine	Area	0.04	Acres	RPWWN	46.67440	-113.18939	Clark Fork River
CF63	PSSA	Riverine	Area	0.09	Acres	RPWWN	46.67439	-113.18866	Clark Fork River
CF64	PEMKx	Riverine	Area	0.17	Acres	DITCH	46.67440	-113.19087	Clark Fork River
CF65	PEMKx	Riverine	Area	0.16	Acres	DITCH	46.67297	-113.18903	Clark Fork River
CF66	PSSK	Riverine	Area	0.24	Acres	RPWWN	46.67375	-113.18778	Clark Fork River
CF67	PEMK	Riverine	Area	1.49	Acres	RPWWN	46.67222	-113.18771	Clark Fork River
CF68	PSSK	Riverine	Area	0.15	Acres	RPWWN	46.67269	-113.18783	Clark Fork River
CF69	PEMKx	Riverine	Area	0.22	Acres	DITCH	46.67340	-113.18697	Clark Fork River
CF70	PEMA	Riverine	Area	0.23	Acres	RPWWN	46.67427	-113.18593	Clark Fork River
CF71	PEMA	Riverine	Area	0.63	Acres	RPWWN	46.67387	-113.18426	Clark Fork River
CF72	PSSA	Riverine	Area	1.92	Acres	RPWWD	46.67367	-113.18364	Clark Fork River
CF73	PEMKf	Riverine	Area	43.13	Acres	RPWWN	46.67167	-113.18493	Clark Fork River
CF74	PEMK	Riverine	Area	0.03	Acres	RPWWN	46.66908	-113.18635	Clark Fork River
CF75	PSSA	Riverine	Area	0.01	Acres	RPWWD	46.67330	-113.18102	Clark Fork River
CF77	PSSA	Riverine	Area	3.79	Acres	RPWWD	46.67206	-113.18066	Clark Fork River
CF80	PSSA	Riverine	Area	0.15	Acres	RPWWN	46.67274	-113.17918	Clark Fork River
CF81	PEMA	Riverine	Area	0.78	Acres	RPWWD	46.67142	-113.17847	Clark Fork River

Appendix A

Montana Limestone Resources Line Item Delineation of Wetlands and Waterbodies, 2013.

Waters_Name	Cowardin_Code	HGM_Code	Measurement_Type	Amount	Units	Waters_Types	Latitude	Longitude	Local_Waterway
CF82	PSSA	Depression	Area	0.20	Acres	RPWWN	46.67266	-113.17742	Clark Fork River
CF83	PEMA	Riverine	Area	0.42	Acres	RPWWN	46.67168	-113.17661	Clark Fork River
CF84	PSSA	Depression	Area	0.41	Acres	RPWWN	46.67257	-113.17601	Clark Fork River
CF85	PSSA	Depression	Area	0.36	Acres	RPWWN	46.67225	-113.17592	Clark Fork River
CF86	PSSA	Riverine	Area	0.98	Acres	RPWWN	46.67128	-113.17566	Clark Fork River
CF88	PSSA	Riverine	Area	0.51	Acres	RPWWD	46.66962	-113.17576	Clark Fork River
CF89	PEMA	Riverine	Area	0.89	Acres	RPWWD	46.66903	-113.17575	Clark Fork River
CF90	PSSA	Riverine	Area	0.06	Acres	RPWWD	46.66865	-113.17547	Clark Fork River
CF91	PEMA	Riverine	Area	3.77	Acres	RPWWD	46.67008	-113.18020	Clark Fork River
CF93	PSSA	Riverine	Area	0.32	Acres	RPWWD	46.67039	-113.18128	Clark Fork River
CF94	PABF	Riverine	Area	0.40	Acres	RPWWN	46.66992	-113.18161	Clark Fork River
CF95	PABH	Riverine	Area	0.38	Acres	RPWWD	46.67038	-113.17896	Clark Fork River
CF97	PSSA	Riverine	Area	0.07	Acres	RPWWD	46.67069	-113.17944	Clark Fork River
CF98	PEMA	Riverine	Area	7.10	Acres	RPWWN	46.66804	-113.18021	Clark Fork River
CF99	PABFx	Depression	Area	2.55	Acres	RPWWN	46.66775	-113.18066	Clark Fork River
CF100	PSSA	Riverine	Area	0.31	Acres	RPWWN	46.66746	-113.18062	Clark Fork River
CF101	PEMA	Riverine	Area	1.23	Acres	RPWWN	46.66792	-113.17937	Clark Fork River
CF102	PABF	Riverine	Area	0.49	Acres	RPWWD	46.66850	-113.17728	Clark Fork River
CF103	PSSA	Riverine	Area	3.93	Acres	RPWWD	46.66897	-113.17698	Clark Fork River
CF106	PEMA	Riverine	Area	5.47	Acres	RPWWD	46.66739	-113.17669	Clark Fork River
CF107	PABF	Depression	Area	0.43	Acres	RPWWN	46.66628	-113.17709	Clark Fork River
CF108	PEMC	Riverine	Area	1.59	Acres	RPWWN	46.66617	-113.17689	Clark Fork River
CF109	PSSA	Riverine	Area	0.12	Acres	RPWWD	46.66555	-113.17344	Clark Fork River
CF111	PSSA	Riverine	Area	1.24	Acres	RPWWD	46.66499	-113.17005	Clark Fork River
CF112	PEMA	Riverine	Area	0.43	Acres	RPWWD	46.66443	-113.16913	Clark Fork River
CF113	PEMA	Riverine	Area	0.72	Acres	RPWWD	46.66471	-113.16707	Clark Fork River
CF118	PSSA	Riverine	Area	2.14	Acres	RPWWD	46.66527	-113.16345	Clark Fork River
CF119	PEMA	Riverine	Area	0.32	Acres	RPWWD	46.66546	-113.16145	Clark Fork River
CF120	PABH	Riverine	Area	0.86	Acres	RPWWD	46.66485	-113.16456	Clark Fork River
CF121	PEMA	Riverine	Area	0.68	Acres	RPWWD	46.66477	-113.16435	Clark Fork River
CF123	PEMA	Riverine	Area	0.54	Acres	RPWWD	46.66448	-113.16178	Clark Fork River
CF124	PEMA	Riverine	Area	0.46	Acres	RPWWD	46.66415	-113.16087	Clark Fork River
CF125	PSSA	Riverine	Area	3.75	Acres	RPWWD	46.66360	-113.16071	Clark Fork River

Appendix A

Montana Limestone Resources Line Item Delineation of Wetlands and Waterbodies, 2013.

Waters_Name	Cowardin_Code	HGM_Code	Measurement_Type	Amount	Units	Waters_Types	Latitude	Longitude	Local_Waterway
CF126	PEMA	Riverine	Area	1.33	Acres	RPWWN	46.66363	-113.16144	Clark Fork River
CF127	PSSA	Riverine	Area	0.05	Acres	RPWWD	46.66356	-113.15969	Clark Fork River
CFT4	PEMA	Slope	Area	0.14	Acres	ISOLATED	46.66896	-113.20335	Clark Fork River
CFT5	PEMA	Slope	Area	0.11	Acres	ISOLATED	46.66813	-113.20919	Clark Fork River
F1	PEMA	Slope	Area	3.92	Acres	ISOLATED	46.64593	-113.18844	Flint Creek
M2	PSSA	Riverine	Area	0.07	Acres	RPWWD	46.66403	-113.16851	Clark Fork River
M3	PEMA	Riverine	Area	0.58	Acres	RPWWD	46.66333	-113.16845	Clark Fork River
M4	PEMA	Riverine	Area	2.17	Acres	RPWWD	46.66019	-113.17027	Clark Fork River
M6	PEMA	Riverine	Area	4.08	Acres	RPWWD	46.65182	-113.18297	Clark Fork River
M7	PEMA	Slope/Riverine	Area	1.87	Acres	RPWWD	46.65019	-113.18857	Clark Fork River
M8	PEMA	Slope	Area	2.93	Acres	RPWWN	46.64865	-113.19231	Clark Fork River
M9	PEMB	Slope	Area	0.25	Acres	RPWWN	46.64778	-113.19328	Clark Fork River
M10	PEMB/A	Slope/Riverine	Area	5.57	Acres	RPWWD	46.64853	-113.19657	Clark Fork River
M11	PEMA	Riverine	Area	0.28	Acres	RPWWD	46.64785	-113.20065	Clark Fork River
MD1	PEMKx	Ditch	Area	0.05	Acres	DITCH	46.66601	-113.18496	Clark Fork River
MD2	PEMKx	Ditch	Area	0.92	Acres	DITCH	46.66415	-113.17947	Clark Fork River
MD3	PEMK	Slope	Area	2.94	Acres	RPWWN	46.66530	-113.17904	Clark Fork River
MD4	PEMKx	Ditch	Area	0.10	Acres	DITCH	46.66235	-113.17222	Clark Fork River
MD5	PEMKx	Ditch	Area	0.05	Acres	DITCH	46.66162	-113.17270	Clark Fork River
MD6	PEMKx	Ditch	Area	0.14	Acres	DITCH	46.66074	-113.17330	Clark Fork River
MD7	PEMKx	Ditch	Area	0.27	Acres	DITCH	46.65996	-113.17598	Clark Fork River
MD8	PEMKx	Ditch	Area	0.08	Acres	DITCH	46.65881	-113.17481	Clark Fork River
MD9	PEMKx	Ditch	Area	0.39	Acres	DITCH	46.65562	-113.17791	Clark Fork River
CF22	PUB3Fx	Non-wetland	Area	0.12	Acres	ISOLATED	46.68791	-113.20139	Clark Fork River
CF31	PUB3C	Non-wetland	Area	0.26	Acres	NRPW	46.68168	-113.19926	Clark Fork River
CF46	PUB1Fx	Non-wetland	Area	0.41	Acres	ISOLATED	46.67847	-113.19507	Clark Fork River
T2	PUB3A	Non-wetland	Area	0.11	Acres	ISOLATED	46.67707	-113.22044	Tigh Creek
CF11	R3US5	Riverine	Area	1.08	Acres	RPWWD	46.69057	-113.20282	Clark Fork River
CF18	R3US5	Riverine	Area	1.45	Acres	RPWWD	46.68913	-113.20102	Clark Fork River
CF24	R3US5	Riverine	Area	0.06	Acres	RPWWD	46.68749	-113.19960	Clark Fork River
CF35	R3US1/2	Riverine	Area	0.20	Acres	RPWWD	46.68327	-113.19529	Clark Fork River
CF37	R3US5	Riverine	Area	0.69	Acres	RPWWD	46.68308	-113.19440	Clark Fork River
CF39	R3US1/2	Riverine	Area	1.65	Acres	RPWWD	46.68186	-113.19356	Clark Fork River

Appendix A

Montana Limestone Resources Line Item Delineation of Wetlands and Waterbodies, 2013.

Waters_Name	Cowardin_Code	HGM_Code	Measurement_Type	Amount	Units	Waters_Types	Latitude	Longitude	Local_Waterway
CF76	R3US1/2	Riverine	Area	2.10	Acres	RPWWD	46.67242	-113.18140	Clark Fork River
CF78	R3US1/2	Riverine	Area	0.20	Acres	RPWWD	46.67143	-113.18066	Clark Fork River
CF79	R3US5	Riverine	Area	1.09	Acres	RPWWD	46.67237	-113.18017	Clark Fork River
CF87	R3US1/2	Riverine	Area	0.12	Acres	RPWWD	46.66964	-113.17630	Clark Fork River
CF92	R3US5	Riverine	Area	1.07	Acres	RPWWD	46.67082	-113.18060	Clark Fork River
CF96	R3US1/2	Riverine	Area	1.39	Acres	RPWWD	46.67068	-113.17895	Clark Fork River
CF104	R3US1/2	Riverine	Area	0.22	Acres	RPWWD	46.66893	-113.17637	Clark Fork River
CF105	R3US1/2	Riverine	Area	0.79	Acres	RPWWD	46.66800	-113.17576	Clark Fork River
CF114	R3US1/2	Riverine	Area	0.64	Acres	RPWWD	46.66453	-113.16697	Clark Fork River
CF115	R3US1/2	Riverine	Area	0.91	Acres	RPWWD	46.66514	-113.16537	Clark Fork River
CF116	R3US1/2	Riverine	Area	0.25	Acres	RPWWD	46.66529	-113.16466	Clark Fork River
CF117	R3US5	Riverine	Area	0.13	Acres	RPWWD	46.66524	-113.16421	Clark Fork River
CF122	R3US5	Riverine	Area	2.52	Acres	RPWWD	46.66499	-113.16270	Clark Fork River
CF1	R3UB1	Non-wetland	Linear	10688	Feet	RPW	46.66475	-113.16098	Clark Fork River
CF25	R4SB5	Non-wetland	Linear	1041	Feet	NRPW	46.68699	-113.20483	Clark Fork River
CF32	R4SB5	Non-wetland	Linear	481	Feet	NRPW	46.68067	-113.19866	Clark Fork River
CF110	R4SBCx	Non-wetland	Linear	1109	Feet	DITCH	46.66463	-113.17316	Clark Fork River
CFT1	R4SB3/7	Non-wetland	Linear	3410	Feet	UPLAND	46.68160	-113.20834	Clark Fork River
CFT2	R4SB3	Non-wetland	Linear	1202	Feet	UPLAND	46.67100	-113.19331	Clark Fork River
CFT3	R4SB7	Non-wetland	Linear	6079	Feet	UPLAND	46.66395	-113.19502	Clark Fork River
CFT6	R4SB3/7	Non-wetland	Linear	974	Feet	UPLAND	46.66246	-113.20550	Clark Fork River
M1	R3UB3	Non-wetland	Linear	14750	Feet	RPW	46.65113	-113.18744	Clark Fork River
M5	R4SB	Non-wetland	Linear	480	Feet	UPLAND	46.66011	-113.17064	Clark Fork River
T1	R4SB3/7	Non-wetland	Linear	10210	Feet	NRPW	46.68174	-113.22107	Tigh Creek

Wetland IDs (Waters_Name) are shown on the Wetland Delineation Map (Plate 1).

Cowardin types are defined in the legend of the Wetland Delineation Map (from Cowardin *et al.* 1979).

Hydrogeomorphic (HGM) classification of wetlands follows Smith *et al.* (1995).

Appendix B

Vascular Plant Species Identified for the Montana Limestone Resources Wetlands Baseline Study Area, Granite County, Montana, 2013.

Appendix B
Vascular Plant Species Identified for the Montana Limestone Resources
Wetlands Baseline Study Area, Granite County, Montana, 2013.

Binomial	Code	WMVC	Common Name
NATIVE PERENNIAL GRAMINOIDS			
<i>Agropyron smithii</i> (<i>Elymus smithii</i> , <i>Pascopyrum smithii</i> *)	Agr smi	FACU	Western wheatgrass
<i>Agropyron trachycaulum</i> (<i>Agropyron caninum</i> , <i>Elymus trachycaulus</i> *)	Agr tra		Slender wheatgrass
<i>Alopecurus aequalis</i> *	Alo aeq	OBL	Shortawn foxtail
<i>Calamagrostis canadensis</i> *	Cal can	FACW	Bluejoint reedgrass
<i>Calamagrostis rubescens</i>	Cal rub		Pinegrass
<i>Carex atherodes</i> *	Car ath	OBL	Slough sedge
<i>Carex athrostachya</i> *	Car ato	FACW	Slender-beaked sedge
<i>Carex microptera</i> *	Car mic	FACU	Small-winged sedge
<i>Carex nebrascensis</i> *	Car neb	OBL	Nebraska sedge
<i>Carex pellita</i> * (<i>Carex lanuginosa</i>)	Car pel	OBL	Woolly sedge
<i>Carex praegracilis</i> *	Car pra	FACW	Clustered field sedge
<i>Carex praticola</i> *	Car prt	FACW	Meadow sedge
<i>Carex sartwellii</i> *	Car sar	OBL	Sartwell's sedge
<i>Carex stipata</i> *	Car sti	OBL	Sawbeak sedge
<i>Carex utriculata</i> * (<i>Carex rostrata</i>)	Car utr	OBL	Southern beaked sedge
<i>Eleocharis palustris</i> * (<i>Eleocharis erythropoda</i> , <i>Eleocharis macrostachya</i>)	Ele pal	OBL	Common spikesedge
<i>Glyceria borealis</i> *	Gly bor	OBL	Northern mannagrass
<i>Glyceria grandis</i> *	Gly gra	OBL	American mannagrass
<i>Hordeum brachyantherum</i> * (<i>Hordeum caespitosum</i>)	Hor bra	FACW	Meadow barley
<i>Hordeum jubatum</i> *	Hor jub	FAC	Foxtail barley
<i>Juncus balticus</i> (<i>Juncus arcticus</i> * var. <i>balticus</i>)	Jun bal	FACW	Baltic rush
<i>Juncus nodosus</i> *	Jun nod	OBL	Jointed rush
<i>Muhlenbergia richardsonis</i> *	Muh ric	FAC	Mat muhly
<i>Poa secunda</i> * (<i>Poa juncifolia</i> , <i>Poa nevadensis</i> , <i>Poa sandbergii</i> , <i>Poa scabrella</i>)	Poa sec	FACU	Sandberg's bluegrass
<i>Schoenoplectus tabernaemontani</i> * (<i>Scirpus validus</i>)	Sch tab	OBL	Softstem bulrush
<i>Scirpus microcarpus</i> *	Sci mic	OBL	Panicled bulrush
<i>Sphenopholis obtusata</i> *	Sph obt	FAC	Prairie wedgegrass
<i>Stipa comata</i> (<i>Hesperostipa comata</i> , <i>Stipa curtisetata</i>)	Sti com		Needle-and-thread
INTRODUCED PERENNIAL GRAMINOIDS			
<i>Agropyron repens</i> (<i>Elymus repens</i> *, <i>Elytrigia repens</i>)	Agr rep	FAC	Quackgrass
<i>Agrostis stolonifera</i> * (<i>Agrostis alba</i>)	Agr sto	FAC	Redtop
<i>Alopecurus arundinaceus</i> *	Alo aru	FAC	Creeping meadow foxtail
<i>Alopecurus pratensis</i> *	Alo pra	FAC	Meadow foxtail
<i>Bromus inermis</i> *	Bro ine	FAC	Smooth brome
<i>Phleum pratense</i> *	Phl pra	FAC	Common timothy
<i>Poa compressa</i> *	Poa com	FACU	Canada bluegrass
<i>Poa palustris</i> *	Poa pal	FAC	Fowl bluegrass
<i>Poa pratensis</i> *	Poa pra	FAC	Kentucky bluegrass
<i>Schedonorus arundinaceus</i> (<i>Festuca arundinacea</i> *)	Sch aru	FAC	Tall fescue
NATIVE ANNUAL GRAMINOIDS			
<i>Beckmannia syzigachne</i> *	Bec syz	OBL	American sloughgrass
<i>Juncus bufonius</i> *	Jun buf	FACW	Toad rush
INTRODUCED ANNUAL GRAMINOIDS			
<i>Bromus japonicus</i> (<i>Bromus arvensis</i> *)	Bro jap	UPL	Japanese brome
<i>Bromus tectorum</i>	Bro tec		Cheatgrass brome

Appendix B
Vascular Plant Species Identified for the Montana Limestone Resources
Wetlands Baseline Study Area, Granite County, Montana, 2013.

Binomial	Code	WMVC	Common Name
NATIVE PERENNIAL FORBS AND SUBSHRUBS			
Achillea millefolium*	Ach mil	FACU	Common yarrow
Agoseris glauca*	Ago gla	FAC	Prairie agoseris
Antennaria microphylla	Ant mic		Littleleaf pussytoes
Apocynum cannabinum*	Apo can	FAC	Hemp dogbane
Arnica chamissonis*	Arn cha	FACW	Meadow arnica
Artemisia ludoviciana*	Art lud	FACU	Cudweed sagewort
Asclepias speciosa*	Asc spe	FAC	Showy milkweed
Astragalus agrestis*	Ast agr	FACW	Field milkvetch
Berberis repens (Mahonia repens)	Ber rep		Creeping Oregon-grape
Campanula rotundifolia*	Cam rot	FACU	Roundleaf harebell
Crepis runcinata*	Cre run	FACU	Meadow hawksbeard
Epilobium ciliatum* (Epilobium glandulosum)	Epi cil	FACW	Common willow-herb
Erigeron glabellus*	Eri gla	FACW	Smooth fleabane
Fragaria virginiana*	Fra vir	FACU	Virginia strawberry
Galium boreale*	Gal bor	FACU	Northern bedstraw
Galium trifidum*	Gal trf	FACW	Small bedstraw
Geranium viscosissimum*	Ger vis	FACU	Sticky geranium
Geum macrophyllum*	Geu mac	FAC	Large leaf avens
Glycyrrhiza lepidota*	Gly lep	FAC	American licorice
Helenium autumnale*	Hel aut	FACW	Common sneezeweed
Heracleum lanatum (Heracleum maximum*, Heracleum sphondylium)	Her lan	FAC	Cow parsnip
Heterotheca villosa (Chrysopsis villosa)	Het vil		Hairy goldenaster
Iris missouriensis*	Iri mis	FACW	Rocky Mountain iris
Lactuca pulchella (Lactuca oblongifolia, Lactuca tatarica*)	Lac pul	FAC	Chicory lettuce
Lithophragma parviflorum	Lit par		Smallflower fringe-cup
Lysimachia ciliata*	Lys cil	FACW	Fringed loosestrife
Mentha arvensis*	Men arv	FACW	Field mint
Mertensia oblongifolia*	Mer obl	FAC	Oblongleaf bluebells
Mimulus guttatus*	Mim gut	OBL	Common monkey-flower
Moehringia lateriflora* (Arenaria lateriflora)	Moe lat	FAC	Bluntleaf sandwort
Myosotis laxa*	Myo lax	OBL	Bay forget-me-not
Penstemon procerus*	Pen pro	FAC	Littleflower penstemon
Polygonum amphibium (Polygonum coccineum, Persicaria amphibia*)	Pol amp	OBL	Water ladysthumb
Potentilla anserina (Argentina anserina*)	Pot ans	OBL	Common silverweed
Potentilla gracilis*	Pot gra	FAC	Slender cinquefoil
Prosartes trachycarpa* (Disporum trachycarpum)	Pro tra	FACU	Wartberry fairy-bell
Prunella vulgaris*	Pru vul	FACU	Self-heal
Pyrrocoma integrifolia (Haplopappus integrifolius)	Pyr int		Entire-leaved goldenweed
Ranunculus aquatilis* (Ranunculus longirostris, Ranunculus subgrigidus)	Ran aqu	OBL	Hairleaf water buttercup
Ranunculus cymbalaria*	Ran cym	OBL	Rocky Mountain buttercup
Ranunculus gmelinii*	Ran gme	FACW	Gmelin's buttercup
Ranunculus macounii*	Ran mac	OBL	Macoun's buttercup
Ranunculus uncinatus*	Ran uni	FAC	Little buttercup
Rumex occidentalis*	Rum occ	FACW	Western dock
Rumex salicifolius (Rumex triangulivalvis*)	Rum sal	FAC	Willow dock
Schoenocrambe linifolia	Sch lin		Flaxleaf plainsmustard
Scutellaria galericulata*	Scu gal	OBL	Marsh skullcap
Senecio serra	Sen ser		Tall groundsel
Silene menziesii*	Sil men	FAC	Menzie's silene
Sisyrinchium idahoense*	Sis ida	FACW	Idaho blue-eyed grass
Sium suave*	Siu sua	OBL	Hemlock water-parnsnip
Smilacina stellata (Maianthemum stellatum*)	Smi ste	FAC	Starry false solomon's seal
Solidago gigantea*	Sol gig	FACW	Giant goldenrod
Solidago missouriensis	Sol mis		Missouri goldenrod

Appendix B
Vascular Plant Species Identified for the Montana Limestone Resources
Wetlands Baseline Study Area, Granite County, Montana, 2013.

Binomial	Code	WMVC	Common Name
<i>Stachys palustris</i> (<i>Stachys pilosa</i> *)	Sta pal	FACW	Swamp hedge-nettle
<i>Stellaria longipes</i> *	Ste lon	FACW	Longstalk starwort
<i>Symphotrichum ascendens</i> * (<i>Aster chilensis</i>)	Sym asc	FACU	Long-leaved aster
<i>Symphotrichum laeve</i> * (<i>Aster laevis</i>)	Sym lae	FACU	Smooth aster
<i>Thalictrum dasycarpum</i> *	Tha das	FACW	Purple meadowrue
<i>Typha latifolia</i> *	Typ lat	OBL	Common cattail
<i>Urtica dioica</i> *	Urt dio	FAC	Stinging nettle
<i>Veronica americana</i> *	Ver ame	OBL	American speedwell
<i>Vicia americana</i> *	Vic ame	FAC	American vetch
<i>Viola adunca</i> *	Vio adu	FAC	Early blue violet
<i>Zigadenus venenosus</i> (<i>Toxicoscordion venenosum</i> *)	Zig ven	FACU	Meadow death-camas
INTRODUCED PERENNIAL FORBS			
<i>Acroptilon repens</i> (<i>Centaurea repens</i>)	Acr rep		Russian knapweed
<i>Centaurea maculosa</i> (<i>Centaurea stoebe</i>)	Cen mac		Spotted knapweed
<i>Cirsium arvense</i> *	Cir arv	FAC	Canada thistle
<i>Euphorbia esula</i>	Eup esu		Leafy spurge
<i>Lepidium appelianum</i> (<i>Cardaria pubescens</i> *)	Lep app	FACU	Globe-podded hoarycress
<i>Lepidium latifolium</i> *	Lep lat	FAC	Broad-leaved pepperweed
<i>Linaria dalmatica</i>	Lin dal		Dalmatian toadflax
<i>Medicago sativa</i> *	Med sat	UPL	Alfalfa
<i>Plantago major</i> *	Pla maj	FAC	Common plantain
<i>Rumex crispus</i> *	Rum cri	FAC	Curl dock
<i>Silene vulgaris</i> (<i>Silene cucubalus</i>)	Sil vul		Bladder campion
<i>Tanacetum vulgare</i> *	Tan vul	FACU	Common tansy
<i>Taraxacum laevigatum</i>	Tar lae		Red-seeded dandelion
<i>Taraxacum officinale</i> *	Tar off	FACU	Common dandelion
<i>Trifolium hybridum</i> *	Tri hyb	FAC	Alsike clover
<i>Trifolium pratense</i> *	Tri pra	FACU	Red clover
<i>Trifolium repens</i> *	Tri rep	FAC	White Dutch clover
<i>Veronica anagallis-aquatica</i> *	Ver ana	OBL	Water speedwell
FERNS AND ALLIES			
<i>Equisetum arvense</i> *	Equ arv	FAC	Common horsetail
<i>Equisetum laevigatum</i> *	Equ lae	FACW	Smooth horsetail
NATIVE ANNUAL/BIENNIAL FORBS			
<i>Artemisia biennis</i> *	Art bie	FACW	Biennial wormwood
<i>Callitriche palustris</i> * (<i>Callitriche verna</i>)	Cal pal	OBL	Common water-starwort
<i>Cardamine pensylvanica</i> *	Car pes	FACW	Pennsylvania bittercress
<i>Cleome serrulata</i> *	Cle ser	FACU	Rocky Mountain bee-plant
<i>Collomia linearis</i> *	Col lin	FACU	Narrow-leaf collomia
<i>Descurainia pinnata</i>	Des pin		Pinnate tansymustard
<i>Epilobium brachycarpum</i> (<i>Epilobium paniculatum</i>)	Epi bra		Autumn willow-herb
<i>Erysimum cheiranthoides</i> *	Ery che	FACU	Treacle mustard
<i>Euphorbia serpyllifolia</i>	Eup ser		Thyme-leaf spurge
<i>Galium aparine</i> *	Gal apa	FACU	Cleavers
<i>Grindelia squarrosa</i> *	Gri squ	FACU	Curlycup gumweed
<i>Hackelia deflexa</i>	Hac def		Nodding stickseed
<i>Lepidium densiflorum</i> *	Lep den	FACU	Prairie pepperweed
<i>Madia glomerata</i> *	Mad glo	FACU	Cluster tarweed

Appendix B
Vascular Plant Species Identified for the Montana Limestone Resources
Wetlands Baseline Study Area, Granite County, Montana, 2013.

Binomial	Code	WMVC	Common Name
<i>Microsteris gracilis</i> *	Mic gra	FACU	Pink microsteris
<i>Parietaria pensylvanica</i> *	Par pen	FACU	Pellitory
<i>Phacelia linearis</i>	Pha lin		Threadleaf phacelia
<i>Polygonum douglasii</i> *	Pol dou	FACU	Douglas knotweed
<i>Polygonum erectum</i> *	Pol ere	FACU	Erect knotweed
<i>Polygonum ramosissimum</i> *	Pol ram	FAC	Bush smartweed
<i>Potentilla biennis</i> *	Pot bie	FACW	Biennial cinquefoil
<i>Potentilla norvegica</i> *	Pot nor	FAC	Norwegian cinquefoil
<i>Ranunculus sceleratus</i> *	Ran sce	OBL	Celery-leaved buttercup
<i>Rorippa palustris</i> * (<i>Rorippa islandica</i>)	Ror pal	OBL	Marsh yellowcress

INTRODUCED ANNUAL/BIENNIAL FORBS

<i>Alyssum alyssoides</i>	Aly aly		Pale alyssum
<i>Asperugo procumbens</i> *	Asp pro	UPL	Madwort
<i>Camelina microcarpa</i> *	Cam mic	FACU	Littlepod falseflax
<i>Capsella bursa-pastoris</i> *	Cap bur	FACU	Shepherd's purse
<i>Carduus nutans</i> *	Car nut	UPL	Musk thistle
<i>Cirsium vulgare</i> *	Cir vul	FACU	Bull thistle
<i>Cynoglossum officinale</i> *	Cyn off	FACU	Common hound's-tongue
<i>Descurainia sophia</i>	Des sop		Flixweed tansymustard
<i>Filago arvensis</i> (<i>Logfia arvensis</i>)	Fil arv		Field filago
<i>Hyoscyamus niger</i>	Hyo nig		Black henbane
<i>Lactuca serriola</i> *	Lac ser	FACU	Prickly lettuce
<i>Medicago lupulina</i> *	Med lup	FACU	Black medick
<i>Melilotus alba</i>	Mel alb		White sweetclover
<i>Melilotus officinalis</i> *	Mel off	FACU	Yellow sweetclover
<i>Polygonum aviculare</i> * (<i>Polygonum arenastrum</i>)	Pol avi	FAC	Prostrate knotweed
<i>Silene noctiflora</i>	Sil noc		Night-flowering silene
<i>Thlaspi arvense</i> *	Thl arv	UPL	Fanweed
<i>Tragopogon dubius</i>	Tra dub		Common salsify
<i>Verbascum thapsus</i> *	Ver tha	FACU	Flannel mullein
<i>Veronica verna</i>	Ver ver		Spring speedwell

NATIVE SHRUBS AND VINES

<i>Alnus incana</i> *	Aln inc	FACW	Thinleaf alder
<i>Clematis ligusticifolia</i> *	Cle lig	FAC	Western virgins-bower
<i>Cornus sericea</i> (<i>Cornus stolonifera</i> , <i>Cornus alba</i> *)	Cor ser	FACW	Red-osier dogwood
<i>Ericameria nauseosa</i> (<i>Chrysothamnus nauseosus</i>)	Eri nau		Rubber rabbitbrush
<i>Prunus virginiana</i> *	Pru vir	FACU	Common chokecherry
<i>Ribes americanum</i> *	Rib ame	FAC	American black currant
<i>Ribes aureum</i> * (<i>Ribes odoratum</i>)	Rib aur	FAC	Golden currant
<i>Ribes inerme</i> *	Rib ine	FAC	Whitestem gooseberry
<i>Ribes setosum</i> (<i>Ribes oxycanthoides</i> *)	Rib set	FACW	Bristly gooseberry
<i>Rosa woodsii</i> *	Ros woo	FACU	Wood's rose
<i>Rubus idaeus</i> *	Rub ida	FACU	Red raspberry
<i>Salix bebbiana</i> *	Sal beb	FACW	Bebb willow
<i>Salix boothii</i> * (<i>Salix myrtillifolia</i>)	Sal boo	FACW	Blueberry willow
<i>Salix drummondiana</i> *	Sal dru	FACW	Drummond willow
<i>Salix eriocephala</i> var. <i>watsonii</i> (<i>Salix lutea</i> *)	Sal eriw	OBL	Yellow willow
<i>Salix exigua</i> *	Sal exi	FACW	Sandbar willow
<i>Salix lasiandra</i> * var. <i>caudata</i>	Sal las	FACW	Whiplash willow
<i>Symphoricarpos occidentalis</i> *	Sym occ	FAC	Western snowberry

INTRODUCED SHRUBS AND VINES

<i>Solanum dulcamara</i> *	Sol dul	FAC	Bittersweet nightshade
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Appendix B
Vascular Plant Species Identified for the Montana Limestone Resources
Wetlands Baseline Study Area, Granite County, Montana, 2013.

Binomial	Code	WMVC	Common Name
NATIVE TREES			
Betula occidentalis*	Bet occ	FACW	Water birch
Juniperus scopulorum	Jun sco		Rocky Mountain juniper
Pinus ponderosa*	Pin pon	FACU	Ponderosa pine
Populus angustifolia*	Pop ang	FACW	Narrowleaf cottonwood
Populus balsamifera* (Populus trichocarpa)	Pop bal	FAC	Black cottonwood
Populus tremuloides*	Pop tre	FACU	Quaking aspen
Pseudotsuga menziesii*	Pse men	FACU	Douglas-fir

Scientific nomenclature follows Lesica (2012). The more recent, most commonly used synonyms, partial synonyms/combinations, and misapplied names are given in parentheses. These, as well as common names, are taken from a variety of sources including:

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*An asterisk indicates nomenclature appearing on the National Wetland Plant List (Lichvar 2012). Taxa with no asterisk do not appear on the NWPL, and are to be considered "Upland" species in the context of wetland inventories; additionally, the 2012 NWPL rates wetland plants at only the species level and does not distinguish among infraspecific taxa in assigning wetland ratings.

Appendix C

Wetland Determination Data Forms, Montana Limestone Resources Project, 2013.

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

Project/Site: MLR City/County: Granite Co. Sampling Date: 7-2-17
 Applicant/Owner: Montana Limestone Resources State: MT Sampling Point: RW 82
 Investigator(s): [redacted] / Scow / Darfler Section, Township, Range: Sec 26, T11N, R13W
 Landform (hillslope, terrace, etc.): old river channel Local relief (concave, convex, none): concave Slope (%): 1-3
 Subregion (LRR): E Lat: 46.68706 N Long: 113.20516 W Datum: WGS84
 Soil Map Unit Name: _____ NWI classification: UPL-RIPARIAN

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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? Yes _____ No <input checked="" type="checkbox"/>	Hydic Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>overflow channel on floodplain</u>			<u>ED photos 149-150</u>

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>75x75'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Jun sco</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)
2. <u>Pop bal</u>	<u>78</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>10</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
<u>86</u> = Total Cover				Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: <u>75x75'</u>)				OBL species <u>1</u> x 1 = <u>1</u>
1. <u>Pru vir</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	FACW species <u>2</u> x 2 = <u>4</u>
2. <u>Rib set</u>	<u>2</u>	_____	<u>FACW</u>	FAC species <u>164</u> x 3 = <u>492</u>
3. <u>Ros woo</u>	<u>38</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	FACU species <u>49</u> x 4 = <u>196</u>
4. <u>Sym occ</u>	<u>58</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	UPL species <u>10</u> x 5 = <u>50</u>
5. _____	_____	_____	_____	Column Totals: <u>226</u> (A) <u>743</u> (B)
<u>103</u> = Total Cover				Prevalence Index = B/A = <u>3.29</u>
Herb Stratum (Plot size: <u>75x75'</u>)				Hydrophytic Vegetation Indicators:
1. <u>Car pel</u>	<u>1</u>	_____	<u>OBL</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Pa pal</u>	<u>1</u>	_____	<u>FAC</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Pea pra</u>	<u>12</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. <u>Sil men</u>	<u>6</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. <u>Smi ste</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. <u>Tar lae</u>	<u>1</u>	_____	<u>UPL</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. <u>Gal apa</u>	<u>2</u>	_____	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. <u>Car nut</u>	<u>1</u>	_____	<u>UPL</u>	
9. <u>Cyn off</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>32</u> = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Woody Vine Stratum (Plot size: <u>75x75'</u>)				<u>heavily FAC species</u>
1. <u>Cle lig</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____	_____	_____	_____	
<u>5</u> = Total Cover				
<u>226</u>				
% Bare Ground in Herb Stratum _____				

Remarks: Pop bal / Sym occ est. - Riparian Forest

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

Project/Site: MLR City/County: Granite Co. Sampling Date: 7-2-13
 Applicant/Owner: Montana Limestone Resources State: MT Sampling Point: RW 83
 Investigator(s): Culwell / Scow / Darfler Section, Township, Range: Sec 23, T11N, R13W
 Landform (hillslope, terrace, etc.): river terrace Local relief (concave, convex, none): concave Slope (%): 1-3
 Subregion (LRR): E Lat: 46.69094 N Long: 113.20311 W Datum: WGS84
 Soil Map Unit Name: _____ NWI classification: R3U51

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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?	Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks: <u>see below (Bro ine c.t.) - was - low terrace along river photos 151-152</u>		

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>50x100'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40%</u> (A/B)
1. <u>Pop ang</u>	<u>1</u>		<u>FACW</u>	
2. _____				
3. _____				
4. _____				
5. _____	<u>1</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>50x100'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0' ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____	<u>0</u> = Total Cover			
Herb Stratum (Plot size: <u>50x100'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Alf gra</u>	<u>2</u>		<u>FAC</u>	
2. <u>Bro ine</u>	<u>22</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. <u>Poa com</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
4. <u>Bro jap</u>	<u>2</u>		<u>UPL</u>	
5. <u>Bro tec</u>	<u>3</u>		<u>UPL</u>	
6. <u>Gly lep</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
7. <u>Eup esu</u>	<u>36</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
8. <u>Mic gra</u>	<u>2</u>		<u>FACU</u>	
9. <u>Des sop</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
10. <u>Poa sec</u>	<u>1</u>		<u>FACU</u>	
11. <u>Hch mil</u>	<u>1</u>		<u>FACU</u>	
<u>Aly aly</u>	<u>1</u>		<u>UPL</u>	
<u>Thlarv</u>	<u>1</u>		<u>UPL</u>	
<u>88</u>				
<u>89</u> = Total Cover				
% Bare Ground in Herb Stratum _____				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>

Remarks:
Bro ine alluvial gravel terrace next to Clark Fork River

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

Project/Site: MLR City/County: Granite Co. Sampling Date: 7-2-13
 Applicant/Owner: Montana Limestone Resources State: MT Sampling Point: RW 84
 Investigator(s): Scow/Darfler Section, Township, Range: Sec 23, T11N, R13W
 Landform (hillslope, terrace, etc.): river terrace (high) Local relief (concave, convex, none): concave Slope (%): 1-3
 Subregion (LRR): E Lat: 46.68945 N Long: 113.20363 W Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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? Yes _____ No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>		
Remarks: <u>Proposed substation site</u>		

ED photos 153-155

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>35x35'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. _____				
2. _____				
3. _____				
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>—</u> x 1 = <u>—</u> FACW species <u>3</u> x 2 = <u>6</u> FAC species <u>90</u> x 3 = <u>270</u> FACU species <u>35</u> x 4 = <u>140</u> UPL species <u>39</u> x 5 = <u>195</u> Column Totals: <u>167</u> (A) <u>611</u> (B) Prevalence Index = B/A = <u>3.66</u>
Sapling/Shrub Stratum (Plot size: <u>35x35'</u>)				
1. <u>Sym occ</u>	<u>54</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Eri nau</u>	<u>1</u>		<u>UPL</u>	
3. _____				
<u>55</u> = Total Cover				
Herb Stratum (Plot size: <u>35x35'</u>)				
1. <u>Agr smi</u>	<u>28</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Sti com</u>	<u>2</u>		<u>UPL</u>	
3. <u>Poa pra</u>	<u>34</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
4. <u>Bro tec</u>	<u>28</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
5. <u>Ach mil</u>	<u>3</u>		<u>FACU</u>	
6. <u>Ago gla</u>	<u>2</u>		<u>FAC</u>	
7. <u>Art lud</u>	<u>4</u>		<u>FACU</u>	
8. <u>Eri gla</u>	<u>3</u>		<u>FACW</u>	
9. <u>Pha lin</u>	<u>2</u>		<u>UPL</u>	
10. <u>Des sop</u>	<u>4</u>		<u>UPL</u>	
11. <u>Tra dub</u>	<u>2</u>		<u>UPL</u>	
<u>112</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
<u>167</u> = Total Cover				
% Bare Ground in Herb Stratum _____				

Remarks: Sym occ c.t.

SOIL

Sampling Point: RW 84

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks: *Not evaluated (not hydrophytic)*

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or 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)
- Sparsely Vegetated Concave Surface (B8)
- 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 Roots (C3)
- 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)
- 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 _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: *Dry except for very occasional high flows in Clark Fork River*

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

Project/Site: MLR City/County: Granite Co. Sampling Date: 7-2-13
 Applicant/Owner: Montana Limestone Resources State: MT Sampling Point: RW 85
 Investigator(s): Calwell/Scow/Darfler Section, Township, Range: Sec 26, T11N, R13W
 Landform (hillslope, terrace, etc.): old river channel Local relief (concave, convex, none): concave Slope (%): 1-3
 Subregion (LRR): E (abandoned) Lat: 46.68261 N Long: 113.20183 W Datum: WGS 84
 Soil Map Unit Name: _____ NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation , Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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? Yes _____ No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <p style="text-align: right;">ED photos 157-159</p>			

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>40x70'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
1. <u>Pop bal</u>	<u>3</u>		<u>FAC</u>	
2. <u>Pop tre</u>	<u>2</u>		<u>FACU</u>	
3. _____				
4. _____				
5. _____	<u>5</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>40x70'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Sal exi</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
Herb Stratum (Plot size: <u>40x70'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> <u>heavily FAC species</u>
1. <u>Car mic</u>	<u>3</u>		<u>FACU</u>	
2. <u>Car praeg.</u>	<u>4</u>		<u>FACW</u>	
3. <u>Phl pra</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
4. <u>Poa pra</u>	<u>85</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
5. <u>Fra vir</u>	<u>1</u>		<u>FACU</u>	
6. <u>Men arv</u>	<u>6</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
7. <u>Sym asc</u>	<u>3</u>		<u>FACU</u>	
8. <u>Tar lae</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
9. <u>Tar off</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
10. _____				
11. _____				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
% Bare Ground in Herb Stratum _____	<u>135</u> = Total Cover			
Remarks: <u>Poa pra c.t. - old river channel at toe of long, steep bluff</u>				

WL-02
(RW 86)

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

Project/Site: MLR City/County: Granite Sampling Date: 7/2/13
 Applicant/Owner: MLR State: MT Sampling Point: WL-02
 Investigator(s): D. C. W. K. S. E. D. Section, Township, Range: Sec 26, T11N, R13W
 Landform (hillslope, terrace, etc.): high flow channel Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): E Lat: 46.68228 N Long: 113.20124 W Datum: WGS 84
 Soil Map Unit Name: _____ NWI classification: PENM
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks: <u>along overflow channel - slight flow 7/2/13</u>			

photo ED 156

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>25x100'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Jun sco</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>5</u> (A)
2. <u>Pop bal</u>	<u>6</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Total Number of Dominant Species Across All Strata:	<u>6</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>83%</u> (A/B)
4. _____				Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: <u>25x100'</u>)				Total % Cover of: _____ Multiply by:	
1. <u>Ros wod</u>	<u>2</u>		<u>FACU</u>	OBL species <u>90</u>	x 1 = <u>90</u>
2. _____				FACW species <u>10</u>	x 2 = <u>20</u>
3. _____				FAC species <u>16</u>	x 3 = <u>48</u>
4. _____				FACU species <u>4</u>	x 4 = <u>16</u>
5. _____				UPL species <u>8</u>	x 5 = <u>40</u>
Herb Stratum (Plot size: <u>25x100'</u>)				Column Totals:	<u>128</u> (A) <u>214</u> (B)
1. <u>Car pel</u>	<u>38</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Prevalence Index = B/A = <u>1.67</u>	
2. <u>Car praeg.</u>	<u>1</u>		<u>FACW</u>	Hydrophytic Vegetation Indicators:	
3. <u>Agrost</u>	<u>3</u>		<u>FAC</u>	1 - Rapid Test for Hydrophytic Vegetation	
4. <u>Pod pra</u>	<u>6</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
5. <u>Epicil</u>	<u>3</u>		<u>FACW</u>	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
6. <u>Men arv</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
7. <u>Ran mac</u>	<u>1</u>		<u>OBL</u>	5 - Wetland Non-Vascular Plants ¹	
8. <u>Rum occ</u>	<u>2</u>		<u>FACW</u>	Problematic Hydrophytic Vegetation ¹ (Explain)	
9. <u>Sym asc</u>	<u>2</u>		<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
10. <u>Ver ana</u>	<u>48</u>	<input checked="" type="checkbox"/>	<u>OBL</u>		
11. <u>Pot nor</u>	<u>1</u>		<u>FAC</u>		
12. <u>Ror pal</u>	<u>3</u>		<u>OBL</u>		
Woody Vine Stratum (Plot size: _____)				Total % Cover of: _____	
1. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
2. _____					
% Bare Ground in Herb Stratum <u>20</u>				<u>128</u> = Total Cover	
Remarks: <u>channel is veronica → terrace is Carpel</u>					

SOIL

MLR

Sampling Point: WL-02

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	5YR 2.5/1	100					Silt	
12								gravel

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

dark foam over gravel

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or 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)
- Sparsely Vegetated Concave Surface (B8)
- 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 Roots (C3)
- 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)
- 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 Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Moist but not saturated 7/2/13 - wet in June

WL-03
(RW 87)

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

Project/Site: MLR City/County: Granite Sampling Date: 7/3/13
 Applicant/Owner: MLR State: MT Sampling Point: WL-03
 Investigator(s): D. Culwell x 2, K. Sew, E. Darffler Section, Township, Range: Sec 26, T11N, R13W
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): E Lat: 46.67905 N Long: 113.19830 W Datum: WGS 84
 Soil Map Unit Name: _____ NWI classification: PEMB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____			
Remarks: <u>Sedge meadow in old river channel</u>					
<u>photos ED 160-161</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>60x80'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>6</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>6</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100%</u> (A/B)
4. _____	_____	_____	_____		
				Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: <u>60x80'</u>)				Total % Cover of: _____ Multiply by: _____	
1. <u>Sal heb</u>	<u>3</u>	<u>X</u>	<u>FACW</u>	OBL species <u>97</u> x 1 = <u>97</u>	
2. <u>Sal boo</u>	<u>2</u>	<u>X</u>	<u>FACW</u>	FACW species <u>11</u> x 2 = <u>22</u>	
3. <u>Sal eri var. wats.</u>	<u>1</u>	_____	<u>OBL</u>	FAC species <u>9</u> x 3 = <u>27</u>	
4. <u>Sal exi</u>	<u>2</u>	<u>X</u>	<u>FACW</u>	FACU species _____ x 4 = _____	
5. _____	_____	_____	_____	UPL species _____ x 5 = _____	
				Column Totals:	<u>117</u> (A) <u>146</u> (B)
				Prevalence Index = B/A = <u>1.25</u>	
Herb Stratum (Plot size: <u>60x80'</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Car. athrostachya</u>	<u>2</u>	_____	<u>FACW</u>	1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Car uty</u>	<u>88</u>	<u>X</u>	<u>OBL</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3. <u>Agv sto</u>	<u>3</u>	_____	<u>FAC</u>	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
4. <u>Poa pal</u>	<u>5</u>	<u>X</u>	<u>FAC</u>	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Poa pra</u>	<u>1</u>	_____	<u>FAC</u>	5 - Wetland Non-Vascular Plants ¹	
6. <u>Hel aut</u>	<u>1</u>	_____	<u>FACW</u>	Problematic Hydrophytic Vegetation ¹ (Explain)	
7. <u>Men ar v</u>	<u>1</u>	_____	<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. <u>Myo lax</u>	<u>6</u>	<u>X</u>	<u>OBL</u>		
9. <u>Pot ans</u>	<u>2</u>	_____	<u>OBL</u>		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
				<u>117</u> = Total Cover	
% Bare Ground in Herb Stratum _____					

Remarks: Car uty in wettest portion; some Sal exi on edges

SOIL

Sampling Point: WL-03

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 3/2	100					CL	much OM
5-15	2.5Y 3/1	100					CL	
15-24	grey 1	3/107	95	7.5YR 5/8	S	1	M	sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input checked="" type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks: redox below 15" - gleyed below 15" in sand

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____

Water Table Present? Yes No _____ Depth (inches): 23

Saturation Present? (includes capillary fringe) Yes No _____ Depth (inches): 14

Wetland Hydrology Present? Yes No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: very rough with cattle depressions - saturated at 14"

WL-04A
(RW 88)

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

Project/Site: MLR City/County: Granite Sampling Date: 7/3/2013
 Applicant/Owner: MLR State: MT Sampling Point: WL-04A
 Investigator(s): Culwell / Scow / Dorfla Section, Township, Range: Sec 26, T11N, R13W
 Landform (hillslope, terrace, etc.): open meadow Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): E Lat: 46.67813 N Long: 113.19758 W Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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? Yes <input checked="" type="checkbox"/> No _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: <u>open sedge meadow surrounded by willow</u>			
<u>photo ED 162</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>40x80'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>6</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
4. _____	_____	_____	_____		
Total Cover: <u>0</u>					
Sapling/Shrub Stratum (Plot size: <u>40x80'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. <u>Sal beh</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Total % Cover of:	Multiply by:
2. <u>Sal hood</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	OBL species <u>157</u> x 1 = <u>157</u>	
3. <u>Sal exi</u>	<u>3</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	FACW species <u>21</u> x 2 = <u>42</u>	
4. <u>Sal las</u>	<u>2</u>		<u>FACW</u>	FAC species <u>8</u> x 3 = <u>24</u>	
5. <u>Aln inc</u>	<u>1</u>		<u>FACW</u>	FACU species _____ x 4 = _____	
6. <u>Cov ser</u>	<u>1</u>		<u>FACW</u>	UPL species _____ x 5 = _____	
Total Cover: <u>16</u>				Column Totals: <u>180</u> (A) <u>217</u> (B)	
				Prevalence Index = B/A = <u>1.21</u>	
Herb Stratum (Plot size: <u>40x80'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <u>Alo aeg</u>	<u>2</u>		<u>OBL</u>	1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Car utr</u>	<u>84</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3. <u>Gly gra</u>	<u>16</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
4. <u>Poa pal</u>	<u>8</u>		<u>FAC</u>	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Bec syz</u>	<u>2</u>		<u>OBL</u>	5 - Wetland Non-Vascular Plants ¹	
6. <u>Gal trifidum</u>	<u>2</u>		<u>FACW</u>	Problematic Hydrophytic Vegetation ¹ (Explain)	
7. <u>Myo lax</u>	<u>28</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. <u>Rum occ</u>	<u>3</u>		<u>FACW</u>		
9. <u>Siu sua</u>	<u>2</u>		<u>OBL</u>		
10. <u>Typ lat</u>	<u>9</u>		<u>OBL</u>		
11. <u>Ror pal</u>	<u>8</u>		<u>OBL</u>		
Total Cover: <u>164</u>					
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
Total Cover: <u>180</u>					
% Bare Ground in Herb Stratum _____					
Remarks: <u>Car utr / Gly cerial / Poa pal</u>					

SOIL

MLR

Sampling Point: WL-04A

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: *no hole - see WL-03 - same stuff*

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (2 or more required) <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)
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Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: *See WL-03*

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

Project/Site: MLR City/County: Granite Sampling Date: 7/3/2013
 Applicant/Owner: MLR State: MT Sampling Point: WL-04B
 Investigator(s): Cutwell/Scow/Dan Flou Section, Township, Range: Sec 26, T11N, R13W
 Landform (hillslope, terrace, etc.): wet mound Local relief (concave, convex, none): convex Slope (%): 2
 Subregion (LRR): E Lat: 46.67786 N Long: 113.19718 W Datum: WGS 84
 Soil Map Unit Name: _____ NWI classification: PEMB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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? Yes <input checked="" type="checkbox"/> No _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: <u>Cattail marsh in old channel</u>			<u>DC photo</u>

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>75x75'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>9</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____				Prevalence Index worksheet: <table border="1"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>107</u></td> <td>x 1 = <u>107</u></td> </tr> <tr> <td>FACW species <u>18</u></td> <td>x 2 = <u>36</u></td> </tr> <tr> <td>FAC species <u>7</u></td> <td>x 3 = <u>21</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>132</u> (A)</td> <td><u>164</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>1.24</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>107</u>	x 1 = <u>107</u>	FACW species <u>18</u>	x 2 = <u>36</u>	FAC species <u>7</u>	x 3 = <u>21</u>	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: <u>132</u> (A)	<u>164</u> (B)	Prevalence Index = B/A = <u>1.24</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>107</u>	x 1 = <u>107</u>																			
FACW species <u>18</u>	x 2 = <u>36</u>																			
FAC species <u>7</u>	x 3 = <u>21</u>																			
FACU species _____	x 4 = _____																			
UPL species _____	x 5 = _____																			
Column Totals: <u>132</u> (A)	<u>164</u> (B)																			
Prevalence Index = B/A = <u>1.24</u>																				
Sapling/Shrub Stratum (Plot size: <u>75x75'</u>) 1. <u>Sal beh</u> <u>4</u> <u>X</u> <u>FACW</u> 2. <u>Sal boo</u> <u>2</u> <u>X</u> <u>FACW</u> 3. <u>Sal exi</u> <u>6</u> <u>X</u> <u>FACW</u> 4. <u>Sal las</u> <u>2</u> <u>X</u> <u>FACW</u> 5. _____ <u>14</u> = Total Cover																				
Herb Stratum (Plot size: <u>75x75'</u>) 1. <u>Alo aeg</u> <u>1</u> _____ <u>OBL</u> 2. <u>Car utr</u> <u>4</u> <u>X</u> <u>OBL</u> 3. <u>Gly gra</u> <u>6</u> <u>X</u> <u>OBL</u> 4. <u>Ag r sto</u> <u>3</u> _____ <u>FAC</u> 5. <u>Poa pal</u> <u>4</u> <u>X</u> <u>FAC</u> 6. <u>Bec syz</u> <u>2</u> _____ <u>OBL</u> 7. <u>Galium trifidum</u> <u>3</u> _____ <u>FACW</u> 8. <u>Myo lax</u> <u>9</u> <u>X</u> <u>OBL</u> 9. <u>Rum occ</u> <u>1</u> _____ <u>FACW</u> 10. <u>Siu sug</u> <u>2</u> _____ <u>OBL</u> 11. <u>Typ lat</u> <u>82</u> <u>X</u> <u>OBL</u> 12. <u>Ror pal</u> <u>1</u> _____ <u>OBL</u> <u>118</u> = Total Cover																				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ <u>132</u> = Total Cover																				
% Bare Ground in Herb Stratum _____																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____																				
Remarks: <u>carbon marsh surrounded by willow</u>																				

SOIL

MLR
Sampling Point: WL-048

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-24	2.5Y 2.5/1	100					silt	wet

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: very wet dark soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes No Depth (inches): in depression

Water Table Present? Yes No Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes No Depth (inches): Surface

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: very wet

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

Project/Site: MLR City/County: Granite Sampling Date: 7/3/2013
 Applicant/Owner: MLR State: MT Sampling Point: WL-05
 Investigator(s): Cutwell/Seow/Dan Fran Section, Township, Range: Sec 26, T11N, R13W
 Landform (hillslope, terrace, etc.): stream bottom Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): E Lat: 46.67966 N Long: 113.19516 W Datum: WGS 84
 Soil Map Unit Name: _____ NWI classification: PSSC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks: <u>overflow channel on Clark Fork River floodplain</u> <u>DC photo</u>			

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>18x50'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>88%</u> (A/B)
1. <u>Jun sed</u>	<u>3</u>		<u>UPL</u>	
2. _____				
3. _____				
4. _____ = Total Cover <u>3</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>121</u> x 2 = <u>242</u> FAC species <u>34</u> x 3 = <u>102</u> FACU species <u>24</u> x 4 = <u>96</u> UPL species <u>3</u> x 5 = <u>15</u> Column Totals: <u>202</u> (A) <u>475</u> (B) Prevalence Index = B/A = <u>2.35</u>
Sapling/Shrub Stratum (Plot size: <u>18x50'</u>)				
1. <u>Cor ser</u>	<u>45</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Rib aur</u>	<u>12</u>		<u>FAC</u>	
3. <u>Ros woo</u>	<u>22</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
4. <u>Sal beb</u>	<u>8</u>		<u>FACW</u>	
5. <u>Sal boo</u>	<u>8</u>		<u>FACW</u>	
6. <u>Sal exi</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
7. <u>Sym oce</u>	<u>10</u>		<u>FAC</u>	
Herb Stratum (Plot size: <u>18x50'</u>)				
1. <u>Car atherodes</u>	<u>6</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Car pel</u>	<u>3</u>		<u>OBL</u>	
3. <u>Ele pal</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
4. <u>Agr sto</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
5. <u>Poa pal</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
6. <u>Gen mac</u>	<u>2</u>		<u>FAC</u>	
7. <u>Men arv</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
8. <u>Ran mac</u>	<u>3</u>		<u>OBL</u>	
9. <u>Scu gal</u>	<u>2</u>		<u>OBL</u>	
10. <u>Gal apa</u>	<u>2</u>		<u>FACU</u>	
11. <u>Hel aut</u>	<u>1</u>		<u>FACW</u>	
12. <u>Myo lax</u>	<u>1</u>		<u>OBL</u>	
13. <u>Urt dio</u>	<u>1</u>		<u>FAC</u>	
* _____ = Total Cover <u>39</u>				
* _____ = Total Cover <u>202</u>				
% Bare Ground in Herb Stratum _____				
Remarks: <u>Sal exi - Cor ser tall shrub c.t.</u>				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				

WL-06
(RW 91)

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

Project/Site: MLR City/County: Granite Sampling Date: 7/3/2013
 Applicant/Owner: MLR State: MT Sampling Point: WL-06
 Investigator(s): Culwell/Sew/Darfier Section, Township, Range: Sec 26, T11N, R13E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Straight Slope (%): 1
 Subregion (LRR): E Lat: 46.67807 N Long: 113.19413 W Datum: WGS-84
 Soil Map Unit Name: _____ NWI classification: Pemb(E)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____			
Remarks: <u>sedge terrace adjacent to pond/channel</u>					
<u>DC 26, 27, 28</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20x80'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Pop bal</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>20x80'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Sal beb</u>	<u>1</u>	_____	<u>FACW</u>	
2. <u>Sal exi</u>	<u>2</u>	_____	<u>FACW</u>	OBL species <u>96</u> x 1 = <u>96</u>
3. _____	_____	_____	_____	FACW species <u>9</u> x 2 = <u>18</u>
4. _____	_____	_____	_____	FAC species <u>10</u> x 3 = <u>30</u>
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
<u>3</u> = Total Cover				UPL species _____ x 5 = _____
				Column Totals: <u>115</u> (A) <u>144</u> (B)
				Prevalence Index = B/A = <u>1.25</u>
Herb Stratum (Plot size: <u>20x80'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Car stip</u>	<u>1</u>	_____	<u>OBL</u>	
2. <u>Car utr</u>	<u>92</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Epi cil</u>	<u>2</u>	_____	<u>FACW</u>	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. <u>Man arv</u>	<u>4</u>	_____	<u>FACW</u>	____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. <u>Myo lax</u>	<u>2</u>	_____	<u>OBL</u>	____ 5 - Wetland Non-Vascular Plants ¹
6. <u>Ran agu</u>	<u>1</u>	_____	<u>OBL</u>	____ Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>102</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>115</u> = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: <u>Car utr c.t.</u>				

SOIL

Sampling Point: MLR WL-06

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	2.5Y 2.5/1	100						high OM
4-12	2.5Y 2.5/1	95	2.5Y 4/4	5	C	M		
12-22	5Y 3/1	98	10YR 5/8	2	C	M		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: redox below 4

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes No Depth (inches): 12

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: terrace adjacent to channel/pond - saturated

WL-07
(RW 92)

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

Project/Site: MLR City/County: Granite Sampling Date: 7/3/2013
 Applicant/Owner: MLR State: MT Sampling Point: WL-07
 Investigator(s): Culwell x 2 Section, Township, Range: Sec 26, T11N, R13W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR): E Lat: 46.67555 N Long: 113.19302 W Datum: WGS 84
 Soil Map Unit Name: _____ NWI classification: PEMA
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks: <u>old overflow channel - Carex/Ele pal</u> Photo ED 163			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>40x100'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)																																
1. _____																																				
2. _____																																				
3. _____																																				
4. _____																																				
<u>0</u> = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td colspan="2">Total % Cover of:</td> <td colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td><u>94</u></td> <td>x 1 =</td> <td><u>94</u></td> </tr> <tr> <td>FACW species</td> <td><u>58</u></td> <td>x 2 =</td> <td><u>116</u></td> </tr> <tr> <td>FAC species</td> <td><u>31</u></td> <td>x 3 =</td> <td><u>93</u></td> </tr> <tr> <td>FACU species</td> <td><u>—</u></td> <td>x 4 =</td> <td><u>—</u></td> </tr> <tr> <td>UPL species</td> <td><u>—</u></td> <td>x 5 =</td> <td><u>—</u></td> </tr> <tr> <td>Column Totals:</td> <td><u>183</u> (A)</td> <td></td> <td><u>303</u> (B)</td> </tr> <tr> <td colspan="4">Prevalence Index = B/A = <u>1.66</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>94</u>	x 1 =	<u>94</u>	FACW species	<u>58</u>	x 2 =	<u>116</u>	FAC species	<u>31</u>	x 3 =	<u>93</u>	FACU species	<u>—</u>	x 4 =	<u>—</u>	UPL species	<u>—</u>	x 5 =	<u>—</u>	Column Totals:	<u>183</u> (A)		<u>303</u> (B)	Prevalence Index = B/A = <u>1.66</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>94</u>	x 1 =	<u>94</u>																																	
FACW species	<u>58</u>	x 2 =	<u>116</u>																																	
FAC species	<u>31</u>	x 3 =	<u>93</u>																																	
FACU species	<u>—</u>	x 4 =	<u>—</u>																																	
UPL species	<u>—</u>	x 5 =	<u>—</u>																																	
Column Totals:	<u>183</u> (A)		<u>303</u> (B)																																	
Prevalence Index = B/A = <u>1.66</u>																																				
Sapling/Shrub Stratum (Plot size: <u>40x100'</u>)																																				
1. <u>Sal beb</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>FACW</u>																																	
2. <u>Sal erio. var. watsonii</u>	<u>1</u>		<u>OBL</u>																																	
3. _____																																				
4. _____																																				
5. _____																																				
<u>5</u> = Total Cover																																				
Herb Stratum (Plot size: <u>40x100'</u>)																																				
1. <u>Carex pal</u>	<u>18</u>	<input checked="" type="checkbox"/>	<u>OBL</u>																																	
2. <u>Carex praeg.</u>	<u>6</u>		<u>FACW</u>																																	
3. <u>Carex sart.</u>	<u>16</u>	<input checked="" type="checkbox"/>	<u>OBL</u>																																	
4. <u>Ele pal</u>	<u>28</u>	<input checked="" type="checkbox"/>	<u>OBL</u>																																	
5. <u>Hor bra</u>	<u>8</u>		<u>FACW</u>																																	
6. <u>Jun bal</u>	<u>34</u>	<input checked="" type="checkbox"/>	<u>FACW</u>																																	
7. <u>Agr sto</u>	<u>4</u>		<u>FAC</u>																																	
8. <u>Alo aru</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>																																	
9. <u>Poa pra</u>	<u>7</u>		<u>FAC</u>																																	
10. <u>Bec syz</u>	<u>11</u>		<u>OBL</u>																																	
11. <u>Men arv</u>	<u>3</u>		<u>FACW</u>																																	
12. <u>Myo lax</u>	<u>3</u>		<u>OBL</u>																																	
13. <u>Viola Stratum (Plot size: <u>Potans</u>)</u>	<u>12</u>		<u>OBL</u>																																	
14. <u>Siu sua</u>	<u>5</u>		<u>OBL</u>																																	
15. <u>Sta pal</u>	<u>3</u>		<u>FACW</u>																																	
<u>178</u> = Total Cover																																				
<u>183</u>																																				
% Bare Ground in Herb Stratum _____																																				
Remarks: <u>Carex/Ele pal e.t.</u>																																				
Hydrophytic Vegetation Present?			Yes <input checked="" type="checkbox"/> No _____																																	

SOIL

MLR
Sampling Point: WL-07

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/1	100					sl	high OM
4-11	2.5Y 4/2	100					cl	" " redox on roots
11-16	2.5Y 4/2	95	2.5YR 4/6	5	C	M	Sandy clay loam	
16-22	2.5Y 3/1	100					Scl/gravel	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: redox below 11" - saturated at 16"

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? Yes No Depth (inches): 16
 (includes capillary fringe) in May/June

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: moist in soil pit - saturated earlier in spring - now saturated at 16"

WL-08
(RW 93)

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

Project/Site: MLR City/County: Granite Sampling Date: 7/18/2013
 Applicant/Owner: MLR State: MT Sampling Point: WL-08
 Investigator(s): Culwell (2)/Scow/Dartler Section, Township, Range: Sec 36, T11N, R13W
 Landform (hillslope, terrace, etc.): terrace (low) Local relief (concave, convex, none): flat Slope (%): 1
 Subregion (LRR): E Lat: 46.66216 N Long: 113.16881 W Datum: WGS 84
 Soil Map Unit Name: _____ NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation , Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		

Remarks: low terrace along perennial creek - Carneb
Brin & weeds up slope, Melilotus encroaching on disturbed fringes

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30x60'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3(5)</u> (A) Total Number of Dominant Species Across All Strata: <u>5(7)</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60(71)2</u> (A/B)	
1. <u>NA</u>					
2. _____					
3. _____					
Sapling/Shrub Stratum (Plot size: <u>30x60'</u>)				Prevalence Index worksheet: Total % Cover of:	
1. <u>NA</u>					OBL species <u>33</u> x 1 = <u>33</u> FACW species <u>1</u> x 2 = <u>2</u> FAC species <u>108</u> x 3 = <u>324</u> FACU species <u>43</u> x 4 = <u>172</u> UPL species <u>18</u> x 5 = <u>90</u> Column Totals: <u>203</u> (A) <u>621</u> (B)
2. _____					
3. _____					
4. _____					
Herb Stratum (Plot size: <u>30x60'</u>)				Prevalence Index = B/A = <u>3.06 (Mel off)</u> Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. <u>Carneb</u>	<u>28</u>	<input checked="" type="checkbox"/>	<u>OBL</u>		
2. <u>Ag sto</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		
3. <u>Alo aru</u>	<u>65</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		
4. <u>Bro ine</u>	<u>5</u>		<u>FAC</u>		
5. <u>Poa pra</u>	<u>18</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		
6. <u>Epi cil</u>	<u>1</u>		<u>FACW</u>		
7. <u>Pot ans</u>	<u>5</u>		<u>OBL</u>		
8. <u>Tar off</u>	<u>4</u>		<u>FACU</u>		
9. <u>Tri hyb</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		
10. <u>Tri pra</u>	<u>7</u>		<u>FACU</u>		
11. <u>Med lup</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>FACU</u>		
12. <u>Mel alb</u>	<u>18</u>	<input checked="" type="checkbox"/>	<u>UPL</u>		
Wetland Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ <u>borderline due to periodic bloom of sweet clover</u>	
1. <u>Mel off</u>	<u>28</u>	<input checked="" type="checkbox"/>	<u>FACU</u>		
2. _____	<u>203</u>				
% Bare Ground in Herb Stratum <u>203</u> Total Cover					

Remarks: Carneb et.
Prunus on steep slope to east

SOIL

Sampling Point: WL-08

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3/2	100		0			SrL	high OM
2-7	5Y 3/1	100		0			SaCl	
7-17	5Y 3/1	90	7.5YR 4/6	10	C	PL	SaCl	mottled along roots
>17								gravel

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input checked="" type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Reducing features start at 7"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? Yes No Depth (inches): _____ (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no water in hole to 17" - hole 10' from perennial creek - creek 5-15' wide - 8" deep - gravel/small cobble bottom - moss on rocks

WL-09
(RW 94)

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

Project/Site: MLR City/County: Granite Sampling Date: 7/18/2013
 Applicant/Owner: MLR State: MT Sampling Point: WL-09
 Investigator(s): Cutwell (2)/Scow/Darfler Section, Township, Range: Sec 35, T11N, R13W
 Landform (hillslope, terrace, etc.): bottom Local relief (concave, convex, none): concave Slope (%): 8-10
 Subregion (LRR): E Lat: 46.66912N Long: 113.20365W Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PEMA/B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks: <u>narrow drainage bottom with early season flow/saturation - trampled by cattle - soils much disturbed - old stock tanks/piping</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>15x60'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)
1. <u>Jun sco</u>	<u>2</u>		<u>UPL</u>	
2. <u>Pin pon</u>	<u>3</u>		<u>FACU</u>	
3. <u>Pop tre</u>	<u>5</u>		<u>FACU</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: <u>15x60'</u>)				
1. <u>none</u>				
2. _____				
3. _____				
_____ = Total Cover				OBL species <u>27</u> x 1 = <u>27</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>41</u> x 3 = <u>123</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>6</u> x 5 = <u>30</u> Column Totals: <u>94</u> (A) <u>240</u> (B) Prevalence Index = B/A = <u>2.55</u>
Herb Stratum (Plot size: <u>15x60'</u>)				
1. <u>Car neb</u>	<u>16</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Ele pal</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Hor jub</u>	<u>2</u>		<u>FAC</u>	
4. <u>Jun bal</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
5. <u>Agr sto</u>	<u>26</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
6. <u>Pnl pra</u>	<u>2</u>		<u>FAC</u>	
7. <u>Gly lep</u>	<u>2</u>		<u>FAC</u>	
8. <u>Ver ame</u>	<u>3</u>		<u>OBL</u>	
9. <u>Cen mac</u>	<u>4</u>		<u>UPL</u>	
10. <u>Pla maj</u>	<u>9</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
11. <u>Med lup</u>	<u>2</u>		<u>FACU</u>	
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0' <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
_____ = Total Cover				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				
Remarks: <u>herbaceous bottom with Jusc/Pip0/Potr at margins Agr sto/Car neb</u>				

SOIL

Sampling Point: WL-09

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 3/3	65	7.5YR 5/8	35	RM	M	SaCL	
5-14	—	0	7.5YR 4/6	100	RM	M	gray Sal	red
>14	refusal by rock		7.5YR 4/6	1				rock up to 24"

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: *soils much disturbed by livestock - profiles mixed - rocky red soils adjacent to plot - redox features to surface*

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes No Depth (inches): 1 *in June*

Water Table Present? Yes No Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes No Depth (inches): Surface

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: *narrow drainage 10-20" wide - saturated/flowing in June*

WL-10
(RW 95)

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

Project/Site: MLR City/County: Granite Sampling Date: 7/18/2013
 Applicant/Owner: MLR State: MT Sampling Point: WL-10
 Investigator(s): Culwell (2)/Scow/DarFler Section, Township, Range: Sec 34, T11N, R13W
 Landform (hillslope, terrace, etc.): ephemeral bottom Local relief (concave, convex, none): bottom Slope (%): 5-7
 Subregion (LRR): E Lat: 46.66818 N Long: 113.20891 W Datum: WGS84
 Soil Map Unit Name: _____ NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: <u>ephemeral drainage bottom - stock tank/pipe - soils trampled - dry in mid July - wet in May/June</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>12x60'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Pse men</u>	<u>8</u>	<u>X?</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)
2. <u>not rooted in WL</u>				Total Number of Dominant Species Across All Strata: <u>7</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>86%</u> (A/B)
4. _____				
<u>8</u> = Total Cover				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: <u>12x60'</u>)				Total % Cover of: _____ Multiply by: _____
1. _____				OBL species <u>26</u> x 1 = <u>26</u>
2. _____				FACW species <u>18</u> x 2 = <u>36</u>
3. _____				FAC species <u>70</u> x 3 = <u>210</u>
4. _____				FACU species <u>17</u> x 4 = <u>68</u>
5. _____				UPL species _____ x 5 = _____
<u>0</u> = Total Cover				Column Totals: <u>131</u> (A) <u>340</u> (B)
Herb Stratum (Plot size: <u>12x60'</u>)				Prevalence Index = B/A = <u>2.60</u>
1. <u>Car neb</u>	<u>8</u>		<u>OBL</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Hor jub</u>	<u>16</u>	<u>X</u>	<u>FAC</u>	
3. <u>Jun bal</u>	<u>6</u>		<u>FACW</u>	
4. <u>Agr sto</u>	<u>28</u>	<u>X</u>	<u>FAC</u>	
5. <u>Poa pra</u>	<u>12</u>	<u>X</u>	<u>FAC</u>	
6. <u>Jun buf</u>	<u>12</u>	<u>X</u>	<u>FACW</u>	
7. <u>Sym asc</u>	<u>6</u>		<u>FACU</u>	
8. <u>Ver ame</u>	<u>2</u>		<u>OBL</u>	
9. <u>Pla maj</u>	<u>14</u>	<u>X</u>	<u>FAC</u>	
10. <u>Ver ana</u>	<u>16</u>	<u>X</u>	<u>OBL</u>	
11. <u>Lac ser</u>	<u>3</u>		<u>FACU</u>	
<u>123</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. _____				
<u>131</u> = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: <u>Agr sto/ Hor jub/ Jun bal</u>				

SOIL

Sampling Point: WL-10

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	2.5Y 4/2	100					CL	EM
2-12	2.5Y 5/2	95	10YR 6/8	5	C	M	SaCl	
>12								Gravel

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: *Soils mixed by livestock trampling/very hard - reduced below 2"*

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input checked="" type="checkbox"/> Saturation (A3) <i>in May/June</i> | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | | |

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe) *May/June*

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: *Spring Saturation - no saturation in mid-July*

WL-11A
(RW 96)

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

Project/Site: MLR City/County: Granite Sampling Date: 7/18/2013
 Applicant/Owner: MLR State: MT Sampling Point: WL-11A
 Investigator(s): Calwell (2) / Scow / Parflier Section, Township, Range: Sec 2, T10N, R13W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 5
 Subregion (LRR): E Lat: 46.64900 N Long: 113.19466 W Datum: WGS 84
 Soil Map Unit Name: _____ NWI classification: PEMB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____			
Remarks: <u>slope wetland on hillslope 8' above perennial stream</u> <u>(see WL-11B)</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>15x40'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>5</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>5</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100%</u> (A/B)
4. _____				Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: <u>15x40'</u>)				Total % Cover of:	
1. _____				Multiply by:	
2. _____				OBL species	<u>103</u> x 1 = <u>103</u>
3. _____				FACW species	<u>7</u> x 2 = <u>14</u>
4. _____				FAC species	<u>4</u> x 3 = <u>12</u>
5. _____				FACU species	_____ x 4 = _____
Herb Stratum (Plot size: <u>15x40'</u>)				UPL species	_____ x 5 = _____
1. <u>Ele pal</u>				Column Totals:	<u>114</u> (A) <u>129</u> (B)
2. <u>Sch tab</u>				Prevalence Index = B/A = <u>1.13</u>	
3. <u>Sph obt</u>				Hydrophytic Vegetation Indicators:	
4. <u>Agrost</u>				1 - Rapid Test for Hydrophytic Vegetation	
5. <u>Epilc</u>				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
6. <u>Menarv</u>				<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
7. <u>Mim gut</u>				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
8. <u>Ran cym</u>				5 - Wetland Non-Vascular Plants ¹	
9. <u>Typ lat</u>				Problematic Hydrophytic Vegetation ¹ (Explain)	
10. <u>Ver ana</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
11. _____					
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present?	
1. _____				Yes <input checked="" type="checkbox"/> No _____	
2. _____					
% Bare Ground in Herb Stratum _____					
Remarks: <u>Typ lat / Sch tab c.t.</u>					

WL-11B
(RW 97)

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

Project/Site: MLR City/County: Granite Sampling Date: 7/18/2013
 Applicant/Owner: MLR State: MT Sampling Point: WL-11B
 Investigator(s): Culwell (2)/Scow/Darflor Section, Township, Range: Sec 2, T10N, R13W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 5
 Subregion (LRR): E Lat: 46.64900 N Long: 113.19466 W Datum: WGS 84
 Soil Map Unit Name: _____ NWI classification: PEMB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks: <u>slope wetland on hillslope 8' above perennial stream (see WL-11A)</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>15x80'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)	
2. _____				Total Number of Dominant Species Across All Strata: <u>5</u> (B)	
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
4. _____				Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: <u>15x80'</u>) <u>0</u> = Total Cover				Total % Cover of: _____ Multiply by: _____	
1. _____				OBL species <u>59</u> x 1 = <u>59</u>	
2. _____				FACW species <u>27</u> x 2 = <u>54</u>	
3. _____				FAC species <u>20</u> x 3 = <u>60</u>	
4. _____				FACU species <u>8</u> x 4 = <u>32</u>	
5. _____				UPL species _____ x 5 = _____	
Herb Stratum (Plot size: <u>15x80'</u>) <u>0</u> = Total Cover				Column Totals: <u>164</u> (A) <u>355</u> (B)	
1. <u>Car neb</u>	<u>22</u>	<u>X</u>	<u>OBL</u>	Prevalence Index = B/A = <u>2.16</u>	
2. <u>Ele pal</u>	<u>8</u>		<u>OBL</u>	Hydrophytic Vegetation Indicators:	
3. <u>Jun bal</u>	<u>18</u>	<u>X</u>	<u>FACW</u>	1 - Rapid Test for Hydrophytic Vegetation	
4. <u>Sph obt</u>	<u>7</u>		<u>FAC</u>	<u>X</u> 2 - Dominance Test is >50%	
5. <u>Agr sto</u>	<u>36</u>	<u>X</u>	<u>FAC</u>	<u>X</u> 3 - Prevalence Index is ≤3.0 ¹	
6. <u>Ala aru</u>	<u>3</u>		<u>FAC</u>	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
7. <u>Ba pra</u>	<u>24</u>	<u>X</u>	<u>FAC</u>	5 - Wetland Non-Vascular Plants ¹	
8. <u>Epi cil</u>	<u>9</u>		<u>FACW</u>	Problematic Hydrophytic Vegetation ¹ (Explain)	
9. <u>Mim gut</u>	<u>4</u>		<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
10. <u>Pot ans</u>	<u>4</u>		<u>OBL</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
11. <u>Ran cym</u>	<u>18</u>	<u>X</u>	<u>OBL</u>		
12. <u>Typ lat</u>	<u>3</u>		<u>OBL</u>		
Woody Vine Stratum (Plot size: _____)					
13. <u>Med lup</u>	<u>8</u>		<u>FACU</u>		
2. _____	<u>164</u>				
% Bare Ground in Herb Stratum _____					
Remarks: <u>car neb c.t. - much introduced perennial grass</u>					

SOIL

Sampling Point: WL-11B

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-24	5Y 2.5/1	100					S:L	black

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: *very dark, deep wet soil. (seep)*

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes No Depth (inches): 0

Water Table Present? Yes No Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: *wet margin of sidehill seep ~ 8' elevation above perennial creek.*

WL-12
(RW 98)

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

Project/Site: MCR City/County: Granite Sampling Date: 7/18/2013
 Applicant/Owner: MCR State: MT Sampling Point: WL-12
 Investigator(s): Cutwell (2) / Scott / Dan Fier Section, Township, Range: Sec 2, T10N, R13W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 15
 Subregion (LRR): E Lat: 46.64786 N Long: 113.19337 W Datum: NCGS89
 Soil Map Unit Name: _____ NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks: <u>hillslope slump - Slumped from other side of fence</u> <u>questionable hydrology</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>0.1 Ac.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>6</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>6</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: <u>0.1 Ac.</u>)				Total % Cover of:	Multiply by:
1. <u>ROS WOOD</u>	<u>1</u>		<u>FACU</u>	OBL species <u>16</u> x 1 = <u>16</u>	
2. _____	_____	_____	_____	FACW species <u>36</u> x 2 = <u>72</u>	
3. _____	_____	_____	_____	FAC species <u>109</u> x 3 = <u>327</u>	
4. _____	_____	_____	_____	FACU species <u>8</u> x 4 = <u>32</u>	
5. _____	_____	_____	_____	UPL species <u>2</u> x 5 = <u>10</u>	
Herb Stratum (Plot size: <u>0.1 Ac. 75x75'</u>)				Column Totals:	<u>171</u> (A) <u>457</u> (B)
1. <u>Car neb</u>	<u>15</u>	<u>X</u>	<u>OBL</u>	Prevalence Index = B/A = <u>2.67</u>	
2. <u>Jun bal</u>	<u>36</u>	<u>X</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators:	
3. <u>Agv sto</u>	<u>38</u>	<u>X</u>	<u>FAC</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4. <u>Alb aru</u>	<u>12</u>	<u>X</u>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5. <u>Poa pra</u>	<u>44</u>	<u>X</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
6. <u>Ach mil</u>	<u>1</u>		<u>FACU</u>		
7. <u>Pot ans</u>	<u>1</u>		<u>OBL</u>		
8. <u>Sym asc</u>	<u>6</u>		<u>FACU</u>		
9. <u>Vic ame</u>	<u>1</u>		<u>FAC</u>		
10. <u>Cir arv</u>	<u>14</u>	<u>X</u>	<u>FAC</u>		
11. <u>Tar lae</u>	<u>2</u>		<u>UPL</u>		
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
% Bare Ground in Herb Stratum _____					
Remarks: <u>Jube/Agst c.t.</u>					

SOIL

Sampling Point: WL-12

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR 3/1	100					S.L	high OM
7-15	10YR 4/2	80	7.5YR 5/8	20	RM	M	SAL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: reducing environment below 7" slump

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
	<input checked="" type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Side well seep - standing water above / hole dry

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

Project/Site: MLR City/County: Granite Co. Sampling Date: 9-21-13
 Applicant/Owner: Montana Limestone Resources State: MT Sampling Point: RW 99
 Investigator(s): [redacted] / Scow / Darfler Section, Township, Range: Sec 23, T11N, R13W
 Landform (hillslope, terrace, etc.): old river channel Local relief (concave, convex, none): concave Slope (%): 1-3
 Subregion (LRR): E Lat: 46.69048N Long: 113.20397W Datum: WGS84
 Soil Map Unit Name: _____ NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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? Yes _____ No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>		
Remarks: <u>overflow channel on floodplain</u>		

KS photos 864-865

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>75x75'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>56%</u> (A/B)
1. <u>Jun sco</u>	<u>42</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
2. <u>Pop bal</u>	<u>44</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. <u>Pop tre</u>	<u>16</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
<u>102</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>12</u> x 1 = <u>12</u> FACW species <u>25</u> x 2 = <u>50</u> FAC species <u>96</u> x 3 = <u>288</u> FACU species <u>32</u> x 4 = <u>128</u> UPL species <u>56</u> x 5 = <u>280</u> Column Totals: <u>221</u> (A) <u>758</u> (B) Prevalence Index = B/A = <u>3.43</u>
Sapling/Shrub Stratum (Plot size: <u>75x75'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Cor ser</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Pru vir</u>	<u>2</u>		<u>FACU</u>	
3. <u>Ros woo</u>	<u>12</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
4. <u>Sal eri var. wats.</u>	<u>3</u>		<u>OBL</u>	
5. <u>Sym occ</u>	<u>48</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
<u>75</u> = Total Cover				
Herb Stratum (Plot size: <u>75x75'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Car pellita</u>	<u>9</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Car praticola</u>	<u>13</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Agv sto</u>	<u>4</u>		<u>FAC</u>	
4. <u>Ach mil</u>	<u>2</u>		<u>FACU</u>	
5. <u>Sol mis</u>	<u>14</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
6. <u>Thu das</u>	<u>2</u>		<u>FACW</u>	
<u>44</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
<u>221</u> = Total Cover				
% Bare Ground in Herb Stratum _____				

Remarks: Pop bal/Cor ser c.t. - Riparian Forest

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

Project/Site: MLR City/County: Granite Co. Sampling Date: 9-21-13
 Applicant/Owner: Montana Limestone Resources State: MT Sampling Point: RW 100
 Investigator(s): [redacted] / Scow / Darfler Section, Township, Range: Sec 23, T11N, R13W
 Landform (hillslope, terrace, etc.): [redacted] Local relief (concave, convex, none): concave Slope (%): 1-3
 Subregion (LRR): E Lat: 46.68899 N Long: 113.20281 W Datum: WGS84
 Soil Map Unit Name: _____ NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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? Yes _____ No <input checked="" type="checkbox"/>	Hydic Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>		
Remarks: <u>aspengrove on floodplain terrace near C. Fk. River</u>		

KS photo 866

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>75x75'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>11</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>45%</u> (A/B)
1. <u>Jun sco</u>	<u>38</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
2. <u>Pop tre</u>	<u>70</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. _____				
<u>108</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>1</u> x 1 = <u>1</u> FACW species <u>8</u> x 2 = <u>16</u> FAC species <u>87</u> x 3 = <u>261</u> FACU species <u>86</u> x 4 = <u>344</u> UPL species <u>46</u> x 5 = <u>230</u> Column Totals: <u>728</u> (A) <u>852</u> (B) Prevalence Index = B/A = <u>3.74</u>
Sapling/Shrub Stratum (Plot size: <u>75x75'</u>)				
1. <u>Cor ser</u>	<u>1</u>		<u>FACW</u>	
2. <u>Pru vir</u>	<u>9</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
3. <u>Rib set</u>	<u>2</u>		<u>FACW</u>	
4. <u>Ros woo</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
5. <u>Sym occ</u>	<u>68</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
<u>84</u> = Total Cover				
Herb Stratum (Plot size: <u>75x75'</u>)				
1. <u>Agr trg</u>	<u>1</u>		<u>FAC</u>	
2. <u>Car pel</u>	<u>1</u>		<u>OBL</u>	
3. <u>Cal rub</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
4. <u>Agr sto</u>	<u>3</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
5. <u>Poa pra</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
6. <u>Ber rep</u>	<u>2</u>		<u>UPL</u>	
7. <u>Gal bor</u>	<u>3</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
8. <u>Iri mis</u>	<u>1</u>		<u>FACW</u>	
9. <u>Sil men</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
10. <u>Smi ste</u>	<u>1</u>		<u>FAC</u>	
11. <u>Sol mis</u>	<u>2</u>		<u>UPL</u>	
12. <u>Thu das</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
<u>36</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
<u>228</u> = Total Cover				
% Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>				

Remarks: Pop tre / Cor ser habitat type = Riparian Forest

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

Project/Site: MLR City/County: Granite Co. Sampling Date: 9-21-13
 Applicant/Owner: Montana Limestone Resources State: MT Sampling Point: RW 101
 Investigator(s): [redacted] / Scow / Darfler Section, Township, Range: Sec 23, T11N, R13W
 Landform (hillslope, terrace, etc.): old river channel Local relief (concave, convex, none): concave Slope (%): 1-3
 Subregion (LRR): E Lat: 46.68851 N Long: 113.20502 W Datum: WGS84
 Soil Map Unit Name: _____ NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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? Yes _____ No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>overflow channel on floodplain</u>			
<u>KS photos 867-868</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>75x75'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>63%</u> (A/B)
1. <u>Jun sco</u>	<u>48</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
2. <u>Pop ang</u>	<u>52</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Pop bal</u>	<u>42</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
4. _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>54</u> x 2 = <u>108</u> FAC species <u>88</u> x 3 = <u>264</u> FACU species <u>62</u> x 4 = <u>248</u> UPL species <u>49</u> x 5 = <u>245</u> Column Totals: <u>253</u> (A) <u>865</u> (B) Prevalence Index = B/A = <u>3.42</u>
Sapling/Shrub Stratum (Plot size: <u>75x75'</u>)				
1. <u>Pru vir</u>	<u>1</u>		<u>FACU</u>	
2. <u>Rib set</u>	<u>1</u>		<u>FACW</u>	
3. <u>Ros woo</u>	<u>56</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
4. <u>Sym occ</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
5. _____				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>75x75'</u>)				
1. <u>Carex praticola</u>	<u>1</u>		<u>FACW</u>	
2. <u>Poa pra</u>	<u>9</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. <u>Gal bar</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
4. <u>Sil men</u>	<u>2</u>		<u>FAC</u>	
5. <u>Smi ste</u>	<u>1</u>		<u>FAC</u>	
6. <u>Sel mis</u>	<u>1</u>		<u>UPL</u>	
7. <u>Vio adu</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
8. _____				
9. _____				
10. _____				
11. _____				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
<u>23</u> = Total Cover				
% Bare Ground in Herb Stratum _____				
<u>253</u> = Total Cover				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>				

Remarks: Pop bal / Sym occ c.t. – Riparian Forest

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

Project/Site: MLR City/County: Granite Co. Sampling Date: 9-21-13
 Applicant/Owner: Montana Limestone Resources State: MT Sampling Point: RW 102
 Investigator(s): Scott/Schow/Darfler Section, Township, Range: Sec 26, T11N, R13W
 Landform (hillslope, terrace, etc.): Fluvial plain Local relief (concave, convex, none): concave Slope (%): 1-3
 Subregion (LRR): E Lat: 46.68079 N Long: 113.19897 W Datum: WGS 84
 Soil Map Unit Name: _____ NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: <u>Fluvial plain terrace near overflow channel (see below)</u> <u>165 photos 869-870</u>	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>75x75'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Jun sco</u>	<u>86</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)	
2. <u>Pop ang</u>	<u>2</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Total Number of Dominant Species Across All Strata: <u>9</u> (B)	
3. <u>Pop bal</u>	<u>6</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>56%</u> (A/B)	
4. <u>Pse men</u>	<u>2</u>	<input checked="" type="checkbox"/>	<u>FACU</u>		
	<u>96</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>75x75'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. <u>Rib set</u>	<u>2</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Total % Cover of: _____	Multiply by: _____
2. <u>Ros woo</u>	<u>2</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	OBL species <u>—</u> x 1 = <u>—</u>	
3. <u>Sym occ</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	FACW species <u>4</u> x 2 = <u>8</u>	
4. _____				FAC species <u>19</u> x 3 = <u>57</u>	
5. _____				FACU species <u>7</u> x 4 = <u>28</u>	
	<u>12</u> = Total Cover			UPL species <u>87</u> x 5 = <u>435</u>	
Herb Stratum (Plot size: <u>75-75'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Column Totals: <u>117</u> (A) <u>528</u> (B)	
1. <u>Bro ine</u>	<u>1</u>		<u>FAC</u>	Prevalence Index = B/A = <u>4.51</u>	
2. <u>Pos pra</u>	<u>3</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		
3. <u>Vio adu</u>	<u>1</u>		<u>FAC</u>		
4. <u>Car nut</u>	<u>1</u>		<u>UPL</u>		
5. <u>Cyn off</u>	<u>2</u>	<input checked="" type="checkbox"/>	<u>FACU</u>		
6. <u>Ver tha</u>	<u>1</u>		<u>FACU</u>		
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
	<u>9</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
1. _____					
2. _____					
	<u>117</u> = Total Cover				
% Bare Ground in Herb Stratum _____					

Remarks: Jun sco/Cov ser habitat type - Riparian Forest

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

Project/Site: MLR City/County: Granite Co. Sampling Date: 9-21-13
 Applicant/Owner: Montana Limestone Resources State: MT Sampling Point: RW 103
 Investigator(s): Calwell/Scow/Darfler Section, Township, Range: Sec 26, T11N, R13W
 Landform (hillslope, terrace, etc.): old river channel margin Local relief (concave, convex, none): concave Slope (%): 1-3
 Subregion (LRR): E Lat: 46.67872 N Long: 113.19818 W Datum: WGS84
 Soil Map Unit Name: _____ NWI classification: PSSA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: <u>near margin of old river channel - hummocky willows (far edge of floodplain)</u> <u>KS photos 871-872</u>	

VEGETATION - Use scientific names of plants.

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
*S <u>Shrubs</u>	<u>75x75'</u>				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>10</u> (A)
1. <u>Sal herb</u>		<u>7</u>		<u>FACW</u>	Total Number of Dominant Species Across All Strata:	<u>11</u> (B)
2. <u>Sal eri var. wats.</u>		<u>8</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>91%</u> (A/B)
3. <u>Ros woo</u>		<u>4</u>		<u>FACU</u>		
4. <u>Rub ida</u>		<u>5</u>		<u>FACU</u>		
		<u>27</u>	= Total Cover			
<u>Sapling/Shrub Stratum</u>	<u>75x75'</u>				Prevalence Index worksheet:	
1. <u>Cor ser</u>		<u>54</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Total % Cover of:	Multiply by:
2. <u>Rib set</u>		<u>8</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	OBL species	<u>8</u> x 1 = <u>8</u>
3. <u>Sal beb</u>		<u>16</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	FACW species	<u>135</u> x 2 = <u>270</u>
4. <u>Sal exi</u>		<u>38</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	FAC species	<u>121</u> x 3 = <u>363</u>
5. <u>Sal dru</u>		<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	FACU species	<u>13</u> x 4 = <u>52</u>
		<u>126</u>	= Total Cover		UPL species	<u>12</u> x 5 = <u>10</u>
<u>Herb Stratum</u>	<u>75x75'</u>	<u>150</u>			Column Totals:	<u>289</u> (A) <u>703</u> (B)
1. <u>Agr rep</u>		<u>14</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Prevalence Index = B/A = <u>2.43</u>	
2. <u>Agr sto</u>		<u>18</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Hydrophytic Vegetation Indicators:	
3. <u>Poa pra</u>		<u>66</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	1 - Rapid Test for Hydrophytic Vegetation	
4. <u>Geu mac</u>		<u>4</u>		<u>FAC</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
5. <u>Men arv</u>		<u>2</u>		<u>FACW</u>	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
6. <u>Urt dio</u>		<u>3</u>		<u>FAC</u>	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
7. <u>Cir arv</u>		<u>16</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	5 - Wetland Non-Vascular Plants ¹	
8. <u>Tar lae</u>		<u>10</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	Problematic Hydrophytic Vegetation ¹ (Explain)	
9. <u>Cyn off</u>		<u>4</u>		<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
10. <u>Thl arv</u>		<u>2</u>		<u>UPL</u>		
		<u>139</u>	= Total Cover			
<u>Woody Vine Stratum</u>	Plot size: _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
1. _____						
2. _____						
		<u>289</u>	= Total Cover			
% Bare Ground in Herb Stratum _____						
Remarks: <u>willow - dogwood tall shrub c.t.</u>						

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

Project/Site: MLR City/County: Granite Co. Sampling Date: 9-21-13
 Applicant/Owner: Montana Limestone Resources State: MT Sampling Point: RW 104
 Investigator(s): Scott / Scow / Darfler Section, Township, Range: Sec 26, T11N, R13W
 Landform (hillslope, terrace, etc.): old river channel Local relief (concave, convex, none): concave Slope (%): 1-3
 Subregion (LRR): E Lat: 46.67743 N Long: 113.19584 W Datum: WGS 84
 Soil Map Unit Name: _____ NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: <u>aspen grove at far edge of floodplain KS photo 873</u>	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>75x75'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Jun ser</u>	<u>9</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)
2. <u>Pop tre</u>	<u>70</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Total Number of Dominant Species Across All Strata: <u>9</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>78%</u> (A/B)
4. _____				
<u>79</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>75x75'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Cor ser</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Total % Cover of: _____ Multiply by: _____
2. <u>Ros wood</u>	<u>3</u>		<u>FACU</u>	OBL species _____ x 1 = _____
3. <u>Sal heb</u>	<u>18</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	FACW species <u>34</u> x 2 = <u>68</u>
4. <u>Sym occ</u>	<u>28</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	FAC species <u>178</u> x 3 = <u>534</u>
5. _____				FACU species <u>76</u> x 4 = <u>304</u>
<u>54</u> = Total Cover				UPL species <u>13</u> x 5 = <u>65</u>
				Column Totals: <u>301</u> (A) <u>971</u> (B)
				Prevalence Index = B/A = <u>3.23</u>
Herb Stratum (Plot size: <u>75x75'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Agv sto</u>	<u>48</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	1 - Rapid Test for Hydrophytic Vegetation
2. <u>Bro ine</u>	<u>3</u>		<u>FAC</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Pop pra</u>	<u>65</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. <u>Fra vir</u>	<u>1</u>		<u>FACU</u>	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. <u>Geu mac</u>	<u>4</u>		<u>FAC</u>	5 - Wetland Non-Vascular Plants ¹
6. <u>Gly lep</u>	<u>16</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
7. <u>Sol gig</u>	<u>3</u>		<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. <u>Tha das</u>	<u>8</u>		<u>FACW</u>	
9. <u>Cir arv</u>	<u>14</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
10. <u>Car nut</u>	<u>4</u>		<u>UPL</u>	
11. <u>Cyn off</u>	<u>2</u>		<u>FACU</u>	
<u>168</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. _____				Yes _____ No <input checked="" type="checkbox"/>
2. _____				
<u>301</u> = Total Cover				
% Bare Ground in Herb Stratum _____				

Remarks:
Pop tre / Cor ser h.t. - Riparian Forest

WL-01
(RW-105)

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

Project/Site: MLR City/County: Granite Sampling Date: 7/2/13
 Applicant/Owner: MLR State: MT Sampling Point: WL-01
 Investigator(s): D. Culwell x 2 Section, Township, Range: Sec 23, T11N, R13W
 Landform (hillslope, terrace, etc.): overflow channel Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): E Lat: 46.68902 N Long: 113.20509 W Datum: WGS 84
 Soil Map Unit Name: _____ NWI classification: Pcmc

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally 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?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks: <u>fringe along overflow channel on Clark Fork River bottom</u> <u>photo 3699</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20x50</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83%</u> (A/B)														
1. <u>Pop bal</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>5</u> = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>49</u></td> <td>x 1 = <u>49</u></td> </tr> <tr> <td>FACW species <u>3</u></td> <td>x 2 = <u>6</u></td> </tr> <tr> <td>FAC species <u>60.5</u></td> <td>x 3 = <u>181.5</u></td> </tr> <tr> <td>FACU species <u>7</u></td> <td>x 4 = <u>28</u></td> </tr> <tr> <td>UPL species <u>—</u></td> <td>x 5 = <u>—</u></td> </tr> <tr> <td>Column Totals: <u>119.5</u> (A)</td> <td><u>264.5</u> (B)</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>49</u>	x 1 = <u>49</u>	FACW species <u>3</u>	x 2 = <u>6</u>	FAC species <u>60.5</u>	x 3 = <u>181.5</u>	FACU species <u>7</u>	x 4 = <u>28</u>	UPL species <u>—</u>	x 5 = <u>—</u>	Column Totals: <u>119.5</u> (A)	<u>264.5</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>49</u>	x 1 = <u>49</u>																	
FACW species <u>3</u>	x 2 = <u>6</u>																	
FAC species <u>60.5</u>	x 3 = <u>181.5</u>																	
FACU species <u>7</u>	x 4 = <u>28</u>																	
UPL species <u>—</u>	x 5 = <u>—</u>																	
Column Totals: <u>119.5</u> (A)	<u>264.5</u> (B)																	
<u>13</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>20x20</u>)																		
1. <u>Sym OCC</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
2. <u>Ros Woo</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Sal bro</u>	<u>2</u>	_____	<u>FACW</u>															
4. <u>Sel exi</u>	<u>T</u>	_____	<u>FACW</u>															
5. <u>Rib aur</u>	<u>T</u>	_____	<u>FAC</u>															
Herb Stratum (Plot size: <u>30x70</u>)																		
1. <u>Car net</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Jun nod</u>	<u>3</u>	_____	<u>OBL</u>															
3. <u>Poa pra</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
4. <u>Pla maj</u>	<u>5</u>	_____	<u>FAC</u>															
5. <u>Phi pra</u>	<u>5</u>	_____	<u>FAC</u>															
6. <u>Elepaf</u>	<u>5</u>	_____	<u>OBL</u>															
7. <u>Hor bra</u>	<u>T</u>	_____	<u>FACW</u>															
8. <u>Agr rep</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
9. <u>Ver ana</u>	<u>1</u>	_____	<u>OBL</u>															
10. <u>Agr sto</u>	<u>5</u>	_____	<u>FAC</u>															
11. <u>Car mic</u>	<u>2</u>	_____	<u>FACU</u>															
<u>101.5</u> = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. <u>None</u>	_____	_____	_____															
2. _____	_____	_____	_____															
<u>119.5</u> = Total Cover																		
% Bare Ground in Herb Stratum _____																		
Remarks: <u>Car net c.t. with Roso + Sym on drier edge - Pop bal overhangs plot but not rooted in wetland</u>																		
Hydrophytic Vegetation Present?				Yes <input checked="" type="checkbox"/> No _____														

SOIL

MER
W601

Sampling Point:

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	2.5Y	2.5/1	600				Cl loam	thick dark

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: very dark, deep soil adjacent to overflow channel

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations: *was in June*

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? Yes No Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: moist on 7/2 - was saturated/flooded in June - obvious early season hydrology + flow in response to irrigation of hay meadows upstream on floodplain

Appendix D

Photographs

Montana Limestone Resources Wetlands Inventory, 2013.

Appendix D Photographs, Montana Limestone Resources Wetlands Inventory, 2013



RW-105 - Nebraska sedge



RW-83 - Smooth brome (Clark Fork River gravel terrace)



RW-82 - Black cottonwood/Rocky Mountain Juniper



RW-84 - Western snowberry

Appendix D Photographs, Montana Limestone Resources Wetlands Inventory, 2013



RW-85 - Kentucky bluegrass



RW-87 - Southern beaked sedge



RW-86 - Woolly sedge



RW-88 - Southern beaked sedge

Appendix D Photographs, Montana Limestone Resources Wetlands Inventory, 2013



RW-89 - Common cattail



RW-91 - Southern beaked sedge



RW-90 - Sandbar willow/red-osier dogwood



RW-92 - Baltic rush/sedge/common spikesedge

Appendix D Photographs, Montana Limestone Resources Wetlands Inventory, 2013



RW-93 - Nebraska sedge (Creeping meadow foxtail)



RW-95 - Redtop (foxtail barley)



RW-94 - Nebraska sedge (redtop)



RW-96 - Common cattail

Appendix D Photographs, Montana Limestone Resources Wetlands Inventory, 2013



RW-97 - Nebraska sedge



RW-99 - Black cottonwood/Rocky Mountain juniper



RW-98 - Redtop (Baltic rush)



RW-100 - Quaking aspen/red-osier dogwood (Rocky Mountain juniper)



RW-101 - Black cottonwood/Rocky Mountain juniper



RW-103 - Sandbar willow/red-osier dogwood



RW-102 - Rocky Mountain juniper/red-osier dogwood



RW-104 - Quaking aspen/red-osier dogwood