APPENDIX A

Project Photolog

Photo 1
Geoprobe® stuck in Sludge Pond 4 due to soft surface. John Noto (UOS) on left. Looking east.

Photo 2
Geoprobe® at location SSGW07 on berm between sludge ponds 4 (far right) and 5 (left). Looking west.

Photo 3
SSSO09 source sample location at edge of Sludge Pond 5. Looking northwest.

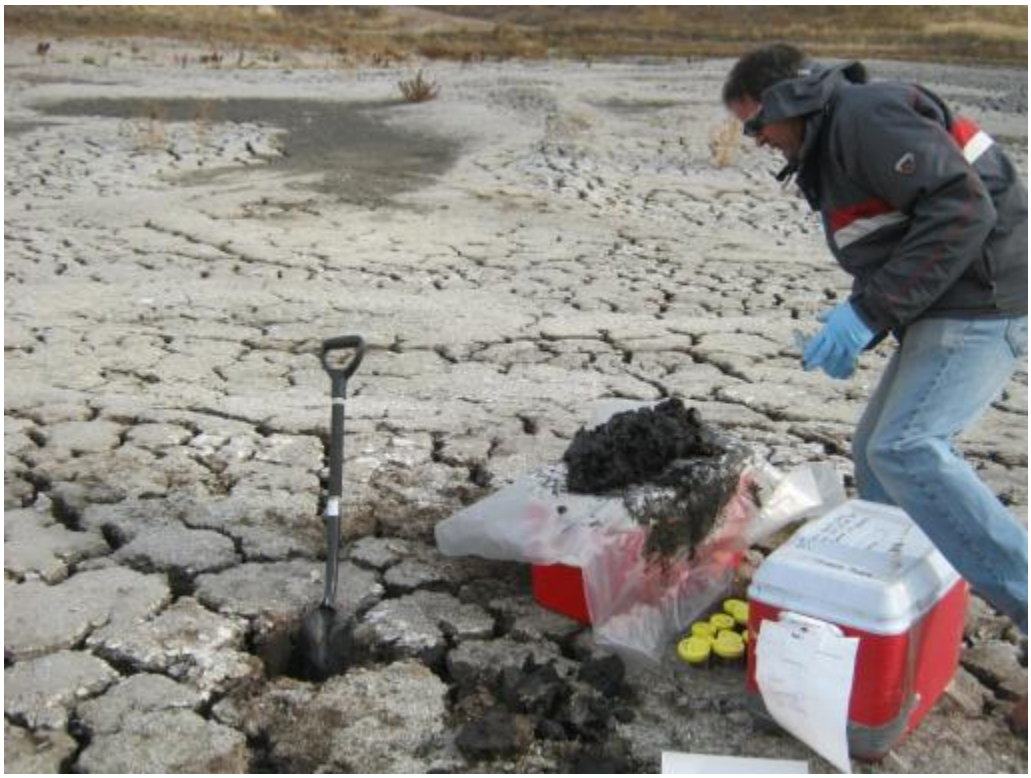

Photo 4
John Noto (UOS) collecting surface soil/ source sample SSSO1402 at northern end of Emergency Spill Pond. Looking east.

Photo 5
John Noto (UOS) collecting SSSO1702 opportunity surface soil/ source sample from area of possible sludge adjacent to Landfill A. Note sinkhole in background and lack of cover. Looking north.

Photo 6
John Noto (left) and Jeff Miller (right)(both UOS) collecting rinsate sample SSSW89 from shovel used to collect some surface soil samples.

Photo 7
Aerial photo (undated, source unknown) from M2Green (formerly Smurfit-Stone) office building showing former landfarm area (area with linear piles in bottom half of photo).

Photo 8
Jeremiah Ervin (UOS) collecting asbestos sample SSSO0302 from unvegetated area within former landfarm area. Looking north.

Photo 9
Wood chip covering over Sludge Pond 3. John Noto (UOS) and Carlo Arendt (Hydrometrics, Inc.) collecting SSSO0702 source sample in background. Looking southwest.

Photo 10
Northern berm of Sludge Pond 4 showing layering of sludge, standing water, and lack of cover. Looking east.

Photo 11
Geoprobe® at sample location SSSO0514 within Sludge Pond 17. Photo shows sparse vegetation and pond infall in foreground. Looking southwest.

Photo 12
Northern end of Emergency Spill Pond wet cell showing standing water and lack of cover. Geoprobe® is at location SSGW11 on northern berm of pond. Looking northeast.

Photo 13
Scott Mason (Hydrometrics, left) and Jeff Miller (UOS, right) collecting surface soil/ source sample SSSO1602 from Wastewater Pond 2. Note sparse vegetation and lack of cover. Looking south.

Photo 14
Geoprobe® on top of Landfill A at SSGW05 location. Note vegetative cover. Looking northeast.

Photo 15
Geoprobe® on top of Landfill 6 (edge of landfill is roughly marked by the lighter vegetation in the distance) at SSGW08 location. Note vegetative cover. Looking north.

Photo 16
Geoprobe® at northwest corner of Landfill G (raised area in background) at SSGW12 location. Note vegetative cover. Looking east.

Photo 17
John Noto (UOS) conducting air monitoring of the breathing zone during installation of SSGW07. Ken Manchester (MSE Technology Applications, Inc.) on right. Looking northeast.

Photo 18
Photo showing USFWS-identified wetlands on an island across the Clark Fork River (far background). UOS was unable to access these wetlands during the assessment. John Noto (UOS) and Carlo Arendt (Hydrometrics) in foreground collecting surface water sample SSSW09. Looking west.

Photo 19
Evidence of recreation (tire tracks beneath date stamp) on sand bar within Clark Fork River, adjacent to Pond 11. The remains of a camp fire are off the picture to the right. Looking northeast.

APPENDIX B

Project Field Logbooks

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Smurfit-Stone M:11
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UOS

START 3

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SENIOR ENVIRONMENTAL SCIENTIST

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CONTENTS

PAGE	REFERENCE	DATE

DIG CALL ID: 100056
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Mon - ~~[illegible]~~ 10 a.m.
~~11076897~~
~~11076903~~
~~11076907~~
11076909 11076927
11076911
11076914 11076925
11076916
11076919 11076922

10-23-11 (Sun) Jeff Miller

0700 Left Denver. Meet Amy Gray near Ft. Collins to grab Tyson tubing.

~11:30 Stopped in Casper for lunch.

~1520 Stopped in Billings to get preservative.

~2030 Arrive Missoula. Dinner

2130 Check in hotel. Done for day.

10-23-11

10-24-11 (Mon) Jeff Miller

0730 Meet for breakfast (JM, AM, JN). Met Rob Parker (RP) briefly.

0830 Drive to Smurfit-Stone site for meeting. Thus: Present: JM, AM, JN (START), RP (EPA), Carlo Arendt (CA), Scott Mason (SM), Doug Parker (Xcel Hydrometrics), Neal Marker (NM), Tom Dauenhauer (TD), and Bob Anderson (all 3 Smurfit). Discussed logistics, access, etc. Drillers not to arrive until Wednesday.

1020 Out to check locations w/ utility locators. All locations cleared

~1100 Back to Missoula for lunch + to pick up Jeremiah Erwin.

1315 Back out to Smurfit-Stone (SS). Plan will be to all go to first SW/SE location on O'Keefe Creek (w/ Hydrometrics), to ensure sampling methods b/w teams and consultants are the same.

10/24/11

10·24·11 (cont) Jeff Miller

~1400 Began collecting SSSW/SE01.

1450 Jeff & I over to SSSW/SE04 location (background on Clark Fork River).

1520 PH 8.24
T 10.2°C
Cond. 266 µS
Sal. 118
TDS 189

1522 SSSE/SW04 collected.

Moved on to last sample loc. on O'Keefe.

16:~~01~~ - Ph = 8.45
Cond = 322 µS
Temp = 8.2°C
TDS = 230 ppm
Salinity = 144 ppm

16:11 Collected SSSE/SW03 by culvert on O'Keefe Creek.

17:25 Collect H_2O parameters
Ph = 8.32
Cond = 273 µS
Temp = 9.7°C
TDS = 143
Salinity = 122 ppm

10/24/11 (cont) Jeff Miller

17:30 Collected sample SSSE/SW06 below outflow #1 on the Clark Fork

18:30 Back at Smurfit office packing ~~and~~ filtering and preserving samples.

19:30 Left site for hotel.

10/24/11

(TUES)
10-25-11, E

07:00 - Depart hotel and leave for site.

08:00 - Arrive @ Smurfit Stone site

08:30 - H&S Meeting
- Slips, trips, Fall
- River Safety (Rip rap, Hypothermia)
- Driving safety
- Weather - safety
- Hydration

09:00 - Weather = Overcast currently in mid 40°F. 30% chance of rain for the day. (Stats by Jeff Miller)

0930 Left office at Smurfit for Pond 2 to do surface soil samples.

0955 Collected SS501502

Dug to ~ 8". Bottom - 2" was plastic clay, top 6" was clayey silt.

Sample collected in small (10' diameter) depression. Was a tan microbial/algal mat covering.

1036 Collected SS501602

10/25/11

10.25.11 (cont.) Jeff Miller

Sample collected w/in an unvegetated part of Pond 2 - 100' from western berm of the pond. Profile of soil sampled was sandy silty. Small blebs of dark organic finer grained material. Some wood/branch pieces.

1100 Back to office. JE & I to town to get bottles, pumps, other equip.

1300 Grabbed lunch.

1345 Back to site. Discussed plan w/ Joyce.

1430 JN + I meet Ken Crisp to travel to LF Cattle Company Ranch.

1530 Arrive LF Cattle Co. Discuss poor water quality with Ken Crisp + owner (Vose Babcock).

Will sample 'old' well. No drillers log but 'new' well is supposed to be screened in gravel at similar interval (new well is screened 152-162' bgs.) Very similar water quality results b/w both wells. No pump in 'new' well which is ~ 48 pacs (~150' to the NW)

10/25/11

10·25·11 (cont.) Jeff Miller

Pump rate ≥ 20 gpm.

After pumped for >30 min:

1550

pH 7.91

Temp. 10.9°c

cond. 1,635 µS

TDS 1.16 pp thousand

sal. 804

Flowrate rate reduced to ~6.5 gpm

1600

pH 7.91

Temp 10.9

cond. 1,640 µS

TDS 1.16 ppt

sal. 805

1605 Collected SSGW27

Water level in new well:

10.3 bgs

12.0 btoc.

1630 Began drive back to office.

10·25-11 (cont.) Jeff Miller

1730 back at office. Preserved, filtered + labelled samples.

1900 left office. Arrived at hotel.

10·25·11

10-26-11 (WED) Jeff Miller

0630 Met team in hotel. Drove to store for ice, then office. I proceeded to background soil loc.

0905 Collected SSS0Ø1Ø2

1005 Drillers called. Are at local truck stop, nearly on site. (Drillers: MSE, Butte) John & I out to SSGW02 (deep bg location). Other team is just finishing shallow bg well (SSGW01)

1030 Collected SSGW02 from deep well # 11. (See field form.)

1100 Out to ~~Landfill 6~~ Jen security shack to meet drillers. Dropped off GWØ sample w/Jen.

1120 Out to Landfill 6 with drillers & JN.

1215 Begin pushing at SSS0Ø7 within Sludge Pond 3. No recovery until ~14' bgs. Wood chips ≥ 20" deep seem to be plugging the cutting shoe. Will drive a dual pt. to ~10' & try again, sampling surface (0-2') soil/source from a

[signature] 10/26/11

10-26-11 (cont) Jeff Miller

location ~275' ~~[illegible]~~ East

1300 SSS0Ø702 collected

1345 SSS00716 collected

MSE offset ~1' from above sample location and install monitoring well. Sludge to 16' bgs, overlying med., clean sand. Screen set from 20'-30' bgs.

1410 Noticed vapors (clear, distorting the air). Retrieved PID/FID to analyze. FID exceeded limits, PID ~ 40-50 ppm, so large amt. of methane. Is also H_2S component.

Called Tom V. (G2) to have H_2S monitor sent up asap.

1430 Brick lunch break. Ran samples to office.

[signature] 10/26/11

Fedex: 5500 Momont RL
Mist. MT
59802

10·26·11 (cont.) Jeff Miller

1530 Mob to SSSO Ø8 location w/in Sludge Pond 3.

1620 Bottom of sludge: 16' bgs.
TD of bore: 18.5' bgs.

1630 Collected SSSOØ816

1705 Collected SSSOØ802

1800 Finished installing well at Landfill ~~4~~ 4A. Did not log/core, rather just pushed to TD of 30'. 20-30' bgs interval is screened.
Will be sample SSGWØ5 location.
Sand to 8'-4" bgs, bentonite (granular) to surface.

1845 Back to office. Load coolers into vehicles.

1710 Left office for hotel. Done in field for day

10·26·11

10·27·11 (Thurs.) Jeff Miller

0630 Left hotel. Packed bottle shipments into car.

0710 On site. Waiting for Neal.
Packed vehicle. Changed batteries in Slope Indicator.

0830 Out to site waiting on Neal.

0835 Out to SSSOØ7 (GWØ4).
∇: 24.15 btoc
20.6 bgs.
TD: 32.3 btoc
28.7 bgs

0900 Neal moves up out to Sludge Pond 17 location SSSOØ5.
Surface soil already collected here by other sampling team.
Adjacent to outfall from
Depth of sludge = ~13.5' bgs.

1010 Collected SSSOØ514

1110 Collected SSSOØ612
Offset + placed monitoring well.
Screen 20-30' bgs. Sand to 12', bentonite to surface.

1130 Mob to SSSOØ9 location

10/27/11

10.27.11 (cont.) Jeff Miller

w/in sludge pond 5. Location in near most eastern corner. Surface ~1' appears to be lime.

1410 SSSO0902 collected from east end of Sludge Pond 5.

1350 SSSO0916 collected from east end of sludge pond 5.

1340 SSSO1102 collected from E end, sludge Pond 4

~1630 Moving drilling to SSSO1202 / GW location & drilling got stuck.

1720 Collected SSSO1202 from sludge pond 4, surface.

1745 SSSO1002 collected. - north sludge pond 5.

1800 Left field for field office. Repacked equipment for tomorrow. Iced & preserved samples.

2000 Left site for hotel.

10/27/11

10.28.11 (Friday) Jeff Miller

0630 Meet at hotel. To Safeway for H+S drinks.

0745 At site, checked in. Loaded vehicles. J. Erin & A. Mahrou will continue sampling Geoprobe wells.

0830 Out to Geoprobe, which is set up on the dike b/w Sludge Ponds 4+5. Will rename this location SSGW07.

0930 Well completed to ~42' bgs. V. high methane hits on P10/E10. Screened from 22-42' bgs. Open to 23' bgs.

Sand 23-16'. Bentonite to surface.

1000 Mob trailer + probe over near Pond 8 dry cell.

1030 Set up at SSGW10 location.

1200 Done at " "

1230 Mob to SSGW11 location.

Spoke w/ Rob Parker. Lack of screen, will eliminate SSGW12.

10/27/11

10-28-11 (cont.)

1330 Collected SSS014Ø2 from Emer. Spill pond web cell.
plus dup: SSS089Ø2
+ MS/MSD (SSS014Ø2)
1400 Finished at GW11, north end of emer spill pond. Screened 28-38' bgs.
1510 Over to LandFill (Pond) 6. Placed well equidistant b/w GW07 and SMW-16, in an area with little/stressed vegetation.
1540 Finished (see well log field sheet). Called SSGWØ8.
1600 Over to SSS013 w/in Emer. Spill pond dry cell to collected surface sample.
1640 Collected SSS013Ø2 + dup. SSS099Ø2
1645 " " SSS013Ø6
MS/MSD also collected here.
1710 Moved drill rig over to Emergency Spill Pond web cell to try and get a deep sample + well installed. Rig got stuck again.
900 Rig out of pond. Back to field office.
2010 Done for day — [illegible] 10/28/11

10-29-11 (Saturday) Jeff Miller

0720 Onsite after stopping for DI water.
0815 Out to SSGW12.
0910 Finished at "
∇: ~14' btoc.
TD: 38'
0900 Collected rinsate blank in the field by pouring DI water over the shovel used to collect + mix surface soil locations, as well as a cutting shoe used by the drillers.

0900 SSSW89 collected (rinsate blank)

J. Erwin + A. Mahnke will collect SSGW12.
945 J. Nobo + myself will do flow measurements on O'Keefe Cr.
1130 At. 15400 Marcure Lane
Dick Lucier.
1150 Collected SSGW26
1150 " SSGW99 (dup.)
[illegible] 10/29/11

10-29-11 (cont.)

flow rate 38s / 5 gal.

flow time	gal	pH / Temp / cond
1133	start	

	salt	TDS			
1152	265	390	7.56	10.9	550
1155	265	390	7.87	10.9	550
1157	265	390	7.95	10.9	550
1200	265	390	8.01	10.9	549

1225 Drove to 15762 Marcure
Kelly Stenerson.

SSGW23 20s / 5 gals

Flow time	salt	TDS	pH	T	cond
1225	349	508	8.08	11.6	716
1237	347	505	7.93	11.4	713
1241	351	512	7.90	11.1	721

1245 Collected SSGW23 [signature] 10/29/11

10-29-11 (cont.)

SSGW25 @ 15740
Marcure

1302 open spigot in front yard
21 sec / 5 gal

	salt	TDS	pH	T	cond
1314	325	476	7.96	10.9	671
1317	325	475	7.95	11.0	670
1319	326	475	7.97	11.0	671

1320 Collected SSGW25

1325 To 15700 Marcure
(Ron Shepard) GW24

1330 Well on. 38s / 5 gals

Time	salt	TDS	pH	T	cond
1337	301	441	8.00	10.6	622
1341	300	440	8.00	10.6	620
1343	301	442	7.99	10.7	622

1350 collected SSGW24. [signature] 10/29/11

10·29·11 (cont.)

☆ Are these the same well?

1410 Back to office to preserve, filter, pack samples

1605 Left site for town. Cossel vehicles.

1640 Left Missoula for Bozeman

2000 Arrive Bozeman. Done for day

10·29·11

10·30·11 (Sunday) Jeff Miller

0800 Left hotel for Denver.

~1900 Arrive Denver.

10/30/11

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CONTENTS

PAGE	REFERENCE	DATE
	Neil 406-360-8145	cell

11/24/11

Surface water/Seds -
Site notes in other log book

1400
SSW/SE01
8.5°C, pH 9.02, 294 µS
TDS 208 141 ppm silt

location on creek
of Keefe Creek.
N. side of creek
Collect samples & split
Samples
Sample collected by J. Noto
N. side of creek

SSSW/SE02
pH 9.03 8.5°C, 294µS
~~TDS 140~~ ~~208 ppm Salt~~
TDS 140ppm TDS 208
Sample Collected @ 15:25
Location on E side of bridge
along O'Keefe Creek
Collected by J. Noto
Samples Collected & Split.
N. side of creek - E of Rd

11/24/11

SSSW SE03
Collected @ 1645
10°C 9.22 pH
cond: 250µS TDS 178ppm
salt 120ppm
location on E side of
Clark Fork
Collected Samples & Split
Collected By J. Noto

SSSW/SE04 1745
9.7°C 9.21 pH
cond: 238µS TDS 168ppm
salt: 115ppm
on NE bank of Clark Fork
Collected Samples & Split
Collected by John Noto

note: all samples collected
w/ lab clean bottles, dedicated
scoops

10/25/11

Surface water / seds book

calibrate pH / temp / cond meter PCS #5

SSSW / SSE09
Time 10:15
· Collected Samples & Split
· Collected by John Noto
pH 8.45 7.8°C
~~332µs~~ 332 µs = cond
TDS: 232 Salt: 149 ppm

SSSW / SSE09
time 11:35 pH: 8.66 8.3°C
Collected by John Noto
cond: 251µs TDS 178 Salt: 114 ppm
Collected Samples & Split,
SSE09 collected by John N and Alex M.
f.g. Sand, sidewater / backwater past side channel

SSSW10 / SSSE09
time 12:40 8.65 pH 8.4°C cond: 258 µs
Collected by John Noto
TDS: 185 Salt: 119 ppm
Sample taken on NE Bank of Clark Fork 150' N of gravel bar. Taken at backwater (swirling)
SSSE09 – J. N. & Alex M collect seds from end of gravel bar
f.g. sand
outfall side channel is just upstream

10/25/11, JE

14:47 - Collected surface soil sample SS50Ø2Ø2 at Landfarm

15:15 - Collected surface soil sample SS50Ø3Ø2 at Landfarm

15:40 - Collected surface soil SS50Ø4Ø2 at Landfarm.

* Landfarm Area Screened with PID FID readings from 3ppm-4ppm

* Landfarm area walked & visually surveyed for stained soils and distressed vegetation. No apparent stained soil areas were viewed. Areas ~~was~~ where distresed vegetation ~~was~~ was viewed were sampled.

~~17:18~~ JE

16:25 - Surveyed Sludge 17 area for Geophysical Areas

16:50 - Collect surface soil sample SS50Ø6Ø2 on middle ~~N.~~ end sludge 17.

17:10 - Collect surface soil sample SS50Ø5Ø2 on ~~south~~ N. line of sludge.

* Sludge 17 - has fly ash & caustic lime visible in soil.

10/25/11, JE

17:30 - Head back to office.

17:45 - Organize equipment used + put on charge.

17:55 - Filter collected water samples for dissolved metals analysis.

Jen Patreau - Labeling Samples to go to lab.

Jeff Miller preserving samples.

18:30 - Demob. site for the day. Sign out of Smurfit Stone Checkin bldg.

Jeremiah Irvin
10-25-11

10-26-11, E

07:30 Arrive onsite @ Smurfit Stone.

07:35 - Calibrating Water Quality Parameters.

07:45 - H&S Meeting
- Slips, trips, falls
- Wildlife Safety
- Weather Safety
- Hydration - Sunscreen

08:00 - Packup vehicles for the day.

09:30 - SSGW01 sample collected

10:55 - SSGW13 Sample collected
* Sulfur smell/Brownish color

12:05 - SSGW14 Sample collected
* Sulfur smell/Brownish in color

15:05 - SSGW15 sample collected
* Sulfur smell/Brownish color.
- See field forms for ground water sampling data.

17:05 - SSGW16 sample collected
* Light Sulfur color/Dark Brownish Color

18:20 - SSGW17 sample collected
* Light Sulfur color/Dark Brown Color

18:30 - Organize and charge equipment.

10-26-11 - E

19:00 - Leave site for the day

Jeremiah
10-26-11 End

10-27-11, JE

07:30- Arrive @ Smurfit Stone office and get organized for the day.

08:00- Health+Safety Meeting
- Chemical Safety (Methane H_2S)
- Biological Safety (Wasps, Spiders)
- Weather Safety (Sun screen, Hydration)
- Driving Safety

08:15 - Weather = 40°F Overcast cloudy skies. 20% chance of rain.

10:23- Collected groundwater sample SSGW18.
- Dark brown color/sulfur smell.

14:05- SSGW04 Collected g. sample.
- Methane vapors visible/Grey color to water
- Alex headed to town for inertia pump setup.
- Too deep for peristaltic, purged well with peristaltic

17:25- Collected groundwater sample SSGW05.
- Dark black purge water

19:30 Demob from site for the day. Jeremiah [illegible]
10-27-11

10.28.11, JE

07:30 Arrive @ Smurfit Stone office and got organized.

08:00 Health and Safety meeting
- Chemical Safety (H_2S, Methane)
- Biological Safety
- Geoprobe Safety (Pinch points)
- Weather Safety (Hydration sunscreen)
- Slips, trips, falls
- Driving safety

08:15 - Overcast, 30°F approximately cloudy

09:~~30~~ 10 Collected groundwater sample ~~09:10~~ SSGW03.

11:37- Collected groundwater sample SSGW07.

14:10- Collected groundwater sample SSGW10.

17:20- Collected groundwater sample SSGW11.

18:50- Collected groundwater sample SSGW08.

* All samples collected for the day had water quality parameters collected during each wells purge.

10.28.11, JF

*All sample collected today had GPS positions collected + Photos taken. All this information can be found in the "Monitoring well Sampling Data" Form for each well sampled.

19:30- Demob. site for the day.

Jeremiah Ervin
10.28.11

10.29.11, JF

08:30- Arrived onsite at Smurfit Stone office.

08:45. Organize and get equipment for the day.

08:50- H&S meeting

10:20- Collect groundwater sample SSGW12.

- Dark grey colored water / Slight methane smell

*See Field Form for SSGW12 for more info.

11:00- Go to town of Missoula to pick up supplies and rental car.

13:00- Arrive back @ Smurfit Stone site office.

- Pack up equipment and organize vehicles.

- Preserve all metals samples with HNAO3 and all Dioxin/Furan samples with Sodium Hydroxide.

- Ice down all samples

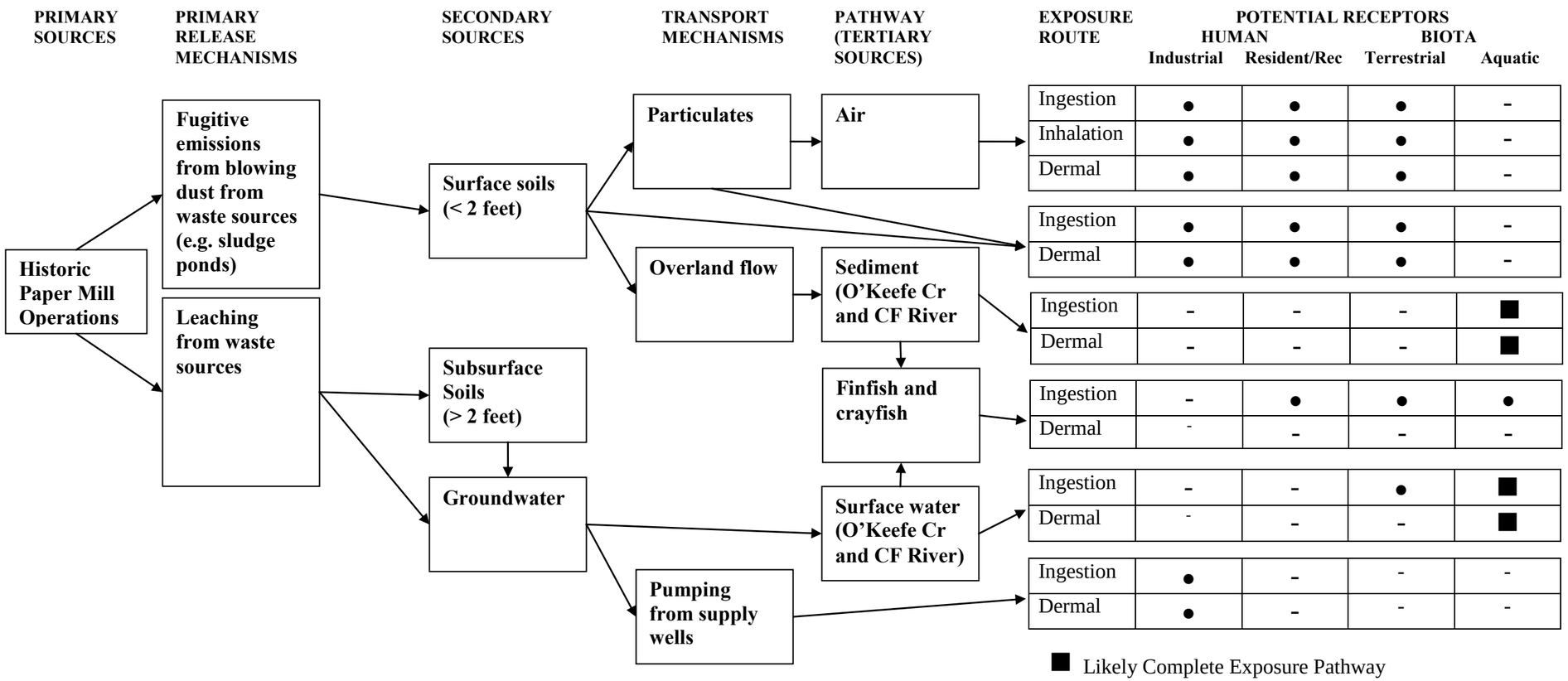
16:00- Demob. From site.

17:00- Fedex extra sampling equipment back to Denver O.C. warehouse. Jeremiah 10.29.11

APPENDIX C

Conceptual Site Model

APPENDIX C: Smurfit-Stone Mill Conceptual Site Model*



■ Likely Complete Exposure Pathway

● Potentially Complete Exposure Pathway

- Likely Incomplete or Insignificant Exposure Pathway

*Conceptual Site Model as of September 2012. Model will be furthered refined as additional site data are

APPENDIX D

Surface Water Flow Measurements

EXHIBIT 4.15-1
Surface Water Flow Measurement

10/29/11
10:45

Marsh-McBirney

O'keefe Creek

URS OPERATING SERVICES, INC.

Surface Water Flow Measurement

Records Management Date:

Project Number:

Project Name: Smurfit - Stone Mill

Site:

Flow Measurement Method: Marsh-McBirney Flow Mate 2000

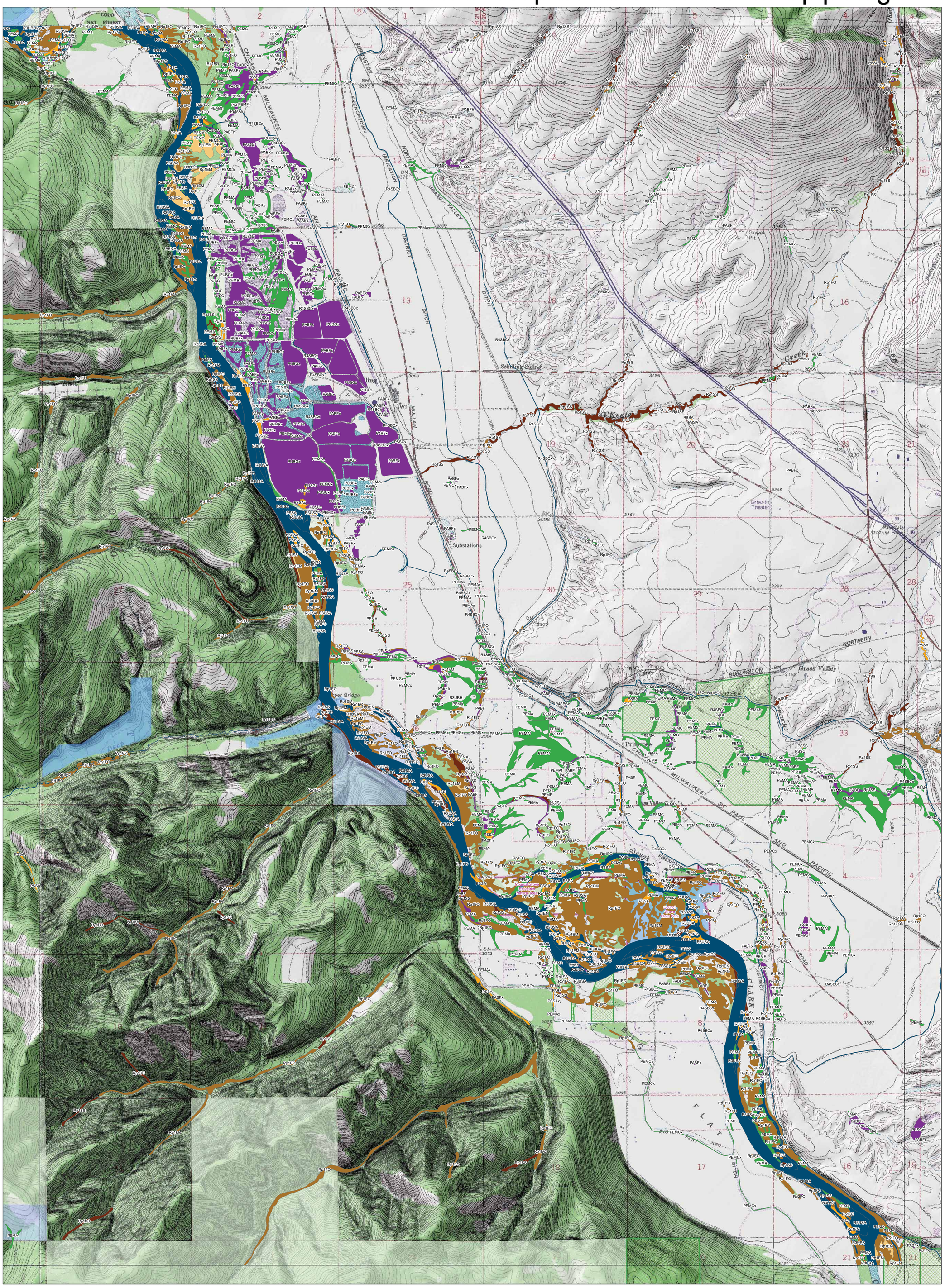
Distance from Initial Point (ft.)	Depth of Meter (ft.)	Width of Measurement Unit (ft.)	Depth of Water (ft.)	Number of Revolutions	Elapsed Time of Reading (secs)	Velocity ft/s	Area ft²	Discharge cfs
0.25			0.75		30sec avg.	0.5	0.75	0.0375
0.75			0.90			0.6	0.90	0.054
1.25			1.0			0.21	1.0	0.210
1.75			1.0			0.26	1.0	0.260
2.25			0.8			0.22	0.8	0.176
2.75			0.75			0.20	0.95	0.190
3.25			0.90			0.26	0.90	0.234
3.75			0.60			0.31	0.60	0.186
4.25			0.20			weeds	0.20	0
4.75							0	0
					TOTAL			1.3475 cfs

Recorded By: | Date: | Checked By: | Date:

APPENDIX E

MTNHP Provisional Wetland and Riparian Area Map - Primrose 7.5' Quadrangle

Provisional Wetland and Riparian Area Mapping



Wetland and Riparian Mapping

- Freshwater Emergent Wetland
- Freshwater Forested Wetland
- Freshwater Pond
- Freshwater Scrub-Shrub Wetland
- Lake
- Riparian Emergent
- Riparian Forested
- Riparian Scrub-Shrub
- River

Ownership

- Conservation Easements
- Special Designations
- US Bureau of Land Management
- US Bureau of Reclamation
- US Fish and Wildlife Service
- National Park Service
- US Forest Service
- USDA (Ag Research Stations)
- Army Corps of Engineers
- Other Department of Defense
- Undifferentiated State
- State Trust Lands
- Montana Fish, Wildlife & Parks
- State -- University, Institutions, MDT
- DNRC (Water Project Lands)
- Local Government
- US Bureau of Indian Affairs Trust Lands
- Tribal Lands
- Plum Creek Timber Company
- Private Land Trusts

0.5 0.25 0 0.5 Miles

1 0.5 0 1 Kilometers

1:15,380

Quad Code - 4611482

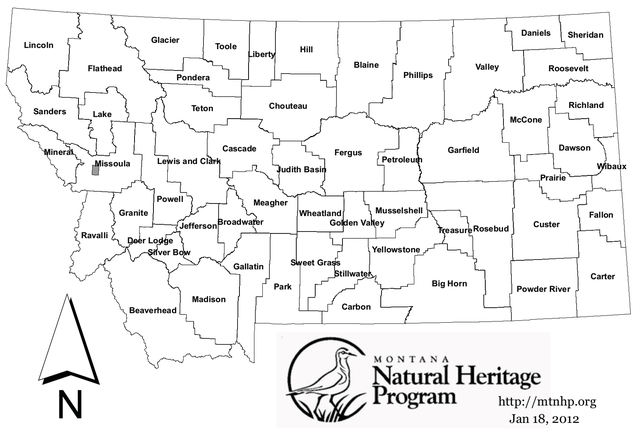
Quad Name - Primrose

MTNHP provisional wetland mapping has gone through two stages of internal review, but has not been field verified or approved by the U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI). Interested parties are encouraged to obtain the most current information possible from MTNHP, rather than using older products.

The provisional wetland mapping is not an exhaustive or comprehensive inventory of wetland and riparian areas within the mapping boundary. Field verification of the absence or presence of wetland and riparian areas will always be an important obligation of users of our data. Additionally, the NWI definition of a wetland is more inclusive than the definition of a jurisdictional wetland, and thus the wetland boundaries shown in our dataset cannot substitute for boundaries mapped in a wetland delineation.

Wetland and Riparian mapping is mapped to the FGDC and USFWS National Wetland Inventory standards using the 2005 NAIP imagery at a 1:12,000 scale. Thus, the data are intended for use in publications, at a scale of 1:12,000 or smaller. Due to the scale, the primary intended use is for regional and watershed data display and analysis, rather than specific project data analysis. The map products were neither designed nor intended to represent legal or regulatory products.

Data Sources: The stewardship data was created by the Montana Natural Heritage Program. All other data layers in this map were obtained from the Montana GIS Portal which is maintained by the Natural Resource Information System (NRIS).



MONTANA Natural Heritage Program

http://mtnhp.org

Jan 18, 2012