Appendix B-1
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Transit Pipe Characterization
Pipe Survey
5-14-09

"Rite in the Rain"®
ALL-WEATHER
JOURNAL
No. 391

Book 1

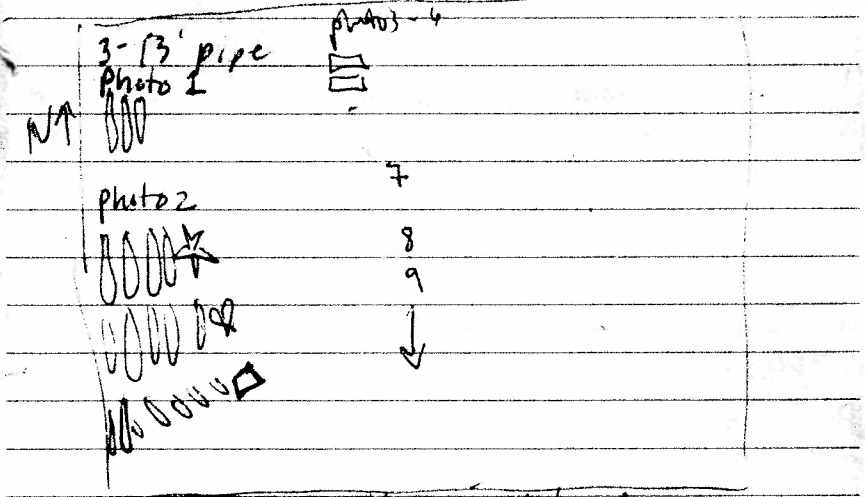
B. Wright

5-14-09

0700 arrive @ Weed Hts office
Weather: 70's, warm, clear, sunny.
Team: Briana Wright
Roe Souther.

Samples are determined by ft² or linear feet. South side of berch similar type of pipe (per ROC) 7 samples per HA.
1 = less than 260' of linear pipe, dont need 7. 3 is minimum.

0750 Mob to HA-1
Points on map ⊕ in HA-1 are four corners of pipe areas
HA-1



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5-14-09

looking East
Photo 1 = 6 pipes in bundle. 3 on top of 3
Each is 6.5' I.D.
O.D.=

photo 2 = 3 rows of pipe. Looking South
5' on Bottom Length=
2 on top
1 on bottom has inner pipe (lined) w/collar
2 on top lined w/collars

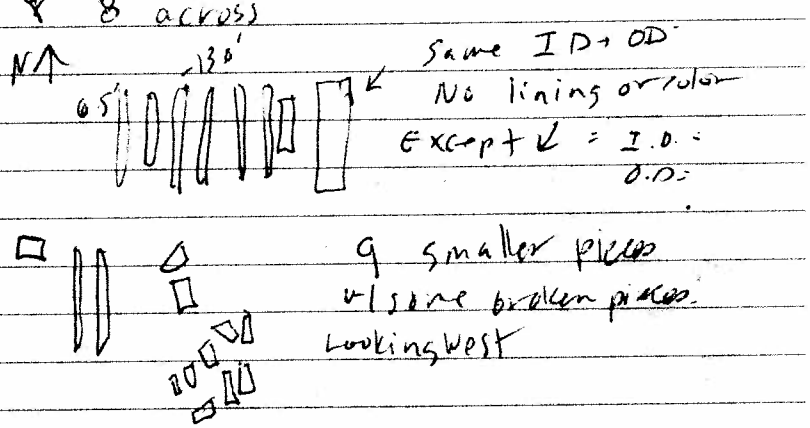

photo 3, 4, 5, 6
~~4 13' pipe~~ Bw
photo 7 Looking ~~Bw~~ East
photo 8 "
photo 9 "

Briana Wright

5-14-09

In general, in HA-1 it looks like the same stuff, some lined + some is unlined
some collars
lots of Broken collars
≈ 8 piles in this area.
HA-1 is area on trimble, not line feature.
0840 Mob to HA-2 Point HA-2A begins.
HA-1 =
8" pipe = ≈ 1950' linear feet
16" pipe = 728 linear feet
12" metal = 40' linear feet.
14" pipe ≈ 377' linear feet
22" = ≈ 13' linear feet
≈ 2 yd³ of broken pipes + collars scattered throughout the area. Some embedded in the soil
→ Metalal asphaltic coating
Suspect asbestos containing Material
General condition is good. ~~No~~ pipe appears to be unused (most of it)
Metal ≈ 40' hard to tell. Looks like its bent like a "pretzel".
Brianna Wagoo

5-14-09

Some pipe partially obscured by ~~pipe~~ brush or weeds.
HA-2 point + another point, then connect
Point HA-2 slot pond
Begins a linear feature, it will connect to next point. (Photo 59)
Point HA-2 fence. Is a point that connects to HA-2 slot pond.
at this point, the pipe turns into 2 pipelines. In this area the beginning of 2nd pipeline is hard to find as it is partially buried.
Residual material in the pipe.
Like a precipitate of white material
Point HA-2 slot pike - Pipe is partially covered by dirt. Broken collars.
It is unknown if more pipe is buried. This point is not connected to linear feature. It is a distinct pile seperate from pipeline to the West.
HA-2 fence A - a mid point of line feature. Connects to HA-2 fence
Brianna Wagoo

5/14/09

HA-2 pile is a point. A seperate pt not connected to fence line pipe. Small pile of 13' pipe - broken into two w/ collar. (Photo 64.)

HA-2 toe slot waste Line Feature (photo 69)
toe of slot waste rock
a new pipeline west of Fence line. at the end of this line feature (south) end. It appears to be buried + continue on to south due to disturbed piles of dirt in area. Its end point not visible.
- Suspect unknown quantity of pipe Buried.

HA-2 Fence B. Point of connection to our fence line pipe linear feature. At this point the pipe is disconnected.

HA-2 fence C - Point of connection of linear fence line feature. At this point the pipe line becomes connected again. Broken pieces of collar + pipe in this area (photo 72)

Briana Wright

Diameter of fence line pipe = 12 inch.

HA-2 fence D - Point that connects our linear feature of fence line pipe. In this area it the pipe is broken (photo 75)

HA-2 pile 2 - Pile of broken pipe. this point is not connected to pipe fence linear feature. It is a pile East of pipeline fence. (photo 76)

HA-2 Fence E - midpoint of connection of fence pipeline linear feature.

HA-2 fence E - point of connection of fence pipeline linear feature.

HA-2 fence G - same as above point. (photo 78) some broken pieces of collar in this area

HA-2 fence H - same as above this is a jog in our linear feature

HA-2 fence I - Same as above @ this point the pipeline (dual pipeline) is disconnected. (photo 79)

HA-2 pile 3 - This point is not connected to our linear fence line feature. It is a pile of pipe (photo 80)

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HA-2 Fence J - point of connection of linear feature this is where pipeline is connected again. Distance from J to I is not connected.

HA-2 fence K - point of connection of linear fence line feature at this point the pipeline is disconnected.

HA-2 fence L - point of connection of our linear feature. at this point the pipeline is connected again + ends at the Road (Birch Drive) also at this point is lots of broken pieces. It is a pile + the pipe is buried.

HA-2 upper: this is a new point for a new linear feature of pipeline that is connected + is West of pipeline fence.

HA-2 upper 1 - point of connection from HA-2 upper. this is a bend. (photo 88)

HA-2 fence M - Point of connection of our linear feature. connects to "L"

Brenna [illegible]

5-14-09

HA 2 upper 2 - Point of connection to HA 2 upper 1 - at this point it is buried + then is exposed where it wraps around + in between the valley of 2 tailings piles. We will drive around

HA-2 upper line - line feature connecting from pt HA-2 upper 2. (photo 95 shows end of connection.

HA-2 upperline solo: 1 pipeline

HA-2 upperline solo 2 - 2 pipelines Both terminate at cliff edge. (See photo 99)

HA-2 upper pile. 1 piece by itself (see photo 100)

HA-2 upperline solo 3 - see (photo 101) terminates off of cliff.

HA-2 upper pile 2 - 2 pieces. see (photo 102)

HA-2 upper pile 3 - 150' of 12" pipe on the edge of a highwall (photo 103 + 104)

HA-2 upper pile 4 - 1 lone piece

HA-2 fence N - connects to "M" fence line feature. At this point. It goes under the road (Birch).

5/14/09

HA-2 fence O - Connects to "N". pickup survey on other side of Birch Rd. It then goes under fence piper by here.

HA-2 fence P - Connects to "O" it then (pipeline) runs next to paved Road. (photo 108)

HA-2 fence Q - Connection of jog in pipeline

HA-2 fence R - same as above.

HA-2 fence S. Same as above

HA-2 fence T. At this point. The pipe line ends & turns into broken collars.

HA-2 fence V - Broken collar line. it connects to "T"

HA-2 fence V - End of linear feature Ends.

Estimate ≈ 5 yd³ of broken collars.

HA-2 pile 4 - Scattered broken collars between this point and next point. Observed broken collars partially covered w/ dirt & scattered

Briana Wright

HA-2 pile 5 - is a connection point to HA-2 pile 4 & has scattered broken collars. End of HA-2.

1235 hrs to HA-7.

HA-7 pile 1. ≈ 60' of metal pipe End of 1 stick of transite pipe is visible possibly was used as outlet. 1 pipe is visible - more is most likely under soil / buried.

HA-7 pile 2. Buried pipe is in the ~~pi~~ area of this point. This point connects to HA-7 pile 3.

HA-7 pile 3. Connects a line from pile 2 - to pile 3 Between pile 3 + 2. Suspected pipe buried. plus ≈ 350' of lateral partially exposed & not exposed (photo 115) - North of pile 2 is 1 visible pipe / appears to be all by itself.

Pile 3 dimensions = 8 sticks of 20" diameter + remainder was suspected to be 8"

5/14/09

HA-7 pipe 4 - Visible 20" outlet pipe w/in wooden structure see (photo 116). This pipe is buried under soil + under road + appears to N-S trending at this location.

HA-7 pipe 5 - We assume the pipe connects to this point from HA-7 pipe 4 point.

HA-7 pipe 6 - ≈120' of 8" diameter cement pipe encased in ≈ 100' of metal pipe wrapped pipe. This pipe runs along road, then drops down slope + disapears. Disapears into tree near a drainage ditch adjacent to Perry's property (photo 120)

End of HA-7

HA-6 pipe solo - 80' of wrapped metal pipe. (photo 121)

HA-6 pipe solo2 - 40' of wrapped metal pipe.

HA-6 pipe 3 - 2 metal wrap pipes partially buried.

Briana Herzog

5/14/09

HA-6 pipe 4 - this point is the other end of HA-6 pipe 3. It is buried except for both ends which are exposed. (photo 122)

HA-6 pipe 5 - Point is (photo 123) 2 metal wrapped pipes partially buried.

HA-6 pipe 6 - This point connects to HA-6 pipe 5. It is the other end of pipe 5 above. (photo 124)

HA-6 pipe 7: Broken piece

HA-6 pipe 8 . 1 pipe 30' metal-wrapped.

HA-6 pipe 9 (photo 128). 3 pipes 8" diameter under trash.

HA-6 pipe 10 - (photo 129) 16 - 12" diameter 2 loose pipes. 1 1/2 sticks ≈ 20'

HA-6 pipe 11 - 2 sticks same diameter as above. Some partially buried pipes in berms nearby. (Estimated ≈ 60') photo 130 of buried pipe - Scattered broken pipe + collars at this point as well as in the general area.

HA-6 pipe 12 - This point is in the middle of 2 sticks

Briana

5/14/09

HA 6 pipe 13 - (photo 131). scattered sticks, at least 4.
HA-6 pipe 14 - sticks (5)
HA-6 pipe 15 - 3 sticks + some broken up pipe. End of HA-6.
HA-5 pipe run - Long pipe that ends at the edge of HA-5 + picks up again in a diffent HA ~~HA-5~~ HA-6 pipe 16 is actually in HA-5 (Make note on GPS. this is 1 lone 10' stick.
HA-5 pipe 2 photo 136 Unknown quantity buried. pipe outlets + appears to be a N-S trend.
HA-5 pipe 3 - 16" di ≈ 40' of pipe. Both ends are exposed. Center is covered in berm.
HA-5 pipe 4 = ≈40'. It is positioned like above. Center is buried in berm (photo 138)
HA-5 pipe 5 - ≈40' Same as above, pipe outlet is visible. Is buried in Rock (Crushed Rock) berm.

Brian Wright

5-14-09

HA-5 pipe 6 (photo 139) ← Buried pipe in this area.
HA-5 pipe 7 - (photo 140-140) There appears to be broken pipe - unknown quantity. 1 stick visible.
HA-5 pipe 8 run - ~~But this pipe~~ this is a line feature of a pipe run. at the South end - it appears to be ≈12" wrapped metal buried and continues South underground Most likely unknown. (photo 141) = 8 inch diameter
HA-5 pipe 9 run - this pipe is 8" - no metal + is partially buried though its trend is visible. (photo 145) - Some broken pipe + collars associated w/ this run.
HA-5 pipe 10. inlets + outlets visible. middle of pipes are covered in crush rock berm. ≈120' metal pipe. There is also an unknown quantity of cement pipe here buried / (photo 148)

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5-14-09

HA-5 pipe 11 - 20' of cement pipe + 10' of metal pipe in this area. (photos 149 + 150)

HA-5 pipe 12 - Cement pipe w/ collar popping out of base of slope of tailings (oxide)

HA-5 pipe 13 - pipe sticking out ~~of the~~ from under the main mine road. (photo 154)

HA-5 pipe 14 - 60' of pipe metal wrap pipe. (photo 156)

HA-5 pipe 15 - Metal wrap pipe (photo see 155 + 156) + photo 157 ≈ 60'. Partially buried. Unknown amount is buried.

HA-5 is end.

HA-2 pipe alone - metal wrap 8" di. ≈ 10 ft.

HA-3 pipe 1 - ≈ 200' cement pipe 12" (photo 159)

HA-3 pipe 2 - 2" diameter suspect pipe < 1 yd³ of gnd 2-3' long pipes

5-14-09

photo (160)

HA-3 pipe 3 - (photo 161) ≈ 286' of 8" cement pipe

HA-3 pipe 4 - (photo 165)

HA-3 pipe 5 - Center of an area that contains a lot of pipe. All of this pipe resides to the East of the line feature HA-3 pipe 4.

8" pipe = ≈ 170'
10" pipe = ≈ 260'
14" pipe = ≈ 130'
18" pipe ≈ 80'
24" pipe = ≈ 234'

Scattered + broken pieces of pipe + collar all throughout this area.

HA-3 pipe 6 - (photo 172 + 173) at West end of pipe, the larger diameter pipe ends but the smaller diameter pipe keeps going. (pic 174)

HA-3 pipe 7. Connection to line above. West end of these pipes terminate under berm. (pic 175 + 176)

5-14-09

HA-3 pipe 8 – ≈160' of 12" cement pipe.
≈100' of 16" under road.
≈ 120' of 8" wrap metal under road, partially (photo 177)

HA-3 pipe 9 – South end is ≈ 4' below grade.
North end is ≈ 2' below grade (photo of ~~south end~~ Run North end – photo 178)

HA-3 pipe 10 – ≈120' of 8" wrap metal pipe, partially buried.

HA-3 pipe 11 – 6 sticks of 12" pipe in trash hole ≈ 78' feet. (photo 181)

HA-3 pipe 12 – photo 180
≈ 120" metal pipe.
~~≈43' 12" Run~~ 13' of 12" pipe

+HA-3 pipe 13 – ~~+stick of~~ ~~20" of~~ Run
20' of 12" pipe. (photo 183)

HA-3 pipe 14 – (photo 184 looking West)
photo 185 looking East.

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HA-3 pipe 15 – is a connection point from pt HA-3 pipe 14. At this point the pipe is buried & is visible in Manhole. (pic 186-187)

HA-3 pipe 16 – the past end of this line has 4 sticks that have not been GPS'ed due to their unsafe location. See photo (188)
- There is twisted up metal pipe in the vicinity (photo 189
- There are 2 sticks of cement pipe South of this ~~pipe line (Run)~~ pipe Run.
At West end of this line → see photo 193
Photos 194 + 195 are of a lizard!

HA-3 pipe 17 – Is a pipe run that trends ≈ N-S. (photo 196 - looking South).
~~To the South~~ Run
To the West of this pipe Run are 2 sticks of pipe (photo 197)

5-14-09

HA-3 pipe 18 – photo (198+199)
≈ 286' of 12" pipe.

HA-3 pipe 19 – photo (200+201)
In this area, the pipe is connected in some areas + disconnected
≈250 ~~≈ 254'~~ of 12" pipe
Broken debris scattered.

HA-4 pipe 1 – 520' of 12"
pipe 26' of 24"
Running N-S of RCA (on West)
≈100' of 6"
Pipe most of 12" pipe on West side is in poor condition (pic 202)
250 linear feet of what appears to be concrete or sewer pipe – just south of HA-4 pipe location (pic 203)

HA-4 ~~pipe 2~~ corner of ~~a~~ pw – This point is NW point that is the Northern most point of pipe that was quantified in HA-4 pipe 1.

Briana Neyer

HA-4 pipe 3 – SE corner of line that connects to HA-4 pipe 2.
This line encompasses the ammount of ~~feet~~ that was estimated in HA-4 pipe 3.

1735 Mob to weed Hts office.
1740 Leave for Carson.
1850 Back at office.
1900 End of day

Briana Neyer

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Transite Pipe ~~Sampling~~ / Characterization ~~Radiological~~

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JOURNAL
No. 391

Team 1

Briana Wright
Brown & Caldwell

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ALL-WEATHER WRITING PAPER

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Characterization

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Yerington Mine — Transite Sampling — 9.27.09

0900 - Arrive at HA-4 RCA area

0930 - Collect HA-4-01.

0955 - Collect HA-4-02.

Pipe within the RCA area is contained in cordoned off area by caution tape.

O.D. = ≈14" of most pipe in area.

A+BW One piece is ≈6".

Pipe here is heavily scaled on inside. Ends are broken and could become friable. Outside of pipe is weathered (slight Reddish color) ≈75' linear feet. Scale (Material) varies 3/8" to 1" thick of scale inside. Broken off piece of pipe (fresh exposed surface) is light gray in color. Pipe appears to have been used due to scaling.

1040 - Collect HA-4-03

10" OD diameter. Lone pipe that is broken. Scattered broken pieces throughout area. Inner green-colored liner is visible.

In this area is an underground storage vault that contains pieces of pipe that can not be safely assessed due to no access to this underground structure.

BW 9.27.09

Yerington Mine — Transite Pipe Characterization. — 9.27.09

HA-4-03 was weathered all the way through with the light reddish color. It lacked the light gray color that was observed on HA-4-01 and HA-4-02, on the freshly chipped off piece.

1114 Collect HA-4-04

Richland sample was a broken piece of pipe on ground - was not chipped off. The Richland sample has blue-green liner on inside. Sparks Lab Asbestos sample is broken off. This area contains 24" OD. Some broken pieces, in tact for the most part. It looks/appears BW as if it was never in the ground. These pieces BW do not have scaling and show blue-green liner.

1140 Collect HA-4-05. Collect Asbestos only. Piece/sample collected by breaking off a piece of an existing broken piece. Weathered pieces 14" O.D. Contains scaling. Broken ends are not crushable with finger pressure.

1150 Collect HA-4-06.

BW 9.27.09

Yerington Mine — Transite Pipe Characterization — 9-27-09

1155 Collect HA-4-07.
1200 Collect HA-4-08.
Samples HA-4-06 through -08 are concrete sewer pipes. Appear to have been stockpiled in this area.
1330 Arrive at HA-1.
1350 Collect HA-1-01.
Pipe is intact, in general, in this area there is both lined + unlined. Sample HA-1-01 is lined pipe. Appears to be unused, other end was saw-cut. ~16" O.D.
1358 Collect HA-1-02. Asbestos Only sample. Intact, 8" OD, lined piped. Does not appear to be used
1400 Collect HA-1-03. Asbestos only sample. Mostly intact, some broken ends, some broken shards of pipe in the vicinity. 10" OD Lined pipe
405 Collect HA-1-04. Unlined pipe. Sample from broken piece of collar. He breaks it off of the broken collar.
410 Collect HA-1-05. It appears to be used pipe here. Un-lined pipe. ~8" OD

BW 9-27-09

Yerington Mine — Transite Pipe Characterization — 9-27-09

1440 Collect HA-1-06.
8" OD. Unlined pipe. Appears to have been utilized ~~#8~~ BW ¼" of Scale.
1447 Collect HA-1-07. collect from 10" OD lined pipe, including some sediment inside.
1456 Collect HA-1-08-MET. Metal
1500 pipe laying next to road.
~~1300~~ BW Collect HA-1-09-MET. Same
Metal pipe as above but
~~1305~~ 1505 BW Collect HA-1-10-MET.
All MET samples above from long metal 12" di, ~40' bent and crushed pipe. ~50% covered w/ black asphaltic material. Interior of pipe has some type of material in it.
1525 Arrive at HA-7
1545 Collect HA-7-01.
15" O.D. Suspect clay pipe. It runs to the north and goes underground.
1552 Collect HA-7-02. 22" OD pipe set in cement bottom. Bottom half encased in ~4" concrete.

BW 9-27-09

Heavily weathered. Full with sediment. Possible evap pond sediments.
HA-7-03 BW 9.27.09

1555 Collect HA-7-03.
1557 Collect HA-7-01.
HA-7-03 and HA-7-07 have same description as HA-7-02.
1610 ~~HA~~ BW Collect HA-7-04.
9" OD. Weathered. Contains scale inside. It runs north and underground. Under the road.
1615 Collect HA-7-05. Same description as HA-7-04. Contains green liner.
1620 Collect HA-7-06. Same descriptionas HA-7-04.
1634 Collect HA-7-08-MET
1635 Collect HA-7-09-MET
1636 Collect HA-7-10-MET.
Metal pipe, 24" OD with asphaltic material coating less than 50% of pipe.
1655 Arrive @ HA-6
1700 Collect HA-6-01. 16" OD Weathered stick of pipe. ~~a Hot~~ BW
BW 9.27.09

1703 Collect HA-6-02.
16" OD weathered stick of pipe. Lined pipe w/ some sediment inside (not a lot). The pipe throughout this area has been picked up from somewhere else and deposited them here.
* at HA-6-01, there is a hole in the pipe; appears to have occurred when the back-ho operator picked it up
1710 Collect HA-6-03
16" OD weathered pipe. In area with 4 sticks. It is a lined pipe.
1755 Collect HA-6-04-Met.
Metal pipe w/ some type of asphaltic coating + some type of fiber in it. 16" Diameter. Metal
1800 Collect HA-06-05-Met.
Same as HA-6-04-MET. Has white ~~colo~~ BW colored material around the black wrap.
1805 ~~Collect HA-06-06~~ BW Collect HA-6-06-MET. Same description as
BW 9.27.09

HA-6-04-MET and HA-6-05-MET

1830 End of day. Mob to Carson City.

2000 Arrive in Carson City.

Briana Wright 9.27.09

0530 Mob to Weed Hts office in Yerington

BW 9.28.09

0630 arrive @ ~~HA-2~~ Yerington

0740 arrive @ HA-2. Upper area. Visible pipe runs that run right off highwall edge. In area where we sample HA-2-01, there are 2 pipe runs. Pipe sticks are scattered on their North side then terminate off cliff on southside. Appear to be in place due to staking and wiring holding them in place at each pipe connection. Pipes here appear to have been used.

0810 Collect HA-2-01. Both Rad + Asbestos outside of pipe is weathered. Inside of pipe contains broken off pieces of pipe. Pipe is lined w/ green material. Broken pieces of collar nearby. 14" OD

0820 Collect HA-2-02 14" OD Pipe run that runs down slope, generally north + connecting to (T-Connection) pipe down slope. Lined pipe. Appeared to be used - no significant scaling

BW 9-28-09

Sample was chipped off of pipe run. HA-2-01 was sampled off of broken piece of pipe next to pipe run.
- Pictures of HA-2-02 from penny.

0905 Collect HA-2-03. Rad + Asbestos
Sample collected in area where pipe is disconnected. It is a bend in the run and next to a concrete-filled wooden box. Pipe end is not easily crushed. End of pipe, when rubbed upon w/ fingers would slightly shed material from pipe fall off. Address the situation further during abatement. Sample was chipped off of pipe run (lined pipe)

0920 Collect HA-2-04.
12" OD, lined pipe. Sample collected from existing pipe run. Pipe is weathered and is very weathered near end where the broken collar used to be connected here. Broken collar next to end of pipe. No visible sediment or scaling inside pipe.

0940 Collect HA-2-05
12" OD lined pipe. Sample from pile of sticks near the pipe run.

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This pipe end shows white colored weathering. Appears that pipe material on this sample can be torn fall apart with finger pressure. It "sprinkles" down when pushed w/ finger pressure. Sample is taken by BW breaking off end piece of stick. Other ends in this area have a variety of conditions. Some broken off w/ firm/dense condition when applying finger pressure. Other ends show green-liner completely covering the end. a few scattered broken collars in area. No scaling inside pipe. Some sediment inside.

1000 Collect HA-2-06. Sample taken from pile of broken pieces of pipe or collars. Sample contains linings, no visible sediment or scaling on lined piece. Pieces vary in size to 1/8" to 10". All angular + contain lining on one side. All pieces stay intact upon finger pressure. Appears to have been broken apart by mechanical means. Pieces

BW 9.28.09

do not show signs of significant weathering (ie: red coloring).

1015 Collect HA-2-07 Piece of 12" OD pipe, trending to north, that exists under ground around outside of WRA. Sampling area is ~~[illegible]~~ BW 9.28.09 end of piece, only ≈1' foot is visible, Lined pipe full of sediment. Pipe is intact and shows weathering on outside. Sediment appears to be from rainwater run off. Collect asbestos + Rad.

1055 Collect HA-2-08. Rad sample only. This sample is broken off a piece of pipe run. It exists next to another pipe run that sits right next to it. 12" OD. Lined. No scaling - some sediment inside that appears to be from rainwater deposition. Pipe trends to the north and is buried.

1105 Collect HA-2-09. Rad only. This piece same description as HA-2-08 It contains a collar around end - that is not broken. Took Roe a lot of hammering

BW 9-28-09

to get this sample.

1150 Collect HA-2-10. 12" OD, lined pipe. At this point the pipe run has ended and turns into broken pieces of collars as it trends to the west. Inside of pipe the liner has deteriorated + when rubbing finger upon it - the material "sprinkles" down. The "sprinkled" material is white and grayish in color. Pipe has no scaling or sediment.

1158 Collect HA-2-11. Area and sample contain pieces of broken collars. Sizes vary from 1" - ~~12"~~ BW 14" in sample area. Pieces of pipe collars are dense and firm w/ hand pressure.

1330 arrive at HA-3.

1400 Collect HA-3-01 collect MS on Rad, FOM Asb. 12" OD lined pipe. Sample taken by chipping off the pipe run. A paralell pipe exists next to this pipe run. No scaling inside pipe.

1430 Collect HA-3-02 Broken piece of 24" lined pipe. No scaling or sediment.

BW 9-28-09

1445 Collect HA-3-03. Collect ~~Collect~~ HA-3-03-FD on Radiochemical
This pipe is 8" OD and is very thin as it heads towards the open end, the other end of pipe extends into the ground, it is thicker on that end. collect Radio + Asbestos
The condition of this pipe is very deteriorated
1500 Collect HA-3-04 both Rad + Asbestos
Collect HA-3-04-FD on Asbestos
18" OD unlined pipe, sampled by chipping off. Some sediment inside. No scaling. it exists in a concrete base.
520 Collect HA-3-05.
24" OD pipe. Lined. No scaling. Full of sediment. Sediment appears to be same type as surrounding gravel in area. Sample broken off of pipe. This is a 4-stick run of pipe.
1530 arrive at HA-5.
~~1340~~ BW Collect HA-5-01.
1540 8" OD piece of lone pipe. Lined pipe. Sample collected

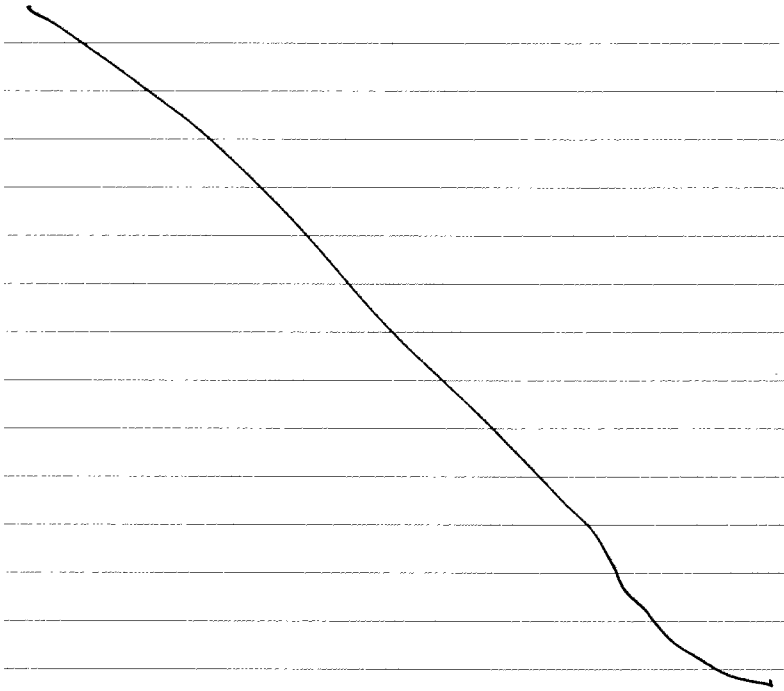
BW 9.28.09

from broken piece of pipe near this pipe.
1550 Collect HA-5-02 on Asbestos + Rad.
Collect HA-5-02 BW on FD on Asbestos
8" OD Pipe, Lined, Contains sediment but no scaling. Outside of pipe shows greenish coloration. Samples collected from broken pipe laying near the stick.
1555 Collect HA-5-03-MET
Collect ~~HA-5-03-FD~~ BW
HA-5-03-MET-FD
12" metal pipe, no scaling visible inside. Asphaltic coating w/ a fibrous media-binder.
1630 Collect HA-5-04 on Asb + Rad
Collect HA-5-04-FD on Asb + Rad.
8" OD lined pipe. This area is a seperated bend in the pipe run. No scaling visible in piper
1637 Collect HA-5-05. Sample from scattered pieces of broken pipe (lined pipe) in the area.
1642 Collect HA-5-06. 8" OD lined pipe, from seperated pipe run.

BW 9.28.09

Yerington Mine — Transite Pile Characterization — 9.28.09

1655 Arrive @ HA-4 RCA.
We will be throwing out sample HA-4-02 9/27/09 @ 0955 (Rad + Asb.)
Will re-sample HA-4-02 on 9.28.09 for Radio + Asb. We will take Duplicate for Radiochem.
1705 Collect HA-4-02 Asb + Rad.
Collect HA-4-02-FD Rad only
1830 End of day. Mob to Carson City.
1930 arrive in Carson



Brian Wright 9-28-09

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TRANSITE PIPE CHARACTERIZATION

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No. 391

TEAM 2

Penny Bassett (BC)
Doug Johnson (Foxfire)

"Rite in the Rain"®
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CHARACTERIZATION

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2-5	HA-4	9/27/09
5-6	HA-1	↓
7	HA-7	
7-8	HA-6	
9-12	HA-2	9/28/09
12	HA-3	↓
13	HA-5	
13	HA-4	
14	Pack + summary	9/29/09

9/27/09 SUNDAY — Yerington Transite Pipe Charact.

0630 Arrive on site, safety kickoff meeting in Weed Heights office
Team 1 - Roe Souther, Briana Wight
Team 2 - Doug Johnson, Penny Bassett
EPA/CH2M Hill - Ilke Dinkleman
0840 Collect field supplies at lab
0900 Arrive at HA-4 Radiological Control area.
0916 Turn on airpump sampler on Roe

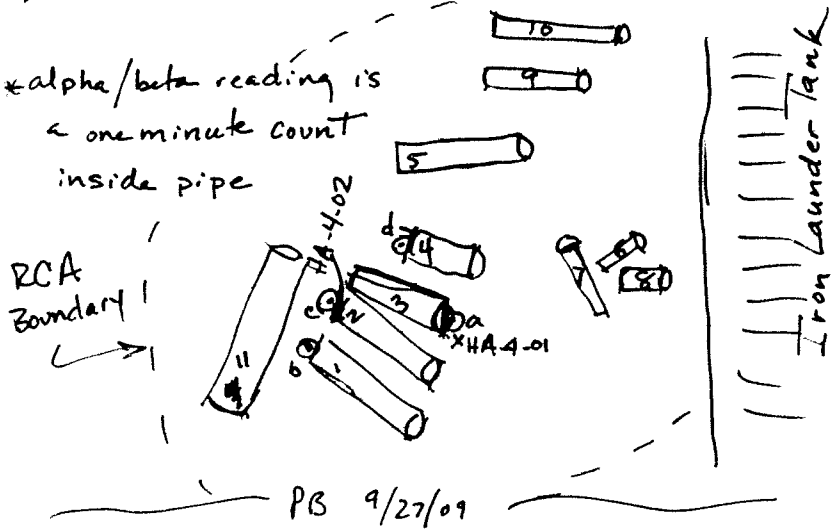
Point #	Pipe uR/hr	Bkgr uR/hr	Dist from point	Comment
	139	37	25'	end of stick
	335			6" outside #1
	665			stick #1
	1004			"
	590			stick #2
	312			"
	175			stick #3
	480			"
	1400			"
	150			stick #4
	90			"
	50			"
	38			stick #5
	35			"

PB 9/27/09

Pipe uR/hr	Comment
34	stick #6
33	#7
44	7
41	8
45	9
37	10
477	11
700	"

	Outside uR	Inside uR	alpha/beta Inside CPM	* alpha	beta
a) HA-4-01	190	200	2507	0	2507 #3
b)	1100	1390	20287	6	20287 #1
c) HA-4-02	1400	3200	41019	0	41019 #2
d)	124	120	1356	2	1354 #4

*alpha/beta reading is a one minute count inside pipe



PB 9/27/09

9/27/09 Yerington Transite Pipe

0950 Doug J exits RCA, does an assesment frisk (alpha/beta w/ pancake probe) on clothing after removing PPE (Tyvek, boot covers, respirator, gloves)
Frisked clean, no contam

0957 Roe exits, remove PPE
frisked clean, no contam
Change out boots, dispose + change out Tyvek, gloves

RA-4 Radiation Survey

Point	Pipe Survey µR Top	Bottom	Open End Inside	Out	CPM (*) alph	beta	µR Bkgr
HA-4-03			25	25	0	426	
1	37						
2			25	32	0	400	
3	25						
4	32	(no vis. scaling)					29
5			50	49			
6	130	175	~~163~~ 600	~~[illegible]~~ 290	0	8250	
7	28						
HA-4-04			42	35	0	644	60
HA-4-05			22	23	0	431	21
HA-4-06			20	22	0	419	25

↳ Concrete pipe

SEE NOTE AT END OF DAY Page 8

PB 9/27/09

Yerington Transite Pipe 9/27/09

[illegible] - Bkgd varies from ~ 30 to 60 µR/hr. pipe in sunken area is more TENORM than at end closer to lower iron lander tanks. Pipe outside RCA and across road way all γ is bkgd even though some looks like it is more used (has scale) this means when RCA was set up they did good job distinguishing rad levels.
Found one spot in road way 10 m or so SE of RCA where bkgd ~~[illegible]~~ spiked ~ 150 µR/hr No visible pipe [illegible] end 1113

1215 - 13:15 Lunch break

1330 Survey HA-1 Area located near east end pit, pipe laydown area. 3 types of pipe observed in this area (lined cement, unlined cement, steel)

Point	µR Pipe Survey Top	Bottom	Inside	CPM Survey alpha	beta	µR Backgr
✓ 8	15		14	~~0~~	~~330~~	20
↳ 24" pipe ~1/3 full of sediment (photo)						
✓ 9	16		17	~~0~~	~~395~~	α/β unusable
✓ HA-1-01	13		15	~~20~~	~~352~~	
✓ HA-1-07 10	55		150	~~34~~	~~25,590~~	
✓ HA-1-02	14		15	~~1~~	~~352~~	
HA-1-05	14		15	~~1~~	~~45,436~~	

PB

9/27/09 Yerington Transite Pipe

Point	uR Pipe Survey Top	Bottom	Inside	CPM alpha ~~Outside~~	Beta ~~8799~~ ~~1283~~	uR Bkgr κβ unusable
11	14		14	+		
HA-1-04	12		13			
HA-1-06	13		14	mixed field 2800		(pancake probe)
HA-1-03	15		14	2900		
HA-1-07	Same as #10					
12	14		14	2300		unused unlined pipe as background comparison
HA-1-08	17		— Steel, no open end to measure MF			
HA-1-09						
HA-1-10						

14:50 Recollect mixed field reading w/ pancake probe

HA-1-02	1600 CPM	mixed field w/ pancake measured inside pipe only
HA-1-01	1900 CPM	MF
HA-1-04	2400 CPM	
HA-1-06	1900 CPM	
HA-1-05	1600 CPM	
HA-1-03	1900 CPM	
HA-1-07	7000 CPM	

PB 9/27/09

27 48 77

Yerington Transite Pipe 9/27/09

13:20 Move to HA-7 by Evap + Sewage Pond

Point#	uR Pipe outside	Inside	CPM Mixed Field ~~2300~~ ~~Bkg~~ 1300 1500 Inside	uR Bkgr	
HA-7-08,09,10 not	48	77		27	steel pipe
13 (HA-7-05)	52			44	
14 (HA-7-04)	44	43	1003		
HA-7-01	36	47	1240		clay pipe?
HA-7-03	33	—		40	cement
HA-7-02	28	29	2560	"	cement
HA-7-0~~4~~	32	29	1004	"	cement
15		28		35	buried cement
HA-7-06	41	41	880	39	

16:50 Move to HA-6 North Sulfide Tails

Point#	uR Outside	uR Inside	CPM Mixed Field	uR Bkgr	
HA-6-01	22	20	690	22	cement pipe
HA-6-02	24	21	570	21	"
HA-6-03	17	17	1004	16	"
16	20			20	"
17	24			24	"
8	15			19	
19	16			18	
HA-6-04 not	19			20	
HA-6-05 not	19			20	
HA-6-06 not	20				

PB 9/27/09

9/27/09 Yerington Transite Pipe

1715 - Doug J completed survey of used PPE worn in The RCA + placed in trash bag. Survey with pancake probe, same as used to frisk workers on exit.

18:00 Turn off air pump sampler at last location HA-6
Sample #: AF-1
Flow Rate: 2.5 L/min
Time on: 0916
off: 1800

⊛ NOTE from Page 4:
Initial alpha/beta readings in HA-4 and HA-1 were measured with scintillation probe. However, The plastic cover had not been removed + effectively screened out all alpha particles. The readings became very erratic in HA-1 and it was determined that the probe had become damaged. All readings taken with this probe was determined to be unreliable and will not be used. Changed to using the pancake probe which measures gross radiation (alpha, beta + gamma), also refered to as "mixed field".

Penney Bassett 9/27/09

9/28/09 MON Yerington Transite Pipe Characterization

0630 Meet at Weed Hts office, complete safety meeting, Toolbox form, review work plan for day
Team 1: Roe Souther + Briana Wright (collect physical samples)
Team 2: Penny Bassett + Doug Johnson (collect radiation survey readings)
EPA Oversight: Ilke Dinkleman (CH2M)

0700 Change out P100 respirator cartridges on Roe Souther's respirator.

0740 Turn on air pump sampler to collect personal breathing zone sample on Roe Souther (AF-2)

0740 Mobilize to HA-2 on Waste Rock W-3 area, including on top of W-3 + around side (NE) from slot pond towards process area
Ilke Dinkleman on site to oversee sampling activity

PB 9/28/09

Point	uR reading Bkgr	Top	Bottom	Inside	MFCPM Inside	
20	19	19				cement pipe 10"
21	18	16	17			
22	17	17	16	–		
	↳ Check surrounding pipe, low points, drains to sidelines and all readings are similar, no open end					
HA-2-02	18	18	19	20	111	
	↳ Top end of long run uphill to top of W-3, likely transp raw acid to leach					
HA-2-01	17	17	17	16	106	
	Piping run on top of W-3 ~18" diam					
23	19	21	20	intact pipe		
24	28	26	25	intact pipe but evidence of erosion at joint at seam		
25	21	20	20	18	125	
	hole in pipe, hit by rock, on generally intact pipe running up to top of W-3					
26 (HA-2-03)	22	20	24	22	125	
	Bend in pipe where joint has been removed + inside is accessible.					
27	24	21	20	north pipe		parallel pipe run at same loc
28	"	21	21	South p.pe		
HA-2-04	19	19	18	19	169	
29	22	22	21	north pipe		parallel/ same spot
30	"	21	22	South pipe		
31	20	20	20	19	210	north
32	"	20	20	20	218	South
HA-2-05	19	18	20	19	190	
	↳ broken pieces of pipe that had been removed from continuous run where it crosses road					

PB 9/28/09

Point	Bkgr	Top	Bottom	Inside	CPM Inside	Comment
33	24	22	22			(south pipe)
34	+1	22	21			(north pipe)
35	22	25	–	29	262	north low pipe
36		26	–	28	272	South low pipe
	Two parallel cement pipe unlined partially buried in mud. Remnants from what appears to be a removed parallel set of pipe that were replaced by the current parallel set. These pipe are unlined, newer (?) pipe is lined.					
37	20	19	20	–	–	north
38		19	19	–	–	South
39	20	18	19	19	185	north/east
40		19	18	20	213	South/west
41	19	17	18	–	–	Northeast
42		19	19	–	–	Southwest
	↳ Low point along parallel line, each pipe has drain hole that appeard to be designed to drain short section of pipe onto small piece of liner + into ditch.					
HA-2-06	20	20+ fragments		–	230	
HA-2-07	22	22	–	23	230	single pipe run along toe of W-3
43	18	18	20	–	–	same single pipe / low point
HA-2-08	16	17	–	17	370	west/south parallel pipe
44		18				east/north intact pipe parallel to sump
HA-2-09	17	18	19	19	335	
	↳ Locations 08 + 09 are from diff parallel pipes, collect rad sample of each to determine if difference in solns carried in each pipe run.					

PB 9/28/09

Point	uR Bkgr	Outside Top	Outside Bottom	Inside	CPM Inside	Comment
45	22	20	20	20	336	North
46	"	19	21	20	325	South
HA-2-10	25	24	23	21	635	North
47	"	22	24	22	442	South
HA-2-11	24	23*	—	—	—	shards + flaky collar
48	22	20	20	19	389	

12:15 Lunch break

13:35 Return from lunch

Mobilize to HA-3 Process Area

HA-3 Point	uR Bkgr	Outside Top	Outside Bott	Inside	CPM MF Inside	Comment
HA-3-01	20	19	18	17	330	
49	20	20	20	-	-	intact pipe
HA-3-02	20	21	20	21	355	
50	19	17	18	17	-	unlined } used pipe
51	"	18	18	18	-	lined } same stack
52	24	22	24	—	—	
HA-3-03	30	27	28	27	417	
53	28	~~28~~	28	26		
HA-3-04	21	20	21	21	420	
HA-3-05	20	20	21	21	406	24" cement
54	20	20	21			24"

— PB 9/28/09 —

6500

15:30 Mobilize to HA-5 Oxide/S. Sulfide

HA #5 Point	uR Bkgr	Top	Bott	Inside	CPM MF Inside	Comment
HA-5-01	27	28	28	29	430	single isolated stick 10" diam
55	50	40	63	—	—	steel wrap pipe
→ steel pipe in red sed from calcine tails, bkgr in area is high + reading at pipe top is less.						
HA-5-03 met	29	28	32	—	—	metal pipe
HA-5-02	36	30	30	26	309	cement pipe broken shards
HA-5-04	20	18	21	20	295	cement pipe 8" on top of Sulf tails
HA-5-06	19	19	20	20	335	same pipeline on sulf tails
HA-5-05	—	—	—	—	—	shard only

* nearby pipe is intact + shard did not come from that pipe so did not do rad reading on pipe or shard.

16:50 Relocate to HA-4 RCA to recollect sample at HA-4-02 + remeasure mixed field readings

HA-4-01	800 CPM mixed field
-4-02	6500 CPM Mixed
-4-03	440 CPM
-4-04	380 CPM
-4-05	410 CPM
-4-06	475 CPM } concrete pipe
-4-07	430 CPM
-4-08	400 CPM

17:18 Remove air pump sampler from Roc + turned off AF-2

— Penney Barrett 9/28/09 —

9/29/09 TUES YERINGTON TRANSITE PIPE

10:00 Penny Bassett arrive on site.
Penny + Roe Souther pack + ship samples for both labs
- asbestos samples will be hand delivered to Asbestos TEM lab in Sparks NV by Royanne Barringer.
- Radiochem samples shipped in one cooler (unpreserved) to TestAmerica Richland by FedEx Ground

FedEx Ground Tracking ID
8009402 00002713
GROUND PREPAID

Radiation survey equipment used:
- Ludlum 2224 meter
  - pancake 44-9 probe for "mixed field"
  - 44-2 sodium iodide probe for "gamma"
- Ludlum 2241-3 meter
  - 43-89 scintillation probe "alpha/beta"

Doug Johnson - Foxfire Scientific is the Radiation Health Physicist who completed all radiation readings

Penny Bassett 9/29/09