

Minnesota Department of Natural Resources
Project 368, Drill Core Evaluation Open-File October 1, 2007
Project Leaders Barry Frey and Joe Hudak

Microprobe, X-RAY Fluorescence, and alteration chemistry work on select samples within the Virginia Horn.

The following data files are being released:

FILE	FORMAT	CONTENT
MinWorkNotes2.doc	MS Word	This summary – notes with this probe work
DNR_Images_070918.ppt	MS PowerPoint	2 nd set of DNR microprobe images; back scattered, element maps (new)
DNR_QntData_070918.xls	MS Excel	Original 2 nd set of DNR microprobe “raw” analytical (new) data
ProbeChemGraphA.xls	MS Excel	1 st round of microprobe data with graphs
VHCHaltSTATex.xls	MS Excel	Detailed bulk rock alteration chemistry
VhxfMinProbeData.ppt	MS PowerPoint	Power point summary of microprobe, alteration chemistry, XRF trial and earlier mineral work done for this project.
XRFdg-li.xls	MS Excel	XRF Chemistry data for DDH DG-1
Images_Fldr.zip	ZIP	Compressed - 2 nd set of DNR microprobe images
Images_Fldr	Folder	w/ 2 nd set of DNR microprobe images; MacOS and TIF
vahornddh.jpg	JPEG graphic	Most DDH locations for Virginia Horn – Most of Au exploration DDH’s; some outlying DDH’s not shown
Probe2Data.xls	MS Excel	2 nd round of DNR microprobe analytical (new) data with minor corrections and conversions; recombined all grains
472a_MapSet1_BSI.tif	TIF graphic	2 nd set of DNR microprobe images; Area 1; backscattered electron image; width of image about 2180 microns; Note sulfide rich sericitic “fragment” with abundant APY (lighter grey) and lesser (darker grey) PY near center; PY has small gold grains; sericite, APY, and PY all contain Au (see DNR_QntData_070918.xls)
472a_MapSet1_Fe.tif	TIF graphic	2 nd set of DNR microprobe images; Area 1; Fe element map; width of image about 1335 microns; Note reddish pyrite, and abundant (zoned?) inclusions in all sulfides
472a_MapSet1_As.tif	TIF graphic	2 nd set of DNR microprobe images; Area 1; As element map; width of image about 1335 microns; Note APY inclusions and zoning
472a_MapSet1_Au.tif	TIF graphic	2 nd set of DNR microprobe images; Area 1; Au element map; width of image about 1335 microns; Note Au grains within a pyrite
472a_MapSet1_Cu.tif	TIF graphic	2 nd set of DNR microprobe images; Area 1; Cu element map; width of image about 1335 microns; Note Cu rich inclusions in other PY grain
472a_MapSet1_Pb.tif	TIF graphic	2 nd set of DNR microprobe images; Area 1; Pb element map; width of image about 1335 microns; Note concentrations in PY along with Cu and Au
472a_MapSet2_BSI.tif	TIF graphic	2 nd set of DNR microprobe images; Area 2; backscattered electron image; ; width of image about 220 microns; Note PY grain with silicate, Au-Ag, and galena inclusions
FILE	FORMAT	CONTENT

472a_MapSet2_Fe.tif	TIF graphic	2 nd set of DNR microprobe images; Area 2; Fe element map; width of image about 120 microns; Note inclusion locations
472a_MapSet2_As.tif	TIF graphic	2 nd set of DNR microprobe images; Area 2; As element map; width of image about 120 microns; Note slight As zoning (lighter purple) in PY around Au grain inclusions
472a_MapSet2_Au.tif	TIF graphic	2 nd set of DNR microprobe images; Area 2; Au element map; width of image about 120 microns; Note 2 larger Au-Ag grains and several very small grains
472a_MapSet2_Cu.tif	TIF graphic	2 nd set of DNR microprobe images; Area 2; Cu element map; width of image about 120 microns; Note several small inclusions near Au-Ag grains
472a_HiAu-AsPyrite.tif	TIF graphic	2 nd set of DNR microprobe images; backscattered electron image; width of image about 365 microns; Note silicate inclusion distribution, composition zoning along length of APY grain
472a_area3_BSI.tif	TIF graphic	2 nd set of DNR microprobe images; Area 3; backscattered electron image; width of image about 100 microns; Note lightest grains of APY
472a_area3_BSI_1.tif	TIF graphic	2 nd set of DNR microprobe images; Area 3; backscattered electron image; width of image about 100 microns; ; Note lightest grains of APY
472a_Area3_Fe.tif	TIF graphic	2 nd set of DNR microprobe images; Area 3; Fe element map; width of image about 100 microns; Note irregular distribution of APY in sericite
472a_Area3_As.tif	TIF graphic	2 nd set of DNR microprobe images; Area 3; As element map; width of image about 100 microns; Note irregular distribution of APY in sericite
472a_Area3_Au.tif	TIF graphic	2 nd set of DNR microprobe images; Area 3; Au element map; width of image about 100 microns; Note 5 small gold grains within sericite
Virginia Horn Down Hole DDH Gold.jpg	JPEG graphic	Shows anomalous downhole Au chemistry relationships to outcrops and mapped lithologies – defining anomalous gold zones
Virginia Horn Drill Holes and Geophysics.jpg	JPEG graphic	Show locations of drill holes and geophysical grids
Virginia Horn Fluid Inclusion and Till Sample Locations.jpg	JPEG graphic	Shows locations of till and fluid inclusion samples as related to anomalous gold zones
Virginia Horn Gold and Arsenic.jpg	JPEG graphic	Show anomalous gold and arsenic analyses from new and existing data
Virginia Horn K2O Na2O Ratio.jpg	JPEG graphic	Show K2O/Na2O values from a limited data set; shows relationships to faults
Virginia Horn Rock Chemistry Sample Locations.jpg	JPEG graphic	Shows locations of rock geochemical samples – outcrop, float, drill holes

For client convenience requested data can be handled individually.