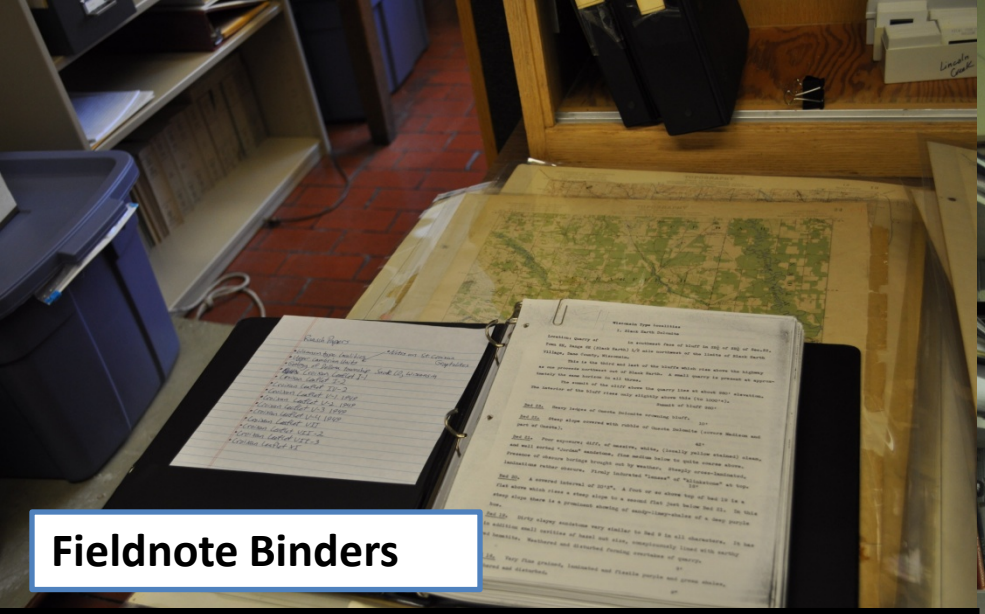
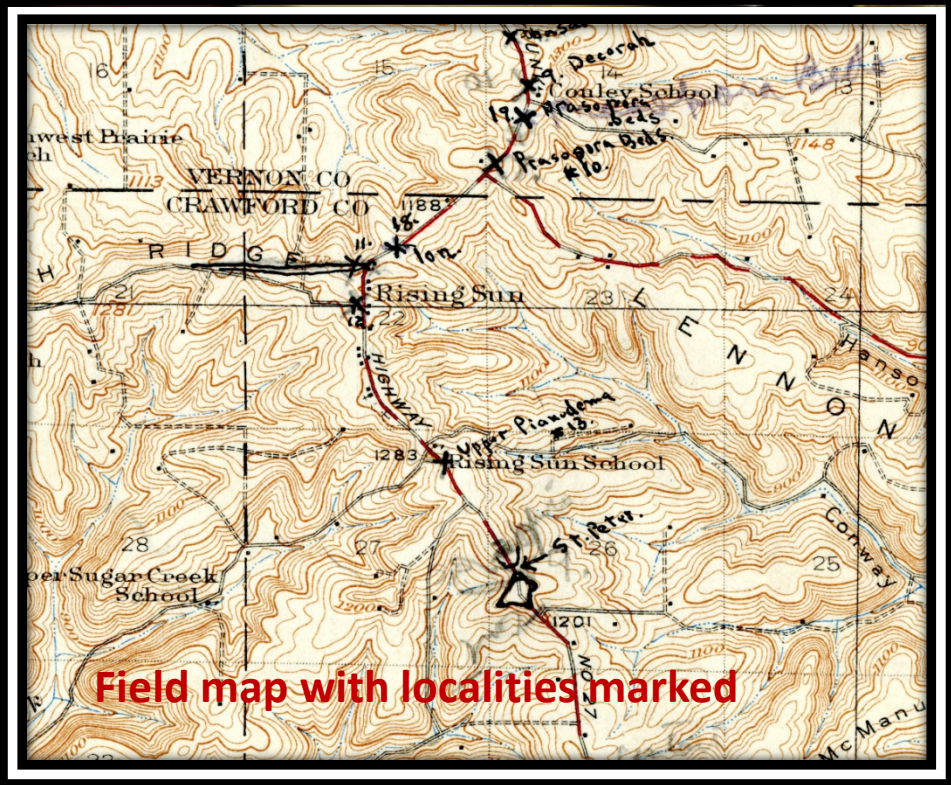


Fieldnote Binders



Field map with localities marked

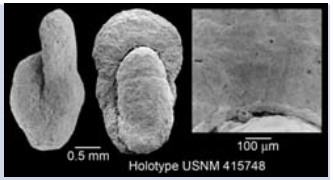
Scanner

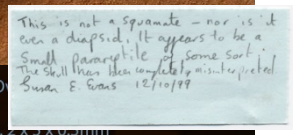
Fossil Specimen Imaging at NMNH

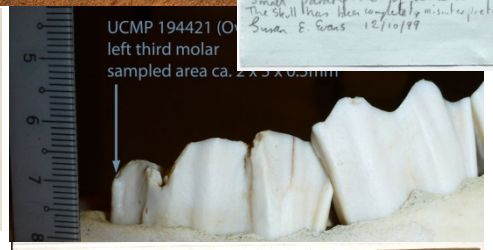
Kathy Hollis, Collection Manager
hollisk@si.edu

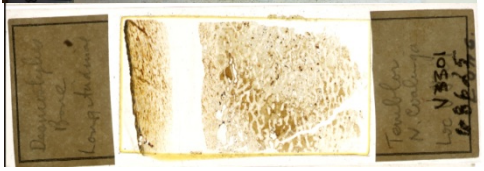
Departmental Priorities on record in the three-year ***NMNH Digitization Plan, Paleobiology Digitization Goals***

NMNH Paleo Image Standards put in place in 2011

Collection/Imaging Project	Starting number of images	Images added by end of 2015	Total images by end of 2015	Percent of collection imaged by 2015	*As of 2013 all digitization projects will require a museum-approved Digital Asset Management Plan*
Foraminifera Types 	1,000	5,700	6,700 of 17,000	39%	• High-quality images, multiple views • Requires SEM and focus-stacked photo microscopy • 30-90 minutes per specimen • Multiple specimens per imaging task
Trilobite Types 	1,800	1,000	2,800 of 20,000	15%	• High-quality images, multiple views • Requires focus-stacked photo microscopy and copy stand • 20 minutes per specimen • Multiple specimens per imaging task
Paleobotany Types 	4	3,000	3,004 of 21,000	14%	• Variable quality images already exist saved on a shared network drive • Files need to be standardized and migrated • Requires creating new Emu specimen records before images are migrated
Dinosaurs 	895	417	1,312 of 1,312	100%	• Variable quality "point and shoot" with tripod or copy stand • Mostly for documentation purposes • 5-20 minutes per specimen • Fully process one day's worth of specimens
High Value Collection Inventory 	382	105	485 of 485	100%	• Variable quality "point and shoot" with tripod or copy stand • Mostly for documentation purposes • 5-20 minutes per specimen • Fully process one day's worth of specimens

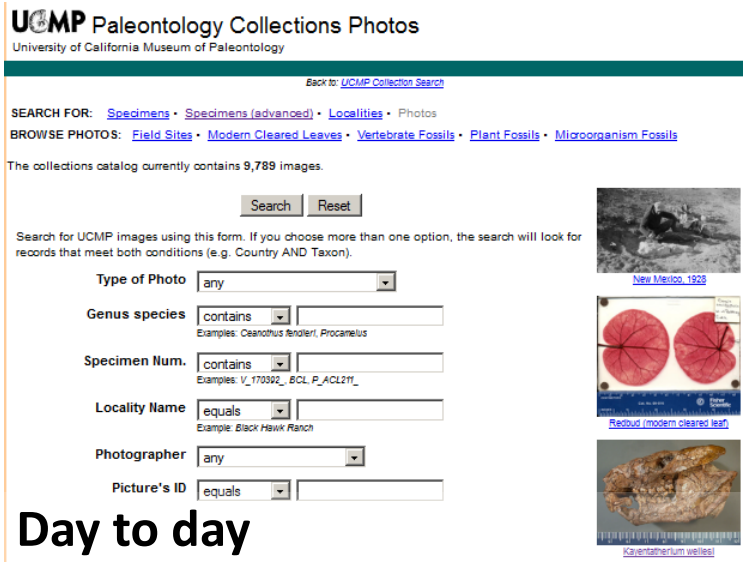






UCMP

Day to day collections management
-ca. 10,000 in CalPhotos database linked to specimen db



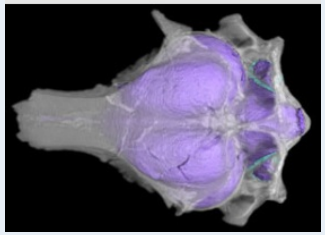
NSF-BRC Rehousing & Digitization of former USGS collection at UCMP

-est. 20,000 images

2D and 3D data in external unlinked databases & sites

PALEOVIEW 3D

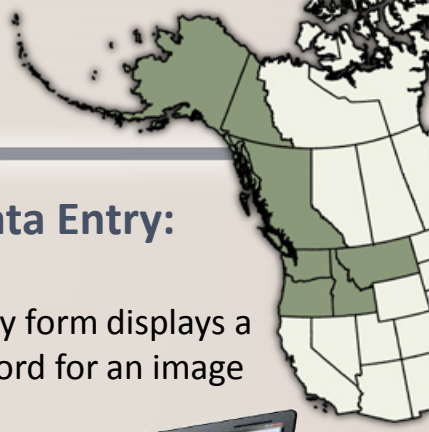
DIGITAL MORPHOLOGY
A National Science Foundation Digital Library at The University of Texas at Austin



MORPHOBANK
HOMOLOGY OF PHENOTYPES OVER THE WEB

Intended uses: research, documentation, management, course support, outreach

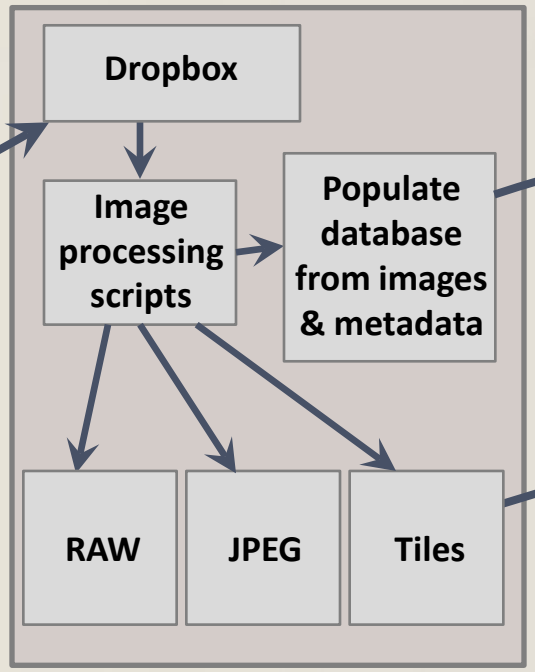
PNWherbaria.org - Overview of imaging & databasing workflow



Imaging Workstation:

Transfer RAW images and metadata on a portable hard drive

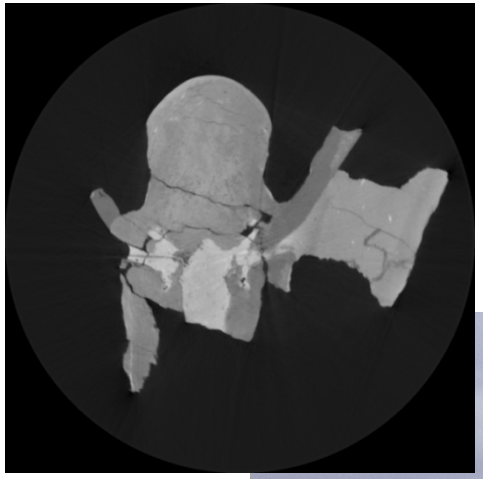
Portal Server:



Data Entry:

Data entry form displays a blank record for an image

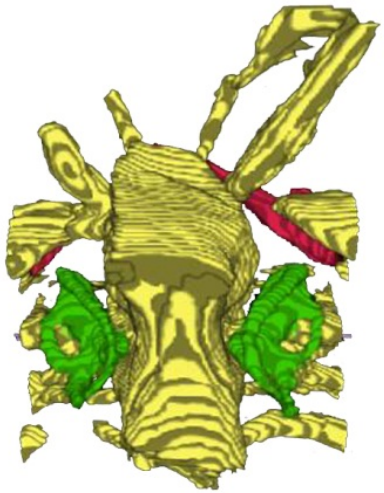
Old and new technology used by the Perot



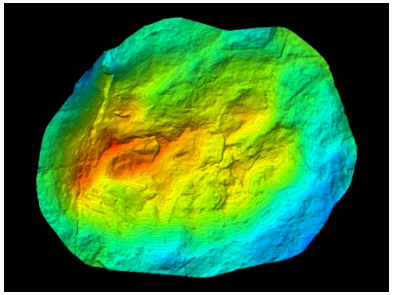
CT slice of brain case.

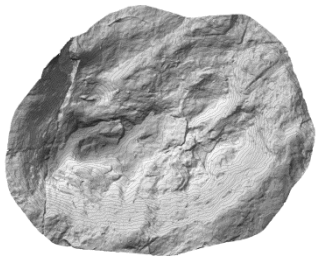
Field photograph from slide

3D scanning of *Pachyrhinosaurus perotorum*.



3D rendering of endocranial cavity of *Pachyrhinosaurus perotorum*.





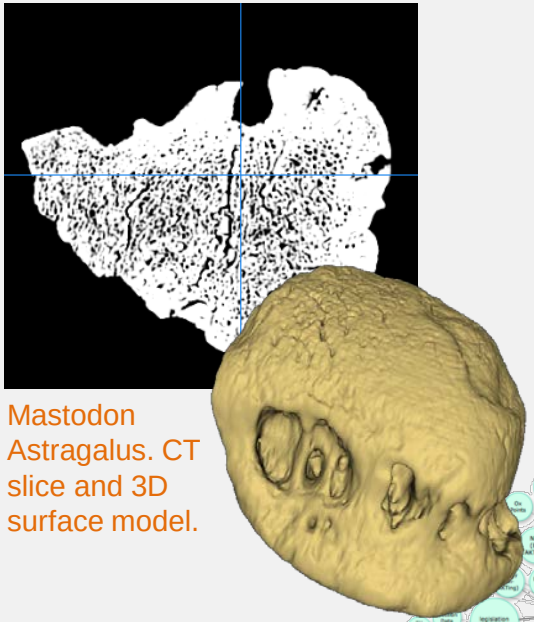
3D surface scan of Ornithopod Track.

3D imagery and Open-Access data models

Chris Widga, Illinois State Museum

Collections + Technology + Invested Communities = *Value-added data*

Pathology database

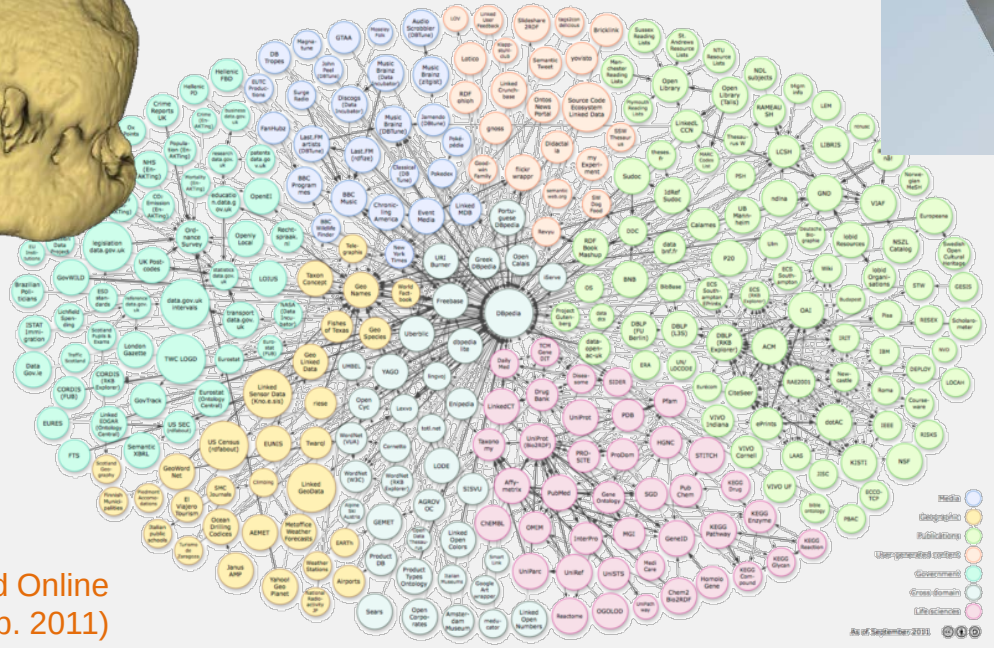


Mastodon Astragalus. CT slice and 3D surface model.

Inter-disciplinary Relevance

Human/Veterinary Medicine
Public Health
Zoonotic Diseases
Disease Ecology
Paleobiology
Archaeology

One Health



Linked Online Data (Sep. 2011)

Open Data Model

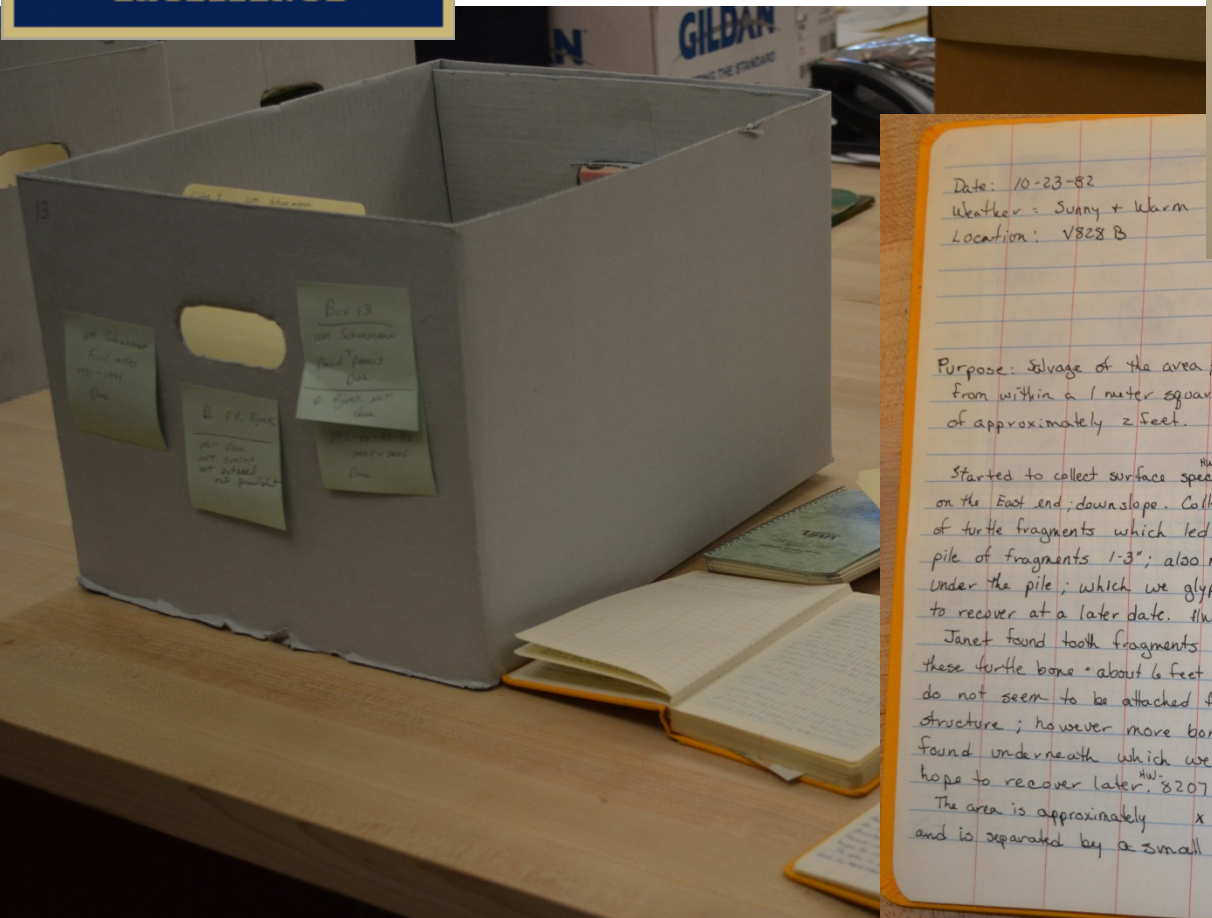
Thingiverse

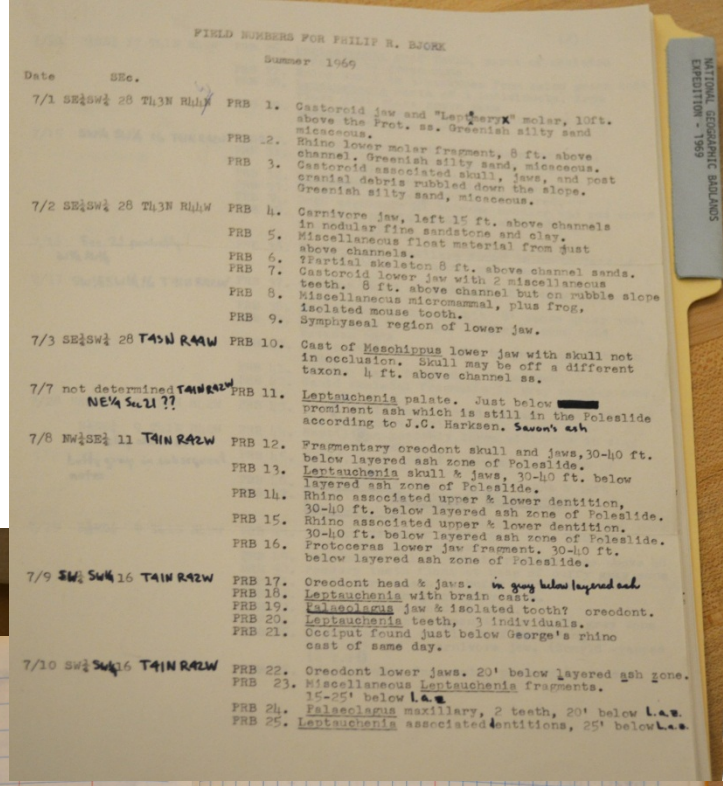
Reclining Naid, The Metropolitan Museum of Art. 123DCatch scene.

--Objects: Mammalia
--Workflow: TBD
--N > 7000, Paleontological and Zooarchaeological specimens

South Dakota School of Mines & Technology
Museum of Geology

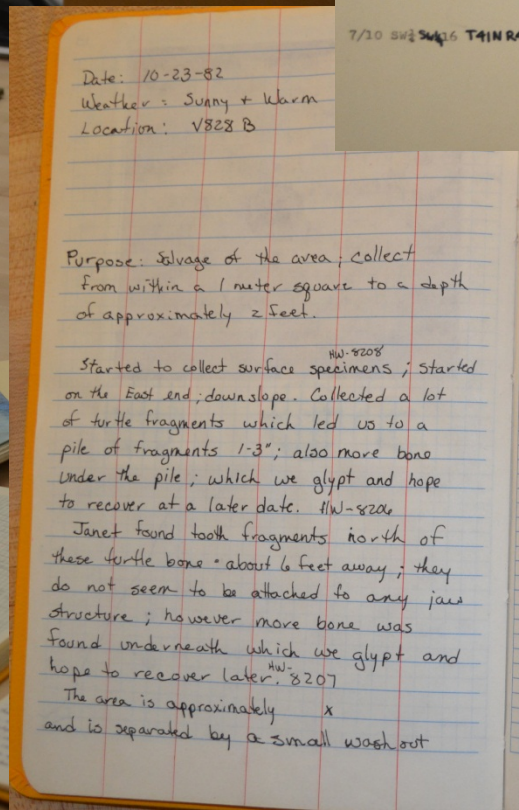
Sally Shelton
Sally.Shelton@sdsmt.edu





FIELD NUMBERS FOR PHILIP R. BJORK
Summer 1969

Date	SEc.		
7/1	SE¼SW¼ 28 T43N R44W	PRB 1.	Castoroid jaw and "Leptomeryx" molar, 10ft. above the Prot. ss. Greenish silty sand micaceous.
		PRB 2.	Rhino lower molar fragment, 8 ft. above channel. Greenish silty sand, micaceous.
		PRB 3.	Castoroid associated skull, jaws, and rest cranial debris rubbled down the slope. Greenish silty sand, micaceous.
7/2	SE¼SW¼ 28 T43N R44W	PRB 4.	Carnivore jaw, left 15 ft. above channels in nodular fine sandstone and clay.
		PRB 5.	Miscellaneous float material from just above channels.
		PRB 6.	?Partial skeleton 8 ft. above channel sands.
		PRB 7.	Castoroid lower jaw with 2 miscellaneous teeth. 8 ft. above channel but on rubble slope
		PRB 8.	Miscellaneous micromammal, plus frog. Isolated mouse tooth.
		PRB 9.	Symphyseal region of lower jaw.
7/3	SE¼SW¼ 28 T43N R44W	PRB 10.	Cast of Meschippus lower jaw with skull not in occlusion. Skull may be off a different taxon. 4 ft. above channel ss.
7/7	not determined T43N R42W NE¼ Sec 21 ??	PRB 11.	Leptauchenia palate. Just below [redacted] prominent ash which is still in the Poleslide according to J.C. Harksen. Sawon's ash
7/8	NW¼SE¼ 11 T43N R42W	PRB 12.	Fragmentary oreodont skull and jaws, 30-40 ft. below layered ash zone of Poleslide.
		PRB 13.	Leptauchenia skull & jaws, 30-40 ft. below layered ash zone of Poleslide.
		PRB 14.	Rhino associated upper & lower dentition, 30-40 ft. below layered ash zone of Poleslide.
		PRB 15.	Rhino associated upper & lower dentition. 30-40 ft. below layered ash zone of Poleslide.
		PRB 16.	Protoceras lower jaw fragment. 30-40 ft. below layered ash zone of Poleslide.
7/9	SW¼ SW¼ 16 T43N R42W	PRB 17.	Oreodont head & jaws. in gray below layered ash
		PRB 18.	Leptauchenia with brain cast.
		PRB 19.	Palaeolagus jaw & isolated tooth? oreodont.
		PRB 20.	Leptauchenia teeth, 3 individuals.
		PRB 21.	Occiput found just below George's rhino cast of same day.
7/10	SW¼ SW¼ 16 T43N R42W	PRB 22.	Oreodont lower jaws. 20' below layered ash zone.
		PRB 23.	Miscellaneous Leptauchenia fragments. 15-25' below L.a.s.
		PRB 24.	Palaeolagus maxillary, 2 teeth, 20' below L.a.s.
		PRB 25.	Leptauchenia associated dentitions, 25' below L.a.s.



Date: 10-23-82
Weather: Sunny + Warm
Location: V828 B

Purpose: Salvage of the area; collect from within a 1 meter square to a depth of approximately 2 feet.

Started to collect surface specimens HW-8208; started on the East end; downslope. Collected a lot of turtle fragments which led us to a pile of fragments 1-3"; also more bone under the pile; which we glypt and hope to recover at a later date. HW-820

Janet found tooth fragments north of these turtle bone - about 6 feet away; they do not seem to be attached to any jaw structure; however more bone was found underneath which we glypt and hope to recover later. HW-8207

The area is approximately x and is separated by a small wash out