

# **Prehistoric Hanging Canals of the Safford Basin II**

**By Don Lancaster  
and Synergetics**

<http://www.tinaja.com>

# The Gila Valley has a rich prehistory...

---

**Especially during the Late Classic period around 1350 CE.**

- Studied by **Neely** and others.
  - Population possibly as high as today.
  - Some ties to **Hohokam, Mimbres, Salado, Sinagua** and **Anasazi** cultures.
  - **Gila River lowland canals as extensive as today and the basis for modern irrigation.**
  - **Thousands of world class agriculture grids, possibly used for Agave crops...**
-



# Lesser known are the "hanging" canals...

---

- **Literally "hung" on steep sided mesa edges.**
  - **As high as 90 feet above base terrain!**
  - **Twenty or more total at least 40 miles!**
  - **Create the illusion of "water flowing uphill".**
  - **May include above ground aqueducts, route switching, and flood breakaways.**
  - **Used for long range water delivery.**
  - **Nearly totally exploit Mt. Graham streams.**
  - **Typically a yard wide by a foot deep.**
-





Thatcher

Safford

Swift Trail Junction

# Three terms you need to know...

---

**BAJADA —**

**A coalescing alluvial fan.**

**QUATERNARY —**

**The latest geological period.**

**MESA —**

**A remnant Quaternary bajada.**

---

# Some properties of local southern mesas...

---

- **Typically narrow and long.**
  - **Steep sided.**
  - **Gently sloped.**
  - **Limited rainfall.**
  - **Largely infertile.**
  - **Pretty much water impermeable.**
  - **Not too useful to pioneers or present.**
  - **Easily conveys water long distances.**
-



# The hanging canals might be named...

---

- **P Ranch**
  - **Ledford\***
  - **Henry's\***
  - **Marijilda\***
  - **Roper\***
  - **Tranquility\***
  - **Twin East\***
  - **Twin West\***
  - **Deadman\***
  - **Longview**
  - **Frye Mesa\***
  - **Robinson\***
  - **Riggs**
  - **Allen\***
  - **Mud Springs\***
  - **Jernigan\***
  - **Shingle Mill\***
  - **Lefthand\***
  - **Bear Springs**
  - **Bandolier**
-

# Ledford Hanging Canal...

---

- **Southernmost of the known hanging canals.**
  - **Sources near Jacobson Canyon dam.**
  - **Rather difficult to access and explore.**
  - **Switches between several drainages.**
  - **Sees current use for cattle tanks.**
  - **About three miles total extent.**
  - **Associated with prehistoric fields.**
  - **Parasitic vegetation makes reach obvious when viewed from highway US 191.**
-

# Henry's Hanging Canal...

---

- **Possibly oldest of Marijilda sourced canals.**
  - **Portions still unresolved.**
  - **Apparently once fed Roper Canal.**
  - **Moderate hanging portion.**
  - **Somewhat larger than typical.**
  - **About one mile explored extent.**
  - **Exact takein remains enigmatic.**
  - **May have been replaced or updated by the Marijilda hanging canal.**
-



# Roper Canal...

---

- **Modern Canal, possibly prehistoric.**
  - **From Lebanon Reservoir #2 to Roper Lake.**
  - **May once have been Marijilda Canal sourced.**
  - **Possible early Henry's Canal destination.**
  - **Flat and easy route.**
  - **Two miles current length.**
  - **Prehistoric origins still needs proven.**
  - **Roper Lake may overlay prehistoric field end use area.**
-

# **Marijilda Hanging Canal...**

---

- **Earliest to be studied and researched.**
  - **Runs from Marijilda Creek to fields found in the Lebanon area.**
  - **Initial reach rebuilt by historic pioneers and sees active irrigation use to this day.**
  - **Easiest access of the known hanging canals. but western 4WD track is extremely rough.**
  - **Includes impressive above ground aqueduct.**
  - **Hangs on the western mesa face.**
  - **Apparent switching to several destinations.**
  - **Elaborate French Drains going off mesa.**
-



# Tranquility Hanging Canal...

---

- **Apparently artesian sourced.**
  - **One mile long.**
  - **Presently terminates in Cooks Reservoir.**
  - **Urban subdivision private property located.**
  - **Amazingly close to Twin East canal via cliff.**
  - **Moderate short hanging portion.**
  - **Curious mix of historic and prehistoric.**
-







# Twin East Hanging Canal...

---

- **Ponding area fed by TWO major canals.**
  - **East canal likely Marijilda sourced.**
  - **Runs under Lebanon Cemetery buildings.**
  - **Amazingly close to Tranquility Canal.**
  - **Sharp "U" and "S" turns to maintain grade.**
  - **Mystery alignments remain unexplored.**
  - **Contours highly obvious on satellite images...**
-



# Twin West Hanging Canal...

---

- **Ponding area fed by TWO major canals.**
  - **Likely unverified Deadman Canal fed.**
  - **Sweeping "S" portion to maintain grade.**
  - **Earlier habitations and artifacts in area.**
  - **Possible four mile total length.**
  - **Ponding area unusually single walled.**
  - **A section has been run over by the Safford water tank project.**
  - **Additional slope measurements still needed.**
-



# Deadman Hanging Canal...

---

- **Sources from Deadman creek and possibly routes to Porter Springs and Deadman tanks.**
  - **Initial hanging portion believed overlain by historic and modern pipeline.**
  - **Prehistoric portion flows to this day.**
  - **Consistently routes along HIGHEST portion of Deadman Mesa.**
  - **Possible elaborate three way switching at the narrowest point of mesa.**
  - **Could approach five miles in length if the presumed extensions are verified.**
-





# Longview Area...

---

- **Delivery canal conspicuous by its absence.**
  - **One possible short canal wall located.**
  - **Possibly Deadman and/or Frye fed.**
  - **Very strong tradeware evidence.**
  - **Numerous aproned check dams.**
  - **Rock alignments define one use area.**
  - **Confused by CCC overwork.**
  - **Further study still needed.**
-

# Frye Mesa Area...

---

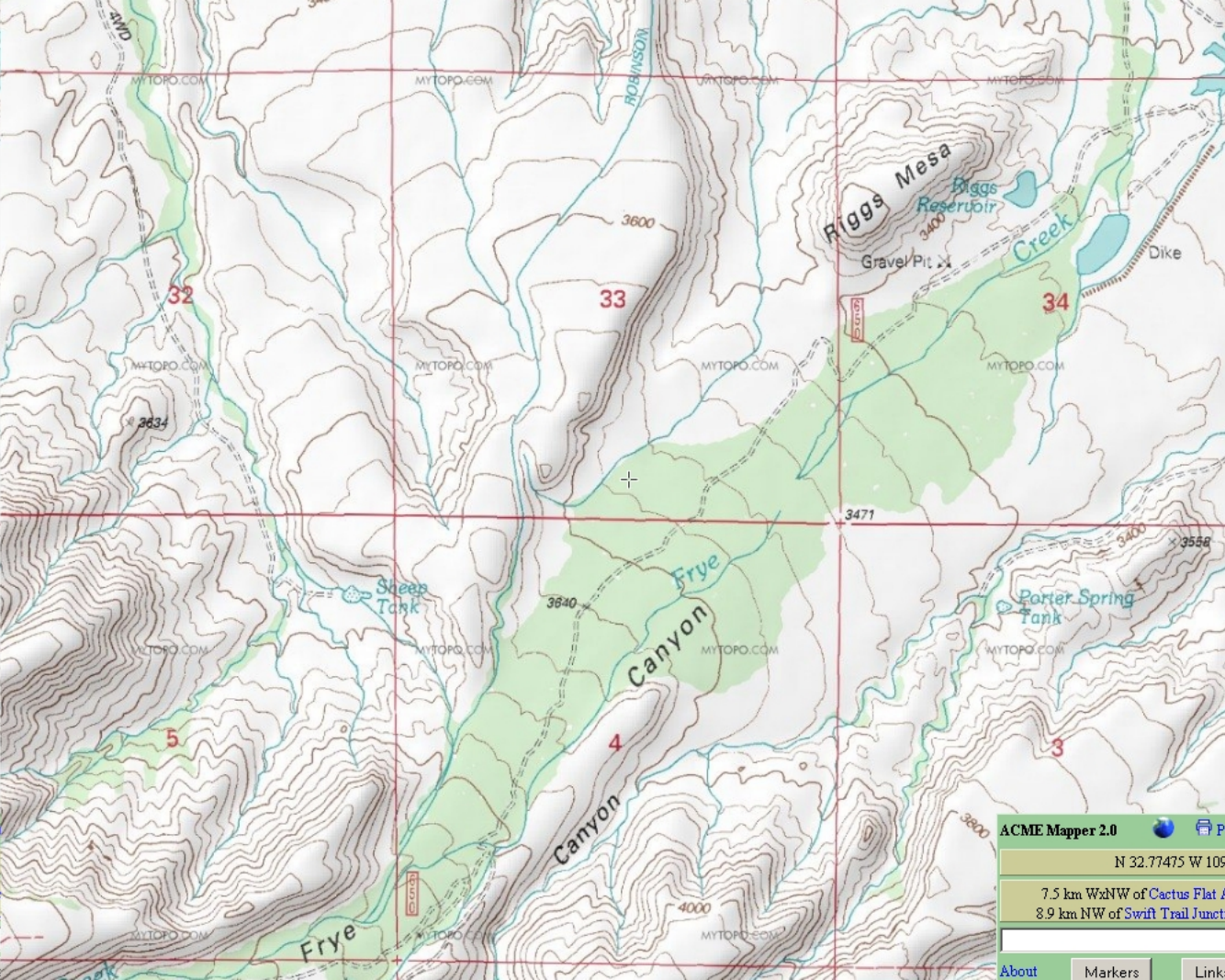
- **Braided stream channels and ponding area.**
  - **Mystery delivery canal routes UPCANYON.**
  - **Second canal is possible Robinson source.**
  - **Takein points presently unclear.**
  - **Confused by CCC and dam construction.**
  - **Falls routing unlikely but not ruled out.**
  - **Mesa watershed gathering unlikely.**
  - **Major further study required.**
-



# Robinson Hanging Canal...

---

- **Rebuilt by historic pioneer to serve cattle tanks in the Daley Estates area.**
  - **Likely sourced from Frye Creek.**
  - **Short section spectacularly failed by falling off the mesa edge.**
  - **Prehistoric fields overlain by sheet flooding.**
  - **Very strong "water flows uphill" illusion.**
  - **Mesa top used for water transport only.**
  - **Accessible only by ill defined cattle trail.**
-



ACME Mapper 2.0

N 32.77475 W 105

7.5 km WxNW of Cactus Flat  
8.9 km NW of Swift Trail Junction

About Markers Link









# Allen Hanging Canal...

---

- **Nearly SEVEN MILES long!**
  - **Source from Spring Canyon. May go as far as Central bottomlands.**
  - **Apparently overlain by CCC Hawk Hollow tank, Allen Dam, and Layton Dam.**
  - **Two distinct architectural styles.**
  - **Spectacular "Culebra" cut of seven feet.**
  - **Portions obscured by sheet flooding.**
  - **Mesa to dam routing remains uncertain.**
  - **Many questions remain unanswered.**
-





# Mud Springs Hanging Canal...

---

- **Routes Ash Creek over Mud Springs Bajada.**
  - **Entire 6 mile route linear and viewable.**
  - **Possibly the earliest hanging canal.**
  - **Overrun without access by SCS dam.**
  - **Splits into Jernigan Canal.**
  - **Enigmatic associated rock structure.**
  - **Mid-canal cleanout and flood spur.**
  - **Key portions still missing or unexplored.**
-







# Jernigan Hanging Canal...

---

- **Part of a well studied and reported site.**
  - **"U" and "S" grade routings.**
  - **Large Mesquite tree mid channel.**
  - **Moderate hanging portions.**
  - **One fairly impressive cut of three foot depth.**
  - **Well defined exit French Drain area.**
  - **Sources from Mud Springs Canal.**
  - **Three reaches remain ill defined.**
-





# Shingle Mill Area...

---

- **Home of historic Minor Webster Ditch.**
  - **Possible prehistoric original canal would be conspicuous by its absence.**
  - **Shingle Mill or Merrill Wash possible sources.**
  - **Includes obviously modern service track and deeper vee construction.**
  - **Half of presumed routing unknown.**
  - **Additional historic and site research needed.**
  - **Many questions remain unanswered.**
-

# Lefthand Hanging Canal...

---

- **Extensively studied and reported by Neely.**
  - **Directly associated with plant nursery areas.**
  - **Elaborate switching and control structures.**
  - **Short "local" and direct agricultural uses.**
  - **No "hanging" evidence but similarities to the other area prehistoric canals are remarkable.**
  - **Small gates divert controlled water amounts.**
  - **Both earthen and rock bordered examples present. Possible instances of clay lining.**
-

# Other possibilities not fully explored...

---

- **Veech Canyon in the "P" Ranch area. A few rumors of historic and prehistoric canals.**
  - **Hints of a Frye Mesa to Longview route.**
  - **North and east of Deadman Canal show unvisited and enigmatic aerial images.**
  - **Braided channels near Riggs Mesa area.**
  - **Carter and Nuttall canyons could possibly provide western extensions.**
  - **The North Taylor **UFO Fish Filets** remain a CCC or earlier largely undated artifact.**
  - **Possible mountain sources for Bandolier Lowland Canal not yet totally excluded.**
-

# Why the obsession with mesa hanging?

---

- **Slope is INDEPENDENT of terrain!**
  - **Minimum cuts and fills.**
  - **One canal side is often "free".**
  - **Superbly energy and effort efficient.**
  - **Easy repairs from flood damage.**
  - **Much of the construction can be across rather than along the route.**
  - **Mesa top slopes often optimum.**
  - **Not much other use for mesa tops.**
  - **Conveys water long distances.**
-

# Arguments the canals are prehistoric...

---

- **Archaeologists say so.**
  - **Extreme purposefulness and a highly directed energy efficiency.**
  - **Run over by roads, tanks, fences, dams and cemeteries. Without accommodation.**
  - **Consistent patina, caliche, and lichens.**
  - **Lack of any apparent use of pioneer tools.**
  - **Prehistoric population very much higher.**
  - **Easier to "dig out an old ditch".**
  - **Far more attuned to prehistoric needs.**
  - **Lack of characteristic CCC signatures.**
  - **Mature cacti and Mesquite trees midstream.**
-

# Survey instruments are still unknown, but...

---

- **Pilot extensions of the canals themselves could have served as static water levels.**
  - **Such concepts remain highly speculative.**
-

# Hanging canals ARE endangered...

---

There are typically zero to very few canal artifacts, so pothunting issues are by no means severe. BUT...

- **An utter lack of public awareness clearly causes damage through neglect.**
  - **Water projects by the Town of Safford totally trashed a number of canal crossings, mulch rings, grids, and even a CCC dam. All these could have been cheaply avoided.**
  - **New proposed [realignment of US70](#) to the south may threaten many of the canals.**
  - **The state lands bureaucracy is exceptionally hostile to archaeological research.**
-



# What needs done now...

---

- **Map** and catalog all southern features.
  - **Videotape** all hanging canal routes.
  - **Resolve** the still unknown canal portions.
  - **Find** credible Deadman Canal destinations.
  - **Involve** students and any others interested.
  - **Apply** "CSI" type forensics techniques.
  - **Publish** both traditionally and **new media**.
  - **Make** upcoming threats aware of the issues.
  - **Invite** "field mice" to thoroughly explore.
  - **Scam** a **Draganfly** grant...
-



# This has been an excerpt of...

---

<http://www.tinaja.com/canal/newhang2.pdf>

Presented by Don Lancaster and **Synergetics**, 3860  
West First Street, Box 809, Thatcher, Arizona, 85552.  
(928) 428-4073.

<mailto:don@tinaja.com>

More info on Gila Valley prehistory can be found at

<http://www.tinaja.com/glib/neely1.pdf>

**Copyright c 2012 and earlier by Don Lancaster and Synergetics.  
Linking usually welcome. All media, web, and ALL other rights  
fully reserved. Mirroring or reposting is expressly forbidden.**

---