

**Notes on Raghorn Road # 10802 Geo-Tagged Photos Taken July 28, 2016  
By Keith Hammer**

Double-click on or otherwise open the Raghorn 160728.kml file in Google Earth and the locations of the photos I took will be displayed as waypoints with the photo file name in the format IMG\_7581. Clicking on a push-pin waypoint will provide a pop-up with the GPS location, if desired. Below I provide brief notes to help interpret these photos, shortening the file name to the numerals only:

**NOTE:** While a 12" ruler is included in many photos to help indicate culvert diameter, where diameter measurements are provided as other than "likely" they were actually measured and not estimated from the photos. Culverts were classed as follows:

- (A) - Stream-aligned (includes ditch acting as stream) and running water on 7/28/16.
- (B) - Stream-aligned (includes ditch acting as stream) but damp or dry on 7/28/16.
- (C) - Simple cross-drain / ditch-relief culvert showing little sign of significant flows.

**SUMMARY:** I located and photographed 6 Class A, 4 Class B and 16 Class C culverts, for a total of 26 culverts. Combining Class A and B represents 10 culverts that are stream-aligned and flow at least seasonally, which Amendment 19 requires be removed for this road to be considered "reclaimed" and not included in calculations of Total Motorized Route Density.

The 100827 Shorty Coal Decision found for Road 10802 that "Fifteen culverts remain, many of them cross drains. Several of the culverts are undersized and pose a high risk of failure. All culverts are proposed to be removed." The 100621 FWS Concurrence letter confirms the "removal of 15 culverts remaining on three closed roads." (Subtracting the one culvert each removed from roads 5277 and 5279 under the Shorty Coal Decision, this suggests 13 culverts were to be removed from 10802).

This survey located 10 culverts aligned with seasonal or year-round streams or aligned with ditches into which streams are channeled, the majority of which were running water on the day of the survey. These 10 culverts must be removed per A19. Given 3 stream-aligned culverts were removed from 10802 in 2012, perhaps these are the remaining 10 culvert intended to be removed in the Shorty Coal Decision. Regarding the 16 Class C culverts, Road 10802 has not been "reworked to eliminate ditch water flow without the aid of cross drain culverts" as required by A19 for a reclaimed road. Road 10802 has not been fully reclaimed per A19 and is being incorrectly omitted from calculations of TMRD.

**CULVERT SURVEY PHOTO LOG:**

\*Not all photos from the original survey are provided here.

8354: Initial closure berm and seep from inboard ditch routed across road.

8355: Another seep from inboard ditch routed across road. Likely 2012 Oct VanEimeran Notes at MP 0.02.

8356: (A) Culvert behind rock at center channels this small stream and seep.



8357: 24" culvert inlet partially blocked by rock and woody debris, channeling stream and seep shown in 8356. Likely 950711 Road 10802 Survey Log at MP 0.03.



8358: Another seep from inboard ditch routed across road. Likely 2012 Oct VanEimeran Notes at MP 0.05.

8359: (B) 18" culvert with partially crushed and ripped inlet. Currently dry with rust and signs of flow.



8360: Outlet of culvert shown in 8359.



8361: Flagging indicates this culvert with the crushed and ripped inlet is likely known to the Forest Service. Note gravel and culvert rust lines indicate substantial flow at times.



Perhaps 950711 Road 10802 Survey Log at MP 0.15, which notes a damaged culvert that "will need to be removed," although this location is closer to MP 0.21.

8362: (B) 18" currently dry culvert with rust and signs of flow.



8363: Gravel bed in inboard ditch leading to culvert in 8362 indicates substantial flow at times.



8364: Another seep and stream from inboard ditch routed across road, with erosion of roadbed shoulder. Not noted in 2012 Oct VanEimeran Notes, but appears of that era.

8365: (B) 18" culvert. Currently damp, carries seep from inboard ditch.



8366: 18" culvert inlet. Same as 8365.



8367: (B) 18" culvert inlet, damp.



8368: (A) Significant seep and stream ends up in inboard ditch and 18" culvert in 8369.



8369: 18" culvert with partially crushed and ripped inlet carries stream in 8368.



8370: (C) 18" culvert half full of small debris.



8371: Flagging indicates Forest Service is likely aware of culvert shown in 8370.

8372: (A) Seep that feeds into inboard ditch and 18" culvert in 8373.



8373: 18" culvert carrying seep in 8372.



8374: (C) 18" culvert currently dry.



8375: 18" culvert inlet shown in 8374, one-third full of debris.



8376: Substantial hawkweed infestation, both orange and yellow.

8377: (C) 18" culvert, currently dry.



8378: (C) 18" culvert, currently dry.



8379: (C) 18" culvert, currently dry.

8380: Same as 8379 but with photo flash.



8381: (C) 18" culvert, currently dry.



8382: Stored road fill removed from the first 2012 removal of a 36" culvert.

8383: View of first 2012 culvert removal from the stored road fill.

8384: Restored streambed at site of first 2012 culvert removal.

8385: Reverse view of 8382 - 8384.

This is 2012 Oct VanEimeran Notes at MP 0.9.

8386: (C) 18" culvert, currently dry.



8387: (C) 18" culvert, currently dry.



8388: View of hillside Road 10802 documented in photos 8415 - 8429.



8389: Drain dip installed at 2012 Oct VanEimeran Notes MP 1.18.

8390: Re-vegetating stored road fill from second 2012 removal of 36" culvert.

8391: View of second 2012 removal of 36" culvert.

8392: View of second 2012 removal of 36" culvert.

8393: Reverse view of second 2012 removal of 36" culvert.

This is 2012 Oct VanEimeran Notes at MP 1.19.

8394: Drain dip installed in 2012, though not in 2012 Oct VanEimeran Notes.

8395: (C) 18" culvert, currently dry.



8396: (C) 18" culvert, currently dry.



8397: View of third 2012 removal of 36" culvert, with road fill stored in woods above center and left.

8398: View of third 2012 removal of 36" culvert, with road fill stored in woods above center and left.

This is 2012 Oct VanEimeran Notes at MP 1.42.

8399: (C) 18" culvert, currently dry.



8400: Drain dip for overland flow installed 2012, just down-road from 2012 Oct VanEimeran Notes at MP 1.61.

8401: View of hillside Road 10802 documented in photos 8415 - 8429.

8402: (B) Small overland flow channel that feeds into 18" culvert shown in 8403 - 8405.

8403: Overland stream feeds into 18" culvert.



8404: 18" culvert inlet with rust from seasonal flow.



8405: 18" culvert outlet in foreground and aligned, incised stream channel.



This is 2012 Oct VanEimeran Notes at MP 1.61 "dry cr - water crossing road."

8406: (A) Rocks and berm installed in 2012 to direct overland flow and small streams into incised stream channel right of center and through 24" culvert shown in 8408.

8407: Reverse view of 8406 showing small overland stream channels converging.

8408: 24" culvert inlet carrying live incised stream channel from above and right, and overland flow diverted by installed berm at left.



8409: Reverse view of 8408 showing seeps and aligned, incised stream channel.

8410: Channel downstream of culvert shown in 8408.



8411: Outlet of culvert shown in 8408, with aligned stream channel.

8412: Channel downstream of culvert shown in 8408.

This is likely the 2012 Oct VanEimeran Notes “installed WB” at MP 1.69 and “draw” at MP 1.70.

8413: (A) Incised and aligned stream channel feeds another 24” culvert shown in 8414.

8414: 24” culvert carrying aligned, incised stream channel.



This is likely the 2012 Oct VanEimeran Notes “small stream” just past MP 1.70.

8415: Beginning of road cut section that is heavily slumped and has buried most culvert inlets completely. I could find only a few of the culverts listed in the 950711 Road 10802 Survey Log.



8416 - 8421: Road cut section that is heavily slumped and has buried most culvert inlets completely.

8422: (C) Culvert outlet (likely 18"). Likely connected to culvert inlet shown in 8423 and 8424.



8423: Culvert inlet almost completely plugged with rock and woody debris.



8424: Culvert inlet almost completely plugged with rock and woody debris.

8425: Draw below inlet in 8423 and 8424 shows no outlet, but outlet may be skewed to that shown in 8422.

8426: (C) 18" culvert inlet half-full of debris and animal scat.



8427: Flash photo looking down inside of culvert shown in 8426. Outlet appears clear.

8428: Old flagging suggests Forest Service is aware of this 8426 culvert location.

8429: More cutslope slumping and signs of past log decking.



8430: Not shown. Accidental trigger of video button.

8431: More cutslope slumping and old logging unit.

8432: More cutslope slumping and signs of past log decking.

8433: (C) 18" culvert, currently dry.



8434: (C) 18" culvert, currently dry.



8435: (A) Outlet of culvert (likely 18") carrying live small stream.



8436: This spring and others to the left feed the culvert shown in 8435.



8437: Inlet of culvert shown in 8435 is completely buried in rock, through which water is perking.

8438: More nearby cutslope springs are either running across the roadbed or following what remains of the inboard ditch to the buried culvert inlet shown in 8437.

8439: A small trail is evident along the roadbed, here where downfall forces the trail to the shoulder of the road.

8440: (C) 18" culvert, currently dry.



8441: Couldn't find a culvert in this bit of a swale, where one would be expected.

8442: (C) 18" culvert, currently dry.



8443: Approaching end of road.

8444: (C) (Likely 18") culvert, currently dry.



8445: View of end of road in old logging unit.



Note: Photos 8444 and 8445 were not geo-tagged using GPS, but were placed by hand using Google Earth (turned GPS off prematurely).