Reconnaissance Report of Boundary Fences on New Lands, Navajo Nation

Submitted to

Office of Navajo-Hopi Indian Relocation

201 East Birch Street

Flagstaff, Arizona 86001

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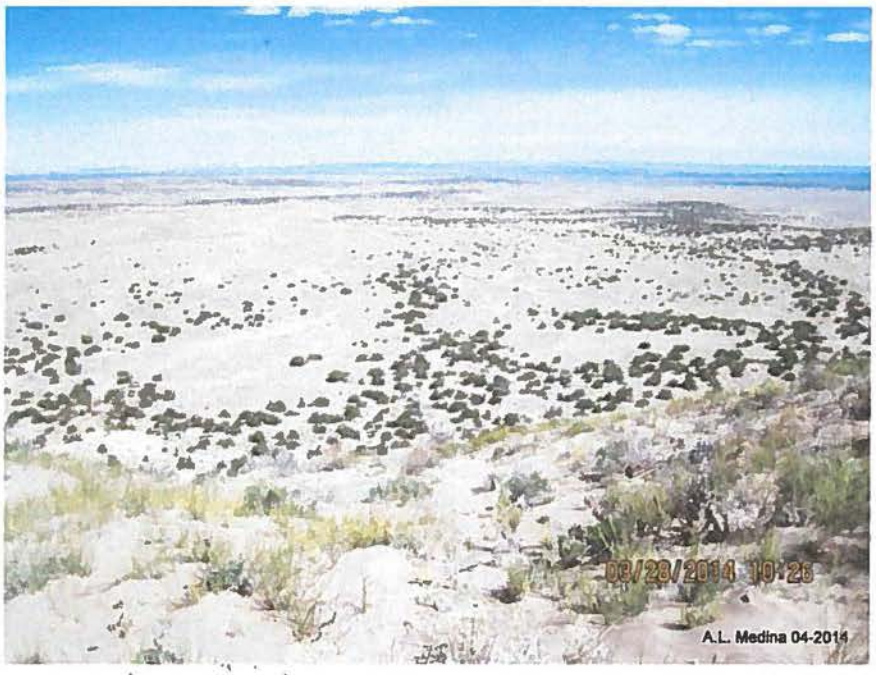
Alvin L. Medina

Medina Consulting, LLC

Albuquerque, NM



NEW LANDS FENCING ASSESSMENT OF PERIMETER AND SELECTED INTERIOR SECTIONS

SUMMARY

A reconnaissance to determine the general condition and completeness of exterior and interior boundary fences of the New Lands Tribal Lands of the southern end of the Navajo Nation was performed on April 23-24, 28, 2014.The boundary of "New Lands" is intact, with the exception of about 5.25 miles bordering the southern escarpment of Rim and East Mill Units. Exterior perimeter fences are in good condition, with some minor exceptions where treated posts have rotted and need replacement with cedar posts. Fence wire remains serviceable for another 15+ years.

Interior boundary fences also are relatively good condition with minor exceptions, e.g. BNSF mine, Middle Well. A replacement section of fence is a priority on the eastern side of BNSF Mine to preclude animal entry to the active mine area. Fence cutting of the southern interior boundary in Pasture 3 of Middle Well appears to be a specific problem that precludes the operator/permittee to use only 4 of 11 pastures. Boundary encroachment, recreational roads, and gate vandalism about the community in southern end of Pasture 1 pose risks to interior boundary fences and hinder the effective use of Middle Well by cattle.

Most interior fences are relatively new and in good condition, with some exceptions. Some sections were installed with treated posts which will require replacement with cedar posts. Fence wire and line posts are in good condition and the fences remain functional for likely 15-20 years. There are sections where interior fences are very old, with brittle wire and decaying line posts that should be replaced, e.g. Padre Mesa Unit. Replacement can be easily accomplished as a part of the normal ranch work, as the fences still function to contain livestock.

Reconnaissance of selected interior fences in the Hardscrabble and Blue Bird Units (identified in the map provided) was performed as part of the travel to target boundary fence areas. These fences are not considered a priority comparatively, especially considering low stocking number and lack of water, i.e. Hardscrabble. The proposed division fence on Blue Bird would provide utility to managing livestock in the dense stands of juniper.

Duplicate fences were observed along sections of County Road 7230 along the western boundary with private land and BNSF railway.

PURPOSE AND METHODS

On April 23, 2014, the Office of Navajo-Hopi Indian Relocation (ONHIR) requested a reconnaissance and evaluation of the boundary fences of New Lands. The field reconnaissance was initiated on April 24, 2014, continued on April 25, and completed April 28. Exterior and interior boundary fences were examined within the time allotted, but some were not traversed entirely for various reasons. A limited time precluded a 100% sample of fence sections. In addition, access to all fences was limiting owing to terrain or drivable roads, some fences, e.g. highway right of ways, joint jurisdictional (NPS), were in good condition as seen from access points, or first-hand knowledge from New Lands staff who installed the fences was used to ascertain condition and status. Hence, the maximum time allotted was 40 hours. Bill Inman provided escort and information of status, pasture use, and management activities that could affect fence conditions.

GPS tracking points were used to document routes travelled and note specific locations of interest. This information coupled with field notes were transfer to a map for general review. Specific maps from GPS data and notes were generated to provide specificity and/or identify the items of interest. Google "Earth" imagery was studied prior and after each field visit to familiarize with travel routes and identify potential locations that warranted a site visit. Some internal fences, identified on a map by ONHIR staff, were also reviewed as time permitted and as part of the general route itinerary for the given day. An oral briefing and summary was provided on April 29, 2014 to ONHIR staff and discussion of priority items.

Specific knowledge of fence conditions, e.g. age, etc., was obtained from short talks with local operators/permittees encountered during the reconnaissance. This first-hand information was assumed to be trusted and translated unto a base map to indicate status. Some information was verified and such proved to be exact as described.

Specific items of interest are detailed within each section below, as there were exceptions to the general condition and status of some fences. These details and recommendations are useful to guide ONHIR towards practical solutions and priorities. In some instances, photos are provided to document the site conditions where exceptions were noted or greater specificity was needed.

EXTERIOR BOUNDARY FENCES

The exterior boundary of New Lands is intact and in good –fair condition, with the exception of the southern boundary of Rim and East Well units. Figure 1 shows the routes traveled and fences examined. Exceptions to the rule are listed below.

1. The southern boundary of Rim and East Well units are bounded by an escarpment, which presently forms somewhat of a deterrent to use by livestock. However, the area is subject to use by wild ungulates and horses through existing trails that permit access across the boundary. Fencing is recommended to reduce the risk of entry by feral livestock and other private stock from neighboring ranches (Figures 2-5). Fences of the southern boundary are relatively new and in good condition.
2. The south-western boundary fence (County Rd 7230) is in relatively good condition with the exception of treated line posts that will require replacement in the near future (Figure 1). Many posts are rotted at their base. Replacement with cedar posts is recommended. Fence wire is still serviceable for another 15-20 years.
3. Duplicate boundary fence was observed on a couple of sections that border private land and the BASF right of way on sections of County road 7230 (southwestern boundary fence), which is bounded by boundary fences on the east and west (Figure 1). This strategy is unclear for fencing these sections of the western boundary. Possible boundary discrepancy (?). Note: advice from ONHIR staff that latter was the case and second fences were not removed from private land.
4. The lower section of north-western boundary fence (common with NPS) is in relatively good condition with the exception of treated line posts. Pasture use of the Pinta Unit is occasional and repair is not a priority at this time (Figure 1).
5. The upper section of north-western boundary fence (common with NPS) is in relatively good condition with the exception of a few treated line posts. Fence wire appears serviceable for 20+ years (Figure 1).
6. The north boundary fence of Padres Mesa is new and in good condition. A couple of locations had broken upper strands where elk had jumped. Recommend installing elk jumps at these and other similar locations where elk have demonstrated a preference for crossing. The replacement of boundary fence appeared unnecessary given that boundary discrepancies were minor and insignificant considering it's all Navajo Nation lands. In some cases the discrepancies were inches different (Figures 6-9). There were several areas where the tractor blade made close contact with the fence posts, thereby

weakening their footing and likely will need reinforcement or replacement in very near future.

7. The north-western fence is common to US-191 and is in good condition. A few treated posts may require replacement with cedar posts to retain full functionality (Figure 1).

INTERIOR BOUNDARY FENCES

Interior boundary fences of New Lands are intact and in good –fair condition, with minor exceptions where treated posts need to be replaced or older wooden posts remain (Figure 10). In some localized areas, fences have sections where old wooden stays were used and could be replaced as part of a regular maintenance plan. Exceptions to the rule are listed below.

1. Clay Mine (Figures 11-14) – This area is outlined in red to bring attention to the priority need to provide a security fence that both excludes livestock and human entry. The entire mine areas, both north and south of Clay Mine Road, should be secured likewise. This area is a high risk-high danger area. Recommendations include high security perimeter fencing coupled with locked access gates on the east and west entry points. The fence breach on the eastern flank presents an immediate high risk to livestock, and inhibits use by the operator. An updated restoration and management plan by the mine owners should reflect the protective measures to protect human, animal and natural resources of the immediate area.
2. Feral horses were observed in the Blue Bird unit at the location indicated on Figure 1. Feral horses present a high risk and threat to New Lands both from within and exterior. The occupation by feral livestock presents difficult social, political and legal problems when allowed to remain for any period of time. It's recommended that feral livestock be removed immediately upon discovery. There is additional threat from feral stock near communities, where horses are penned in small enclosures and adjacent ONHIR lands are overgrazed. One can reasonably assume that the overgrazing may be due to livestock trespass.
3. Encroachment appears to a problem in the community indicated in Figure 1. There a 3 instances where homeowners have placed corral inside the interior boundary fence. In addition, there a 2 presumably unauthorized roads that provide expedient access outside the community boundary using the range roads (Figures 15-17).

4. The proposed road in the most south-eastern unit of New Lands, bladed and ready for fencing, seems unnecessary since the stocking level (30 head) is so low. Caution should be exercised to reduce pasture sizes not commensurate with stocking levels. Additionally, the pasture lacks water, which further reduces its rationale for implementation.

WORKMANSHIP

The new fences examined were of high quality workmanship. Efforts to continue these practices are supported by the availability of high quality materials.

ROADS

Interior roads were generally in good condition. It is recommended that all interior roads be subject to installation of "rolling water bars" at specified intervals to preclude water erosion from causing washouts and general deterioration. Rolling water bars are soil bars placed across the roadway to channel water off the roadway. They should be wide (3-4') and angular to the travel surface, starting from the high side and angling to the low side. It is further recommended that the drainage be contained in small infiltration ponds (5-10' circular/rectangular). These ponds permit the water infiltration and limit any further erosion.

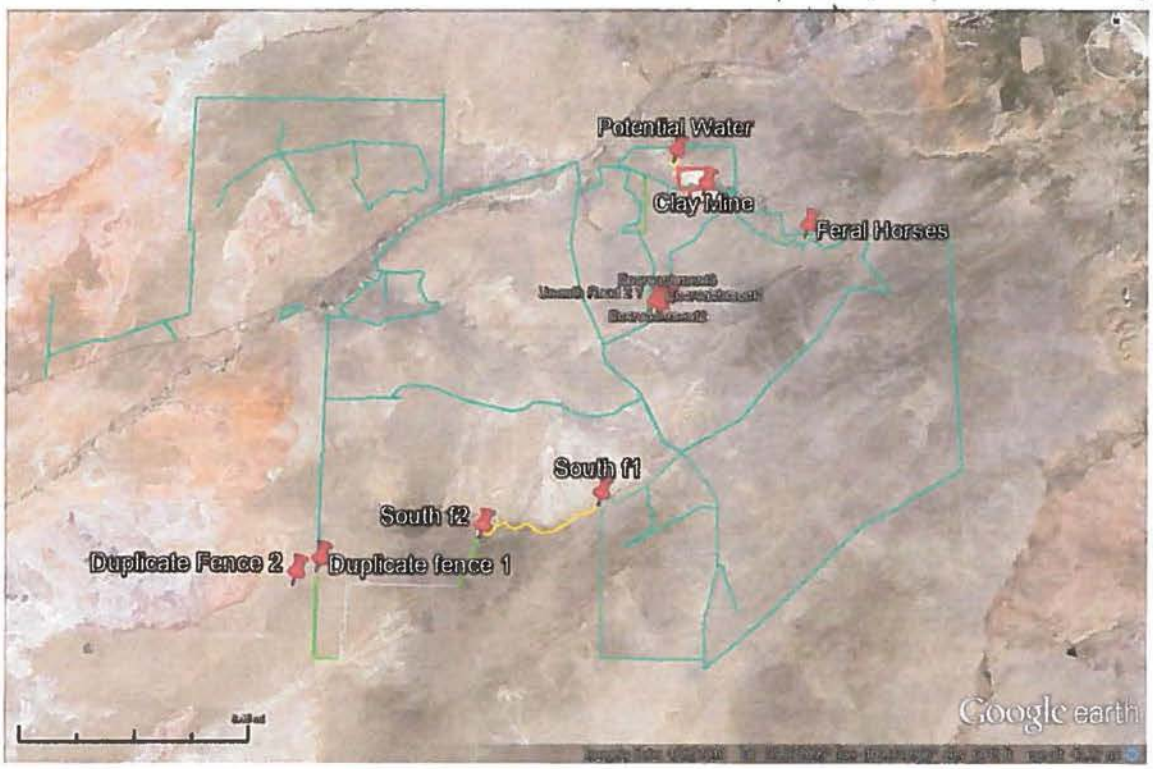


Figure 1. This map displays the routes travelled and fences examined. Areas of special interest are highlighted in red and pinned.

Figure 2. Relative approximation of the location of boundary fence along the escarpment. Approximate distance is 6.1miles following escarpment or 5.25 miles in larger linear increments.

Figure 3. This photo shows the existing corner on the east side of the escarpment.

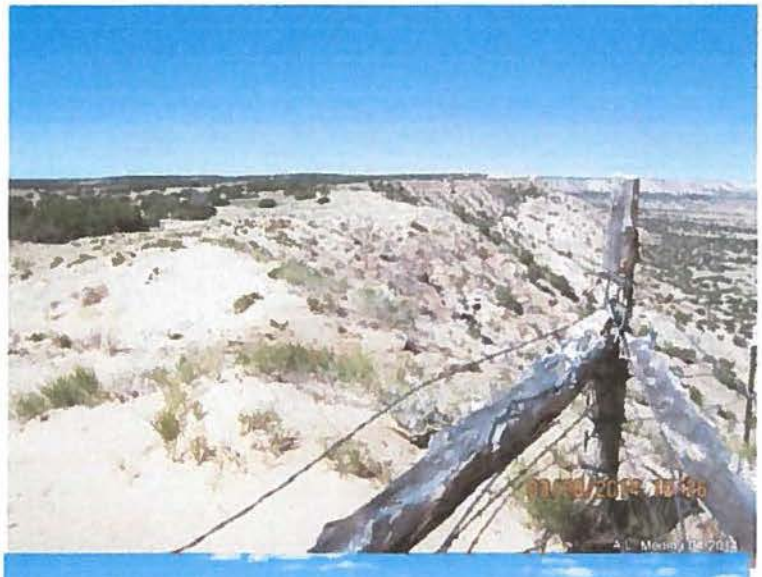


Figure 4. This photo shows the westerly view of the approximate location of the boundary. The boundary is seemingly the rim edge of the escarpment. There are existing roads for access.

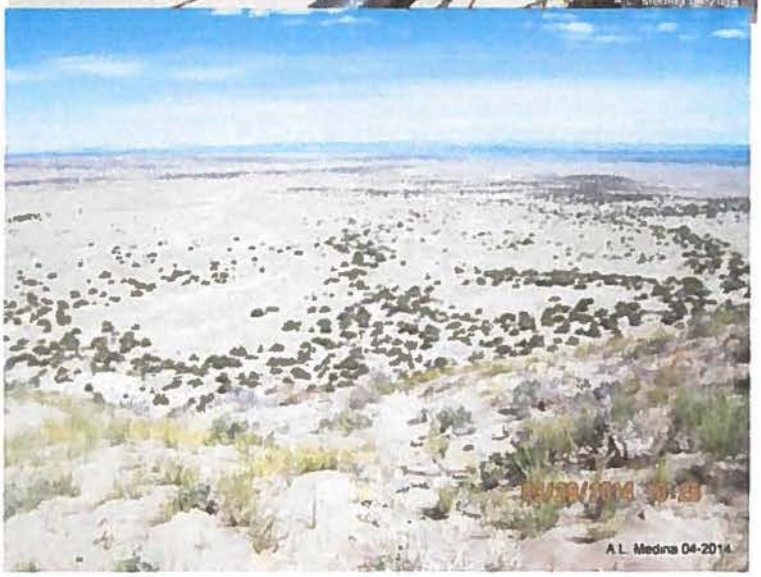


Figure 5. This photo looks north from the escarpment and illustrates the relative ease with which feral and trespass stock can access News Lands.

Figure 6. This photo shows the fence realignment discrepancy on the north fence of Padre Mesa.

Figure 7. This photo shows another section of fence that was realigned, seemingly to minor alignment differences.

Figure 8. This photo shows the USGS boundary marker, the proposed realignment and the existing fence line.

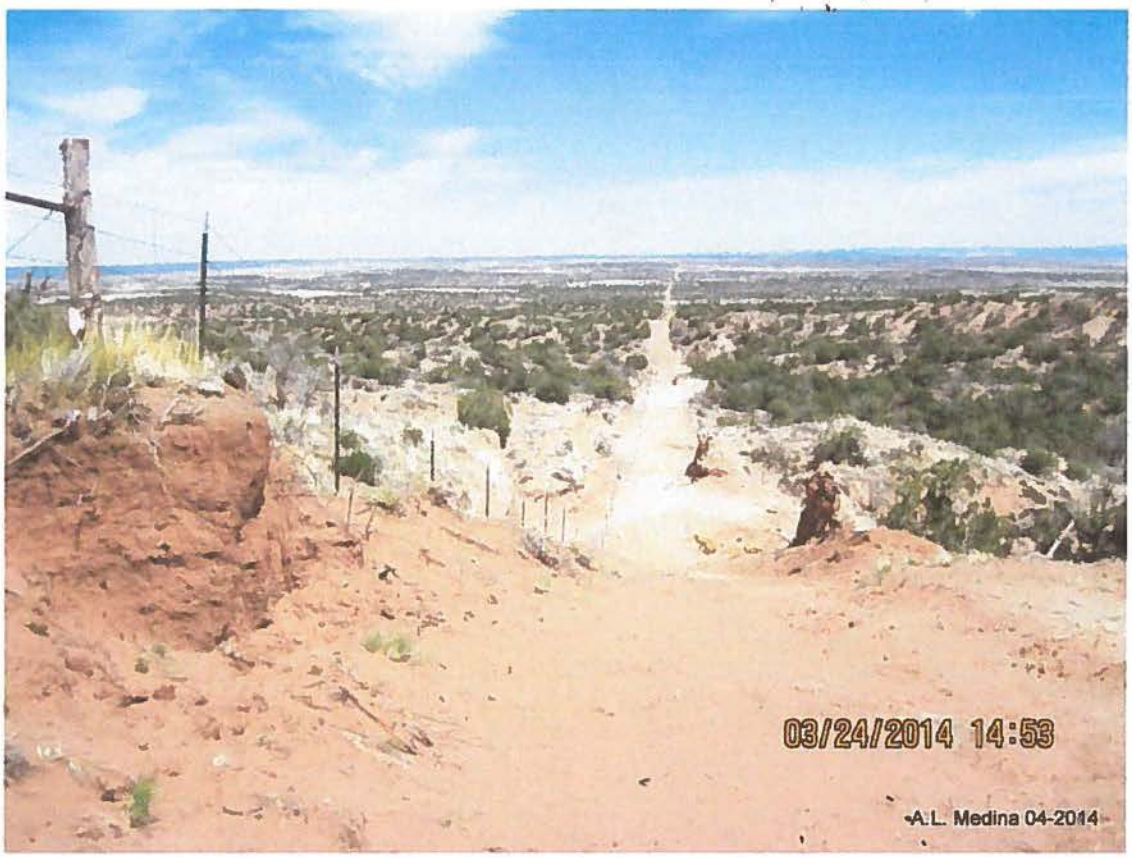


Figure 9. This photo shows the bladed area where the fence was realigned. The action resulted in several areas where the blade made too close contact with the fence and compromised their footing.

Figure 10. This photo shows a historical fence where railroad ties were used as line posts. These are rare on New Lands.

Figure 11. This photo shows the presence of a (drowned) cow that entered from the east side unto the mine area. The fence is entirely absent and submerged under overburden.

Figure 12. This view of the mine shows the limited signing and security fencing.

Figure 13. This photo shows the overburden that continues to migrate easterly and encroach upon New Lands.

Figure 14. This photo shows cut fence line in Middle well. This location is indicated on Figure 1.

Figure 15. This photo shows the deteriorated condition of the fence around the community at Middle Well.

Figure 16. This photo shows 1 of 3 corral units presumably outside the community boundary. Other corrals are on the north boundary.

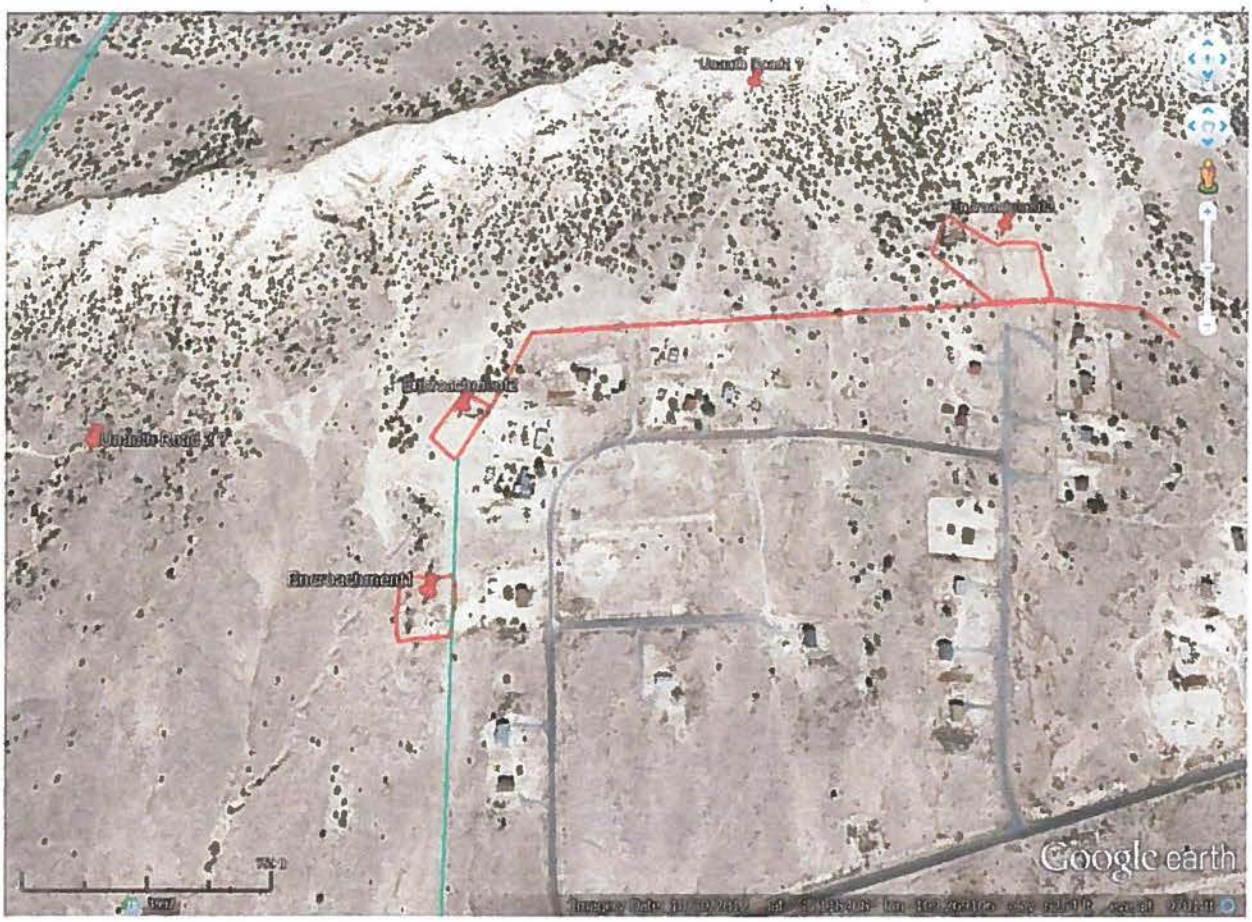


Figure 17. This photo shows the presumed encroachment locations around the west and north sides of the subdivision.