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Land Northward Geography in the Nephite Timeframe

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Chapter 14

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Although the previous chapter already identified the locations of the final events of Jaredite civilization, “Jaredite geography” extends beyond the time of the Jaredites themselves and into subsequent times when the Nephites used their land, “the land northward.” Etymology will prove to be a particularly useful tool in identifying Nephite locations in the former Jaredite lands.

Moron, Shim, Cumorah, Jashon, Shem, and Antum and Mapping the Northern Extent of the Land of Desolation

The land northward also is a part of Nephite history, although for much of their history the Nephites were limited to the land southward. It is apparent that the Nephites created their own geographical names for lands and places in the land northward since the Nephite lands were not identified by the Jaredite names. The Nephites were aware where at least some of the Jaredite lands had been located since they identified the hill Ramah (under its Jaredite name) as the same as the hill Cumorah. The Jaredite land of Moron was identified as being near the land of Desolation. It is also clear that many of the Nephite names for geographic features in the land northward were derived or borrowed from the Jaredite language and held some descriptive meanings in their originating etymology and meaning.

The general location of the land of Moron (at least the southern part) was previously identified early on in Jaredite history, as was the location of the hill Shim. It is likely that the extension of the land of Moron gained in size as the population increased throughout Jaredite history. Mormon and Moroni² indicated the following:

Mormon 1:3

Therefore, when ye are about twenty and four years old I would that ye should remember the things that ye have observed concerning this people; and when ye are of that age go to the land Antum, unto a hill which shall be called Shim; and there have I deposited unto the Lord all the sacred engravings concerning this people.

Ether 7:6

Now the land of Moron, where the king dwelt, was near the land which is called Desolation by the Nephites.

Mormon 6:6

And it came to pass that when we had gathered in all our people in one to the land of Cumorah, behold I, Mormon, began to be old; and knowing it to be the last struggle of my people, and having been commanded of the Lord that I should not suffer the records which had been handed down by our fathers, which were sacred, to fall into the hands of the Lamanites, (for the Lamanites would destroy them) therefore I made this record out of the plates of Nephi, and hid up in the hill Cumorah all the records which had been entrusted to me by the hand of the Lord, save it were these few plates which I gave unto my son Moroni.

Land of Antum

We know, based on the location of the hill Shim and the prior identification of the land of Moron, that the land of Antum likely included some or all of the land of Moron. We also know from Jaredite geography that Omer, when

traveling south past the hill Shim, “came over by the place where the Nephites were destroyed, and from thence eastward” (Ether 9:3).

We also know that the land of Desolation took its name from the location of the destruction of the Jaredites and from at least some observation of the remaining ruins left by the Jaredites.

Helaman 3:6

And now no part of the land was desolate, save it were for timber; but because of the greatness of the destruction of the people who had before inhabited the land it was called desolate.

Alma 22:29–30

29 And also there were many Lamanites on the east by the seashore, whither the Nephites had driven them. And thus the Nephites were nearly surrounded by the Lamanites; nevertheless the Nephites had taken possession of all the northern parts of the land bordering on the wilderness, at the head of the river Sidon, from the east to the west, round about on the wilderness side; on the north, even until they came to the land which they called Bountiful.

30 And it bordered upon the land which they called Desolation, it being so far northward that it came into the land which had been peopled and been destroyed, of whose bones we have spoken, which was discovered by the people of Zarahemla, it being the place of their first landing.

31 And they came from there up into the south wilderness. Thus land on the northward was called Desolation, and the land on the southward was called Bountiful, it being the wilderness which [is (**was**)]* filled with all manner of wild animals of every kind, a part of which had come from the land northward for food.

* *The original Book of Mormon text has “was” instead of “is.”*

At this juncture, we probably have enough information to determine reasonable boundaries for the lands of Antum, Jashon, and Cumorah, as well as the northern boundary of the land of Desolation. The etymology of *Antum* will also be helpful in establishing some reasonable boundaries.

Reasonable geographical etymological units for *Antum* are:

Sumerian

a: water

a-ni, a-ni-ta, a-na (forms of *a*)

an: sky, heaven; upper; crown (of a tree)

an-ta, an-na-ta (forms of *an*)

anta: upper

tum: to be suitable

nu-tum₂, in-tum₃ (forms of *tum*)

tum: wild dove

tum: a fish

u: grass, herb; pasture, plants

u₂-am₃, u₂-mu, u₂-um (forms of *u*)

Constructed Compound Word: **Antum**

An alternate Sumerian etymology of *Antum* suggests kingship and indicates that the Nephite-derived name of Antum likely corresponds with the Jaredite name of Moron, which was “where the king dwelt.”

Sumerian

a: strength; power

a₂-na, a₂-ni, an-na, an (forms of *a*)

an: sky, heaven; upper; crown (of a tree)

an-ta, an-na-ta (form of *an*)

tu: to beat

tu: leader

tu: priest

um: reed rope

Constructed Compound Word: **Antum**

It would also be reasonable to assume that Antum was a land with significant water bodies, since the Egyptian etymology provides the following meaning:

Egyptian

**n.tm(w)*, “many waters, 10,000 waters”

Thus, consistent with the known Jaredite geography, Antum likely included the waters of Ripliancum within its boundaries. Antum is mentioned near the end of the Book of Mormon as being a land north of Desolation and where the hill Shim is located (Mormon 1:3). Generally, it appears that the land of Antum was at least partially in an elevated area, was fertile with many waters and fish, and encompassed the hill Shim and the waters of Ripliancum.

The Land of Jashon

The land and city of Jashon are mentioned as part of the final struggle of the Nephites (Mormon 2:16, 17). The land of Jashon was a place to where the Nephites fled (and were pursued) during a retreat; it was there that they were able to successfully stop their retreat. They “came to” the “land of Jashon,” indicating that the land was somewhat north. The city of Jashon was near the hill Shim, where Ammaron had deposited the records to the Lord. Thus, the land of Jashon was near the hill Shim.

A look at the etymology of *Jashon* provides additional clues as to its location. As previously noted, Sumerian lexicons and dictionaries do not identify a letter *j*, even though one was present originally. Etymological units that help us construct the name *Jashon* and that are clues to its location are:

Sumerian

ašša: clamor, uproar, voice, cry, noise

aš: a boil (on skin)

šun: to shine

uh: to make paste

an: sky, heaven; upper; crown (of a tree)

un: to arise; sky; (to be) high

Constructed Compound Word: **Jasho(h)n**

Hebrew

שן shen: sharp tooth; noun may be used to describe the teeth of humans (Exodus 21:27, Proverbs 10:26); of animals (Deuteronomy 32:24, Job 41:6); and even of a fork (1 Samuel 2:13) or a cliff (1 Samuel 14:4).

shana: color scarlet, color of blood

(www.abarim-publications.com 2016)

Jashon appears to be a land that included volcanoes, with some resemblance to teeth. Given the other parameters, this land looks to be the land just south of Antum and east of Cumorah; this area includes the San Martín volcano and the cinder cones to the south of it and roughly corresponds to the ancient Jaredite land of Heth. By process of elimination, the land Jashon had to allow for the land Desolation to extend to the east sea because a battle likely within the proximity of the city of Desolation (within the land of Desolation) was near enough to the sea that the dead Lamanites were able to be cast into the sea (Mormon 4:7–8). Thus, the land Jashon was bounded on the southeast by the land of Desolation.

The Land of Shem

Shem is a land mentioned in Mormon 2:20–22; the Nephites were again driven northward until they came to the land of Shem. Shem is also the name of a Nephite military leader slain in the final battles with the Lamanites, along with his “ten thousand” (Mormon 6:14). The city of Shem, prior to that point in time, had apparently not been fortified.

It is easy to assume that the land Shem must have lain to the north of the land of Jashon, simply because the flight to the land Jashon occurred prior to the flight to Shem and because the text mentions that there was a movement northward to the “land which was called Shem.” However, in the discussion of these events, Mormon indicates that “they,” “the Nephites,” fled to Jashon, whereas “we,” “the people of Nephi,” were “driven forth” to the land of Shem. Both of these movements happened in the same year (Mormon 2:16–21). While the terms “Nephite” and “people of Nephi” sometimes refer to the same group, the “people of Nephi,” especially as prophesied at the time of Mormon, are distinguished from the general body of the Nephites in that the “people of Nephi” were more righteous (Alma 45:11–14). Based on this language, Mormon was clearly not part of the group of Nephites driven to the land of Jashon, but rather was a part of the group driven to the land of Shem.

One additional factor that indicates the land of Shem is not north of the land of Jashon is the fact that Mormon made no attempt at that time to remove the records from the hill Shim and doesn’t do so until more than 25 years later. Because the hill Shim was located near Jashon, it would be logical that a further drive north would have precipitated Mormon to make an attempt to recover the records before the adjacent area was completely overrun by Lamanites/Gadiantons. The land of Shem was also not proximate to the area of the land of Jashon, since Mormon was not apparently in that battle theater, which is near the east side of the land northward.

The last battle location before the Jashon and Shem advances where Mormon fought was on the borders west by the seashore in the land of Joshua (Mormon 2:6), so the likely place for Shem is on in the west (southern by our directions) area of the Isthmus of Tehuantepec, northward (west by our directions) of the narrow neck and the land of Desolation, which appears to have had an extension all the way to the west sea. The location of Mormon in the west and other Nephites in the east is consistent with a battlefront attempting to hold the line all the way across the narrow neck into the land northward; this is a standard defensive strategy throughout Nephite history. The fact that Shem was not fortified prior to this point in time indicates that it was a bit north (west) of the previous fortified lines, which were on the western further extremities in the southern (eastern) portion of the “small neck,” which also led into the land northward on the west.

It is theoretically possible that the land Shem may have been in the land southward, but since we know that Bountiful was in the northern area of the land southward and ran from the east sea to the west sea, this location is not very likely. The boundaries of the land of Desolation were primarily established by the abandoned ruins of the Olmec/Jaredites, so this area can be excluded. By process of elimination, the area on the west sea just north of the “small neck” is the most likely location for Shem; in addition, the “small neck” is also a militarily strategic location.

The etymology of *Shem* also supports this location because of the location’s unique meteorological feature.

Sumerian

šem: a drum

e: tube

Constructed Compound Word: Shem

Hebrew

שמה *shmh*: root for the common word for heaven, the natural sky, or the abode of God

(www.abarim-publications.com 2016)

The meaning of *Shem* is along the nature of “a tube shaped drum in the sky.” The shape of a drum as a tube or cylinder is consistent with a type of Mesoamerican drum (see figure 64).



Figure 64. Teponaztli Aztec slit drums from Colima, Mexico, Postclassic, ca. 1200–1520 AD. (Wikipedia Commons 2007)

Each year, localized windstorms, known as Tehuano Winds, blast the Gulf of Tehuantepec with dust. The formal recognized name for this phenomenon is *Tehuantepecer*. The topography of the Isthmus of Tehuantepec, the narrow strip of land separating the Gulf of Mexico from the Pacific, plays an important role in these windstorms. Directly north of the Gulf of Tehuantepec is an approximately 40 kilometer-wide gap in Mexico's Sierra Madre Mountains, called Chivela Pass. When a high-pressure ridge from the Arctic moves southward across the central United States and Gulf of Mexico, the resulting northerly flow of cold air becomes blocked by the Sierra Madre Mountains. This accumulation of cold, dense air combined with warm, humid air over the tropical waters of the Pacific create a strong north-south pressure gradient across the isthmus. The enhanced pressure gradient forces northerly winds to be funneled through the narrow Chivela Pass and persist up to several hundred kilometers offshore, giving rise to Tehuano Winds. In addition, a "rope cloud" (i.e., an arced line of cumuliform clouds) often marks the leading edge of the Tehuano Winds once an event is underway (See figure 65).

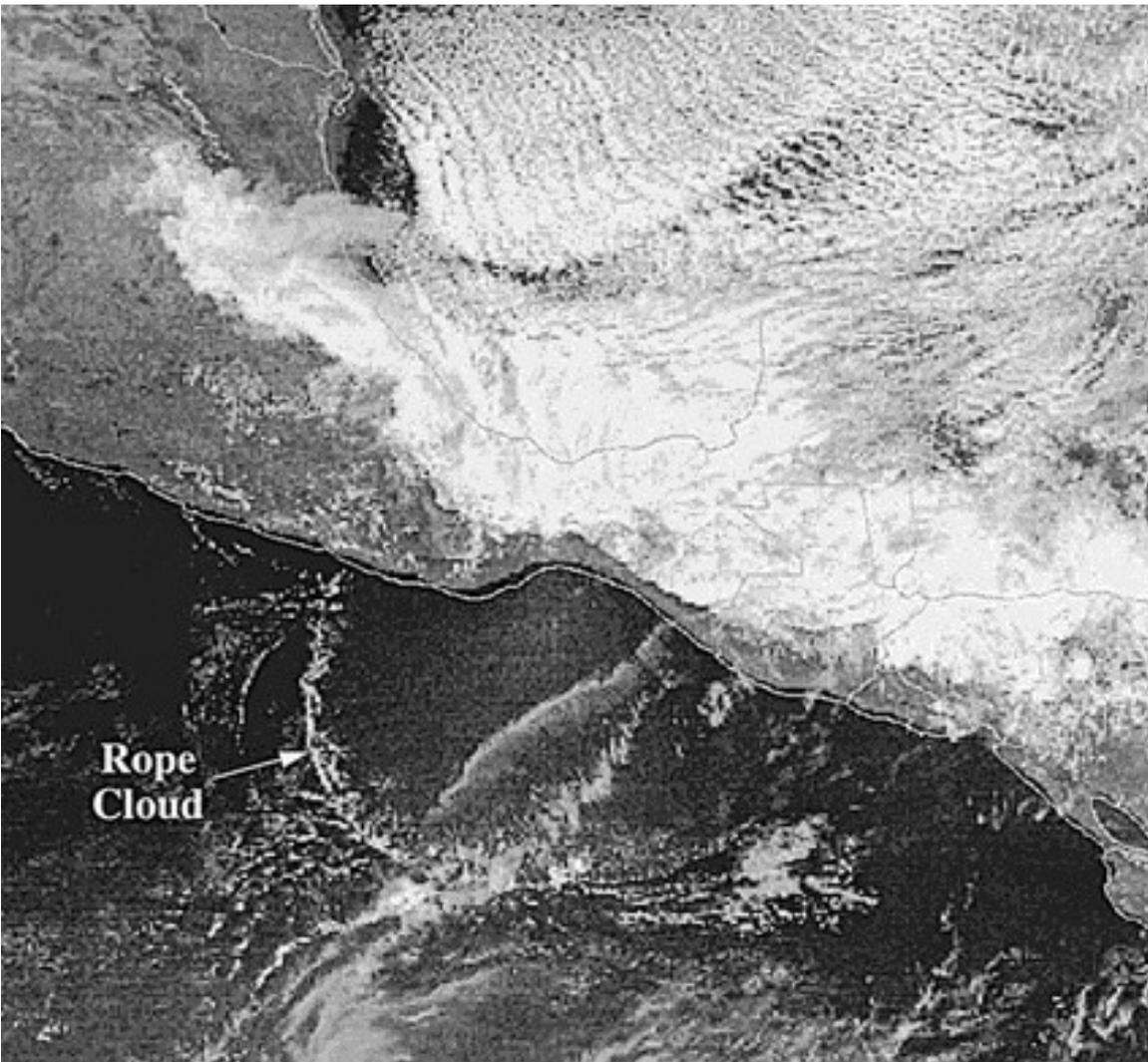


Figure 65. Satellite image of a Tehuano wind event. Note the "rope cloud" west and south of the Gulf of Tehuantepec. (Steenburgh et al. 1998)

The shape of this leading rope cloud can vary but may at times appear to be a tube or roll (see figure 66).



Figure 66. A roll cloud formed at Uruguay's Las Olas beach in January 2009. (NASA 2009)

The sound of drums is an apt description of the Tehuantepecer thunderstorms. Tehuantepecer winds reach 20 knots (40 kilometers/hour) to 45 knots (80 kilometers/hour) and on rare occasions 100 knots (200 kilometers/hour). The winds move from the north to the north-northeast; they lead to a localized acceleration of the trade winds in the region and can enhance thunderstorm activity when they interact with the Intertropical Convergence Zone. The effects can last from a few hours to six days.

Mesoamerican drums were combined with strings or rasps and can generate a variety of sounds, and so perhaps they could also imitate the sounds of the roaring Tehuantepecer winds.

Cumorah

The land of Cumorah also was in a “land of many waters, rivers and fountains,” which is descriptive of a portion of the Tuxtla Mountains.

Mormon 6:4

And it came to pass that we did march forth to the land of Cumorah, and we did pitch our tents around about the hill Cumorah; and it was in a land of many waters, rivers, and fountains; and here we had hope to gain advantage over the Lamanites.

Cumorah appears to have two etymologies—one is likely applicable to the land, and the other to the events of the hill itself:

Land of Cumorah

Sumerian

ku: to discharge

ku-um (form of *ku*)

kum: (to be) hot

kum₄-ma, kum₂-ma, kum₂-a (forms of *kum*)

mah: (to be) great

mah-a, ma-ha, mah-ra (forms of *mah*)

mahra: foremost

a: water

a-a, a-ur₂ (forms of *a*)

mu: a fish

mu: good, beautiful

ah: foam

uh₃-a (form of *ah*)

he: be it, be he

Constructed Compound Word: **Cumo(h)rah**

This etymology indicates that the land of Cumorah likely contained a large active volcano and a lake.

Hill Cumorah

Sumerian

ku: to place, lay (down)

ku-um (form of *ku*)

u: defeat

ma: a siege engine?

mah: (to be) great

mah-a, ma-ha, mah-ra (forms of *mah*)

mahra: foremost

mu: to crush, mangle

arah: storehouse, storeroom

ar: fame

ar₂-ra (form of *ar*)

ar: ruin

rah: to beat, kill; to break, crush

u₃-mu-ra₂, u₃-ma-rah₂, mu-rah₂ (forms of *rah*)

Constructed Compound Word: Cumorah

The most important parameter in evaluating potential borders of the land of Desolation is to determine the Olmec cities and the dates of their abandonment and demise, since the Book of Mormon indicates that this information is the basis for the description of the land. In order to apply this parameter, it is important to determine when the desolation was observed. Based on Alma 22:29–31, the first landing of the people of Zarahemla occurred in the

southern confines of the land of Desolation, which they are said to have discovered. From a careful reading of verse 30, it is clear that the land itself was discovered at that time—there is no direct indication that the destruction and bones were discovered at that time since “was” is singular and as such presumably refers to “land” and not “bones” and reflects the discovery of the land, not the bones and destruction.

Alma 22:30–31

30 And it bordered upon the land which they called Desolation, it being so far northward that it came into the land which had been peopled and been destroyed, of whose bones we have spoken, which was discovered by the people of Zarahemla, it being the place of their first landing.

31 And they came from there up into the south wilderness. Thus land on the northward was called Desolation, and the land on the southward was called Bountiful, it being the wilderness which [is (**was**)]* filled with all manner of wild animals of every kind, a part of which had come from the land northward for food.

* *The original Book of Mormon text indicates “was” instead of “is.”*

The “they” in the “they called” clause refers to the later Nephites, who called the land “Desolation,” not the people of Zarahemla (Alma 22:30). It is not specifically known when the people of Zarahemla arrived, but based on the identity of Mulek as one of the sons of Zedekiah (Helaman 8:21), a likely arrival date would be circa 580 to 560 BC. The text does not indicate how long the people of Mulek remained in the land that would later be called Desolation since Mulek then came up into the “south wilderness,” which was later called the land of Bountiful. Mosiah 25:2 seems to indicate that not all of the people that landed with Mulek came up into the south wilderness at that time:

Mosiah 25:2

Now there were not so many of the children of Nephi, or so many of those who were descendants of Nephi, as there were of the people of Zarahemla, who was a descendant of Mulek, and those who came with him into the wilderness.

The text does not mention that Mulek himself moved to the south wilderness, so based on a reasonable lifespan for Mulek, the people of Zarahemla would still have been in the area later known as Desolation in 540 BC. Based on the Book of Mormon readings so far, there is no clear indication that the people of Zarahemla observed the ruins and destruction for which the land of Desolation was named. The Book of Mormon does indicate that the last king of the Jaredites, Coriantumr₂, visited the people of Zarahemla for a period of nine “moons” but does not say exactly when that occurred, although it was likely while they were in the south wilderness since they may have moved to avoid the Jaredite conflict. Ether 13:21 does indicate that Coriantumr₂ would receive a burial by “another people receiving the land for their inheritance,” indicating that he died at the end of the nine-moon period with the people of Zarahemla.

It is clear from later references in the Book of Mormon that the land of Zarahemla was not part of the land Bountiful. The people of Zarahemla had moved from the south wilderness to the land of Zarahemla sometime before 209 BC, when they were joined by Mosiah₁ and his people. Mosiah₁ died in approximately 164 BC, so we know that sometime between 209 and 164 BC, a large stone was brought that was engraved with the description of Coriantumr₂ and the “slain of his people” (Omni 1:21). Amaleki, who recounts this story and then indicates that he had a knowledge that the “bones” of Coriantumr₂’s people “lay scattered in the land northward.” It is not clear if that knowledge came from what may have been on the stone, if those that brought the stone had observed something, or if he had knowledge from some other source.

A later group sent out by the Limhites from the land of Nephi in about 128 BC also observed the bones and destruction but initially thought that they belonged to the people of Zarahemla and apparently had no knowledge

of the ruins and bones of the Jaredites, which indicates that Amaleki's knowledge of the bones postdated the departure of Zeniff (the founder of the Limhites) in about 179 BC. So the earliest date for knowledge by the Nephites and the people of Zarahemla regarding the destruction of the Jaredites was around 180 BC. By way of note, the source of the various dates during this timeframe were determined by the dates provided in the Caractors Document (Grover 2015; there is an erratum in this source that corrects the date of arrival of the large stone). More details of the Coriantumr₂ stone chronology are discussed later.

So what is the purpose of this discussion (other than having a more exact understanding of chronology)? It was to determine the point in time beyond which the Olmec cities were known to be abandoned so as to better define the boundaries of the land of Desolation. At this point, the date abandonment was observed is around 180 BC.

Some Olmec cities and other locations, with the periods of their formation and abandonment, are:

El Manatí, 1700–1200 BC

La Merced, 1510–1200 BC

San Lorenzo, 1750–400 BC (final population was gone sometime between 300 BC–50 BC)

Las Limas, 1200–1000 BC

Laguna de los Cerros, 1400–1000 BC

Llano de Júcaro, 1400–1000 BC

La Venta, 100–400 BC

Tres Zapotes, 1000 BC–1000 AD

Tuxtla Mountains

Rio Catemaco Drainage (Vanderwarker 2006)

Matacapán, 1400–1000 BC

La Joya, 1400 BC–300 AD

Chiuniapan de Abajo, 400 BC–300 AD

Overall Olmec Abandonment

By 400 BC most sites in the eastern Olmec area were abandoned (Pool 2007, 243–46). During the Late Formative period, starting in 400 BC, beginning a few kilometers north of Laguna de los Cerros, the number of occupied sites increased dramatically. In the central Tuxtla Mountains, the population dipped only slightly after 400 BC. On the western margin of the Tuxtla Mountains, the settlement sites and patterns became larger and more numerous after 400 BC, although as part of a modified culture called the Epi-Olmec. The population centers of the Epi-Olmec are shown in figure 67.



Figure 67. Epi-Olmec population centers. (www.wikipedia.org 2016b)

Also of local effect during the Late Formative period, 400 BC–100 AD, there were also volcanic eruptions noted north of Lake Catemaco, with ash deposition to the central Tuxtlas which affected La Joya and Maticapan, some of which occurred prior to 180 BC (Santley et al. 2000). That the description of the destruction includes the bones of beasts and other animals such as birds and reptiles indicates burial by volcanic eruption and may be of some help in drawing the northern boundary of the land of Desolation. Ether 7:6 indicates that the Jaredite land of Moron was near the land Desolation.

The scope of this work is limited to the land northward and its close environs; however, it is necessary to look at various boundaries at the southern extent of the land northward and also somewhat into the land southward in order to determine the probable boundary between the land northward and the land southward, as well as the southern boundary of the land of Desolation.

The following boundaries and features are important to determine:

1. Southern extent of the Olmec/Jaredite civilization
2. The narrow neck
3. The boundary between the land Bountiful and the land Desolation
4. Location of the line (river) Bountiful

Southern Extent of the Olmec/Jaredite Civilization

The geographical extent of the Olmec/Jaredite civilization is important in determining the northern extent of the land Bountiful. Bountiful “came into the land which had been peopled and been destroyed,” so at least part of the Bountiful boundary lies within that area. In addition, since the land of Desolation apparently takes its name from the presence of abandoned Olmec/Jaredite sites, the Olmec boundary will be helpful in delimiting the boundary of the land of Desolation.

Alma 22:29–30

29 And also there were many Lamanites on the east by the seashore, whither the Nephites had driven them. And thus the Nephites were nearly surrounded by the Lamanites; nevertheless the Nephites had taken possession of all the northern parts of the land bordering on the wilderness, at the head of the river Sidon, from the east to the west, round about on the wilderness side; on the north, even until they came to the land which they called Bountiful.

30 And it bordered upon the land which they called Desolation, it being so far northward that it came into the land which had been peopled and been destroyed, of whose bones we have spoken, which was discovered by the people of Zarahemla, it being the place of their first landing.

Figure 68 shows a map of the principal sites that are clearly Olmec. In trying to draw a line on the map, it is clear that there is no line that can be drawn that will be a precise cultural boundary; it will always be an approximate zone where one culture grades into another or peters out. On the Gulf of Mexico side of the Isthmus of Tehuantepec, somewhere just east of La Venta, would be an approximate line. On the Pacific side of the Isthmus of Tehuantepec, two sites, Tepalcate and Laguna Zope, are included as Olmec. Most do not consider them fully Olmec; however, they are considered to have the same cultural tradition as the Olmec (Winter et al. 2017, 193). These sites were also not abandoned at the time of the Olmec demise, so this very western boundary is considered tentative, lacking other correlations. The area to the southwest of Laguna Zope, along the Pacific coast, is called the Soconusco, and although there were some Olmec influence and enclaves in the area, the predominant cultures in this region are considered distinct entities with significantly different lifestyles and material culture (Clark and Pye 2011, 33).



Figure 68. Olmec cultural boundaries.

The Narrow Neck

On the east, based on the description in Ether of the opening of the land southward as a hunting preserve, the great city of Lib₁ (La Venta) was “by” the narrow neck (Ether 10:20):

Ether 10: 19–20

19 And it came to pass that Lib also did that which was good in the sight of the Lord. And in the days of Lib the poisonous serpents were destroyed. Wherefore they did go into the land southward, to hunt food for the people of the land, for the land was covered with animals of the forest. And Lib also himself became a great hunter.

20 And they built a great city by the narrow neck of land, by the place where the sea divides the land.

On the west, Hagoth launched ships by the “narrow neck” into the west sea, which launching place is on the borders of the land Bountiful and “by” the land Desolation.

Alma 63:5

And it came to pass that Hagoth, he being an exceedingly curious man, therefore he went forth and built him an exceedingly large ship, on the borders of the land Bountiful, by the land Desolation, and launched it forth into the west sea, by the narrow neck which led into the land northward.

The most reasonable location for the “narrow neck” is the narrowest point on the Isthmus of Tehuantepec. The term “small neck” appears once in the Book of Mormon and appears to be in proximity to the “narrow neck” since it is also located near the border between the land northward and the land southward. The reference to the “small neck” occurs at the tail end of a discussion of the boundaries of the Nephite polity:

Alma 22:29–32

29 And also there were many Lamanites on the east by the seashore, whither the Nephites had driven them. And thus the Nephites were nearly surrounded by the Lamanites; nevertheless the Nephites had taken possession of all the northern parts of the land bordering on the wilderness, at the head of the river Sidon, from the east to the west, round about on the wilderness side; on the north, even until they came to the land which they called Bountiful.

30 And it bordered upon the land which they called Desolation, it being so far northward that it came into the land which had been peopled and been destroyed, of whose bones we have spoken, which was discovered by the people of Zarahemla, it being the place of their first landing.

31 And they came from there up into the south wilderness. Thus the land on the northward was called Desolation, and the land on the southward was called Bountiful, it being the wilderness which [is (was)]* filled with all manner of wild animals of every kind, a part of which had come from the land northward for food.

** The original Book of Mormon text has “was” instead of “is.”*

32 And now, it was only the distance of a day and a half’s journey for a Nephite, on the line Bountiful and the land Desolation, from the east to the west sea; and thus the land of Nephi and the land of Zarahemla were nearly surrounded by water, there being a small neck of land between the land northward and the land southward.

Remembering that a line is a river, verse 32 requires, (since the Nephite polity is described as being bounded by water), that the “small neck” is the only area that is not considered to be “water.” The punctuation of the Book of Mormon was not original, and removing the comma after “Nephite” renders the passage “a day and a half’s journey for a Nephite on the line (river) Bountiful and the land Desolation,” which indicates travel on a significant river through much of the isthmus and then the remainder through a portion of the land Desolation.

The location of this measure begins at the east sea (at least that is a reasonable interpretation), proceeds on the River Bountiful and then at some point through a portion of the land Desolation, and then ends at the west sea. The natural fit at the narrowest point of the Isthmus of Tehuantepec that matches the Book of Mormon is the River Bountiful (interpreting “line Bountiful” as the Coatzacoalcos River). Starting on the east sea (Gulf of Mexico) at the mouth of the Coatzacoalcos River, “a Nephite” would proceed upriver to its headwaters. The “small neck” would be up in the higher elevation of the Chivela Pass, along the ridgeline that divides the Pacific-side hydrological drainage from the Gulf of Mexico side (see figure 69) after the tributary headwaters of the Coatzacoalcos River are reached. This ridgeline constituting the “small neck,” which runs east and west, is located approximately two miles south of the small town Santiago Izaltepec. Proceeding down from the ridgeline, toward the Pacific Ocean, one reaches the west sea (Pacific Ocean).

This distance journey down from the pass can also utilize a river passage or route (following tributaries of the Chicapa River) to arrive at the west sea. This path is consistent with the notion that the “small neck” consisting of the pass’s ridgeline is the only section that does not involve a water boundary. That the passage beyond the River Bountiful is described as being in the land of Desolation further delineates where the land of Desolation sits west of the headwaters of the River Bountiful.

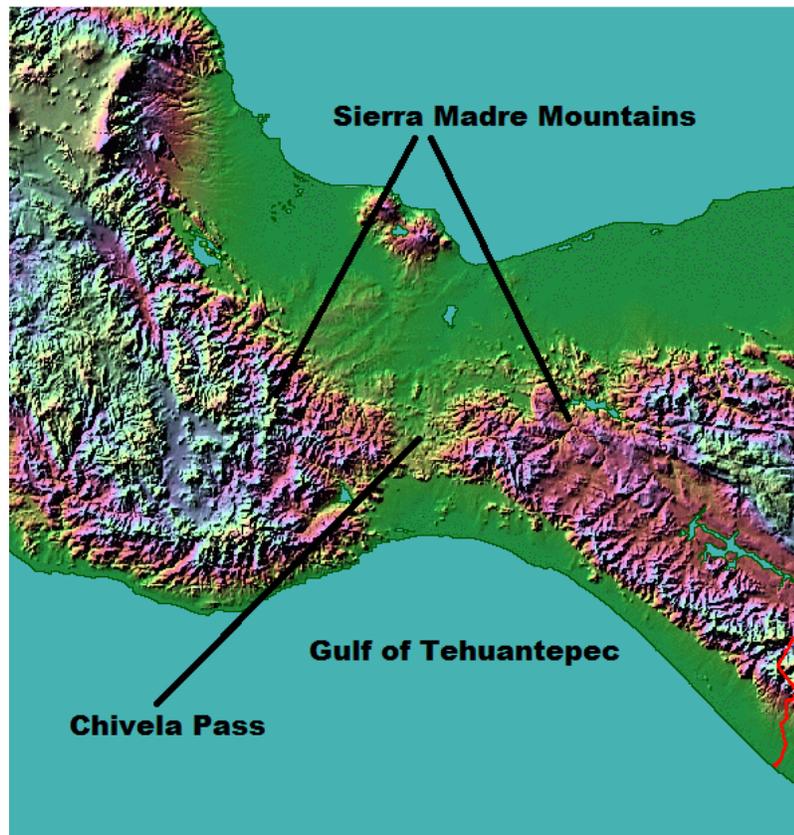


Figure 69. Diagram showing Chivela Pass.

Figure 70 shows the path to go from one side of the “narrow neck” to the other that was a day and a half’s journey for a Nephite. The location of Hagoth’s launch area, shown in figure 70, at the lagoon complex (although it likely had a different configuration in his day) is also consistent with the description that it was within the land of Bountiful, specifically “on the borders of the land Bountiful” but still “by the land Desolation” and “by the narrow neck which led into the land northward.”



Figure 70. Path across the “narrow neck” along the River Bountiful (blue) and through a portion of the land of Desolation (green) and through the “small neck” (orange).

The Boundary between the Land Bountiful and the Land Desolation and the River Bountiful

Assuming the River Bountiful is the Coatzacoalcos River and serves as a portion of the northwestern boundary of the land Bountiful is consistent with the text, which describes the boundary as a river between the land Bountiful and the land Desolation:

3 Nephi 3:23

And the land which was appointed was the land of Zarahemla, and the land which was between the land Zarahemla and the land Bountiful, yea, to the line which was between the land Bountiful and the land Desolation.

This boundary is also consistent with the description that a portion of the Olmec/Jaredite territory was contained in the land Bountiful, which the text indicates was “so far northward that it came into the land which had been peopled and destroyed”:

Alma 22:29–30

29 And also there were many Lamanites on the east by the seashore, whither the Nephites had driven them. And thus the Nephites were nearly surrounded by the Lamanites; nevertheless the Nephites had taken possession of all the northern parts of the land bordering on the wilderness, at the head of the river Sidon, from the east to the west, round about on the wilderness side; on the north, even until they came to the land which they called Bountiful.

30 And it bordered upon the land which they called Desolation, it being so far northward that it came into the land which had been peopled and been destroyed, of whose bones we have spoken, which was discovered by the people of Zarahemla, it being the place of their first landing.

As can be seen in figure 70, some of the abandoned Olmec sites (La Venta, Arroyo Pesquero, Los Soldados, and El Manatí) are located east and southeast of the River Bountiful and are thus in the land of Bountiful, just as is indicated in the scripture.

Alma 22:29–30 also reiterates what is indicated in 3 Nephi 3:23: the land of Desolation and the land of Bountiful border each other. Alma 22:33 identifies another important parameter of the boundary of the land Bountiful—that the land of Bountiful extends from the east to the west sea:

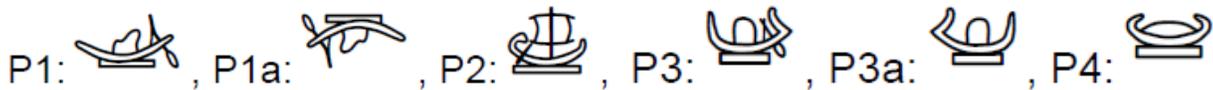
Alma 22:33

And it came to pass that the Nephites had inhabited the land Bountiful, even from the east unto the west sea, and thus the Nephites in their wisdom, with their guards and their armies, had hemmed in the Lamanites on the south, that thereby they should have no more possession on the north, that they might not overrun the land northward.

Before proceeding further, it is useful to look more in detail at the distance identified across the narrow neck.

Rivers as Lines

As has already been mentioned, “line” in the Book of Mormon is a reference to a river; the word is mentioned only four times in the Book of Mormon, all in reference to rivers. The River Sidon is not mentioned as a “line,” and it is fairly obvious what the difference is: there is no indication that the River Sidon ever served as a boundary between nations or lands, while the other two rivers called “lines” did. In addition, it is clear from the river directional glyphs found in the Caractors Document (Grover 2015) that the descriptor of “line” is perfectly appropriate, since a river is represented by a line in the Caractors glyphs. In all Egyptian hieroglyphs involving boats, the river is also represented as a line, even for capsized boats:



Finally, there is no mention of a “line” when dealing with the west side of the land Bountiful, in the land of Desolation, or otherwise in the land northward.

The interpretation of the word “line” as a river resolves the long debate surrounding Alma 22:32, which indicates that “a Nephite” can traverse the narrow neck in a day and a half.

Some have tried to calculate the average running speed of a Nephite needed to traverse the 140-mile or so neck of land across the Isthmus of Tehuantepec. What everyone has ignored is that the Book of Mormon doesn’t say that he ran—it says that he traveled and specifically journeyed (for a portion of the trip) “on the line,” or on the river. It also doesn’t say he traveled alone; he could have taken a boat going downriver or upriver, depending on the direction being traveled. There is mention of cargo ships in the Book of Mormon, so there were probably boats available on the River Bountiful. At 4–5 miles per hour in a flatwater canoe, half the distance could be traversed in 16 hours, accounting for river meanders, and if timed right, a Nephite could even sleep all night in the boat and then traverse the remaining 60 miles during the next 20 hours at a rate of 3.5 miles per hour, not an unreasonable brisk walking speed; this scenario also assumes that there is no need to go from beach to beach. A portion of the travel down the west slope of the isthmus could also be made by going downriver in a canoe at a much faster pace than walking or running.

Anciently, Egypt was divided into administrative districts, or provinces, called *sepat* (*spʒt*). Rivers were almost exclusively used as the boundaries between *sepats*, or points along the main Nile River (see figure 38).

The hieroglyph known as Gardiner Number Aa-8 is the primary hieroglyph that constitutes the word *sp3t* in its simplest form, and it is nearly identical to this form in the hieratic:

Aa8: 

The form is itself a line and so is consistent with the Book of Mormon translation of a river as a “line.” It also is the primary glyph in the Egyptian word for “desert edge,” *ḏ*, and would be a probable candidate, because of its simplicity, for the originating glyph for the word “borders” in the Book of Mormon.

“Line” would also be an appropriate translation into English for a “river that serves as a boundary,” since “line” in the Oxford English Dictionary (2015) is defined in part as “track, course, direction” and gives as an example a “river line,” describing a defensive military boundary.

Discussion of Units of Distance

It is tempting to jump to the conclusion that the term “day’s journey” is a standard unit of measured distance instead of a time-unit of distance, a time-unit being dependent on the time it takes for the individuals traveling to cover the given distance (e.g., a large group of men, women, and children crossing a distance versus an individual Nephite soldier delivering critical dispatches). There are many mentions of travel in relation to days in the Book of Mormon: 1 Nephi preface, 2:6, 16:13, 16:15, 16:17, 16:33, 18:9, 18:13, 18:14, 18:15, 18:23; 2 Nephi 5:7; Mosiah 7:4, 7:5, 8:8, 9:4, 22:13, 22:16, 23:3, 23:30, 24:20, 24:24–25; Alma 2:19, 8:6, 17:9, 22:32, 56:4; Helaman 4:7; and Ether 6:11, 9:3. Of all these passages, only five contain the term “day’s journey” or its equivalent (1 Nephi preface; Mosiah 23:3; Alma 8:6, 22:32; and Helaman 4:7). One would expect consistent use of the term “day’s journey” if it was a standard unit of distance, but that is not the case. In addition, the term was used in the 1 Nephi preface, and later in the text, the exact same trip is recounted as they “traveled three days” (1 Nephi 2:6), which does not support a distance-unit term. All of the references for day’s journeys in the Book of Mormon except for two (Alma 22:32; Helaman 4:7) refer to specific individuals and groups of people actual traveling on a specific trip. These two descriptions of boundary lengths do not involve the actual travel of specific individuals or groups and include the term “for a Nephite”—this reference to a single, individual traveler indicates a time period of travel distance unique to the particular traveler(s), not a standard unit of distance.

Narrow Pass

The “narrow pass” is identified by Sorenson as a geographic feature (see figure 42) that consists of a raised ridge or series of small connected hills that commences just west of the Coatzacoalcos River and runs in a generally western direction through the town of Chinameca and on westward. The narrow pass is described as being within the “borders of the land of Desolation” (Alma 50:34). This geographic location is reasonable and conforms with the verses that mention it (Alma 50:34, 52:9; Mormon 3:5).

Alma 50:34

And it came to pass that they did not head them until they had come to the borders of the land Desolation; and there they did head them, by the narrow pass which led by the sea into the land northward, yea, by the sea, on the west and on the east.

The last phrase is a bit confusing, but remembering that there was virtually no punctuation in the original dictation of the Book of Mormon, this verse could be interpreted to mean that the narrow pass was by the sea and ran in an east-west direction or, alternatively, that they were “headed” at both ends of the narrow pass.

A “narrow passage” is referred to in Mormon 2:29. While it may be an alternative term for the “narrow pass,” it is also a workable possibility that the term referred to access across the “small neck” in the southern portion of the Isthmus of Tehuantepec.

The Boundary between the Land Northward and the Land Southward

Having defined the Olmec/Jaredite cultural boundary, the “narrow neck,” and the boundary between the land Desolation and the land Bountiful, the question still remains as to what is the boundary line between the land northward and the land southward. Could it be either of these or something different? Many people just assume that the “narrow neck” divides the land northward from the land southward. Instead of making this kind of an assumption, it is necessary to go to the Book of Mormon text, and there is nothing there that indicates the “narrow neck” to be the boundary.

The only land mentioned south of the land of Desolation is the land of Bountiful. The land Bountiful was previously known as, or was at least part of, the wilderness referred to in Jaredite times as the land “covered with animals of the forest” (Ether 10:19), where the Jaredites at the time of Lib₁ hunted for food and preserved “the land southward” for the hunting of game, which is likely the reason it was named Bountiful. Alma 22:31 mentions that the animals had migrated from the land northward to the land southward to get food, which seems to be consistent with what happened anciently in Jaredite times under king Heth when there was a famine (and poisonous serpents) and when the flocks of the Jaredites “fled into the land southward” (Ether 9:32).

This discussion, and the discussions surrounding the location of the great city built by Lib₁ as La Venta and the land southward as a preserve, plausibly indicate that La Venta was at or just inside the land northward boundary.

Starting on the east sea, the description of the great city of Lib₁ (La Venta) places it in the land northward, just on the boundary with the land southward, adjacent to the game preserve (discussed earlier). At least on the east sea, the boundary between the land northward and the land southward does not align with the “narrow neck” or the River Coatzacoalcos but looks to be the Olmec cultural boundary approximately at the outfall of the old River Bari. There is one set of scriptures that better establishes the boundary between the land northward and the land southward and is also consistent with the Olmec/Jaredite cultural boundary line:

Helaman 4:5–8

5 And in the fifty and seventh year they did come down against the Nephites to battle, and they did commence the work of death; yea, insomuch that in the fifty and eighth year of the reign of the judges they succeeded in obtaining possession of the land of Zarahemla; yea, and also all the lands, even unto the land which was near the land Bountiful.

6 And the Nephites and the armies of Moronihah were driven even into the land of Bountiful;

7 And there they did fortify against the Lamanites, from the west sea, even unto the east; it being a day's journey for a Nephite, on the line which they had fortified and stationed their armies to defend their north country.

8 And thus those dissenters of the Nephites, with the help of a numerous army of the Lamanites, had obtained all the possession of the Nephites which was in the land southward. And all this was done in the fifty and eighth and ninth years of the reign of the judges.

These verses establish a Nephite defensive position or line. One important element is the statement that, with the Nephites having retreated to this defensive position, the Lamanites “obtained all the possession of the Nephites which was in the land southward.” It is possible that perhaps some minor areas of the land northward had fallen as well; however, the verses don’t say that, and the language that says they were defending their “north country,” indicates that the land northward was still in Nephite hands. At a minimum, determining the location of this line and the area northwards of it will determine area that would not be considered to be in the land southward.

Details of this defensive position include, first, that the defensive position went from the west sea all the way to the east sea (at least under the most common textual interpretation). This is also the interpretation that would probably be required if the Nephites were to leave no defensive gap for the Lamanites to cross to attack the land northwards. Second, the defensive line was at least substantially within the boundaries of the land Bountiful since the armies “were driven *even into* the land Bountiful.” Third, the defensive position involved, at least in part, a “line,” or river, that covered a distance of a “day’s journey for a Nephite.” It is tempting to try to interpret this verse to the effect that the entire defensive line from the east sea to the west sea was a day’s journey, but that is an impossible reading since the narrowest point, the “narrow neck,” is a day and a half’s journey. Since we do have an approximate distance of 140 miles for the “narrow neck,” equal to a day and a half’s journey, a reasonable distance for the river involved in the defensive line, listed as a day’s journey, would be approximately 90–95 miles.

The only real candidate for a portion of a river of that length in the land of Bountiful is the Rio Uxpanapa. The defensive line could have likely included part of the Bari River (Tonala), so more as the crow flies the length would be approximate the 90-95 miles, or just the section of the Uxpanapa River that is part of the defensive line, considering that the river, including twists and turns, also is approximately that distance. Under the premise that a preferred military defensive line would have involved rivers and/or elevated terrain, and also considering that a reasonable boundary for the lands northward and southward would be the same as the Olmec/Jaredite cultural boundary, the location of this Nephite defensive boundary is identified in figure 71.

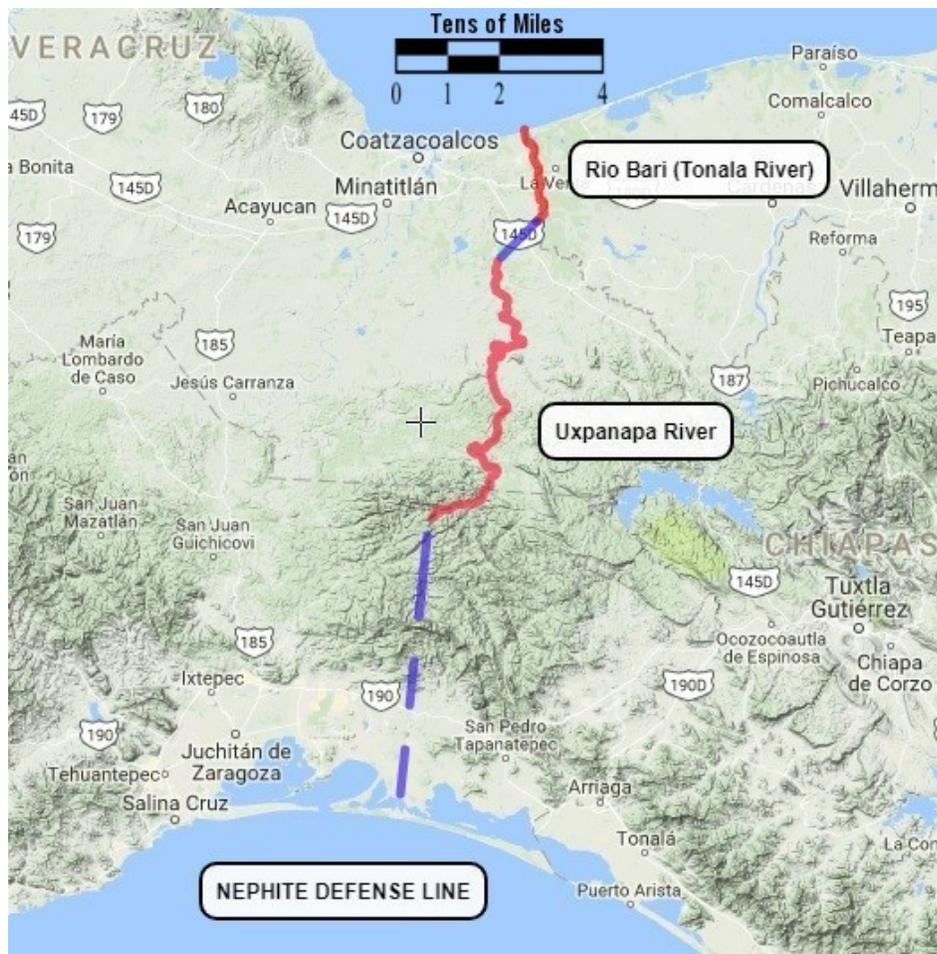


Figure 71. Nephite line of defense along rivers (red) and overland (purple).

With these boundaries identified, it is now possible to construct a consistent map of the land northward showing the Nephite lands and the boundary between the land northward and the land southward, as determined by the Nephites (see figure 72).

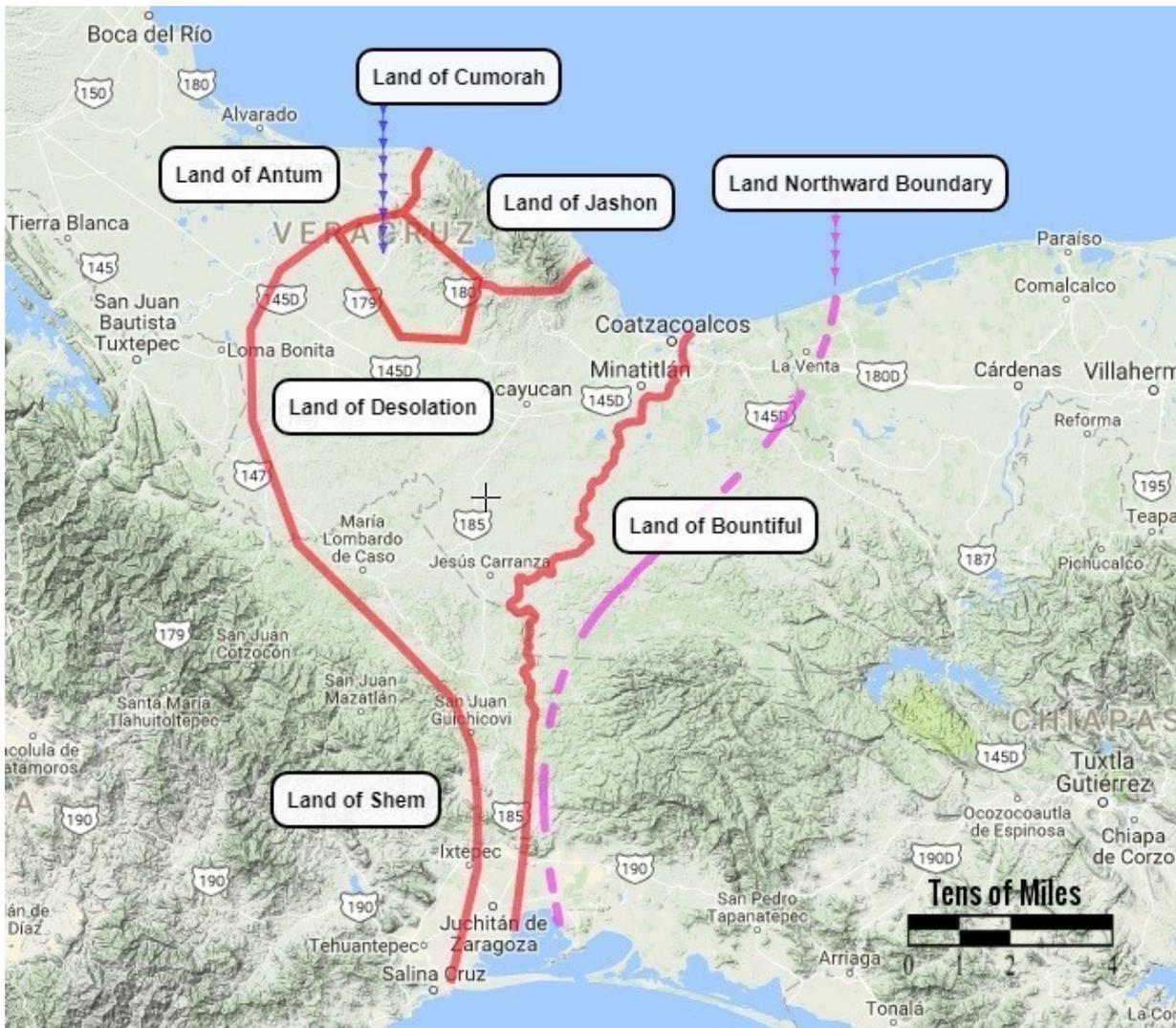


Figure 72. Nephite lands in the land northward and the land northward boundary.

Alma 22:29–31

29 And also there were many Lamanites on the east by the seashore, whither the Nephites had driven them. And thus the Nephites were nearly surrounded by the Lamanites; nevertheless the Nephites had taken possession of all the northern parts of the land bordering on the wilderness, at the head of the river Sidon, from the east to the west, round about on the wilderness side; on the north, even until they came to the land which they called Bountiful.

30 And it bordered upon the land which they called Desolation, it being so far northward that it came into the land which had been peopled and been destroyed, of whose bones we have spoken, which was discovered by the people of Zarahemla, it being the place of their first landing.

31 And they came from there up into the south wilderness. Thus the land on the northward was called Desolation, and the land on the southward was called Bountiful, it being the wilderness which [is (**was**)]* filled with all manner of wild animals of every kind, a part of which had come from the land northward for food.

** The original Book of Mormon text has "was" instead of "is."*

Alma 50:34

And it came to pass that they did not head them until they had come to the borders of the land Desolation; and there they did head them, by the narrow pass which led by the sea into the land northward, yea, by the sea, on the west and on the east.

Mormon 3:5, 7–8

5 And it came to pass that I did cause my people that they should gather themselves together at the land Desolation, to a city which was in the borders, by the narrow pass which led into the land southward.

7 And it came to pass that in the three hundred and sixty and first year the Lamanites did come down to the city of Desolation to battle against us; and it came to pass that in that year we did beat them, insomuch that they did return to their own lands again.

8 And in the three hundred and sixty and second year they did come down again to battle. And we did beat them again, and did slay a great number of them, and their dead were cast into the sea.

Mormon 4:1–3

1 And now it came to pass that in the three hundred and sixty and third year the Nephites did go up with their armies to battle against the Lamanites, out of the land Desolation.

2 And it came to pass that the armies of the Nephites were driven back again to the land of Desolation. And while they were yet weary, a fresh army of the Lamanites did come upon them; and they had a sore battle, insomuch that the Lamanites did take possession of the city Desolation, and did slay many of the Nephites, and did take many prisoners.

3 And the remainder did flee and join the inhabitants of the city Teancum. Now the city Teancum lay in the borders by the seashore; and it was also near the city Desolation.

North Country and North Countries (and South Countries)

As part of a dearth among the Jaredites, there was a migration of snakes and animals "towards the land southward," which was called by the Nephites Zarahemla" (Ether 10:31). The snakes stopped at a certain point and hedged "up the way so that the people could not pass" (Ether 9:33). It has been postulated that the likely location where these snakes could have effectively blocked passage of the people is the "narrow pass" or passage discussed later in the Book of Mormon in Jaredite times (Sorenson 1992, 324; see figure 42). Moroni₂ discusses that after the people repented, "there began to be fruit in the north countries, and in all the countries round about" (Ether 9:35).

So what are the "north countries?" Sorenson (1992) indicates it was Moroni₂'s unique way of referring to the land northward (307). However, Moroni₂ does use the term "land northward" in Ether 10:21, so it may be something different; likely the "north country" (Ether 1:1) or "north countries" is a subset of the "land northward," but perhaps not. This is a good point to try to determine, if we can, what is the dividing line (if there was a defined one) between the land northward and the land southward around the narrow neck.

We know that the Jaredites were destroyed on the face of the "north country" (Ether 1:1). In a later Nephite/Lamanite battle account, the line defining the "north country" is also defined:

Helaman 4:5–8

5 And in the fifty and seventh year they did come down against the Nephites to battle, and they did commence the work of death; yea, insomuch that in the fifty and eighth year of the reign of the judges they succeeded in obtaining possession of the land of Zarahemla; yea, and also all the lands, even unto the land which was near the land Bountiful.

6 And the Nephites and the armies of Moronihah were driven even into the land of Bountiful;

7 And there they did fortify against the Lamanites, from the west sea, even unto the east; it being a day's journey for a Nephite, on the line which they had fortified and stationed their armies to defend their north country.

8 And thus those dissenters of the Nephites, with the help of a numerous army of the Lamanites, had obtained all the possession of the Nephites which was in the land southward. And all this was done in the fifty and eighth and ninth years of the reign of the judges.

1. From this we can infer that the “north country” must be located in the land northward since all of the Nephite-controlled area in the land southward was lost, yet the Nephites were still defending the “north country,” so, by default, the north country has to be in the land northward.
2. We can also determine that at least a portion of the land Bountiful is considered part of the land northward, since the defensive line was established “into the land of Bountiful.” The portion of Bountiful being defended was not part of the land southward, since all of the land southward was lost.
3. We can also determine that at least a portion of Bountiful is likely in the “north country,” since the final defensive line established “even into the land of Bountiful” was somewhere within the land Bountiful on a “line” (river). The text seems to indicate that the defensive line was the boundary line of the “north country,” which included a part of Bountiful, although it is possible that the “north country” lies further into Nephite territory and the defensive line is in advance of the borders of the north country.
4. The text also indicates an unnamed land adjacent to (likely south of) the land of Bountiful; this land likely lies between the land Zarahemla and the land of Bountiful.

The conclusion that can be reached is that the “north country” is at least a subset within the “land northward.” Based on the boundary lines established here, the defensive line looks to be entirely within the land Bountiful, so the singular “north country” being discussed here is the land of Bountiful. The side of Bountiful that falls within the land northward would constitute the “north country.”

The “north countries” that Moroni₂ refers to in the Jaredite context is a geographical subset of the land northward, since the term “land northward” is used in the Book of Mormon as encompassing the extreme northward migrations to the valley of Mexico and Teotihuacan, which, as previously discussed, were clearly well beyond the northern boundary of Nephite-controlled lands or “countries.” *Country* or *countries*, as used by Mormon and Moroni₂, refer to the land or lands (or portions of a land in the case of Bountiful). The north countries of the Nephites would constitute the following lands:

- the portion of Bountiful in the land northward
- Desolation
- Cumorah
- Jashon
- Shem (questionable)
- Antum

Moroni₂ appears to be using his Nephite definition of these same north countries when referring to the Jaredite timeframe but states “north countries, and in all the countries round about,” which would indicate there are some

areas that were subject to Jaredite/Olmec control that fell outside of the Nephite lands enumerated above, which would indicate that the lands of Antum, Desolation, and perhaps Shem had northern boundaries south of areas with northern Olmec influence or control. The fact that a land is considered a “country” is also a clue as to Moroni₂'s whereabouts when he abridged the Book of Ether:

Ether 1:1

And now I, Moroni, proceed to give an account of those ancient inhabitants who were destroyed by the hand of the Lord upon the face of this north country.

This verse indicates Moroni₂ was writing from a singular land (country), either the land of Desolation or the north portion of the land of Bountiful, since these are the areas where the Jaredites were destroyed. While quite speculative, it is mentioned that Moroni₂ was ministering to some group of righteous people (Moroni 8:1) when pretty much all the Nephites were wicked, so it might be conjectured he was ministering to the descendants of the Lamanite people of Ammon who had migrated into the land northward.

One relatively straightforward observation from the previous geographical analysis is that the terms “land northward” and “land southward” derive from a Jaredite/Olmec directional system. Their boundary corresponds with a Jaredite/Olmec cultural boundary and does not correspond with the Nephite land boundaries. While not within the scope of this work, it follows that the Book of Mormon directional system likely consists of layers of directional systems incorporated from prior cultures, as well as a Nephite system that appears to be partially based on the Egyptian directional system that utilized upriver and downriver. At least with regard to the Jaredite/Olmec system, the only directions attributable from the Jaredite recounting are northward, southward, and eastward. Moroni₂ mentions the “north country(ies)” but that terminology is from his times, not from Jaredite times.

The Caractors Document confirms differences in the underlying directional system as it contains terms for “east” and “west” and also contains a term for “west” that is referring to the land of Desolation. It also contains Egyptian directional glyphs derived from the river Nile system, where the directions are akin to “upriver” (south in Egypt) and “downriver” (north in Egypt) (Grover 2015, 151–52).

The first mention of a “land northward” was after the Nephites had encountered the people of Mulek who had originated from the land northward (ca. 170 BC) (Omni 1:21). Excluding obvious commentary by Mormon no mention is made of the “land southward” until after the land northward began to be populated with Nephites (circa 48 BC, Helaman 3:8) and we are also told at this juncture that the Nephites named a “land north” Mulek, and a “land south” Lehi, however the terms “land northward” and “land southward” continue to be used for the rest of the history of the Book of Mormon. The land of Mulek is not referred to in any other place in the Book of Mormon, perhaps this is synonymous with Moroni₂'s “north country(ies).”

Mentioned concurrently with the “north countries” are the “south countries”:

Mormon 6:15

And it came to pass that there were ten more who did fall by the sword, with their ten thousand each; yea, even all my people, save it were those twenty and four who were with me, and also a few who had escaped into the south countries, and a few who had deserted over unto the Lamanites, had fallen; and their flesh, and bones, and blood lay upon the face of the earth, being left by the hands of those who slew them to molder upon the land, and to crumble and to return to their mother earth.

Mormon 8:2

And now it came to pass that after the great and tremendous battle at Cumorah, behold, the Nephites who had escaped into the country southward were hunted by the Lamanites, until they were all destroyed.

There is no specific geographic orientation identified for the “south countries.” Similar to the north country designation, it may be that Mormon 8:2 indicates that there is a single country that is part of the larger “south countries.” Thus, it is not clear if all the Nephites referenced in Mormon 6:15 who fled to the “south countries” are completely accounted for with those that were hunted down and killed in the “country southward.”

“Land North” and “Land South”

Another location related to the “land northward” and the “north countries” is the “land north” and the related “land south.”

Helaman 6:9–10

9 And it came to pass that they became exceedingly rich, both the Lamanites and the Nephites; and they did have an exceeding plenty of gold, and of silver, and of all manner of precious metals, both in **the land south and in the land north**.

10 Now the **land south** was called Lehi and the **land north** was called Mulek, which was after the son of Zedekiah; for the Lord did bring Mulek into the **land north**, and Lehi into the **land south**.

Helaman 6:12

They did raise grain in abundance, both in the north and in the south; and they did flourish exceedingly, both in the north and in the south. And they did multiply and wax exceedingly strong in the land. And they did raise many flocks and herds, yea, many fatlings.

3 Nephi 1:17

And they began to know that the Son of God must shortly appear; yea, in fine, all the people upon the face of the whole earth from the west to the east, both in **the land north and in the land south**, were so exceedingly astonished that they fell to the earth.

3 Nephi 4:1

And it came to pass that in the latter end of the eighteenth year those armies of robbers had prepared for battle, and began to come down and to sally forth from the hills, and out of the mountains, and the wilderness, and their strongholds, and their secret places, and began to take possession of the lands, both

which were in **the land south** and which were in **the land north**, and began to take possession of all the lands which had been deserted by the Nephites, and the cities which had been left desolate.

3 Nephi 6:2

And it came to pass that they had not eaten up all their provisions; therefore they did take with them all that they had not devoured, of all their grain of every kind, and their gold, and their silver, and all their precious things, and they did return to their **own lands** and their possessions, both on the **north and on the south**, both on the land northward and on the land southward.

Other verses that may refer or correlate to the land north and land south division are Mosiah 27:6; Alma 22:33, 46:17, 50:15, 52:15, 56:22; and Helaman 1:23. There is little information as to the location of the dividing line between these geographical entities, although it does appear, based on 3 Nephi 6:2, that they are different geographical entities from the land northward and the land southward. Complicating this further is the name of what appears to be a local “land” named Lehi (Alma 50:26–27).

There is also likely an additional “country” located in the land northward. After the final battle, some Nephites had escaped into the “country southward” (Mormon 8:2). Moroni₂ does not choose to call it the land southward. Since the land southward was apparently full of Lamanites at this point in time, a flight of escape there does not make sense. The country that was southward would be a location southward from the final battle, so could presumably still be in the land northward. Based on the final battle location they may have fled into the mountains in Zapotec-held territory south of the Gulf Coast lowlands. It was not exactly a safe haven, as there is evidence of Gadianton (Teotihuacanos) in Monte Alban during that time, but it did not appear that there was the ongoing militarism as there was at the time with the Maya. Since they were to be “hunted” by the Lamanites, it seems that it had to be a culture area that was not teeming with Lamanites. It may have been a mountainous wilderness area, but the fact that it is referred to as a “country” and not “wilderness” seems to indicate there was a population of some sort there.

Enumerated Nephite Cities and Features in the Land Northward

The Tower of Sherrizah

The “tower of Sherrizah” and “Sherrizah” are mentioned in an epistle from Mormon to Moroni₂ and are mentioned in context of battle with the Lamanites (Moroni 9: 7, 16–17).

In Hebrew, *Sherrizah* is derived from the biblical name *Sherezer* or *Sharezer*; the Hebrew *shar-eh 'tser* means “prince of fire.” For the word *tower*, some of the potential meanings in Hebrew are *o'fel*, meaning “hill,” or *bakh'an* (also corresponding with the Egyptian *bekhen*, *bakhun*, and *bekhat*), meaning “outlook or tower built on a hill” (Fallows 1922, 1563, 1574, 1674).

Sherrizah also is a constructed compound word from Sumerian. Sherrizah is mentioned at the end of the Book of Mormon in relation to the last battles but is not identified as being a “land” or a “city,” so is likely some sort of geographic feature. One description identifies “the tower of Sherrizah” from which men, women, and children were taken prisoner by the Lamanites. Mormon indicates there were many widows and daughters who remained in Sherrizah who wandered withersoever they could for food, with many old women fainting and dying by the way. This was caused by the carrying away of provisions by the Lamanites and later the Nephite army of Zenephi. Mormon indicates later that the armies of the Lamanites were “betwixt Sherrizah and me” (Moroni 9: 7, 16–17).

Reasonable Sumerian etymological units related to the geography of Sherrizah are:

- še: to call by name
- še: a geometric shape
- šer: reddening, sunburn(?); (to be) bright; brilliance, ray
 - sir₂-ra*, *sir₂-re* (forms of šer)
- ere: to press, throttle
- ri: to cast, place; to release, let go; to pour out
 - e-ri* (form of ri)
- ri: to be distant
- za: property, estate
- ah: a paste; foam (equivalent to lava)
 - uh₃-a* (form of ah)

Constructed Compound Word: **Sherrizah**

The tower of Sherrizah, which has the Hebrew etymology of a high hill and the “prince of fire,” along with the Sumerian etymological roots, is another fairly straightforward reference to a volcano. The correlation of “prince of fire” with a volcano is a known Mesoamerican concept:

In Aztec mythology, Xiuhtecuhtli [ʃimˈtekˈwt̪i] (“Turquoise Lord” or “Lord of Fire”), was the god of fire, day and heat. He was the lord of volcanoes, the personification of life after death, warmth in cold (fire), light in darkness and food during famine. He was also named Cuezaltzin (“flame”) and Ixcozauhqui and is sometimes considered to be the same as Huehuetēotl (“Old God”), although Xiuhtecuhtli is usually shown as a young deity. His wife was Chalchiuhtlicue. Xiuhtecuhtli is sometimes considered to be a manifestation of Ometecuhtli, the Lord of Duality, and according to the Florentine Codex Xiuhtecuhtli was considered to be mother and father of the Gods, who dwelled in the turquoise enclosure in the center of earth.

The Nahuatl word xihuitl means “year” as well as “turquoise” and “fire”, and Xiuhtecatl was also the god of the year and of time. In the 260-day ritual calendar, the deity was the patron of the day Atl (“Water”) and with the trecena 1 Coatl (“1 Snake”). Xiuhtecuhtli was also one of the nine Lords of the Night and ruled the first hour of the night, named Cipactli (“Alligator”). Xiuhtecuhtli was the patron god of the Aztec emperors, who were regarded as his living embodiment at their enthronement. The deity was also one of the patron gods of the pochteca merchant class. (www.wikipedia.org 2017c)

Since the scope of this book concentrates on the land northward, it is incumbent to determine if the tower of Sherrizah is in the land northward or the land southward—there are volcanos in both. This epistle from Mormon does not identify any other known geographic locations; it does mention Moriantum, where Lamanite daughters were imprisoned, tortured, raped, murdered, and eaten by Nephite warriors (Mormon 9:9).

The epistle does place a Lamanite army led by Aaron as “betwixt” Sherrizah and Mormon (Mormon 9:17). At this point in time, there are at least two battlefronts because Mormon mentions that after the Lamanites plundered Sherrizah, they left survivors of women and children; the army of Zenephi, presumably a separate force of Nephites, also plundered the remaining people of Sherrizah for provisions, leaving many to die of starvation. The concept of at least two battlefronts is supported in that Mormon received this information indirectly from Amoron (presumably a military courier) (Mormon 9:7). It also explains why Mormon would allow anyone under his command to plunder his own people. The fact that he was completely separated and pinned down defensively is the best explanation for the Zenephi plundering.

Prior attempts have been made to chronologically place this epistle from Mormon; Spencer (2016) concluded that 375–80 AD was the likely timeframe, and Miner (1994) concluded 375–76 AD. A variety of factors were considered by each; however, they did not consider the fact that some element of the conflict must have been an offensive battle and taken place in a location with an established Lamanite population where Lamanite daughters could be taken captive. Utilizing these two sources for analysis, it is noted that the active battle periods that could have involved Mormon (Mormon declined to fight for a period of time [Mormon 3:11]) were 326–30 AD, 345–50 AD, 361–62 AD, 375–80 AD, and 384 AD.

Since Mormon was writing to his son Moroni₂, and since Mormon was born in 310 or 311 AD, the 326–30 AD timeframe can be ruled out; Mormon would have been only 16 to 20 years old during that time, and Moroni₂ would not have been born or have been too young to write to. The only battle period that could have involved fighting in Lamanite-held territories was 345–50 AD and is thus the timeframe of the Moroni 9 epistle. The battles after 375 AD were all completely defensive battles in Nephite territory (Mormon 4:16–18). The 361–62 AD battles were all defensive battles at or near the city of Desolation, which was not in Lamanite territory.

So why were Spencer and Miner incorrect in dating the Moroni 9 epistle? Spencer relies solely on Mormon's indication that Mormon had sacred records to deliver to Moroni₂ (Mormon 9:24), and Spencer assumes these records, without any commentary, were the full set of Nephite records retrieved by Mormon in 375 AD. However, there is nothing that indicates that the records referred to in the epistle were the full set of Nephite records. Mormon obtained the large plates of Nephi when he was 24 years of age (Mormon 1:3), in approximately 335 AD. The text indicates that Mormon was afraid he would be killed and needed to pass on the records he was keeping and continue to write the Nephite history. This fact is more consistent with the 345–50 AD timeframe. Mormon may not have even known at this point of his divine task to abridge these plates. As will be discussed later, the large plates of Nephi are referred to in the plural as “records” and so is consistent with Mormon's reference to “records” in Moroni 9:24.

Miner links the epistle of Moroni 8 to the Moroni 9 epistle chronologically, based on the preface of Moroni 9 (which is part of the Original Manuscript of the Book of Mormon) which refers to itself as the “second epistle.” Interestingly, Spencer lists that the Moroni 8 epistle may have occurred during the 345–50 AD timeframe. Miner also identifies a series of parameters extracted from the Moroni 9 epistle that are also consistent with the 345–50 AD timeframe: Mormon was personally involved in battles (Moroni 9:2); the battle was one in which the Nephites “did not conquer” (Moroni 9:2); and Aaron was in charge of a Lamanite army (Moroni 9:17). Miner also requires that Mormon's actual record match his exact language in the Moroni 9 epistle in that there had to be a citation of a “sore battle” and “many prisoners” held by the Lamanites. While not mentioned in these specific terms, there were severe battles and also victory and losses over the Lamanites, potentially to generate prisoners on both sides, during the 345–50 AD battles.

Miner also makes the argument that likely only at the late stage of the battles were the Nephite prisoners of the Lamanites slain and treated inhumanely (Moroni 9:8) and were the Nephites making inhumane sacrifices of their own (Moroni 9:9–10). In fact, the last stages of battle do not indicate any possibility that Nephites took any Lamanite prisoners since the Nephites had no offensive victories. On the Lamanite side, they were practicing genocide—they weren't taking any prisoners or leaving any survivors, as mentioned in Moroni 9. For example, the Nephites whose “flight did not exceed the Lamanites' were swept down and destroyed” (Mormon 5:7). During the 345–50 AD timeframe Mormon states:

Mormon 2:18

And upon the plates of Nephi I did make a full account of all the wickedness and abominations; but upon these plates I did forbear to make a full account of their wickedness and abominations, for behold, a continual scene of wickedness and abominations has been before mine eyes ever since I have been sufficient to behold the ways of man.

It is fairly clear here that the depravity of the Nephites and Lamanites was extensive. In fact, since one would not have expected the epistles of Mormon to be censored as his abridgement was, the depravity mentioned in the Moroni 9 epistle is exactly consistent with the timeframe of Mormon 2:18. Also inconsistent with the final battles is the fact that after the Lamanites left Sherrizah, a Nephite force entered the area (however, no mention is made of a battle). This implies a Lamanite retreat and a Nephite advance, which did not occur in the later battle periods.

Like Spencer, Miner also subscribes to the “all records” theory, adding that there is no record of Moroni₂ receiving any records and that Mormon's intent to deliver records was just before the final battles, implying that the “sacred records” would not have been the large plates of Nephi from that earlier point in history. Miner also reasons that it must have been at a later date since Mormon laments that he “cannot any longer enforce [his] commands” (Moroni 9:18). The earlier battle description in 345–50 AD actually does indicate that he had difficulty getting the Nephites to stand and follow his commands (Mormon 2:23–24). This argument by Miner is in fact an argument against a later

date for the epistle because when Mormon returned to defend his people, they actually were anxious to follow his commands, “for they looked upon me as though I could deliver them from their afflictions” (Mormon 5:1).

At this point, we must return to the question of whether the tower of Sherrizah is in the land northward or in the land southward. The only possibility in the land southward is the El Chichón volcano, but it does not appear to be a good candidate since it is not located near the land northward and land southward border, and thus the area is not consistent with a Lamanite retreat and a Nephite advance. There is no mention of any Nephite advance into the land southward in the description of the 345–50 AD battles (Mormon 2:16–29). Also, under the Sorenson model, the El Chichón volcano would sit within “narrow strip of wilderness,” not a likely place to expect significant populations.

So that leaves us to look at the land northward. As previously mentioned, the Tuxtla Mountains are considered a volcanic complex. Some of the volcanoes there have been long inactive; the principal volcano that is still active is the San Martín volcano. The San Martín volcano has historically exhibited large explosive volcanic events. Other, much smaller cinder-cone volcanoes are abundant from the summit of the San Martín volcano to Lake Catemaco to the southeast. Cinder cones are so named because they consist of pyroclastic debris formed by explosive eruptions consisting of gas-charged lava bubbling or lava fountains from a vent.

The only real possibility in the land northward for Sherrizah is the San Martín volcano, since all other active volcanoes lie too far to the north to be a geographical location in the last battles of the Nephites. It does not appear that any of the cinder cones south of San Martín would be large enough to be considered a “tower.” The San Martín volcano has a central cone, which towers above 5,700 feet. The volcano is also known as Titépetl, which in the Nahuatl language means “fire mountain.”

This location is also consistent with the description given of the Lamanite advance that penetrated the land northward to the land of Jashon, since the San Martín volcano sits within the land of Jashon. While there is no discussion of the Lamanite retreat from the land of Jashon consistent with the description given at Sherrizah, the Lamanites surely did retreat because at the end of the battle period of 340–50 AD, there were no Lamanite-controlled areas within the land northward (Mormon 2:29).

This location is also consistent with the two battlefronts, since Mormon was battling in retreat, finally defending the city and land of Shem near the west sea, while the Lamanite advance occurred adjacent to the east sea. The Moroni 9 epistle states that Mormon had a “sore battle” in which he “did not conquer,” which is consistent with his battle during the retreat to the city of Shem (Mormon 2:20). The location also is consistent with the statement by Mormon that there were Lamanites between him and Sherrizah; in fact, it would be exactly consistent with Mormon just arriving at the city of Shem holed up in a defensive position against surrounding Lamanites. It also explains why Mormon was unable to attempt to remove the records from the hill Shim, even though the Lamanite advance on the east had nearly penetrated to the hill Shim (Mormon 2:17).

Moriantum

The city of Moriantum, since it was a Lamanite settlement, was likely not in the land northward but was probably in the area closer to the east sea since it was involved in the northern (east) front of the 345–50 AD battles.

Cities of Desolation, Teancum, and Boaz

These three cities would appear to be in proximity of each other since they are mentioned in a series of battle sequences, involving Lamanite attacks and Nephite retreats (Mormon 4). Based on the invasion sequence, the city of Desolation lies to the south of both Boaz and Teancum. The first invasion of the Lamanites went through the city

of Desolation and then onto the city of Teancum, which was captured. The second invasion of the Lamanites again came against the city of Desolation, with a battle fought in the land of Desolation. The Nephites were defeated there, then fled to the city of Boaz where they initially had success but were eventually overrun. At this point it appeared to Mormon that the Lamanites “were about to overthrow the land,” so he went to the hill Shim and took up all of the hidden records.

City of Desolation

Under the Sorenson model, the city of Desolation is placed immediately northward of the “narrow passage,” which strategically would seem to be the likely place for the city of Desolation. It is possible that it was situated in the narrow passage or south of the narrow passage. The name itself doesn’t provide any further geographical clues, so the location under the Sorenson model is reasonable.

City of Teancum

The city of Teancum was within the borders by the seashore near and presumably northward of the city of Desolation but was also “near the city Desolation.” It is indicated that the Lamanites “marched forward” to the city of Teancum, implying a northward direction. Unlike Boaz, which by the description of the battle sequence lies outside of the land of Desolation, textually, Teancum is still within the land of Desolation.

The city would probably be assumed to be named after the military leader Teancum, but the name has some geographical etymological clues found within the name, which indicate it is not only by the sea but also may be elevated and be in some proximity to hot springs or other volcanic features:

Sumerian

te: a part of a boat

a: water

a-ni (form of *a*)

an: sky, heaven; upper

an-na-ke_a, *an-na-ka*, *an-na-kam*, *an-kam* (forms of *an*)

KU: hole

kum: (to be) hot

Constructed Compound Word: **Teancum**

Based on these parameters, Teancum is most likely located on the slopes of the San Martin Pajapan mountain. This location would be considered to be on the borders of the sea, is still within the land of Desolation, and is northward of the city of Desolation. The mountain is also an extinct volcano and has a volcanic vent that had some activity in the Quaternary period (see figure 48), which may indicate the possibility of some minor volcanic activity during Book of Mormon times.

City of Boaz/Beaz

The city of Boaz is mentioned in the final Nephite struggle against the Lamanites. The Nephites fled from defeat in the city and land of Desolation to the city of Boaz, where they made a successful defensive stand against the Lamanites; however, they were not so fortunate in the second attack by the Lamanites, where they were driven and slaughtered. Their women and children were again sacrificed unto idols:

Mormon 4:20–22

20 And they fled again from before them, and they came to the city Boaz; and there they did stand against the Lamanites with exceeding boldness, insomuch that the Lamanites did not beat them until they had come again the second time.

21 And when they had come the second time, the Nephites were driven and slaughtered with an exceedingly great slaughter; their women and their children were again sacrificed unto idols.

22 And it came to pass that the Nephites did again flee from before them, taking all the inhabitants with them, both in towns and villages.

It is likely that the correct spelling of *Boaz* is actually *Beaz* since it was originally written as *Beaz* in the Printer's Manuscript before being changed to *Boaz*. The 1830 edition compositor also set it as *Beaz* (Skousen 2009a, 3622).

Beaz is likely the correct spelling considering the events that occurred in relation to the city (as a place for the Nephites to withdraw to a safe place of refuge) and the etymological meaning of the name in biblical Hebrew and Sumerian:

Sumerian

be: to remove; to diminish, reduce; to withdraw

e: to leave, to go out; to remove, take away; to bring out

e₃-a-za, e₃-a-zu (forms of *e*)

Constructed Compound Word: **Beaz(a)**

Hebrew

The particle **ב** (*be*) basically means in, either in a spatial sense, or temporal (within a time frame), and even conditional, predicative and causal (in, as, because of). The verb **נז** (*'uz*), meaning to rush or bring into refuge or to seek safety, is possibly related to the verb **נז** (*'azaz*), meaning strong. It occurs a mere half a dozen times (Exodus 9:19, Isaiah 30:2, Jeremiah 4:6). (www.abarim-publications.com 2016)

Since the city of Teancum is not mentioned as part of the second invasion, it is reasonable to assume that Beaz was not located in the same direction as Teancum. In addition, since the fall of Beaz precipitated the perception that the land where the hill Shim was located was going to fall into Lamanite hands, it would be reasonable to assume that the hill Shim lay in a fairly direct path from the city of Beaz. A reasonable location for the city of Beaz would be somewhere in the region of the land of Jashon (or perhaps Cumorah) on the southwest side of the Tuxtla Mountains.

City of Jordan

The Jordan River in Israel is mentioned early in the Book of Mormon (1 Nephi 10:9; 2 Nephi 19:1). The Nephite city of Jordan (Mormon 5:3–4) is discussed as a place where the Nephites fled during one of the battles in the final Nephite/Lamanite war. The Nephites were able to successfully defend the city at least twice. The etymology of *Jordan* provides information as to its location:

Hebrew

The Jordan is the famous river of Canaan, which flows from the Sea of Galilee south to the Salt Sea (Genesis 13:10).

The name Jordan comes from the common verb ירד (*yarad*) meaning to go down:

The root-verb ירד (*yarad*) is a very common verb expressing a downward motion: to decline, descend or to go down towards some lower location or to sink into something, etcetera. This root seems to be related to the verb רדה (*rada*), meaning to rule or have dominion.

It's used in all expected ways, from a going down a mountain (Exodus 19:14) to the falling of hail (Exodus 9:18). But it also means a going away from a place of prominence, such as a palace (2 Samuel 11:9). Since one "goes up" to Jerusalem, going away from Jerusalem is described as a "going down" (Judges 1:9).

The final letter *nun* upon which this name ends may be a remnant of the common *waw-nun* extension that personalizes or localizes a root. (www.abarim-publications.com 2016)

Remembering that the letter *j*, while existent in Sumerian, is not transliterated in the current dictionaries, reasonable etymological units for Jordan are:

Sumerian

a: water

a-ur₂, *a-ni*, *a-na* (forms of *a*)

ur: (to be) abundant

ur₃-ra (form of *ur*)

ur: to shut; protection

ur₃-ra, *ur₃-re₂*, *ur₃-re* (forms of *ur*)

da: line, edge, side

da-ni (form of *da*)

dan: (to be) pure, clear; to clean

Constructed Compound Word: **Jordan**

It is fairly straightforward to surmise that the city of Jordan is located on a river that descends from a mountain. In addition, the description of the military situation when Mormon and his army were able to successfully defend the city of Jordan is that the Lamanites were unable to be successful because there were other Nephite "strongholds," which cut off the Lamanites from getting into what Mormon indicated was "the country which lay before us." This would indicate that the city of Jordan was some distance into the land northward, since there were other intervening Nephite cities. The phrase "lay before us" seems to indicate that the city of Jordan is at least at some elevation such that there was a view of the land that was subject to invasion.

A reasonable location for the city of Jordan is adjacent to the Catemaco River, which flows down from Lake Catemaco and eventually makes its way into the saline lagoons south and east of Alvarado, which is also a biblical type to the biblical River Jordan, which flows from the freshwater Sea of Galilee to the saline Dead Sea. There are also higher elevations just south of the river that provide a wide view of nearly the entire land of Desolation, so this location also meets that criteria.



Figure 73. Cities and geography at the time of Mormon.

Nephite Cities from Previously Discussed Geographies

The location of certain cities have been previously discussed. In addition, a number of cities existed in the land northward whose only mention in the Book of Mormon is in the 3rd Nephi destruction. Some of these cities were able to be located to a specific area in the land northward based on the nature of their destruction, which was discussed in a previous book, *Geology of the Book of Mormon* (2015), by the author. Sections of that book are adapted and included here as well.

The City of Gilgal and the City of Shem

The city of Gilgal is mentioned as part of the Nephite destruction that occurred when Christ visited the Nephites (3 Nephi 9:6). Because it was sunk and buried, it is likely located within the valley of Gilgal (see figure 47). The city of Shem is likely located strategically in the land of Shem, in some proximity to the “small neck” but is not specifically shown on any map.

Cities of Gadiandi, Gadiomnah, Jacob, and Gimgimno

The cities of Gadiandi, Gadiomnah, Jacob, and Gimgimno are described as being “sunk and made hills and valleys in the places thereof,” with their inhabitants being “buried up in the depths of the earth.” The subsidence element places them within the area shown in figure 46. “Hills and valleys” is a perfect description of the uniquely hummocky deposits of many volcanic debris avalanches and some volcanic pyroclastic flows (see figure 74). These were not really recognized as unique identifying landforms of volcanic deposits until after the 1980 Mount Saint Helens eruption.



Figure 74. Hills and valleys (hummocks) formed by the 1980 Mount Saint Helens eruption debris avalanche and pyroclastic flow. (USGS 1999)

Hummocks and mounds have been identified as features in some non-volcanic, large earth landslides, but they are most common in volcanic landslides and pyroclastic flows. The cities mentioned here were probably somewhat near each other, since volcanic landslides and pyroclastic flows are very directional. A typical volcanic eruption with pyroclastic flows will erupt in one direction, sometimes two. The tectonic setting of the volcano may influence the direction of collapse, and in some cases, faulting may trigger collapse.

The locations for the cities of Gadiandi, Gadiomnah, Jacob, and Gimgimno, considering the reference to the “hills and valleys,” are within the range of a pyroclastic flow or volcanic debris avalanche of a volcano. The volcano that best fits these criteria is San Martín; Pico de Orizaba is not within a best-fit area of subsidence along a fault system, whereas the San Martín volcano is located directly on the Veracruz fault system. The report from the 1793 eruption of San Martín indicated that the fallout was at least three to six yards thick, located in a circle around the volcano with a diameter of 11.1 kilometers (Moziño 1869). Assuming that one could bury a city with a minimum of approximately 2 to 2.5 meters of material, and accounting for a potentially larger volcanic eruption than the 1793 eruption, a much greater distance than five kilometers from the volcano cone would be possible for city burial.

Based on archaeological excavations at Tres Zapotes (Jaime-Riverón and Pool 2009; Santley 2007) and Lake Catemaco (Santley et al. 2000) that identified volcanic deposits within the timeframe of 3rd Nephi, a reasonable extent of these deposits would be 26 kilometers from the San Martín cone.

Without a more detailed mapping of volcanic deposits, it is necessary to consider that the eruption could have gone in any direction when identifying where Gadiandi, Gadiomnah, Jacob, and Gimgimno might have been located. In addition, the inactive volcano south of San Martín called San Martín Pajapan has a crater that opens to the east with debris avalanche deposits extending 20 kilometers to the Gulf of Mexico, and the Santa Marta Volcanic Complex adjacent to San Martín Pajapan has two craters opening to the south with debris avalanche deposits (Capra et al. 2002), so lacking more exact mapping and dating of the debris avalanche deposits, these areas must be considered as a possible areas of “hills and valleys,” since these structures also sit in the earthquake zone of subsidence. Therefore, it would be reasonable for the cities Gadiandi, Gadiomnah, Jacob, and Gimgimno to be in the area identified in figure 75, with the likelihood that some or all of them are located near each other.



Figure 75. Zone of “hills and valleys” deposition either from volcanic eruption deposits (within 26 kilometers of cone) or debris landslides.

Cities of Jacob-Ugath, Laman, Josh, Gad, Kishcumen

The location of Jacob-Ugath as Tres Zapotes has been previously discussed, with the volcanic proximity being used as part of that analysis. The description in 3rd Nephi given of the method destruction of Jacob-Ugath is identical to that of the cities of Laman, Josh, Gad, and Kishcumen in that that they were “caused to be burned with fire”: and Jesus Christ “did cause them [the inhabitants] to be burned” and “did send down fire and destroy them.” As discussed with Jacob-Ugath, the most obvious explanation for this method of destruction is ignition of the cities by volcanic fallout. No mention is made of these cities sinking, so they may or may not have been within the zone of potential earthquake subsidence. Also this is obviously a different description than the destruction of Zarahemla, which merely did “take fire.” It seems pretty clear that the city and the individuals in the cities and the cities themselves were directly burned by the fire that came from the sky, not by a secondary conflagration caused by a lightning strike or an earthquake-triggered event.

There are no real studies that model the maximum distance that can be covered by incendiary material from a volcanic eruption. Clearly the closer to the volcano, the higher chance there is of hotter fallout occurring. Meteorological patterns can also be influential as the cooling of volcanic material is a function of the time elapsed since ejection from the volcano. The best information for a maximum area of incendiary material probably comes from the eruption of Krakatoa, where ash fallout 70–80 kilometers from the volcano was still hot enough to burn holes in clothing and vegetation (Bryant 2005, 233). Using the 70-kilometer distance, the San Martín volcano area identified in figure 76 is the most probable area in which the cities Jacob-Ugath, Laman, Josh, Gad, and Kishcumen were located.



Figure 76. Zone of raining of fire for the San Martín volcano (within 70 kilometers of the cone)

