

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

WO

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF ARIZONA

United States of America, on its own)
behalf and for the benefit of the)
Fort Mojave Indian Tribe,)
)
Plaintiff,)
)
v.)
)
Richard and Ruth Aria, et al.,)
)
Defendants.)
_____)

CV 94-1624-PCT-PGR
SUPPLEMENTAL, REVISED
POST-REMAND FINDINGS
OF FACT AND CONCLUSIONS
OF LAW AND ORDER

This matter is currently before the Court as a result of a remand order issued by the Ninth Circuit Court of Appeals in United States v. Byrne, 291 F.3d 1056 (9th Cir.), *cert. denied*, 537 U.S. 1088 (2002).¹ The following constitutes the Court’s supplemental and revised findings of fact and conclusions of law pursuant to Fed.R.Civ.P. 52(a)(1) as required by the remand order.

I. BACKGROUND

On August 9, 1994, Plaintiff United States of America, on its own behalf and for the benefit of the Fort Mojave Indian Tribe (“Plaintiff”) filed a Complaint and Request for

¹ For the sake of convenience, the Court has continued to caption this action by its pre-appeal caption.

1 Declaratory and Injunctive Relief and Monetary Damages; a First Amended Complaint was
2 filed on February 14, 1995. The action is for quiet title, ejectment, trespass damages, and
3 injunctive relief involving a triangular-shaped area of land (“Disputed Triangle”) which lies
4 east of the Colorado River (“River”) on or near the Fort Mojave Indian Reservation. Plaintiff
5 asserts that, by the gradual process of accretion, the Disputed Triangle attached to sections
6 of land that the Plaintiff holds in trust for the Fort Mojave Indian Tribe. Defendants are
7 various individuals and entities who assert ownership interests in land located within the
8 Disputed Triangle. Defendants, some of whom filed counterclaims against Plaintiff, assert
9 that their interests in the Disputed Triangle arise because they are successors in interest to
10 patents issued by the United States to the State of California in 1905, which patents were
11 based on land descriptions made in 1883, at which time the lands forming the Disputed
12 Triangle rested on the California side of the River. Defendants claim, post-remand, that the
13 boundaries of the Disputed Triangle were fixed as a result of an avulsive movement of
14 approximately 3,000 feet in the main channel of the River that occurred sometime between
15 1905 and 1910.

16 As a result of pretrial rulings entered on March 3, 1997, the Court granted Plaintiff’s
17 motion seeking judgment on the pleadings as to all of the counterclaims, but did not at that
18 time enter judgment pursuant to Fed.R.Civ.P. 54(b) as to the dismissed counterclaims, and
19 the Court denied Plaintiff’s request for default judgment as to the nine individual defendants
20 who had been defaulted.

21 The Court held a five-day bench trial in September, 1997. The Court subsequently
22 issued its original findings of fact and conclusions of law, wherein the Court dismissed
23 Plaintiff’s amended complaint. The gist of the Court’s order was that Plaintiff had no claim
24 to title, because the Disputed Triangle became attached to the Arizona side of the River due
25 to an avulsive movement of the River prior to 1905.

1 In resolving Plaintiff's appeal, the Ninth Circuit determined that this Court erred in
2 basing its analysis on the pre-1905 avulsion, concluding that movements of the River prior
3 to that year are not relevant to fixing title to the Disputed Triangle since the proper analytical
4 starting point is when the land within the Disputed Triangle was patented to the State of
5 California. The Ninth Circuit therefore reversed the Court's decision and issued a remand
6 order requiring the Court to conduct whatever proceedings it deemed necessary for a re-
7 analysis using the correct analytical premise. 291 F.3d at 1061-62. The Ninth Circuit did not,
8 however, expressly reverse any of the Court's original findings of fact.

9 After remand, the Court permitted the parties to brief the procedural issues arising
10 from the remand, permitted them to obtain and exchange supplemental expert reports, and
11 permitted them to brief motions in limine regarding expected testimony of the experts. In
12 order to afford the parties an opportunity to present evidence focused on post-1905 River
13 movements, the Court conducted a four-day mini-bench trial on October 24-26, 2007 and on
14 November 15, 2007. The parties thereafter were ordered to file post-trial briefs, and such
15 briefing was completed on February 25, 2008.

16 The Court having heard and considered the evidence presented at the post-remand
17 mini-trial, having observed the demeanor of the witnesses, and after having carefully
18 considered the extensive record in this matter must issue its supplemental and revised
19 findings of fact and conclusions of law. The primary issues in this case, both originally and
20 post-remand, are (1) whether the disputed lands were formed by the gradual process of
21 accretion, and thus attached to the adjacent uplands, or whether the River moved avulsively;
22 and (2) if there was an avulsive movement whether this alleged avulsion fixed title to the
23 lands in the California landowners who preceded Defendants in the chain of title prior to
24 1883.

1 II. ORIGINAL FINDING OF FACTS AS PERTAINING TO THE POST-REMAND
2 MINI-TRIAL

3 The Court's previous Findings of Fact, as modified herein, remain as entered in its
4 Order of March 31, 2000 (doc. #192). While the Court's post-remand analysis will
5 commence as of 1905, given that the Ninth Circuit Court ruled that River movements prior
6 to 1905, the date patents to the disputed lands were issued, are not relevant to fixing title, the
7 Court concludes that its previous findings, which the Ninth Circuit did not expressly reject,
8 are relevant to reflect the historic movements of the River through the available maps,
9 documents, and proceedings concerning those movements, as well as to provide some of the
10 evidence and testimony necessary to resolve this litigation.

11 III. ORIGINAL FINDINGS OF FACT

12 A. Geological Findings

13 Over its geological life, the river, Colorado as we now call it, has coursed its way
14 through the Grand Canyon to the sea. It flowed in a north to south direction through a narrow
15 canyon with rock walls, Black Canyon, until it came to softer soil where it was able to erode
16 the sediment walls and form a valley, the Mohave Valley. The valley carved was from two
17 to seven miles wide and some twenty three miles in length whereupon the river was again
18 restricted by narrow rock walls, now the Topock Gorge.

19 The river has meandered through this valley depending on the amount of water flow
20 from its 169,300 square mile drainage area. In historic times before dam construction the
21 flow could range from 1500 cubic feet per second to 300,000 or 400,000 cubic feet per
22 second or greater.

23 Over its life the river thread, or thalwig, moved by both accretion and avulsion until
24 dam construction and channelization largely fixed its course. Until then, however, it was
25 continuously changing its course, sometimes by imperceptible degrees, sometimes by sudden
26 and violent avulsion.

1 River actions as in alluvial valleys occurred in the valley in the usual effort: scour,
2 deposition of silt, formation of loops, movement of the loops downstream and the cutting of
3 a channel through the necks of loops, sometimes leaving lakes, sloughs, or lagoons. The
4 river was incessantly moving, sometimes rapidly, shifting miles at a time. Even at times of
5 low flow large tracts were swept away to be deposited elsewhere.

6 In the Mohave Valley such actions have sometimes been altered or impacted by
7 distinct geologic factors. The Paiute Wash enters the river from the west and north of the
8 disputed lands. Flooding from the wash's drainage area into a river flooding, or not flooding,
9 from upstream drainage, would have a different impact on the deposit of silt and soil.
10 Pushing water and detritus into the river, acting in uncertain ways, the channel could be
11 altered as the river chose its course while the floods receded.

12 The narrowing of the valley at Topock Gorge could alter the usual patterns of channel
13 movement. The effect being, upon a heavy flow of 300,000 to 400,000 cubic feet per second
14 through the valley, the river banks could overflow filling the valley. The receding waters,
15 laden with soil, could choose a new channel but in a manner unlike the usual patterns of
16 accretion or avulsion.

17 B. Historical Facts

18 1. This lawsuit involves competing claims of title with respect to approximately 130
19 acres of land located approximately two miles north of Needles, California, now lying on the
20 Arizona side of the River. The subject land is a triangular shaped parcel with approximately
21 3000 feet of frontage along the River. With reference to the precise sections or parts thereof
22 which are in dispute, the Disputed Triangle may be described as lying in:

23 Section 13, T. 9 N., R. 22 E and Section 18, T. 9 N., R 23 E, San
24 Bernardino Base & Meridian, San Bernardino County,
25 California; Sections 4 and 9, T. 17 N. R. 22 W., Gila & Salt
26 River Base Meridian, Mojave County, Arizona.

1 2. On September 9, 1850, the U.S. Congress approved an act providing for the
2 formation of the State of California. Pursuant to that act, the eastern boundary of the state
3 was established as the thread of the main channel of the River as it existed between the New
4 Mexico Territory and the State of California on the date of California's statehood. As of
5 1850 and continuing through February 24, 1863, Arizona was a part of the New Mexico
6 Territory.

7 3. The term "thread" refers to that portion of the stream channel which has the highest
8 velocity of flow.

9 4. As of the date California became a state, title to the real property located within
10 the bed of the River, from the thread of the main channel to the low water mark on the west
11 bank of the channel, became vested in the State of California.

12 5. The location of the River through the reach in which the Disputed Triangle is
13 located was mapped by Captain Sitgreaves ("Sitgreaves") in 1851. The map shows, although
14 in scale of ten miles to one inch, that the River cuts across the northwestern corner of Section
15 18, T. 9 N. R.23 E. G&SRM.

16 6. The location of the River through the reach in which the Disputed Triangle is
17 located was mapped by Lt. Whipple ("Whipple") in 1854. Based on a comparison of the
18 maps prepared by Sitgreaves and Whipple, it is apparent that the River moved by accretion
19 during the period of 1851 to 1854. Further, this accretive movement of the River
20 reestablished the boundary between California and the New Mexico Territory so that, as of
21 1854, the boundary was parallel to and slightly west of the line between Sections 9 and 10,
22 T. 17 N., R. 22 W., G&SRM.

23 7. In 1855, H.S. Washburn ("Washburn"), Deputy Surveyor, performed the first
24 known federal government land survey of the properties in this area pursuant to a contract
25 dated February 9, 1855. Washburn surveyed the lands in the area of the Disputed Triangle
26

1 on or about December 29-31, 1855. At that time, the River covered the eastern quarter of the
2 Disputed Triangle.

3 8. Lieutenant Ives ("Ives") served as the topographic engineer under Whipple during
4 Whipple's 1854 mapping of the River. Ives returned in 1858 and re-surveyed the River,
5 noting and recording a significant change in the location of the River that occurred between
6 1854 and 1858. The displacement of the River was approximately 3.3 miles from the
7 western side to the eastern side of the Mohave Valley. The new location of the River has
8 been referred to as the "Spear's Lake Bulge" or "Spear's Lake Bend." At the time of Ives'
9 mapping, the Spear's Lake Bulge was the main channel of the River.

10 9. The River's movement from its 1854 location to its 1858 location was an avulsive
11 movement. Therefore, even though the River moved more than 3.3 miles in that time period,
12 the boundary between California and the New Mexico Territory did not change.

13 10. A map entitled "Bartholomew's Map of the Western States," dated 1856, depicts
14 the alignment of the River at that time as generally along the western side of the Mohave
15 Valley, as indicated by both the 1854 Whipple map and the 1855 Washburn survey.
16 Therefore, the substantial movement of the River which formed the Spear's Lake Bulge took
17 place some time between 1856 and December, 1858.

18 11. A large flood of approximately 400,000 cubic feet per second passed through the
19 subject reach of the River in 1857. This was the largest flood event that has occurred in the
20 past 140 years on the River. This flood was the primary factor that caused the River to
21 avulsively move from the west side to the east side of the Mohave Valley.

22 12. The location of the River on the east side of the valley and the existence of the
23 Spear's Lake Bulge was corroborated in 1863 by Richard Gird ("Gird"), C. E. Commissioner,
24 in a document he published entitled "Official Map of the Territory of Arizona." This map
25 was approved by the Arizona Territorial Legislature on October 23, 1864.

1 13. In 1875, Lieutenant Bergland (“Bergland”) produced a map of the Mohave Valley
2 which shows the Spear's Lake Bulge in a location very similar to that depicted on the map
3 prepared by Gird in 1863.

4 14. In 1882-83, G. W. Baker (“Baker”), on behalf of the United States General Land
5 Office ("GLO") produced a cadastral survey of the California side of the River in the area
6 of the Disputed Triangle. This survey map shows the west bank of the River along the west
7 side of the Valley. However, an 1883 GLO map of the Arizona Territory indicates that the
8 Spear's Lake Bulge still existed, with the main channel of the River located against or close
9 to the Valley's east mesa. The fact that the main channel of the River was still located on the
10 east side of the Valley during the mid 1880's is further substantiated by a map prepared in
11 1887 by the Atchison, Topeka and Santa Fe Railroad (“AT&SF”), as well as a report
12 prepared in 1923 by M. M. Kauffman (“Kauffman”), based on a personal reconnaissance in
13 Mohave Valley.

14 15. In 1888, the River moved westerly such that the main channel returned to the
15 western side of the Mohave Valley. When it relocated to the western side of the Valley, the
16 River did not reoccupy the same channel that it had abandoned in 1854 prior to the 1857
17 avulsion. The new channel it occupied in 1888 was approximately 0.5 miles west of the old
18 channel it abandoned in 1857.

19 16. According to the 1883 GLO survey, lands located at the same location as the
20 Disputed Triangle were depicted as lying within Section 13, T. 9 N., R. 22 E. and Section 18,
21 T. 9 N., R. 23 E., of the San Bernardino Meridian in California.

22 17. In 1899 the United States Geological Survey ("USGS") produced a detailed
23 survey map of the Mohave Valley. The 1899 map indicated that the main channel of the
24 River was then located along the western side of the Valley. At this time, the main channel
25 of the River lay primarily to the east of the Disputed Triangle. A small distributary channel
26

1 of the River ran through the approximate center of the Disputed Triangle from the northwest
2 to the southeast.

3 18. A 1902-1903 map prepared by the USGS indicates that the River had moved 1860
4 feet west of its alignment as depicted in the 1899 USGS map.

5 19. White settlers began to move into the Mohave Valley during the period from 1851
6 to 1900. Camp Mojave was established on the mesa north of the Mohave Valley in 1859.
7 Jesse Harper (“Harper”) moved into the Valley in 1870 and occupied land located on the
8 Arizona side of the River. Gus Spear (“Spear”) established his homestead on the eastern
9 bank of the River in the mid-1870's and a resident was shown living on the west side of the
10 River in 1883 by Baker, the GLO surveyor.

11 20. In 1905, the GLO produced the first official cadastral survey of the Arizona side
12 of the River. The 1905 map indicates that the east bank of the River had moved 1339 feet
13 east of its 1902-03 location.

14 21. In 1910, President Taft set aside land for the Mojave Indians who have inhabited
15 the lower Colorado River valley for centuries. This land included Section 4, T. 17 N., R. 22
16 W., G&SRM. This land has been held in trust for the Fort Mojave Indian Tribe.

17 22. Chronologically, the next available map of the River alignment in this area was
18 produced by the Rio Colorado Land and Irrigation Co. in 1910/1911. This map depicts the
19 River within a single main channel, with the center of the channel located at the approximate
20 midpoint of Section 18, T. 9 N., R. 23 E., G&SRM.

21 23. In February of 1912, the United States Indian Service Superintendent of Irrigation
22 produced a map of the area that showed significant changes in the River. This map indicated
23 that, in the immediate area of the Disputed Triangle, the River had moved 2975 feet west in
24 one year. In the area north and south of the Disputed Triangle, this February 1912 map
25 indicated that the River alignment had shifted approximately 1 mile laterally to the east.
26

1 24. Additional maps of the River in this area were prepared in March and May of
2 1912. These maps, prepared by the Cotton Water and Irrigation Company and the United
3 States Indian Service, respectively, demonstrate that the River movements during the period
4 from 1910 to mid-1912 were destructive and avulsive. The latter map also shows that the
5 River through this reach had developed a braided pattern, with islands formed both north and
6 south of the Disputed Triangle.

7 25. Although there is no map available for the 1915 calendar year, available evidence
8 indicates that, by that time, the River had moved eastward from its 1912 location.

9 26. A 1917-18 USGS map of the area indicates that the River had moved avulsively
10 approximately 1 mile to the west, both north and south of the Disputed Triangle. On the
11 Disputed Triangle itself, the 1917-18 map indicates that the channel width had contracted
12 from an average of 2479 feet to an average of 1785 feet.

13 27. A 1923 map prepared by the U.S. Land Office indicates that the River covered
14 the western 2/3 of the Disputed Triangle. At that time, the main channel of the River was
15 approximately 2776 feet wide, substantially wider (in the vicinity of the Disputed Triangle)
16 than indicated on either the 1917-18 or the 1912 maps and substantially wider than indicated
17 on a subsequent 1935 map prepared by L.H. Foster ("Foster") and/or the 1936 aerial
18 photography of the area taken by Fairchild Aerial Surveys, Inc.

19 28. The changes in the channel of the River in the area of the Disputed Triangle
20 during the period from 1899 through 1932 were both accretive and avulsive. Avulsive
21 changes were most significant between 1899 and 1917. Specific periods in which avulsive
22 actions were prevalent include 1899 through 1903 and 1912 through 1915. During those
23 time periods, avulsive River movements of 0.5 to 2.0 miles were common.

24 29. An analysis of available geological information confirms that the channel of the
25 River in the area of the Disputed Triangle has occupied a number of different locations
26

1 during the 1850-1960 time frame. Historical descriptions of the River movements during that
2 period indicate that many of the changes in the channel in the Mohave Valley have been
3 rapid and of noticeable scale. Further, this information indicates that the lands that comprise
4 the Disputed Triangle did not originate as a result of accretion to the Arizona side of the
5 River. Rather, those lands were attached to the Arizona side of the River by abrupt, avulsive
6 changes in the position of the River channel.

7 30. The avulsive nature of the movements in the River in the area of the Dispute
8 Triangle was further confirmed by a 1996 refraction seismic survey and subsurface
9 investigation. Based on data gathered from an investigation which included 28 refraction
10 seismic line tests and 8 geotechnical borings, the nonhomogeneous, nonuniform nature of the
11 geologic materials that comprise the Disputed Triangle indicates that the River changed
12 position in this area abruptly, by avulsion, rather than gradually in a continuous series of
13 accretive changes.

14 31. In 1954, Perly M. Lewis, an engineer, reported to the Arizona State Boundary
15 Commission on water movements in the Mohave Valley. Lewis was hired to support
16 Arizona in the establishment of a permanent boundary alignment with California. At the time
17 of his report the river was in the western portion of the valley. While he acknowledged the
18 formation of the Spear's Lake Bulge as an avulsive event occurring between March 1, 1854
19 and November 11, 1858, he opined that there were no avulsions since September of 1850.
20 His opinion, although self-contradictory, supported a favorable outcome for his client.

21 W. P. Rowe, Lewis' counterpart in California, concluded the Spear's Lake Bulge was
22 created by an avulsion.

23 These reports were to assist the Colorado River Boundary Commissions of California
24 and Arizona in achieving a final boundary between Arizona and California. The Joint
25 Summary Report of the commissions concluded that the retracement of the river's
26

1 meanderings was impossible because of artificial changes such as construction of Hoover
2 Dam and channelization. It determined and agreed not to define a boundary on a theory of
3 retracement. It did not attempt to resolve private ownership interests. Specifically,
4 legislation adopted by both the State of Arizona and the State of California contained
5 property ownership protections.

6 32. The Bureau of Land Management surveys commenced in 1961, completed in
7 1982, and corrected in 1991 are so erroneous and defective that the Court must reject them,
8 as well as the report of Norville Shearer, and the study and testimony of James Simpson as
9 they pertain to this case.

10 33. Avulsive activity near the Disputed Triangle has been established by litigation
11 and by the creation of Goat Island.

12 III. THE POST-REMAND MINI-TRIAL

13 The mini-trial consisted largely of evidence and testimony previously presented, but
14 with some new and supplemental evidence all with focus on the patent date of 1905 and post-
15 1905 River movement.

16 Plaintiff relied on the testimony of James A. Simpson, upon whom it had relied in the
17 original trial. Defendants relied on the testimony of William H. Allen and Jeffrey R. Keaton,
18 upon whom they had previously relied. Both sides counted heavily on cross-examination
19 testimony of opposing witnesses in order to test their credibility as well as the bases for their
20 opinions.

21 IV. THE WITNESSES

22 A. James A. Simpson

23 James Simpson was presented as being eminently qualified as an expert on river
24 movement. He is a civil engineer, surveyor and riparian boundary specialist, and a river
25 engineer. A significant portion of the river issues he worked on involved the Colorado River.
26

1 He testified as being fully qualified to study maps, photographs and other evidence in
2 defining whether the River movements were by erosion and accretion or by avulsion.

3 However, the Court finds, and has previously found, that his testimony and his
4 opinions are not credible. In its prior findings the Court determined that his study and
5 testimony should be rejected. His testimony at the mini-trial accentuated the Court's
6 previous finding.

7 Simpson testified that all of the movements on the River, post-1905 up to
8 channelization, in the Mohave Valley and the disputed area were by erosion and accretion.
9 He had so testified concerning the time period prior to 1905. With limited exception, he
10 stands alone among all of the surveyors, experts and River historians on this issue. His
11 opinion in regard to the post-patent date ignored basic geomorphological concepts of
12 movement analysis that consider sedimentation and flow data while at the same time he
13 utilized those same factors in explaining the simple distinction between accretion and
14 avulsion. When questioned about those factors, he simply stated that he does not consider
15 sedimentation and flow, and that's not the way he does it when analyzing river movement.
16 He preferred to follow a rule of thumb, which he acknowledged is professionally
17 unrecognized, that avulsions always shorten the river. The Court concludes that prior to
18 damming, the extremely heavy sedimentation and the dramatic variance of water flow in the
19 River are important factors in determining water movement. Simpson discounted the effects
20 of aggradation in the River. Most of the maps and reports he rested on, the Norville Shearer
21 report, the 1982 and 1991 surveys, the Foster map, and testimony, were all largely
22 discredited. He acknowledged the qualifications of Whitney Borland, but discounted his
23 report as being simply wrong. The foundation for his bias is well documented. His opinions
24 were of little help to the Court.

1 B. Dr. William Allen

2 Dr. Allen testified about the geomorphic evidence in the record regarding the post-
3 1905 movements in the River in the proximity of the Disputed Triangle. His testimony
4 provided clear evidence of two avulsive movements that occurred there between 1905 and
5 1912. The evidence of these avulsions exist today. His research was supported and
6 confirmed by the report of Dr. Whitney Borland in 1980. Allen's credentials are outstanding,
7 his testimony credible taking into consideration that he was retained by the Defendants.

8 C. Dr. Jeffrey Keaton

9 Dr. Keaton opined that the Disputed Triangle was not formed by accretion and that
10 avulsive movements have occurred in that vicinity.

11 He prepared written reports for the original trial and a supplemental report based on
12 further investigation which included a refractive seismic survey with soil borings in an effort
13 to locate channel deposits. Dr. Keaton's credentials are outstanding, his testimony was
14 credible. While the Plaintiff attempted to diminish his studies by questioning, his testimony
15 was largely un-refuted.

16 V. POST-REMAND SUPPLEMENTAL AND REVISED FINDINGS OF FACT

17 1. Chronologically, after 1905, the next available map of the River in this area was
18 produced by D. M. Martin at the behest of the Rio Colorado Land and Irrigation Co. in 1910.
19 This map depicts the river within a single main channel, with the center of the channel
20 located at the approximate midpoint of Section 18, T. 9 N., R. 23 E., G&SRM. Most
21 importantly, this map indicates that the east bank of the River has moved, along the north line
22 of the Disputed Triangle, approximately 3000 feet west of where it was located in 1905.

23 2. The next map was prepared in 1912 by Engle, while he was a surveyor working
24 for the Bureau of Indian Affairs. This map shows that: (1) the River had moved further west
25 since 1910; and (2) there was a substantial amount of vegetation - including willow trees 10
26

1 to 15 feet tall - in existence in the area between the 1905 east bank and the 1912 east bank
2 of the River. This map also indicates that the River movements that occurred after the
3 preparation of the 1910 map, resulted in the abandonment of the 1910 channel. Finally, the
4 1912 Engle map indicates that the River had also shifted laterally approximately one mile to
5 the east in the areas immediately north and south of the Disputed Triangle and that islands
6 had formed both north and south of the Disputed Triangle.

7 3. The evidence confirms that the changes in the channel of the River in the area of
8 the Disputed Triangle during the period from 1905 through 1912 were avulsive. Specifically,
9 the avulsive movement occurred between 1905 and 1910 that shifted the River channel
10 approximately 3000 feet west as measured along the north line of the Disputed Triangle.
11 Another avulsive movement to the west occurred between 1910 and 1912.

12 4. An analysis of available geological information confirms that the channel of the
13 River in the area of the Disputed Triangle has occupied a number of different locations
14 during the 1850-1960 time frame. Historical descriptions of the River movements during that
15 period indicate that many of the changes in the channel in the Mohave Valley have been
16 rapid and of noticeable scale. Further, this information indicates that the lands that comprise
17 the Disputed Triangle did not originate as a result of accretion to the Arizona side of the
18 River. Rather, those lands were attached to the Arizona side of the River by abrupt, avulsive
19 changes in the position of the River channel.

20 5. The avulsive nature of the movements in the River in the area of the Disputed
21 Triangle was further confirmed by a 1996 refraction seismic survey and subsurface
22 investigation conducted by Dr. Jeffrey Keaton. Based on data gathered from an investigation
23 which included 28 refraction seismic line tests and 8 geotechnical borings, the
24 nonhomogeneous, uniform nature of the geologic materials that comprise the Disputed
25 Triangle indicates that the River changed position in this area abruptly, by avulsion, rather
26

1 than gradually in a continuous series of accretive changes. This geologic evidence also
2 confirms the presence of an isolated channel remnant within the Disputed Triangle. Such a
3 channel indicates that the Disputed Triangle was never eroded away by accretion, but, rather,
4 that it remained intact as the River shifted course and moved away from the Disputed
5 Triangle.

6 6. In 1980, Whitney Borland, under contract with the Bureau of Indian Affairs,
7 prepared a report in which he analyzed the historic movements of the River through the reach
8 in which the Disputed Triangle is located. Mr. Borland was a recognized expert in river
9 sediment transport analysis and geomorphology. In his report, Mr. Borland concluded that
10 the movements of the River in the area of the Disputed Triangle between 1905 and 1910
11 were avulsive.

12 7. The report of Norville Shearer, the map he started in 1961 for the Bureau of Land
13 Management which was refuted in Sherrill v. McShan, 356 F.2d 607 (9th Cir.1966), and
14 which was allegedly completed in 1982, and corrected in 1991, are so erroneous and
15 defective that the Court must reject them. So also, the study and testimony of James Simpson
16 as they pertain to this case.

17 8. Avulsive activity near the Disputed Triangle has been established by litigation in
18 the Sherrill v. McShan case, and by the creation of Goat Island.

19 9. Based on the Court's rejection of certain evidence and testimony it is questionable
20 whether the Plaintiff made a prima facie case of erosion and accretion.

21 10. The evidence supporting avulsive River movement as set forth herein is clear and
22 convincing.

1 VI. POST-REMAND CONCLUSIONS OF LAW²

2 1. Application of the law of either California or Arizona requires the same result
3 based on the evidence presented.

4 2. When a river moves by avulsion, the boundary does not move with the river, but
5 instead remains in the center of the old channel. United States v. Byrne, 291 F.3d 1056, 1060
6 (9th Cir.), *cert. denied*, 537 U.S. 1088 (2002).

7 2. Plaintiff has no claim to title of the Disputed Triangle because an avulsive
8 movement of the River occurred after 1905 which fixed the boundary of the Disputed
9 Triangle at a time when the Disputed Triangle was located entirely within the boundaries of
10 the State of California.

11 3. Plaintiff's claims for trespass damages, ejectment and injunctive relief are rejected
12 because Plaintiff has no ownership interest in the lands which comprise the Disputed
13 Triangle.

14 ORDER

15 IT IS ORDERED that Plaintiff's First Amended Complaint and Request for
16 Declaratory and Injunctive Relief and Monetary Damages (doc. #47) is dismissed in its
17 entirety as to all defendants named in the First Amended Complaint who have not been
18 previously dismissed pursuant to Court order.

19 IT IS FURTHER ORDERED that all defaults previously entered in this action on July
20 23, 1996 (docs. #94, #95, #96, and #97) are vacated.

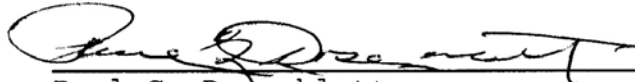
21 IT IS FURTHER ORDERED that the cross-claim (doc. #55) of cross-claimant
22 Camille Engelmann against cross-defendant Mohave County is dismissed as moot.

23 IT IS FURTHER ORDERED that the Clerk of the Court shall enter judgment in favor

24 ² Because the Court finds that the boundaries of the Disputed Triangle were fixed by
25 avulsion and not accretion, the Court need not, and does not, reach the various legal
26 arguments raised by defendant Robert Hall.

1 of all remaining defendants on Plaintiff's First Amended Complaint and Request for
2 Declaratory and Injunctive Relief and Monetary Damages, in favor of Plaintiff as to all
3 previously dismissed counterclaims (docs. #4, #55, #57, and #70), and in favor of cross-
4 defendant Mohave County as to cross-claimant Camille Engelmann's cross-claim (doc. #55).

5 DATED this 10th day of February, 2009.

6
7 
8 Paul G. Rosenblatt
9 United States District Judge
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26