Lahontan Regional Water Quality Control Board

August 19, 2022

Mr. Michael R. Plaziak, PG
Executive Officer
Lahontan Regional Water Quality Control Board
2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150

Response to Advisory Team's Information Request regarding the Hot Creek Hatchery Proposed Settlement Agreement and Stipulation for Entry of Order

The Lahontan Water Board Prosecution Team and the California Department of Fish and Wildlife (Parties) have jointly prepared this response to the Advisory Team's "Information Request: Proposed Order No. R6V-2022-XXX, California Department of Fish and Wildlife, Hot Creek Fish Hatchery, Settlement Agreement and Stipulation of Entry of Order" dated August 1, 2022. The Advisory Team's five questions are copied below, with the Parties' response to each question provided.

Advisory Team Questions and the Parties' Responses:

1. The State Water Resources Control Board's Policy on Supplemental Environmental Projects (SEP Policy) indicates that SEPs cannot include actions which the settling party, or any other regulated third party, is likely to be required to perform, such as part of an existing settlement or order in another legal action. The proposed SEP is located at a California Department of Fish and Wildlife (CDFW) facility that is operated and maintained by CDFW. Please confirm whether the SEP is a project that would likely be required to be performed under normal operation and maintenance of a CDFW facility.

CDFW had no prior plans, nor any obligation, to initiate the proposed project prior to the SEP application. The new, modern design of the proposed aeration tower and inclusion of back-up electrical supply will be significant upgrades and not merely a maintenance event which would have eventually been conducted.

2. It is unclear the anticipated water savings the SEP is projected to achieve. Is the 19 million gallons per day (MGD) water demand of Fish Creek Hatchery expected to go down upon implementation of the SEP or is the expectation that the SEP will help

the hatchery not exceed 19 MGD? What is the projected volume of water savings in MGD?

The existing two groundwater wells are continuously operated at maximum capacity. These wells supply 19 MGD of groundwater which flows into the fish rearing ponds. The SEP project is designed to improve water quality on the lower half of the fish rearing ponds, thereby reducing the need to add fresh groundwater to maintain fish growth and health.

During times of peak fish inventories, a reduction in flow is not feasible. However, during periods of the year where overall on-site biomass levels are lower, the rate of flow could potentially be reduced up to 50%. CDFW staff estimate a yearly water savings of 2,400 acre-feet.

3. The SEP Policy includes a list of projects that are not allowable as SEPs, including “Projects that are expected to become profitable to the settling party within the first five years of implementation (within the first three years for SEPs implemented by settling parties that are small businesses or small communities) are prohibited. After that time period, profitable projects where the environmental or public health benefit outweighs the potential profitability to the settling party may be allowable with approval by the Director of OE.” This SEP is located at a CDFW facility and is expected to result in changes at the facility that could presumably result in a cost savings. Please describe whether implementation of the project would result in any profit to CDFW and if so, when the project is expected to be profitable?

CDFW is a state governmental agency, producing trout and salmon at its hatcheries for recreational opportunity and/or environmental purposes. No fish are sold for profit to any public or private entity.

Furthermore, Fish Springs Hatchery operates on groundwater wells owned and maintained by the Los Angeles Department of Water and Power (LADWP). Through a three-party agreement between CDFW, LADWP and Inyo County, LADWP absorbs the pumping costs (electrical and maintenance) of these two wells. A reduction in pumped water will not result in any monetary cost savings or profit to CDFW.

4. The SEP Policy indicates “that the Water Boards may allow a settling party to satisfy up to 50 percent of the monetary assessment imposed in an ACL order arising out of a settlement by completing or funding one or more eligible SEPs.” When the Water Board proposes an order containing a SEP that exceeds 50 percent of the total adjusted monetary assessment, the Director of the Office of Enforcement may approve that proposed settlement when: (1) There is compelling justification to do so due to exceptional circumstances; or (2) In cases where the SEP is located in or benefits a disadvantaged community (DAC), an environmental justice (EJ)

community or a community that has a financial hardship, or where the SEP substantially furthers the human right to water. The settlement in section II, #23 indicates that the proposed settlement would suspend the entire $120,000.00 penalty pending SEP completion because the SEP "will benefit the Big Pine Paiute Tribe, a disadvantaged community, by reducing groundwater usage at the Fish Springs Fish Hatchery, which will result in additional groundwater available for the Tribe's use as a drinking water supply." Can you please characterize how the Tribe will benefit from the water savings of the SEP given the location of the Tribe's supply wells relative to the Fish Springs Hatchery supply wells? Does the SEP have benefits to the Tribe other than providing additional drinking water supply (e.g., habitat benefits, benefits to cultural resources, agricultural water supply)?

A Radius of Influence Analysis was conducted in 2008. This study was included in CDFW's SEP application and is enclosed with this letter. As shown in Figures 10 and 12 of the Radius of Influence Study, the Fish Creek Hatchery's two production wells (wells 330 and 332) place a combined seven to eight feet of drawdown on the aquifer below the Big Pine Tribe Reservation[1]. This affects the Tribe's ability to utilize their own groundwater well(s) for domestic consumption as well as the ability of trees to potentially access water.

In addition, the location of the Fish Springs Hatchery and surrounding lands are culturally significant to the Big Pine Tribe as they were dwelling sites, as well as locations for hunting and gathering activities. Any improvement to the overall vegetative health of this area is a benefit to the Tribe's efforts of historical recognition.

5. The SEP Policy indicates that the "SEP description in the stipulated order must address how the project will comply with the California Environmental Quality Act (CEQA) and these requirements shall be incorporated into the time schedule for the SEP." The SEP description did not address how the project will comply with CEQA, nor did the Scope of Work, Schedule and Budget (Attachment C) include CEQA requirements in the schedule. Please revise the SEP description to explain how the project will comply with CEQA, and revise the Scope of Work, Schedule and Budget (Attachment C) to include requirements related to CEQA compliance for SEP implementation.

CDFW, as lead agency for the project, will comply with CEQA by filing with the California Office of Planning and Research a Notice of Exemption pursuant to 14 CCR Sections 15302, 15307 and 15308. This CEQA compliance will be done promptly upon a final project approval.

[1] The Big Pine Reservation covers 279 acres just east of the town of Big Pine. For location purposes on Figures 10 and 12 of the Radius of Influence Analysis, the Reservation is about two miles south of the intersection of Highways 395 and 168.

The Parties stipulate that this letter serves to supplement Attachment C to the proposed Settlement Agreement to incorporate CEQA compliance, with revisions shown below in bold:

*Settlement Agreement, Paragraph 25 (description of SEP), add as final sentence to last paragraph: "**CDFW will comply with CEQA by filing a Notice of Exemption pursuant to 14 CCR Sections 15302, 15307 and 15308**".*

Attachment C.1, Project Milestones and Dates, insert as first item:
***"CEQA compliance: No later than one month after the Stipulated Order is accepted by the Lahontan Water Board, CDFW will file a Notice of Exemption pursuant to 14 CCR Sections 15302, 15307 and 15308 with the California Office of Planning and Research**.*

The Parties respectfully request that the Advisory Team accept these clarifications and consider adoption of a final Settlement Agreement. If you have any questions, please jointly contact Ben Letton (ben.letton@waterboards.ca.gov) and Chad Dibble (chad.dibble@wildlife.ca.gov).

Ben Letton, Assistant Executive Officer
Lead Prosecutor, Lahontan Water Board

Original signed by Chad Dibble

Chad Dibble, Deputy Director
California Department of Fish and Wildlife

Enclosure: Radius of Influence Analysis

cc w/ enc: see next page

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TECHNICAL MEMORANDUM

MWH

To:	Inyo/LA Cooperative Team	**Date:**	July 10, 2008
From:	Victor Harris, MWH Karen Miller, MWH Jim Yoon, MWH	**Reference:**	1343024
Subject:	Radius of Influence Analysis – Big Pine and Taboose-Aberdeen Wellfield		

Introduction

The procedure for completing the radius of influence (ROI) analysis described in Cooperative Workplan IA-1 (Subtask 1) was developed during the Inyo/LA Cooperative Team meetings on December 13th 2007 and January 10th 2008, as well as subsequent e-mail correspondence. This memorandum serves to document the procedures discussed, present results from the ROI analysis for the Big Pine and Taboose-Aberdeen wellfields, and serve as a guide to subsequent modeling efforts.

Radius of Influence Analysis Procedure

- The procedure will be implemented in the following two Owens Valley wellfields:

    1. Big Pine Wellfield
    2. Taboose-Aberdeen Wellfield

- Several groundwater models exist for the study area. The table below summarizes which groundwater models will be utilized to conduct the analyses. The analysis will be completed using two different models for each wellfield.

Table 1
Summary of Groundwater Models to be used for the Radius of Influence Analysis

Wellfield	Model	Responsible Party
Big Pine	MWH/LADWP Big Pine Wellfield Model (2004) USGS Owens Valley Model (Danskin, 1998)	LADWP ICWD
Taboose-Aberdeen	MWH/LADWP Taboose-Thibaut Wellfield Model (2004) USGS Owens Valley Model (Danskin, 1998)	LADWP ICWD

- Production well pumping rates to be used in this analysis are summarized in **Attachment A**. The rationale associated with the selection of these rates is also provided in this attachment.

- Key indicator wells or discrete locations where drawdown will be documented are provided in **Attachment B**.

- A study area map showing the location of the discrete points where drawdown is to be observed (listed in **Attachment B**) is provided as **Attachment C**. These locations generally consist of:

    1. Key indicator wells
    2. Permanent monitoring sites
    3. Other locations of interest

- Using the appropriate model, each modeler will perform the following steps at each wellfield:

    1. Begin with the existing steady-state condition already developed for the model to be used (note that this may involve different initial conditions for different models).
    2. Modify the existing steady-state model run to exclude all pumping wells.
    3. Re-run the steady-state simulation with the new pumping assumptions (no pumping wells) and save the computed heads.
    4. Convert model to transient mode, using the computed steady-state heads as the starting heads for the transient simulation.
    5. Keeping all boundary conditions the same as the steady-state run (no pumping wells), run the model in a transient mode for one (1) year. Confirm that the starting heads are the same as the head after one (1) year.
    6. For each production well identified in **Attachment A**, run a transient simulation exactly the same as Step 5 above, except set the production at one well of interest to the production rate noted in **Attachment A**. Document the change in groundwater level throughout the wellfield as a result of pumping the one well of interest for one (1) year. The change in

groundwater level need only be documented for the shallowest layer of the model. The layer from which the well produces water should be based on the construction characteristics of each well and should be documented for future use.

7. Repeat Step 6 for each pumping well listed in **Attachment A**, evaluating the production from only one well at a time for a period of (1) one year.

- Deliverables associated with these model runs include:

1. Create an XYZ data table of the wellfield that represents contours of equal drawdown in the shallowest model layer as a result of pumping at each well identified in **Attachment A** for a period of one (1) year. The X and Y dimensions shall be in NAD_1927_UTM_Zone_11N coordinates while the Z dimension will be in feet. This data table should be transferable to a variety of contouring software.
2. Create a contour map of the drawdown at each well. Each modeler may select the contouring software of their choice (GMS, ArcView, Surfer). The maps should show other pumping wells and key geographic features of well fields for reference.
3. For each indicator location identified in **Attachment B**, create a table (using Excel) similar to the following example:

Table 2
Example Indicator Location T425

Production Well	Model Layer that the Well Produces From	Shallow drawdown at T425 as a Result of Pumping the Production Well for One (1) Year	% of Total Drawdown
Well AQ1	1	4	To be calculated (i.e. =4/36)
Well AQ2	3	10	To be calculated
Well AQ3	2	16	To be calculated
Well EM1	1	6	To be calculated
	Total Drawdown	**36**	

Model Updates

The ROI analysis results presented in this memorandum are obtained from performing runs on the MWH/LADWP versions of the groundwater models for the Big Pine and Taboose-Aberdeen wellfields. Results from the USGS Owens Valley model will be prepared separately by the Inyo County Water Department (ICWD). Updates that were made to the MWH/LADWP groundwater models for the ROI analysis are described below.

Big Pine Wellfield

The Big Pine groundwater model was originally created by MWH and subsequently calibrated by the LADWP. The latest transient model files for the calibrated Big Pine model were provided by Saeed Jorat (LADWP) to MWH for use in the radius of influence analysis on April 10, 2008. These transient model files were then converted to a steady-state model by using inputs from the first stress period of the model.

The original Big Pine model utilized the algebraic multi-grid solver package (LINK-AMG) distributed by the USGS. Due to licensing restrictions, this solver package is no longer publicly distributed by the USGS and is therefore not available for use in the current analysis. The model is updated to utilize the PCG2 solver package, which provides similar results as the LINK-AMG package.

To perform the radius of influence analysis, all of the production wells are removed from the model. After removal of these production wells, a steady-state model run was performed to obtain resulting model heads, which are then used to replace the starting head values in the model. These updates provide a base model from which to perform the radius of influence analysis.

Taboose-Aberdeen Wellfield

The Taboose-Aberdeen groundwater model was originally created by MWH and subsequently calibrated by the LADWP. The latest transient model files for the calibrated Taboose-Aberdeen model were provided by Saeed Jorat (LADWP) to MWH for use in the radius of influence analysis on April 10, 2008. These transient model files were then converted to a steady-state model by using inputs from the first stress period of the model.

To perform the radius of influence analysis, all of the production wells were removed from the model. After removal of these production wells, a steady-state model run was performed to obtain resulting model heads, which were then used to replace the starting head values in the model. These updates provide a base model from which to perform the radius of influence analysis.

Radius of Influence Analysis Results

The radius of influence analysis was performed on a set of individual production wells throughout the wellfields (included wells and pumping rates shown in **Table 3** and **Table 4** for Big Pine and Taboose-Aberdeen, respectively). For each of these production wells, the model was run for a one-year period (i.e. two model stress periods) using the defined pumping rate at the model cell of the well location.

Table 3
Analysis Rates for Big Pine Pumping Wells

Well ID	Analysis Rate (acre-ft/yr)	Analysis Rate (ft3/day)
210	1,540	183,787
218	2,470	294,776
219	3,360	400,991
220	1,750	208,849
222	950	113,375
223	1,960	233,911
229	1,060	126,503
231	1,450	173,047
232	1,380	164,693
330	6,100	727,989
331	5,150	614,614
332	11,500	1,372,438
341	450	53,704
352	50	5,967
374	4,000	477,370
375	3,420	408,151
378	3,150	375,929
379	3,200	381,896
389	3,000	358,027
409	2,150	256,586

Table 4
Analysis Rates for Taboose-Aberdeen Pumping Wells

Well ID	Analysis Rate (acre-ft/yr)	Analysis Rate (ft3/day)
106	2,140	255,393
110	3,650	435,600
111	2,260	269,714
114	2,200	262,553
118	1,800	214,816
342	8,160	973,835
347	8,960	1,069,308
349	10,500	1,253,096
109	2,870	342,513
370	2,300	274,488
159	1,100	131,277
155	700	83,540
103	1,100	131,277
104	780	93,087
382	1,260	150,372
351	7,300	871,200
356	4,700	560,910
380	2,350	280,455
381	2,330	278,068

The model run produces a set of resulting head and drawdown values in each model cell at the end of the run. The drawdown values in the upper layer of each model have been compiled into XYZ data tables of the wellfield for each of the runs, with the X and Y dimensions in the NAD 1927 UTM Zone 11N coordinate system and the Z dimension in feet of drawdown. Due to their large size, these tables are not included in this memorandum (available electronically upon request). In addition to the XYZ table, a map showing contours of equal drawdown in the upper layer of the models due to pumping at various production wells are shown on **Figure 1-Figure 21** for the Big Pine wellfield, and **Figure 22-Figure 41** for the Taboose-Aberdeen wellfield.

The proposed radius of influence analysis procedure also includes the identification of a series of indicator locations at which drawdown due to pumping at each of the production wells is determined. For each of the indicator locations, the drawdown due to production at each pumping well is determined from the model results. These results are presented for each indicator location on **Table 5-Table 12** for the Big Pine wellfield, and **Table 13-Table 24** for the Taboose-Aberdeen wellfield.

In addition to the model runs with pumping at individual production wells, one run was performed with all listed wells running for each of the wellfields. The drawdown contours for these runs are shown on **Figure 21** and **Figure 41** for the Big Pine and Taboose-Aberdeen weillfields, respectively. The drawdown at each indicator location due to pumping at all wells is also included on **Table 5-Table 24**. Following the principal of superposition, the sum of the drawdown values due to pumping at individual wells should equal the total drawdown due to pumping all the wells simultaneously, provided that the influence of boundary conditions and aquifer heterogeneity are negligible. In the case of the Big-Pine wellfield, pumping at all wells simultaneously invokes influences of the model domain boundary, thereby increasing the drawdown in this scenario relative to the sum of the drawdown due to pumping at individual wells at any given indicator location. In the case of the Taboose-Aberdeen wellfield, the drawdown is apparently less affected by the model domain boundary, and therefore the drawdown due to pumping all wells simultaneously approximates the sum of the drawdown due to pumping at individual wells at any given indication location (i.e. the principal of superposition holds). The relative significance of boundary effects in the two wellfields is highlighted by the fact that drawdown on the western and eastern boundaries of the Big Pine wellfield is 45 and 20 feet, respectively. By comparison, drawdown at both the western and eastern boundaries of the Taboose-Aberdeen wellfield is only 4 feet (with all wells pumping).

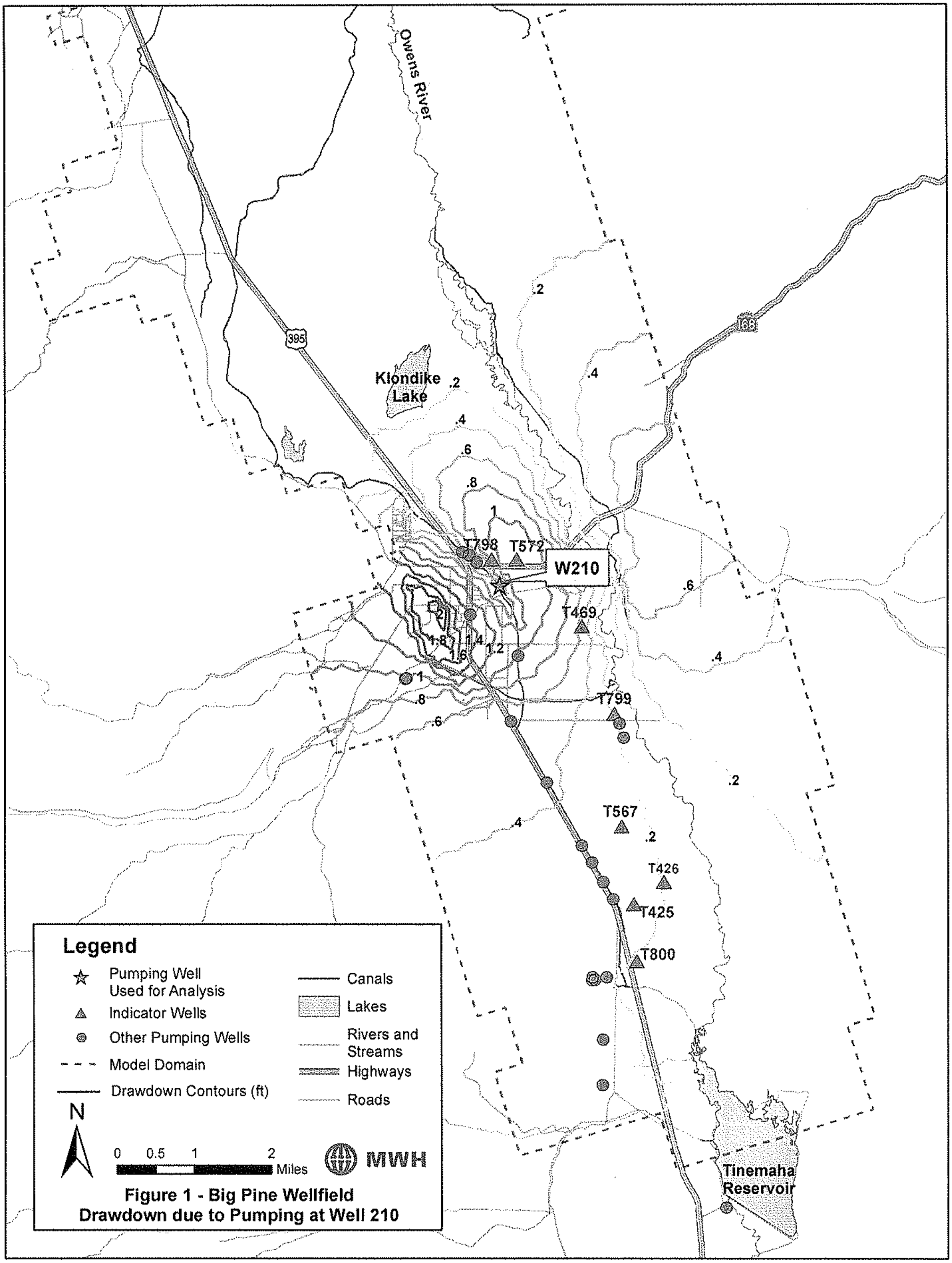

Figure 1 - Big Pine Wellfield
Drawdown due to Pumping at Well 210

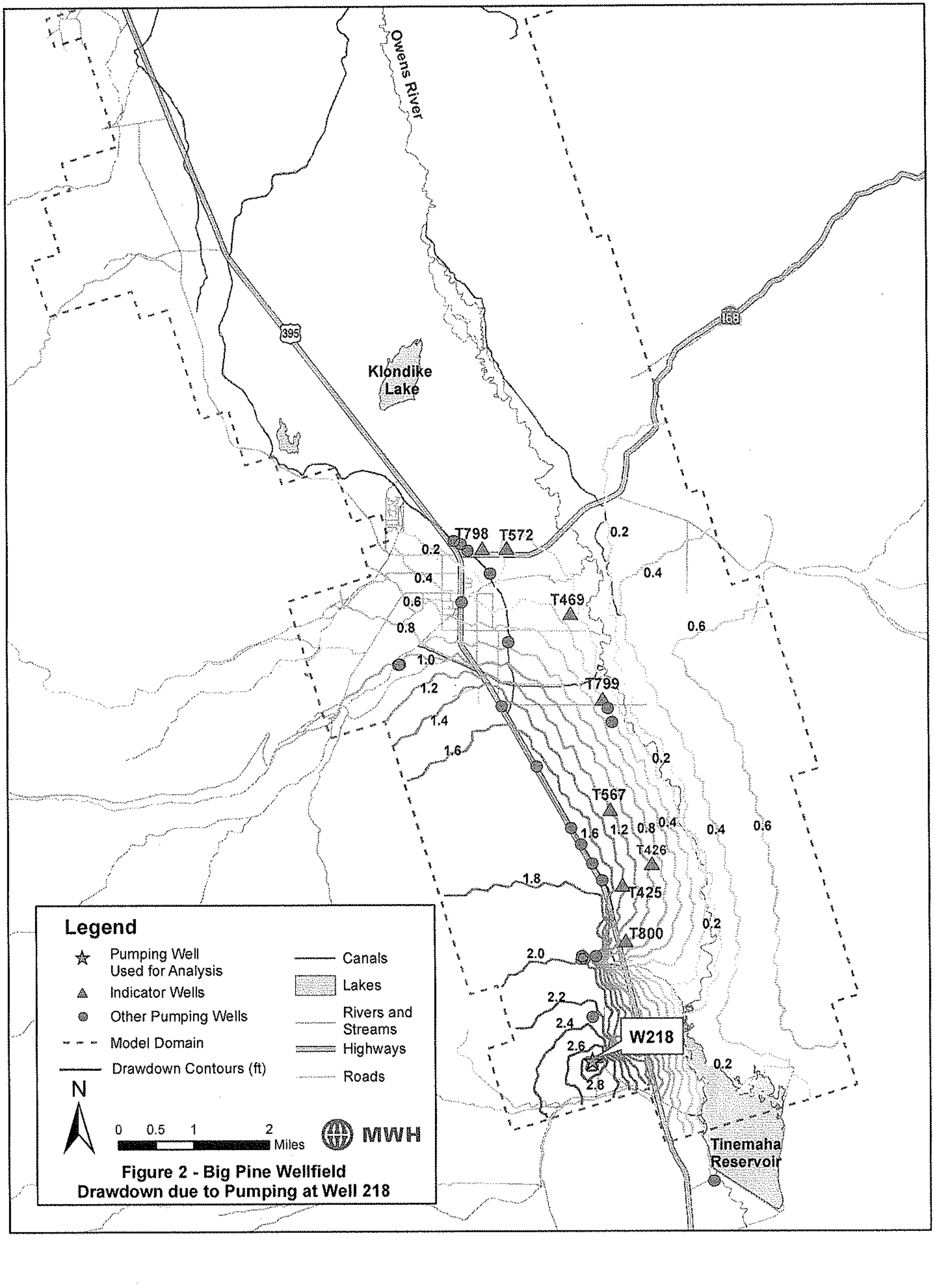

Figure 2 - Big Pine Wellfield
Drawdown due to Pumping at Well 218

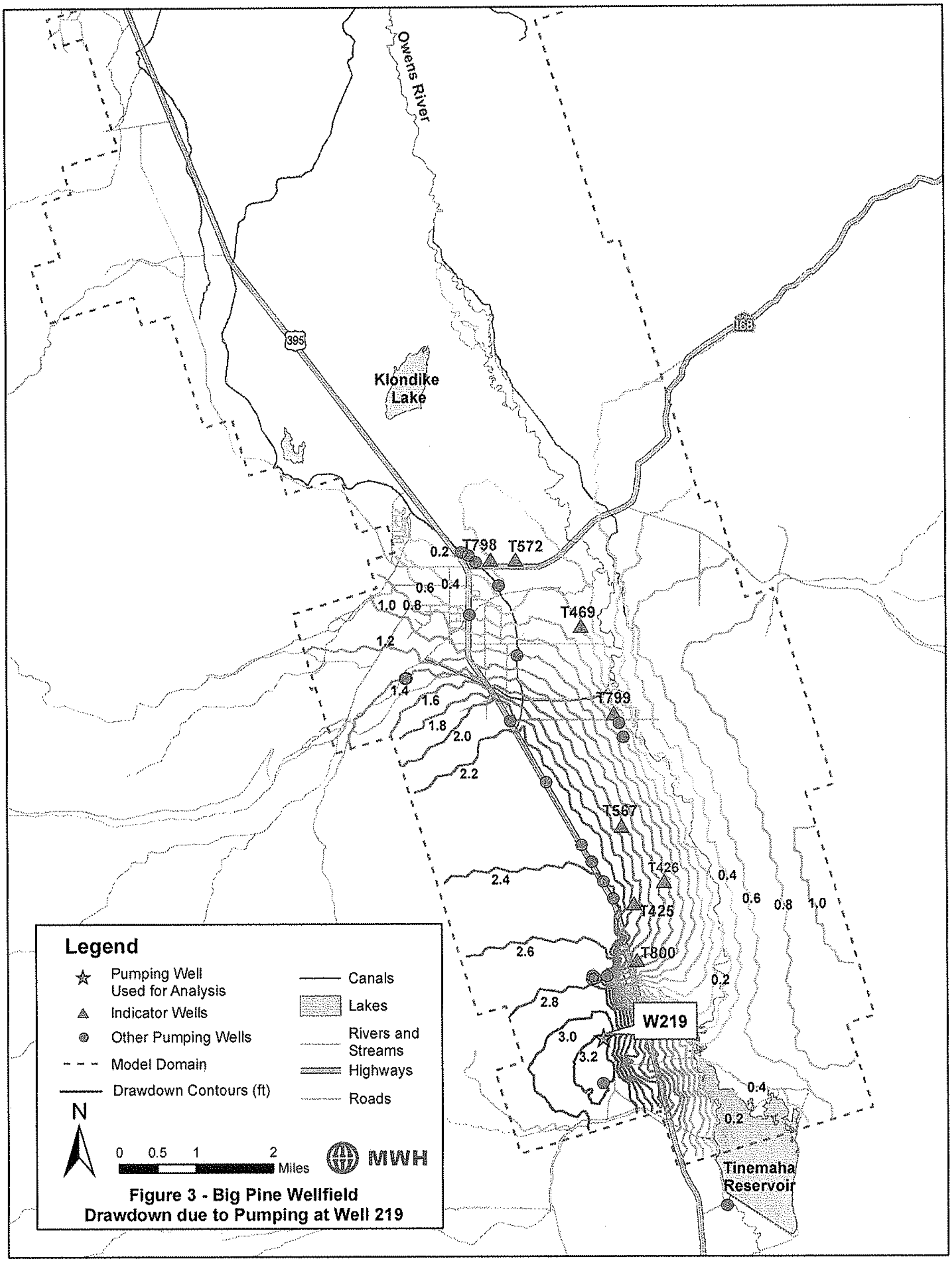

Figure 3 - Big Pine Wellfield Drawdown due to Pumping at Well 219

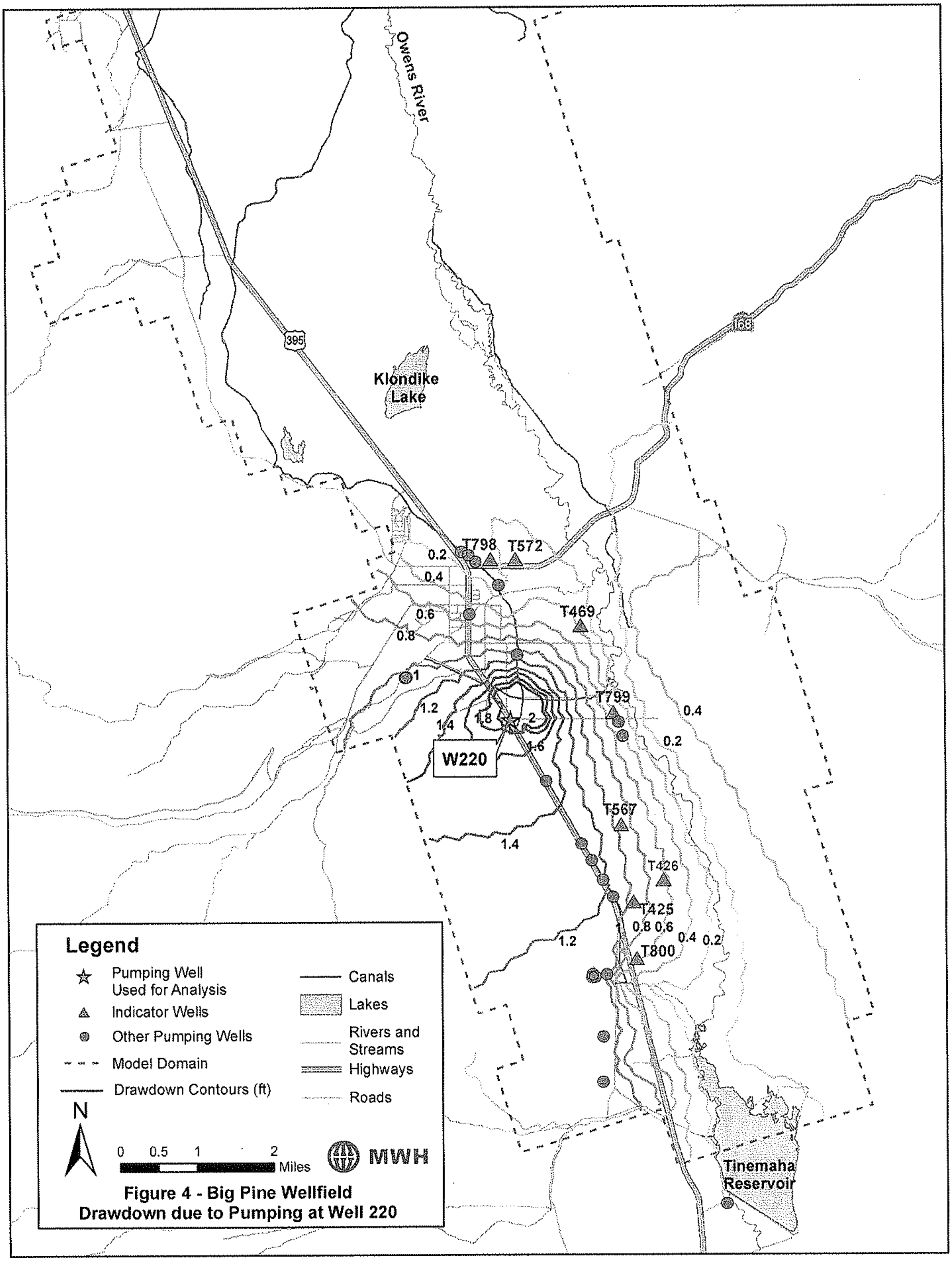

Figure 4 - Big Pine Wellfield Drawdown due to Pumping at Well 220

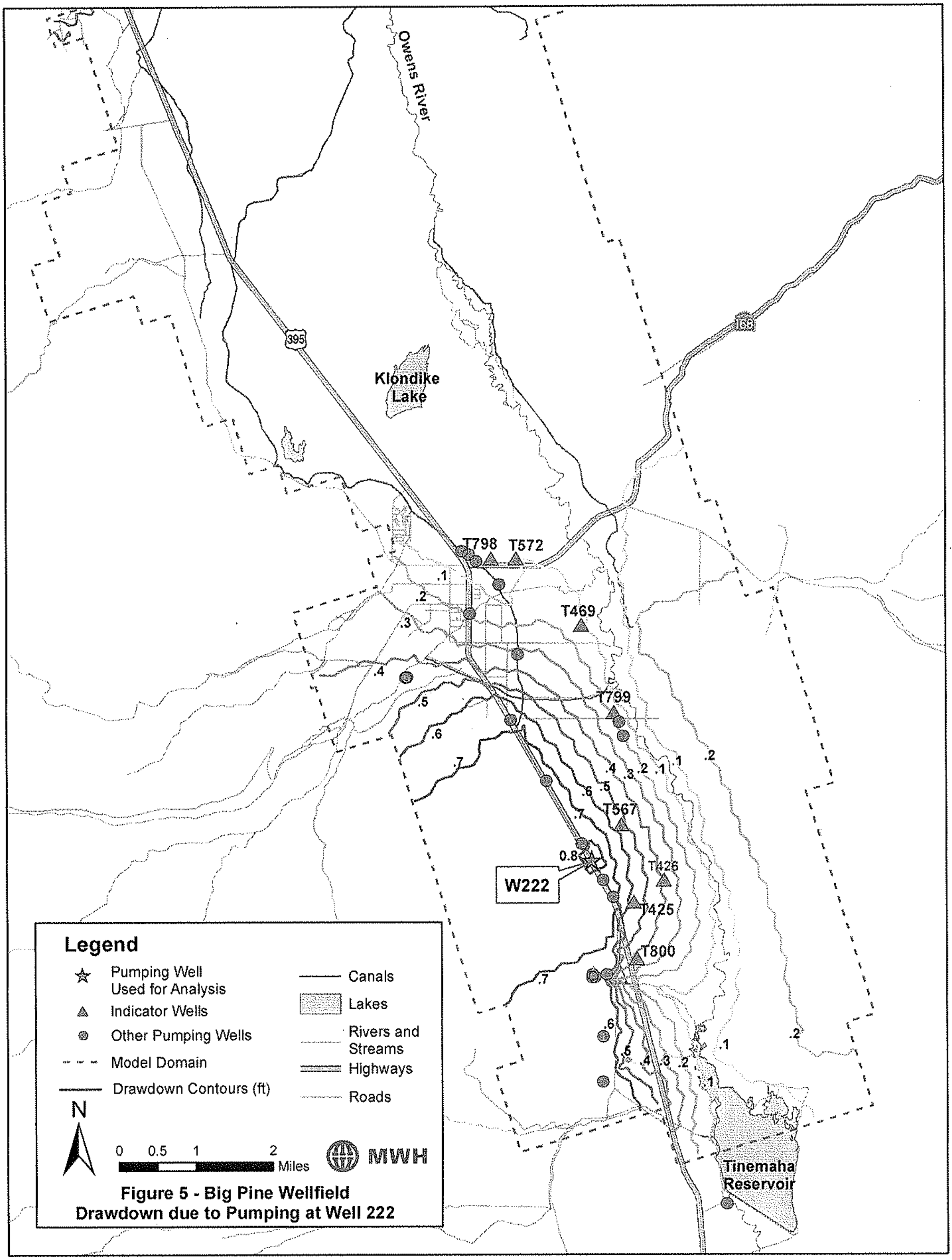

Figure 5 - Big Pine Wellfield Drawdown due to Pumping at Well 222

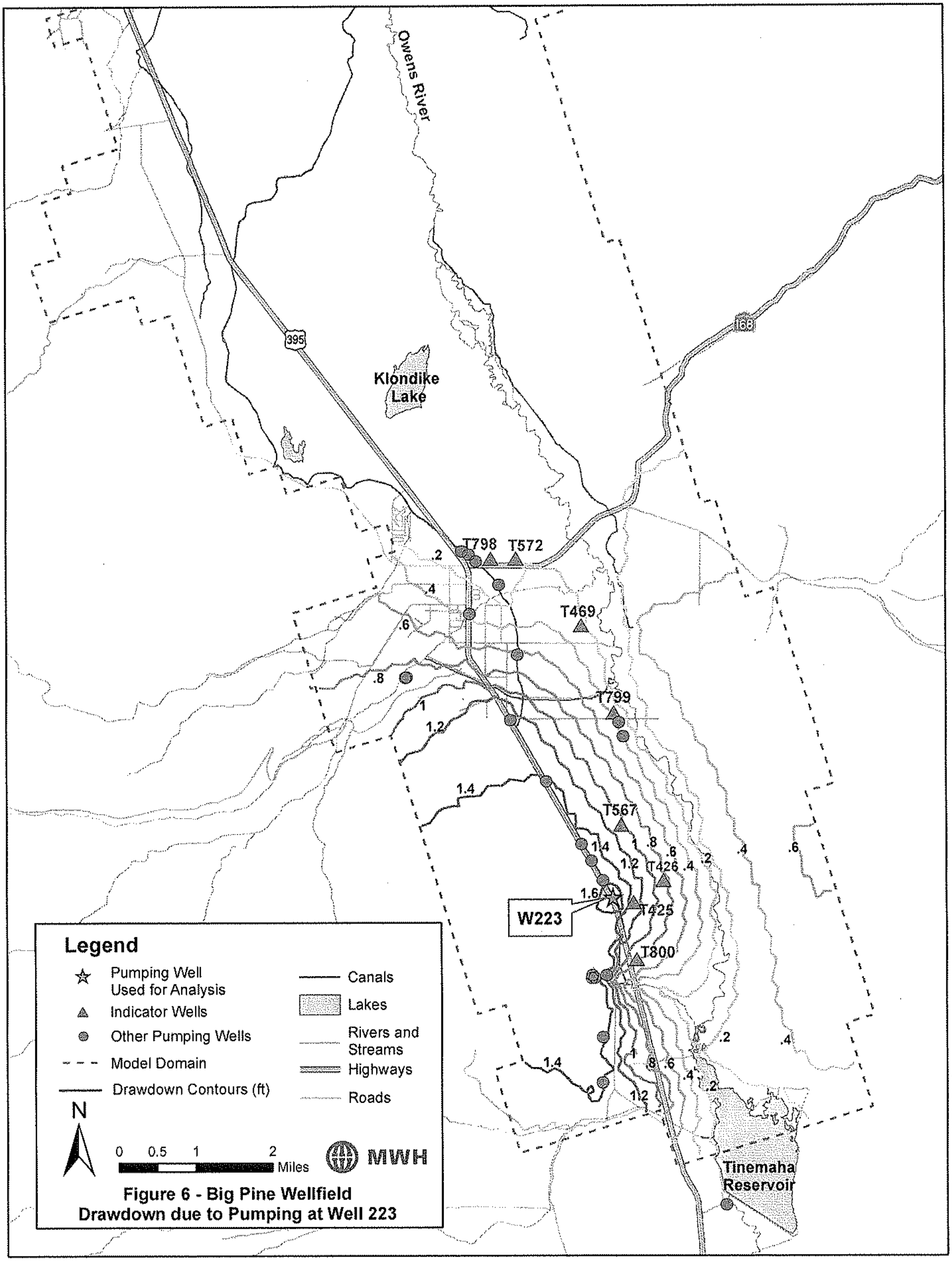

Figure 6 - Big Pine Wellfield Drawdown due to Pumping at Well 223

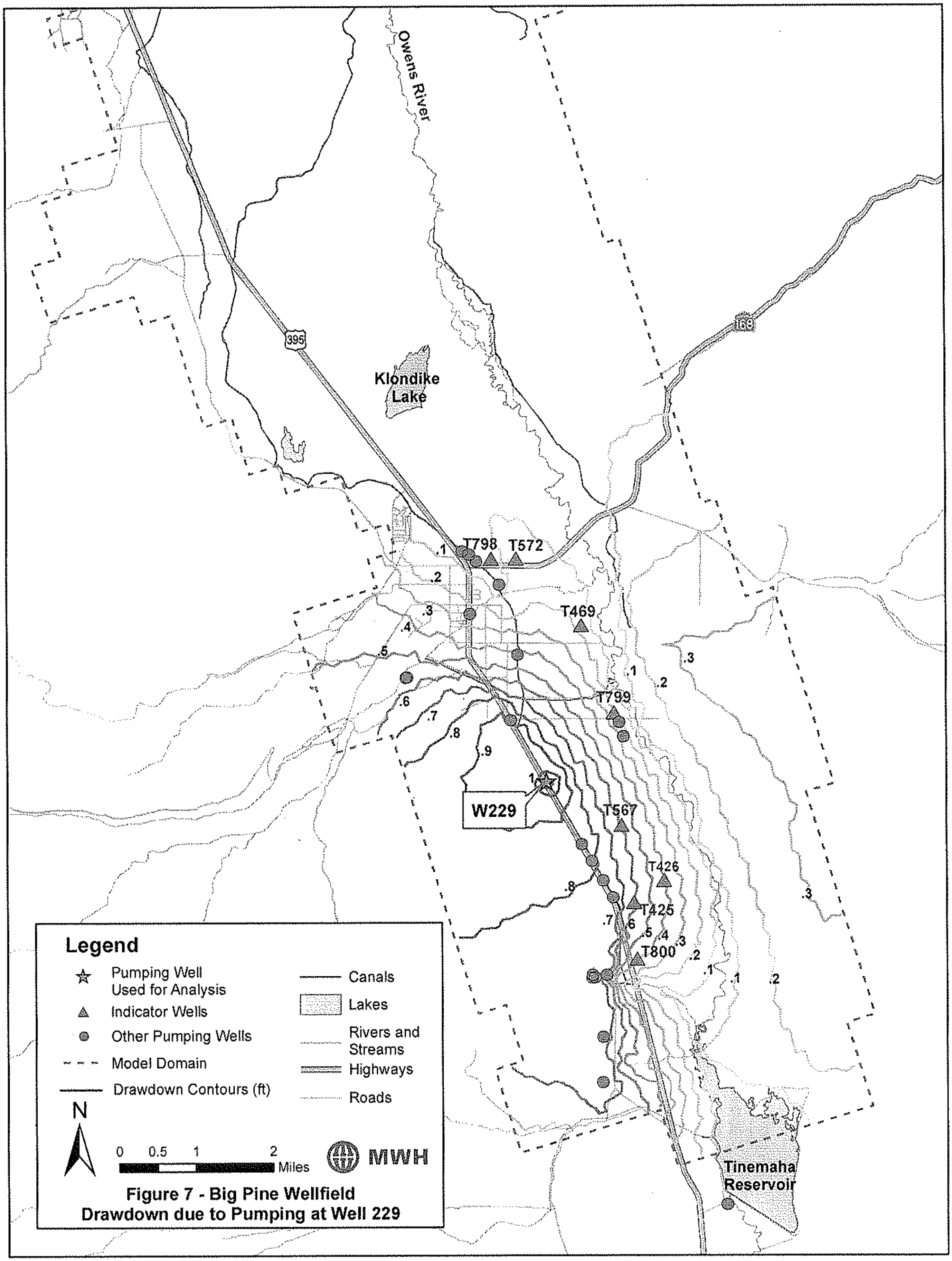

Figure 7 - Big Pine Wellfield
Drawdown due to Pumping at Well 229

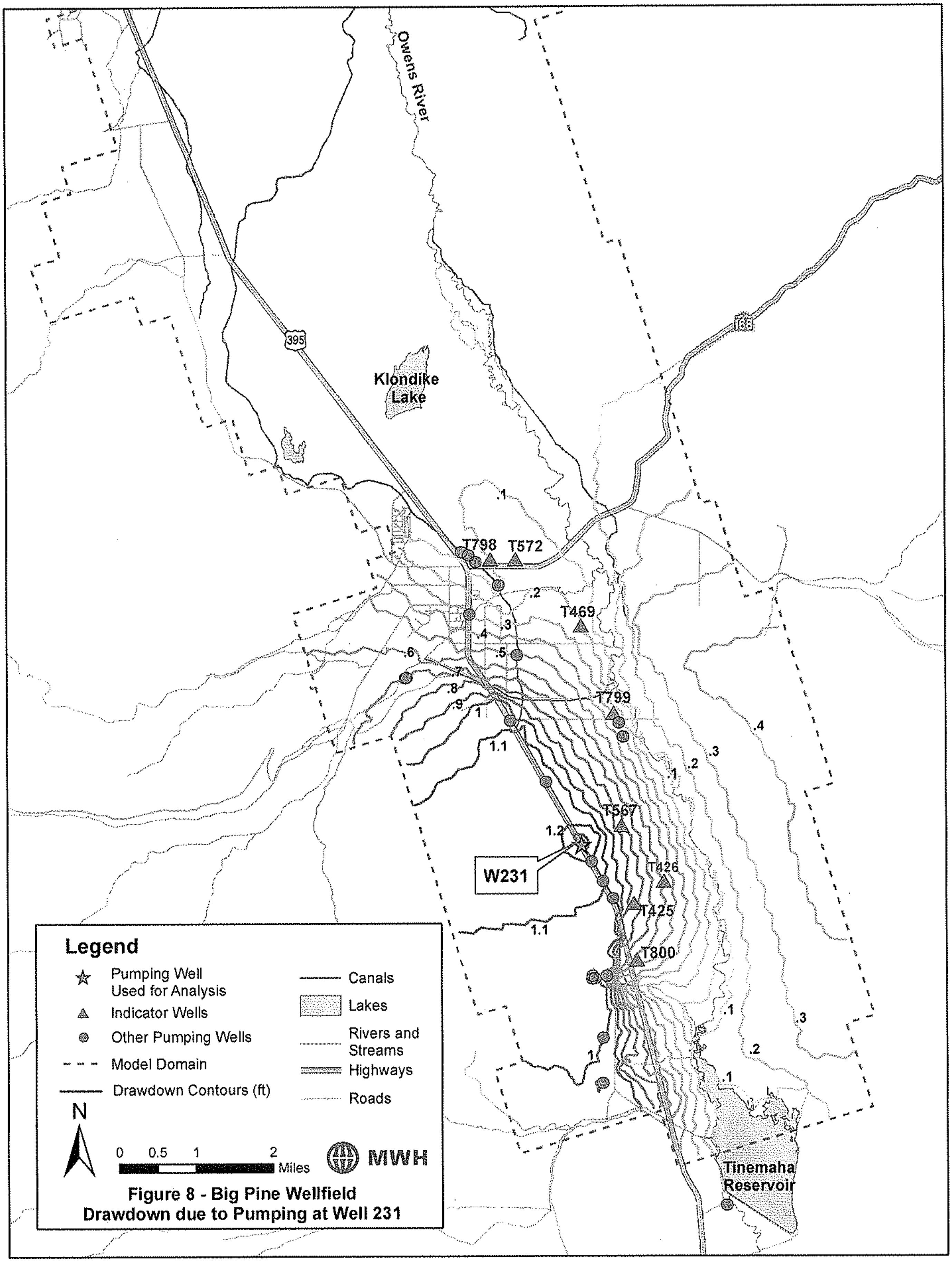

Figure 8 - Big Pine Wellfield Drawdown due to Pumping at Well 231

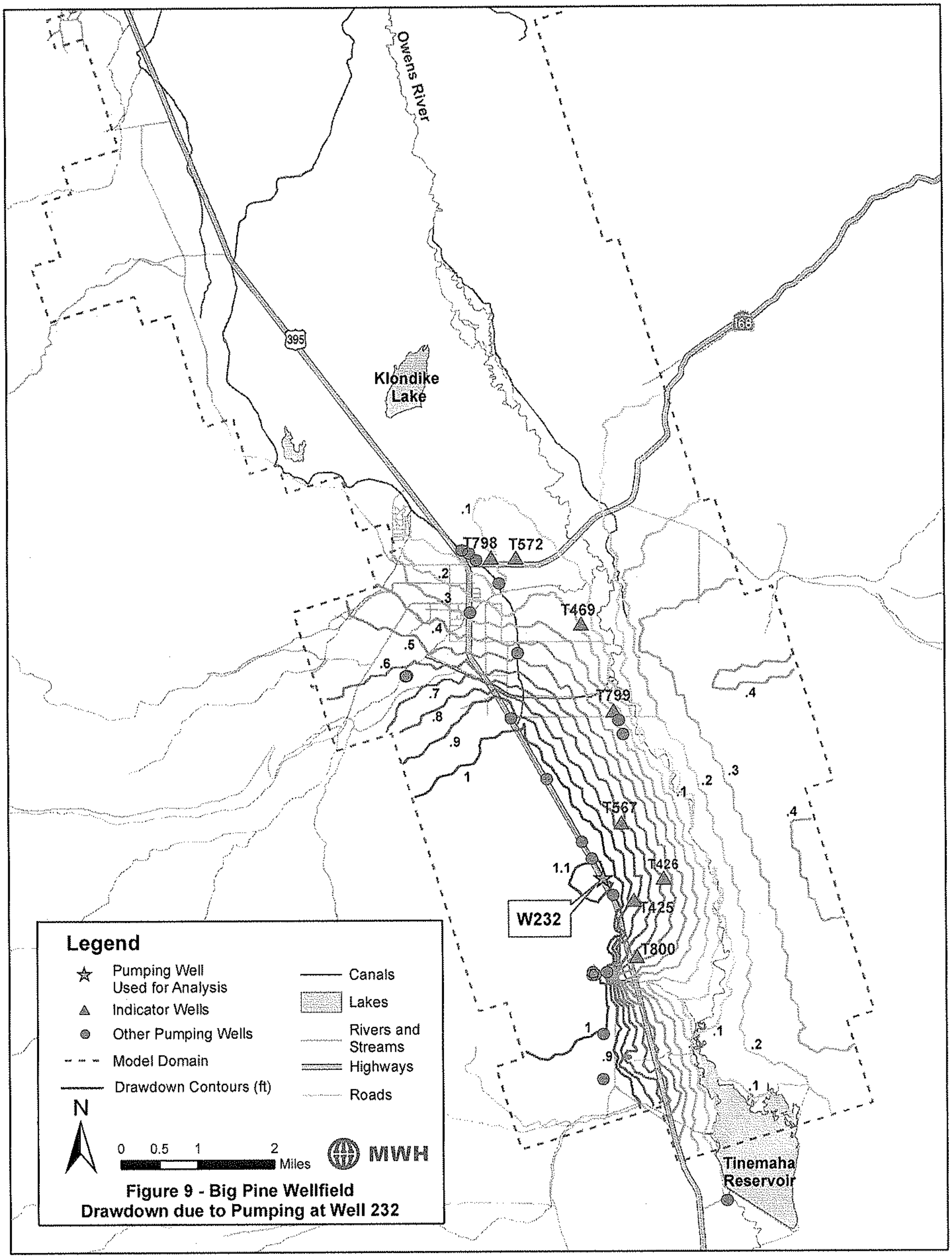

Figure 9 - Big Pine Wellfield Drawdown due to Pumping at Well 232

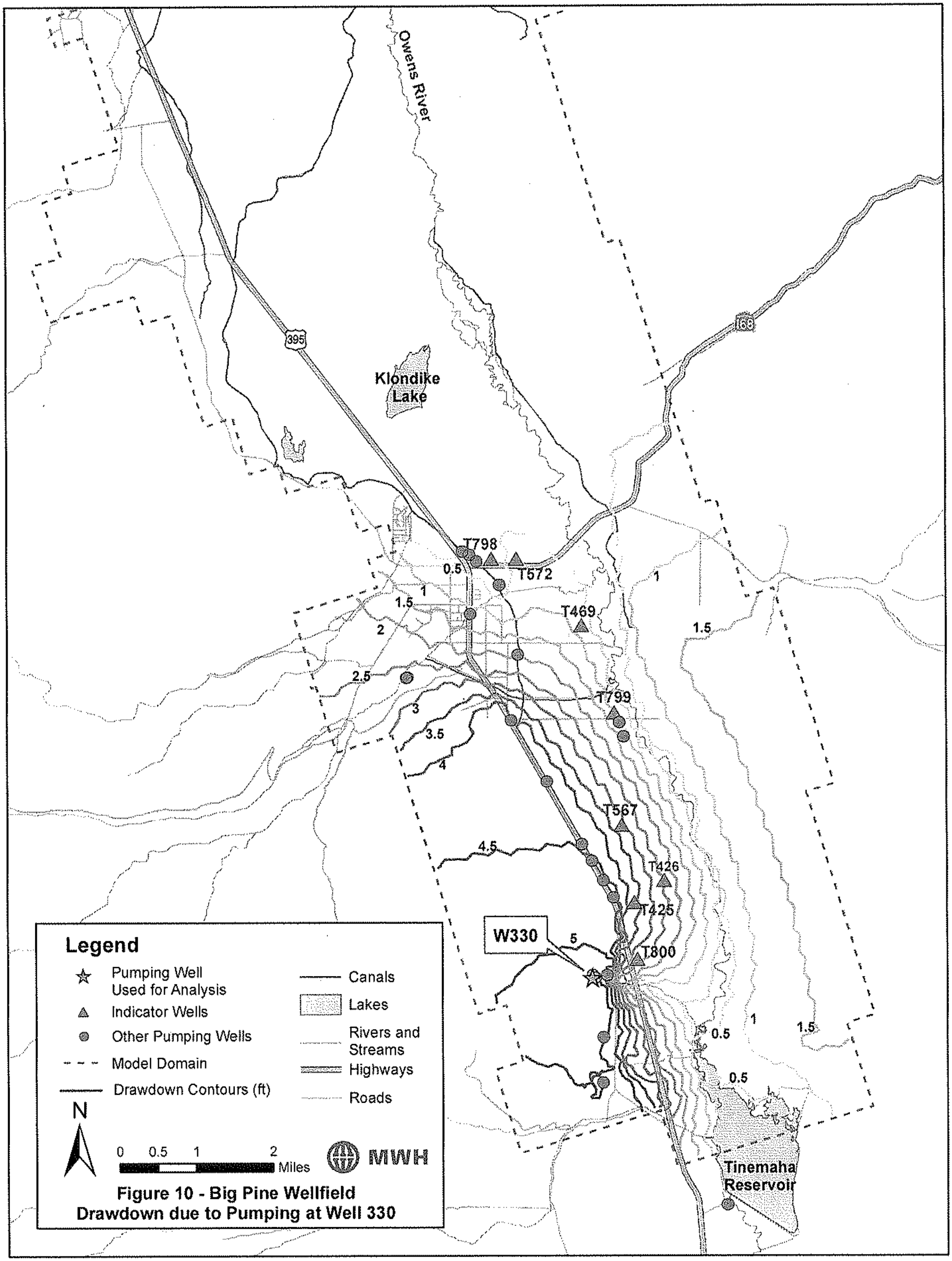

Figure 10 - Big Pine Wellfield Drawdown due to Pumping at Well 330

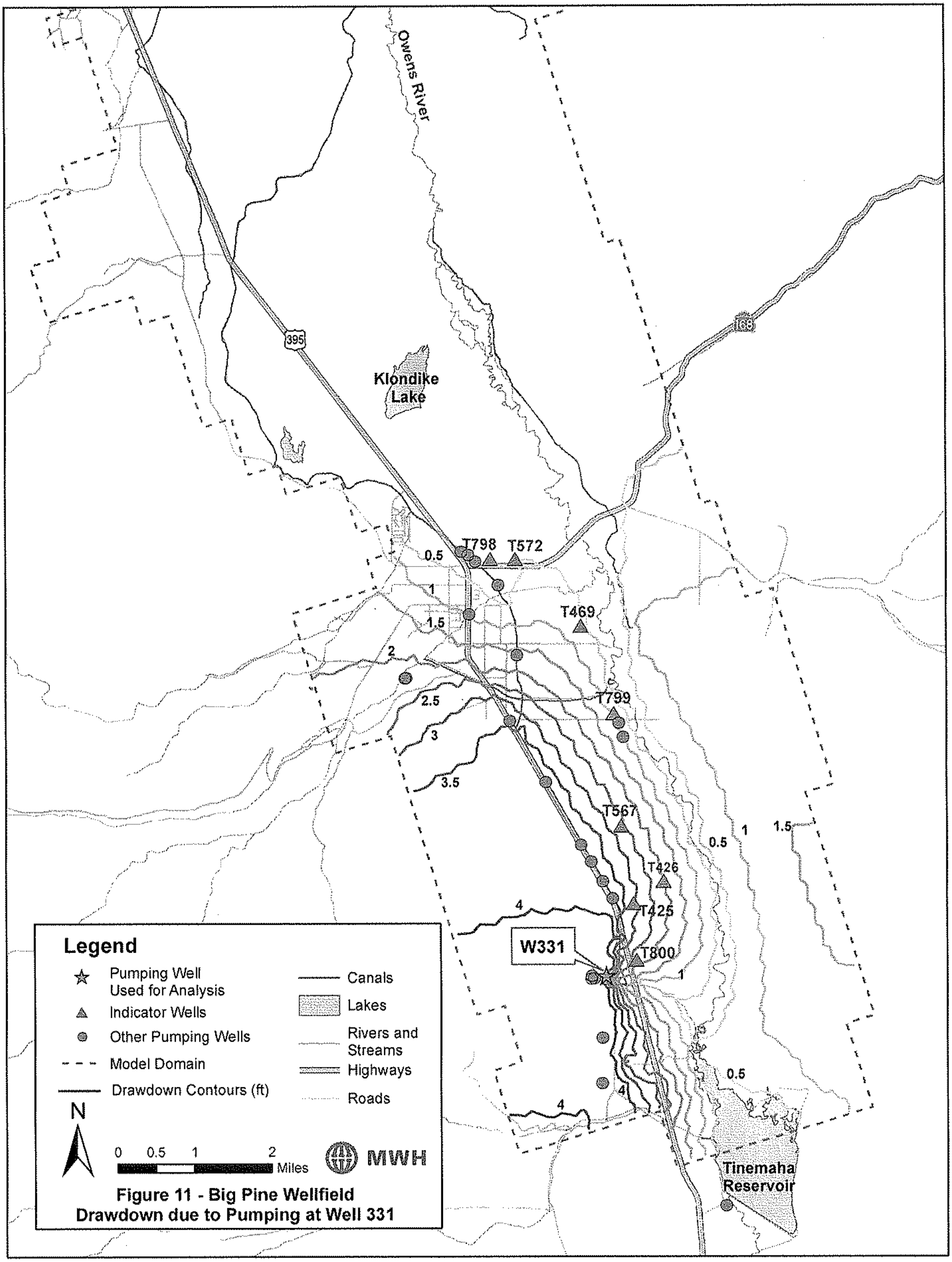

Figure 11 - Big Pine Wellfield Drawdown due to Pumping at Well 331

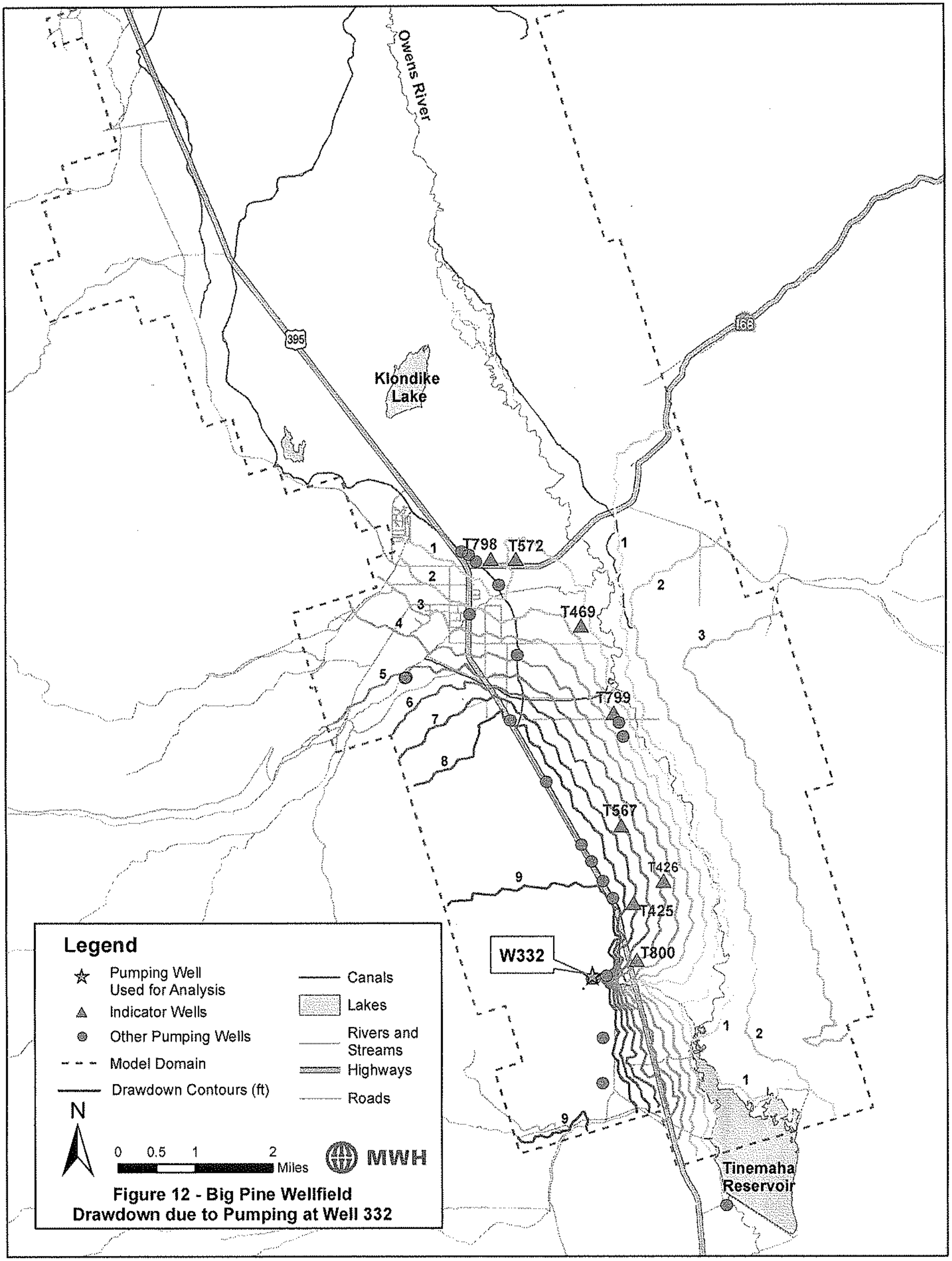

Figure 12 - Big Pine Wellfield Drawdown due to Pumping at Well 332

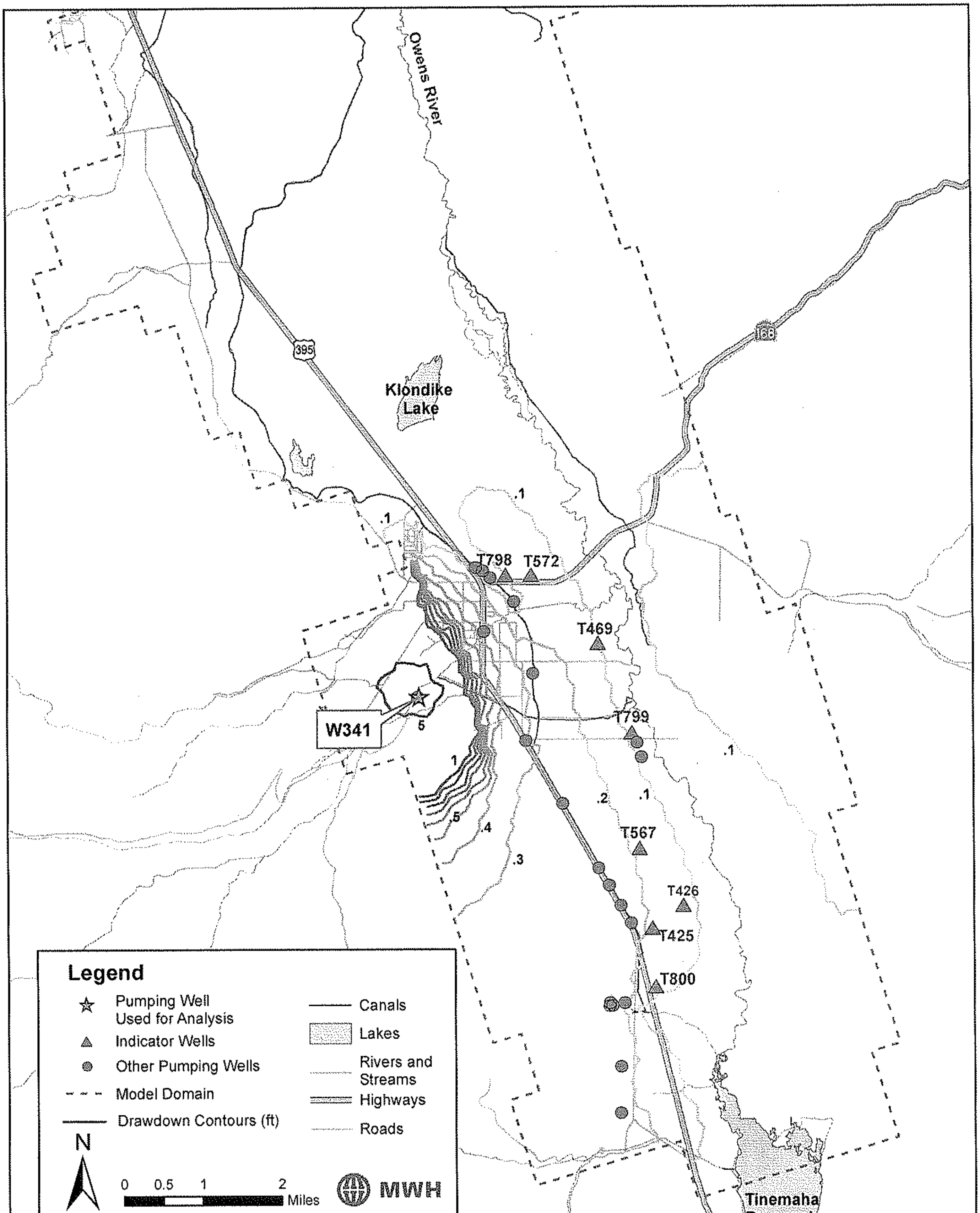

Figure 13 - Big Pine Wellfield Drawdown due to Pumping at Well 341

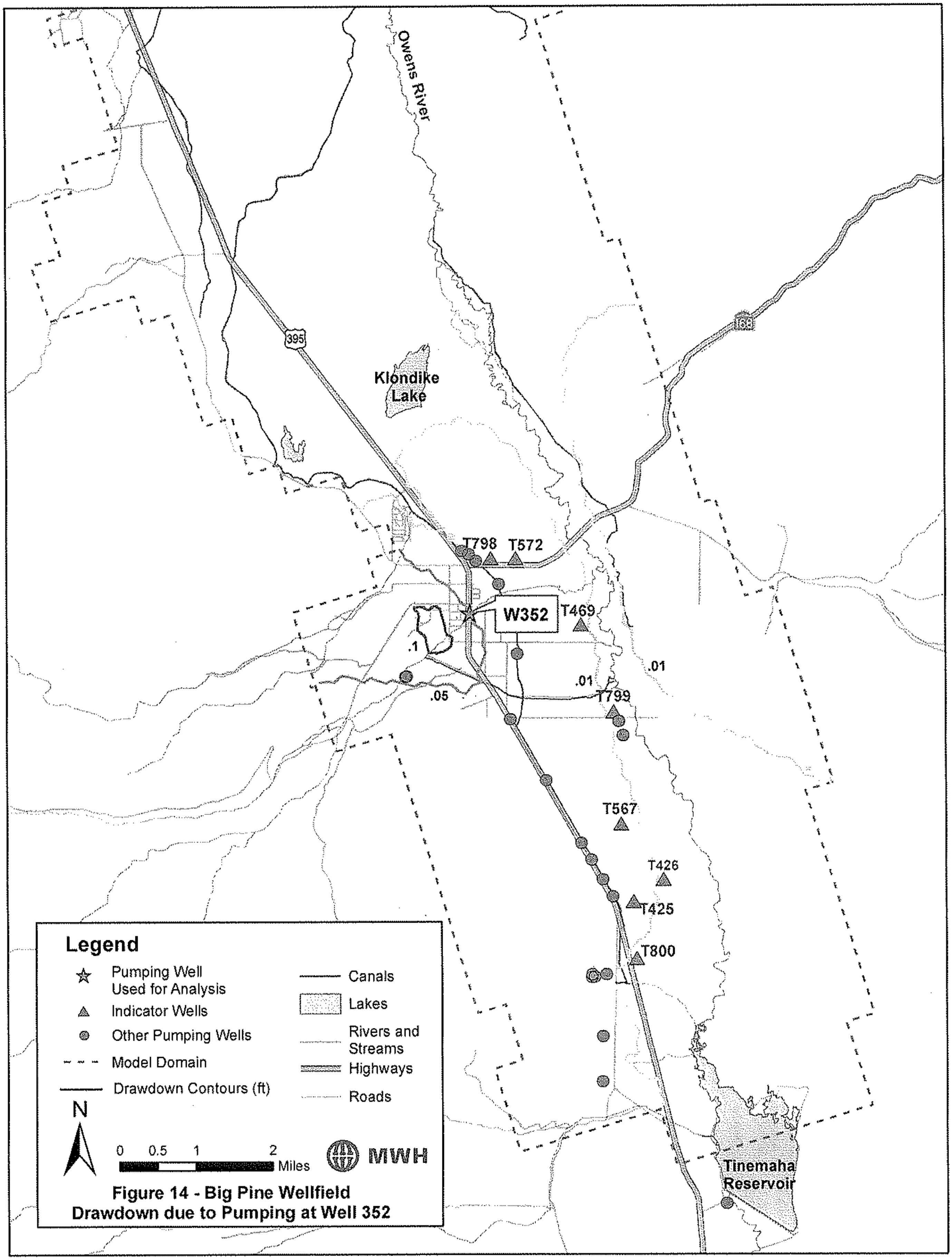

Figure 14 - Big Pine Wellfield Drawdown due to Pumping at Well 352

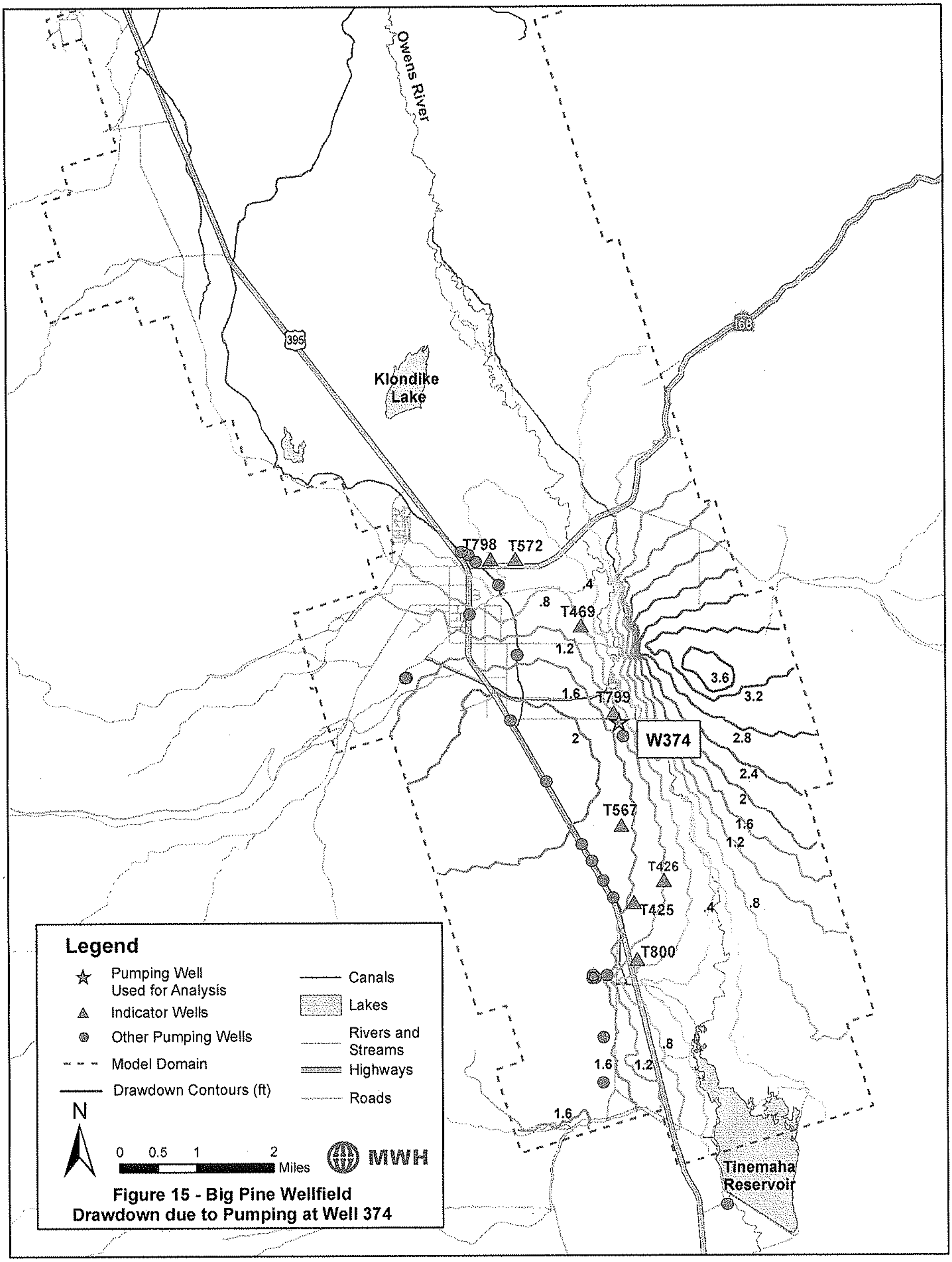

Figure 15 - Big Pine Wellfield Drawdown due to Pumping at Well 374

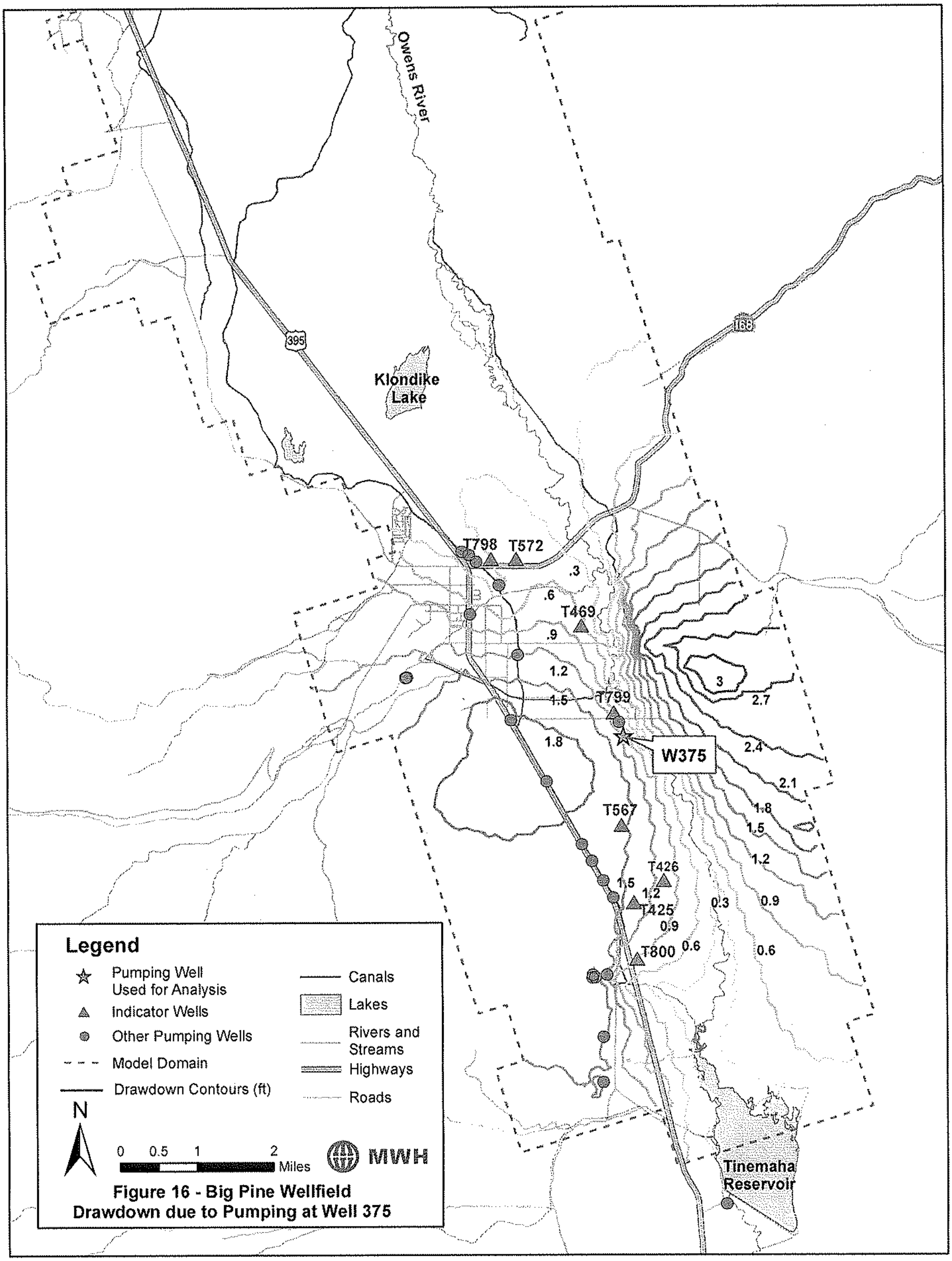

Figure 16 - Big Pine Wellfield Drawdown due to Pumping at Well 375

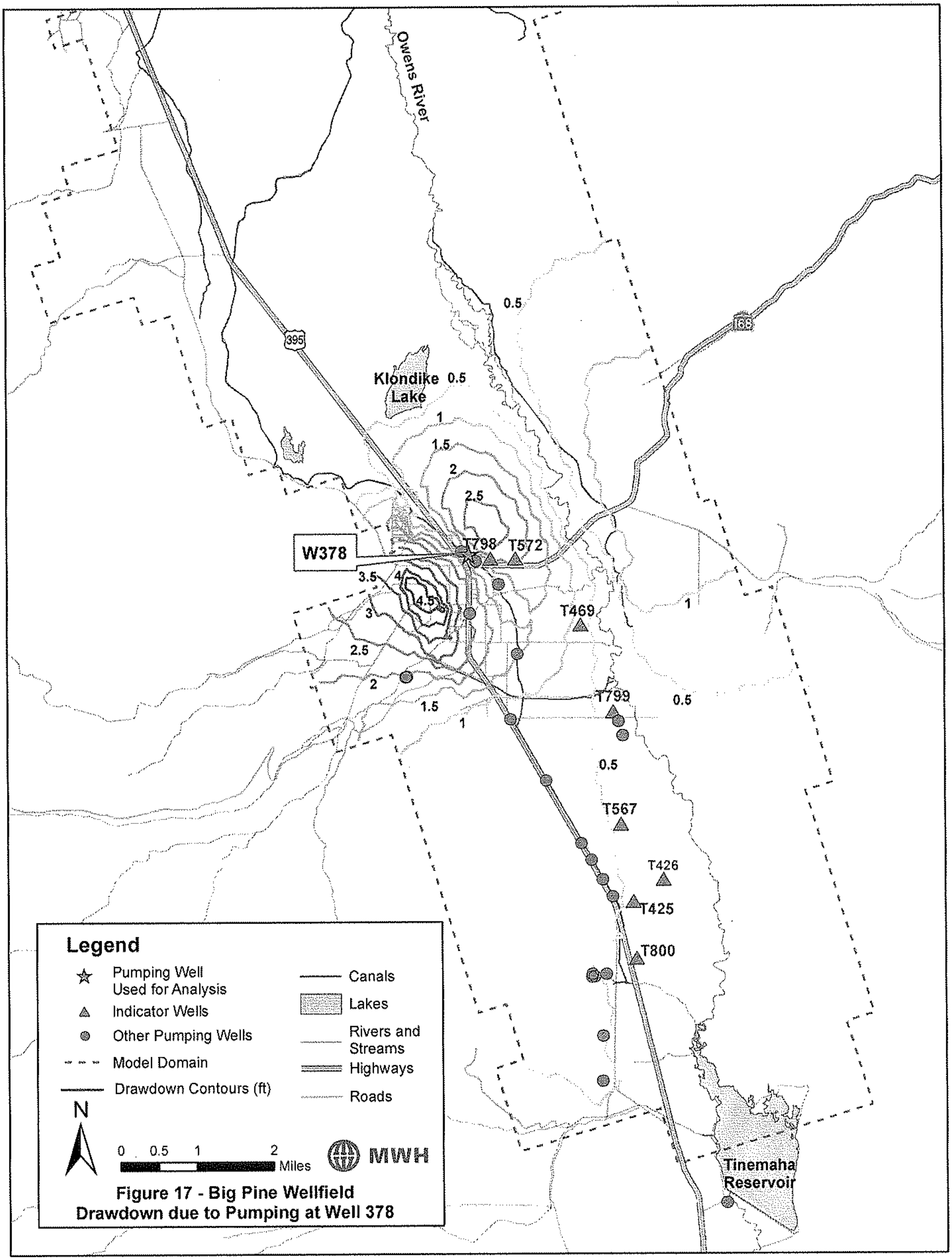

Figure 17 - Big Pine Wellfield Drawdown due to Pumping at Well 378

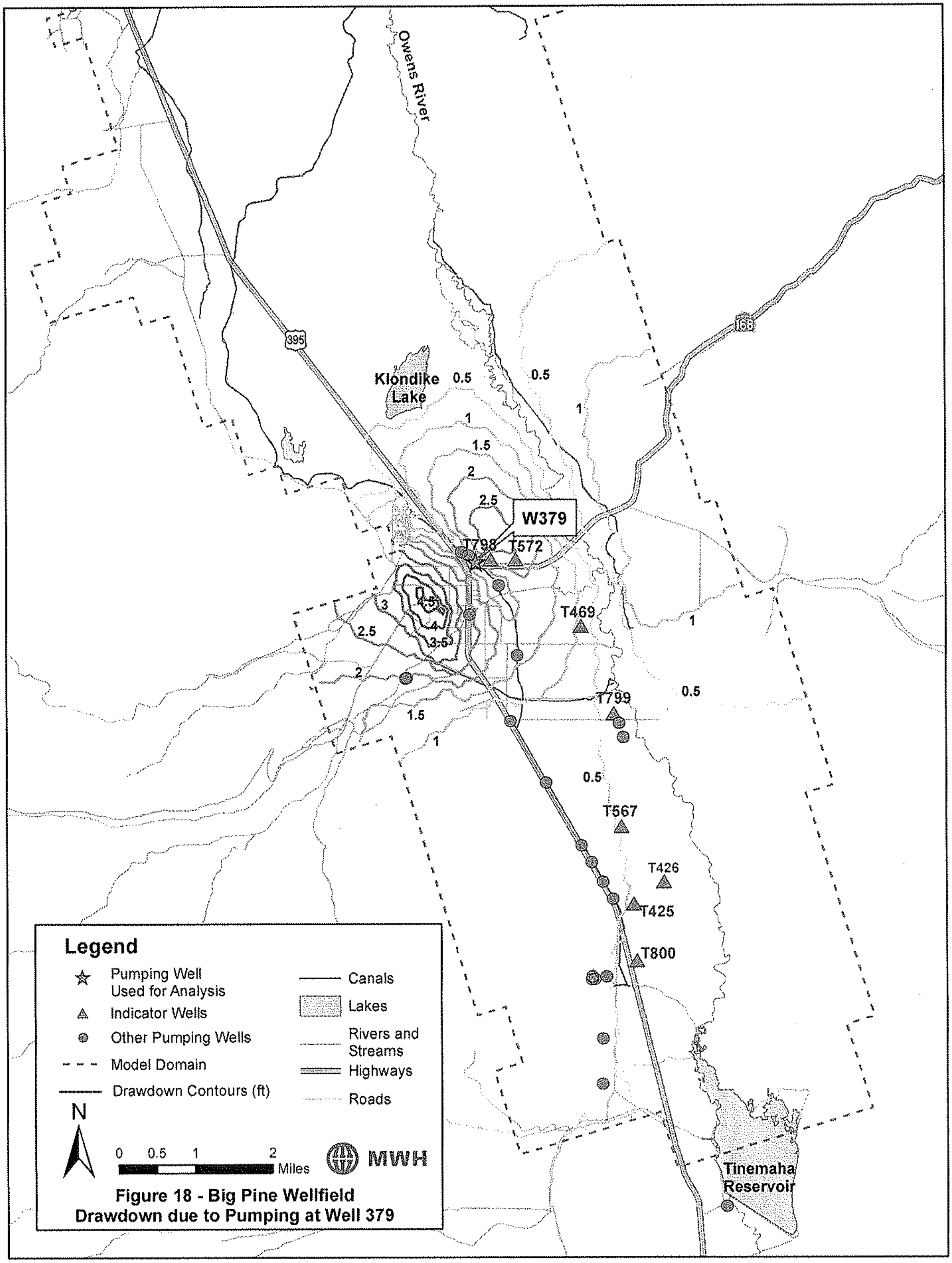

Figure 18 - Big Pine Wellfield Drawdown due to Pumping at Well 379

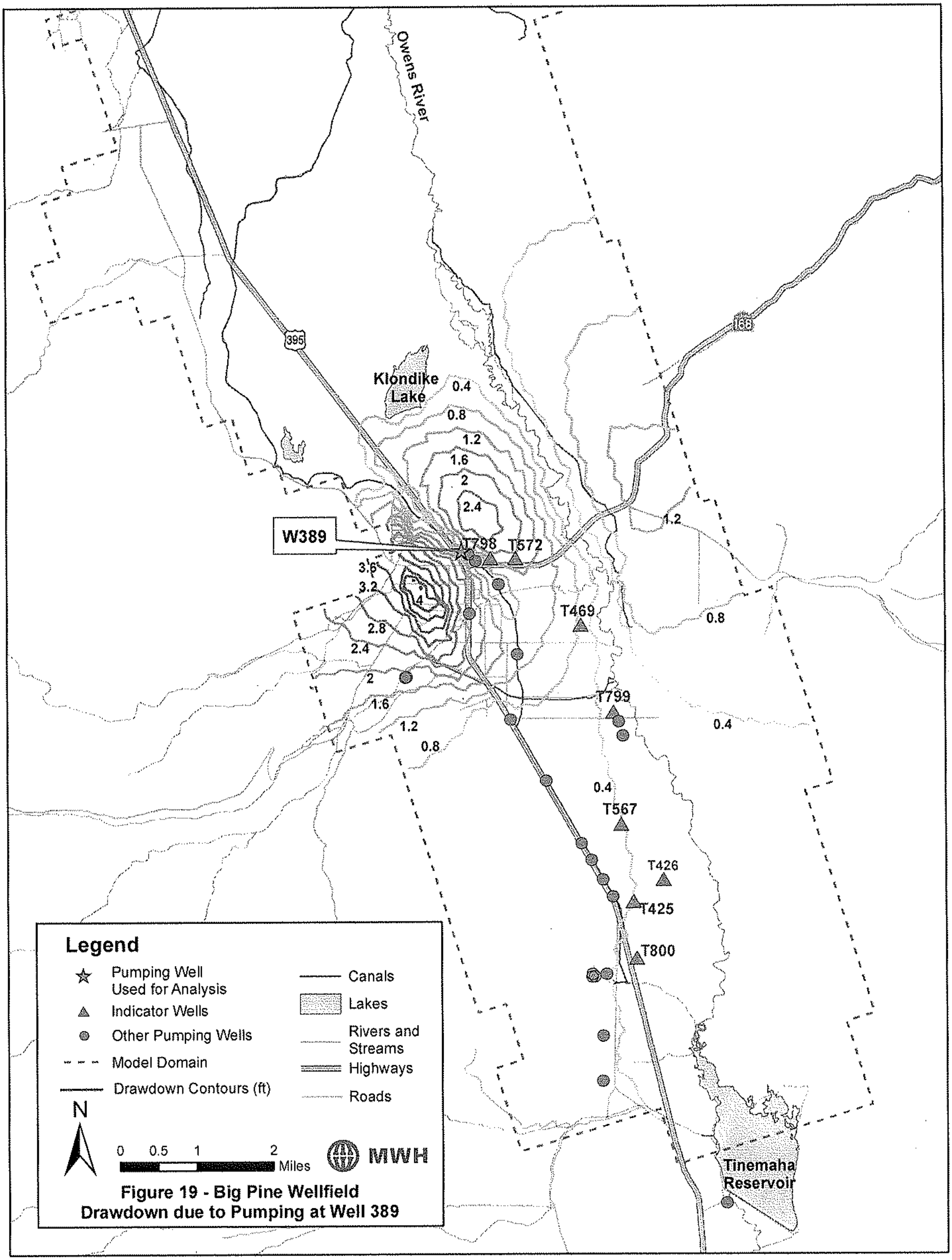

Figure 19 - Big Pine Wellfield Drawdown due to Pumping at Well 389

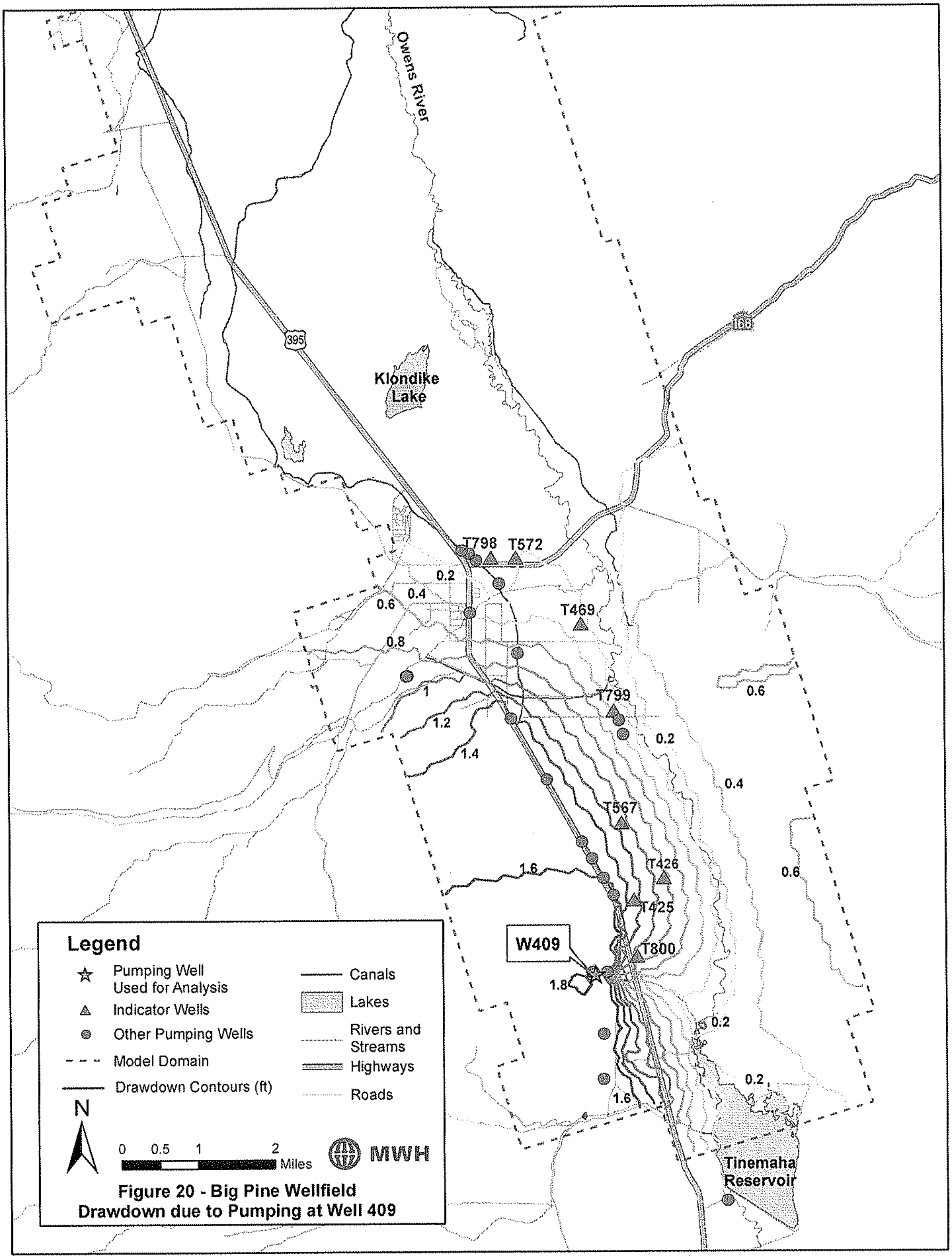

Figure 20 - Big Pine Wellfield Drawdown due to Pumping at Well 409

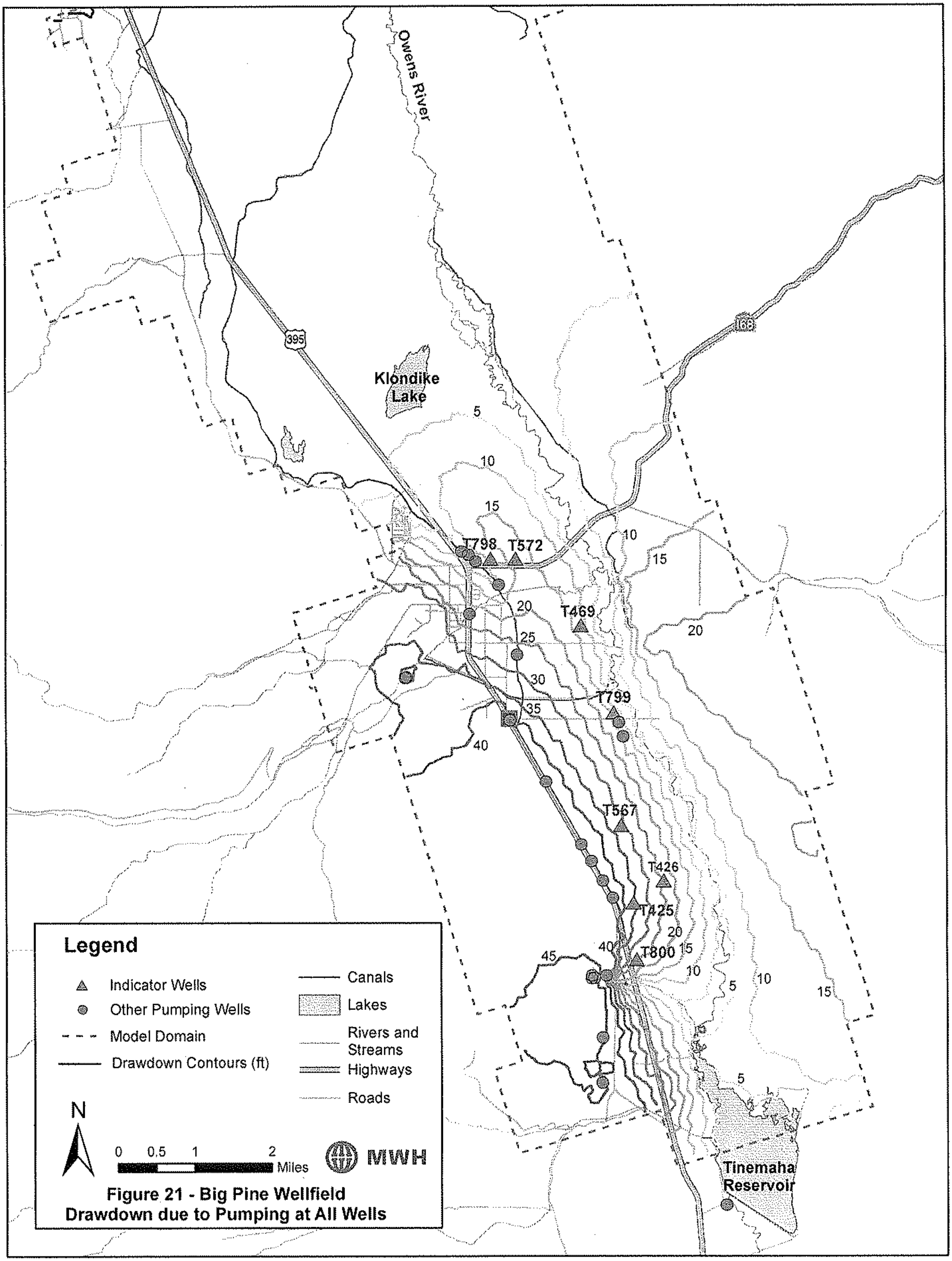

Figure 21 - Big Pine Wellfield
Drawdown due to Pumping at All Wells

Table 5
Indicator Location T798 – Big Pine

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T798 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 210	2	1.0	8.8%
Well 218	1, 2	0.2	1.5%
Well 219	2	0.2	2.0%
Well 220	1	0.2	1.7%
Well 222	1	0.1	0.6%
Well 223	1,2	0.1	1.2%
Well 229	1	0.1	0.8%
Well 231	1	0.1	1.0%
Well 232	2	0.1	0.9%
Well 330	3	0.4	3.8%
Well 331	3	0.4	3.2%
Well 332	3	0.8	7.4%
Well 341	1,2,3	0.1	1.0%
Well 352	3	0.0	0.2%
Well 374	3	0.4	3.7%
Well 375	3	0.3	3.0%
Well 378	2	2.1	19.5%
Well 379	2	2.3	21.2%
Well 389	2	1.8	17.0%
Well 409	3	0.1	1.3%
Total Drawdown (sum of pumping individual wells)		**10.8**	
Total Drawdown (pumping all wells simultaneously)		**13.3**	

Table 6
Indicator Location T572 – Big Pine

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T572 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 210	2	1.2	9.4%
Well 218	1, 2	0.2	1.7%
Well 219	2	0.3	2.3%
Well 220	1	0.2	1.9%
Well 222	1	0.1	0.7%
Well 223	1,2	0.2	1.4%
Well 229	1	0.1	1.0%
Well 231	1	0.2	1.2%
Well 232	2	0.1	1.0%
Well 330	3	0.6	4.5%
Well 331	3	0.5	3.8%
Well 332	3	1.1	8.7%
Well 341	1,2,3	0.1	1.0%
Well 352	3	0.0	0.2%
Well 374	3	0.6	4.6%
Well 375	3	0.5	3.6%
Well 378	2	2.2	17.3%
Well 379	2	2.4	19.0%
Well 389	2	1.9	15.2%
Well 409	3	0.2	1.5%
Total Drawdown (sum of pumping individual wells)		**12.5**	
Total Drawdown (pumping all wells simultaneously)		**15.9**	

Table 7
Indicator Location T469 – Big Pine

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T469 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 210	2	0.5	5.2%
Well 218	1, 2	0.3	3.1%
Well 219	2	0.4	4.3%
Well 220	1	0.4	3.8%
Well 222	1	0.1	1.3%
Well 223	1,2	0.2	2.6%
Well 229	1	0.2	1.7%
Well 231	1	0.2	2.1%
Well 232	2	0.2	2.0%
Well 330	3	0.7	8.1%
Well 331	3	0.6	6.8%
Well 332	3	1.4	15.7%
Well 341	1,2,3	0.1	1.0%
Well 352	3	0.0	0.1%
Well 374	3	0.8	9.1%
Well 375	3	0.7	7.1%
Well 378	2	0.7	7.8%
Well 379	2	0.8	8.5%
Well 389	2	0.6	6.9%
Well 409	3	0.3	2.8%
Total Drawdown (sum of pumping individual wells)		**9.1**	
Total Drawdown (pumping all wells simultaneously)		**11.3**	

Table 8
Indicator Location T799 – Big Pine

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T799 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 210	2	0.2	1.9%
Well 218	1, 2	0.3	3.9%
Well 219	2	0.5	5.3%
Well 220	1	0.4	4.1%
Well 222	1	0.1	1.6%
Well 223	1,2	0.3	3.3%
Well 229	1	0.2	2.1%
Well 231	1	0.2	2.6%
Well 232	2	0.2	2.4%
Well 330	3	0.9	10.1%
Well 331	3	0.7	8.5%
Well 332	3	1.7	19.5%
Well 341	1,2,3	0.1	0.8%
Well 352	3	0.0	0.1%
Well 374	3	1.0	11.8%
Well 375	3	0.8	9.8%
Well 378	2	0.3	2.9%
Well 379	2	0.3	3.2%
Well 389	2	0.2	2.6%
Well 409	3	0.3	3.5%
Total Drawdown (sum of pumping individual wells)		**8.5**	
Total Drawdown (pumping all wells simultaneously)		**10.5**	

Table 9
Indicator Location T567 – Big Pine

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T567 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 210	2	0.3	1.1%
Well 218	1, 2	1.2	4.6%
Well 219	2	1.7	6.4%
Well 220	1	0.9	3.6%
Well 222	1	0.5	2.1%
Well 223	1,2	1.0	4.1%
Well 229	1	0.6	2.3%
Well 231	1	0.8	3.3%
Well 232	2	0.8	2.9%
Well 330	3	3.1	12.2%
Well 331	3	2.6	10.2%
Well 332	3	6.1	23.7%
Well 341	1,2,3	0.2	0.7%
Well 352	3	0.0	0.0%
Well 374	3	1.8	6.9%
Well 375	3	1.6	6.2%
Well 378	2	0.5	1.8%
Well 379	2	0.5	1.9%
Well 389	2	0.4	1.6%
Well 409	3	1.1	4.3%
Total Drawdown (sum of pumping individual wells)		**25.6**	
Total Drawdown (pumping all wells simultaneously)		**31.3**	

Table 10
Indicator Location T426 – Big Pine

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T426 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 210	2	0.2	1.0%
Well 218	1, 2	1.0	4.8%
Well 219	2	1.3	6.7%
Well 220	1	0.7	3.3%
Well 222	1	0.4	2.0%
Well 223	1,2	0.9	4.4%
Well 229	1	0.4	2.2%
Well 231	1	0.6	3.0%
Well 232	2	0.6	2.9%
Well 330	3	2.5	12.7%
Well 331	3	2.1	10.6%
Well 332	3	4.9	24.5%
Well 341	1,2,3	0.1	0.7%
Well 352	3	0.0	0.1%
Well 374	3	1.2	6.2%
Well 375	3	1.1	5.6%
Well 378	2	0.3	1.6%
Well 379	2	0.3	1.7%
Well 389	2	0.3	1.5%
Well 409	3	0.9	4.4%
Total Drawdown (sum of pumping individual wells)		**19.8**	
Total Drawdown (pumping all wells simultaneously)		**24.7**	

Table 11
Indicator Location T425 – Big Pine

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T425 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 210	2	0.3	1.0%
Well 218	1, 2	1.4	4.9%
Well 219	2	1.9	6.9%
Well 220	1	0.9	3.3%
Well 222	1	0.6	2.0%
Well 223	1,2	1.3	4.7%
Well 229	1	0.6	2.1%
Well 231	1	0.8	3.0%
Well 232	2	0.8	3.0%
Well 330	3	3.6	13.0%
Well 331	3	3.0	10.8%
Well 332	3	7.0	25.1%
Well 341	1,2,3	0.2	0.7%
Well 352	3	0.0	0.0%
Well 374	3	1.5	5.5%
Well 375	3	1.3	4.8%
Well 378	2	0.4	1.6%
Well 379	2	0.5	1.6%
Well 389	2	0.4	1.4%
Well 409	3	1.3	4.5%
Total Drawdown (sum of pumping individual wells)		**27.7**	
Total Drawdown (pumping all wells simultaneously)		**34.5**	

Table 12
Indicator Location T800 – Big Pine

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T800 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 210	2	0.2	0.9%
Well 218	1, 2	1.0	5.2%
Well 219	2	1.4	7.2%
Well 220	1	0.6	3.2%
Well 222	1	0.4	1.9%
Well 223	1,2	0.8	4.1%
Well 229	1	0.4	2.0%
Well 231	1	0.6	2.9%
Well 232	2	0.5	2.8%
Well 330	3	2.6	13.4%
Well 331	3	2.2	11.3%
Well 332	3	5.0	25.9%
Well 341	1,2,3	0.1	0.6%
Well 352	3	0.0	0.1%
Well 374	3	1.0	5.1%
Well 375	3	0.9	4.4%
Well 378	2	0.3	1.5%
Well 379	2	0.3	1.6%
Well 389	2	0.3	1.3%
Well 409	3	0.9	4.7%
Total Drawdown (sum of pumping individual wells)		**19.1**	
Total Drawdown (pumping all wells simultaneously)		**24.4**	

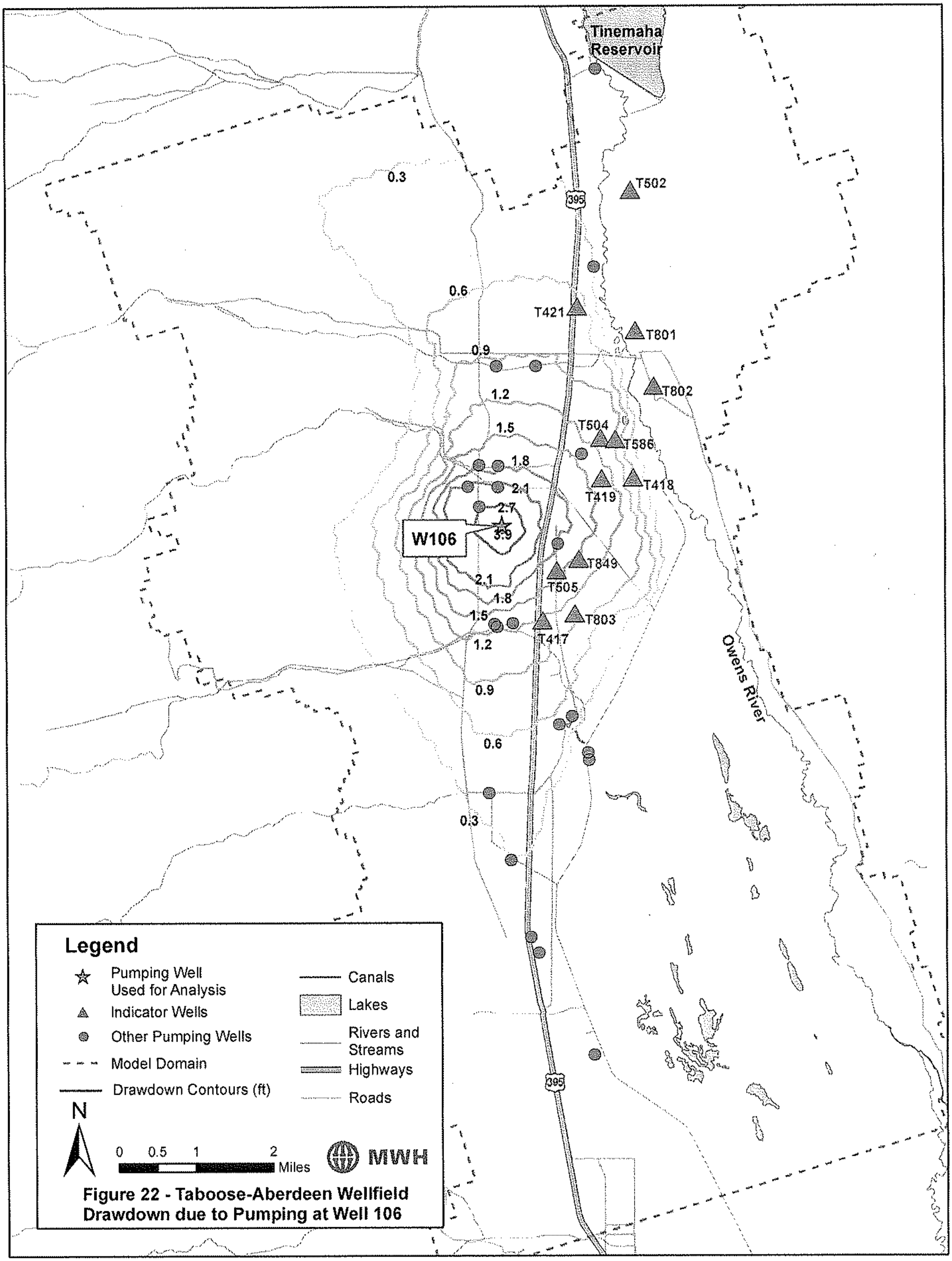

Figure 22 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 106

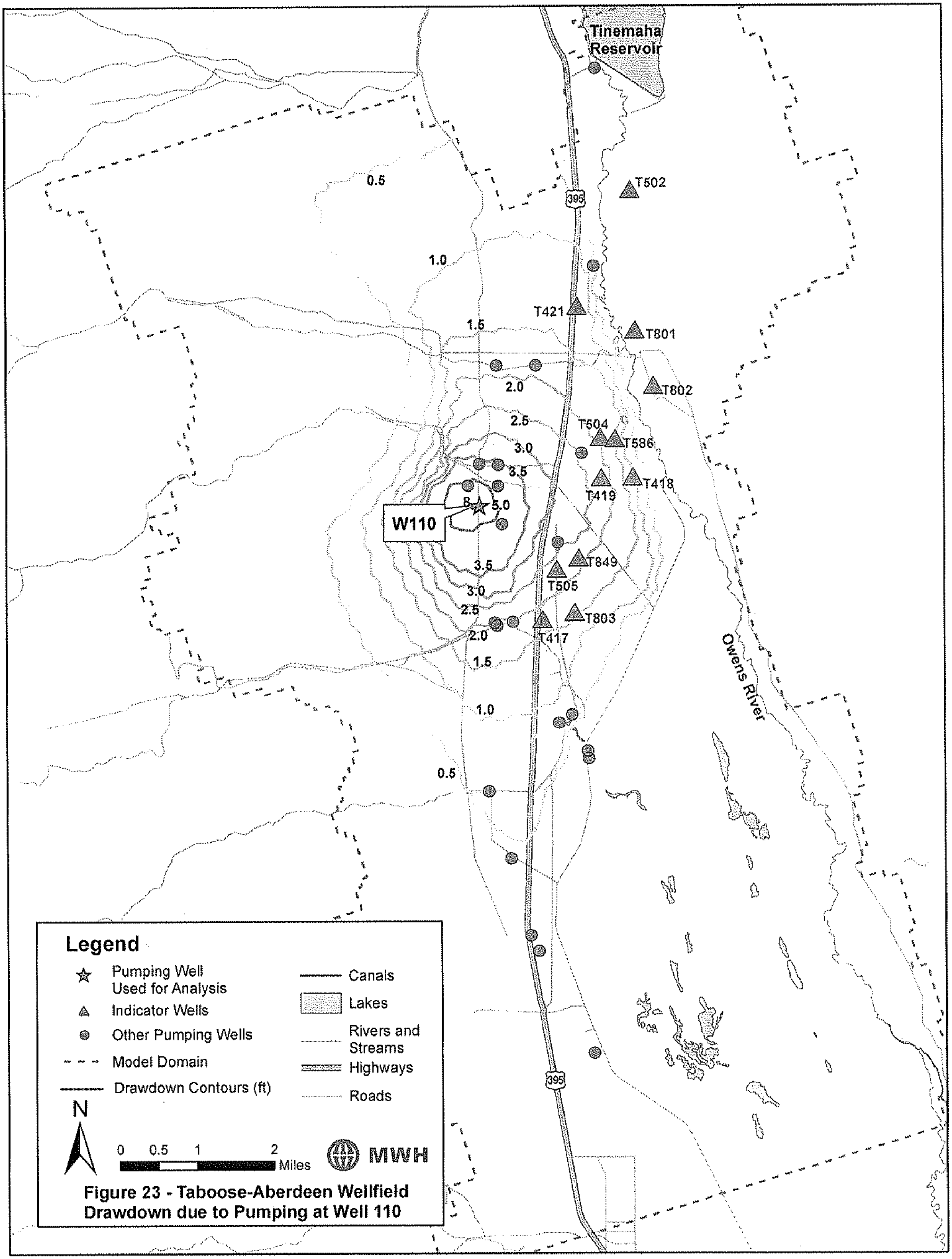

Figure 23 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 110

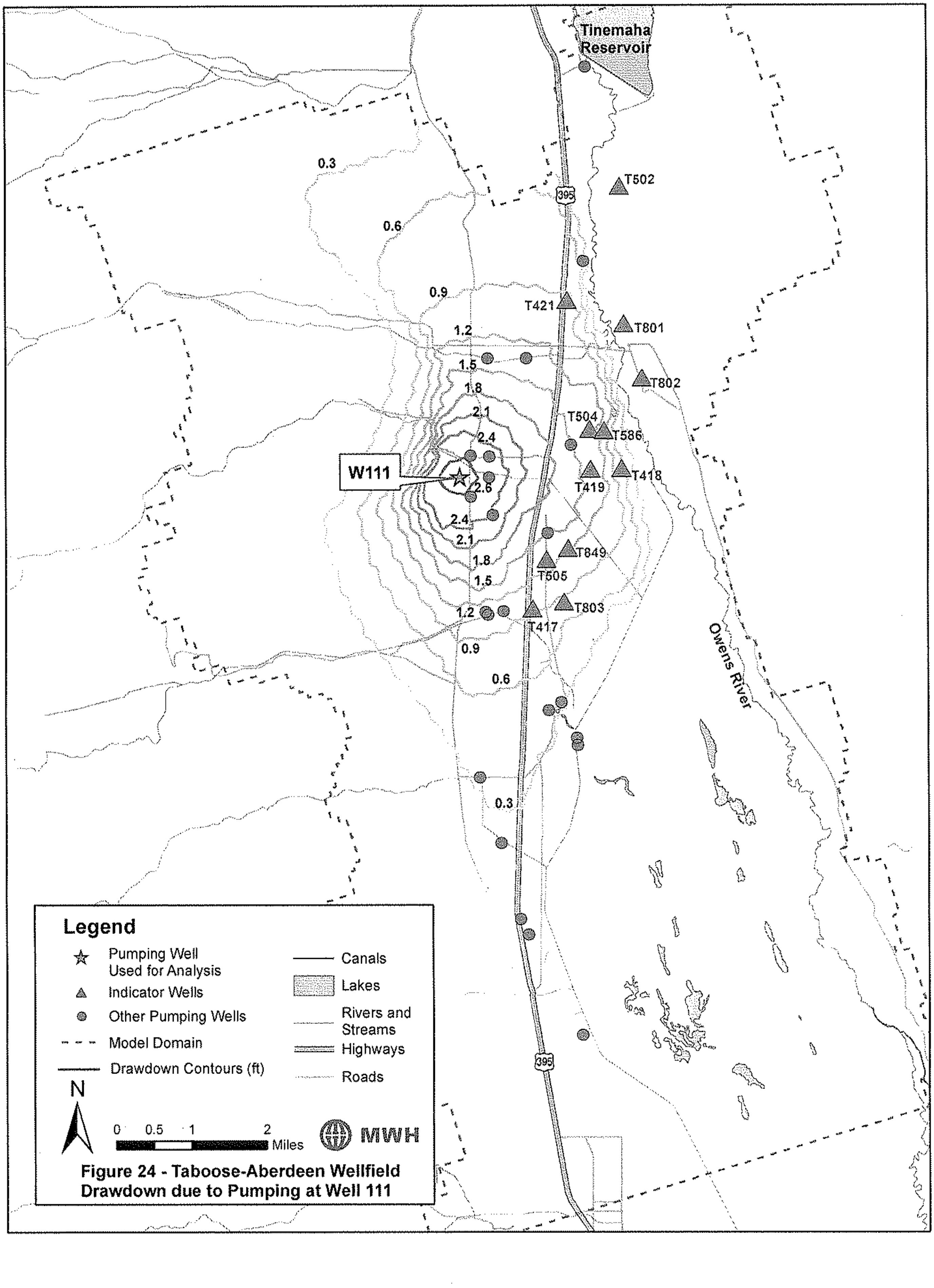

Figure 24 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 111

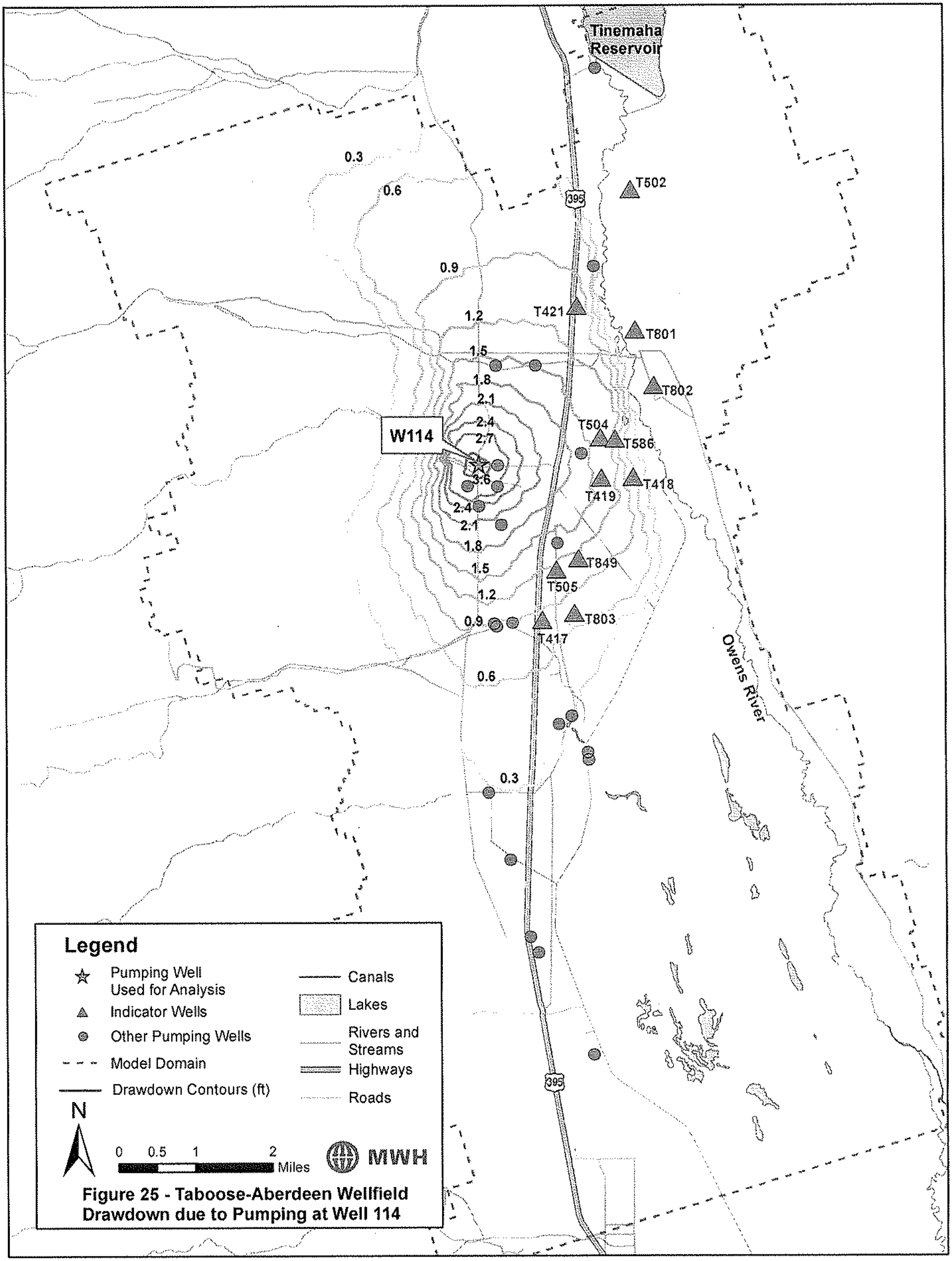

Figure 25 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 114

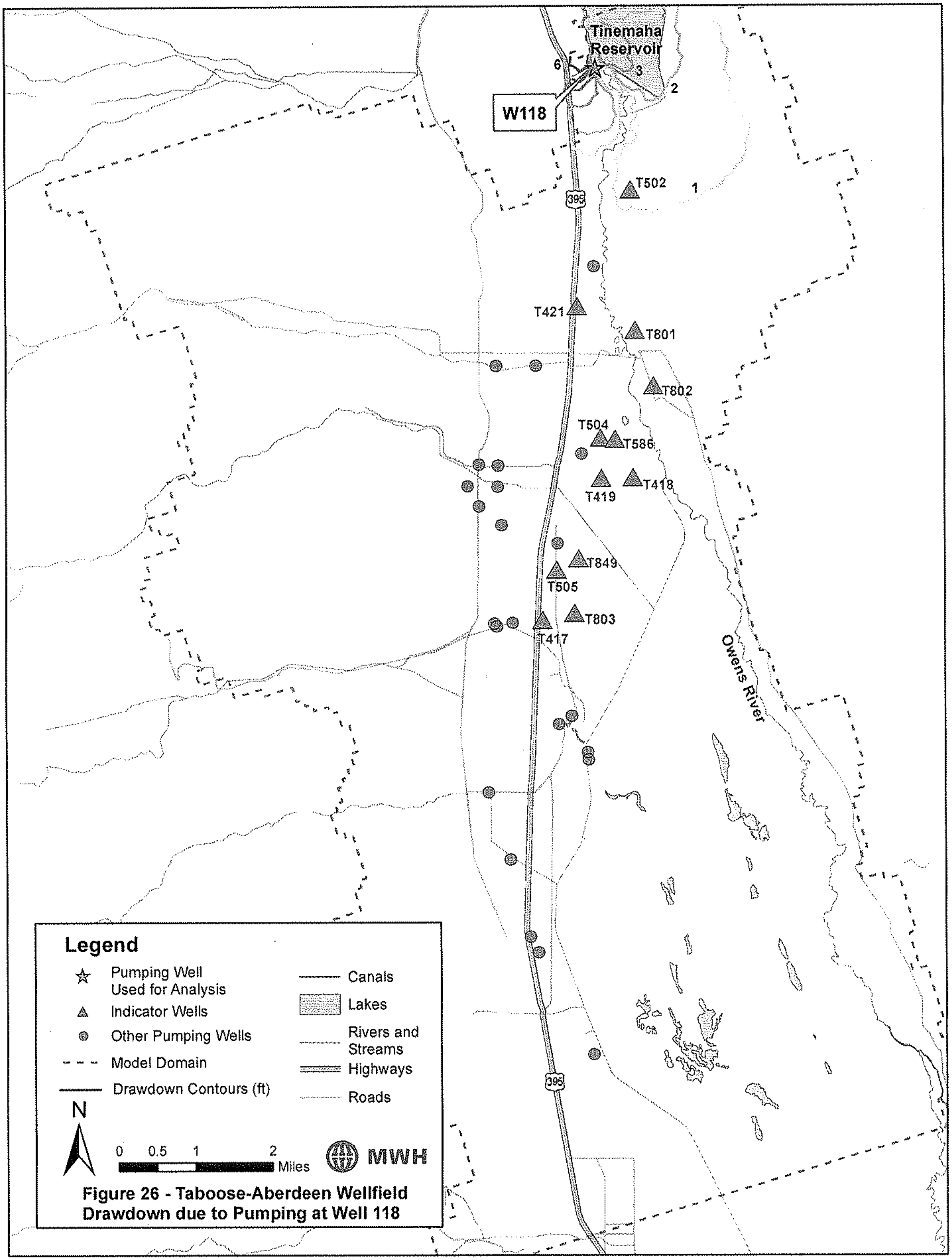

Figure 26 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 118

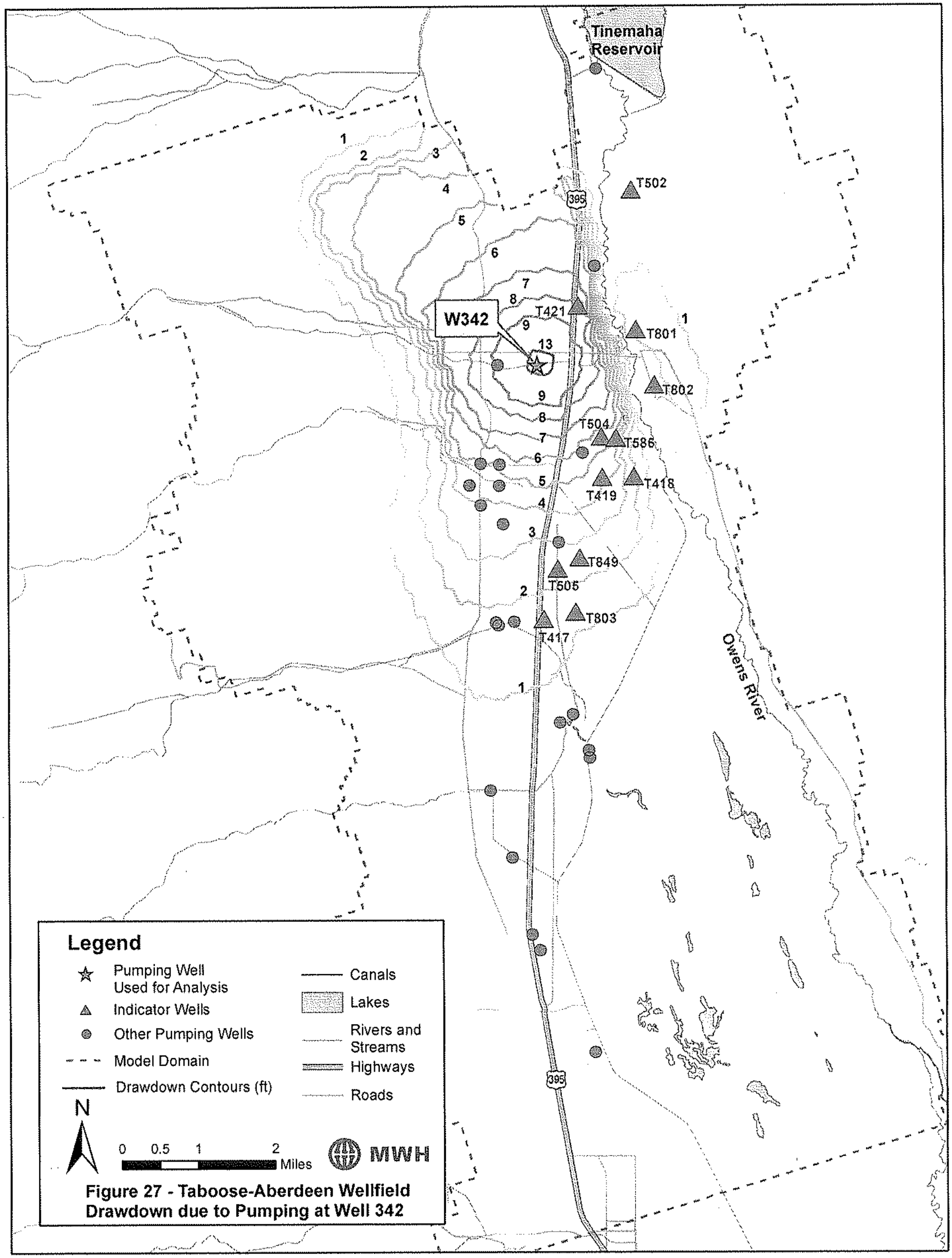

Figure 27 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 342

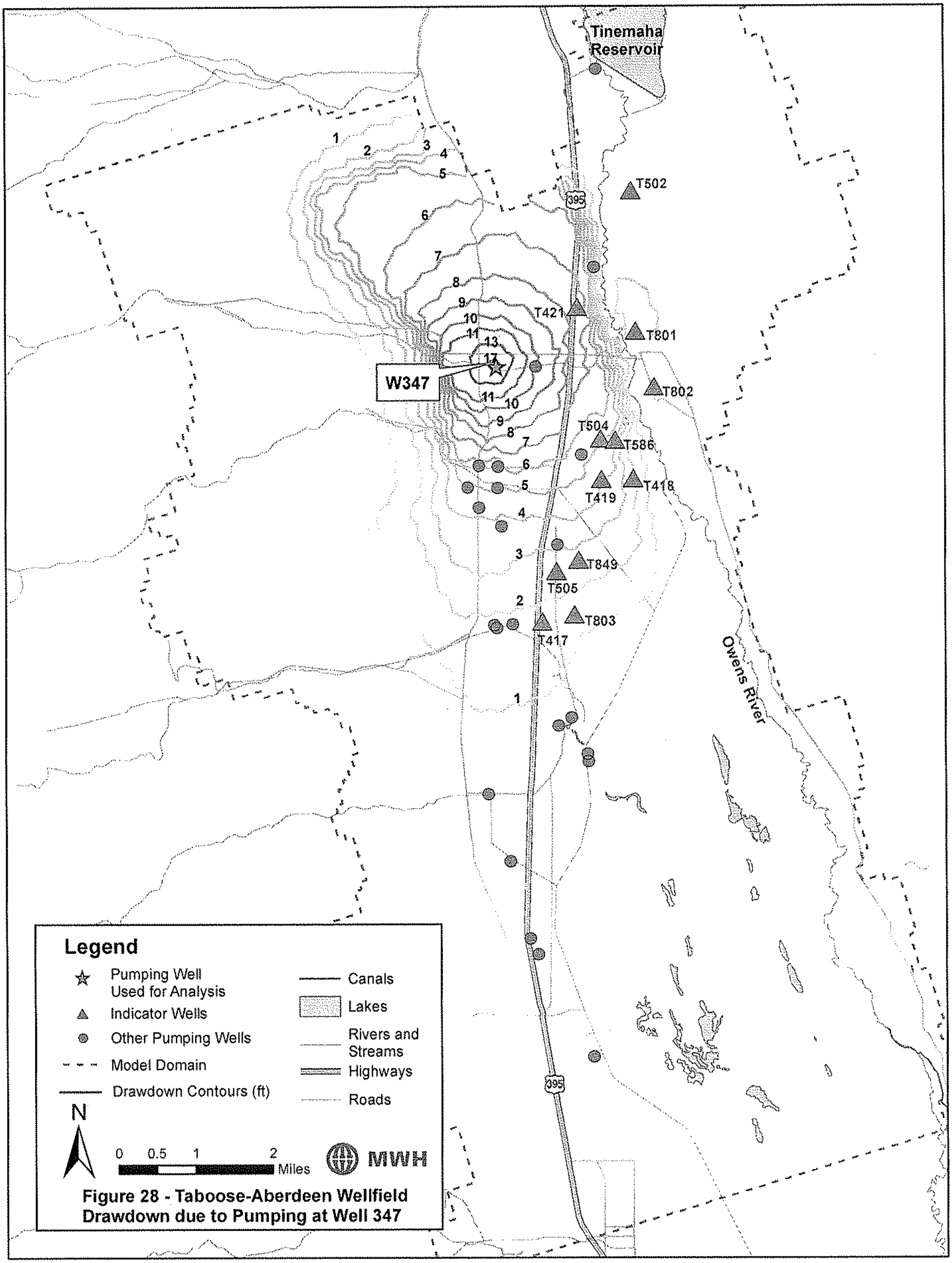

Figure 28 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 347

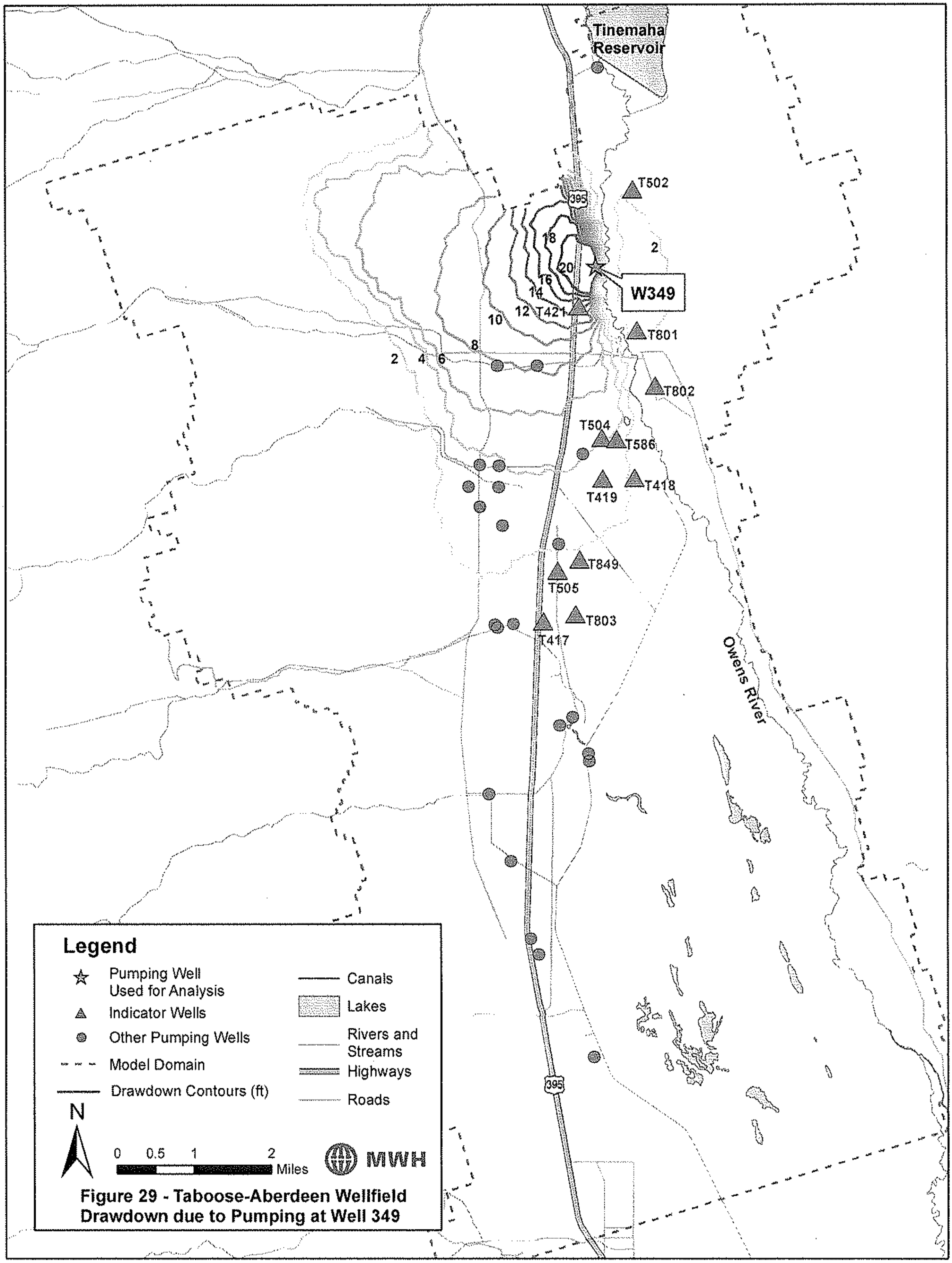

Figure 29 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 349

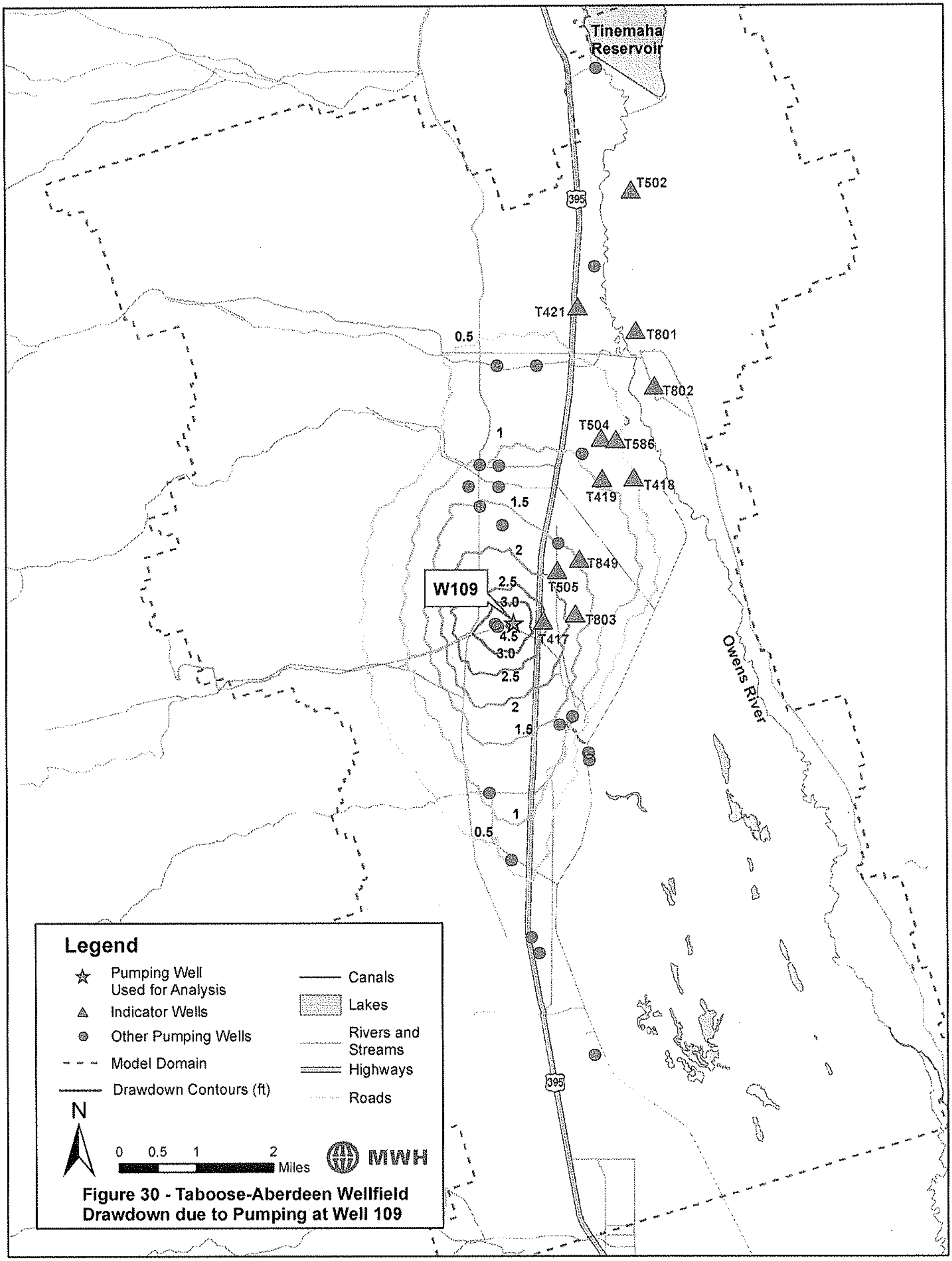

Figure 30 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 109

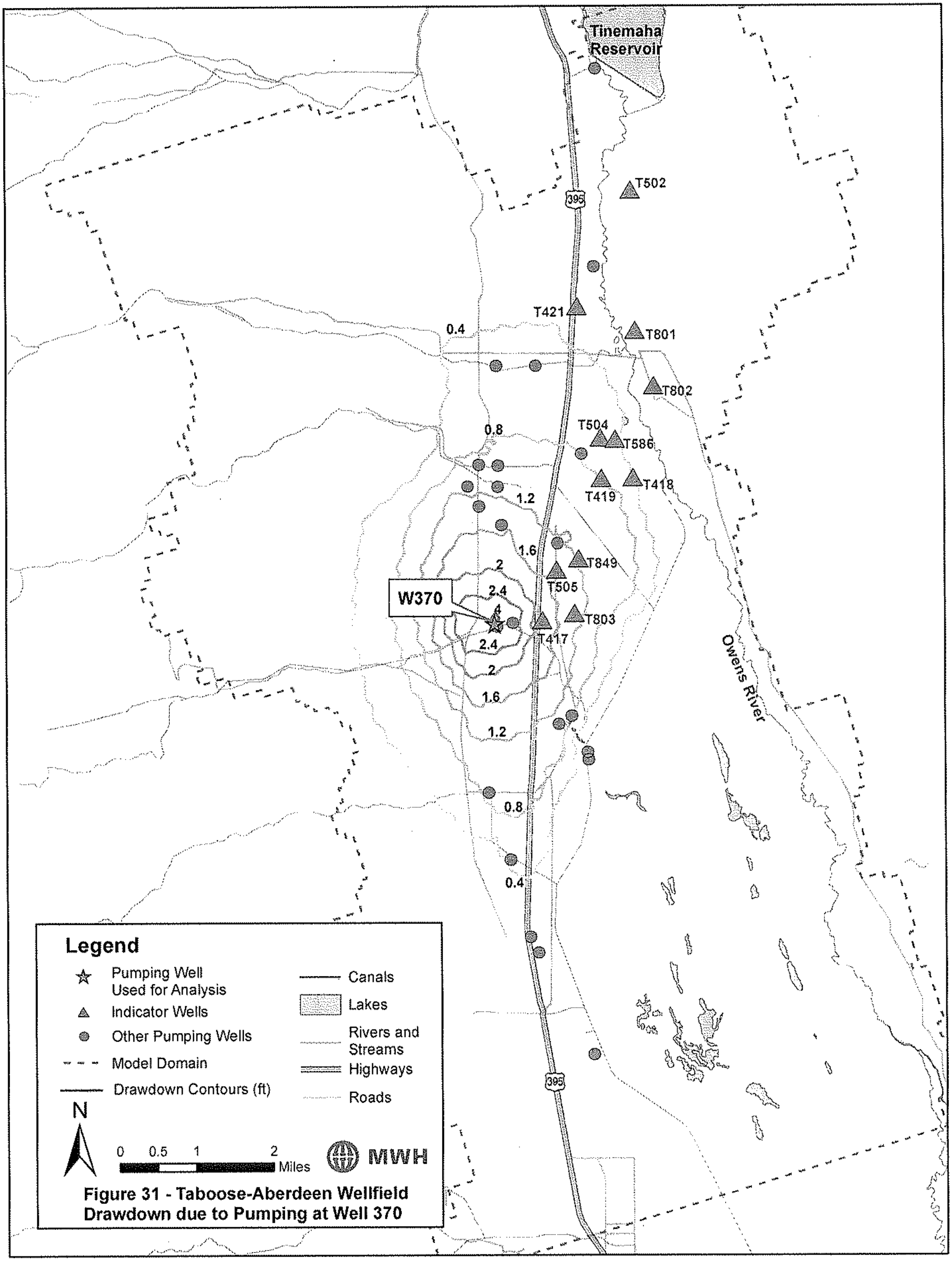

Figure 31 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 370

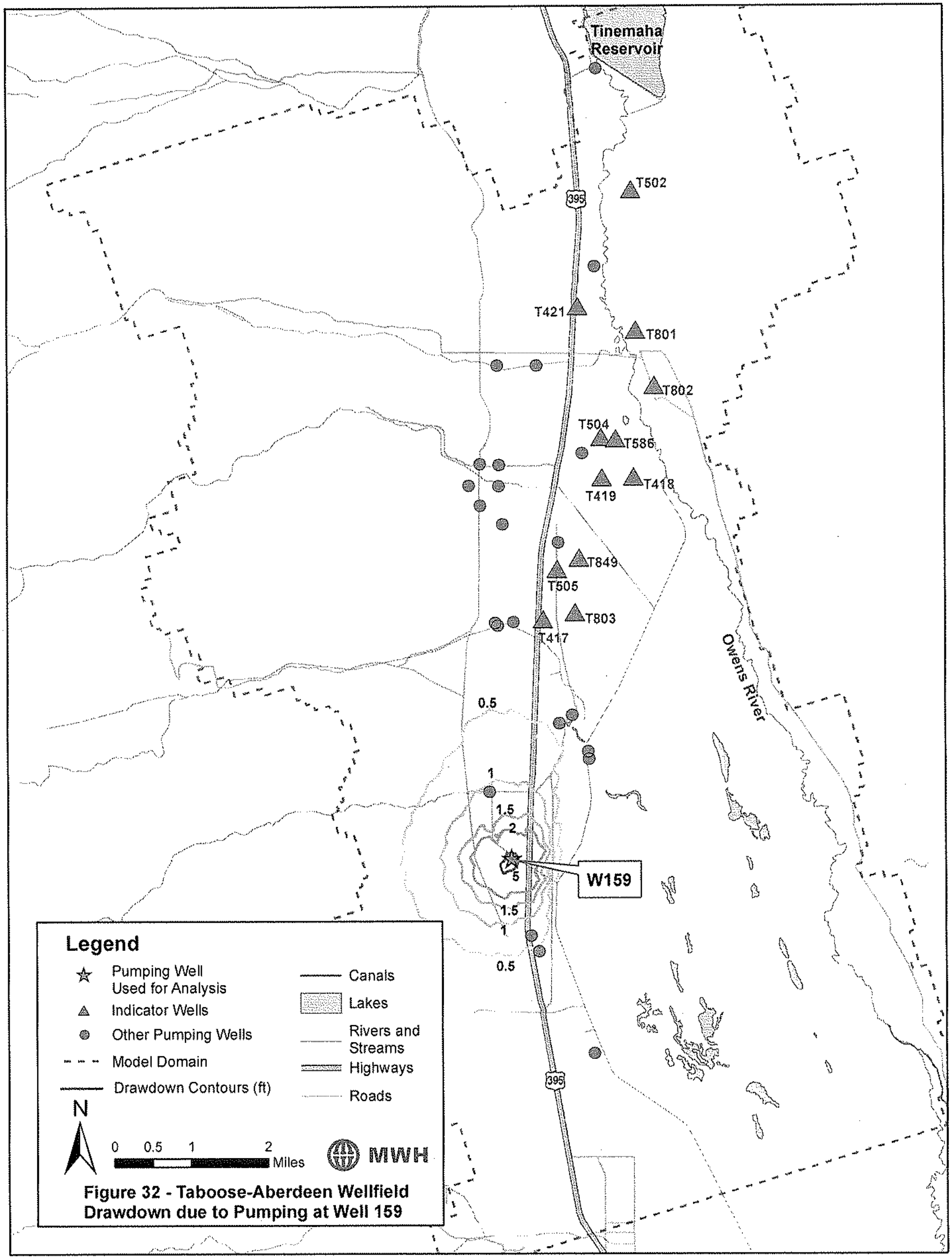

Figure 32 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 159

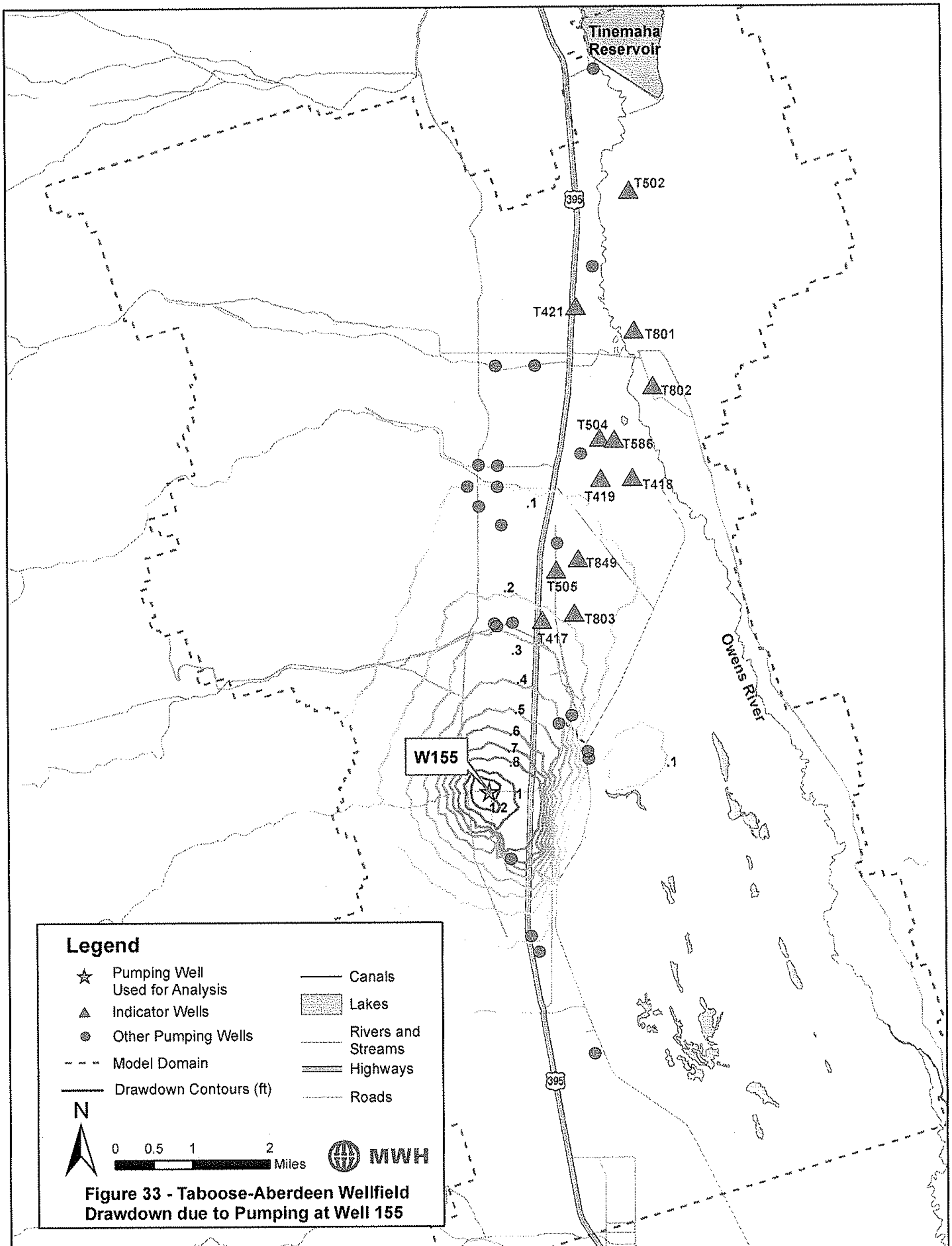

Figure 33 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 155

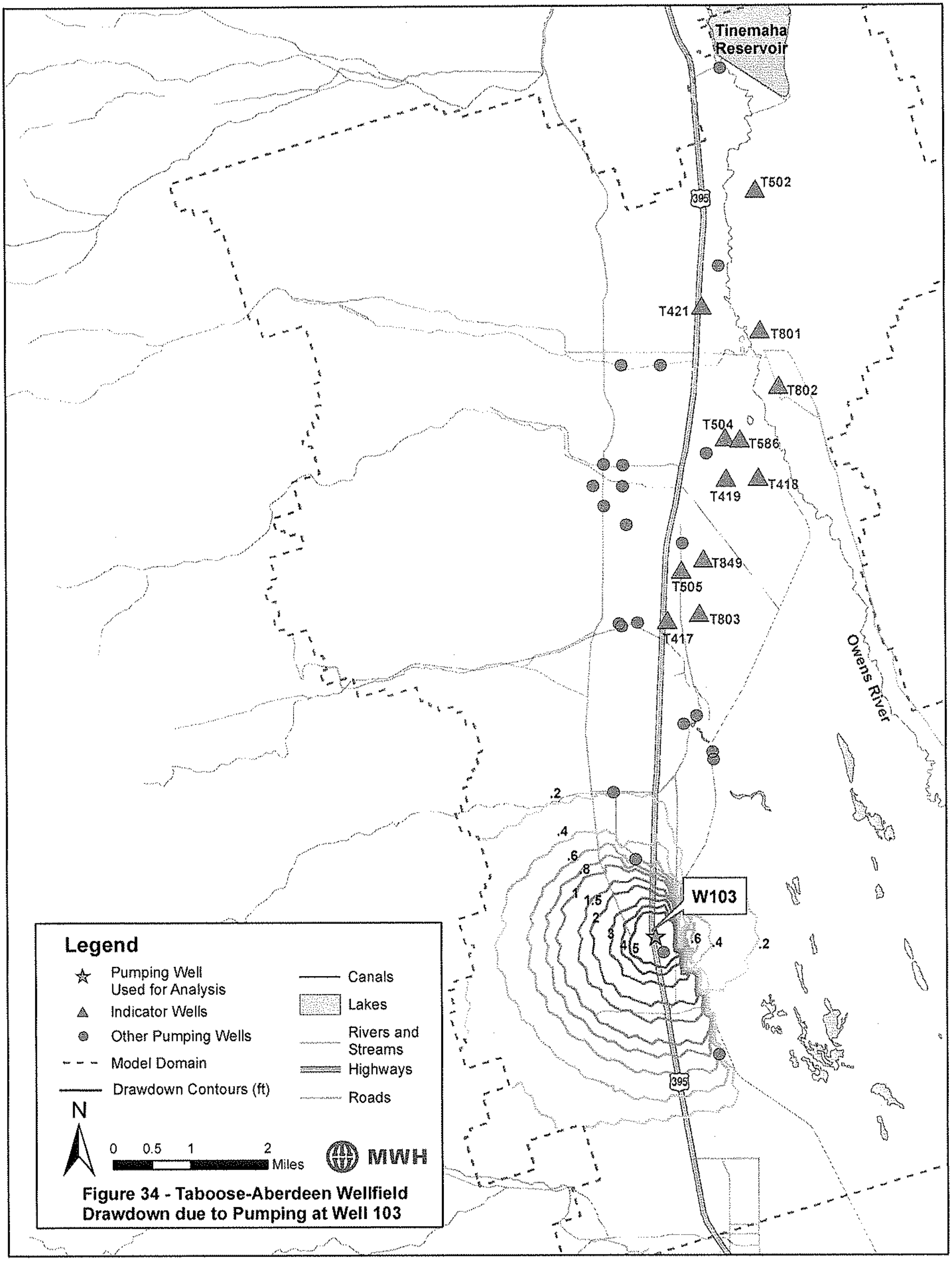

Figure 34 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 103

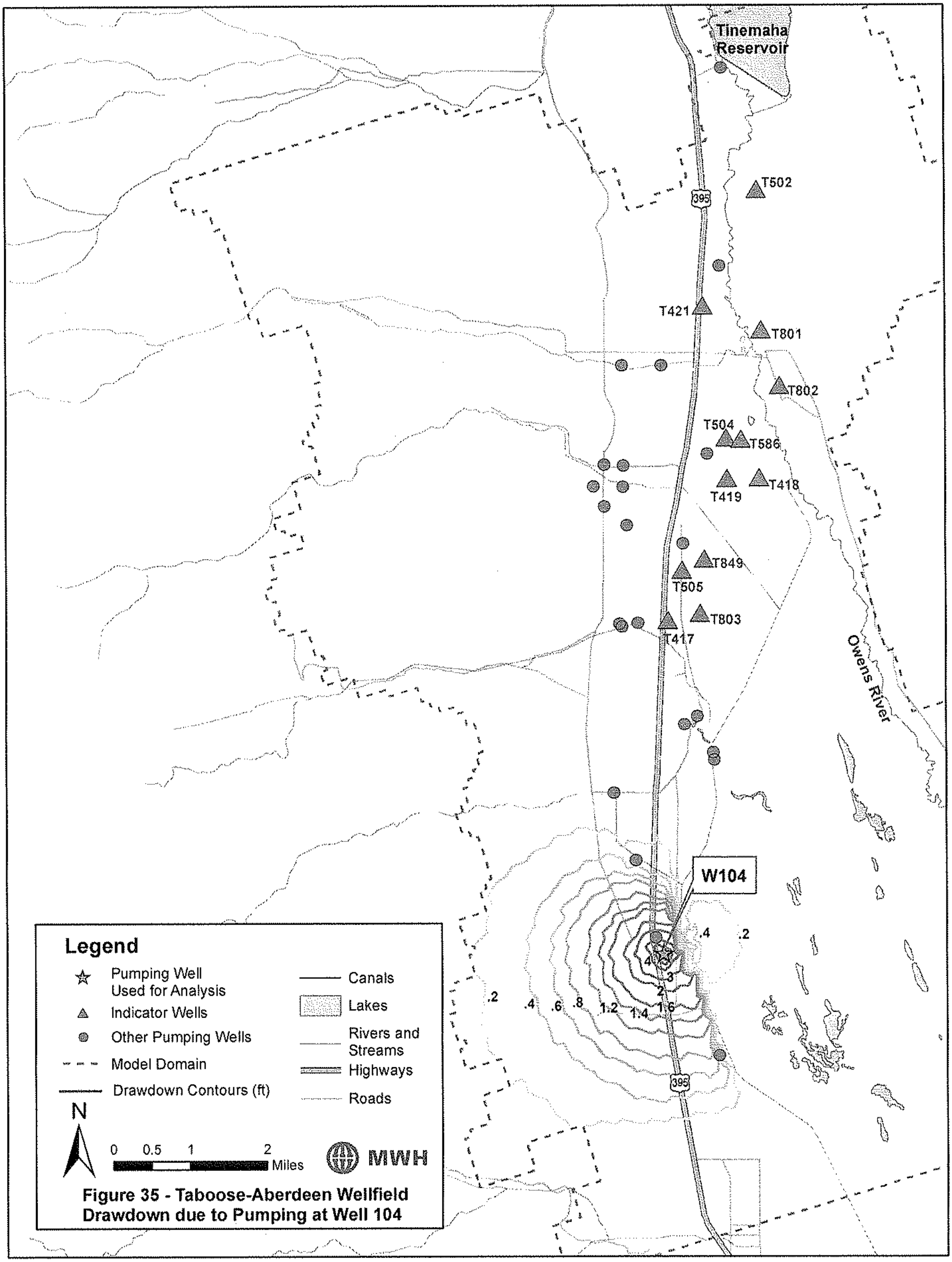

Figure 35 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 104

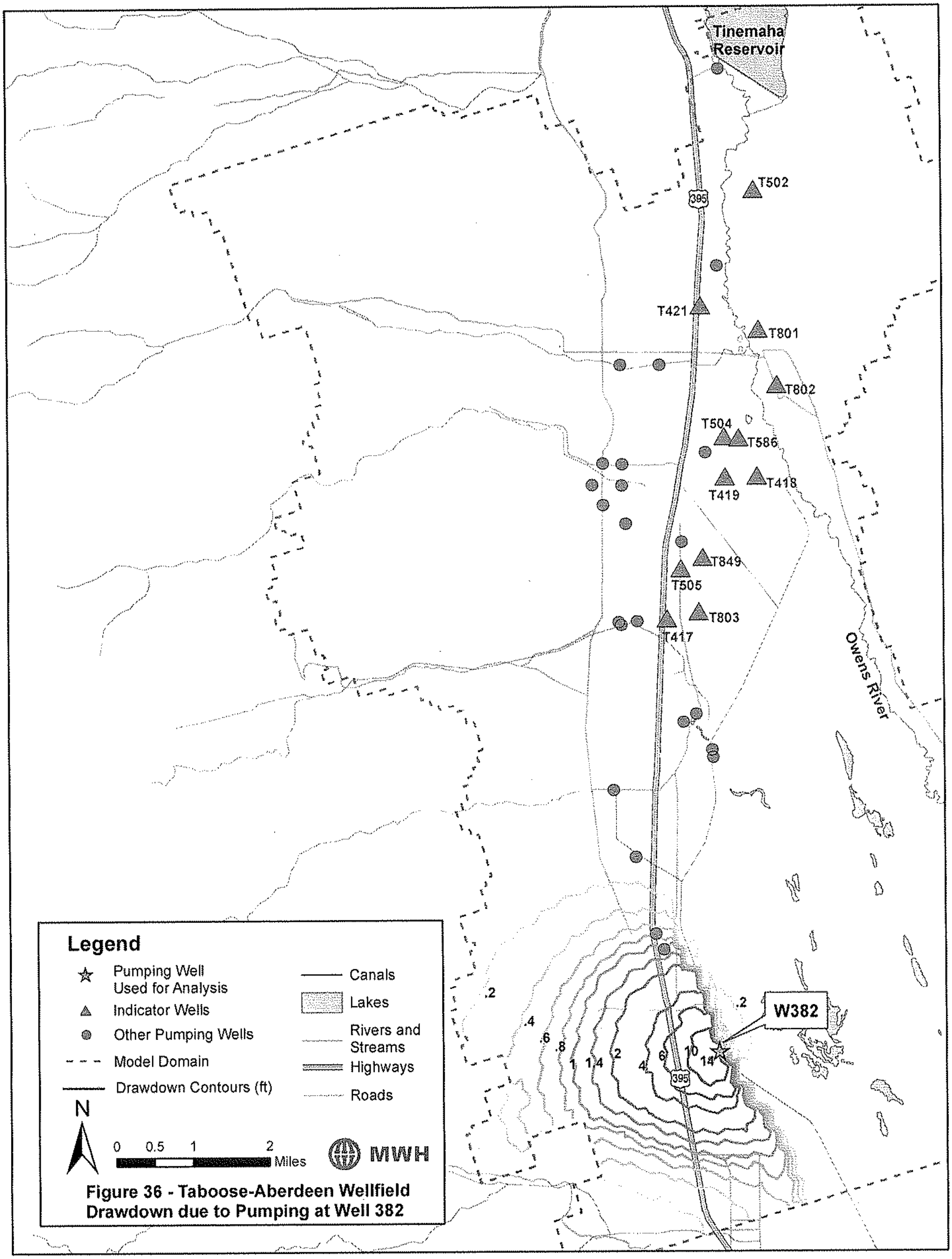

Figure 36 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 382

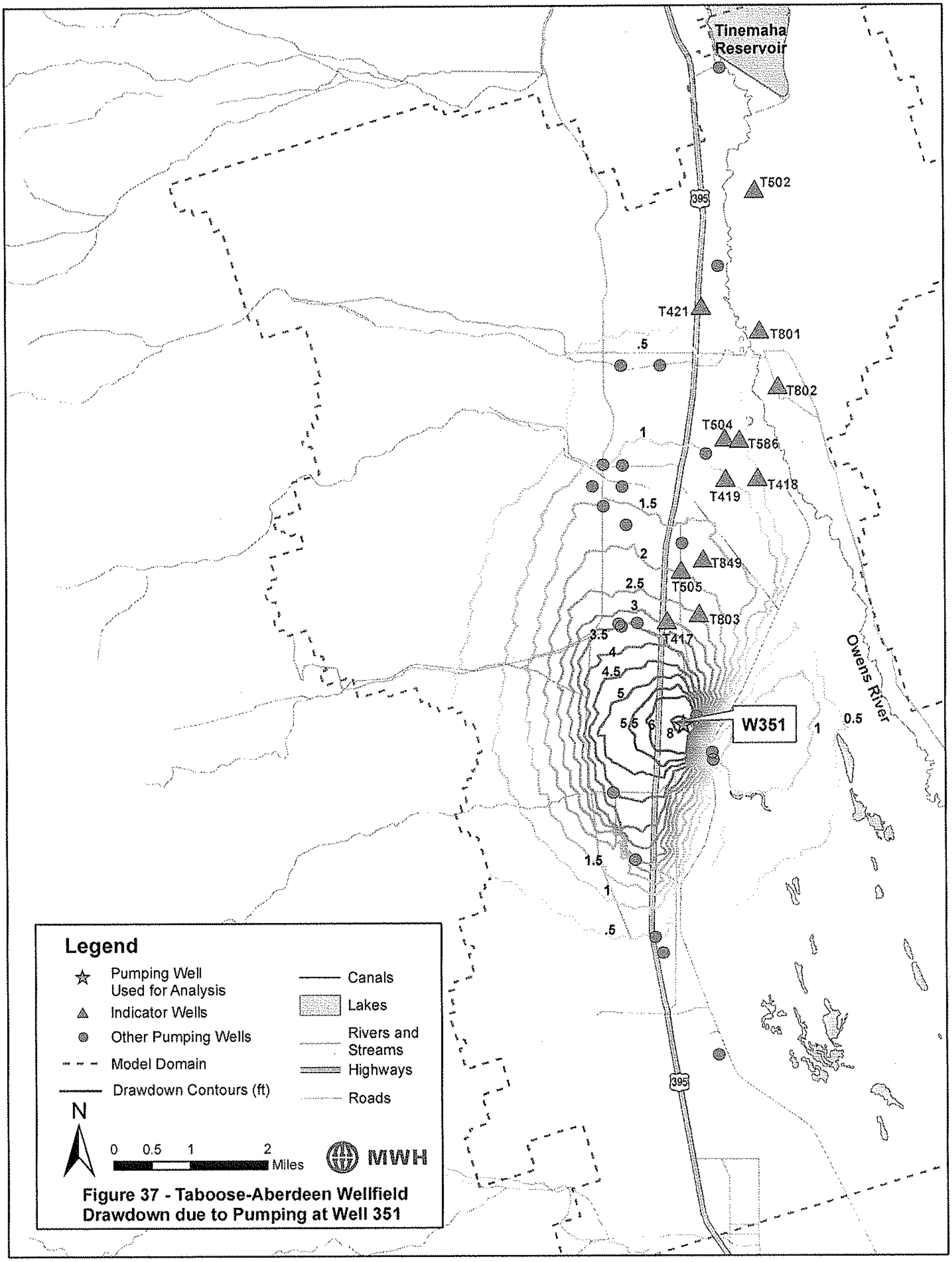

Figure 37 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 351

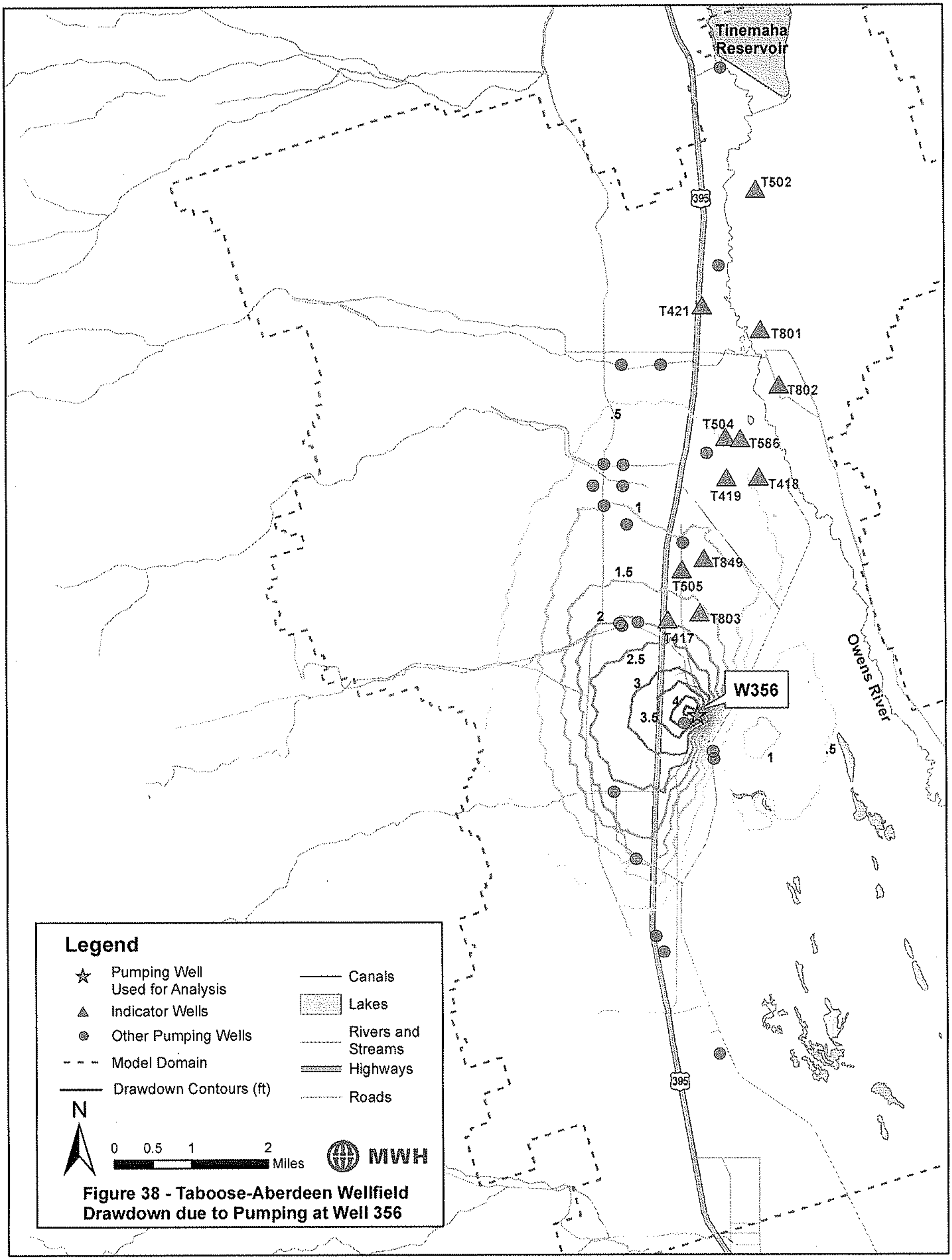

Figure 38 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 356

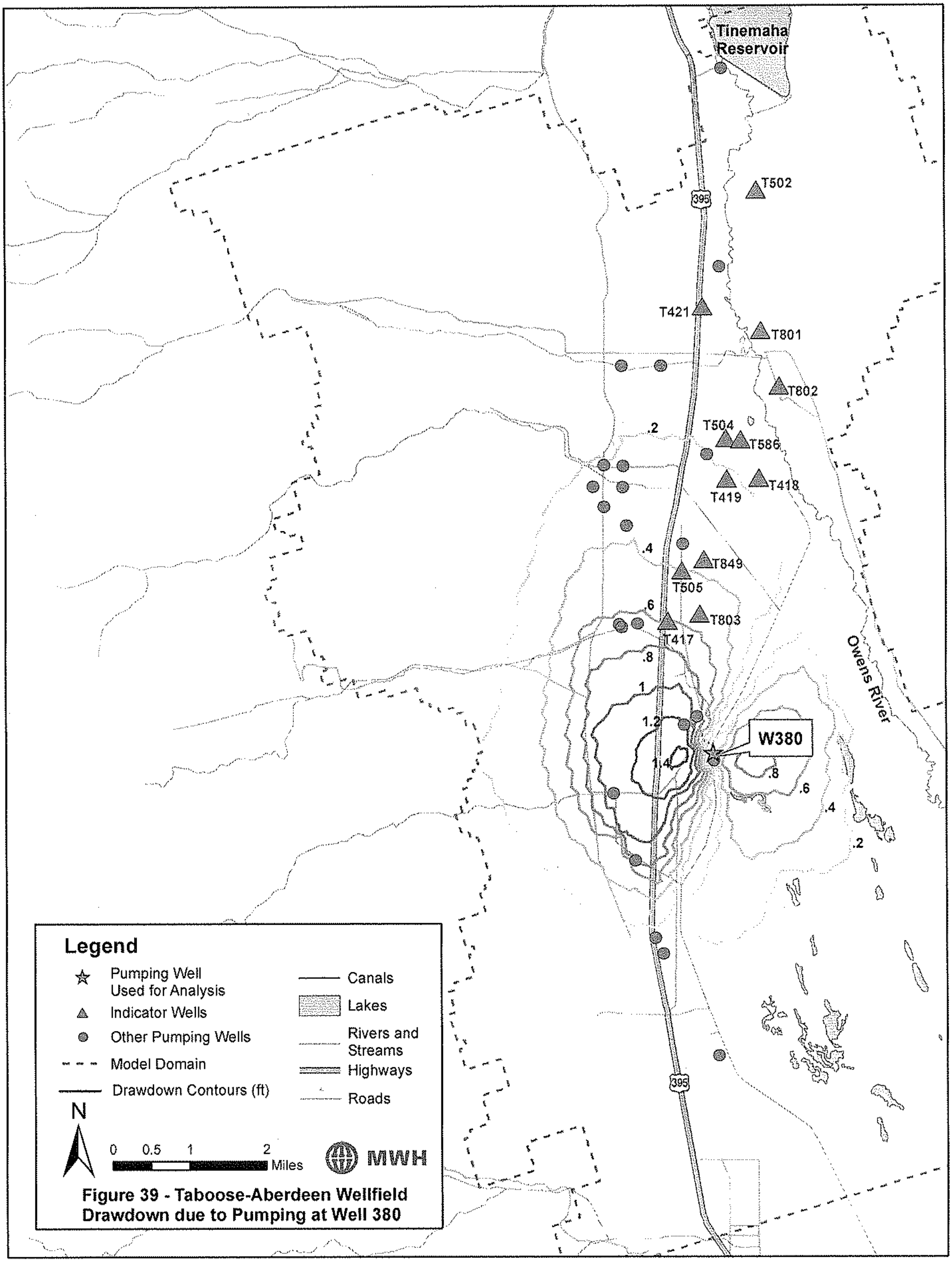

Figure 39 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 380

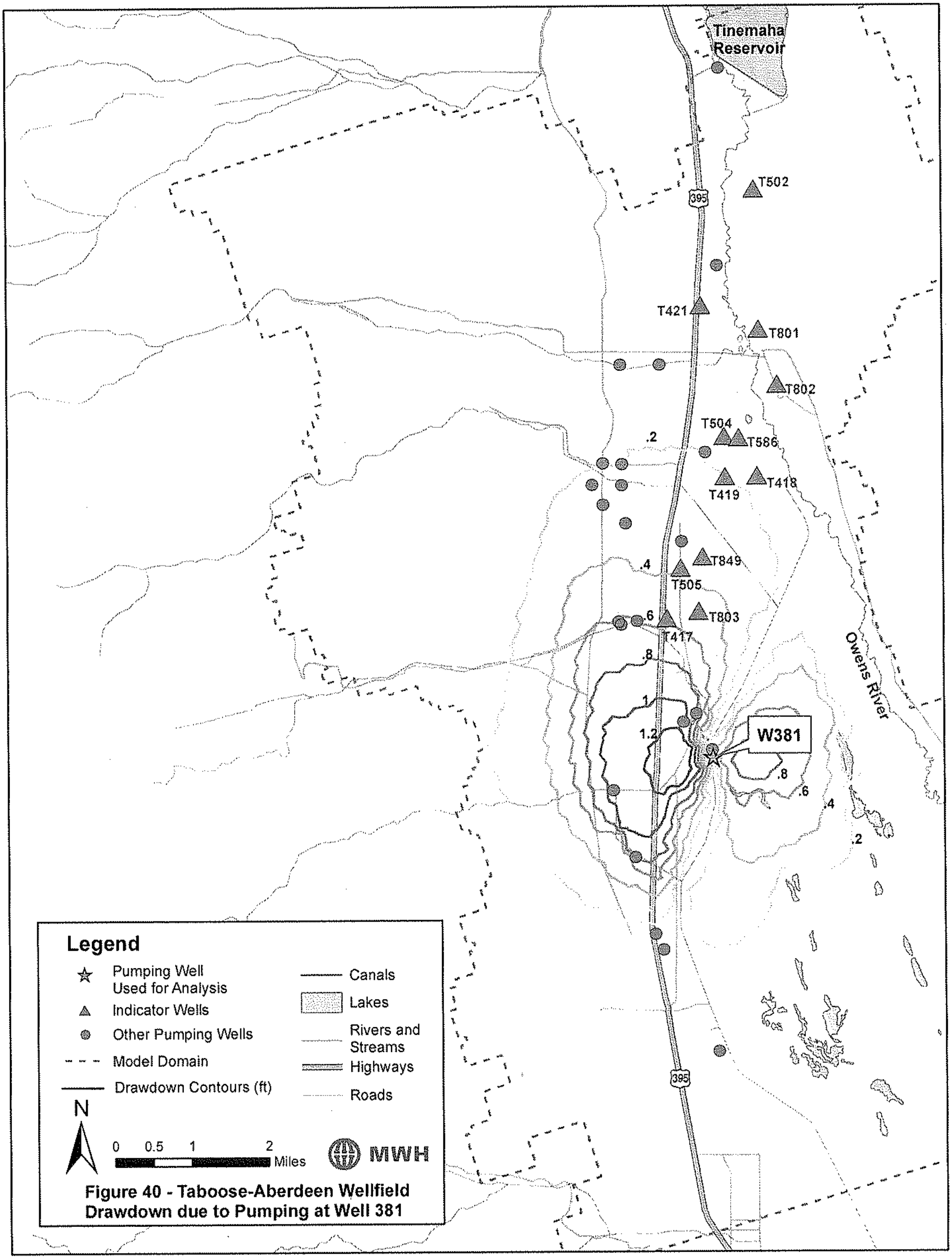

Figure 40 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at Well 381

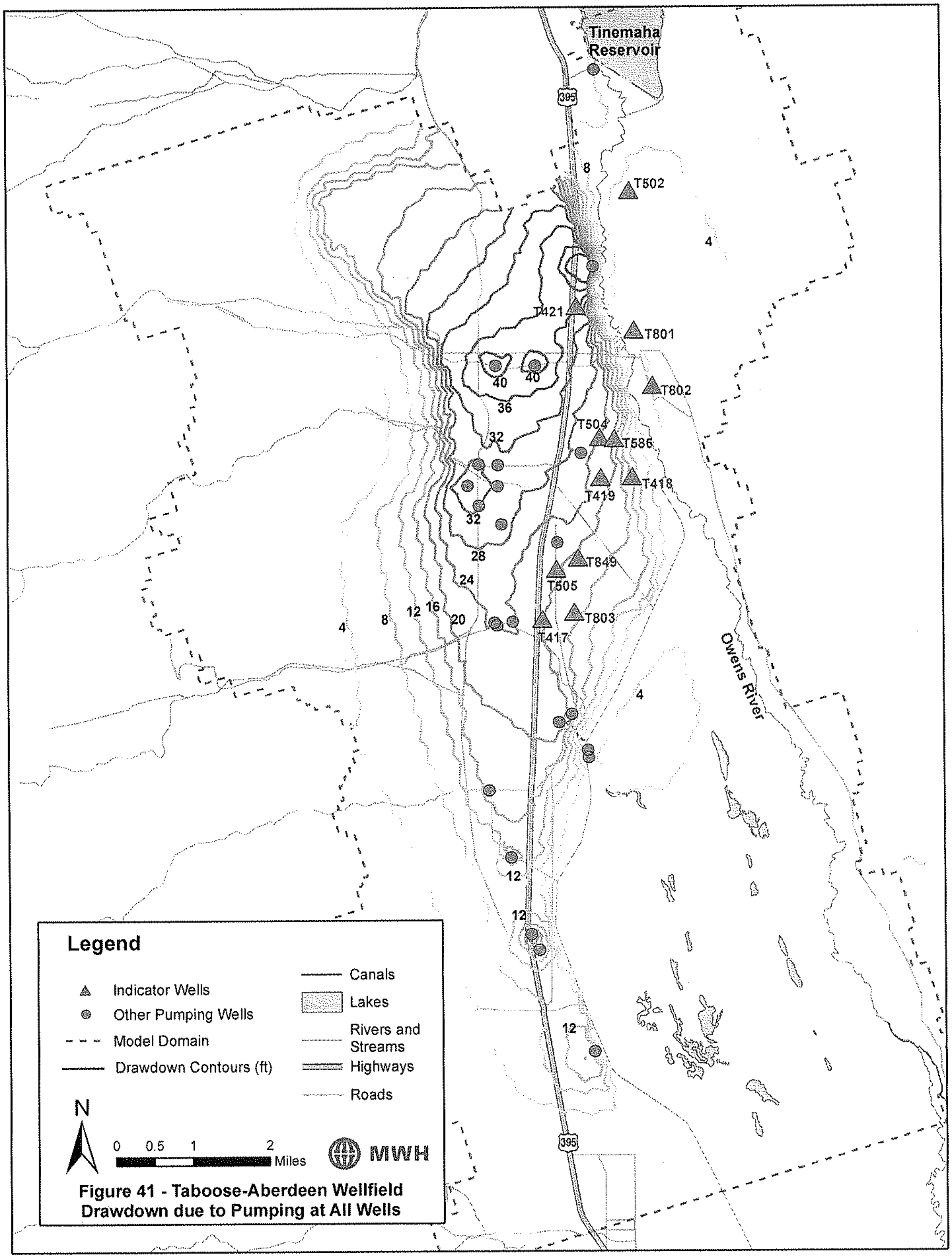

Figure 41 - Taboose-Aberdeen Wellfield Drawdown due to Pumping at All Wells

Table 13
Indicator Location T502 – Taboose-Aberdeen

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T502 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 106	2	0.1	1.4%
Well 110	2	0.1	2.6%
Well 111	2	0.1	1.8%
Well 114	2	0.1	2.0%
Well 118	2	1.1	22.9%
Well 342	2	0.7	14.5%
Well 347	2	0.7	13.9%
Well 349	1	1.9	37.1%
Well 109	2	0.1	1.0%
Well 370	2	0.0	0.8%
Well 159	2	0.0	0.0%
Well 155	2	0.0	0.0%
Well 103	2	0.0	0.0%
Well 104	2	0.0	0.0%
Well 382	3	0.0	0.0%
Well 351	2	0.1	1.0%
Well 356	2	0.0	0.6%
Well 380	3	0.0	0.2%
Well 381	3	0.0	0.2%
Total Drawdown (sum of pumping individual wells)		**5.0**	
Total Drawdown (pumping all wells simultaneously)		**4.9**	

Table 14
Indicator Location T421 – Taboose-Aberden

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T421 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 106	2	0.7	1.8%
Well 110	2	1.3	3.5%
Well 111	2	0.9	2.5%
Well 114	2	1.1	2.9%
Well 118	2	0.1	0.3%
Well 342	2	8.3	22.6%
Well 347	2	7.8	21.2%
Well 349	1	14.7	40.4%
Well 109	2	0.4	1.2%
Well 370	2	0.4	1.0%
Well 159	2	0.0	0.1%
Well 155	2	0.0	0.1%
Well 103	2	0.0	0.0%
Well 104	2	0.0	0.0%
Well 382	3	0.0	0.0%
Well 351	2	0.4	1.2%
Well 356	2	0.3	0.7%
Well 380	3	0.1	0.2%
Well 381	3	0.1	0.2%
Total Drawdown (sum of pumping individual wells)		**36.5**	
Total Drawdown (pumping all wells simultaneously)		**36.6**	

Table 15
Indicator Location T801 – Taboose-Aberdeen

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T801 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 106	2	0.1	2.1%
Well 110	2	0.2	4.0%
Well 111	2	0.2	2.8%
Well 114	2	0.2	3.1%
Well 118	2	0.4	6.9%
Well 342	2	1.2	20.3%
Well 347	2	1.1	18.3%
Well 349	1	2.2	36.4%
Well 109	2	0.1	1.5%
Well 370	2	0.1	1.2%
Well 159	2	0.0	0.2%
Well 155	2	0.0	0.2%
Well 103	2	0.0	0.0%
Well 104	2	0.0	0.0%
Well 382	3	0.0	0.0%
Well 351	2	0.1	1.5%
Well 356	2	0.1	1.0%
Well 380	3	0.0	0.3%
Well 381	3	0.0	0.3%
Total Drawdown (sum of pumping individual wells)		**6.1**	
Total Drawdown (pumping all wells simultaneously)		**6.0**	

Table 16
Indicator Location T802 – Taboose-Aberdeen

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T802 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 106	2	0.1	3.0%
Well 110	2	0.2	5.3%
Well 111	2	0.2	3.4%
Well 114	2	0.2	3.9%
Well 118	2	0.2	5.5%
Well 342	2	0.9	21.5%
Well 347	2	0.8	19.2%
Well 349	1	1.3	29.7%
Well 109	2	0.1	2.1%
Well 370	2	0.1	1.6%
Well 159	2	0.0	0.2%
Well 155	2	0.0	0.2%
Well 103	2	0.0	0.0%
Well 104	2	0.0	0.0%
Well 382	3	0.0	0.0%
Well 351	2	0.1	2.1%
Well 356	2	0.1	1.4%
Well 380	3	0.0	0.5%
Well 381	3	0.0	0.5%
Total Drawdown (sum of pumping individual wells)		**4.4**	
Total Drawdown (pumping all wells simultaneously)		**4.3**	

Table 17
Indicator Location T504 – Taboose-Aberdeen

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T504 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 106	2	1.1	4.6%
Well 110	2	2.0	8.1%
Well 111	2	1.3	5.4%
Well 114	2	1.4	5.8%
Well 118	2	0.1	0.2%
Well 342	2	5.7	23.8%
Well 347	2	5.3	21.9%
Well 349	1	4.2	17.4%
Well 109	2	0.8	3.1%
Well 370	2	0.6	2.6%
Well 159	2	0.1	0.2%
Well 155	2	0.1	0.2%
Well 103	2	0.0	0.0%
Well 104	2	0.0	0.0%
Well 382	3	0.0	0.0%
Well 351	2	0.8	3.2%
Well 356	2	0.5	2.1%
Well 380	3	0.2	0.7%
Well 381	3	0.2	0.6%
Total Drawdown (sum of pumping individual wells)		**24.1**	
Total Drawdown (pumping all wells simultaneously)		**24.2**	

Table 18
Indicator Location T586 – Taboose-Aberdeen

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T586 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 106	2	0.9	4.7%
Well 110	2	1.5	8.1%
Well 111	2	1.0	5.4%
Well 114	2	1.1	5.7%
Well 118	2	0.1	0.3%
Well 342	2	4.4	23.5%
Well 347	2	4.0	21.5%
Well 349	1	3.3	17.5%
Well 109	2	0.6	3.2%
Well 370	2	0.5	2.6%
Well 159	2	0.0	0.2%
Well 155	2	0.1	0.3%
Well 103	2	0.0	0.1%
Well 104	2	0.0	0.0%
Well 382	3	0.0	0.0%
Well 351	2	0.6	3.3%
Well 356	2	0.4	2.2%
Well 380	3	0.1	0.7%
Well 381	3	0.1	0.6%
Total Drawdown (sum of pumping individual wells)		**18.6**	
Total Drawdown (pumping all wells simultaneously)		**18.4**	

Table 19
Indicator Location T419 – Taboose-Aberdeen

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T419 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 106	2	1.3	5.9%
Well 110	2	2.1	9.7%
Well 111	2	1.3	6.2%
Well 114	2	1.4	6.3%
Well 118	2	0.0	0.2%
Well 342	2	4.3	20.0%
Well 347	2	4.2	19.4%
Well 349	1	3.1	14.4%
Well 109	2	0.9	4.3%
Well 370	2	0.8	3.5%
Well 159	2	0.1	0.3%
Well 155	2	0.1	0.3%
Well 103	2	0.0	0.0%
Well 104	2	0.0	0.0%
Well 382	3	0.0	0.0%
Well 351	2	1.0	4.5%
Well 356	2	0.6	2.9%
Well 380	3	0.2	1.0%
Well 381	3	0.2	0.9%
Total Drawdown (sum of pumping individual wells)		**21.6**	
Total Drawdown (pumping all wells simultaneously)		**21.7**	

Table 20
Indicator Location T418 – Taboose-Aberdeen

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T418 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 106	2	0.6	5.8%
Well 110	2	0.9	9.4%
Well 111	2	0.6	5.9%
Well 114	2	0.6	6.0%
Well 118	2	0.1	0.6%
Well 342	2	1.8	19.3%
Well 347	2	1.8	18.6%
Well 349	1	1.4	15.2%
Well 109	2	0.4	4.4%
Well 370	2	0.4	3.7%
Well 159	2	0.0	0.3%
Well 155	2	0.0	0.3%
Well 103	2	0.0	0.1%
Well 104	2	0.0	0.0%
Well 382	3	0.0	0.0%
Well 351	2	0.5	5.0%
Well 356	2	0.3	3.2%
Well 380	3	0.1	1.1%
Well 381	3	0.1	1.0%
Total Drawdown (sum of pumping individual wells)		**9.5**	
Total Drawdown (pumping all wells simultaneously)		**9.3**	

Table 21
Indicator Location T849 – Taboose-Aberdeen

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T849 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 106	2	1.5	7.5%
Well 110	2	2.2	11.2%
Well 111	2	1.4	7.2%
Well 114	2	1.1	5.8%
Well 118	2	0.0	0.1%
Well 342	2	2.5	12.7%
Well 347	2	2.6	13.2%
Well 349	1	1.8	9.1%
Well 109	2	1.5	7.7%
Well 370	2	1.2	6.2%
Well 159	2	0.1	0.6%
Well 155	2	0.1	0.7%
Well 103	2	0.0	0.1%
Well 104	2	0.0	0.1%
Well 382	3	0.0	0.0%
Well 351	2	1.7	8.7%
Well 356	2	1.1	5.6%
Well 380	3	0.4	1.8%
Well 381	3	0.3	1.7%
Total Drawdown (sum of pumping individual wells)		**19.5**	
Total Drawdown (pumping all wells simultaneously)		**19.5**	

Table 22
Indicator Location T505 – Taboose-Aberdeen

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T505 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 106	2	1.6	7.8%
Well 110	2	2.3	11.4%
Well 111	2	1.3	6.3%
Well 114	2	1.1	5.6%
Well 118	2	0.0	0.1%
Well 342	2	2.3	11.4%
Well 347	2	2.5	12.0%
Well 349	1	1.7	8.2%
Well 109	2	1.8	8.9%
Well 370	2	1.4	7.0%
Well 159	2	0.1	0.7%
Well 155	2	0.2	0.7%
Well 103	2	0.0	0.1%
Well 104	2	0.0	0.0%
Well 382	3	0.0	0.0%
Well 351	2	2.0	9.6%
Well 356	2	1.3	6.2%
Well 380	3	0.4	2.0%
Well 381	3	0.4	1.9%
Total Drawdown (sum of pumping individual wells)		**20.4**	
Total Drawdown (pumping all wells simultaneously)		**20.6**	

Table 23
Indicator Location T803 – Taboose-Aberdeen

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T803 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 106	2	1.1	6.2%
Well 110	2	1.6	9.2%
Well 111	2	0.9	5.1%
Well 114	2	0.8	4.5%
Well 118	2	0.0	0.1%
Well 342	2	1.5	9.1%
Well 347	2	1.6	9.6%
Well 349	1	1.1	6.5%
Well 109	2	1.8	10.5%
Well 370	2	1.3	7.8%
Well 159	2	0.2	1.0%
Well 155	2	0.2	1.0%
Well 103	2	0.0	0.2%
Well 104	2	0.0	0.1%
Well 382	3	0.0	0.0%
Well 351	2	2.4	14.0%
Well 356	2	1.6	9.2%
Well 380	3	0.5	3.0%
Well 381	3	0.5	2.8%
Total Drawdown (sum of pumping individual wells)		**16.9**	
Total Drawdown (pumping all wells simultaneously)		**17.0**	

Table 24
Indicator Location T417 – Taboose-Aberdeen

Production Well	Model Layer that the Well Produces From	Shallow Drawdown at T417 as a Result of Pumping the Production Well for One (1) Year in feet	% of Total Drawdown
Well 106	2	1.2	5.8%
Well 110	2	1.7	8.7%
Well 111	2	0.9	4.7%
Well 114	2	0.8	4.1%
Well 118	2	0.0	0.1%
Well 342	2	1.5	7.7%
Well 347	2	1.6	8.2%
Well 349	1	1.1	5.5%
Well 109	2	2.6	13.1%
Well 370	2	1.9	9.3%
Well 159	2	0.2	1.1%
Well 155	2	0.2	1.1%
Well 103	2	0.0	0.2%
Well 104	2	0.0	0.1%
Well 382	3	0.0	0.1%
Well 351	2	3.0	15.0%
Well 356	2	1.9	9.6%
Well 380	3	0.6	3.1%
Well 381	3	0.6	2.8%
Total Drawdown (sum of pumping individual wells)		**20.0**	
Total Drawdown (pumping all wells simultaneously)		**20.2**	