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BEFORE THE ARIZONA CORPORATIC

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COMMISSIONERS

MIKE GLEASON-Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

Arizona Corporation Commission
DOCKETED

JAN 04 2008

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**IN THE MATTER OF THE
APPLICATION OF ARIZONA WATER
COMPANY, AN ARIZONA
CORPORATION, TO EXTEND ITS
EXISTING CERTIFICATE OF
CONVENIENCE AND NECESSITY AT
CASA GRANDE, PINAL COUNTY,
ARIZONA**

DOCKET NO. W-01445A-03-0559

**NOTICE OF FILING DIRECT
TESTIMONY OF JIM POULOS,
DR. FRED GOLDMAN AND
PAUL HENDRICKS**

In accordance with the Procedural Order dated November 8, 2007 in this docket, intervenor Cornman Tweedy 560, LLC, hereby files in this remand proceeding the direct pre-filed testimony and accompanying exhibits of witnesses Jim Poulos, Dr. Fred Goldman and Paul Hendricks.

RESPECTFULLY submitted this 4th day of January, 2008.

SNELL & WILMER



Jeffrey W. Crockett, Esq.
Bradley S. Carroll, Esq.
One Arizona Center
Phoenix, Arizona 85004-2202
Attorneys for Cornman Tweedy 560, LLC

ORIGINAL and thirteen (13) copies of the foregoing have been filed with Docket Control this 4th day of January, 2008.

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LAW OFFICES
One Arizona Center, 400 E. Van Buren
Phoenix, Arizona 85004-2202
(602) 382-6000

1 A COPY of the foregoing was hand-
2 delivered this 4th day of January, 2008, to:

3 Christopher C. Kempley, Chief Counsel
4 Legal Division
5 ARIZONA CORPORATION COMMISSION
6 1200 West Washington Street
7 Phoenix, Arizona 85007

8 Ernest Johnson, Director
9 Utilities Division
10 ARIZONA CORPORATION COMMISSION
11 1200 West Washington Street
12 Phoenix, Arizona 85007

13 A COPY of the foregoing sent via first
14 class mail this 4th day of January, 2008, to:

15 Steven A. Hirsch, Esq.
16 BRYAN CAVE LLP
17 Two North Central Ave., Suite 2200
18 Phoenix, Arizona 85004-4406

19 Robert W. Geake, Vice President and General Counsel
20 ARIZONA WATER COMPANY
21 P.O. Box 29006
22 Phoenix, Arizona 85038

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

MIKE GLEASON – Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

**IN THE MATTER OF THE APPLICA-
TION OF ARIZONA WATER COMPANY,
AN ARIZONA CORPORATION, TO
EXTEND ITS EXISTING CERTIFICATE
OF CONVENIENCE AND NECESSITY AT
CASA GRANDE, PINAL COUNTY,
ARIZONA**

DOCKET NO. W-01445A-03-0559

DIRECT TESTIMONY AND EXHIBITS OF JIM POULOS IN THE

REMAND PROCEEDING

ON BEHALF OF INTERVENOR

CORNMAN TWEEDY 560, L.L.C.

JANUARY 4, 2008

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND**
2 **OCCUPATION.**

3 A. My name is Jim Poulos. I am Vice President of Cornman Tweedy 560, LLC
4 ("Cornman Tweedy"), the intervenor in this case. I am also a Vice President or
5 general manager of various land acquisition companies, land development
6 companies, construction companies and public utilities owned or controlled by
7 Edward J. Robson ("Robson"). My business address is 9532 East Riggs Road,
8 Sun Lakes, Arizona 85248.

9 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL**
10 **BACKGROUND.**

11 A. I have an economics degree with an emphasis in accounting from Claremont
12 McKenna College in Claremont, California. I am a certified public accountant
13 in Arizona. I have over 25 years' business experience, most of which has
14 involved forming, certificating, permitting, constructing, operating and
15 managing water and sewer companies in Arizona. I am the general manager of
16 ten public utilities owned or controlled by Robson: Ridgeview Utility Company,
17 SaddleBrooke Utility Company, Picacho Water Company, Picacho Sewer
18 Company, Lago del Oro Water Company, Santa Rosa Water Company, Santa
19 Rosa Utility Company, Mountain Pass Utility Company, Pima Utility Company
20 (water and sewer), and Quail Creek Water Company (collectively, the "Robson
21 Utilities"). I have worked for Mr. Robson and his various business enterprises,
22 including the Robson Utilities, for nearly 24 years.

23 **Q. PLEASE DESCRIBE YOUR DUTIES AS GENERAL MANAGER OF**
24 **THE ROBSON UTILITIES.**

25 A. As general manager, I am responsible for the overall management, operation and
26 performance of the Robson Utilities. A brief summary of my duties and
27 responsibilities is as follows:
28

1 • Organization and Certification. I oversee the formation of each
2 new entity that will operate as a public service corporation. I am responsible for
3 preparing and prosecuting applications for new certificates of convenience and
4 necessity ("CC&Ns") filed with the Arizona Corporation Commission
5 ("Commission"). In connection with these applications, I prepare or oversee the
6 preparation of proposed tariffs and pro forma financial statements which are
7 submitted with the applications. I am also responsible for obtaining franchises
8 from city or county governments to use public roadways, rights-of-way and
9 easements.

10 • Utility System Design, Engineering, Permitting and Construction.
11 Although I am not an engineer, all engineers working on Robson projects report
12 to me. As a result, I have spent substantial time over the past twenty years
13 working with the engineers who design the water and wastewater systems that
14 serve the various Robson developments. I oversee the preparation of design and
15 engineering plans and work with the engineers to develop integrated water and
16 wastewater systems that incorporate technology which promotes conservation of
17 groundwater resources, ensures delivery of safe and reliable water, and
18 maximizes the use of reclaimed wastewater. I am responsible for obtaining the
19 various approvals required to construct and operate water and wastewater
20 utilities, and I have obtained dozens of such approvals from the Arizona
21 Department of Environmental Quality ("ADEQ") and the Arizona Department of
22 Water Resources ("ADWR"). I am also responsible for overseeing construction
23 of utility plant.

24 • Hiring and Employee Oversight. I am responsible for hiring,
25 directing, monitoring and evaluating the certified operators and other employees
26 of the Robson Utilities. The certified operators and employees of the Robson
27 Utilities report to me.

28 • Financial Performance. I am responsible for preparing and

1 monitoring annual budgets for the Robson Utilities. I also monitor utility
2 expenses and approve capital expenditures for the Robson Utilities. If an
3 increase in rates is deemed necessary, I am responsible for overseeing the filing
4 and prosecution of a rate application with the Commission. If the Robson
5 Utilities have capital needs, I oversee the filing of financing applications.

6 • Customer Relations. I am responsible for ensuring that customer
7 problems or complaints are quickly resolved.

8 • Commission Filings. I oversee the filing of the various reports that
9 must be filed with the Commission. I also file tariff amendments from time to
10 time as necessary. I participate in various generic dockets at the Commission
11 and meet with Utilities Division Staff regarding the operations of the Robson
12 Utilities.

13 • Policy Development. I am responsible for monitoring the
14 operations of the Robson Utilities and identifying and implementing
15 improvements in operations. Specifically, I look for advances in technological
16 and administrative activities of other utilities which may be implemented at the
17 Robson Utilities. I have extensive water and wastewater policy experience and
18 background. Recently, I have participated as a stakeholder in the second update
19 to the plan of operations for the Central Arizona Groundwater Replenishment
20 District, as a member of the steering committee looking at modifications of the
21 aquifer protection permit rules, and as a member of the subcommittee which
22 worked on the most recent Pinal County assured water supply rule change.
23 These are just a few of the many public policy forums in which I participate.

24 • Water and Wastewater Safety. Last, and perhaps most
25 importantly, I am responsible to ensure that the Robson Utilities provide
26 adequate and safe water and wastewater service at all times. Specifically, I am
27 responsible for ensuring that all water delivered to customers meets the
28 requirements of the Safe Drinking Water Act, and that all reclaimed wastewater

1 discharged from Robson's wastewater treatment plants meets the requirements of
2 the applicable permits.

3 **Q. PLEASE DESCRIBE THE ROBSON UTILITIES.**

4 A. Attached to my testimony as Exhibit 1 is a table describing the Robson Utilities.
5 As you can see, the seven water utilities and wastewater utilities operating at this
6 time serve nearly 33,000 customers or services in Maricopa, Pima and Pinal
7 Counties, and they have combined utility plant of approximately \$50 million,
8 based upon figures submitted in our 2006 annual reports filed with the
9 Commission. The five Robson Utilities which provide water service can
10 produce a combined 25,000 gallons per minute of groundwater from 30 wells,
11 and have combined storage capacity of approximately 6.6 million gallons. The
12 three Robson Utilities currently providing wastewater service can treat
13 approximately 3.65 million gallons of wastewater per day.

14 **Q. IS IT ACCURATE TO SAY THAT YOU HAVE SUBSTANTIAL
15 EXPERIENCE IN ESTABLISHING, PERMITTING AND OPERATING
16 WATER AND WASTEWATER UTILITIES IN ARIZONA?**

17 A. Yes. I have experience in virtually all aspects of the water and wastewater
18 business. I note also that the combined size of the Robson Utilities places them
19 among the largest private utilities in Arizona.

20 **Q. PLEASE DESCRIBE ROBSON'S BUSINESS.**

21 A. Robson acquires, develops, and builds homes on real property in Arizona and
22 Texas, and operates various businesses related to the acquisition and
23 development of real property and the construction of homes. Connected to its
24 development business, Robson owns or controls the water and wastewater
25 utilities which serve most of the master-planned communities developed by
26 Robson, as well as some other areas.

27 **Q. PLEASE IDENTIFY ROBSON'S MASTER-PLANNED COMMUNITIES.**

28 A. Since 1972, Robson has developed, or is developing, the following age-restricted

1 master-planned communities: Sun Lakes, Sunbird, PebbleCreek, SaddleBrooke,
2 SaddleBrooke Ranch, Quail Creek, Robson Ranch Arizona and Robson Ranch
3 Texas. Cornman Tweedy, a Robson-owned company, owns approximately
4 2,344 acres in Pinal County (the "EJR Ranch Property") which is being held for
5 future sale or development. The EJR Ranch Property is located adjacent to and
6 north of Robson Ranch and is shown on the map attached to my testimony as
7 Exhibit 2.

8 **Q. IN ADDITION TO YOUR RESPONSIBILITIES WITH REGARD TO**
9 **THE ROBSON UTILITIES, ARE YOU INVOLVED IN THE**
10 **DEVELOPMENT SIDE OF ROBSON'S BUSINESS?**

11 A. Yes. I am either directly responsible or participate in a variety of activities
12 related to Robson's development business including zoning and entitlements for
13 all properties, environmental due diligence, water rights due diligence,
14 endangered species due diligence, development plans, planning for utility
15 services, and construction of on-site improvements (lot preparation, streets,
16 curbs, sidewalks, dry utilities, etc.). I am also responsible for maintaining a
17 sufficient inventory of finished lots to meet demand in the various Robson
18 communities.

19 **Q. PLEASE DESCRIBE CORNMAN TWEEDY'S BUSINESS.**

20 A. Cornman Tweedy was formed for the purpose of assembling through a series of
21 acquisitions the land which makes up the EJR Ranch Property.

22 **Q. IS CORNMAN TWEEDY AFFILIATED WITH ROBSON?**

23 A. Yes. Cornman Tweedy is one of the entities that is owned or controlled by
24 Robson.

25 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS REMAND**
26 **PROCEEDING?**

27 A. I am testifying on behalf of Cornman Tweedy.

28 **Q. ARE YOU AUTHORIZED TO TESTIFY ON BEHALF OF CORNMAN**

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TWEEDY?

A. Yes.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE ARIZONA CORPORATION COMMISSION?

A. Yes. I have testified as a witness for the various Robson Utilities in dozens of proceedings at the Commission, and I have participated in numerous other proceedings at the Commission. In this case, I previously filed direct testimony dated June 12, 2006, and Rebuttal testimony dated July 6, 2006, and I testified as a witness in the hearing held July 10-11, 2006. I hereby adopt and incorporate by this reference my prior pre-filed testimony and my oral testimony in this case. My testimony before the Commission is a matter of public record on file with Docket Control.

Q. MR. POULOS, PLEASE DESCRIBE WHAT HAS LED US TO THIS POINT IN THIS CASE.

A. On August 12, 2003, Arizona Water Company ("AWC") filed an application with the Commission to extend its CC&N to include eleven square miles—or more than 7,000 acres—in Township 6 South, Range 7 East, G&SRB&M, in Pinal County, Arizona (the "Extension Area"). The Extension Area is shown on the map attached to my testimony as Exhibit 2. AWC's application was based on only two requests for service—one for property called Post Ranch which consisted of approximately 480 acres and another for property called Florence Country Estates which consisted of approximately 240 acres.

On December 8, 2004, Cornman Tweedy acquired the 240-acre Florence Country Estates property. Cornman Tweedy also acquired other property within the Extension Area which, when combined with the Florence Country Estates property, totals approximately 1,138 acres (the "Cornman Tweedy Property"). In addition, Cornman Tweedy owns approximately 1,206 acres immediately south of the Cornman Tweedy Property, for a total of approximately 2,344 acres

1 which comprises the land which I refer to herein as the EJR Ranch Property.
2 The Cornman Tweedy Property and the EJR Ranch Property (which includes the
3 Cornman Tweedy Property) are shown on Exhibit 2 to my testimony.

4 In Decision 66893 (April 6, 2004), the Commission conditionally
5 approved the extension of AWC's CC&N to include the Extension Area, subject
6 to the following conditions:

- 7 1. AWC was ordered to file with the Commission a copy of a certificate of
8 assured water supply for both the Post Ranch property and the Florence
9 Country Estates Property within 365 days of Decision 66893; and
- 10 2. AWC was ordered to file a main extension agreement associated with the
11 Extension Area within 365 days of Decision 66893.

12 Decision 66893 included an ordering paragraph stating that if AWC failed
13 to meet the two conditions in the time specified, Decision 66893 would be
14 deemed null and void without further order of the Commission. On the verge of
15 missing the April 6, 2005 deadline for both conditions, AWC filed a request on
16 March 30, 2005 for additional time to comply with the conditions. On April 7,
17 2005, Cornman Tweedy filed a letter with the Commission asserting that
18 Decision 66893 was null and void because AWC had failed to meet the April 6,
19 2005 deadline. The letter further stated that Cornman Tweedy did not desire to
20 have its property included in AWC's Extension Area, that Cornman Tweedy had
21 requested water utility service from its affiliate, Picacho Water Company, and
22 that Cornman Tweedy would prefer to receive water and wastewater service
23 from Robson affiliates Picacho Water Company and Picacho Sewer Company
24 for reasons of cost, convenience, timing, avoidance of confusion, and avoidance
25 of unnecessary duplication of facilities. Since the filing of that letter in April
26 2005, Cornman Tweedy has sought to have the Cornman Tweedy Property
27 excluded from AWC's CC&N.

28 I note also that Cornman Tweedy is the successor to approximately 649

1 acres within the Extension Area that was previously owned by the Dermer
2 Family Trust (the "Dermer Trust"). The Dermer Trust docketed a letter in this
3 case dated April 21, 2004, stating that due to the illness and death of Mr.
4 John Dermer, a principal of the Dermer Trust, the Dermer Trust was not aware
5 of AWC's application, did not receive notice of the application, and did not want
6 the Dermer Trust's 649 acres included in the Extension Area. Since the filing of
7 the April 2004 letter, the Dermer Trust and then Cornman Tweedy have sought
8 to have the Dermer Trust property excluded from AWC's CC&N.

9 To this date, there is no certificate of assured water supply and no main
10 extension agreement for any part of the Cornman Tweedy Property, nor is there
11 a request for water service to AWC for any part of the Cornman Tweedy
12 Property. Notwithstanding these uncontested facts, in Decision 69722 the
13 Commission ordered that the conditions set forth in Decision 66893 were
14 fulfilled, thereby removing the conditionality from the CC&N. As a result,
15 AWC obtained a CC&N for more than 7,000 acres on the basis of two requests
16 for service (one of which was effectively withdrawn) covering only 720 acres, or
17 about 10%.

18 An expansive grant of additional certificated territory without underlying
19 requests for service is one of a number of public policy issues which should be
20 addressed in this case. Accordingly, in Decision 69722, the Commission
21 ordered further proceedings on remand to determine whether AWC should
22 continue to hold a CC&N for the Cornman Tweedy Property. The Commission
23 ordered that the proceedings "be broad in scope so that the Commission may
24 develop a record to consider the overall public interest underlying service to the
25 Cornman property." (Decision 69722 at p. 20, ¶ 104).

26 **Q. WHAT ARE THE PUBLIC POLICY ISSUES YOU WANT THE**
27 **COMMISSION TO ADDRESS IN THIS CASE?**

28 **A.** The Commission should address the following public policy issues in this case:

- 1 1. Should the Commission allow a water provider to hold a CC&N for
2 property where there is no evidence of a current need and necessity for
3 water service on the property?
- 4 2. Should the Commission allow a water provider to hold a CC&N for
5 property where the owner of the property has not requested water service?
- 6 3. Should the Commission allow a water provider to hold a CC&N for
7 property where the owner of the property desires exclusion from the
8 CC&N? In other words, what weight should be given the desires of the
9 landowner with respect to the water provider serving the property?
- 10 4. Where there is an option for a single water provider to serve an entire
11 development, should the Commission opt for a single provider instead of
12 splitting the development between two water providers?
- 13 5. Where there is an option for an integrated water and wastewater provider
14 for a development, should the Commission opt for an integrated water
15 and wastewater provider over stand-alone water and wastewater
16 providers?

17 My pre-filed direct testimony addresses issues 1, 2 and 3 above. Issue 4
18 will be addressed in the pre-filed direct testimony of Fred E. Goldman, Ph.D,
19 P.E. Issue 5 will be addressed in the pre-filed direct testimony of Paul S.
20 Hendricks, M.P.A.

21 **Q. WHY DID CORNMAN TWEEDY SELECT FRED GOLDMAN AND**
22 **PAUL HENDRICKS AS WITNESSES IN THIS CASE?**

23 A. Robson used Dr. Goldman and Mr. Hendricks in the planning and development
24 of Pima Utility Company's integrated water and wastewater system at Sun
25 Lakes, which has become the template for all Robson communities where
26 Robson provides water and wastewater service. This integrated approach to
27 providing water and wastewater service has been a great success for Robson and
28 for Arizona, maximizing the efficient reuse of reclaimed wastewater and

1 recharge to the aquifer, which reduces the pumping of groundwater. In my
2 opinion, the Pima Utility Company model at Sun Lakes should be emulated
3 whenever possible, and Dr. Goldman and Mr. Hendricks who pioneered this
4 model, along with myself, are best qualified to testify regarding the water
5 conservation, cost savings, reliability, and other benefits of a single water
6 provider serving the entire development and integrated water and wastewater
7 systems.

8 **Q. THE FIRST PUBLIC POLICY ISSUE YOU IDENTIFIED ABOVE IS**
9 **WHETHER THE COMMISSION SHOULD ALLOW A WATER**
10 **PROVIDER TO HOLD A CC&N FOR PROPERTY WHERE THERE IS**
11 **NO EVIDENCE OF A CURRENT NEED AND NECESSITY FOR**
12 **WATER SERVICE ON THE PROPERTY. IS THERE A CURRENT**
13 **NEED AND NECESSITY FOR WATER SERVICE ON THE CORNMAN**
14 **TWEEDY PROPERTY?**

15 A. No. As I testified at the hearing, the business plan for the EJR Ranch Property
16 changed 180 degrees since December 2004. Cornman Tweedy purchased the
17 EJR Ranch Property with the plan of developing the property in a strong real
18 estate market, and Robson commenced the process of entitling the property.
19 However, Robson did not anticipate the tremendous appreciation in the value of
20 the property which occurred after the acquisition, nor did Robson anticipate the
21 dramatic decline in the demand for new residential housing which commenced
22 in late 2005 and continues today. As a result of these changed circumstances,
23 Robson ceased further development activities except for certain pending
24 entitlement activities that could be expeditiously completed. Robson has no
25 plans to develop the EJR Ranch Property. The property has been indefinitely
26 shelved. There is no need and necessity for water service.

27 **Q. YOU MENTIONED A DRAMATIC DECLINE IN THE DEMAND FOR NEW**
28 **RESIDENTIAL HOUSING SINCE LATE 2005. IN YOUR POSITION AS A**

1 VICE PRESIDENT WITH ROBSON, DO YOU HAVE SPECIFIC
2 KNOWLEDGE ABOUT RESIDENTIAL REAL ESTATE MARKET
3 CONDITIONS IN ARIZONA?

4 A. Yes. I am a past member of the board of directors of the Home Builders
5 Association of Central Arizona ("HBACA") and I am actively involved with the
6 HBACA. Through this affiliation, I have regular contact with several Arizona
7 homebuilders, and we discuss residential market conditions in Arizona. In
8 addition, I see all of the home closing numbers for the Robson developments on
9 a monthly basis. The data that I review within Robson is consistent with the
10 information I have received from other home builders.

11 **Q. BASED ON YOUR EXPERIENCE AND KNOWLEDGE OF THE**
12 **RESIDENTIAL REAL ESTATE MARKET IN ARIZONA, WHAT IS THE**
13 **OUTLOOK FOR ROBSON'S RESIDENTIAL REAL ESTATE MARKET?**

14 A. In short, there is a substantially reduced market for new homes at this time. As I
15 stated above, home sales slowed dramatically for Robson beginning in late 2005.
16 To provide some scale regarding the downturn, Robson closed 1,222 homes in
17 Arizona in 2006, most of which were sold in 2005 at the height of the market.
18 We have projected 368 closings in Arizona for 2008, a reduction of 70%.
19 Consistent with this reduction in sales, Robson has necessarily reduced the
20 workforce in its core development and home construction business by
21 approximately 35%. I am not expecting Robson's market to improve any time
22 soon. Moreover, Robson has approximately 24,000 lots which are being readied
23 for sale in its core retirement community business, so the EJR Ranch Property is
24 not needed for inventory.

25 **Q. IS RESIDENTIAL DEVELOPMENT ACTIVITY OCCURRING ON THE**
26 **CORNMAN TWEEDY PROPERTY?**

27 A. No. Attached to my testimony as Exhibit 3 are a series of 21 photographs taken
28 on December 26, 2007, which show the existing condition of the EJR Ranch

1 Property. Included as part of Exhibit 3 is a key and a map which shows the
2 location of each photo, the direction of the view, and the GPS coordinates of
3 each photo. Pictures 1-4, 6, 10 and 13 depict views of the Cornman Tweedy
4 Property. Pictures 11-12 and 14-21 depict views of the southern half of the EJR
5 Ranch Property. As you can see, most of the EJR Ranch Property is being
6 farmed, and no residential development activities are occurring anywhere. The
7 remaining photos show other portions of the Extension Area.

8 **Q. WERE THE PHOTOS ATTACHED AS EXHIBIT 3 TO YOUR**
9 **TESTIMONY TAKEN UNDER YOUR DIRECT SUPERVISION, AND**
10 **DO THE PHOTOS ACCURATELY AND FAIRLY REPRESENT THE**
11 **CURRENT CONDITION OF THE EJR RANCH PROPERTY?**

12 A. Yes. I instructed Dave Voorhees (my superintendent for Pima Utility Company,
13 Picacho Water Company, and Picacho Sewer Company) to take the photos and
14 he returned the photos to me together with the key and map. Although I did not
15 personally take the photos, I am very familiar with the EJR Ranch Property,
16 having been on the property many times, and I am familiar with each of the
17 locations where the photos were taken.

18 **Q. DO YOU BELIEVE THE COMMISSION SHOULD GRANT AN**
19 **EXTENSION OF A CC&N WHERE THERE IS NO EVIDENCE OF A**
20 **CURRENT NEED AND NECESSITY FOR WATER SERVICE IN THE**
21 **EXTENSION AREA?**

22 A. No. It is my understanding that one of the two findings the Commission must
23 make before extending a CC&N is that there is a "need and necessity" for the
24 utility service. The other finding, of course, is that the applicant is "fit and
25 proper" to hold a CC&N. In cases where there is entitlement work (*i.e.*, zoning,
26 permitting, certificates of assured water supply, main extension agreements, etc.)
27 which must be completed before homes can be constructed and occupied, the
28 Commission attaches conditions to ensure, among other things, that the "need

1 and necessity" is real and on-going. In the June 12, 2006, Staff Report in this
2 case, Assistant Director Steve Olea stated that "[t]he basic reason to require a
3 time limit for the submission of both the developer's CAWS and the MXA is to
4 help ensure that there is truly a necessity for the service being provided." Staff
5 Report at 1 (June 12, 2006).

6 The evidence in this case has been uncontested that there is no need and
7 necessity for water service at the Cornman Tweedy Property. The grant of a
8 CC&N without such a showing will lead to the type of problems we have seen in
9 this case. Perhaps most importantly, the premature grant of a CC&N forecloses
10 options for the Commission which may provide greater public benefits. Those
11 benefits are described in my testimony and the testimony of Dr. Goldman and
12 Mr. Hendricks.

13 **Q. ANOTHER PUBLIC POLICY ISSUE YOU IDENTIFIED ABOVE IS
14 WHETHER THE COMMISSION SHOULD ALLOW A WATER
15 PROVIDER TO HOLD A CC&N FOR PROPERTY WHERE THE
16 OWNER OF THE PROPERTY HAS NOT REQUESTED WATER
17 SERVICE. HAS CORNMAN TWEEDY EVER REQUESTED WATER
18 SERVICE FROM AWC?**

19 **A.** No. In fact, since April 2005, Cornman Tweedy has been working to get the
20 Cornman Tweedy Property excluded from AWC's CC&N. Before that, the
21 Dermer Trust (to which Cornman Tweedy is a successor) began working to get
22 its property excluded from AWC's CC&N in April 2004. This case does not
23 only involve a lack of a request for service, but also involves affirmative and
24 relentless efforts to get the Cornman Tweedy Property excluded from AWC's
25 CC&N.

26 **Q. IN YOUR OPINION, IS IT GOOD PUBLIC POLICY TO PERMIT THE
27 EXTENSION OF A CC&N WHERE THERE IS NO UNDERLYING
28 REQUEST FOR SERVICE IN THE EXTENSION AREA?**

1 A. No. Such a practice leads to the very problems we see in this case. AWC
2 obtained a 7,000-plus acre extension of its CC&N based on two requests for
3 service on only 720 acres. I recently observed portions of the Extension Area
4 and did not see any residential construction activity. The premature grant of a
5 CC&N without a request for service will often contradict the desires of the
6 landowner, especially where property is being assembled over time for inclusion
7 in a master-planned development. It can also lead to a situation, such as this
8 case, where a single development is potentially split between two water
9 providers of which the pitfalls are discussed in Dr. Goldman's testimony. In
10 addition, it can foreclose desirable options for the landowner such as selecting an
11 integrated water and wastewater provider, the benefits of which are addressed in
12 the testimony of Mr. Hendricks. Requiring a request for service before
13 extending a CC&N promotes the public interest because it prevents the
14 premature foreclose of the full range of options that may be considered by the
15 Commission.

16 I would also like to point out that the grant of a CC&N without an
17 underlying request for service is consistent with the Commission's current
18 practice. If AWC was to apply today for a CC&N to include the Cornman
19 Tweedy Property, that application would almost certainly be denied because
20 there is no request for service from Cornman Tweedy. The Commission now
21 regularly denies applications for CC&N extension where there is no
22 accompanying request for service. Examples of such instances are found in
23 Decision 59396 (Nov. 28, 1995); Decision 68453 (Feb. 2, 2006); Decision
24 68445 (Feb. 2, 2006); Decision 68247 (Oct. 25, 2005); and Decision 64062 (Oct.
25 4, 2001). I would also note that a parcel of land was excluded from AWC's
26 requested extension area in Docket W-01445A-05-0469 because the landowner
27 revoked his request for service and AWC honored the landowner's request.
28 Decision 68607 at FOF 13 (March 23, 2006).

1 Q. ANOTHER PUBLIC POLICY ISSUE YOU IDENTIFIED ABOVE IS
2 WHETHER THE COMMISSION SHOULD ALLOW A WATER
3 PROVIDER TO HOLD A CC&N FOR PROPERTY WHERE THE
4 OWNER OF THE PROPERTY DOES NOT WANT TO BE INCLUDED
5 IN THE CC&N. DOES CORNMAN TWEEDY WANT AWC TO BE THE
6 WATER PROVIDER FOR THE CORNMAN TWEEDY PROPERTY?

7 A. No. There are a number of reasons why this is so. First, if AWC is the water
8 provider for the Cornman Tweedy Property, the EJR Ranch will be split into two
9 halves—the north half served by AWC and the south half which will be served
10 by Picacho Water Company. This will require the construction of two water
11 campuses to serve the EJR Ranch instead of a single water campus. This
12 unnecessary doubling up of water infrastructure will increase costs to the
13 developer which will cause water rates to be higher than they would otherwise
14 need to be. Dr. Goldman will address the added infrastructure costs of two water
15 campuses versus one in his direct testimony.

16 In addition to the extra infrastructure costs, Cornman Tweedy would incur
17 added costs in dealing with AWC that it would not incur if its affiliate, Picacho
18 Water Company, provides the water service. For example, Cornman Tweedy
19 would incur the added costs of negotiating and administering a master agreement
20 and main extension agreement with AWC. Moreover, Cornman Tweedy would
21 incur added costs related to designing a water system to AWC's standards,
22 criteria and specifications, which vary from those of Picacho Water Company.
23 Cornman Tweedy would also incur added costs of modeling a water master plan
24 to the specifications of AWC, which vary from those of Picacho Water
25 Company. At Robson's SaddleBrooke Ranch project in southern Pinal County,
26 which is expected to open for sales in the winter of 2008, AWC is the water
27 provider. We believe that the additional costs of working with AWC have been
28 well in excess of \$100,000 and the project is not even open yet. These are costs

1 that will ultimately be borne by the ratepayers.

2 Beyond the added costs outlined above, Cornman Tweedy would
3 certainly experience time delays in dealing with AWC that it would not
4 experience dealing with its affiliate, Picacho Water Company, particularly in
5 light of the frustration Robson has already experienced in dealing with AWC on
6 its SaddleBrooke Ranch project discussed below. It is simply easier and more
7 efficient to deal with your own affiliate—one where you know the design
8 criteria, construction procedures, and business practices. This is particularly true
9 for Robson because the engineering, land department and utilities will report to
10 me. Robson has a well-established and successful track record of constructing
11 and operating water systems. We are very familiar and comfortable with our
12 design standards and engineering practices with respect to the design and
13 construction of water and wastewater systems. We have an excellent
14 compliance history with ADEQ who reviews and approves design plans and
15 specifications. Based on my personal experience, working with AWC is less
16 efficient, more costly, more time-consuming, and more frustrating, which
17 negatively impacts the ratepayers.

18 Second, if AWC is the water provider for the Cornman Tweedy Property,
19 Cornman Tweedy would lose the ability to integrate the water and wastewater
20 systems serving the property. Mr. Hendricks discusses the operational benefits
21 of integrated water and wastewater systems in his direct testimony. However, I
22 would like to say a few words about another significant benefit of an integrated
23 system—maximization of the use of reclaimed wastewater and conservation of
24 groundwater supplies.

25 **Q. HOW DOES INTEGRATING THE WATER AND WASTEWATER**
26 **SYSTEMS IN A DEVELOPMENT MAXIMIZE THE USE OF**
27 **RECLAIMED WASTEWATER AND CONSERVE GROUNDWATER AS**
28 **COMPARED TO UNAFFILIATED STAND-ALONE WATER**

1 **PROVIDERS?**

2 A. It is largely a matter of managing risk. So long as AWC has the CC&N to serve
3 the Cornman Tweedy Property, Picacho Sewer Company (or any other sewer
4 company for that matter) would not construct infrastructure to supply non-
5 potable uses within the Cornman Tweedy Property. This is because there is a
6 real risk that AWC could seek a rate below the Picacho Sewer Company rate for
7 reclaimed wastewater and take away customers from Picacho. Under such a
8 scenario, the delivery infrastructure constructed by Picacho Sewer Company
9 would be stranded investment. By comparison, if affiliates Picacho Water
10 Company and Picacho Sewer Company serve the Cornman Tweedy Property,
11 this risk of competition for non-potable customers is eliminated because Picacho
12 Water Company would never seek such a rate below that of Picacho Sewer
13 Company causing it to strand its investment. Picacho Sewer Company would
14 serve the non-potable uses within the Cornman Tweedy Property and Picacho
15 Water Company would provide potable water.

16 I would also add that AWC has only one product to sell—groundwater—
17 whereas the integrated Picacho utilities can sell potable water and reclaimed
18 wastewater. AWC has a financial incentive to maximize the sale of potable
19 water to customers within its CC&N, even if those customers could receive
20 reclaimed water.

21 **Q. WHY WERE PICACHO WATER COMPANY AND PICACHO SEWER**
22 **COMPANY ESTABLISHED AS SEPARATE LEGAL ENTITIES**
23 **INSTEAD OF A SINGLE ENTITY PROVIDING BOTH WATER AND**
24 **WASTEWATER SERVICE?**

25 A. Again, it is a matter of managing risk. The Picacho utilities were set up as
26 separate entities in the event that one or the other experienced financial hardship.
27 The assets of the sewer company are protected in the event of financial hardship
28 at the water company, and the assets of the water company are protected in the

1 event of financial hardship at the sewer company. However, the two companies
2 have overlapping ownership, management and employees, and they will be run
3 as an integrated utility provider. This is consistent with past practice at other
4 Robson affiliated utilities.

5 **Q. ARE THERE OTHER BENEFITS OF INTEGRATING THE WATER**
6 **AND WASTEWATER SYSTEMS THAT YOU WOULD LIKE TO**
7 **DISCUSS?**

8 A. Yes. Paul Hendricks will discuss the benefits of integrated utilities in his
9 testimony with respect to efficiently dealing with waste streams. In addition, I
10 would like to discuss the benefits of operating joint treatment facilities, and want
11 to discuss a real-life example of Robson's system at SaddleBrooke where one
12 treatment system solved both water and sewer issues instead of each utility
13 having to construct and operate independent treatment systems.

14 The water supplied by Lago del Oro Water Company at Robson's
15 SaddleBrooke development is high in dissolved oxygen which causes leaks in
16 the copper piping in homes and businesses. This problem was addressed by
17 installing a caustic soda feed system which coats the pipes and limits contact
18 with the water to the point where the leaks ceased. Once the leaks stopped, Lago
19 del Oro Water Company stopped operating the caustic soda feed system. A few
20 years later, ADEQ lowered the permitted level of copper discharge from the
21 wastewater treatment plan ("WWTP") and SaddleBrooke was at risk of
22 exceeding the discharge limit for copper. One option was to install treatment
23 capability at the WWTP to remove the copper. However, it was eventually
24 determined that Lago del Oro Water Company could restart the caustic soda feed
25 system and further coat the inside of the copper piping, thereby preventing
26 leaching of the copper into the wastewater. The use of the existing caustic soda
27 feed system at the water plant eliminates the cost of installing additional
28 treatment infrastructure at the WWTP to remove copper, which was estimated to

1 cost \$1,000,000. Integrated water and wastewater operations permit this type of
2 cooperative and cost effective approach to problem solving.

3 **Q. IS THERE ANY OTHER REASON WHY CORNMAN TWEEDY**
4 **OPPOSES INCLUDING THE CORNMAN TWEEDY PROPERTY IN**
5 **AWC'S CC&N?**

6 A. Yes. Robson's relationship with AWC is often frustrating and costly, as
7 evidenced by its SaddleBrooke Ranch development in southern Pinal County
8 where AWC is the water provider. Robson has had to deal with excessive costs
9 to ratepayers and higher costs to Robson, and unresponsiveness from time to
10 time. Robson simply does not have these kinds of issues when its integrated
11 utilities provide water and wastewater service to its developments.

12 **Q. WOULD CORNMAN TWEEDY PREFER THAT PICACHO WATER**
13 **COMPANY SERVE THE CORNMAN TWEEDY PROPERTY?**

14 A. Yes. For all of the reasons discussed in my testimony and the testimony of Dr.
15 Goldman and Mr. Hendricks, Cornman Tweedy would prefer that Picacho Water
16 Company serve the Cornman Tweedy Property.

17 **Q. IN YOUR OPINION, WHAT WEIGHT SHOULD BE GIVEN THE**
18 **DESIRES OF THE LANDOWNER WITH RESPECT TO THE UTILITY**
19 **PROVIDER WHICH WILL SERVE HIS OR HER PROPERTY?**

20 A. The desire of the landowner is not dispositive with respect to certifying the
21 utility providers that will serve the landowner's property, but should be given
22 appropriate weight under the circumstances of the case. Absent a clear public
23 interest reason for rejecting the desire of the landowner, the landowner's choice
24 of utility providers should be honored. The Commission has consistently
25 considered the desire of landowner in certifying utilities. For example, in
26 Decision 68453 (February 2, 2006) issued in the contested case involving AWC
27 and Woodruff Water Company (Docket No. W-04264A-04-0438), former
28 Commissioner Spitzer reiterated comments of Commissioner Gleason that the

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desire of a landowner is relevant in certificating a public utility to serve the landowner's property, stating: "Commissioner Gleason alluded to it very early that the property owner ought to have some say in how utility service is provided...the rights of the property owner ought to be accorded some degree of respect." *Transcript of Open Meeting* at 109 (Jan. 27, 2006).

Cornman Tweedy does not want AWC as its water provider for the Cornman Tweedy Property and there is no current need and necessity for water service. Absent a clear public interest reason to retain the Cornman Tweedy Property in the AWC CC&N, the property should be excluded.

Q. WHAT IS CORNMAN TWEEDY ASKING THE COMMISSION TO DO IN THIS PROCEEDING?

A. Cornman Tweedy requests that the Commission exclude the Cornman Tweedy Property from AWC's CC&N for the reasons that are stated in my testimony and the testimony of Dr. Goldman and Mr. Hendricks. The Cornman Tweedy Property is identified on Exhibit 2 attached to my testimony.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, thank you.

EXHIBIT 1

EXHIBIT 1

ROBSON WATER COMPANIES¹								
NAME	METERS	WELLS	PUMP YIELD (GPM)	GALLONS PUMPED	STORAGE CAPACITY	BOOSTER PUMPS	MAINS (LIN. FT.)	PLANT (OC LESS AD)
Lago Del Oro (Pinal)	6,184	17	8,175	943,632,000	1,836,000	30	426,896	\$8,500,343
Picacho (Pinal)	147	2	4,200	75,450,000	800,000	3	7,920	\$1,454,605
Pima Utility (Maricopa)	10,167	7	10,700	2,069,502,000	2,500,000	14	466,536	\$10,996,234
Quail Creek (Pima)	1,653	2	1,100	134,874,000	1,500,000	4	85,301	\$1,924,103
Ridgeview (Pinal)	126	2	1,280	155,212,000	Shared with Lago Del Oro		20,009	\$1,994,450
Santa Rosa (Pinal)	Not yet providing service to customers							
TOTAL	18,277	30	25,455	3,378,670,000	6,636,000	51	1,006,662	\$24,869,735

ROBSON WASTEWATER COMPANIES²								
NAME	CUSTOMERS	GALLONS TREATED	TREATMENT FACILITY	DESIGN CAPACITY (GPD)	LIFT STATIONS	FORCE MAINS (LIN. FT.)	COLLECTION MAINS (LIN. FT.)	PLANT (OC LESS AD)
Mountain Pass (Pinal)	Not yet providing service to customers							
Picacho (Pinal)	147	See note below	Sequential Batch Reactor	250,000	2	2,836	68,640	\$2,819,900
Pima Utility (Maricopa)	9,963	401,998,000	Sequential Batch Reactors	2,400,000	15	Included in collection mains	525,684	\$11,701,191
SaddleBrooke (Pinal)	4,488	160,438,000	M.L.E.	1,240,000	9	20,617	258,873	\$10,590,032
Santa Rosa (Pinal)	Not yet providing service to customers							
TOTAL	14,598	562,436,000	N/A	3,640,250	26	23,453	853,197	\$25,111,123

¹ All water company data based on Annual Reports for the year ended December 31, 2006.

² All water company data based on Annual Reports for the year ended December 31, 2006.

Note: Wastewater treatment plant commenced full-time treatment in 2007.

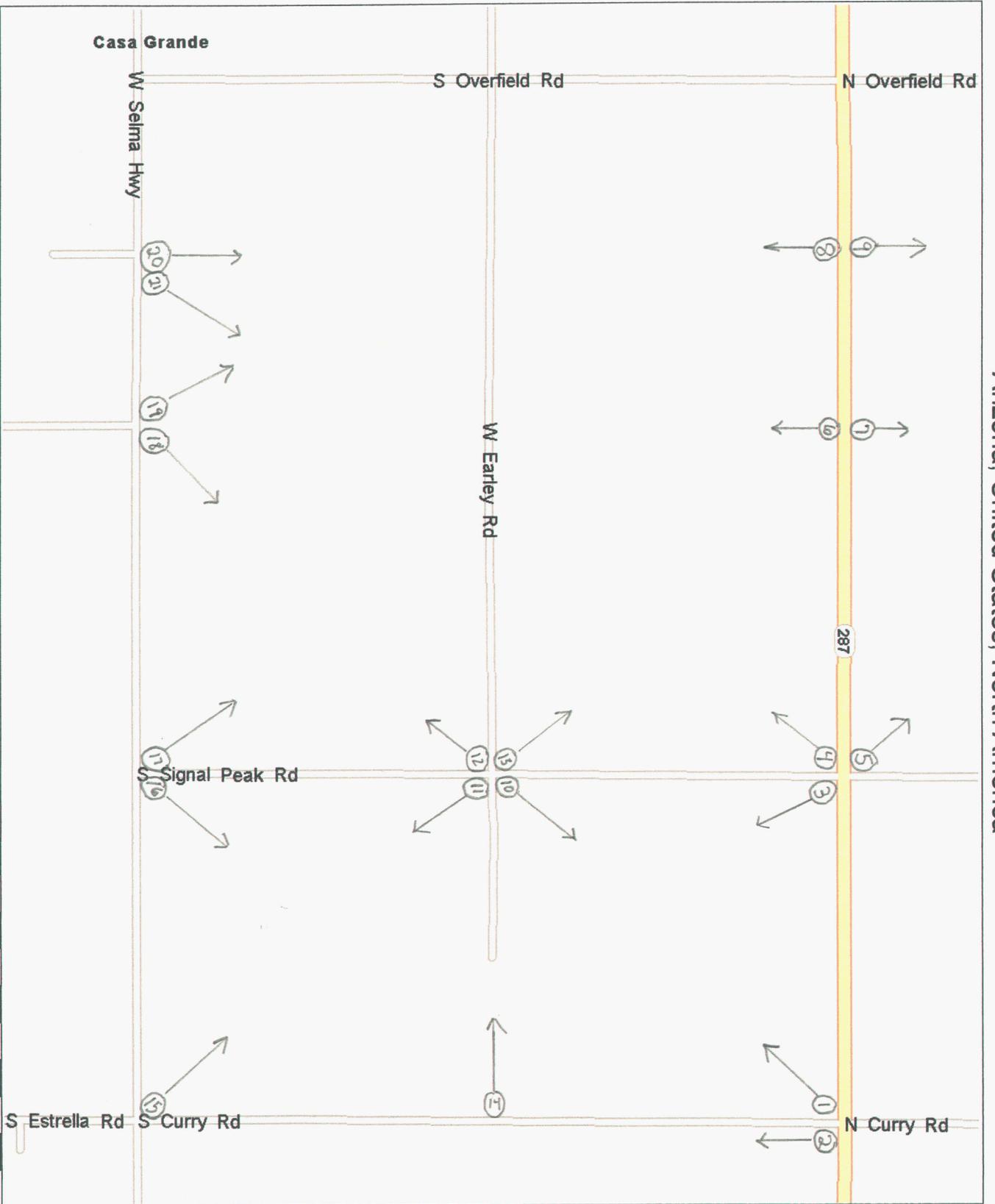
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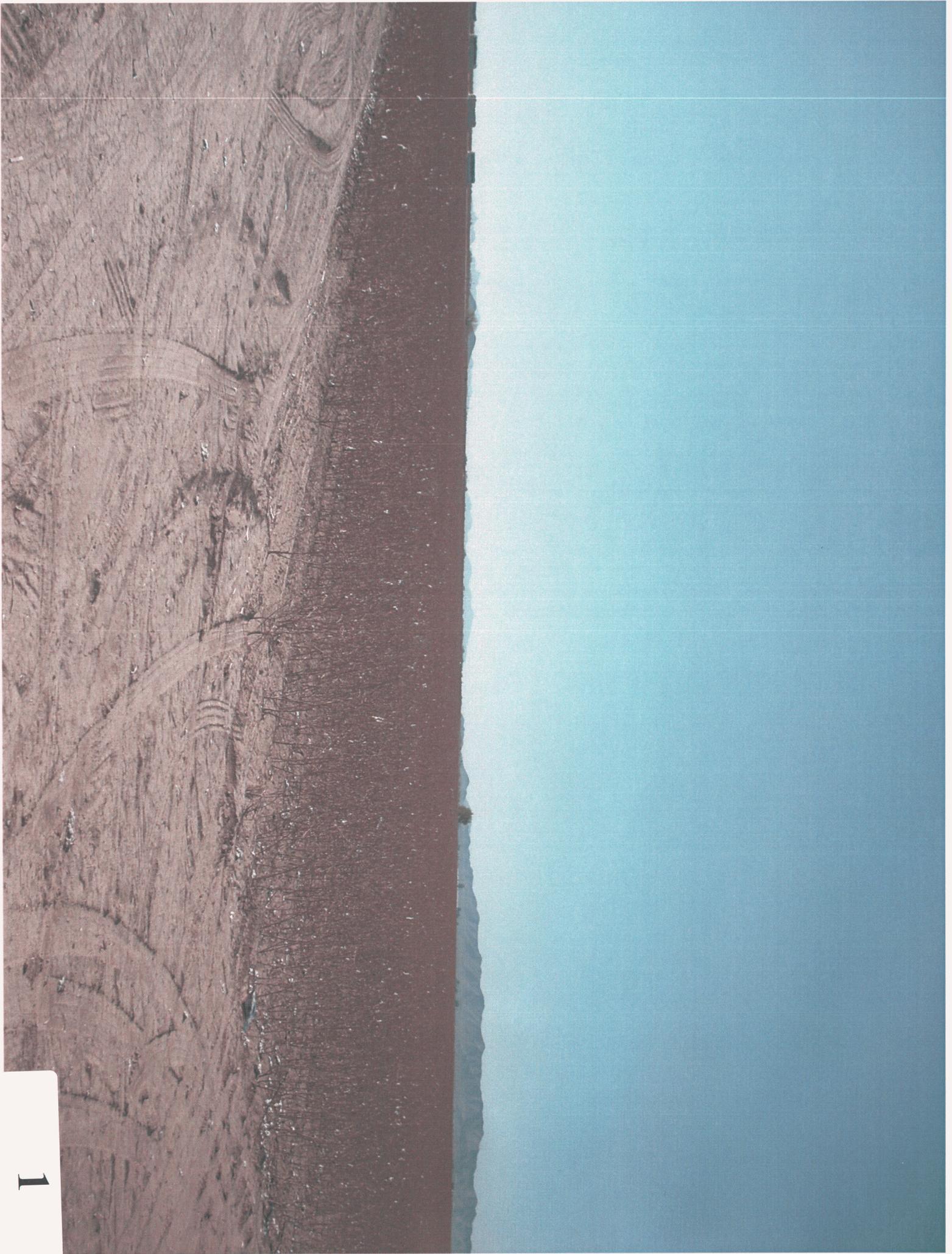
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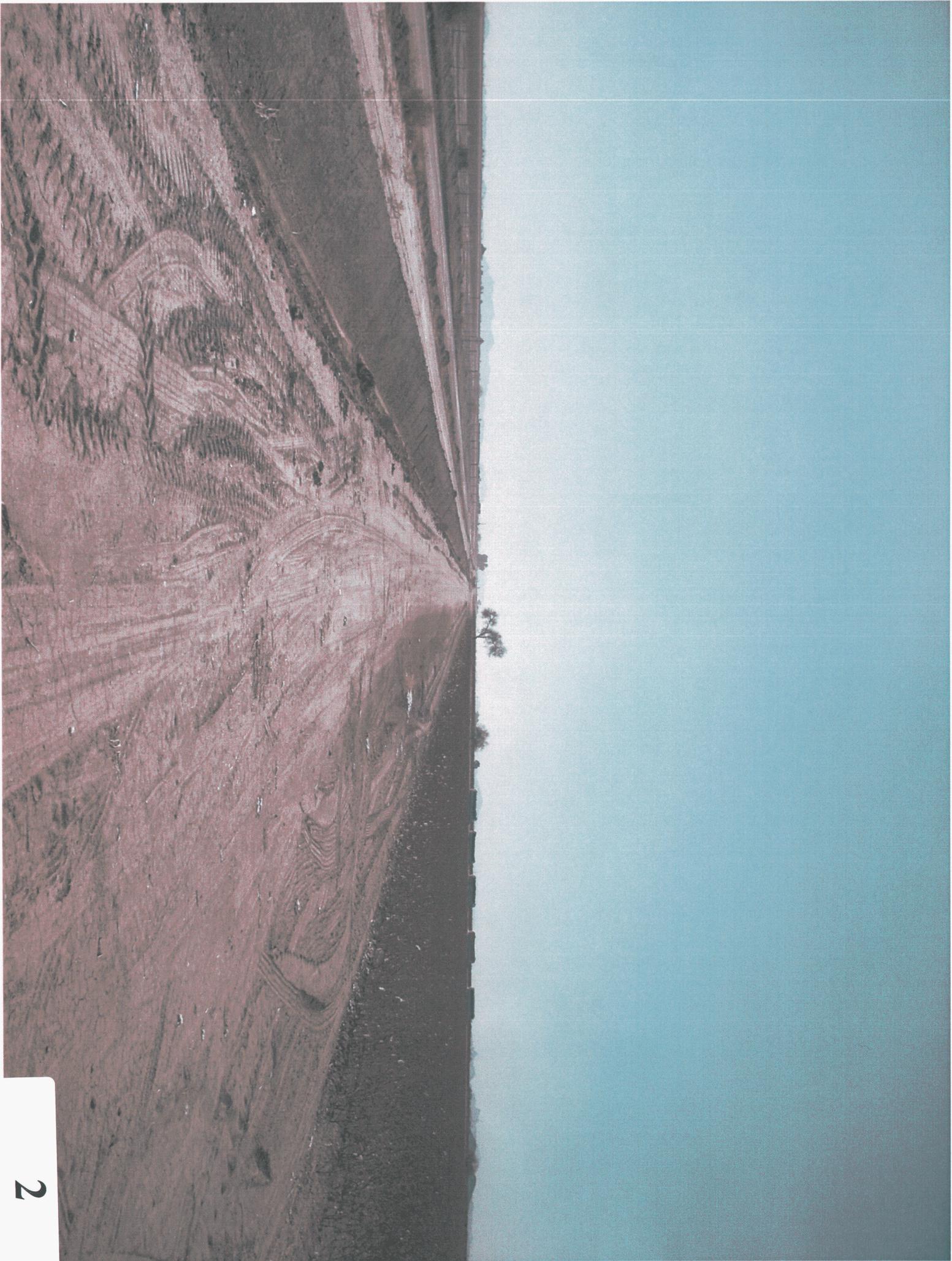
E.J.R. RANCH PICTURES

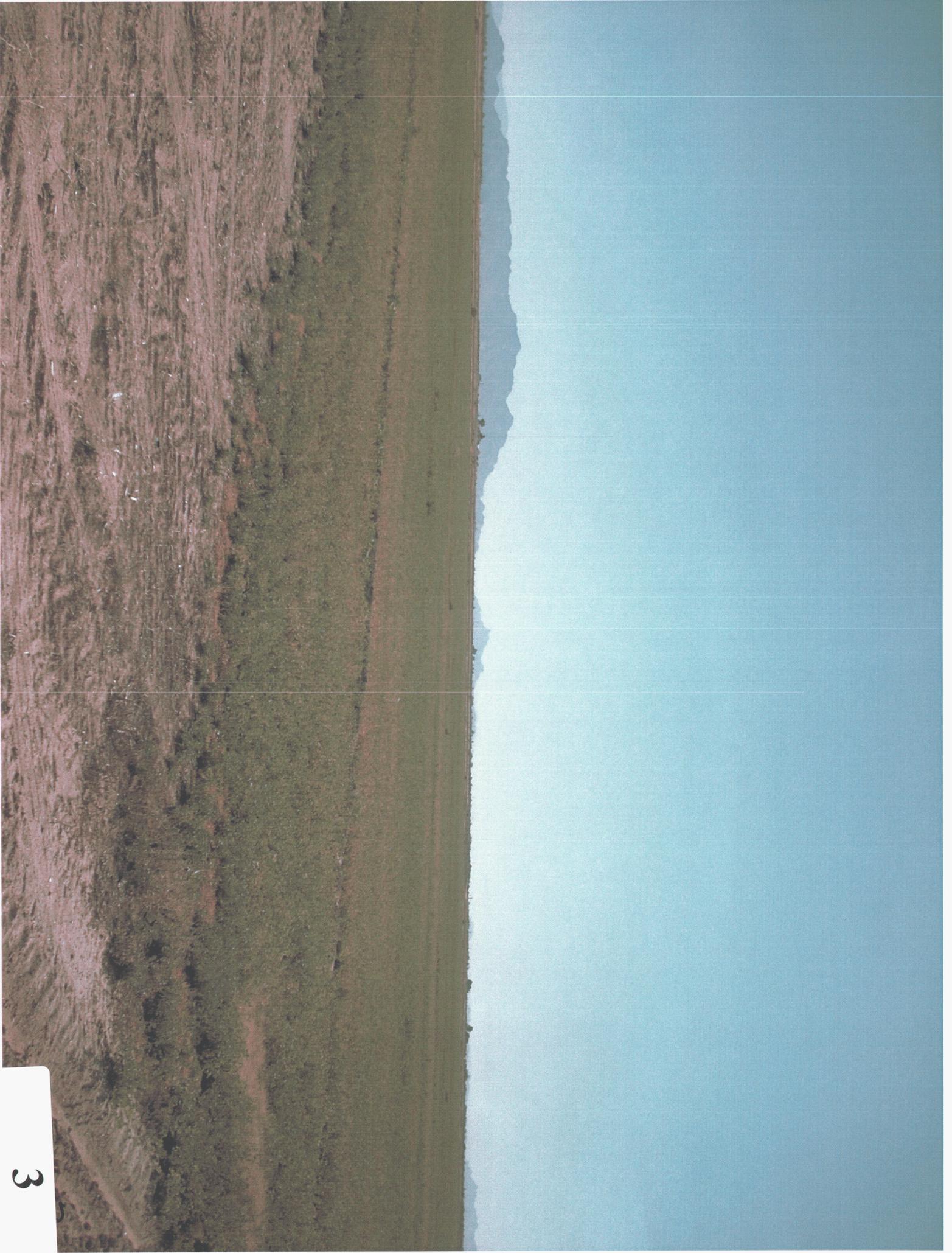
Picture No.	Location	Direction of View	GPS Coordinates
1	Curry Rd. and Florence Blvd.	Southwest	N32°52,776' W111°36,126'
2	Curry Rd. and Florence Blvd.	South	N32°52,776' W111°36,126'
3	Signal Peak and Florence Blvd.	Southeast	N32°52,768' W111°37,138'
4	Signal Peak and Florence Blvd.	Southwest	N32°52,768' W111°37,138'
5	Signal Peak and Florence Blvd.	Northwest	N32°52,768' W111°37,138'
6	1 Mi. West of Signal Peak on Florence Blvd.	South	N32°52,777' W111°38,654'
7	1 Mi. West of Signal Peak on Florence Blvd.	North	N32°52,777' W111°38,654'
8	1½Mi. West of Signal Peak on Florence Blvd.	South	N32°52,777' W111°38,208'
9	1½Mi. West of Signal Peak on Florence Blvd.	North	N32°52,777' W111°38,208'
10	Early Rd. and Signal Peak	Northeast	N32°51,907' W111°37,151'
11	Early Rd. and Signal Peak	Southeast	N32°51,907' W111°37,151'
12	Early Rd. and Signal Peak	Southwest	N32°51,907' W111°37,151'
13	Early Rd. and Signal Peak	Northwest	N32°51,907' W111°37,151'
14	Early Rd. and Curry Rd.	West	N32°51,974' W111°36,116'
15	Curry Rd. and Selma Highway	Northwest	N32°51,028' W111°36,133'
16	Signal Peak and Selma Highway	Northeast	N32°51,035' W111°37,161'
17	Signal Peak and Selma Highway	Northwest	N32°51,035' W111°37,161'
18	Toltec Buttes and Selma Highway	Northeast	N32°51,030' W111°38,208'
19	Toltec Buttes and Selma Highway	Northwest	N32°51,030' W111°38,208'
20	On Selma ½Mi. West of Toltec Buttes	North	N32°51,030' W111°38,600'
21	On Selma ½Mi. West of Toltec Buttes	Northeast	N32°51,030' W111°38,600'

Arizona, United States, North America









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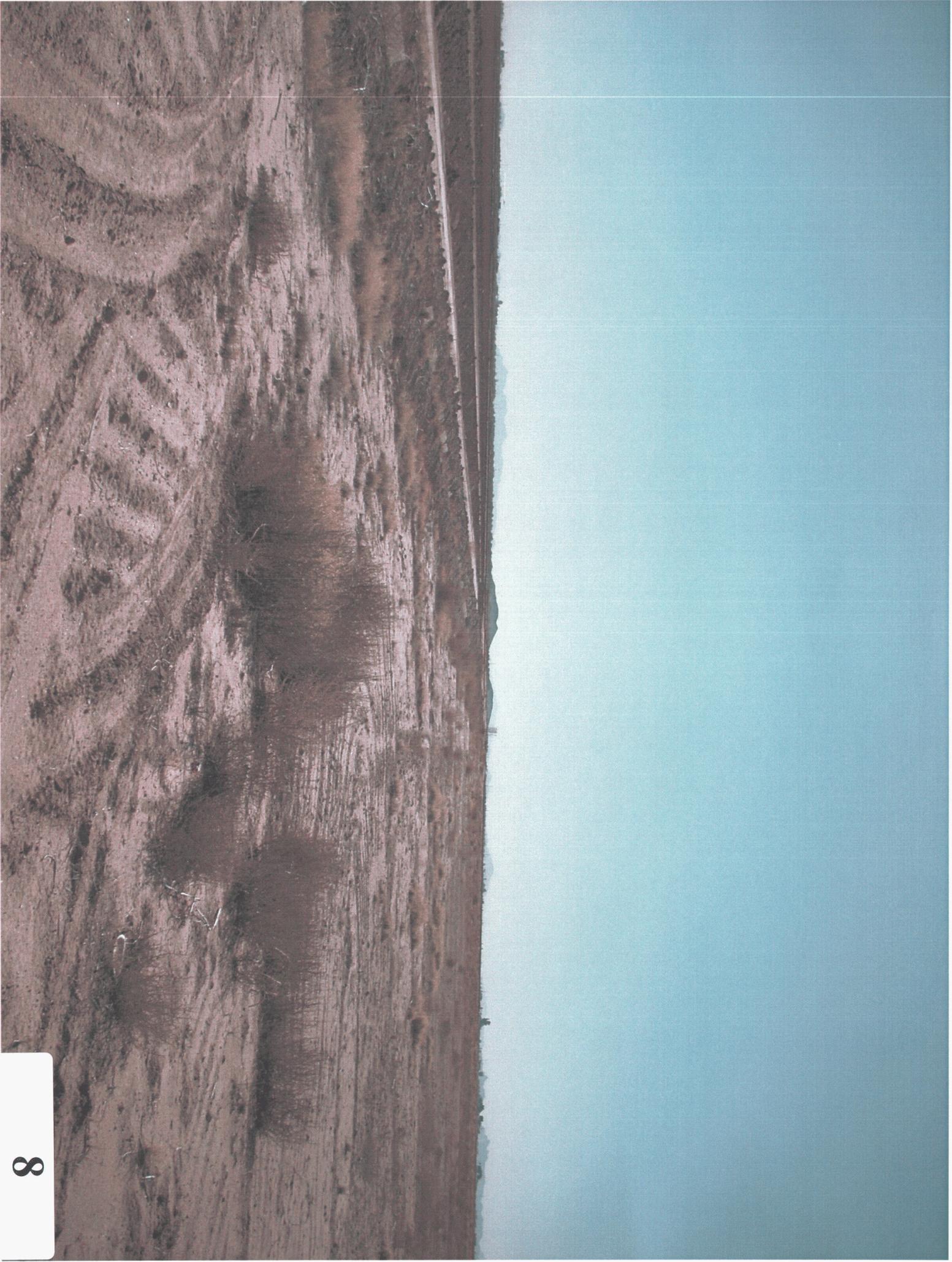


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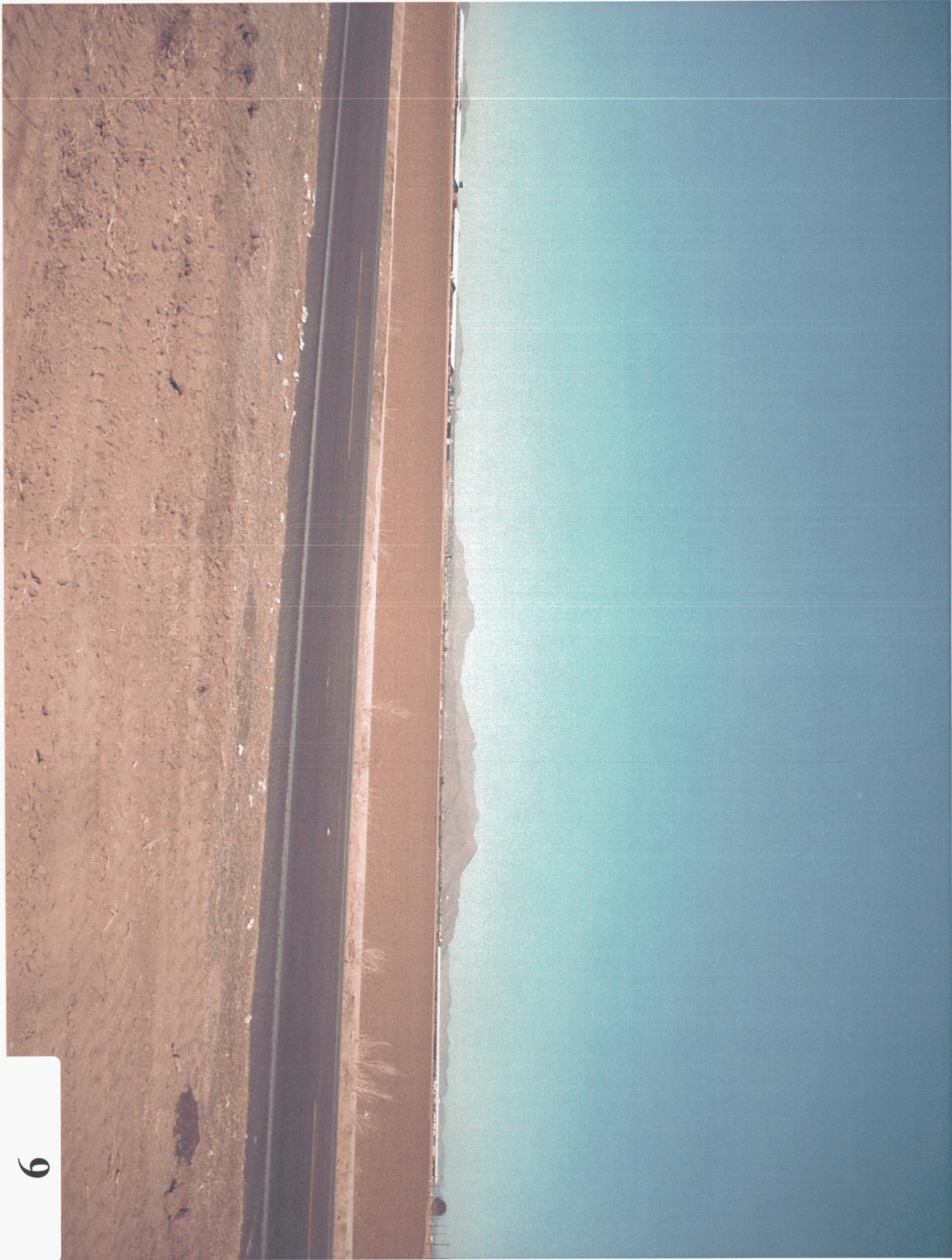




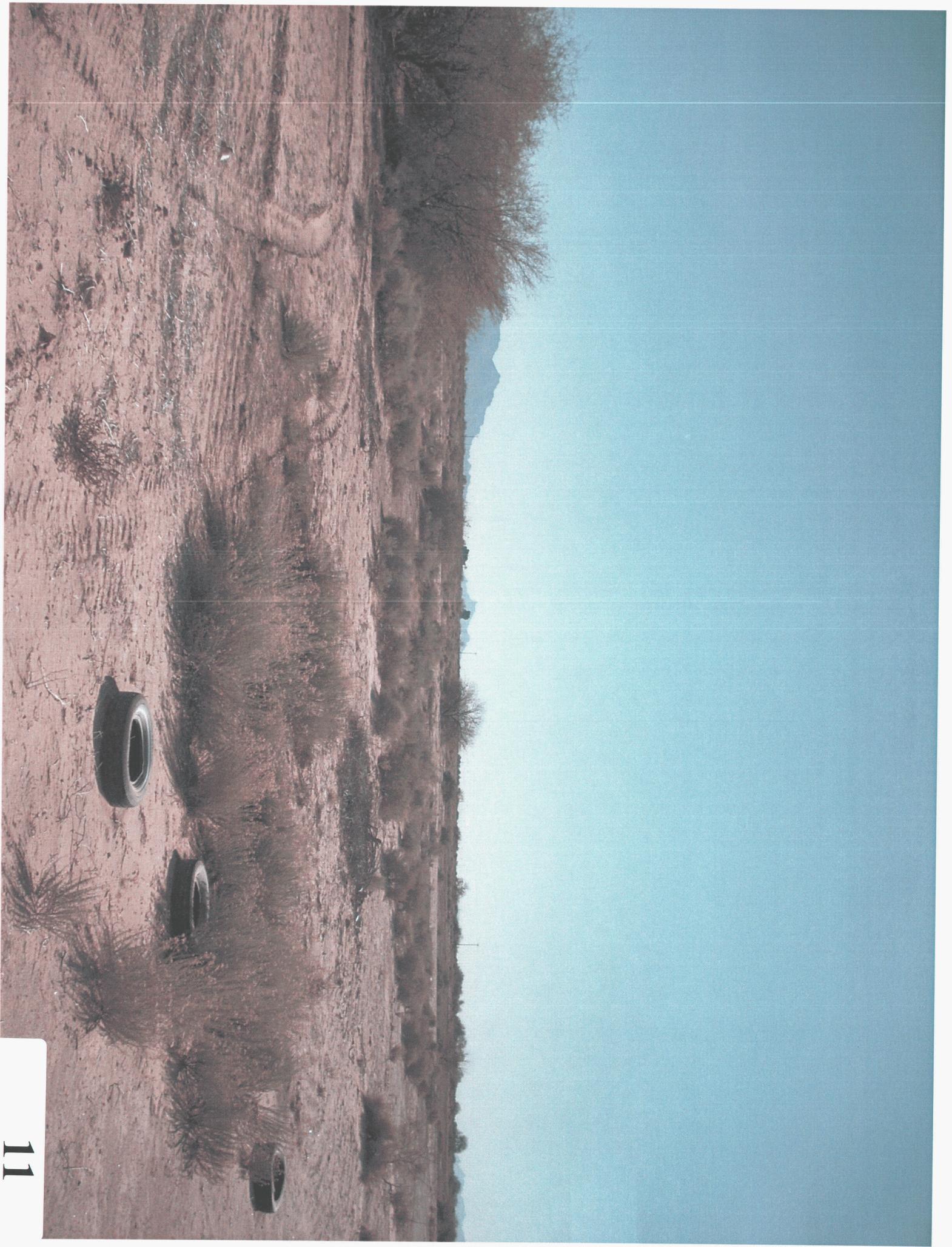
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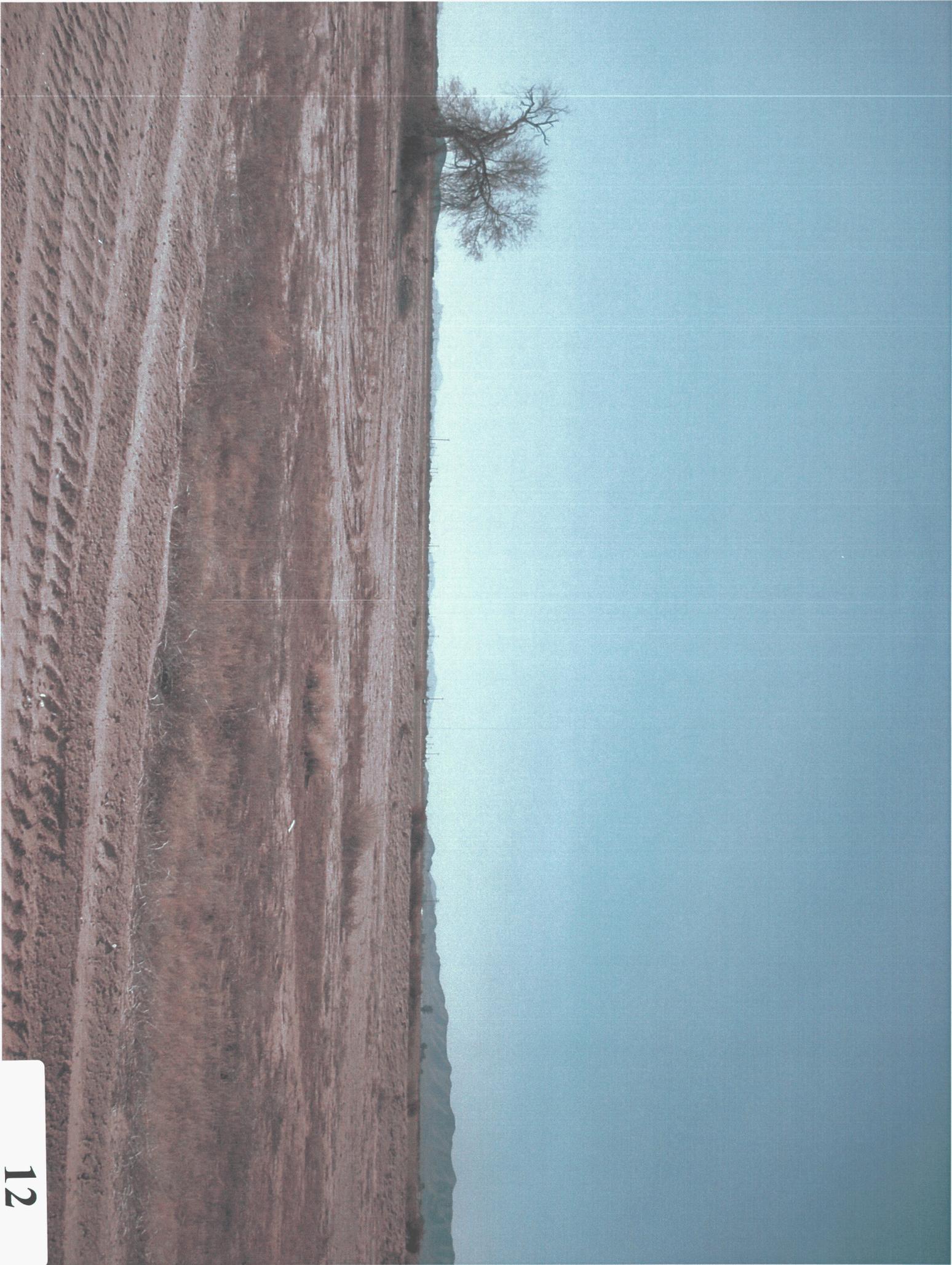


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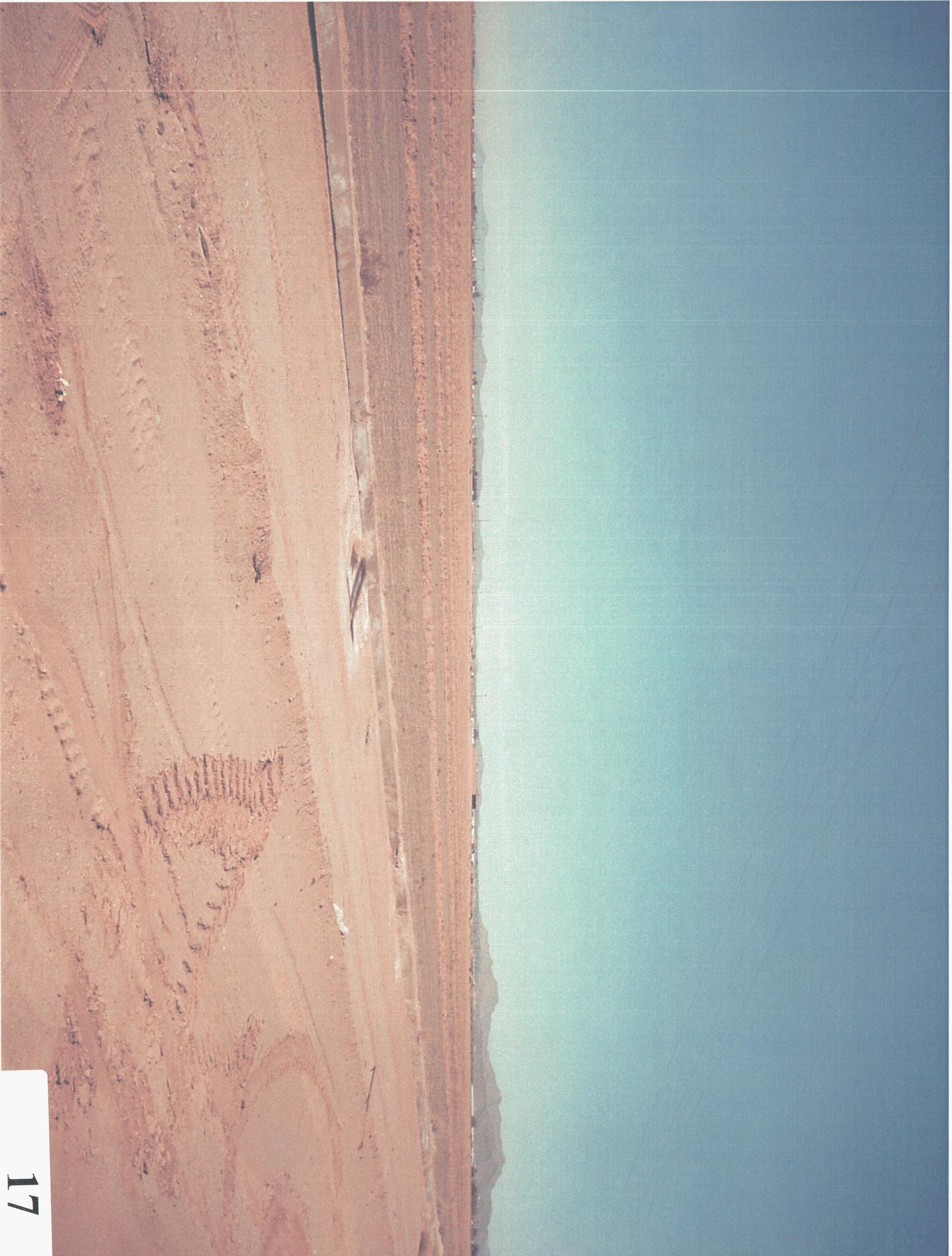






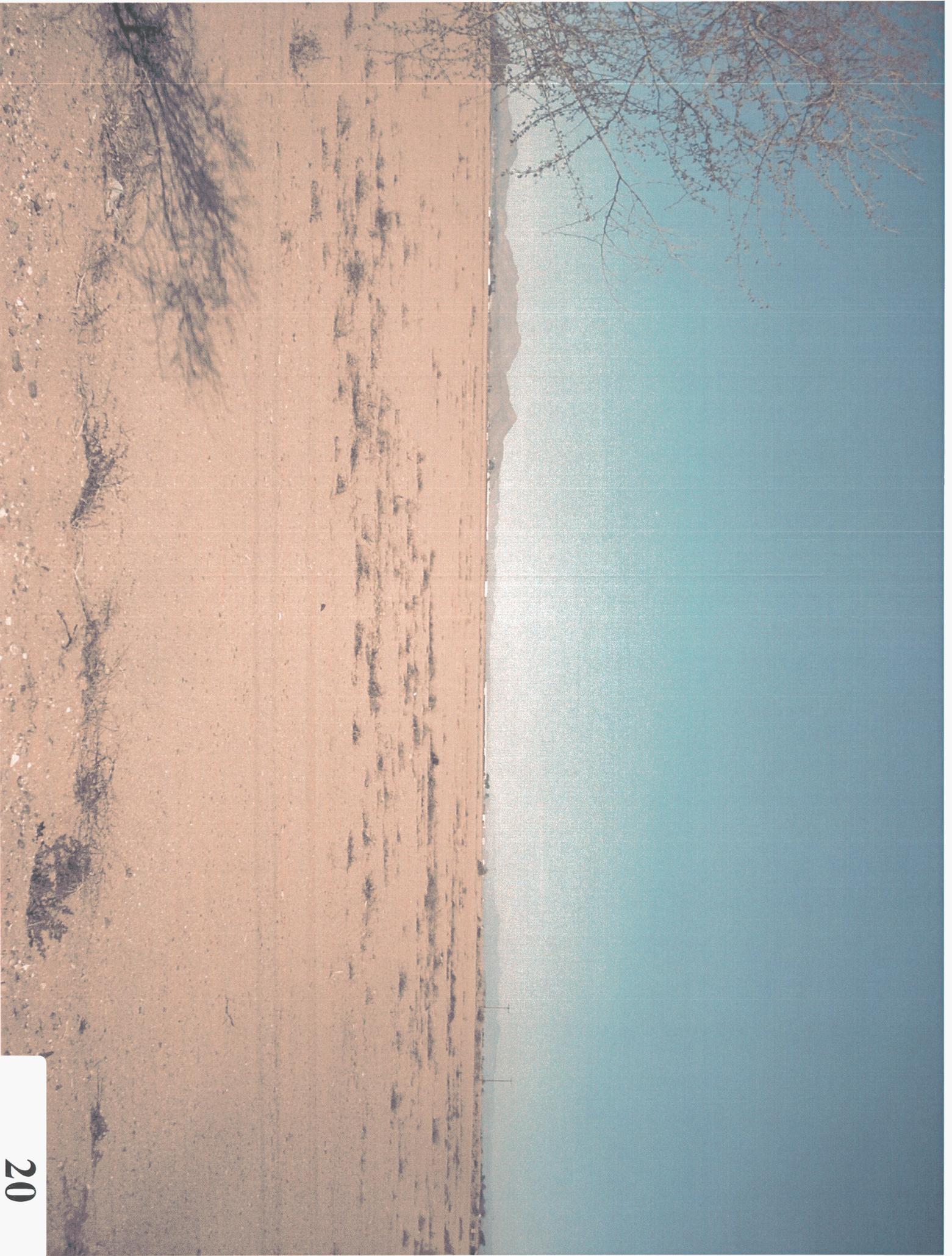














1 **BEFORE THE ARIZONA CORPORATION COMMISSION**

2
3 COMMISSIONERS

4 MIKE GLEASON – Chairman
5 WILLIAM A. MUNDELL
6 JEFF HATCH-MILLER
7 KRISTIN K. MAYES
8 GARY PIERCE

9 **IN THE MATTER OF THE APPLICATION**
10 **OF ARIZONA WATER COMPANY, AN**
11 **ARIZONA CORPORATION, TO EXTEND ITS**
12 **EXISTING CERTIFICATE OF**
13 **CONVENIENCE AND NECESSITY AT CASA**
14 **GRANDE, PINAL COUNTY, ARIZONA**

DOCKET NO. W-01445A-03-0559

15 **DIRECT TESTIMONY OF FRED E. GOLDMAN, PH.D, P.E., IN THE**
16
17 **REMAND PROCEEDING**
18
19 **ON BEHALF OF INTERVENOR**
20 **CORNMAN TWEEDY 560, L.L.C.**

21 **JANUARY 4, 2008**
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1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND**
2 **OCCUPATION**

3 A. My name is Fred E. Goldman. I am Vice President of Kennedy/Jenks Consultants.
4 Kennedy/Jenks is based in San Francisco, California. I am located at our office at
5 Suite 1150, 3003 North Central Avenue, Phoenix, Arizona 85003. I am a
6 Professional Civil Engineer. The majority of my work is in water and wastewater
7 management systems.

8 **Q. PLEASE DESCRIBE YOUR EDUCATION AND PROFESSIONAL**
9 **BACKGROUND.**

10 A. I have three degrees from Arizona State University. I have a Bachelors of Science
11 in Engineering, a Masters of Science in Civil Engineering and a Ph.D. in Civil
12 Engineering. My Ph.D. research was in the optimal operation of water distribution
13 systems. I have been a Registered Civil Engineer in the State of Arizona since
14 1978 and served on the State Board of Technical Registration from 2000 to 2003. I
15 am a member of the Adjunct Faculty at Arizona State University and have taught
16 Unit Operations in Water and Wastewater, a senior level course, three times. I
17 have served for ten years on the Civil Engineering Exam Committee of the
18 National Council of Examiners for Engineers and Surveyors, preparing the national
19 exam given to all registered civil engineers.

20 **Q. PLEASE DESCRIBE YOUR EXPERIENCE IN DESIGNING AND**
21 **EVALUATING WATER SUPPLY AND DISTRIBUTION SYSTEMS**

22 A. I have designed many wells, water storage tanks, booster pump systems and water
23 distribution systems in Arizona. I have also modeled many water systems and have
24 been involved in many projects performing value engineering for system
25 optimization. I recently supervised the study and evaluation of five water
26 companies in Western Maricopa County for Global Water Company. The work
27 included evaluating the water supply and water distribution systems and included
28

1 modeling the water distribution systems. My modeling team is currently
2 completing for the City of Phoenix, the Carver Mountain Master Plan for Water
3 and Sewer Facilities for the six square mile Laveen Area north of South Mountain.

4 **Q. HAVE YOU PERFORMED ENGINEERING DESIGN AND MODELING**
5 **WORK FOR ANY OF THE ROBSON COMPANIES?**

6 A. Yes. For Sun Lakes, I developed the overall wastewater management plan
7 including the planning for the wastewater treatment plant, the design of the
8 recharge and recovery wells and the permitting of the storage facility, recharge
9 wells and recovery wells. For SaddleBrooke Utility Company, I designed the
10 biological treatment facility for the wastewater treatment plant, assisted with the
11 overall wastewater and effluent management program, assisted on copper discharge
12 issues for the wastewater treatment plant and dealt with corrosion of copper piping
13 in the water supply system.

14 **Q. DO YOU ALSO HAVE SPECIFIC EXPERIENCE IN THE DESIGNING OF**
15 **INTERGRATED WATER AND WASTEWATER SYSTEMS?**

16 A. Yes. The most recent examples are for the City of Phoenix and the Carver
17 Mountain Master Plan for Water and Sewer Facilities for the six square mile
18 Laveen Area north of South Mountain mentioned above, as well as for the Town of
19 Marana. In addition, my wastewater work for Pima Utilities required a thorough
20 understanding of the integration of the water and wastewater systems.

21 **Q. DO YOU CONSIDER YOURSELF TO BE AN EXPERT IN THE FIELD OF**
22 **ENGINEERING DESIGN AND MODELING FOR WATER AND**
23 **WASTEWATER SYSTEMS?**

24 A. Yes I do.

25 ...

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27 ...

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1 Q. HAVE YOU EVER TESTIFIED IN PROCEEDINGS BEFORE THE
2 ARIZONA CORPORATION COMMISSION?

3 A. Yes. I have previously testified in Arizona Corporation Commission
4 ("Commission") rate proceedings for Pima Utility Company and Saddlebrooke
5 Utility Company.

6 Q. WHAT IS YOUR UNDERSTANDING OF THE PURPOSE OF THIS
7 REMAND PROCEEDING BEFORE THE COMMISSION?

8 A. It is my understanding that the purpose of this proceeding is to determine whether
9 property owned by Cornman Tweedy 560, L.L.C. (the "Cornman Property") which
10 was recently included in the Certificate of Convenience and Necessity ("CC&N")
11 of Arizona Water Company ("AWC") should be deleted from the CC&N as
12 Cornman Tweedy 560, L.L.C. does not wish to have its property included in
13 AWC's CC&N. It is also my understanding that in furtherance of making such a
14 determination, the Commission is looking to broadly examine the overall public
15 interest issues underlying service to the Cornman Property

16 Q. BASED UPON THIS UNDERSTANDING THAT YOU JUST DESCRIBED,
17 WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS
18 PROCEEDING?

19 A. The purpose of my testimony is to identify and address various public policy and
20 cost issues that arise from an engineering and design standpoint by splitting the
21 water service to EJR Ranch between two different water providers. When and if
22 the Cornman Property is developed and there is a need for water service, Cornman
23 would prefer that Picacho Water Company ("Picacho Water") would have the
24 opportunity to apply for a CC&N to provide the water service. Picacho Sewer
25 Company ("Picacho Sewer") already holds the CC&N for the Cornman Property
26 and all of EJR Ranch (which the Cornman Property is within.) If the Cornman
27 Property is not deleted from the AWC CC&N, Picacho Water will not have an
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1 opportunity to serve the Cornman Property which will result in EJR Ranch being
2 split between two different water providers.

3 **Q. PLEASE PROVIDE YOUR OPINION ON WHETHER PICACHO WATER**
4 **OR AWC SHOULD ULTIMATELY SERVICE THE CORNMAN**
5 **PROPERTY.**

6 A. I believe that it will be better for the future ratepayers if the Cornman Property is
7 served by the Picacho Water. Picacho Water and Picacho Sewer will be able to
8 provide not only integrated water and wastewater service, but will be able to do so
9 more efficiently and with a higher level of reliability than AWC.

10 **Q. HOW CAN PICACHO WATER SERVE WATER MORE EFFICIENTLY?**

11 A. Picacho Water CC&N includes approximately 4,600 acres in Pinal County. The
12 Cornman Property is about 1,138 and is adjacent to and immediately north of
13 Picacho Water's existing CC&N. (See attached Exhibit A.) Based upon my
14 review of AWC's Pinal Valley Water System Master Plan, if AWC services the
15 area, it will need to build an independent water supply system that is isolated from
16 its other systems while Picacho Water can integrate the water system for the
17 Cornman Property system into the rest of its system. This will provide substantial
18 savings in the number of wells required, the volume of water storage required and
19 the size of the water booster pump system. All these elements will result in an
20 installed water supply infrastructure that will be considerably less expensive to
21 build if the Cornman Property is served by the Picacho Water. The servicing of the
22 Cornman Property by AWC will result in substantial and unnecessary
23 infrastructure costs which will translate into higher rates for the ratepayer.

24 **Q. PLEASE EXPLAIN HOW PICACHO WATER PLANS TO SERVICE THE**
25 **CORNMAN PROPERTY.**

26 Picacho Water has developed a conceptual water supply plan for all of EJR Ranch
27 which includes the Cornman Property. Exhibit B, which is attached, shows how
28

1 the plan is to divide EJ Ranch into two service areas divided by Selma Highway
2 into the North and South service area. Each service area will have a centralized
3 water plant where storage and booster pump facilities will be located. Wells will
4 be located throughout the North and South service areas and will deliver raw water
5 to the storage tanks where it will be chlorinated. The booster pump system will
6 pump water into the distribution system.

7 **Q. HOW WILL YOU COMPARE SERVING THE CORNMAN PROPERTY**
8 **BY PICACHO WATER OR BY AWC?**

9 A. I will project the infrastructure required to service the area North of Selma
10 Highway with service to the Cornman Property area first by Picacho Water and
11 second by the AWC Company. I will then compare the projections to understand
12 the difference in physical plant requirements.

13 **Q. PLEASE CONSIDER THE NUMBER OF WELLS FIRST. HOW MANY**
14 **WELLS WILL PICACHO WATER NEED TO PROVIDE SERVICE TO**
15 **THE NORTH SERVICE AREA?**

16 A. Exhibit C, which is attached, shows the current planned location for the potable
17 wells to service the Picacho Water service area and the Cornman Property. Based
18 on an average well yield of 1,250 gpm, the North Service Area requires three wells
19 plus one backup well. Five potable wells are located north of Selma Highway and
20 only one is located north of Early Road inside the Cornman Property. The wells
21 located near Selma Highway will be piped to provide water to either Water Plant
22 No. 1 or Water Plant No. 2.

23 **Q. HOW DID YOU DETERMINE THE 1,250 AVERAGE WELL YIELD?**

24 A. The 1,250 average well yield is based upon a review of the existing wells in the
25 surrounding area.

26 ...

27 ...

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- 1 **Q. WHY HAVE YOU PROPOSED ONE WELL NORTH OF EARLY ROAD?**
- 2 A. Because most of the Cornman Property is within the San Carlos Irrigation Project
3 (“SCIP”) and new wells within SCIP are prohibited. Therefore, there are only
4 limited parcels where a new well can be located.
- 5 **Q. HOW MANY WELLS WILL PICACHO WATER NEED IF IT SERVICES**
6 **THE NORTH SERVICE AREA WITHOUT THE CORNMAN PROPERTY?**
- 7 A. Based on the average well yield of 1,250 gpm, Picacho Water will need two wells
8 and one backup, or a total of three wells.
- 9 **Q. HOW MANY WELLS WILL AWC NEED TO SERVICE THE CORNMAN**
10 **PROPERTY?**
- 11 A. Based on the same well yield, AWC will need two wells and one backup.
- 12 **Q. HOW MANY ADDITIONAL WELLS WILL BE DRILLED IF AWC WAS**
13 **TO PROVIDE THE SERVICE TO THE CORNMAN PROPERTY AND**
14 **WHAT WILL SUCH ADDITIONAL WELLS COST?**
- 15 A. Two extra wells will need to be drilled if the Cornman Property is serviced AWC.
16 Estimating \$1.2 million for a fully equipped new well, the extra cost to the
17 ratepayers would be approximately \$2,400,000 for the extra wells.
- 18 **Q. ARE THERE OTHER FACTORS THAT WILL MAKE PUMPING AND**
19 **THE SUPPLY OF WATER FROM WELLS MORE EXPENSIVE IF AWC**
20 **SERVICES THE CORNMAN PROPERTY?**
- 21 A. Yes. There are at least two factors that will make groundwater supply more
22 expensive if AWC serves the Cornman Property. One important factor to consider,
23 as noted above, is that wells cannot be drilled on any land within the SCIP. This is
24 because the property owners who joined SCIP gave up their rights to drill wells on
25 their property. Except for a 160-acre parcel, all the Cornman Property is in SCIP.
26 The closest land that is outside of SCIP is ¼ mile north of Florence Highway.
- 27
- 28

1 AWC would likely have to locate its wells at least 1/4 mile away from the Cornman
2 Property and install extra transmission pipe to deliver water to the storage tank.

3 Another important consideration is the volume of groundwater that will
4 need to be pumped. Picacho Sewer planned to deliver reclaimed water to irrigate
5 landscaped properties within the Cornman Property. To conserve groundwater, the
6 integrated Picacho utilities would require landscaped areas to be irrigated with the
7 reclaimed water. It is likely that AWC would sell groundwater for landscaping if it
8 provides water service to the Cornman Property. Picacho Sewer would not install
9 the infrastructure to deliver reclaimed water unless it was sure it would have
10 customers. I would expect that AWC will pump more groundwater than Picacho
11 Water since it will need to compensate for the lost reclaimed water supply.

12 The additional cost of connecting a well 1/4 quarter mile offsite to the
13 storage tank would be approximately \$130,000. In addition, the additional
14 pumping cost of delivering ground water as opposed to reclaimed wastewater
15 would be approximately \$16,000 per year if the groundwater is at 400 foot depth
16 below the ground surface, and, of course, the loss of 535 acre-feet of groundwater
17 per year.

18 **Q. HOW WILL WATER STORAGE BE IMPACTED?**

19 A. There is likely to be commercial property in EJR Ranch north and south of Early
20 Road. If EJR Ranch is served by one provider, the fire flow requirement for all of
21 EJR Ranch will be 2,625 gpm for four hours or a volume of 630,000 gallons. If,
22 however, EJR Ranch is split between two providers, the fire flow storage
23 requirement would be duplicated resulting in an additional cost of approximately
24 \$400,000.

25 ...
26 ...
27 ...

1 Q. WOULD YOU EXPLAIN IF THE REQUIRED BOOSTER PUMP
2 CAPACITY WILL BE IMPACTED IF THERE IS MORE THAN ONE
3 PROVIDER?

4 A. Yes. By splitting EJR Ranch between two providers, the required booster pump
5 capacity for the fire flow will also need to be doubled resulting in an additional
6 cost of approximately \$250,000 which includes the extra electrical service and the
7 extra standby power.

8 Q. PLEASE ADDRESS HOW THE PICACHO SEWER PROGRAM OF
9 RECLAIMED WATER MANAGEMENT USING ASR WELLS ENHANCES
10 THE PRESERVATION OF GROUNDWATER RESOURCES AND MEETS
11 PINAL COUNTY AND STATE OF ARIZONA WATER RESOURCES
12 GOALS.

13 A. Picacho Water and Sewer and Pima Utility Company in Sun Lakes have
14 overlapping principals and management. In 1997, Pima Utility Company installed
15 the first Aquifer Storage and Recovery ("ASR") wells in Arizona which I designed.
16 During the summer, all the reclaimed water in Sun Lakes is for irrigation, but
17 during the winter and parts of the fall and spring, reclaimed water production
18 exceeds the demand in Sun Lakes. The excess reclaimed water was recharged
19 directly into the aquifer using the ASR wells. Recovery wells were identified that
20 were hydrologically connected with the ASR wells and, together with the ASR
21 wells, supplied groundwater, classified as recovered reclaimed water during the
22 summer months when demands exceed the supply. The aquifer is used as a storage
23 reservoir. I would note, however, that deposits to the aquifer exceed withdrawals
24 so there is a net increase in the reclaimed water recharged to the aquifer. The ASR
25 wells continue to operate successfully in Sun Lakes.

26 Picacho Water and Picacho Sewer plan to manage reclaimed water produced
27 by the wastewater treatment plant in the same manner by supplementing reclaimed
28

1 water with recovered water recharged during the winter and parts of the summer
2 and spring. This method of reclaimed water management meets the goals of Pinal
3 County and the Arizona Department of Water Resources (“ADWR”) to protect and
4 preserve valuable and limited groundwater resources. Recently the legislature
5 enacted modifications to the enabling law for Active Management Areas (SB 1557
6 – 48th Legislature – First Session) which substitutes adoption of “Conservation
7 Measures” by water providers for the old “gallons per capita per day goals”
8 approach. There is no doubt that maximizing the direct reuse and recharge of
9 reclaimed water instead of pumping groundwater is consistent with the public
10 policy underlying the legislation.

11 **Q. PLEASE EXPLAIN HOW ASR WELLS AND RECOVERY WELLS ARE**
12 **RELATED.**

13 A. For a recovery well to “recover” recharged reclaimed water, it must be
14 hydrologically connected to the recovery well. ADWR defines “hydrologically
15 connected” to be one mile unless a hydrogeologic study can demonstrate
16 hydrologic connection.

17 **Q. WILL THERE BE COST SAVINGS IN THE DESIGN PHASE IF PICACHO**
18 **WATER SERVICES THE CORNMAN PROPERTY?**

19 A. Yes. If, the Picacho Water serves the Cornman Property, Picacho Water will be
20 able to develop Water Plant No. 2 (*see Exhibit 2*) to serve all of the North Service
21 Area. If AWC serves the Cornman Property, this will result in the construction of
22 one water plant by AWC to serve the Cornman property and the construction of a
23 separate water plant to serve the south half of the North Service Area. This
24 construction of two water plants versus one will mean additional costs because of
25 the duplication of wells, storage tanks, booster pumps, treatment facilities and
26 transmission piping. I conservatively estimate these extra design costs to be on the
27 order of \$200,000.
28

1 **Q. WILL THERE BE SAVINGS IN CONSTRUCTION COSTS IF PICACHO**
2 **WATER SERVICES THE CORNMAN PROPERTY?**

3 A. Yes. As also noted in my testimony above, if AWC services the Cornman
4 Property, there will be a need to construct one extra water plant which includes
5 storage tanks and booster pumps which is a very significant extra construction cost.
6 The extra land for the duplicative facilities will cost approximately \$500,000.

7 **Q. ARE THERE ANY SYSTEM RELIABILITY ISSUES THAT CONCERN**
8 **YOU?**

9 A. Yes. It is my opinion that that the water system serving the Cornman Property area
10 will be more reliable if served by the Picacho Water. If served by Arizona Water,
11 the Cornman Property will be an "island facility" because it is located three miles
12 from AWC's existing facilities. Although AWC has plans to service its Pinal
13 Service Area in an integrated water system, that system will not be completed for
14 many years. On the other hand, Picacho Water would have two water plants on
15 line when the Cornman Property begins development.

16 Also, I would note that the EJ Ranch and Robson Ranch properties are
17 very flat. There is only 77 ft. of elevation difference from Florence Highway at the
18 north end to the southern extreme. This means that the entire area could be
19 serviced by one pressure zone. Either water plant could provide water to the entire
20 area through looped distribution lines. This duplication of facilities provides a
21 level of reliability that cannot be matched by AWC until some time in the far
22 future.

23 **Q. WILL THE DESIGN OF WATER AND SEWER FACILITIES IN THE**
24 **CORNMAN PROPERTY BE MORE EFFICIENT IF PICACHO WATER**
25 **PROVIDES THE WATER SERVICE?**

26 A. Yes. Design is more efficient if Picacho Water serves the Cornman Property.
27 Picacho Water and Picacho Sewer use the same engineering company for utility
28

1 design throughout Robson Ranch and EJR Ranch. If AWC serves the Cornman
2 Property, AWC's engineers will need to review all the water designs. Besides the
3 double effort in having a second review, there is likely to be extra work in the
4 original design because the companies are likely to have different standards. I have
5 come across this problem in work carried out in Buckeye where a private water
6 company reviewed plans and required modifications. I have also reviewed plans
7 prepared by a developer's engineer on behalf of a utility and had to require many
8 modifications to the original design. The extra engineering translates into an extra
9 cost. I would estimate that extra cost to be approximately \$100,000 for an
10 infrastructure as large as required for the Cornman Property. Also, AWC can take
11 many months to do their reviews that can delay projects. These extra costs have to
12 be adsorbed by the developers and ultimately paid by the homeowner in the cost of
13 their home.

14 **Q. DR. GOLDMAN, WOULD YOU PLEASE SUMMARIZE YOUR**
15 **TESTIMONY?**

16 A. Although AWC could technically serve the disputed area with an "island facility",
17 that facility, when compared to service by Picacho Water, will result in
18 approximately \$4 million of extra costs for the ratepayer at a lower level of
19 reliability and would preclude the use of Water Conservation Measures available to
20 Picacho Water.

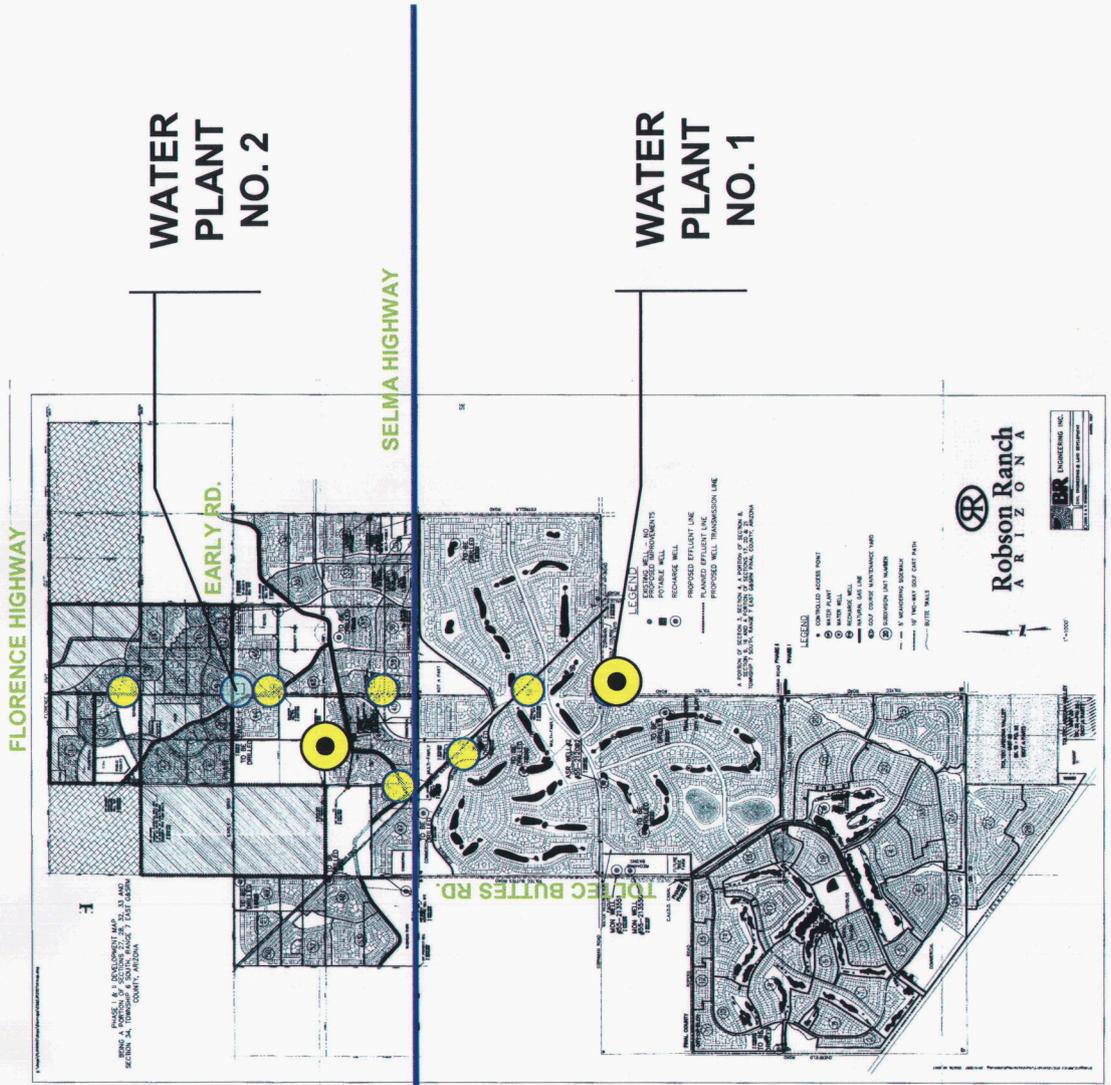
21 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

22 A. Yes.
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EXHIBIT A

EXHIBIT B

EXHIBIT C



NORTH SERVICE AREA

SOUTH SERVICE AREA

POTABLE WELL LOCATION

POTABLE WELL THAT HAS BEEN TESTED AND ADEQ APPROVED OR PENDING ADEQ APPROVAL

EXHIBIT C – PICACHO POTABLE WATER WELLS

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

MIKE GLEASON – Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

**IN THE MATTER OF THE APPLICATION
OF ARIZONA WATER COMPANY, AN
ARIZONA CORPORATION, TO EXTEND ITS
EXISTING CERTIFICATE OF
CONVENIENCE AND NECESSITY AT CASA
GRANDE, PINAL COUNTY, ARIZONA**

DOCKET NO. W-01445A-03-0559

DIRECT TESTIMONY OF PAUL S. HENDRICKS

IN THE REMAND PROCEEDING

ON BEHALF OF INTERVENOR

CORNMAN TWEEDY 560, L.L.C.

JANUARY 4, 2008

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND**
2 **OCCUPATION.**

3 A. My name is Paul Hendricks. I am a Board Member of the Central Arizona Water
4 Conservation District ("CAWCD") and also a member of EUSI, LLC, which
5 provides operational consulting services for water and wastewater utilities. My
6 business address is 19002 N 21st Avenue, Phoenix, Arizona, 85027.

7 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL**
8 **BACKGROUND.**

9 A. I have an undergraduate degree in environmental science from John Wesley
10 College, and a Masters Degree in public administration from Central Michigan
11 University. I am a certified operator for water and wastewater systems. I have
12 nearly 38 years of business experience, most of which has involved developing,
13 planning, permitting, constructing, operating and managing water and wastewater
14 systems. I have managed systems as large as the City of Phoenix and as small as
15 a system for a shopping center. A more detailed recitation of my background and
16 experience is attached as Exhibit 1 which I hereby incorporate as part of my
17 direct testimony.

18 **Q. DO YOU CONSIDER YOURSELF TO BE AN EXPERT IN MATTERS**
19 **RELATING TO THE OPERATION OF WATER AND WASTEWATER**
20 **SYSTEMS?**

21 A. Based upon my 38 years of experience as described above an in Exhibit 1, I
22 consider myself to be an expert in my field.

23 **Q. PLEASE DESCRIBE EUSI, LLC'S BUSINESS.**

24 A. EUSI, LLC ("EUSI") is a Phoenix-based company specializing in professional
25 environmental utility consulting, management and operational services. EUSI is
26 a company that has been providing services in this capacity for over 20 years to
27 meet the needs of growing water and wastewater utility systems.

28

1 In 1985, the principal of EUSI recognized that there would be a significant
2 increase in the number and complexity of utility facilities throughout the country.
3 After a careful review of the environmental regulations, a business plan was
4 formulated to meet the environmental regulation, operational, maintenance, and
5 organizational requirements of new and existing facilities. Under the current
6 regulations, certified and registered professionals are required to meet the
7 environmental mandates which have been adopted. EUSI has an available and
8 experienced staff for evaluation and strategic planning for utilities, design,
9 financing, rate studies, construction, start-up, environmental compliance, odor
10 assessment and mitigation, laboratory services and operational services. In
11 addition, EUSI has agreements with professionals who provide services including
12 engineering, aquatic biology, water quality assessment, odor assessment and
13 mitigation, laboratory work, electrical and electronic, mechanical maintenance,
14 public participation consulting, lake management and construction management.
15 These agreement give EUSI access to more than 200 professionals to ensure
16 effective project development, program management, construction
17 administration, management services, environmental compliance and inspection,
18 start-up and operation of the facilities which are under contract with EUSI. EUSI
19 also provides computerized supervisory and data acquisition systems, as well as
20 operation and maintenance record management services. These services ensure
21 accurate and timely control of water and wastewater systems and provide reports
22 which meet the requirements of the regulatory agencies.

23 EUSI performs work for clients in the areas of design review, operations
24 manuals, system evaluation and troubleshooting, start-up assistance and start-up
25 training. EUSI has reviewed the designs for water and wastewater facilities
26 including effluent reuse plants in several communities throughout the southwest.
27 Personnel associated with EUSI have operated water projects and wastewater
28

1 treatment facilities with capacities ranging from 10,000 to 153,000,000 gallons
2 per day. These facilities range in complexity from basic reservoir operations to
3 advanced treatment facilities with total effluent reuse, energy recovery, reverse
4 osmosis and computerized control. EUSI provides state certified laboratory
5 services for our clients and performs the necessary compliance analysis for the
6 facilities that are operated under contract.

7 **Q. PLEASE IDENTIFY SOME OF THE CLIENTS FOR WHICH EUSI HAS**
8 **PROVIDED SERVICES.**

9 A. EUSI has provided services to the following clients: Boulders Carefree Sewer
10 Corporation, Salt River Pima-Maricopa Indian Community, Smith and Loveless,
11 Inc., Taliesin West, Estes Development Company, Lake Havasu City, Loral
12 Defense Corporation, City of Avondale, City of Surprise, City of Glendale, City
13 of El Mirage, City of Prescott, City of Goodyear, Cave Creek Sewer Company,
14 Cave Creek Water Company, City of Buckeye, Town of Sedona, Town of
15 Florence, Surprise Sewer Company, Flagstaff Ranch, City of Tempe, Robson
16 Communities, Sunny Boy Water Company, Cave Creek Water Company,
17 Arizona-American Water Company, Goldman and Associates, Franzoy Corey
18 Engineers, John Carollo Engineers, Fountain Hills Sanitation District, Arizona
19 Department of Environmental Quality, Entrada Del Oro Sewer Company, State of
20 Arizona Lewis Prison Complex, State of Arizona Kartchner Cavern Parks, Del
21 Webb/Pulte Homes, Johnson Utilities Company, Pivotal Development, Lyle
22 Anderson Development Company, Arizona Department of Administration at the
23 Grand Canyon Airport and the Mirador apartment lift-station.

24 Additionally, our personnel have performed several facility evaluations for
25 major facilities throughout the United States.

26 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE ARIZONA**
27 **CORPORATION COMMISSION?**

1 A. No. This is my first time testifying before the Commission.

2 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS**
3 **REMAND PROCEEDING?**

4 A. In Decision 69722, the Commission ordered further proceedings on remand to
5 determine whether AWC should continue to hold a CC&N for the Cornman
6 Tweedy Property. The Commission ordered that the proceedings "be broad in
7 scope so that the Commission may develop a record to consider the overall public
8 interest underlying service to the Cornman property." (Decision 69722 at p. 20, ¶
9 104). In the direct testimony of Mr. Poulos, he identified five public policy issues
10 that should be addressed in this case. One of those issues is whether integrated
11 water and wastewater systems and providers better serve the public interest. The
12 purpose of my direct testimony is to discuss the operational benefits and cost
13 savings that integrated water and wastewater systems provide.

14 **Q. MR. HENDRICKS, PLEASE DESCRIBE THE OPERATIONAL**
15 **BENEFITS THAT INTEGRATED WATER AND WASTEWATER**
16 **SYSTEMS PROVIDE AS COMPARED TO STAND-ALONE SYSTEMS?**

17 A. There are several very important benefits which I describe below.

- 18 • **INTEGRATION ENABLES THE WATER PROVIDER TO ASSIST**
19 **THE SEWER PROVIDER IN COLLECTING PAST DUE**
20 **BALANCES.**

21 There are no provisions in the sanitary sewer design for shut-off valves or
22 meters. A stand-alone sewer provider does not know how much sewage is
23 coming from a particular customer without the water meter records. In addition
24 the only way to shut off sewer service for an unpaid account is to dig up the
25 sewer line and physically disconnect the customer from the system. However,
26 this does not stop a customer from using water, as the water supply has not been
27 shut off. If the customer continues to use water in the house when the sewer has
28 been disconnected, this will result in a serious health hazard. The sewer drains

1 will back up into the residence or commercial building and spill raw sewage onto
2 the floor or out into the street and neighboring property. The raw sewage can
3 then come in contact with humans and wildlife. Most areas drain to a storm
4 sewer or retention area, which can cause contamination of groundwater and
5 "discharges" to the "Waters of the United States." There are significant fines of
6 up to \$25,000 per day for such discharges.

7 I have personal experience with the difficulty of collecting delinquent
8 debts by a stand-alone sewer company. Arizona Water Company ("AWC"),
9 which does not operate integrated water and wastewater systems, will not shut off
10 water service to customers of Entrada del Oro who do not pay sewer bills. EUSI
11 provides contract operation and maintenance services for this system. The owner
12 of this system has requested that AWC shut off water service if a sewer customer
13 is not paying his or her sewer bill. AWC has advised that it cannot shut off water
14 service to a water customer who does not pay a sewer bill. If enough sewer
15 customers are delinquent in paying their sewer bills, the stand-alone sewer
16 company will face financial jeopardy.

17 • **INTEGRATION PROMOTES THE PUBLIC POLICY OF**
18 **MANAGING GROUNDWATER, A PRECIOUS RESOURCE.**

19 If there is an integrated water and wastewater system, the effluent will be
20 recharged thus reducing the amount of precious groundwater needed for new
21 development. AWC, for example, does not have access to effluent and must
22 provide new water to meet the needs of the ratepayers. The CAGR D is
23 responsible for replenishing groundwater for new development. The goal of
24 sustainability in the Plan of Operation for the CAGR D includes reclaimed
25 wastewater recharge. Without reclaimed wastewater recharge, the CAGR D Plan
26 of Operations is not viable. If separate water companies are allowed to expand
27 their service areas rather than expansion by integrated systems, which can use
28 effluent for recharge and replenishment of the groundwater, added demands are

1 placed on limited groundwater supplies. The Arizona Department of Water
2 Resources (“ADWR”) understands this issue and has set limits on the amounts of
3 groundwater mining in the Pinal AMA. The use of reclaimed wastewater limits
4 the amount of groundwater pumped and, therefore, reduces the replenishment
5 obligation of the CAGR, which helps with the long-term sustainability of the
6 Plan of Operations.

7 A non-integrated sewer provider may not construct reuse lines to areas
8 served by unaffiliated water providers because there is no certainty that reclaimed
9 wastewater will be sold where potable water is available. This forces companies
10 like AWC to pump groundwater to provide potable water for irrigation. This is
11 an unnecessary competition for groundwater which should be used for potable
12 purposes and therefore discouraged.

13 An integrated provider can control the customers' use of reclaimed
14 wastewater for non-potable uses. Storage and recovery credits from the recharge
15 of effluent by the sewer provider are available to the water provider in an
16 integrated operation.

- 17 • **INTEGRATION PROVIDES GREATER FLEXIBILITY IN**
18 **DESIGNING TREATMENT SYSTEMS AND ADDRESSING**
19 **WASTE STREAMS WHICH PROMOTES MORE COST-**
20 **EFFECTIVE COMPLIANCE WITH ENVIRONMENTAL**
21 **STANDARDS.**

22 *Copper* - At SaddleBrooke, for example, the water was aggressive in
23 nature and had copper levels that exceeded the effluent standards for the
24 wastewater treatment plant. Copper removal at the wastewater plant is very
25 expensive. Because of the integrated system, the water utility was able to feed a
26 low cost stabilizing chemical into the water system that controlled the levels of
27 copper entering the wastewater system. As a result, the sewer company
28 ratepayers did not have the burden of costly treatment at the wastewater plant to

1 meet regulatory requirements. This resolution is not possible with a separate
2 water and sewer company.

3 *Fluoride* - The treatment of groundwater that has high fluoride levels is
4 most economically performed for groundwater with high fluoride using a reverse
5 osmosis treatment process. This produces a waste stream that has to be processed
6 in a separate wastewater treatment system such as an evaporation pond or other
7 capital and operation and maintenance intensive brine management systems. The
8 residuals from this process are then taken to a landfill. In an integrated system
9 this waste stream can, in many cases, be discharged to the sewer system and more
10 economically treated at the wastewater treatment plant. This avoids the capital,
11 operation, and maintenance costs associated with a duplicate wastewater
12 treatment plant. The net result of this is a lower cost to the rate payer. AWC
13 would have to plan, design, permit, capitalize, operate and maintain a separate
14 waste treatment system for any waste stream produced by a groundwater
15 treatment system used to achieve potable standards.

16 *Total Dissolved Solids ("TDS")* - The treatment of groundwater that has high
17 (TDS) levels is most economically performed for groundwater with high TDS
18 using a Reverse Osmosis treatment process. This produces a waste stream that
19 has to be processed in a separate wastewater treatment system such as an
20 evaporation pond or other capital intensive brine management systems. The
21 residuals from this process are then taken to a landfill. In an integrated system
22 this waste stream can, in many cases, be discharged to the sewer system and more
23 economically treated at the wastewater treatment plant. This avoids the capital,
24 operation, and maintenance costs associated with a duplicate wastewater
25 treatment plant. The net result of this is a lower cost to the rate payer. AWC
26 would have to plan, design, permit, capitalize, operate and maintain a separate
27
28

1 waste treatment system for any waste stream produced by a groundwater
2 treatment system used to achieve potable standards.

3 • **INTEGRATION PROVIDES ENHANCED SECURITY.**

4 *Intrusion* - Integrated systems have the benefit of economies of scale when
5 it comes to security issues. The integrated system only requires one Supervisory
6 Control and Data Acquisition ("SCADA") system for both the water and
7 wastewater systems. This SCADA master is a very expensive component of a
8 modern utility. In an integrated system, these costs are shared between the water
9 and sewer companies. In a non-integrated system, there are duplicate costs for
10 capital, operation and maintenance of the SCADA systems.

11 *Response* - Integrated systems have the benefit of economies of scale when
12 it comes to responding to issues that may arise. The integrated system will have
13 shared personnel who are cross-trained, on-site and available to respond to
14 incidents. The integrated system will have personnel who work at the wastewater
15 treatment plant each day, where a separate water company is not required to have
16 daily checks on a water system of this size. Even with a modern SCADA system,
17 the response time from a remote operator is likely to be much longer and results
18 in greater risks to the safety and security of the public water supply. In a non-
19 integrated system, there are duplicate costs for personnel, capital, operation and
20 maintenance of the security systems.

21 *Emergency Response* - Integrated systems have the benefit of economies
22 of scale when it comes to emergencies. The integrated system will have shared
23 personnel who are cross-trained, on-site and available to respond to incidents.
24 The equipment for excavating and repairing water distribution systems and sewer
25 collection system components can be used for both systems. Without an
26 integrated system, all personnel, equipment and support facilities are duplicated.
27 This duplication not only costs the ratepayers more, but it can also lead to less
28

1 capabilities in a separate system, as the economies of scale and rate base in a
2 separate system do not enable the utility to have as much emergency equipment
3 and personnel available to respond when the emergency arises. The response
4 time for emergencies from a separate water system will likely be longer from a
5 remote operator. This results in greater risks to the safety and reliability of the
6 public water supply. If a main breaks and is not responded to immediately, there
7 are added risks of unsafe water due to contamination and low water pressure.
8 During this period, there is also a greater risk of inadequate fire protection. If the
9 water emergency is not resolved in a timely manner, the system damage is
10 magnified and can cost substantially more to repair. These costs are passed onto
11 the ratepayer. In a non-integrated system, there are duplicate costs for personnel,
12 capital, operation and maintenance of the emergency response equipment
13 systems.

14 • **INTEGRATION IMPROVES CUSTOMER CONVENIENCE BY**
15 **PROVIDING "ONE-STOP SHOPPING".**

16 *Improved Customer Service* - Integrated systems have the benefit of
17 economies of scale when it comes to customer services. The integrated system
18 will have shared personnel who are cross-trained, on-site and available to respond
19 to customer service requests and system incidents. The personnel and equipment
20 for supporting water systems and sewer systems are similar and can be used for
21 both systems. Without an integrated system, all personnel, equipment and
22 support facilities are duplicated. This duplication not only costs the ratepayers
23 more, but it can also lead to less capabilities in a separate system as the
24 economies of scale and rate base in a separate system do not enable the utility to
25 have as much equipment and personnel available to respond when the need arises.
26 The response time for customer requests from a separate water system will likely
27 be longer. This is likely to result in greater risks to the safety and reliability of
28 the public water supply. If a customer has a service line break, and is not

1 responded to immediately, there are added risks of unsafe water due to
2 contamination and low water pressure. If the water emergency is not resolved in
3 a timely manner, the system damage is magnified and can cost substantially more
4 to repair. These costs are passed on to the ratepayers.

5 *Service Establishment, Termination and Blue Staking* - Integrated systems
6 have the benefit of economies of scale when it comes to service establishment,
7 termination, and Blue Staking. The integrated system will have shared personnel
8 who are cross-trained, on-site and available to provide a high level of service to
9 the ratepayer. The equipment and personnel for service establishment,
10 termination and Blue Staking can be used for both systems. Without an
11 integrated system, all personnel, equipment and support facilities are duplicated.
12 This duplication not only costs the ratepayers more, but it can also lead to less
13 capabilities in a separate system as the economies of scale and rate base in a
14 separate system do not enable the utility to have as much capacity to serve the
15 needs of the ratepayer. The response time for service establishment, termination
16 and Blue Staking from a separate water system will likely be from a remote
17 operator. This is likely to be much longer response time which results in greater
18 costs. The law requires a utility to Blue Stake a utility system if there is any
19 planned excavation on the area. With separate systems, each utility company will
20 send a separate truck and personnel to mark the utility. In an integrated system,
21 the sewer and water lines are Blue Staked at the same time. This reduces costs to
22 the ratepayer and provides a higher level of certainty for the location the utility
23 lines. If the marking is not done in time and accurately, there is a potential for
24 damage to the system which can interrupt service to the ratepayers and lead to
25 costly repairs of the system. In a non-integrated system, there are duplicate costs
26 for personnel, capital, operation and maintenance of the service establishment,
27 termination and Blue Staking functions.

- 28 • **INTEGRATION AND CONSOLIDATION CREATE EFFICIENCIES.**

1 The duplication of water storage, booster stations, as well as separate sites
2 for treatment equipment, as discussed in Dr. Goldman's testimony, should the
3 groundwater require well head treatment to meet potable standards, will increase
4 cost to the ratepayer. In an integrated system, these facilities as well as facilities
5 for the sewer company, can be located on the same site, thereby further reducing
6 the cost of land and associated support facilities such as electrical services.

7 In some cases, the groundwater is better in one area than another area. In
8 an integrated system that is larger, the best groundwater can be developed for the
9 service area. In addition to this, an integrated system can manage aquifer water
10 storage and withdrawal to enhance water quality and reduce the potential for
11 costly well head treatment.

12 **Q. IN YOUR OPINION, ARE THERE COST BENEFITS OF AN**
13 **INTEGRATED WATER AND WASTEWATER SYSTEM OVER STAND-**
14 **ALONE SYSTEMS?**

15 **A.** Yes. They are as follows:

- 16 • **INTEGRATED SYSTEMS SAVE MONEY IN THE DESIGN AND**
17 **CONSTRUCTION PHASES.**

18 As discussed in more detail in the Direct Testimony of Dr. Goldman,
19 efficiencies of coordinated construction of water and sewer systems for integrated
20 systems has the benefit of economies of scale when it comes to planning,
21 permitting, designing, constructing and commissioning new facilities. The
22 engineering and construction of new water lines can be done at the same time as
23 the sewer lines in an integrated system. All of these functions are duplicated in
24 separate systems. With separate systems, the roadway removal and replacement
25 is done twice along with separate engineering and construction. It is common to
26 spend 25-35% of the project cost on professional fees and overhead. This
27 duplication not only costs the ratepayers more, but it can also lead to less
28 capabilities in a separate system as the economies of scale and rate base in a

1 separate system do not enable the utility to have as much capacity to serve the
2 needs of the system.

3 • **INTEGRATED SYSTEMS ARE LESS EXPENSIVE TO OPERATE.**

4 *Cost of Operation* - An integrated system provides the opportunity to
5 consolidate purchasing of chemicals and delivery of commodities used by the
6 utility. With separate systems, there is no opportunity to consolidate purchasing.
7 This duplication increases costs to the ratepayer. Training of personnel in an
8 integrated system is more efficient than in a separate system. This savings not
9 only reduces cost to the ratepayer, but creates a safer work environment for the
10 employees. With safer work practices through more effective training, the risk of
11 damage to system components and to ratepayers' private property is reduced. In
12 an integrated system, the personnel performing routine operation and
13 maintenance work can perform this work on both the water system and sewer
14 systems simultaneously. In many cases these systems can be co-located which
15 further reduces ratepayer costs.

16 *Shared Employees, Shared Certified Operators and Superintendents* -
17 Integrated systems have the benefit of economies of scale when it comes to
18 qualified operation and maintenance personnel. The integrated system will have
19 personnel certified in both water and wastewater. A superintendent can cost more
20 than \$100,000 per year. In an integrated system, these costs are shared between
21 the water ratepayer and the sewer ratepayer. In a separate system, there is a
22 superintendent for each system. The integrated system will have personnel at all
23 levels which are dual certified. With the high cost of labor and benefits, an
24 integrated system can save hundreds of thousands of dollars in salaries and
25 benefits through integrated system staffing. The integrated system will be large
26 enough to have locally based personnel thereby reducing travel costs and
27 response time.
28

1 *Shared Office Space, Vehicles and Equipment* - Integration improves
2 utilization of equipment and support systems. Integrated systems have the benefit
3 of economies of scale. The integrated system will use the same office and
4 support staff for both the water and sewer systems. The equipment for excavating
5 and repairing water distribution systems and sewer collection system components
6 can be used for both systems. Without an integrated system, all personnel,
7 equipment, and support facilities are duplicated. This duplication not only costs
8 the ratepayers more, but it can also lead to less capabilities in a separate system as
9 the economies of scale and rate base in a separate system do not enable the utility
10 to have as much equipment and personnel to serve the ratepayer. The response
11 time for customer services from a separate water system will likely be longer
12 from a remote operator. If a main breaks and is not responded to immediately,
13 there are added risks of unsafe water due to contamination and low water
14 pressure. During this period there is risk of inadequate fire protection. In a non-
15 integrated system, there are duplicate costs for personnel, capital, operation and
16 maintenance.

17 *Reduced Treatment Costs Through Integrated Design and Operation* -
18 Integration can reduce treatment costs when there is a requirement for well head
19 treatment to meet the potable standards for drinking water. Some treatment
20 systems that are used to treat a groundwater supply that have high arsenic,
21 fluoride, or TDS produce a waste stream that has to be processed in a separate
22 wastewater treatment system and then taken to a landfill. In an integrated system
23 this waste stream can, in many cases, be discharged to the sewer system and more
24 economically treated at the wastewater treatment plant. This avoids the capital,
25 operation and maintenance costs associated with a duplicate wastewater treatment
26 plant. The net result of this is a lower cost to the ratepayer.

1 AWC would have to plan, design, permit, capitalize, operate and maintain
2 a separate waste treatment system for any waste stream produced by a
3 groundwater treatment system used to achieve potable standards. The
4 opportunity to co-locate and co-operate treatment systems for potable and
5 sanitary purposes will reduce the overall costs to the ratepayers. Integrated
6 systems have the benefit of economies of scale when it comes to treatment
7 systems. The integrated system will have more personnel who are locally based
8 to support the treatment systems. The sewer company is already required to have
9 personnel on site on a daily basis. In an integrated system that needs potable
10 water treatment, the potable treatment system can be operated with the same
11 personnel as the sewer treatment systems. The nature of the equipment for the
12 water system and sewer system components is similar. Without an integrated
13 system. all personnel, equipment, and support facilities are duplicated. This
14 duplication not only costs the ratepayers more, but it can also lead to less
15 capabilities in a separate system as the economies of scale and rate base in a
16 separate system do not enable the utility to have as much equipment and
17 personnel available to respond to operational issues.. The response time for
18 operational issues from a separate water system will likely be longer from a
19 remote operator. This is likely to result in greater risks to the safety and
20 reliability of the public water supply when the treatment systems are not
21 functioning properly. During this period, there is risk of inadequately treated
22 water being delivered to the public. If the issue is not resolved in a timely
23 manner, the system can shut down or cause damage that is magnified over time
24 and can cost substantially more to repair. These costs are passed onto the
25 ratepayer. In a non-integrated system, there are duplicate costs for personnel,
26 capital, operation, and maintenance of the systems.

1 Q. MR. HENDRICKS, WHAT WOULD YOUR EXPERT OPINION BE GIVEN A
2 CHOICE BETWEEN A PROVIDER THAT HAS AN INTEGRATED WATER
3 AND WASTEWATER SYSTEM AND TWO SEPARATE WATER AND
4 WASTEWATER PROVIDERS THAT EACH OWN AND OPERATE THEIR
5 OWN SYSTEMS?

6 A. Based upon my experience and involvement with respect to both integrated and stand-
7 alone water and wastewater systems, as well as for the reasons described in my testimony
8 above, given a choice, an integrated water and wastewater provider is always preferable
9 to two separate stand-alone providers and should be encouraged whenever possible.

10 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

11 A. Yes, thank you.
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EXHIBIT 1

RESUME

Paul S. Hendricks
19002 North 21st Avenue
Phoenix, Arizona 85027
Ph 623-582-8560
Fax 623-581-0929

CAREER OBJECTIVE: Manage Environmental Programs

PERSONAL DATA: Born January 3, 1949, Married,
4 children, excellent health,
Christian, numerous hobbies, pilot.

EDUCATIONAL BACKGROUND: 1980: Central Michigan University
Masters Degree
Business Administration

1978: John Wesley College
Bachelors Degree
Environmental Science

PROFESSIONAL EXPERIENCE:

June 1993 EUSI, Consultant

Develop rate study and costs of system operation for water and wastewater systems.

Consult on water well design and development.

Review operation of new wells and booster stations.

Assessment of water and wastewater utility operations.

Evaluate project performance as compared to schedules and project budget.

Review engineering designs and prepare start up plans and budgets for water and wastewater facilities.

Represent cities on utility management and expansion and review engineering designs, monitor startup plans for Water & Wastewater Facilities.

Perform facility inspections and make recommendations on fiscal management and operational and maintenance changes that improve permit compliance and reduce costs.

Prepare sludge disposal plans and secure State and County permits for operation.

Staff and train personnel at Water Reclamation Facilities including two contracts for project and equipment start up at the City of Los Angeles, Hyperion treatment plant.

Prepare multi-year services contracts for system management.

Set up and certify an Environmental Laboratory.

Perform cost estimating for various contracts and construction projects.

Maintain marketing and business development for the firm.

Advise elected officials on environmental matters and facilitate public meetings to build community consensus.

Meet with State and County Regulatory Agencies regarding facility reporting and compliance.

Evaluate equipment and new products to improve facility performance and improve service to our clients.

Consult for U.S.A.I.D. in Europe on environmental problems, rates, strategic planning, industrial waste control and infrastructure issues.

Coordinate and direct work as consultant for ADEQ on water quality issues.

April 1984: City of Phoenix
Superintendent Water & Wastewater
Department

Direct the operation of major utility facilities and programs.

Develop and administer \$23 million operating budget, define cost centers and develop rate analysis data for submittal to Council.

Develop improved programs for the 190 MGD treatment facilities.

Coordinate strategic planning and design activities with the Engineering Department for the \$130 million capitol improvement program.

Conduct hiring and address all Union and personnel matters.

Make presentations to public interest groups and prepare City Council reports.

Initiate major planning and implementation programs for energy recovery projects.

Establish a personnel safety program designed to improve moral and effectiveness throughout the operating unit.

Plan the establishment of a Training Center for the operating divisions.

Demonstrate independent judgment as project manager for the Phoenix Wastewater to Potable Water Feasibility Study.

Direct a Phoenix Groundwater Recharge and Recovery Study.

Provide leadership and direction to Department personnel resulting in significant productivity improvements of over \$900,000 in annual savings.

Responsible for the operation of all reuse facilities defined in the Phoenix 50 yr. Water Resources Plan.

Directed the development and implementation of the Computer Master Plan for wastewater operations.

Initiated and administer land application of sludge program, administer industrial waste and process control laboratories.

Director of Public Works

Responsible for all Public Works activities, which included water and wastewater operations, streets and parks, solid waste, and fleet management

Negotiated Water Service Contract and presented major programs to City Council for approval.

Administer and develop the departmental budgets for all public service activities, include the development of cost center budgeting for the rate and fee structure.

Present annual budget programs to City Council for approval.

Install a computerized meter reading system and developed a computerized water rate model for the utility system.

Perform cost analysis and develop impact statements on private contract services.

Negotiated labor contracts with seven labor unions.

Provide fleet services for the Police and Fire Departments to insure that response time and mutual aid agreements met the performance standards of the City Council.

1974-78

City of Port Huron Water & Wastewater Department

Coordinate an \$18.5 million federal grant project to provide new community utility facilities.

Prepared staffing plans and received City Council approval to initiate a new organizational structure for the department.

Administer sludge disposal program, which included dewatering, and processing system design.

Establish industrial waste control program and work with several industrials to reduce the amounts of oil and metal waste discharges to

the City system, while recovering the cost of service provided.

PROFESSIONAL AFFILIATIONS:

Board of Directors, Central Arizona Water Conservation District

Chairman for the City of Phoenix City Manager's Innovation Team.

Arizona Director for the Water Environment Federation

Served on the Board of Directors for the Grosse Pointe-Canton Refuse Authority.

Past President Arizona Water and Pollution Control Association

Past President Arizona Water Environment Federation

Past Chairman Arizona Section American Water Works Association

PROFESSIONAL LICENSE REGISTRATION:

State of Michigan
Class "F1" Water
Class "A" Wastewater

State of Arizona
Class "4" Water
Class "4" Wastewater
Class "4" Water Distribution
Class "4" Wastewater Collection

Qualified for Arizona Professional Registration

AWARDS:

City Manager's Award for Significant Innovation

Nominated for the Charles Walter Nichols Award of the American Public Works Association

Selected for National Water Environment Federation Hatfield and Bedell Awards

State of Arizona Operator of the Year