

Imperial Solar 08-AFC-5  
Exhibits 560-566, 568,  
572-591  
and Testimony of  
Edie Harmon

DECLARATION OF SERVICE

Tom Budlong July 22, 2010

I, \_\_\_\_\_, declare that on \_\_\_\_\_, I served and filed copies of the attached, \_\_\_\_\_  
The original documents, filed with the Docket Unit, are accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:  
[\[http://www.energy.ca.gov/sitingcases/solartwo/index.html\]](http://www.energy.ca.gov/sitingcases/solartwo/index.html)

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

FOR SERVICE TO ALL OTHER PARTIES:

- sent electronically to all email addresses on the Proof of Service list;
- by personal delivery;
- by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "email preferred."

<b>DOCKET</b>	
<b>08-AFC-5</b>	
DATE	JUL 22 2010
RECD.	JUL 22 2010

AND

FOR FILING WITH THE ENERGY COMMISSION:

- sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (*preferred method*);
- OR
- depositing in the mail an original and 12 paper copies, as follows:

**CALIFORNIA ENERGY COMMISSION**  
Attn: Docket No. 08-AFC-5  
1516 Ninth Street, MS-4  
Sacramento, CA 95814-5512  
[docket@energy.state.ca.us](mailto:docket@energy.state.ca.us)

I declare under penalty of perjury that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.



\*indicates change



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT  
COMMISSION OF THE STATE OF CALIFORNIA  
1516 NINTH STREET, SACRAMENTO, CA 95814  
1-800-822-6228 – WWW.ENERGY.CA.GOV

**APPLICATION FOR CERTIFICATION FOR THE  
IMPERIAL VALLEY SOLAR PROJECT**  
(formerly known as SES Solar Two Project)  
**IMPERIAL VALLEY SOLAR, LLC**

**Docket No. 08-AFC-5**  
**PROOF OF SERVICE**  
(Revised 6/8/10)

**APPLICANT**

Richard Knox  
Project Manager  
SES Solar Two, LLC  
4800 N Scottsdale Road.,  
Suite 5500  
Scottsdale, AZ 85251  
[richard.knox@tesseractosolar.com](mailto:richard.knox@tesseractosolar.com)

**CONSULTANT**

Angela Leiba, Sr. Project  
Manager URS Corporation  
1615 Murray Canyon Rd.,  
Suite 1000  
San Diego, CA 92108  
[Angela\\_Leiba@urscorp.com](mailto:Angela_Leiba@urscorp.com)

**APPLICANT'S COUNSEL**

Allan J. Thompson  
Attorney at Law  
21 C Orinda Way #314  
Orinda, CA 94563  
[allanori@comcast.net](mailto:allanori@comcast.net)

Ella Foley Gannon, Partner  
Bingham McCutchen, LLP  
Three Embarcadero Center  
San Francisco, CA 94111  
[ella.gannon@bingham.com](mailto:ella.gannon@bingham.com)

**INTERESTED AGENCIES**

California ISO  
[e-recipient@caiso.com](mailto:e-recipient@caiso.com)

Daniel Steward, Project Lead  
BLM – El Centro Office  
1661 S. 4<sup>th</sup> Street  
El Centro, CA 92243  
[daniel\\_steward@ca.blm.gov](mailto:daniel_steward@ca.blm.gov)

Jim Stobaugh,  
Project Manager &  
National Project Manager  
Bureau of Land Management  
BLM Nevada State Office  
P.O. Box 12000  
Reno, NV 89520-0006  
[jim\\_stobaugh@blm.gov](mailto:jim_stobaugh@blm.gov)

**INTERVENORS**

California Unions for Reliable  
Energy (CURE)  
c/o Tanya A. Gulesserian  
Loulena Miles, Marc D. Joseph  
Adams Broadwell Joseph &  
Cardozo  
601 Gateway Blvd., Ste. 1000  
South San Francisco, CA 94080  
[tgulesserian@adamsbroadwell.com](mailto:tgulesserian@adamsbroadwell.com)  
[lmiles@adamsbroadwell.com](mailto:lmiles@adamsbroadwell.com)

Tom Budlong  
3216 Mandeville Canyon Road  
Los Angeles, CA 90049-1016  
[TomBudlong@RoadRunner.com](mailto:TomBudlong@RoadRunner.com)

**\*Mr. Larry Silver**  
**California Environmental**  
**Law Project**  
**Counsel to Mr. Budlong**  
***E-mail preferred***  
[larrysilver@celproject.net](mailto:larrysilver@celproject.net)

Hossein Alimamaghani  
4716 White Oak Place  
Encino, CA 91316  
[almamaghani@aol.com](mailto:almamaghani@aol.com)

California Native Plant Society  
Tom Beltran  
P.O. Box 501671  
San Diego, CA 92150  
[cnpsdd@nyms.net](mailto:cnpsdd@nyms.net)

California Native Plant Society  
Greg Suba & Tara Hansen  
2707 K Street, Suite 1  
Sacramento, CA 5816-5113  
[gsuba@cnps.org](mailto:gsuba@cnps.org)

**ENERGY COMMISSION**

JEFFREY D. BYRON  
Commissioner and Presiding  
Member  
[jbyron@energy.state.ca.us](mailto:jbyron@energy.state.ca.us)

ANTHONY EGGERT  
Commissioner and Associate  
Member  
[aeggert@energy.state.ca.us](mailto:aeggert@energy.state.ca.us)

Raoul Renaud  
Hearing Officer  
[renaud@energy.state.ca.us](mailto:renaud@energy.state.ca.us)

Kristy Chew,  
Adviser to Commissioner Byron  
**e-mail service preferred**  
[kchew@energy.state.ca.us](mailto:kchew@energy.state.ca.us)

**\*Lorraine White**  
**Adviser to Commissioner Eggert**  
[lwhite@energy.state.ca.us](mailto:lwhite@energy.state.ca.us)

Caryn Holmes, Staff Counsel  
Christine Hammond,  
Co-Staff Counsel  
[cholmes@energy.state.ca.us](mailto:cholmes@energy.state.ca.us)  
[chammond@energy.state.ca.us](mailto:chammond@energy.state.ca.us)

Christopher Meyer  
Project Manager  
[cmeyer@energy.state.ca.us](mailto:cmeyer@energy.state.ca.us)

Jennifer Jennings  
Public Adviser  
[publicadviser@energy.state.ca.us](mailto:publicadviser@energy.state.ca.us)

\*indicates change

United States Gypsum Company

Plaster City Plant

P.O. Box 2450

El Centro, CA 92244-2450

Tel: 619 358-7721 or 619 352-8430

Fax: 619 358-7891



TO: Imperial County Department of Public Works  
FROM: United States Gypsum Company, Plaster City Plant  
DATE: 30 September 1997  
SUBJECT: 1993 Annual Groundwater Report

To whom it may concern:

The Plaster City Plant utilizes three wells, located in Ocotillo, CA, and designated wells #4, #5, and #6, for the purpose of drawing water for use in our operations. The following is the Annual Groundwater Report for 1993 for those wells:

- POWER CONSUMPTION: 207,200 Kwh  
(Total Kwh for all 3 wells) (See Attachment 1)
- WATER METER READING: 362 Acre-Feet  
(Total Acre-Foot Usage)
- WATER QUALITY TESTS:

Date	Location	Total Coliforms (Colonies per 100ml water)	Residual Chlorine (ppm)
01/06/93	Main Office	0	0.5
03/17/93	Main Office	0	0.04
03/25/93	Main Office	0	0.0
03/31/93	Main Office	193	0.0
04/02/93	Main Office	38	0.0
06/23/93	Main Office	0	not available
09/09/93	Main Office	0	0.6
12/15/93	Main Office	0	0.9

- WATER LEVEL OF EACH WELL:

	#4	#5	#6
AVERAGE 1993:	102' 1"	83' 11"	91' 1"

\* NOTE: Water levels are taken by measurement from the collar of the well to the top of the water in that well. Shorter measurements indicate higher water levels.

If you have any questions regarding the above data or the attached, please call me at (760) 358 3244

Allen Godard

United States Gypsum Company  
Plaster City Plant  
Plant Engineering Manager

Exhibit 242

United States Gypsum Company

Plaster City Plant

P.O. Box 2450

El Centro, CA 92244-2450

Tel: 619 358-7721 or 619 352-8430

Fax: 619 358-7891



TO: Imperial County Department of Public Works  
FROM: United States Gypsum Company, Plaster City Plant  
DATE: 30 September 1997  
SUBJECT: 1994 Annual Groundwater Report

To whom it may concern:

The Plaster City Plant utilizes three wells, located in Ocotillo, CA, and designated wells #4, #5, and #6, for the purpose of drawing water for use in our operations. The following is the Annual Groundwater Report for 1994 for those wells:

1 POWER CONSUMPTION: 172,000 Kwh  
(Total Kwh for all 3 wells) (See Attachment 1)

2 WATER METER READING: 378 Acre-Feet  
(Total Acre-Foot Usage)

3 WATER QUALITY TESTS.

Date	Location	Total Coliforms (Colonies per 100ml water)	Residual Chlorine (ppm)
03/23/94	Main Office	0	0.64
04/07/94	Main Office	0	0.06
05/05/94	Main Office	0	0.6
06/09/94	Main Office	0	0.6
07/14/94	Main Office	0	0.6
08/04/94	Main Office	0	0.6
09/08/94	Main Office	0	0.6
10/20/94	Main Office	0	0.7
12/09/94	Main Office	0	0.6
12/29/94	Main Office	0	not available

4 WATER LEVEL OF EACH WELL:

	#4	#5	#6
AVERAGE 1994:	105' 3 1/4"	86' 6"	91' 10"

\* NOTE: Water levels are taken by measurement from the collar of the well to the top of the water in that well. Shorter measurements indicate higher water levels

If you have any questions regarding the above data or the attached, please call me at (760) 358 3244

Allen Godard

United States Gypsum Company  
Plaster City Plant  
Plant Engineering Manager

A Subsidiary of USG Corporation

United States Gypsum Company

Plaster City Plant

P.O. Box 2450

El Centro, CA 92244-2450

Tel: 619 358-7721 or 619 352-8430

Fax: 619 358-7891



TO: Imperial County Department of Public Works  
FROM: United States Gypsum Company, Plaster City Plant  
DATE: 30 September 1997  
SUBJECT: 1995 Annual Groundwater Report

To whom it may concern:

The Plaster City Plant utilizes three wells, located in Ocotillo, CA, and designated wells #4, #5, and #6, for the purpose of drawing water for use in our operations. The following is the Annual Groundwater Report for 1995 for those wells:

- POWER CONSUMPTION: 153,740 Kwh  
(Total Kwh for all 3 wells) (See Attachment 1)
- WATER METER READING: 327 Acre-Feet  
(Total Acre-Foot Usage)
- WATER QUALITY TESTS:

Date	Location	Total Coliforms (Colonies per 100ml water)	Residual Chlorine (pp)
01/26/95	Main Office	0	0.7
02/23/95	Main Office	0	0.6
03/23/95	Main Office	0	0.6
04/27/95	Main Office	0	0.5
06/29/95	Main Office	0	0.9
07/25/95	Main Office	0	0.5
08/29/95	Main Office	0	0.4
09/27/95	Main Office	0	not available
11/29/95	Main Office	0	0.89
12/20/95	Main Office	0	0.86

- WATER LEVEL OF EACH WELL:

	#4	#5	#6
AVERAGE 1995	103' 1"	85' 4"	90' 7"

\* NOTE: Water levels are taken by measurement from the collar of the well to the top of the water in that well. Shorter measurements indicate higher levels.

If you have any questions regarding the above data or the attached, please call me at (760) 358 3244.

Allen Godard

United States Gypsum Company  
Plaster City Plant  
Plant Engineering Manager

A Subsidiary of USG Corporation

United States Gypsum Company

Plaster City Plant

P.O. Box 2450

El Centro, CA 92244-2450

Tel: 619 358-7721 or 619 352-8430

Fax: 619 358-7891



TO: Imperial County Department of Public Works  
FROM: United States Gypsum Company, Plaster City Plant  
DATE: 30 September 1997  
SUBJECT: 1996 Annual Groundwater Report

To whom it may concern.

The Plaster City Plant utilizes three wells, located in Ocotillo, CA, and designated wells #4, #5, and #6, for the purpose of drawing water for use in our operations. The following is the Annual Groundwater Report for 1996 for those wells:

- POWER CONSUMPTION 162,960 Kwh  
(Total Kwh for all 3 wells) (See Attachment 1)
- WATER METER READING: 367 Acre-Feet  
(Total Acre-Foot Usage)
- WATER QUALITY TESTS:

Date	Location	Total Coliforms (Colonies per 100ml water)	Residual Chlorine (ppr)
02/01/96	Main Office	0	0.56
02/26/96	Main Office	0	0.69
03/28/96	Main Office	0	0.76
05/01/96	Main Office	0	0.69
06/20/96	Main Office	0	0.45
07/24/96	Main Office	0	not available
08/29/96	Main Office	0	0.65
09/25/96	Main Office	0	not available
10/30/96	Main Office	0	0.37
11/21/96	Main Office	0	0.39

- WATER LEVEL OF EACH WELL:

	#4	#5	#6
AVERAGE 1996:	103' 5"	85' 9"	90' 10"

\* NOTE: Water levels are taken by measurement from the collar of the well to the top of the water in that well. Shorter measurements indicate higher water levels.

If you have any questions regarding the above data or the attached, please call me at (760) 358 3244.

Allen Godard

United States Gypsum Company  
Plaster City Plant  
Plant Engineering Manager

A Subsidiary of USG Corporation

United States Gypsum Company

Plaster City Plant

P.O. Box 2450

El Centro, CA 92244-2450

Tel: 619 358-7721 or 619 352-8430

Fax: 619 358-7891



TO: Imperial County Department of Public Works  
FROM: United States Gypsum Company, Plaster City Plant  
DATE: 18 March 1998  
SUBJECT: 1997 Annual Groundwater Report

To whom it may concern:

The Plaster City Plant utilizes three wells, located in Ocotillo, CA, and designated wells #4, #5, and #6, for the purpose of drawing water for use in our operations. The following is the Annual Groundwater Report for 1997 for those wells:

1. POWER CONSUMPTION: 164,440 Kwh  
(Total Kwh for all 3 wells)
2. WATER METER READING: 332 Acre-Feet  
(Total Acre-Foot Usage)
3. WATER QUALITY TESTS:

Date	Location	Total Coliforms (Colonies per 100ml water)	Residual Chlorine (ppm)
1/28/97	Main Office	0	Not available
2/26/97	Main Office	0	0.53
4/8/97	Main Office	0	0.047
4/22/97	Main Office	0	0.040
5/20/97	Main Office	0	0.49
6/18/97	Main Office	0	0.35
7/28/97	Main Office	0	0.41
9/8/97	Main Office	0	0.14
10/2/97	Main Office	0	0.06
10/29/97	Main Office	0	0.22
12/23/97	Main Office	0	Not available

4. WATER LEVEL OF EACH WELL:

	#4	#5	#6
AVERAGE 1997:	104' 0"	85' 10"	90' 5"

\* NOTE: Water levels are taken by measurement from the collar of the well to the top of the water in that well. Shorter measurements indicate higher water levels.

If you have any questions regarding the above data or the attached, please call me at (760) 358 3244.

Allen Godard

United States Gypsum Company  
Plaster City Plant  
Plant Engineering Manager

File Copy

United States Gypsum Company

Plaster City Plant

P.O. Box 2450

El Centro, CA 92244-2450

Tel: 619 358-7721 or 619 352-8430

Fax: 619 358-7891



TO: Imperial County Department of Public Works  
 FROM: United States Gypsum Company, Plaster City Plant  
 DATE: 26 August 1999  
 SUBJECT: 1998 Annual Groundwater Report

To whom it may concern:

The Plaster City Plant utilizes three wells, located in Ocotillo, CA, and designated wells #4, #5, and #6, for the purpose of drawing water for use in our operations. The following is the Annual Groundwater Report for 1998 for those wells:

- POWER CONSUMPTION: 176,790 Kwh  
(Total Kwh for all 3 wells)
- WATER METER READING: 333 Acre-Feet  
(Total Acre-Foot Usage)
- WATER QUALITY TESTS:

Date	Location	Total Coliforms (Colonies per 100ml water)	Residual Chlorine (ppm)
1/28/98	Main Office	0	Not available
2/25/98	Main Office	0	"
3/26/98	Main Office	0	"
5/4/98	Main Office	0	"
5/27/98	Main Office	0	"
6/24/98	Main Office	0	"
7/22/98	Main Office	0	"
8/26/98	Main Office	0	"
9/23/98	Main Office	0	"
10/28/98	Main Office	0	"
11/24/98	Main Office	0	"
12/16/98	Main Office	0	"

4. WATER LEVEL OF EACH WELL:

	#4	#5	#6
AVERAGE 1998:	104' 0"	85' 8"	90' 4"

\* NOTE: Water levels are taken by measurement from the collar of the well to the top of the water in that well. Shorter measurements indicate higher water levels.

If you have any questions regarding the above data or the attached, please call me at (760) 358 3244

Kevin Bushman

United States Gypsum Company  
 Plaster City Plant  
 Plant Engineering Manager

United States Gypsum Company

Plaster City Plant

P.O. Box 2450

El Centro, CA 92244-2450

Tel: 619 358-7721 or 619 352-8430

Fax: 619 358-7891



TO: Imperial County Department of Public Works  
FROM: United States Gypsum Company, Plaster City Plant  
DATE: January 26, 2000  
SUBJECT: 1999 Annual Groundwater Report

To whom it may concern:

The Plaster City Plant utilizes three wells, located in Ocotillo, CA, and designated wells #4, #5, and #6, for the purpose of drawing water for use in our operations. The following is the Annual Groundwater Report for 1999 for those wells:

1. POWER CONSUMPTION: 200,130 Kwh  
(Total Kwh for all 3 wells)
2. WATER METER READING: 372 Acre-Feet  
(Total Acre-Foot Usage)
3. WATER QUALITY TESTS

Date	Location	Total Coliforms (Colonies per 100ml water)	Residual Chlorine (ppm)
1/20/99	Main Office	0	Not available
2/17/99	Main Office	0	"
3/17/99	Main Office	0	"
4/21/99	Main Office	0	"
5/19/99	Main Office	0	"
6/23/99	Main Office	0	"
7/28/99	Main Office	0	"
8/18/99	Main Office	0	29
9/22/99	Main Office	0	32
10/20/99	Main Office	0	035
11/29/99	Main Office	0	14
12/29/99	Main Office	0	43

4. WATER LEVEL OF EACH WELL:

	#4	#5	#6
AVERAGE 1999:	104' 0"	85' 10"	Out of service in 1999

\* NOTE: Water levels are taken by measurement from the collar of the well to the top of the water in that well. Shorter measurements indicate higher water levels.

If you have any questions regarding the above data or the attached, please call me at (760) 358 3281.

Dan Mendoza, Jr

United States Gypsum Company  
Plaster City Plant  
Engineering Office Administrative Supervisor

A Subsidiary of USG Corporation

United States Gypsum Company  
 Plaster City Plant  
 P.O. Box 2450  
 El Centro, CA 92244-2450  
 Tel: 760 358-3200 or 760 352-8430  
 Fax: 760 358-7891



TO: Imperial County Department of Public Works  
 FROM: United States Gypsum Company, Plaster City Plant  
 DATE: June 11, 2002  
 SUBJECT: 2000 Annual Groundwater Report

To whom it may concern:

The Plaster City Plant utilizes three wells, located in Ocotillo, CA, and designated wells #4, #5, and #6A, for the purpose of drawing water for use in our operations. The following is the Annual Groundwater Report for 2000 for those wells:

1. POWER CONSUMPTION: 249,880 Kwh  
(Total Kwh for all 3 wells)
2. WATER METER READING: 324 Acre-Feet \* Shutdown of #2board line, Intermittent operations during Start-up of #3 board line.  
(Total Acre-Foot Usage)
3. WATER QUALITY TESTS:

Date	Location	Total Coliforms (Colonies per 100ml water)	Residual Chlorine (ppm)
1/26/00	Main Office	0	.24
2/23/00	Main Office	0	.20
3/15/00	Main Office	0	.15
4/19/00	Main Office	0	.44
5/17/00	Main Office	0	.57
6/14/00	Main Office	0	.75
7/19/00	Main Office	0	.39
8/23/00	Main Office	0	.21
9/20/00	Main Office	0	.45
10/18/00	Main Office	0	.0
11/21/00	Main Office	0	.60
12/20/00	Main Office	0	.45

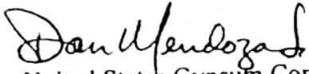
4. WATER LEVEL OF EACH WELL:

	#4	#5	#6A
AVERAGE 2000:	104' 0"	84' 3"	91' 0"

\* NOTE Water levels are taken by measurement from the collar of the well to the top of the water in that well. Shorter measurements indicate higher water levels.

If you have any questions regarding the above data or the attached, please call me at (760) 358 3281.

Dan Mendoza, Jr.

  
 United States Gypsum Company  
 Plaster City Plant  
 Engineering Office Administrative Supervisor

United States Gypsum Company

Plaster City Plant

P.O. Box 2450

El Centro, CA 92244-2450

Tel: 760 358-3200 or 760 352-8430

Fax: 760 358-7891



TO: Imperial County Department of Public Works  
FROM: United States Gypsum Company, Plaster City Plant  
DATE: June 11, 2002  
SUBJECT: 2001 Annual Groundwater Report

To whom it may concern:

The Plaster City Plant utilizes three wells, located in Ocotillo, CA, and designated wells #4, #5, and #6A, for the purpose of drawing water for use in our operations. The following is the Annual Groundwater Report for 2001 for those wells:

1. POWER CONSUMPTION: 324,780 Kwh  
(Total Kwh for all 3 wells)
2. WATER METER READING: 433 Acre-Feet \* #3 line still not up to full capacity  
(Total Acre-Foot Usage)
3. WATER QUALITY TESTS:

Date	Location	Total Coliforms (Colonies per 100ml water)	Residual Chlorine (ppm)
1/24/01	Main Office	0	Not available
2/26/01	Main Office	0	.47
3/28/01	Main Office	0	.61
4/25/01	Main Office	0	.34
5/23/01	Main Office	0	.88
6/20/01	Main Office	0	.72
7/18/01	Main Office	0	.54
8/22/01	Main Office	0	.26
9/26/01	Main Office	0	.91
10/24/01	Main Office	0	.98
11/28/01	Main Office	0	.92
12/26/01	Main Office	0	.98

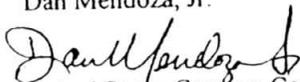
4. WATER LEVEL OF EACH WELL:

	#4	#5	#6A
AVERAGE DEPTH	104' 0" (2000)	85' 6" (2001)	91' 0" (2000)

\* NOTE: Water levels are taken by measurement from the collar of the well to the top of the water in that well. Shorter measurements indicate higher water levels.

If you have any questions regarding the above data or the attached, please call me at (760) 358 3281.

Dan Mendoza, Jr.

  
United States Gypsum Company  
Plaster City Plant  
Engineering Office Administrative Supervisor

**Jean Kiel**


---

**From:** Dave Brown [dbrown@resourcedesign.biz]  
**Sent:** Monday, September 15, 2003 3:56 PM  
**To:** Jean Kiel  
**Subject:** FW: Vertical flux (Ocotillo model)

-----Original Message-----

**From:** Dick Rhone [mailto:drhone@navigantconsulting.com]  
**Sent:** Monday, September 15, 2003 3:42 PM  
**To:** Andrew Kopania  
**Cc:** dbrown@resourcedesign.biz; jurgheuberger@imperialcounty.net; pmmartin@usgs.gov; Ron Schnabel; Weizu Yu  
**Subject:** Re: Vertical flux (Ocotillo model)

All

Based on Andy's email and to keep the process moving and assuming that Peter concurs I believe we should have the conference call on Thursday the 18th.

Regarding the additional model runs, Scott Seely has forwarded to me the following amounts of pumping which were reported by USG to the County

Year	AcFt
1990	476
1991	428
1992	379
1993	362
1994	378
1995	327
1996	367
1997	332
1998	333
1999	372
2000	324
2001	433
2002	533

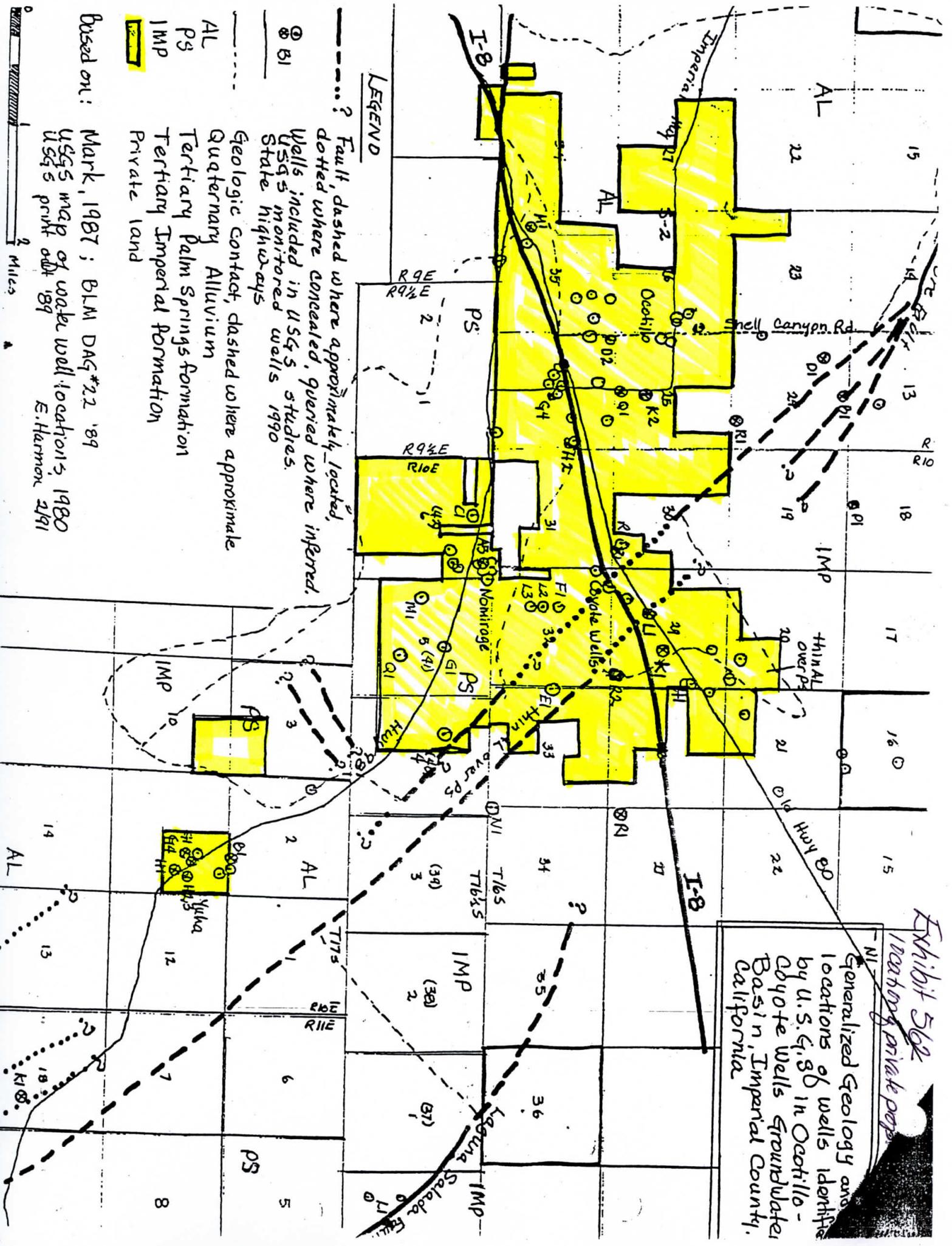
The five year average from 1994 to 1998 was 347 AcFt per year. For the next model run we will use that amount for future pumping. For the runs using the increased amounts of 650 and 767 AcFt per year we will use the actual amounts through 2002 and the "future" amounts for 2003 and thereafter. We will also include pumping by others with a 1.4% increase.

Dick Rhone P.E.  
 Bookman-Edmonston Engineering  
 A Division of GEI Consultants.  
 818 244 0117  
 818 242 0480(fax)  
 213 392 2400(cell)

*Exhibit 236*

9/16/2003

Exhibit 562  
 Inventory private property  
 Generalized Geology and  
 locations of wells identified  
 by U.S.G.I.S in Ocotillo -  
 Coyote Wells Groundwater  
 Basin, Imperial County,  
 California



**LEGEND**

- ? Fault, dashed where approximately located, dotted where concealed, queried where inferred.
- BI Wells included in USGS studies.
- USGS monitored wells 1990
- State highways
- Geologic contact, dashed where approximate
- AL Quaternary Alluvium
- PS Tertiary Palm Springs Formation
- IMP Tertiary Imperial Formation
- Private land

Based on: Mark, 1987; BLM DAG\*22 '89  
 USGS map of water well locations, 1980  
 USGS print Oct '89 E. Harmon 2/91



# OCOTILLO/COYOTE WELLS HYDROLOGY AND GROUNDWATER MODELING STUDY

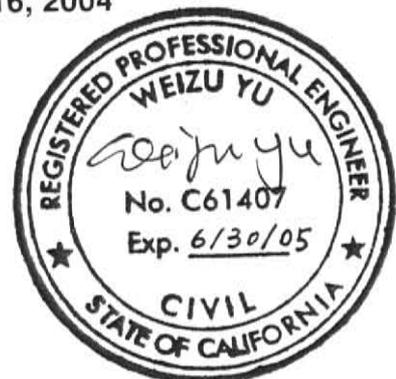
Prepared for

**U.S. GYPSUM COMPANY**

Prepared by

 **Bookman-Edmonston**  
*A Division of GEI Consultants, Inc.*

Unpublished Work © January 16, 2004



<b>Table 4-3 Population and Applied Water Use Population</b>						
<b>Community</b>	<b>Year</b>					
	<b>1975 <sup>(b)</sup></b>	<b>1980 <sup>(b)</sup></b>	<b>1990 <sup>(a)</sup></b>	<b>1995 <sup>(b)</sup></b>	<b>2010 <sup>(b)</sup></b>	<b>2025 <sup>(b)</sup></b>
Painted Gorge	31	33	38	41	50	62
Ocotillo <sup>(c)</sup>	258	277	319	342	421	519
West Texas	8	9	10	11	13	16
Nomirage	67	72	83	89	110	135
Yuha Estates	8	9	10	11	13	16
<b>Total</b>	<b>372</b>	<b>400</b>	<b>460</b>	<b>494</b>	<b>607</b>	<b>748</b>

(a) - Population based on 1990 census

(b) - Population based upon annual population growth of 1.4% from 1980 to 1990

(c) Population of Ocotillo in summer months (population estimated to more than double during winter months).

<b>APPLIED WATER USE (Acre-Feet per Year)</b>						
<b>Community</b>	<b>Year</b>					
	<b>1975</b>	<b>1980</b>	<b>1990</b>	<b>1995</b>	<b>2010</b>	<b>2025</b>
Painted Gorge <sup>(a)</sup>	2.1	2.2	2.6	2.7	3.4	4.2
Ocotillo <sup>(b)</sup>	72.3	77.6	89.3	95.8	118.0	145.3
West Texas <sup>(a)</sup>	0.5	0.6	0.7	0.7	0.9	1.1
Nomirage <sup>(c)</sup>	7.5	8.1	9.3	10.0	12.3	15.1
Yuha Estates <sup>(c)</sup>	0.9	1.0	1.1	1.2	1.5	1.8
<b>Total</b>	<b>83.3</b>	<b>89.5</b>	<b>103.0</b>	<b>110.4</b>	<b>136.1</b>	<b>167.5</b>

(a) - Water use rate of 60 gpd/capita

(b) - Water use rate of 200 gpd/capita

(c) - Water use rate of 100 gpd/capita

## Urban Water Use

The Ocotillo/Nomirage community area encompasses approximately 108,000 acres which includes the townsite of Ocotillo, and the communities of Nomirage, Painted Gorge, West Texas and Yuha Estates. The locations of each of these communities is presented in Figure 3-1. According to the ONCAP, the Ocotillo/Nomirage community area has 366 dwelling units and a population of 460. The entire planning area is dependent upon groundwater and is not served by a sanitation or sewer treatment facility.

The communities of Nomirage and Yuha Estates rely exclusively upon individual water wells for their water supply. Coyote Valley Mutual Water Company (CVMWC), Ocotillo Mutual Water Company (OMWC), and Shell Canyon Water Company (SCWC) are located in Ocotillo and serve most of Ocotillo. CVMWC serves 125 connections, OMWC serves 80 connections, and SCWC serves 16 connections. The remainder of Ocotillo relies upon individual water wells for their water supply. Westwind Water Company is also located in Ocotillo and provides water by privately owned trucks to Painted Gorge, West Texas, and construction sites in the area. Groundwater underlying Painted Gorge is unsuitable for drinking and all water must be trucked in. Groundwater underlying West Texas is suitable for bathing and landscape irrigation, but drinking water must be trucked in.

From population data available in the literature, and from the 1980, 1990 and 2000 population census information, estimates of population in each community within the study area were made for years 1980 and 1990. During the 1980 to 1990 period, the population increased by approximately 1.4 percent annually, but from 1990 to 2000 the population decreased by 1.1 percent totally (from 460 to 455). However, for water use estimates an assumption of a 1.4 percent constant annual population increase was computed. Table 4-3 provides a summary of population estimated for selected years from 1975 through 2025. With the exception of Ocotillo, the population of each of these communities is relatively constant throughout the year. The population of Ocotillo is estimated to more than double during winter months.

A water use rate of 200 gallons per day per capita was computed for Ocotillo based upon population and water use records from CVMWC and OMWC. The residences in Ocotillo are typically landscaped with trees, shrubs and desert vegetation which use drip (or other low volume) irrigation. Residences which are vacated during the summer still require landscape irrigation which causes the per capita water use rate to increase. A water use rate of 100 gpd/capita was assumed for Nomirage and Yuha Estates. These communities have a lower per capita water use rate because they have less irrigated landscaping than in Ocotillo and less seasonal population variation. A

water use rate of 60 gpd/capita was assumed for Painted Gorge and West Texas based upon estimated Westwind Water Company water use. Water use rates in these areas are expected to be lower than other areas because water must be trucked in and there is little or no irrigated landscape. Water use was computed for each community based upon estimated population and water use rates. Computed water use estimates for selected years during the 1975 through 2025 period are presented in Table 4-3.

### **Agricultural Water Use**

It is a goal of ONCAP to eliminate commercial agriculture from the area. In field inspections of the project area in February 2003, no commercial agricultural land use was observed. This is consistent with the DWR 1989 land use, which indicated only one acre of flowers or nursery in the study area.

Estimates of historical agricultural use for this area was not found in the literature, however, Imperial County Health Department records indicate that the SCWC provided an average water use of 29,000 gallons per day (32 af/yr) to agriculture in 1981.

### **Export to Mexico**

Water has historically been pumped from wells in Ocotillo and Yuha Estates for export to Mexico. The largest and most recent exporter of water to Mexico was the McDougal Water Company. The McDougal Water Company operated one well in Ocotillo and one in Yuha Estates.

The McDougal Ocotillo well (well no. 16S/9E-25K2) was drilled by Thomas Clifford in 1958. This well originally served approximately 10 residents in Ocotillo. In 1967 Mr. Clifford began selling water to Mexico, as well as serving Ocotillo Unit No. 3. On December 1, 1977, McDougal Water Company took over the operation and installed a new 50-horsepower motor and second loading spout. A fleet of over 20 trucks made multiple trips daily, sometimes resulting in over 50 trips per day. The pumpage varied according to time of year and other factors, with the heaviest pumpage during the summer. Exports to Mexico from this well were ceased sometime near 1984. Export from this well can be estimated from energy use. Energy use records were available from IID for years 1974 through 1978. Table 4-4 presents a summary of energy use, total well production and water exported to Mexico from McDougal's Ocotillo well.

**Table 4-4**  
**Well Production and Export to Mexico**  
**Well No. 16S/9E-25K2**

Year	Energy Use (Kwh)	Total Pumped (af)	Exported to Mexico (af)
1974	55,460	141	138
1975	83,760	214	211
1976	84,580	216	213
1977	88,280	225	222
1978	54,940	140	137

In the above table, the total amount of water pumped is computed based upon 2.55 acre-feet per MWh, (from the 1979 Copley International Corporation Study). The amount of water exported to Mexico assumes that 3 acre-feet per year was used to serve residents in Ocotillo Unit No. 3.

McDougal Water Company had a similar operation in Yuha Estates (Well No. 17S/10E-11G4), which began in September 1977. Commercial export was ceased from this well on September 1, 1982. A 1979 report by David Huntley, estimated that 143 acre-feet per year was pumped from this well.

---

---

**OCOTILLO/COYOTE WELLS BASIN  
HYDROLOGY AND GROUNDWATER  
MODELING STUDY**

---

---

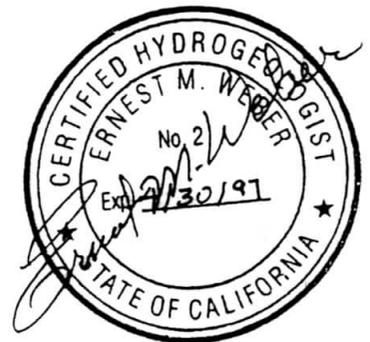
PREPARED FOR

**U.S. GYPSUM COMPANY**



PREPARED BY

**BOOKMAN-EDMONSTON  
ENGINEERING, INC.**



## WATER USE

In addition to water use by the communities indicated previously, water has been exported from the basin for industrial use and for sale to Mexico. Presented below are estimates of historic water use by U.S. Gypsum, sand and gravel operations, urban areas, agriculture, and export to Mexico.

### U.S. Gypsum

In 1925, the Pacific Portland Cement Co. drilled a well at Plaster City. The well produced poor quality water and was abandoned. A well was then drilled in the Ocotillo area to supply water to the Plaster City Facility. This well produced good quality water. U.S. Gypsum purchased the Plaster City facility about 1946. One well (located in the Ocotillo area) was included with the purchase. U.S. Gypsum has since drilled five production wells in the Ocotillo area. Three of the wells are inactive. Water from the three remaining production wells is transported to Plaster City by pipeline. The location of U.S. Gypsum well numbers 4, 5, and 6 (the three active wells) are shown in Figure 5-2.

Estimates of Plaster City water use were provided by U.S. Gypsum to the USGS for years 1925 through 1975 for preparation of the 1977 Skrivan report. These estimates indicate that U.S. Gypsum groundwater pumpage has increased from approximately 150 acre-feet per year in 1925 to approximately 600 acre-feet in 1975. In addition, water use estimates for years 1970 through 1980 were made by U.S. Gypsum based upon production records. Beginning in 1981, water use has been measured at each well. Table 6-2 presents a summary of U.S. Gypsum well production for the years 1976 through 1994. Estimates of water use provided to USGS are 70 percent greater than estimates of water use based upon production records during 1970 to 1975 (the only years where these records overlap). This difference could not be reconciled.

<b>Year</b>	<b>Well Production (af)</b>
1976	413
1977	472
1978	491
1979	496
1980	469
1981	261
1982	456
1983	472
1984	472
1985	489
1986	521
1987	512
1988	518
1989	492
1990	476
1991	428
1992	379
1993	362
1994	378

### **Sand and Gravel Operations**

The Ocotillo/Nomirage Community Area Plan (ONCAP) identifies Val-Rock and Farmers Land Leveling as water users of 6 and 8 acre-feet per year, respectively. Several other sand and gravel operations are located throughout the area, including Caltrans, Imperial County Public Works, and Granite Construction. However, no estimates of water use is presented in ONCAP for these operations.

### **Urban Water Use**

The Ocotillo/Nomirage community area encompasses approximately 108,000 acres which includes the townsite of Ocotillo, and the communities of Nomirage, Painted Gorge, West Texas and Yuha Estates. The locations of each of these communities is presented in Figure 1-2. According to the ONCAP, the Ocotillo/Nomirage community area has 366

dwelling units and a population of 460. The entire planning area is dependent upon groundwater and is not served by a sanitation or sewer treatment facility.

The communities of Nomirage and Yuha Estates use individual water wells for their water supply. Coyote Valley Mutual Water Company (CVMWC), Ocotillo Mutual Water Company (OMWC), and Shell Canyon Water Company (SCWC) are located in Ocotillo and serve most of Ocotillo by pipeline. CVMWC serves 125 connections, OMWC serves 80 connections, and SCWC serves 16 connections. The remainder of Ocotillo uses individual water wells for their water supply. Westwind Water Company is also located in Ocotillo and provides water by privately owned trucks to Painted Gorge, West Texas, and construction sites in the area. Groundwater underlying Painted Gorge is unsuitable for drinking or bathing and all water must be trucked in. Groundwater underlying West Texas is suitable for bathing and landscape irrigation, but drinking water must be trucked in.

Based upon reports of population data available in the literature and from the 1980 and 1990 population census information, estimates of population in each community within the study area were made for years 1980 and 1990. During the 1980 to 1990 period, the population increased by approximately 1.4 percent annually. Assuming a 1.4 percent constant annual population increase, population figures for other years were computed. Table 6-3 provides a summary of population estimated for selected years from 1975 through 2025. With the exception of Ocotillo, the population of each of these communities is relatively constant throughout the year. The population of Ocotillo is estimated to more than double during winter months.

A water use rate of 200 gallons per day per capita was computed for Ocotillo based upon population and water use records from CVMWC and OMWC. The residences in Ocotillo are typically landscaped with trees, shrubs and desert vegetation which use drip (or other low volume) irrigation. Residences which are vacated during the summer still require landscape irrigation which causes the per capita water use rate to be higher. A water use rate of 100 gpd/capita was assumed for Nomirage and Yuha Estates. These communities have a lower per capita water use rate because they have less irrigated landscaping than in Ocotillo and less seasonal population variation. A water use rate of 60 gpd/capita was assumed for Painted Gorge and West Texas based upon estimated Westwind Water Company water use. Water use rates in these areas are expected to be lower than other areas because water must be trucked in and there is little or no irrigated landscape. Water use was computed for each community based upon estimated population and water use rates. Computed water use estimates for selected years during the 1975 through 2025 period are presented in Table 6-3.

Table 6-3

## POPULATION AND APPLIED WATER USE

## POPULATION

Community	Year					
	1975 <sup>(b)</sup>	1980 <sup>(b)</sup>	1990 <sup>(a)</sup>	1995 <sup>(b)</sup>	2010 <sup>(b)</sup>	2025 <sup>(b)</sup>
Painted Gorge	31	33	38	41	50	62
Ocotillo <sup>(c)</sup>	258	277	319	342	421	519
West Texas	8	9	10	11	13	16
Nomirage	67	72	83	89	110	135
Yuha Estates	8	9	10	11	13	16
Total	372	400	460	493	607	748

(a) - Population based upon 1990 census

(b) - Population based upon annual population growth of 1.4% from 1980 to 1990

(c) - Population of Ocotillo in summer months (population estimated to more than double during winter months)

APPLIED WATER USE  
(Acre-Feet per Year)

Community	Year					
	1975	1980	1990	1995	2010	2025
Painted Gorge <sup>(a)</sup>	2.1	2.2	2.6	2.7	3.4	4.2
Ocotillo <sup>(b)</sup>	72.3	77.6	89.3	95.8	118.0	145.3
West Texas <sup>(a)</sup>	0.5	0.6	0.7	0.7	0.9	1.1
Nomirage <sup>(c)</sup>	7.5	8.1	9.3	10.0	12.3	15.1
Yuha Estates <sup>(c)</sup>	0.9	1.0	1.1	1.2	1.5	1.8
Total	83.4	89.4	103.0	110.4	136.0	167.5

(a) - Water use rate of 60 gpd/capita

(b) - Water use rate of 200 gpd/capita

(c) - Water use rate of 100 gpd/capita

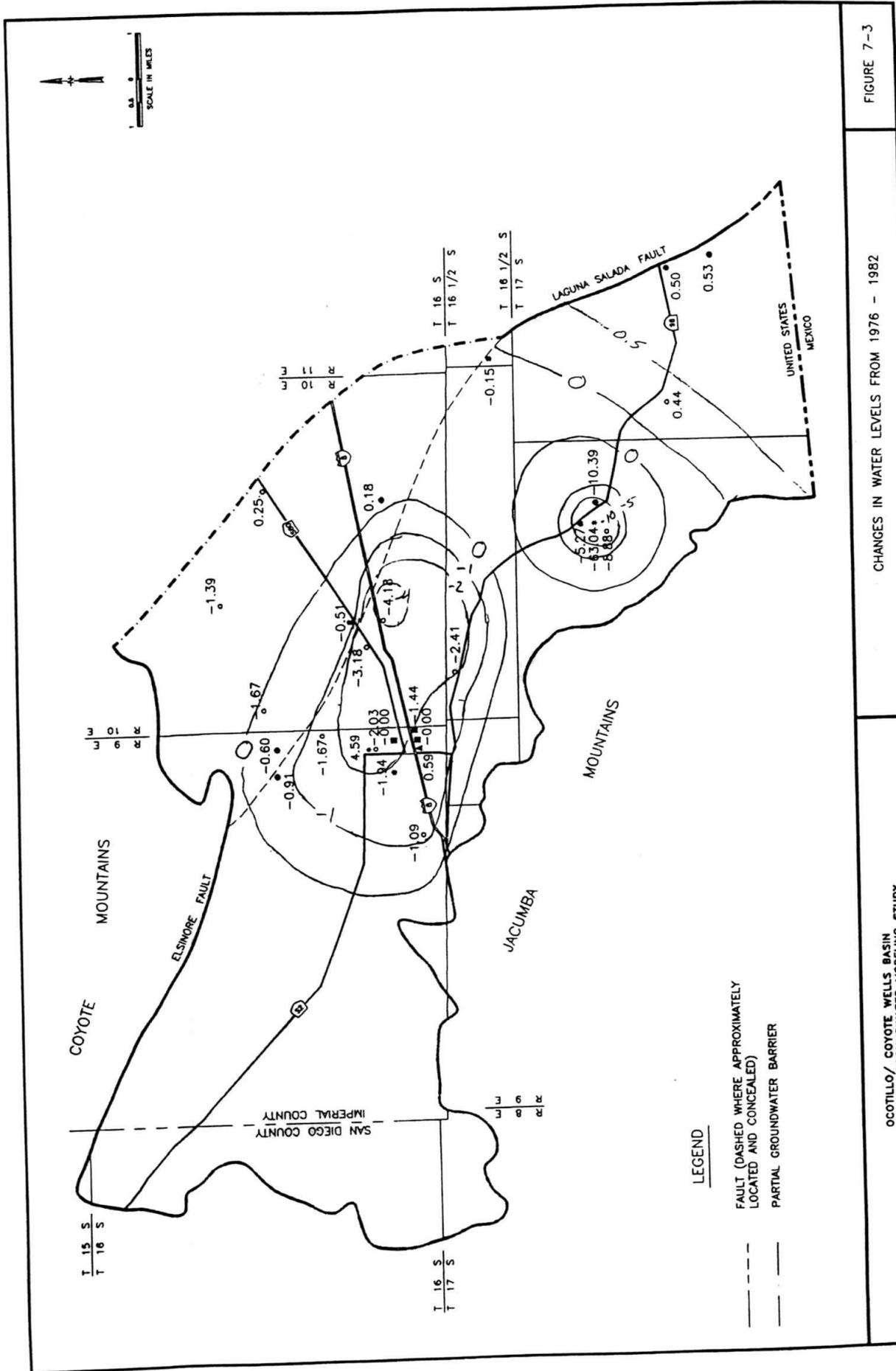


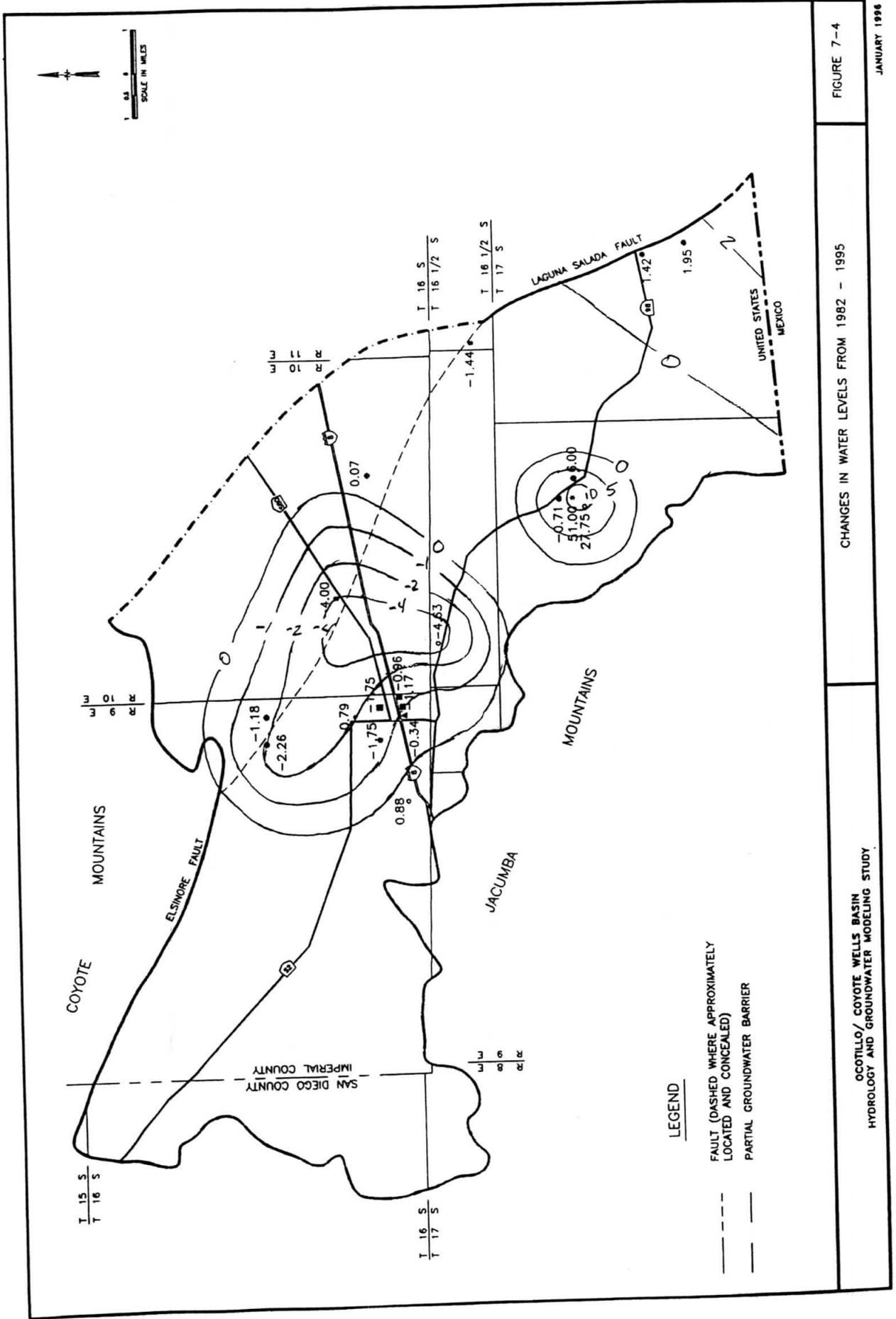
FIGURE 7-3

CHANGES IN WATER LEVELS FROM 1976 - 1982

OCOTILLO/ COYOTE WELLS BASIN HYDROLOGY AND GROUNDWATER MODELING STUDY

JANUARY 1986

BOOKMAN-EDMONSTON ENGINEERING, INC.



CHANGES IN WATER LEVELS FROM 1982 - 1995

FIGURE 7-4

OCTILLO/ COYOTE WELLS BASIN  
HYDROLOGY AND GROUNDWATER MODELING STUDY

each spring and performing water quality analyses. Table 5-2 presents a summary of the most recent fluoride, chloride, and TDS concentrations in milligrams per liter (mg/l) from each of the wells sampled. A printout of the USGS groundwater quality database is presented in Appendix C which provides more extensive data on groundwater quality.

The most recent TDS concentrations measured in wells throughout the study area, an indication of the depth of these wells, and the extent of Tertiary Age Deposits and recent alluvium throughout the study area is illustrated in Figure 5-10. Figure 5-10 illustrates that the Ocotillo/Coyote Wells Groundwater Basin generally contains groundwater with TDS concentrations on the order of 300 to 400 mg/l. The maximum concentration of TDS specified by Recommended Secondary Drinking Water Standards is 500 mg/l. As previously stated, the source of this good quality groundwater is from the recent alluvium. Communities which overlay this area include Ocotillo, Nomirage, and Yuha Estates. Groundwater quality in these communities allows good quality drinking water which can be used without treatment to be pumped directly from the groundwater basin.

The groundwater quality in the study area east of the Laguna Salada fault and the southern extension of the Elsinore Fault is poor, with TDS concentrations measured at over 15,000 mg/l in some wells. The source of this poor quality water is the tertiary age deposits. Communities which overly this area include Painted Gorge and West Texas. Groundwater quality in these communities is not suitable for drinking. Groundwater quality is better in West Texas than in Painted Gorge. Groundwater can be used for bathing in West Texas and not in Painted Gorge. This is demonstrated in Figure 5-10 by TDS concentrations (with the exception of one shallow well) increasing to the east. The differential in groundwater quality from one side of the southern extension of the Elsinore Fault to the other is an indication that the fault acts as a barrier to groundwater.

As illustrated in Figure 5-10, shallow wells in the study area consistently have TDS concentrations higher than deeper wells. Shallow wells in the Ocotillo/Coyote Wells Groundwater Basin have TDS concentrations on the order of 600-4000 mg/l, which indicates that poor quality groundwater overlies the good quality groundwater. These shallow wells with poor water quality are not necessarily an indication that poor quality water has moved across the southern extension of the Elsinore Fault. The 1977 Skrivan report identifies two wells drilled prior to 1915 in the Coyote Wells area. The well drilled to a depth of 30 feet reportedly produced more saline water than a well 65 feet deep. Since saline was found in shallow wells prior to most development, it can be assumed to be naturally occurring. The source of shallow saline water was speculated in both the 1977 Skrivan Report and the 1980 Zipp Report to be a result of evaporation of the shallow water table which concentrates the salt content. This is a reasonable assumption.

Figures 5-11 through 5-15 present water quality changes over time at selected locations. From these figures, it is observed that groundwater TDS concentrations remain relatively consistent over time. The exception is well number 16S/10E-30R1 located in Coyote Wells

Table 5-2  
WATER QUALITY DATA

Well Number	Depth of Well (feet)	Perforated Interval (feet)	Date	Fluoride (mg/l)	Chloride (mg/l)	TDS (mg/l)
15S/11E-32R1			1964		640	4680
16S/9E-24B1	129	125-128.5	1995	1.7	370	1180
16S/9E-24D1	149	145.5-149	1995	1.0	89	483
16S/9E-24N1	120		1975	1.1	84	477
16S/9E-24R1	102	98-101.5	1989	0.7	83	410
16S/9E-25K1	256		1972	0.6	90	340
16S/9E-25K2	372		1995	0.8	70	335
16S/9E-25K4			1987	0.8	83	376
16S/9E-25M1	336	216-336	1993	0.6	76	334
16S/9E-25M2	372	252-372	1971	0.4	140	437
16S/9E-25Q1	128					
16S/9E-26G1			1962	1.1	68	326
16S/9E-26H1	410		1993	0.8	61	302
16S/9E-26H2	278		1975	0.9	67	323
16S/9E-26J2	327		1975	1.3	340	923
16S/9E-35A1						
16S/9E-35B1						
16S/9E-35M1	535	415-495	1975	4.0	79	334
16S/9E-35N1	500		1963	7.0	84	338
16S/9E-35N2						
16S/9E-36B1	460	0-460	1963	0.6	69	306
16S/9E-36C1	157		1962	2.2	94	326
16S/9E-36C2	303	180-300	1995	1.7	81	354
16S/9E-36C3	312	212-312	1971	0.5	74	314
16S/9E-36D1	330		1975	2.9	78	365
16S/9E-36D2			1990	1.9	82	346
16S/9E-36F2	450		1950		94	
16S/9E-36F3	676	165-658	1950		110	
16S/9E-36G1	235	199-214	1975	1.7	180	634
16S/9E-36G2	225		1962	4.0	87	381
16S/9E-36G3	806	100-450	1963	1.6	74	333
16S/9E-36G4			1975	2.7	70	310
16S/9E-36H1	410	60-380	1995	0.7	59	297
16S/9E-36L1	400	157-372	1958		78	
16S/9E-36L2	600		1975	5.2	69	300
16S/9E-36R1	394		1958		85	450
16S/10E-14N1			1968	3.4	5600	24000
16S/10E-16B1						
16S/10E-16B2						
16S/10E-16D1	105	60	1975	0.6	2200	15200
16S/10E-16K1	300		1972		4300	
16S/10E-16Q1	100					
16S/10E-18P1	197		1975	0.2	2400	15700
16S/10E-20R1	68		1975	0.9	1700	544
16S/10E-20R3						3770
16S/10E-27R1	104	102-104			2500	
16S/10E-28D1	53		1948		26000	54200
16S/10E-29H1	39	37-39	1975	5.0	830	2590
16S/10E-29K1	39		1975	5.2	240	670
16S/10E-29L1	48	44.5-48	1988	0.9		
16S/10E-29R2						657
16S/10E-30R1	100	75	1995	0.8	230	
16S/10E-30R2	60		1958		530	
16S/10E-31B1						
16S/10E-31D1						

Table 5-2  
WATER QUALITY DATA

Well Number	Depth of Well (feet)	Perforated Interval (feet)	Date	Fluoride (mg/l)	Chloride (mg/l)	TDS (mg/l)
16S/10E-32D1	21		1917		240	
16S/10E-32D2	30		1918		250	
16S/10E-32F1	78	40-78	1975	1.3	170	
16S/10E-32L1	108	40-103	1972		200	
16S/10E-32L2	100	70-100	1975	1.2	66	320
16S/10E-32L3						
16S/10E-32P1						
16S/10E-33E1	24	22-24	1975	13.0	2700	6910
16S/10E-34N1	119	117-119	1975	0.6	280	1610
16S/10E-40F1						
16S/10E-41D1	180		1972		140	
16S/10E-41D2	130		1962	2.8	86	454
16S/10E-41F1	163		1971		390	
16S/10E-41G1			1975	8.5	370	1970
16S/10E-41M1	150		1975	1.6	810	
16S/10E-41Q1	47		1975	9.2	390	2190
16S/10E-42A1						
16S/10E-42A2			1974			
16S/10E-42A4			1995			
16S/10E-42A5			1995			
16S/10E-42A7	93		1975	1.5	170	583
16S/10E-42A8			1995	1.5	300	886
16S/10E-42C1			1975	1.8	1200	4420
16S/10E-42H1			1976	2.6	110	668
16S/10E-42H2						
16S/10E-42L1	144	142-144				
16S/11E-7M1						
16S/11E-23B1	127	121-123	1974			
16S/11E-27F1						
16S/11E-29L1						
16S/11E-42L1			1975	0.5	15000	38400
16S/11E-42M1	8		1962		2300	13000
16S/11E-42M2	13		1962		420	2630
16S/11E-42M4	13		1974	1.2	97	592
16S/11E-42M5	43		1972			
16S/11E-42M6	3		1975	0.6	190	805
17S/10E-2E1			1964	0.6	220	721
17S/10E-11A1	330		1975	0.7	120	446
17S/10E-11A2	360		1975	0.5	66	330
17S/10E-11B1						
17S/10E-11G1	300		1972	0.4	68	336
17S/10E-11G2	335	315	1982	0.4	99	394
17S/10E-11G4						
17S/10E-11H1	344		1975	0.5	34	288
17S/10E-11H2	344		1986	0.5	47	293
17S/10E-11H3	348		1995	0.5	54	312
17S/11E-16J1	336	226-236	1974	1.3		
17S/11E-18K1	150		1975	0.7	82	431
17S/11E-22E2	120	118-120	1975	0.8	190	618
17S/12E-17A1	70	68-70				

Blanks indicate no data available

Planning Response  
to Brammer 2004  
tr in Appendix B  
Westwind Water Sales  
History 1990-2004.  
Rec'd from JHeub  
5-25-2010

CERTIFIED MAIL P #7002 3150 0004 6945 6112

Verified as true  
copy of document he  
authored from  
Planning Dept files  
by Jim Minnick  
under oath at  
CEC Evid Hrg 5-25-10

September 7, 2004

Michele Brammer  
14 E. Agate Rd.  
Ocotillo, CA 92259

Subject: Westwind Water Co.  
APN: 033-564-02-01

Dear Ms. Brammer,

The County of Imperial Planning/Building Department is in receipt of your July 23, 2004, letter and follow-up email dated August 20, 2004. Per your request Department staff has reviewed the documents you submitted along with Department files in order to ascertain whether or not the existing water well and water usage on your property was a "pre-existing condition." If so would that allow for the continued sale of water at the current rate of usage?

Department staff reviewed your documents and agrees that water has been pumped from two existing water wells, and sold for offsite use at various qualities since the late 1950's. The Department files on hand date back to 1973 when William Elfring requested a Conditional Use Permit #102-73 for a "Travel Trailer Park." The Park was to be developed in two phases. Phase One would consist of 28 travel trailer parking spaces, for use by winter tourists with connections to water, electricity and sewage. Phase Two would develop a 20 X30 ft. swimming pool, shuffleboard court, and 24 X 36 ft. recreation room (Attachment A). A site plan submitted with by Mr. Elfring shows the proposed two phased project along with the following existing improvements and structures two existing wells, a 20,000 gallon tank, one mobile home, restroom, cabana, and septic tank (Attachment B). Selling bulk water in any form from these two existing wells was not mentioned or addressed in anyway by either Mr. Elfring or the County.

The Conditional Use Permit (#102-73) for the Travel Trailer Park was approved by the Imperial County Planning Commission on June 12, 1973 (Attachment C) In January 1974 Mr. Elfring requested and received a six (6) month time extension to develop the Park due to the delay in getting approval from the State Water Quality Control Board (Attachment D).

Sometime between January 1974 and April 1974 Mr. Elfring requested the allowance to sell water from the wells. The reason is unclear there is no real explanation given. On

Exhibit 565

April 30, 1974 a letter from the Planning Director Richard Mitichell of County Public Works Department to Mr. Elfring stating that the Imperial County Environmental Evaluation Committee had reviewed their proposed project to sell water was found it to have a significant environmental impact, requiring that a complete Environmental Impact Report be completed (Attachment E).

The Environmental Impact Report (EIR) dated May 7, 1974 includes a project description (Attachment F). The project description states that Mr. Elfring was granted permission (CUP#1091-73) to develop the trailer park but that he was now applying for a Conditional Use Permit to allow for the sell of bulk water from two wells on the property. At the time Well #1 was 212' deep with a capacity of 75 gallons per minute and Well #2 was 560' deep with a capacity of 400 gallons per minute. It states that Mr. Elfring has averaged approximately 100,000 gallons per day combined pumping from the wells. Mr. Elfring was requesting the allowance to sell approximately 50,000 gallons per day via tank trucks. This would imply that Mr. Elfring was informed or became aware (no records available to substantiate this) that the selling of bulk water at least at the level of 50,000 gallons per day was illegal and would require County permission. The EIR states it would require between 15 to 20 tanker trucks per day in order to sell 50,000 gallons of water per day.

On page 3 (c) of the EIR it states that prior applications to sell of water in the Ocotillo area at the time was meet with violent opposition by the public and permits denied. It also acknowledged that there where at the time existing wells such as the Clifford Well that were selling water to Mexico. There were concerns what effect the pumping of these wells would have on the Ocotillos scarce natural resource (water). The selling of water to Mexico would come to a head some years later with the court case between the County of Imperial and the McDougal Wells. The legal battle of McDougal illegally selling bulk water to Mexico went all the way to the United States Supreme Court with the County ultimately prevailing and the McDougal operation shutdown. The Ocotillo water basin is a federally recognized sole source aquifer.

The predominate issue was how would the Elfring pumping affect the water supply. The EIR proposed a mitigation measure that would attempt to address this issue, by requiring that the Water Appropriation Permit and the Conditional Use Permit be issued for one year, so that they could be terminated or renewed at the end of one year depending on the impacts the pumping had on the aquifer (Proposed Conditions Attachment G). It is presumed that had the project been approved that at the applicants cost a third party certificated water tester would have had to test the water table level.

On June 11, 1974 the Planning Commission heard the project and "*...after considerable deliberation and controversy...*" approved it (Attachment G). However, the approval was challenged by Mr. James Stewart and Mr. Orlando Foote filled separate appeals to the Board of Supervisors (Attachment H). Mr. Stewart appealed the Planning Commission's approval "*...on the grounds that the EIR was incomplete and inclusive...*" Mr. Foote on the other hand represented Mr. Elfring and appealed the Planning Commissions approval in regards to the conditions placed on the project.

The Board of Supervisors first hearing was on July 16, 1974, where it was continued to August 6, 1974. At the second hearing (August 6, 1974) the Board of Supervisors

*“overruled the action of the Imperial County Planning Commission in granting a Conditional Use Permit to William Elfring to sell water for conveyance by tanker trucks from the premises at Ocotillo. However the Board recognizes the right of the applicant to reapply for a Conditional Use Permit at such time as the hydrological study is completed.”* (Attachment I) There is no record on whether or not a hydrological study was ever completed or whether Mr. Elfring ever applied for a new Conditional Use Permit.

The EIR's project description provides the information that although Mr. Elfring has two existing wells and has been capacity to pump 100,000 gallons he was requesting permission to legally pump and sell 50,000 gallons. This request originally approved for a one year test period by the Planning Commission was ultimately overturned by the Board of Supervisors on appeal by a third party. Therefore, based on the County records Mr. Mifring was never legally allowed to sell the 50,000 gallons he had requested and presumably any water from the site.

County Records take a jump from 1974 to 2000, where possibly response to a complaint, Department staff performed a site inspection of the Elfring property on January 25, 2000. The site inspection found various zoning and building violations (Attachment J photos), including the illegal water station, water pump, water tanks, open sewage hole, motor oil waste on the ground and in open containers, batteries, tires, rims, animals (horses and chickens), numerous vehicles in some of which where in various stages of disrepair, hooked-up travel trailers, substandard shades and stairs, and piles of debris. As required under Proposition 65 (Section 25180.7 of the California Health and Safety Code), a Hazardous Waste Actual or Threatened Illegal Discharge Report was filed on January 25, 2000, with the Division of Environmental Health Services of the Imperial County Department of Health Services for the tires, batteries, and used motor oil (Attachment K).

On February 1, 2000 the Planning/Building Department sent a Notice of Violation letter Certified Mail to William Elfring (Attachment L). The Notice of Violation called for the property owner to *“...Cease and desist all commercial water sales...”* citing the Imperial County Land Use Ordinance (Title 9) Section 90203.01 which does not allow for the commercial sale of water. The letter also sited the violations identified in the site inspection and requested abatement of all violations.

The Department performed a follow-up site inspection on July 28, 2000 and found that cleanup of the site had commenced, but that were still outstanding violations (Attachment M Photos). A second Notice of Violation was sent Certified Mail Mr. Elfring on August 22, 2000 (Attachment N). To date the Notice of Violation is still outstanding.

The Department understands that you and your husband purchased this property from the Elfrings and may not have been aware that the commercial water pumping was illegal and not under any county permit. Additionally, you may not have been prevey to the Notices of Violations sent to the Elfrings. **Therefore as the current owners of record the County of Imperial hereby formally requests that you immediately cease and desist all commercial water sales, abate any outstanding building and/or zoning violations.**

On September 3, 2004 at 9:30 a.m. the Planning Director physically visited the site while there he visually observed two tanker trucks both from the Havens Company one using a Granite Construction Company tanker illegally pumping water from the Elfring Wells. This visit officially confirms the illegal pumping operation and this letter hereby shall constitute a final cease and desist order.

In the event that you desire to legalize the Westwind water company operation of selling bulk commercial water it is requested that you apply for a Conditional Use Permit with this Department and go through the discretionary approval process. Please keep in mind that if past water issues in the Ocotillo area is any indication of the current local climate the approval process could be difficult.

If you have any questions please don't hesitate to contact me at (760) 482-4236 extension 4278 or at [jimminnick@imperialcounty.net](mailto:jimminnick@imperialcounty.net).

Sincerely,

Jim Minnick  
Planner IV

Attachments:

- A. Conditional Use Permit for Travel Trailer Park Application w/ Environmental Review
- B. Site Plan for Travel Trailer Park
- C. Conditional Use Permit #102.73 Resolution of Approval by the Planning Commission June 12, 1973
- D. Request and approval of 6 month time extension for CUP #102.73
- E. April 30, 1974 letter to Mr. Elfring regarding water sell request
- F. Environmental Impact Report (EIR) dated May 7, 1974
- G. June 17, 1974 letter to Mr. Elfring regarding Planning Commission June 11<sup>th</sup> approval of Water Well CUP with proposed conditions
- H. July 10, 1974 letter to the Board of Supervisors regarding the appeal of the Water Well CUP
- I. July 16, 1974 and August 6, 1974 Board of Supervisors Minute Orders
- J. January 25, 2000 Site Inspection photos
- K. Hazardous Waste Actual or Threatened Illegal Discharge Report
- L. February 1, 2000 Notice of Violation letter
- M. July 28, 2000 Second Site Inspection photos
- N. August 22, 2000 Second Notice of Violation letter

CC: Jurg Heuberger, AICP, CEP, Planning Director  
Darrell Gradner, Assistant Planning Director  
File APN 033-564-02-01  
File: Zoning Violation file  
File 10.102

Edie Harmon  
P.O. Box 444  
Ocotillo CCA 92259

STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the matter of:

APPLICATION FOR CERTIFICATION FOR  
THE IMPERIAL VALLEY SOLAR PROJECT0  
(FORMERLY SES SOLAR TWO)

---

)  
)  
)  
)  
)  
)

DOCKET NO. 08-AFC-5

OPENING AFFIRMATIVE TESTIMONY ON ALTERNATIVE WATER SUPPLY  
OF WITNESS EDIE HARMON  
FOR INTERVENOR TOM BUDLONG

May 10, 2010

Re: Tessera/SES Solar Two/Imperial Valley Solar **Project**  
Affirmative Testimony for Evidentiary Hearing re Alternative Water Supply May 24, 2010

“Imperial Valley Solar (formerly Solar Two) (08-AFC-5) Supplement to the Application for Certification URS Project No. 27657106.00806” proposed to use groundwater from well 16S/9E-36G4 in the Ocotillo/Coyote Wells Groundwater Basin, a US EPA designated Sole Source Aquifer

1. The careless inattention to detail by agency staff reviewing the SA/DEIS reveals that there is a lot of uncertainty about local geography and place names. ES-1 correctly located the proposed project in Imperial County, but then erroneously states that it is located 4 miles east of Ocotillo Wells, which is a tiny community in San Diego County east of Borrego Springs on Hwy 78. A look at a AAA map for Imperial County could have solved the problem. What this tells us is that the staff was so rushed to meet artificial deadlines set by the project proponent, that no one took time for fact checking and that if local BLM staff read the document it was only superficially and not for content!
2. Alternatives Figure 1B does not include any scale. I had tried to use a light table to superimpose map information from one alternatives map to another, only to discover that the scales on the maps were different, but more importantly that Alternatives Fig. 1B. Similarly, Soil and Water Resources Figs. 2, 4, 5, 6, 8, Noise and Vibration Fig.1 all have no scale. Again, inattention to detail, or was it just expected that no one would actually look at the figures? Or is this the result of staff being so pressured to meet artificial deadlines that readily apparent omissions and errors were missed?
3. So, if easily corrected errors and omissions made it into the SA/DEIS, how much other information is inaccurate or uncorrected? Of special concern to me are facts and issues related to the proposed use of potable water for industrial purposes from a basin where the nearest impacted downgradient users are those private wells using untreated water from their wells for domestic purposes.

#### **Arbitrary deadlines**

4. These errors/omissions reinforce the concerns of the public that the purposes of NEPA and CEQA are not well served by a desperate attempt to complete work by some externally imposed deadline by the applicant's need to get federal funding to make the project financially viable. And shortening the time between the deadline for submitting comments on the SA/DEIS and release of the Final SA/EIS and proposed ROD, reveals that there is no serious intent to give serious consideration to comments from the public. The public acknowledges that agency staffs are real people who occasionally do need breaks to eat and sleep and that when totally exhausted no one does his or her best work.
5. Accordingly, the rush to meet deadlines for stimulus money should not be the controlling factor in schedule setting for CEQA/NEPA reviews. A rush to a decision to obtain money could leave both the State and BLM later regretting decisions made in haste, but the damage to public lands and resources will be irreparable and likely unmitigable given the resource values at risk.
6. **Applicant's failure to submit timely documentation related to Alternative Water Supply identified in Applicant's Opening Testimony dated March 15, 2010** require additional time for public review to meet the intent for public participation in both the CEQA and NEPA processes related to the IV Solar/Solar 2 Project scheduled for Evidentiary Hearing on May 24, 2010. Public agencies cannot be blamed for delays and should not be criticized for allowing additional time for public participation as intended by applicable legislation.
7. I have lived on properties overlying different parts of the Ocotillo/Coyote Wells Groundwater Basin since 1977. I have been researching groundwater issues, legal and analyzing USGS monitoring data since the first week I moved to Ocotillo. I am a groundwater user/owner of a private well for domestic purposes in the southern part of the basin. Our well 17S/10E-11H3 (replacing well 17S/10E-11H2) has been part of the USGS groundwater monitoring program since it began and the

well is monitored for both water level (every 6 months) and for water quality (every two years). (See Exhibit 516 EH Table 10, a compilation of USGS water level and water quality data which I prepared for Sierra Club comments on the 2008 US Gypsum FEIR/S and updated for the 2010 Coyote Wells Specific Plan DEIR comments. )

8. The Ocotillo-Coyote Wells Groundwater has been acknowledged as being in a state of local overdraft since the USGS report in 1977, a study cited in CEQA and NEPA documents for projects seeking to use groundwater from this groundwater basin. Evidence of local conditions of overdraft exists in monitored wells which reveal continuing declining water levels even though there have been three years (1976, 1977, and 1981) where there were “100 year storms” that caused considerable flood damage in communities overlying the groundwater basin, and even though there was standing water in sinks that remained for weeks. (Personal observations of flooding and standing water following heavy rains.)
9. The decades of local concerns about groundwater export activities and declining water levels are reflected repeatedly throughout the text of the Ocotillo Nomirage Community Area Plan (ONCAP) adopted by the Imperial County Board of Supervisors in April 1994 as a part of the Land Use Element of the County’s General Plan. (See Exhibit 517 full text of ONCAP)
10. Not only has County of Imperial been a party to what County Counsel Fries once said was at least 8 lawsuits related to export of groundwater by old tanker trucks from the Ocotillo and Yuha areas, but there have been legal challenges to the decisions of the County Board of Supervisors to approve agricultural (El Remate project at Sunrise Butte) and industrial use (US Gypsum factory) of large quantities of potable groundwater from wells where a review of the monitoring data and underlying geology indicated that large scale pumping (by basin standards) would cause or are already associated with large cones of depression that have the potential to create serious adverse impacts on domestic users with small capacity domestic wells. Litigation related to the County’s 1998 a failure to require preparation of an EIR for the increased pumping of portable groundwater for industrial purposes is has not yet been resolved.
11. Exhibit will be provided for Appellate Court in its D0D034281 Decision of 10/26/00 (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial, US Gypsum, Real Party in Interest.) Text of the Court decision relates to groundwater studies relied on my several projects and the Court’s analysis is instructive, and cited herein.
12. In light of the history of decades of zoning restrictions and litigation related to groundwater use issues, it is not surprising that the February 2010 SA/DEIS for the IV Solar/Solar 2 Project (at p. C.7-3) sought to avoid conflicts related to groundwater uses when very clearly states that “**NO GROUNDWATER WOULD BE USED BY THE PROJECT** and the effect on groundwater infiltration would be negligible.” (Emphasis added.) This very unambiguous statement was reassuring to concerned residents of the groundwater basin, especially those downgradient residents in Nomirage.
13. Does the Applicant’s Supplement May 5, 2010 to the Application for Certification for 08-AFC-5 not docketed until May 10, 2010 which leaves less than 3 weeks before the end of the SA/DEIS comment period meet the procedural requirements of both CEQA and NEPA?
14. The shortened time for review and detailed analysis of all the cumulative impacts of additional proposed groundwater use at the well identified raises serious concerns. There must be an analysis of both the existing pumping, permitted pumping, projects approved but not yet constructed, development projects proposing additional groundwater use, gravel operations groundwater use, and the proposed and foreseeable future groundwater proposals related to other industrial scale energy development projects both close in and those with wells several miles away.

15. The Comment period for the Supplement to the Application for Certification should be extended and evidentiary hearing testimony related to hydrology rescheduled or continued to afford responsible State and Federal agencies an opportunity to review and comment on the Alternative Water Supply. Agencies which should review and comment include US EPA because it was the EPA that designated the Ocotillo Coyote Wells Groundwater Basin as a Sole Source Aquifer in 1996. (Exhibit 515).
16. USGS Water Resources Center in San Diego has been monitoring the water levels and water quality of wells in the Ocotillo/Coyote Wells Groundwater basin since the early 1970s when County of Imperial became involved in litigation efforts to stop the export of groundwater from wells on three properties in different parts of the groundwater basin.. It is USGS water level and water quality monitoring data that has been the basis for almost all, if not all of the reports on the groundwater basin used for CEQA and NEPA project reviews and in litigation in both State and Federal courts since 1972. How USGS data is analyzed, the accuracy of representing locations and interpretations of water quality data from USGS monitoring has been a subject of controversy in CEQA reviews for several projects. (See Exhibit 516 EH Table 10, a compilation of USGS water level and water quality data which I prepared for Sierra Club comments on the 2008 US Gypsum FEIR/S and updated for the 2010 Coyote Wells Specific Plan DEIR comments. )
17. Both US EPA and USGS submitted substantive comments and concerns about the 2008 US Gypsum FEIS, which unfortunately was not made available for their review prior to the decision by the County to certify the EIR and grant approvals prior to federal distribution of the joint EIR/EIS to federal agencies. Although made public after the County decision, these letters reveal the ongoing and continual nature of concern about impacts to the groundwater basin. (See Exhibit 518 US EPA 2010-04-11 letter re Final EIS for US Gypsum project. Exhibit 519 USGS 2008-12-24 letter to Cong. Filner re Final EIS for US Gypsum Project.)
18. The ongoing concerns of US EPA related to uses in the groundwater basin are also noted in the letter from EPA related to the NOP for the Coyote Wells Specific Plan project in February 2009. (Exhibit 520.)
19. Nowhere are the problems of foreshortening the opportunities for public review and review by responsible state and federal agencies more glaring than in the applicant's changing the source of water for the construction and maintenance of the project of greater significance than in the assertion that the applicant now intends to use groundwater to be exported by tank trucks from former WestWind Water company now the Dan Boyer Well 16S/9E-34G4 which is close to the US Gypsum export wells. The location of this well and its pumping activities in the 1970s made it a major historic contributor to the large cone of depression associated with the even greater pumpage from three nearby wells owned by US Gypsum in the Ocotillo-Coyote Wells Groundwater Basin. (See 1977 USGS Report on the groundwater basin, and water level contour figures in EIRs based on USGS water level monitoring and maps depicting locations of wells for which monitoring data is available. See URS Supplement to Application for Certification Fig 1-4, Well location map p. 1-8. For additional information about well locations and water quality monitoring information see Exhibits 521, 522, 523 which are maps and a table from the 2008 US Gypsum Final EIR/EIS.
20. Said proposal "Supplement to Application for Certification" was submitted to CEC by cover letter dated May 5, 2010, **but not available on the /CEC website as of 5-10-2010 early in the morning.** The May 5, 2010 cover letter from URS for this change in water source is part of what the applicant identifies as "Imperial Valley Solar (formerly Solar Two) (08-AFC-5) Supplement to the Application for Certification URS Project No. 27657106.00806". Said 5 part documents were not posted at the CEC site when I called the Public Advisor Jennifer Jennings on May 6<sup>th</sup> 2010. She forwarded all 5 parts of the Supplement to the Application which included the proposed change to use groundwater from Ocotillo. The documents were docketed today, May 10, 2010.

21. However, I was not been able to find any computer or printer which is able to print out the Supplement to the Application part 2 of 5. Part 2 of 5 was readable as sent for a very brief time and could be opened but not printed until May 10, 2010. The text appeared to possibly be a portion of the 2006 Draft EIR/EIS for the US Gypsum Modernization and Expansion Project which was prepared following the 2001 decision of the Court of Appeal in Sierra Club v. County of Imperial, US Gypsum, Real Party in interest. Indeed, the 2006 USG DEIR contains USGS monitoring data through 2001 and is therefore outdated and does not reflect the continuing decline in water levels.
22. I am very concerned that US EPA which had made the Sole Source Aquifer determination of the Ocotillo-Coyote Wells Basin in 1996 should be notified and groundwater experts have an opportunity to review the proposal together with a cumulative impacts analysis for all existing and proposed groundwater uses in the basin. Should I contact US EPA myself or does the CEC or BLM notify responsible agencies of the changed project description?. I have not had internet access or cell phone capability (ATT is increasingly unreliable and cutting off service) or time to do so since getting the portions of the Applicant's supplemental documents in the early morning hours of May 7<sup>th</sup>, 2010.
23. Is it the responsibility of the concerned public to notify federal agencies that a project with just 3 weeks left in the formal CEQA/NEPA review has changed a major component of the project description- WATER source Alternative Supply and request federal agency review., hoping that the agency is not currently already overwhelmed with document review for other projects??
24. Should I contact USGS hydrologists to alert USGS (the source of groundwater monitoring data for the basin) that the water source for the proposed solar project has changed and ask for their review. Please note that the applicant's consultant URS does not include 2010 USGS water level monitoring data or the most recent USGS water quality data for wells in the Ocotillo-Coyote Wells Groundwater Basin which can be obtained at the USGS websites. Alternatively if 2010 data has been included, I have not yet discovered it in the documents from the Applicant.

**Evidentiary hearings on hydrology issues should be rescheduled to allow public and agency review of groundwater issues which are not publicly available on the CEC project site until May 10, 2010**

25. There should be no evidentiary hearings until the review of the whole of the project and all of its components is complete and the public and hydrology experts from responsible agencies such as US EPA and USGS have an opportunity to review the changed proposed source of water for the project and have had an opportunity to compare information and analyses from one section to another and from other recent and past EIR/EIS documents related to groundwater uses from the Ocotillo-Coyote Wells Groundwater Basin.
26. Has the CEC staff considered the groundwater issue and evaluated the impacts, and/or will staff make such an analysis available for public review and comment?
27. It appears that is no assured water supply for the IV Solar/Solar 2 project that will not have potentially serious adverse environmental impacts or cumulative impacts on downgradient biological resources (humans in the case of groundwater.). There are problems associated with the earlier stated intent to use water from the Seeley Wastewater Treatment facility. And there are very different problems and impacts associated with a proposal to use potable groundwater for construction and mirror washing miles to the east of the water well and from a well upgradient of the scores of small private wells that supply each private parcel in the Nomirage subdivision..
28. As Judge Judith McConnell wrote in her August 31, 2000 Statement of Decision in Case No. 676630 (Save Our forests and Ranchlands v. County of San Diego), "an environmental review deferred is an environmental review denied." She found that the decision-makers (San Diego County Board of Supervisors) had been deprived of the information it needed about potential environmental impacts, including possible contamination and depletion of groundwater resources, when it approved a General Plan Amendment amending the General Plan's Land Use Element. Judge McConnell noted that:

“Drafting an EIR or preparing a negative declaration necessarily involves some degree of forecasting. **While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.**” (Emphasis added.) Guidelines, Cal. Code of Regs., Tit. 14, Sec. 15144.

Where, as here, important, detailed and relevant information is missing, it precludes informed decision making and a prejudicial abuse of discretion results. *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d.692.

(Judge McConnell’s language in SOFAR 8/31/00 Statement of Decision at pp. 7,

### **There can be no surplus groundwater for export in an overdrafted basin**

29. **California Constitution Article X, Section 2, Water** states that:

“It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use be prevented, and that the conservation of such waters is to be exercised with a view to reasonable and beneficial use thereof in the interest of the people and for the public welfare.. The right to water or to the use or flow of water ... in this State is and shall be limited to such water as shall be reasonably required for beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water.”

30. Court decisions related to groundwater use have “established that groundwater may be appropriated by others and pumped and transported to land that does not overlie the aquifer, **after the needs of overlying property owners are satisfied, that is when there is a surplus.**” (Crother An undated (1996?) paper entitled “Groundwater Rights in California” by Christie Moon Crother, Senior Water Resources Planning Analyst for the Eastern Municipal Water District, San Jacinto, CA. at p.1.)
31. Katz v. Walkinshaw , overlying owners correlative rights and Imperial County’s legal efforts to stop export of groundwater to Mexico from the Ocotillo-Coyote Wells Groundwater Basin.
32. However, the use by overlying users has been considered as paramount in case law. Katz v. Walkinshaw (1902) 141 Cal. 116 established the concept of overlying water rights in which all property owners above a common groundwater basin or aquifer have a right to use the groundwater underlying their property and to make reasonable use of the groundwater on their land above the groundwater. The rights of overlying property owners to use the groundwater was determined to be “correlative”, or to be shared on a pro rata basis in times of shortage. The correlative rights prevent unlimited use of the groundwater by a single person or property owner. **The Court found that the right to pump groundwater for use on lands not overlying the basin are subordinate to the correlative rights of overlying users .**
33. In the situation for IV Solar, the thousands of acres of public lands managed by BLM are not on the parcel from which the well intends to pump, therefore the correlative rights of the existing overlying domestic users should be considered superior to the use of water to be transported outside of the potable groundwater basin as defined by US EPA’s designation of the Sole Source Aquifer. Please note that County of Imperial has chosen a political boundary for the groundwater basin in order to include the industrial uses by the US Gypsum factory which overlies highly saline water to the east of the Elsinore and Laguna Salada Faults, but closer to the Westside Main Canal from which Imperial Irrigation District has agreed to provide up to 1000 AF/Y Colorado River water to alleviate the impacts on the potable groundwater basin from which US Gypsum has a gravity flow pipeline. (IID documents related to this approval will be provided as Exhibits.)
34. It was this Katz v. Walkinshaw case that was repeatedly cited and relied upon in Imperial County’s proceedings to shut down the export of groundwater from the Clifford-McDougal well in Ocotillo and

the McDougal well in Yuha Estates, where both wells overlie the Ocotillo-Coyote Wells Basin. The Appellate Court in its D0D034281 Decision of 10/26/00 (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial, US Gypsum, Real Party in Interest did not forget the numerous cases before that same Appellate Court when Imperial County vigorously defended its authority to stop the export of groundwater from the basin in order to protect the uses of property owners overlying the basin and using water on the parcels overlying the basin.

35. A California Supreme Court decision determined that it was not necessary to adjudicate a groundwater basin to stop the export of groundwater. Corona Foothill Lemon Co. v. Lillibridge (1937) 8Cal 2d 522 found that the **fact that groundwater levels were dropping is sufficient to show that there is no surplus water.**

36. For US Gypsum's proposed project to increase its groundwater export for use on parcels many miles distant from the overlying parcels, the USG USG DEIR/EIS 4/06/EIS Vol II the Hydrology technical appendices and text, and the text, figures and tables of the USG USG DEIR/EIS 4/06/EIS reveal:

(a) that groundwater levels are and have been dropping (DEIR hydrology impacts discussion at 3.3-66 through 3.3-81) (thus, there is no surplus water) and

(b) that USG attempted to assert a right to 767 AF/Y of groundwater purportedly pumped when production levels did not support that figure reported by USG to USGS. (See USG DEIR/EIS 4/06 text at p. 3.3-29, Table 3.3-4 at p. 3.3-28, and Table 3.3-8 at p.3.3-70)

Both of these conclusions support the conclusion of the Appellate Court in its D0D034281 Decision of 10/26/00 (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial, US Gypsum, Real Party in Interest.) **Furthermore, such a USG inflated claim of groundwater pumpage above production requirements clearly represents an unreasonable use or unreasonable method of use of groundwater or a waste of water prohibited by the California Constitution. And which cannot be upheld as being reasonable for inclusion into any County Ordinances or planning documents.**

37. The following USG DEIR/EIS 4/06 discussion of water levels in the basin, confirms the lack of "surplus" groundwater available for use on parcels other than the overlying property from which it is pumped. USG DEIR/EIS 4/06 text at 3.3-49 referencing Fig. 3.3-9 at p. 3.3-47 notes that the:

"hydrographs for all of the wells shown in Fig. 3.3-9 indicates that the static (non-pumping) water levels in the Ocotillo/Nomirage area have steadily declined over the last 30 years. .... The hydrographs for several of the wells, but most notably 16S/9E-36D2, indicate that the decline has been very consistent over this time period. This is somewhat surprising because the rate of rainfall in the basin from 1976 to 1993 was generally above average (see Figure 3.3-2) and the rate of water production from the basin from 1979 to 1996 decreased by almost 45 percent (see Figure 3.3-8). (USG DEIR/EIS 4/06 at 3.3-49.)

38. Additionally, **California Water Codes at Section 106** states that "It is hereby declared to be the established policy of this State that the **use of water for domestic purposes is the highest use of water and that the next highest use is for irrigation.**" Therefore, regardless of the USG DEIR/EIS 4/06 suggestion that the industrial uses at Plaster City and the most economical source for obtaining water for industrial purposes is a need which should trump overlying domestic needs, case law and Water Code Section 106 do not support USG's DEIR assertions or a conclusion that IV Solar's use of potable water for construction, dust suppression and mirror washing could trump domestic use is unsupportable..

39. **10/26/00 Appellate Court Decision D0D034281** (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial (re USG increased groundwater use without environmental review) in Sierra Club's favor, contains extensive discussion of groundwater issues and reversed the trial court decision. In March 2001, the Trial Court then entered Judgement consistent with the Appellate Court decision and required preparation of an environmental impact report and rescinded permits based on the required

environmental review for the already constructed factory at Plaster City.

40. Furthermore, based on the above cited text of the Appellate Court in its D0D034281 Decision of 10/26/00 (Imperial County Superior Ct. No. 97911) *Sierra Club v. County of Imperial, US Gypsum, Real Party in Interest.*) decision the County's 2006 decision to approve US Gypsum's purported "historic use" of 767 AF/Y is contrary to the clear language of the decision which stated that such use could not be substantiated. If it could not be substantiated, by what authority could the County award such a grant of special privilege? Litigation on this case continues, and the question remains, will the Court have the final say about the groundwater export by US Gypsum? What about IV Solar's variable use needs ranging from 45,000 to 90,000 gpd according to two sworn testimonies?
41. **"U.S. Gypsum Variance"** The **"US Gypsum variance"** refers to the difference between water used at the plant based on production versus the inflated amount reported by US Gypsum to USGS in 1975 and is acknowledged in the USG DEIR/EIS. This text should make anyone concerned about accepting glowing assurances that large-scale pumping will not have adverse impacts, because no one really knows how much water was pumped. For use at the factory. Specifically:

"For the period from 1925 through 1975, USG reported water use to the USGS for use in the USGS groundwater modeling study (USGS, 1977). The basis for the pumping rates reported over this time period are uncertain. For the period from 1970 through 1980, USG also provided Bookman-Edmonston estimates of water use based on wallboard production rates (Bookman-Edmonston, 1996, page 6-2). Bookman-Edmonston reports "Estimates of water use provided to USGS are 70 percent greater than estimates of water use based upon production records during 1970 to 1975 (the only years where these records overlap). The difference could not be reconciled." Table 3.3-4 shows the water use reported to the USGS and the values based on production rates for the period from 1970 to 1975. The rates reported to USGS range from 575 AF/yr to 767 AF/yr. The rates based on production range from 338 AF/yr to 451 AF/yr. The difference between these two sets of data is referred to as the "U.S. Gypsum Variance" on Figure 3.3-8, Annual Water Production."

Since 1981, the groundwater extraction rate has reportedly been measured at each well by USG. Thus, these data are considered the most reliable. (Draft Environmental Impact Report for US Gypsum Expansion/Modernization Vol. I at p. 3.3-29.) (See also Exhibit 524 Bookman-Edmonston 2004 Table 4-2 Historical US Gypsum Well Production.)

**ONCAP: overwhelming concern about groundwater quality and quantity issues are central to plan.**

42. There is no source of surplus groundwater in the Ocotillo-Coyote Wells Groundwater basin for export to the Solar 2 project site, although there might be sites further from the center of the cone of depression that would have less adverse impacts on down-gradient domestic well owners. The basin was designated as a "Sole Source Aquifer" by EPA in 1996, and because of that designation, any project for which there is any federal money to be spent would require a serious study by US EPA and USGS to determine impacts and mitigation for impacts on the SSA. (Exhibit 515.)
43. The Ocotillo-No mirage Community Area Plan (ONCAP) was adopted as a part of the County's Land Use Element of the General Plan in 1994. (Exhibit 517) The ONCAP specifically requires a site-specific geohydrology study for any project or property intending to use 5 acre/feet/year.
44. While the Coyote Wells Specific Plan Draft EIR was being reviewed, I can assure you that even with weeks of searching, we have not located any recent USGS groundwater monitoring data for either water level or water quality in the area where pumping is concentrated. Without such information it would not be possible to conclude that there would be less than significant impacts to the existing residential users and future property owners downgradient. This information is necessary not only for the Boyer well, but for the US Gypsum wells also if one is to understand the potential for cumulative impacts..

**Any IV Solar/Solar 2 applicant reliance on historic analysis/studies done by the Bookman-Edmonston**

## **Company for US Gypsum is flawed because USG pumping data could not be verified by the Court**

45. Scoping comments requested the 2006 USG DEIR/EIS to present in table format the **annual groundwater usage** at the Plaster City factory since operations began. What is the source of this data? Is it flowmeter readings? If so, when were flowmeters installed for each operational well and what is the amount of water pumped from each operational USG well annually? How does water usage correlate with factory output? If there is any discrepancy, what is the explanation? Such information was not found in the USG Draft EIR/EIS 4/06 or its accompanying appendices.
46. What is the explanation for discrepancies between asserted water usage and production output noted by the USG Bookman-Edmonston (BE) study, USG DEIR Table 3.3-4 at p. 3.3-28, and the Appellate Court Decision? How much water is used for processing? The USG DEIR Table 3.3-4 data reported to USGS for years 1970-1975 appear inflated and to represent an unreasonable and therefore non-beneficial use of groundwater from a basin with declining water levels.
47. **USG has increased its water use from 400 AF/Y reported in the USG DEIR/EIS 4/06 and is currently pumping 550 AF/Y** from the Ocotillo -Coyote Wells Basin according to representatives of USG. USG DRAFT EIR/EIS 4/06 at 2.0-17 and 2.0-32 describes a “gravity feed pipeline” from the Ocotillo area as providing “approximately 400 AF/Y” of groundwater. However, during a 5/18/06 meeting with representatives of and attorneys for USG, the Harmons and Julie Hamilton were told that USG is using 550 AF/Y now. **Why does the USG DRAFT EIR/EIS 4/06 state one figure for groundwater use as of the DEIR which was released for public review in April 2006 when USG employees and attorneys verbally state a figure more than 25% higher for 2006 usage?** Such an increase in groundwater usage appears to violate both CEQA and the intent of the Court when permits were revoked and preparation of an EIR required. The outdated information and a changes source of water certainly points out the necessity for a revised SA/DEIS at the very minimum. Exhibit 524, the Bookman-Edmonston 2004 Table 4-2 provides only pumping information through 2002, some eight (8) years ago. What has the pumpage for each of the 3 USG wells ben from 2003 through 2010? Has this information been provided by the IV Solar Applicant?
48. USG DRAFT EIR/EIS 4/06 at 2.0-18 and elsewhere asserts a “recorded high [water usage] of 767 acre-foot per year”. However, the **Appellate Court concluded that USG asserts a level of pumpage for which it has no data.** Having reviewed no evidence to contradict the Appellate Court’s reasoning, we, therefore, conclude that the 4/06 USG USG DRAFT EIR/EIS 4/06 assertion of a high water use is erroneous. As noted herein, there are a number of submissions by on behalf of USG, including DEIR Table 3.3-4 at p. 3.3-28 which confirm the Court’s conclusions.
49. The USG commissioned Bookman-Edmonston (BE 96) study both in text at p. 6-2 and in Table 6-2 at p. 6-3 reveal no pumpage in excess of the highest estimated water use of 600 AF/Y in 1975 by USG at the Plaster City operations. The USG commissioned BE 96 study noted that:

In addition, water use estimates for years 1970 through 1980 were made by U.S. Gypsum based on production records. Beginning in 1981, water use has been measured at each well. Table 6-2 presents a summary of U.S. Gypsum well production for the years 1976 through 1994. Estimates of water use provided to USGS are 70 percent greater than estimates of water use based upon production records during 1970 to 1975 (the only years where these records overlap). This difference could not be reconciled. (BE 96 at p. 6-2.)
50. BE 04 updates BE 96 Table 6-2, but BE 04 omits information that is related to how accurate or reliable the data might be and fails to provide any reasoning that would contradict why the Appellate Court did not accept USG’s assertion of a high level of pumpage (767 AF/Y) to which USG repeatedly references as some purported “right” which we believe would not be consistent with the language of the California Constitution Article X, Section 2. It is important that the CEC and BLM understand the real reliability or lack thereof with respect to numerical data in past hydrology studies for US Gypsum EIR/EISs.
51. The above BE 96 statement suggests that, according to BE 96 report, the highest recorded USG

pumpage is more likely well below the now asserted 767 AF/Y. See also USG DEIR Table 3.3-4 at p. 3.3-28 for the historic USG water use at the Plaster City factory. This also raises questions about the reasons for what appears to be incorrect information provided by the USG company to USGS, the federal agency doing the groundwater study on the sole source basin from which USG was and is the largest pumper and exporter of groundwater. It should also be remembered that USG provided housing for company employees at Plaster City [population of about 65] until approximately 1987. However, it is highly unlikely that such a small population could use a quantity of groundwater so large as to account for the 70 percent discrepancy.

52. It is of interest to note that the company failed to record its water usage at that time to the appropriate State agency to establish its water usage in excess of 25 feet/year as required for users in other counties with even larger groundwater basins. Absent some verifiable data indicating that higher level of pumpage and explaining why pumpage, was so high for that year, the public has good reason to challenge the 1972 pumpage as having established any pre-existing rights and thereby justifying the elimination of a requirement for Draft EIR for the proposed increased groundwater pumpage up-gradient of the nearby residential subdivision of Nomirage.

53. Indeed, the Appellate Court decision, in text and footnotes, also recites the problems with USG's asserted levels of past pumpage for export to the Plaster City factory. In footnote 2, the Court noted that:

2 Bookman-Edmonston could not reconcile USG's water use calculated from USG's production reports with the water use USG reported to the United States Geological Survey, which showed levels 70 percent greater than production use levels. Further, USG admits "[t]he data used to determine these older water use levels [1966-1975] have not been located." Therefore, USG's claimed use of 767 AF in 1972 cannot be verified. (Appellate Decision D0D034281, fn 2 at p.8.)

54. In discussing its concerns about Imperial County's Groundwater Management Ordinance and the County's determination that USG has a priority use for 767 AF/Y as a "historical user", the Court stated:

**... However, USG has admitted that it has no data to back up this use, which occurred in 1972. More troubling is that Bookman-Edmonston, USG's own experts, could not reconcile USG's reported water use to USG's production records for the years 1970 to 1975, which are the years in which USG reported its highest water use. (Fn 4) Bookman-Edmonston found the amounts USG reported were 70 percent greater than the amounts calculated from the production reports. If we reduce USG's 1972 water use by 70 percent, it would have a priority of only 451 AF as an historical user. (Emphasis added.)**

---

4 **USG's reported use of water in the years from 1970 to 1975 is, in order: 668, 575, 767, 638, 691, 614 AF. The next highest year is 1969, during which USG reported using 560 AF. USG's average use of water during those five years is 659 AF. If we reduce that average by 70 percent, as suggested by Bookman-Edmonston, the average becomes 338 AF, an amount almost equal to its 1996 use of 367 AF. (Emphasis added.) (Appellate Decision D0D034281, text and footnote 4 at p. 15.)**

55. The conclusion of the Court is further supported by the footnote on a table submitted by USG and appended to a 1/9/97 letter from USG Plaster City's Plan Engineering Manager and included for public distribution in an "EEC Original Pkg" for USG plant expansion preliminary environmental review by the County. That table is entitled "United States Gypsum Company Plaster City Plant Historical County Water Use Records" from 1966 to 1996. This table contains the following footnote:

From 1996 to 1982 the water use figures are based upon flow meter readings. The water use figures from 1981 to 1976 are estimated values based upon several variables including plant board production records. The water use figures from 1975 to 1996 were based on current data and were reported to the United States Geological Service. **The data used to determine these older water use levels have not been located.** (Emphasis added.) (USG table in EEC Original Pkg with fax notation at top of page 10/10/98 09:19 Fax 213-623-0824 McClintock/Westin.)

56. Therefore, no significance should be accorded to the BE06 and BE 04 reports references to 767 AF/Y” or the USG USG DRAFT EIR/EIS 4/06 repeated references to some purported “recorded high of 767 acre-feet per year” (USG DRAFT EIR/EIS 4/06 at 2.0-18, 2.0-32, 2.0-69, 3.3-38) Does the public think this is a big issue? No doubt about it! When there is such well documented controversy about data supplied by US Gypsum, any reliance by a project applicant on some of the numerical information in a draft EIR/EIS for the US Gypsum project without major updates of data seems ill advised as a basis for decision-making. I share this information in the spirit of full disclosure related to USG hydrology..
57. How convenient that the old data for water usage could not be found in 1998 and apparently has not been “found” yet. (USG DEIR Table 3.3-4 at p. 3.3-28) Or by 2010. The USG company offers no explanation for why it pumped almost 200 acre-feet per year more in 1972 than it did in 1971 or how it has been able to maintain its level of production without using that quantity of water either before or since 1972. From the perspective of the public and groundwater users in the Ocotillo/Coyote Wells groundwater basin, one must question whether this level of pumpage was fact or whether it was the number used by the company to assert a high-level of usage and presumably assert some sort of pre-existing rights.
58. The USG DRAFT EIR/EIS 4/06 states that: “The Proposed Action anticipates increasing groundwater pumping from the existing wells up to a maximum of 767 AF/Y (the amount reported by USG in 1972).” (USG DRAFT EIR/EIS 4/06 at 3.3-1.) (To what agency was this purported usage reported and when?) Since USG provided no written justification for the increase in purported estimated water usage of 575 AF/Y in 1971 to 767 AF/Y in 1972 that it reported to USGS or why the numbers it reported to USGS did not match production data. That plus the fact that USG never recorded its water usage with the State or County in the manner required by law, there can be no assertion that 767 AF/Y represents any rights to export groundwater from the overlying parcels on which it is pumped. Such unnecessary pumpage of any quantity in such excess is detriment of the correlative rights of nearby overlying domestic users and nearby undeveloped parcels zoned for residential usage.
59. Citing the Appellate Court Fn 4 at p. 15: **“If we reduce that average by 70 percent, as suggested by Bookman-Edmonston, the average becomes 338 AF, an amount almost equal to its 1996 use of 367 AF.”** Interestingly this is 400 AF/Y less than the amount of groundwater anticipated by the Proposed Action subject of the USG DRAFT EIR/EIS 4/06!

**Downgradient portions of the Ocotillo-Coyote Wells SSA are more sensitive to pumping and respond differently than the upgradient wells according to the 2008 USG FEIR/S. The groundwater basin is complex and predictions are difficult and often projected lack of impacts prove incorrect**

#### **Yuha Estates**

60. “Yuha Estates is located approximately three to four miles southeast and downgradient of the Ocotillo/ Nomirage area. The recent literature research and field observations conducted by Bookman-Edmonston (2003) indicate that the geologic conditions in the Yuha Estates area are markedly different than those in the Ocotillo/Nomirage area. The Yuha Estates area sits on both a topographic and structural ridge trending northeast-southwest across the Ocotillo/Coyote Wells Groundwater Basin. The structural ridge is formed by a concave down curvature of the sedimentary beds referred to as an anticline. The combination of the topographic and structural ridges means that the Tertiary sediments occur at a much higher elevation in the Yuha Estates

area than in the Ocotillo/Nomirage area. Bookman-Edmonston (2003) indicates that water from some of the deeper wells in the Yuha Estates area comes, at least partially, from the Tertiary sediments underlying the alluvial material.

61. “Most of the pumping in Yuha Estates is for local domestic use. From 1978 to 1982, water was pumped from one well (17S/10E-11G1) for export to Mexico at a reported rate of approximately 143 AF/yr. Figure 3.3-10, Yuha Estates Area Hydrograph, is a hydrograph of the water level data from the Yuha Estates area. A hydrograph shows the water level data as it changes over time. The wells within the Yuha Estates area for which adequate data exists include:

17S/10E-11H1  
17S/10E-11H2  
17S/10E-11H3 [*EH well*]  
17S/10E-11G1 (McDougal Water Co.)  
17S/10E-11G2  
17S/10E-11G4  
17S/10E-11B1

62. “Information regarding well construction and sampling history are presented in Table 3.3-5. The hydrograph (Figure 3.3-10) for the Yuha Estates area is dominated by the pumping of well 17S/10E-11G1. Pumping of this well at 143 AF/yr from 1978 to 1982 resulted in a drawdown, or decline in water levels, of almost 70 feet. Drawdown was also observed in all of the other wells in the Yuha Estates area. The magnitude of drawdown in other wells ranged from approximately 8 feet to over 60 feet.
63. “Pumping of well 17S/10E-11G1 ceased 20 years ago. [*Export pumping ceased at the end of August 1982 per observations of adjacent property owners including Harmon..*] Water levels, however, have still not recovered to their pre-pumping levels. The water levels in the Yuha Estates area are approximately five to 10 feet below the levels recorded in the early 1970s. As shown in Figure 3.3-10, the rate of recharge has been very slow. The water levels in several of the wells appear to have stabilized and suggest that Yuha Estates is experiencing the same long-term decline in water levels as that observed in the Ocotillo/Nomirage area. As discussed above, this decline has occurred despite periods of above-average precipitation and a significant reduction in the rate of pumping over the same time period.” (USG 2006 DEIR/S at 3.3-49 to 3.3-50.)
64. The 2008 USG Final EIR/EIS confirms that the basin is complex when it states that::
65. “Significant differences have been noted in the hydrogeologic properties, water levels, and water quality between the area near the community of Ocotillo and the area to the east. Near Ocotillo, transmissivities (aquifer properties describing the ease with which groundwater flows through the aquifer) have been noted as significantly higher than those to the east. Transmissivities have been measured in the range of 5,800 to 6,700 square feet per day (ft<sup>2</sup>/day) near Ocotillo, whereas transmissivities of 34 to 957 ft<sup>2</sup>/day have been noted in the eastern region.” (USG 2008 FEIS at 4.0-24.)
66. See Exhibit 516 for the details of groundwater level monitoring in the Yuha Estates area and how domestic wells in 17S/10E exhibited water level declines in response to pumping about 100-143 AF/Y from well 17S/10E-11G1.
67. However, some of the additional analyses of the groundwater basin and changed analyses of the 2004 Bookman-Edmonston study as described in the 2008 USG FEIR/S because the locations and quality of water in wells located in Yuha Estates does not accurately reflect the location and water quality as measured as part of the USGS groundwater monitoring program.

68. How do I know? Because the greatest errors of location and water quality are associated with Harmon's well 17S/10E-11H3. (Contrast locations of wells on USG 2008 FEIR/S Fig. 11, Calibration targets at 4.0-43 and on USG 2008 FEIR/S Fig. 4 "Wells with Water Quality Data (USGS NWIS) at 4.0-32; and on USG 2008 FEIR/S Fig. 7 Wells with Water Level data at 4.0-38; Table 4.0-3 Wells Monitored by USGS since 2002 at 4.0-36 , (Exhibits 521, 522, 523) This conclusion was confirmed in phone discussions with USGS Water Resources Center staff, Dr. John Izbicki and Peter Martin prior to the public hearing conducted by the Imperial County Board of Supervisors meeting in 2008.
69. Please note that the County Supervisors certified the USG EIR and approved the project BEFORE any federal agency was provided its copy of the FEIS for review. The County refused to delay its hearing until after Federal agencies had the document and could comment, even after written requests from Congressman Filner.

### **Solar 2/IV Solar Alternative Water Supply and Groundwater issue re well 16S/9E-36G4 WestWind/Boyer well**

70. Solar 2/now Imperial Valley Solar, Stirling/ SES/now Tessera 30,000 unit is proposed solar project on about 6,500 acres of land originally identified as the Plaster City ACEC to protect cultural resources, scared sites and cremation sites in the BLM 1980 Draft EIS for the CDCA Plan. The CEC held an all day workshop on the project in El Centro on Monday March 23, 2010, but very little information about this proposal was disclosed. Difficulty in being able to get print copies of documents mean that detailed analysis of the Applicant's documents will have to wait..
71. Nevertheless, my affirmative testimony is that the cumulative impacts of all the existing, approved and known probable requests to pump more than 5 AF/Y of groundwater from a single well in the area which appears to be the center of the cone of depression have the potential to contribute to ever increasing water level declines, and that these cumulative impacts must be analyzed for public review.
72. Why is this important? Because at present I know of no person downgradient in the cone of depression treating , boiling or distilling well water prior to drinking it. The water in the groundwater basin overlies more highly saline water and if water levels decline, residents and I are concerned that water quality in domestic wells may degrade just as it did in the Yuha Estates area before export pumping ceased (Testimony of Dr. David Huntley in Superior Court) if upwelling or upconing occurs
73. Earlier, the water for the IV Solar/Solar 2 project was to have come from the Imperial Irrigation District's WestSide Main Canal . However, that would likely have been illegal because, even though Congress extended the IID boundary to be able to supply Colorado River water from the Canal in 1981 to get US Gypsum off groundwater from the Ocotillo-Coyote Wells Sola Source Aquifer, said boundary extension was for the sole purpose identified as serving those industrial activities then identified in 1981. It is my understanding that IID cannot by law serve users outside their water boundaries without extraordinary hurdles.
74. Thus, the next proposed water source was going to be the Seeley WasteWater Treatment Plant facility (SWWTP) 150,000 to 200,000 gal of reclaimed water per day (2010 Solar 2 SA/DEIS ES-4) with clean up and use of RO to reduce solids and TDS so be able to use the water for washing mirrors, and was to have been a source of water for concrete for construction also. The project needs water for Solar 2 SA/DEIS ES-4 washing mirrors and dust suppression and would use about 33,550 gallons/day for those purposes (Solar 2 2010 SA/DEIS c.7-2. The SA/DEIR (at C.7-3) goes on to state that "Potable water would be supplied by a local supplier yet to be determined. Section 2.7-2 is emphatic that **"No groundwater would be used by the project and the effect on groundwater infiltration would be negligible."** (Emphasis added.) Solar 2 SA/DEIS ES-4(February 2010 Solar 2 SA/DEIS at C.7-3)

75. The February 2010 Solar 2 SA/DEIS ES-4 also noted that potable water would be delivered to the site and stored in a 5,000 gal tank, but did not identify the source.
76. Writing for the Sierra Club I was among those who raised concerns about the impacts of diverting treated wastewater from the wetlands with listed species without doing more analysis. State and Federal agencies also had concerns, Thus, the SWWTP decided that it was necessary to do a full EIR rather than approve the upgrades and water transfer by using a mitigated Neg Dec. So, oops, suddenly there was not going to be any ready source of water supply available for construction even if CEC and BLM approved the project.
77. So on March 11, 2010 the applicant asked (through a filing on March 15, 2010, that the commission approve “a back-up/temporary supply of water for project construction and operation.” Their “preferred back-up/temporary source of water is from a well they claim to have been supplying water “in the region since the 1950s” to construction companies. Maximum permitted quantity was stated to be 40 AF/Y. There has been a very contentious history associated with the well including past litigation related to export from the County, high fluoride levels causing mottling of the teeth of consistent users.
78. The property has been red-tagged several times and there has been a long history of “bickering” (being polite) between former owners and County Planning Dept as can be seen from Condition T-9 which states that “all previous and existing Land-Use violations on the property of water well #16S/9E-36G4 must be abated.” There is another Condition T-7 relating to use of water for domestic purposes to meet CA Safe Drinking Water Standards if water is to be used for domestic purposes. There is the hot spot. Regardless of water quality, I have been informed that a number of households in West Texas and Painted Gorge purchase water for domestic purposes from this well. (Conversations with Tom Hembree, several times spring 2010.)
79. Last time I have data for the fluoride level was 2.7 mg/l in 1975 (or almost double the 1.4 gg/l Maximum Contaminant Level according to the National Drinking Water Standards) and this matches the water quality information provided by the applicant in May 2010.. High fluoride levels in drinking water can leach calcium from bones and causes mottling of teeth, thus the stopping of export from the well to Mexico several decades ago. There has been no regular water quality monitoring of this well by USGS since 1975 (just double checked the info at the USGS websites listed in my Exhibit 19 table of info on wells in the groundwater basin.). Fluoride levels of 2.7 mg/l would require treatment if to be used for drinking and cooking.
80. If water quality issues are brought up and domestic users (not for drinking) end up being shut off by County, there will be many homes and families without any water. It was the County that issued building permits for homes in locations which the County full well understood did NOT have potable water at the location of the home. Therefore, the County should not be permitted to deny the Other than 2 small mutual water companies in Ocotillo proper, all other residences have private wells where water is potable, or was originally thought to be potable. Where water was known to be highly saline, many owners most never wasted the money to put in wells to pump poor quality water.
81. If water goes to Solar 2 then all other existing users would be cut off because of pumping limits.. Several decades ago when the well was exporting water to Mexico, the well was most likely a significant part of the problem with the very large cone of depression created by US Gypsum’s export pumping. Closest wells to the 36 G4 are US Gypsum wells, probably not much more than 500 to 1,000 ft away.

**Inconsistent estimated of water needs/water uses by Project Applicant and consultants**

82. The Applicant's "Prepared direct testimony from Marc Van Patten" (3/11/2010) related to the Dan Boyer Water Company in Ocotillo re well 16S/9E-36G4 and Testimony from Moore #8 stating

construction demands of 45,000 gpd with a peak of 90,000 gpd don't quite match up with what I learned from the Imperial County Environmental Health Dept. (Exhibit 526) Van Patten and the documentation from county states a "delivery limit of 40 AF/Y". The County documentation states a daily limit of 41,775 gallons/day/250,654/week, 6 days/week coming to 40 AF/Y. (Condition T-2) (See Exhibit 527) Why is the Applicant asserting that it has needs and will use more than what it acknowledges to be the permitted amount in the "Specific Terms for the Groundwater Registration?"

83. By contrast in the Applicant's opening testimony Moore states in Response to Q8 to describe the temporary/back-up water source, the Applicant states that "Construction water demand will be 45,000 gallons/day with a peak of 90,000 gallons/day....with water demand during operation requiring less than 6-7 trucks/day." 90,000 gal/day x 30 days/mo equals 8.29 AF/month or about 99 AF/Y. If only 6 days/week then 7.18 AF/month or 86.1 AF/Y. Specifically Moore's testimony states that:

"The Applicant is currently negotiating an agreement with the water purveyor. Construction water demand will be approximately 45,000 gallons per day with a peak of 90,000 gallons per day. This equates to approximately 6 to 7 trucks (7,000 gallon trucks) per day on average during construction and up to 13 water trucks per day during construction at peak demand. Water demand during operation is anticipated to be lower, requiring less than 6 -7 trucks per day." (Testimony of Matthew Moore #8, 3/15/2010) (Exhibit 528)

84. These numbers exceed the allowable pumpage for the well in question according to a copy of the Specific Terms presented by the Applicant at the March CEC workshop.. If permitted by the County it would be a real exacerbation of the adverse impacts of US Gypsum's nearby wells.
85. Isn't it great to have sworn testimony of two individuals a few pages apart that present such different info and potentially different magnitude of adverse impacts?!?!?!?
86. The May 2010 Supplemental Project Description for Supplement to Application for Certification refers to a "current permitted pumping of 40 acre feet per year (afy)" (URS 5/5/2010 Supplement at 1-2.)
87. Applicants Comments on SA/DEIS (dated 3/12/2010) (p.70) and (SA/DEIS C.7-2) suggests the Applicant expects to get up to 200,000 gallons/day x 365 days = 224.03 Acre feet/year proposed from Seeley Waste Water Treatment Facility for project needs. But this sentence follows the project might only need 32.7 AF/Y for mirror washing and dust suppression. This is almost a 7 fold difference in the estimated water usage! Why?
88. I was told by staff at the County Environmental Health Department that the well 36G4 is not an active water system monitored by county health dept. That may mean that domestic users might get cut off. I have already gotten a phone call of concern about what would happen if domestic users lose their water supply if the County tried to change the California priorities of water use and make industrial use of potable groundwater a higher use than domestic use.

#### **Groundwater data for the Boyer well? Where is it?**

89. The well in question is 16S/9E-36G4, very close to one of the US Gypsum pumping wells. It is currently supplying domestic users in the Painted Gorge and West Texas areas north of Interstate 8 and just west of the Solar 2 project. (See 2006 USG DEIR/S Fig. 3.3-3 Generalized Geology which depicts the location of West Texas and Painted Gorge north of Hwy 80 to the west of Plaster City and East of Coyote Wells. This figure is included in the Applicant's Appendix C which includes a portion of the 2006 Draft EIR/S which includes USGS water quality monitoring data through March 2002 (2006 USG DEIR/S Fig 3.3-12, 13, 14 in Applicant's Hydrology Appendix C) and water level data through 2001 (2006 USG DEIR/S 3.3-49, and 2006 USG DEIR/S Table 3.3-5 "Summary of Well Data through 2001 at p. 3.3-33 in Applicant's Hydrology Appendix C).

90. The list of wells for which there was monitoring data through 2001 for the 2006 USG DEIR/S can be found at Table 3.3-10 “List of Current and Proposed monitoring wells in the Ocotillo/Coyote Wells Groundwater Basin at 2006 USG DEIR/S p. 3.3-85 of Applicant’s Appendix C.)
91. The Applicant’s documents assert that the Boyer well at one time pumped a much larger quantity of water for export, but provides no water sales history for the WestWind water company other than from 3 months in 1990 through June 2004 in URS Appendix B.. Why? If water was sold, surely there must have been some records either earlier or more recently .
92. Why does the Applicant’s Appendix D, a 2010 Groundwater Evaluation include an Appendix D which is a USGS hydrograph for well 16S/9E-36G4 which includes no data any more recent than possibly 2003. Why has there been no more recent monitoring of water levels when this well is proposed as a source of water? Surely it would have been appropriate to request that this well be monitored in spring 2010 when other wells in the Groundwater basin were measures by USGS? Exhibit 516 includes water level data from USGS that is more recent than the hydrograph. I will double check to be certain that EH Table 10 does not contain errors.

### **Cumulative impacts related to groundwater pumping**

93. The Ocotillo Express Wind Facility 2009 Draft Plan of Development (Exhibit 525 and 529) provides information on the location and magnitude of the wind energy project. BLM has expressed concern to me about what would be the source for water for all these renewable energy projects and transmission towers where groundwater is so limited and the situation for domestic users vulnerable to down-gradient impacts related to both water levels and water quality. Exhibit 525 indicates that this project would require 61.4 AF for construction. (OEW p.7)
94. The 2010 Wind Zero Coyote Wells Specific Plan (CWSP) DEIR Sec. 4.14 Utilities Impact 4.14.1.4 also refers to the “six year groundwater study agreement” and states that:
  95. “There is a potential for the proposed project to further reduce groundwater supply in the cumulative project vicinity. Due to the potential for the proposed project further exacerbate groundwater supply resources in the project area, the proposed project’s applicant will be required to implement a six year ground water study agreement to monitor the condition of the basin and impacts from the proposed project site. If it is determined by Imperial County the project is causing the basin to go into further overdraft, use of basin water in the project area will stopped and alternative water supplies must be used.” (Sec 4.14 Utilities Cumulative Groundwater Impacts, Impact 4.14.1,4 at 2010 CWSP DEIR 4.14-10)
96. How can the Planning Director suggest that the IV Solar project proposal might be able to pump for export almost five times as much water as stated is allowable in the Terms for the well 16S/9E-36G4? What would be the cumulative impacts from such a well so close to the US Gypsum Wells for which pumping quantity is unknown? How would this pumpage combined with other industrial pumpage and the Wind Zero proposed pumping impact water levels and water quality for the down-gradient private well owners of Nomirage?
97. CWSP, CWSP DEIR, and CWSP DEIR Hydrology Appendix provide inconsistent information about amount of water to be pumped. CWSP DEIR Hydrology Appendix (Leighton 2020, at p. 23) (36appg-hydrology p. 26) cite annual water demand as “67 ac-ft annually” .
98. However, CWSP DEIR Hydrology Appendix Leighton (P. 33) following the incomplete Table 10 for estimated water usage, cites the information in the CWSP at p.67 (CWSP DEIR Hydro 36appg at p36). . CWSP Updated Dec 2009 estimates water consumption as **87.8 (high) ac-ft** per year: (CWSP at p. 67).
99. Harmon’s calculations for the totals for the same table 10 suggest annual pumpage for the proposed CWSP project about 126 acre feet/year. Recalculated CWSP Table #10 is appended as Exhibit to CWSP comments. .

100. CWSP DEIR Hydrology Leighton Appendix Sec. 3.2.2 Groundwater Quality information is **not** included in Hydrology section of DEIR. Why was this discussion omitted? Leighton's text follows:
101. "3.2.2 Groundwater Quality The proposed project potentially would generate wastewater from runoff of hardscape and structures, which may contain pollutants that could impact the groundwater or surface water resources in the area. The potential of groundwater degradation due to saline water encroachment has been associated with production of groundwater in selected locations within the basin. As such, the proposed project would need to specifically address the potential of groundwater degradation due to its production of groundwater." (Emphasis added.) (CWSP DEIR Hydrology Appendix Leighton at p. 24; DEIR 36appg-hydrology p. 27.)
102. CWSP DEIR and Appendices give the public inconsistent information about pumpage and fails to identify existing industrial export of groundwater for the US Gypsum Plaster City factory and cites 1992 pumpage as 379 AF/Y rather than the 533 AF/Y in the BE 2004 Table 4-2 (**Exhibit 35**).. Add to this the new information about proposal to export groundwater from a private well near to the US Gypsum well for IV Solar Project , in addition to the pumping for the proposed CWSP project and there is a very serious potential for exacerbated degradation of the groundwater in the Nomirage area of the basin as noted in Leighton 2010 at p. 24. (CWSP DEIR 36appg-hydrology p. 27.)
103. Leighton was very specific that for those reasons " the proposed project would need to specifically address the potential of groundwater degradation due to its production of groundwater." (CWSP DEIR 36appg-hydrology p. 27.) Why isn't this issue addressed in the Section of the SA/DEIS for IV Solar Hydrology and water quality? The SA/DEIS must provide information and be recirculated for public comment.
104. Although the term "Overdraft" is mentioned (CWSP DEIR 4.7-10) and attributed to Leighton, and in discussion of utilities (CWSP DEIR 4.14-2, 4.14-6), why is there no serious discussion of the implication of overdraft and the effects of even more pumping within the large cone of depression.?
105. Discussion of the project setting in the chapter on Hydrology and water quality states that: "Under the existing conditions at the project site, there is little to no potential for water quality issues to occur." (CWSP DEIR 4.7-11) This seems to be a complete contradiction to the text in Leighton at p. 27 and renders the hydrology and water quality analysis incomplete and inadequate. A discussion of the potential impacts on groundwater quality of nearby domestic wells in Nomirage and downgradient wells in Yuha must be included in a revised and recirculated DEIR for CWSP, and SA/DEIS for IV Solar..
106. So what is it with regard to water use for the IV Solar project? Most certainly water for construction, mirror washing and construction should not come from a potable groundwater well located near the center of the large cone of depression in a Sole Source Aquifer. What the Bound comments on the SA/DEIS says is a water need more than 5 times what is permitted at the intended groundwater well and puts it in the same excessive category as US Gypsum's industrial export of water from the potable portion of the groundwater basin and all without any geohydrology studies, discussion of cumulative impacts and no requirements for monitoring or mitigation. Cumulative effects of increased concentration of pumping are a really a big issue in light of the status of the US Gypsum ongoing litigation because wells are so incredibly close. And water levels are continuing to decline in downgradient domestic wells. There has been no geohydrology study that considers the cumulative impacts of increased removal of potable water for distant industrial uses. Pumping is concentrated because there is relatively little private land.
107. Water resource issues are complicated and the public deserves to be afforded a longer comment period if consideration of the proposed solar project continues to seek groundwater. The Applicant's failure to provide the promised Alternative Water Supply documents and assessment should not be permitted to translate into a foreshortening opportunity for meaningful public comment. It is doubtful that those who received print copies or CDs from the CEC/BLM are or were aware that the proposed water supply for the project has changed just today.

108. Thank you for your consideration of these groundwater concerns.

### **References cited**

Coyote Wells Specific Plan Project by Wind Zero Group, Inc. 2010 DEIR & Appendices

Ocotillo Express Wind Facility 2009 Draft Plan of Development

Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map

US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a “Sole Source Aquifer” 61 FR 47752, Sept 10, 1996)

US Gypsum Expansion and Modernization 2006 DEIR/EIS

US Gypsum Expansion and Modernization 2008 FEIR/EIS

### **Exhibits for Solar 2 groundwater issues**

515 US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a “Sole Source Aquifer” 61 FR 47752, Sept 10, 1996)

516 “EH Table 10 Water well information, water quality, and groundwater elevations Ocotillo/Coyote Wells Groundwater Basin, a Sole Source Aquifer, Imperial County CA” Updated March 2010 from Sierra Club comments on USG FEIR/EIS 2008 and included in CWSP Scoping comments found at 28appa-nop-initial-study-a at pp 7-17 (USG EIR/EIS Appendix B-1 USGS Hydrologic Data, USGS NWIS water level and quality data & Bookman-Edmonston 3/96 (BE96), BE 1/2004 (BE04). 11pages.

517 Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map

518 US EPA 2010-04-11 letter re Final EIS for US Gypsum project

519 USGS 2008-12-24 letter to Cong. Filner re Final EIS for US Gypsum Project

520 US EPA 2009-02-25 comments re NOI for Coyote Wells Specific Plan Area

521 USG FEIR/S 4.0 Collective Responses Table 4.0-1 Water quality info from USGS

522 USG FEIR/S 4.0 Collective Responses Fig. 4 Wells with Water Quality Data

523 USG FEIR/S 4.0 Collective Responses Fig 7. Wells with Recent Water Level data

524 BE 2004 Table 4-2 Historic Groundwater Pumping in 2006 USG DEIR/S

525 Ocotillo Express Wind Draft Plan of Development 2009

526 SES Applicant’s Submittal of Opening Testimony re Van Patten re well 16S/9E-36G4

527 Terms for Well 16S/9E-436G4

528 Moore in SES Applicant’s submittal of Opening Testimony re well 16S/9E-36G4

529 Ocotillo Express Wind Facility 4 pgs

530 USG FEIR/S Mitigation & Monitoring re Hydrology ES 9-11 submitted as an exhibit for the CWSP DEIR comments 20210

531 USG DEIR/S Mitigation & Monitoring re Hydrology See Applicant’s Appendix C for hydrology

**Declaration of Edie Harmon**

Re: Testimony on groundwater issues related to the proposed Alternative Water Supply for the Imperial Valley Solar Project/Solar 2 DOCKET NO. 08-AFC-5

I, Edie Harmon, declare as follows:

I prepared the testimony submitted herein. These comments have also incorporated and/or included comments and analysis I have prepared and previously submitted as comments on Draft and Final EIR/EIS documents for the US Gypsum Expansion and Modernization Project in 2006 and 2008, and comments and analysis related to groundwater issues for the 2010 DEIR for the proposed Wind Zero/Coyote Wells Specific Plan Project. The Wind Zero project overlies the Ocotillo Coyote Wells Groundwater Basin with proposed wells just a few miles downgradient to the east of the Applicant's well and west of the Imperial Valley Solar Project..

My relevant experience and qualifications are set forth in the Resume which follows. I believe that this testimony is true and correct. I am personally familiar with the facts and conclusions included in the attached testimony. If called as a witness, I could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge.

Dated: May 10, 2010

s/ EdieHarmon

At: San Diego California

Edie Harmon

## **Resume for Edie Harmon**

Macalester College BA cum laude geography 1966. Distinguished citizen award 1997 for work with Native Americans related to cultural resources, sacred sites and mining in Imperial County CA.

Peace Corps Volunteer 1966-1969 Uganda teaching biology and art at Ndejje Senior Secondary School and running the school clinic. Was at the school when we transitioned from carrying buckets of water from a swamp to getting a small well that pumped muddy water to the school.

Peace Corps Volunteer secondary school teacher in Botswana with trip into the Central Kalahari to supply ranger with water in an area where the groundwater levels have declined more than 650 feet since the British began building boreholes to bring up water for cattle. What made the biggest impression was to understand that the name of the community meant "land of the reed swamp" when David Livingstone visited the area in 1872. Knowledge of that overwhelming decline in groundwater levels near the Okavango changed how I have looked at water and deserts in the past almost 40 years.

Graduate work and research on physiological and behavioral adaptations of bats and small mammals to harsh environments, 1971-1978 in Idaho, CA and Botswana. Did not complete writing for graduate degree because I was too involved with legal and technical research related to groundwater export from the Ocotillo-Coyote Wells Groundwater Basin after I moved to Ocotillo in fall of 1977.

2005 appointed by Governor Schwarzenegger to environmental seat on the State Mining and Geology Board, because of my interest in groundwater issues related to mining and resource extraction operations. I was not able to serve because I was sole 24 hour nurse/caregiver for my husband who was diagnosed with Parkinson's disease the same day as the appointment was made.

2010 accepted invitation from Imperial Irrigation District to be a stakeholder for the development of the Imperial County/Imperial Irrigation District Water Management Plan, with special concerns about groundwater.

## **Experience related to groundwater issues**

Since 1997 I have been analyzing USGS monitoring data and information on wells in the Ocotillo-Coyote Wells Groundwater Basin. In the past I have repeatedly discussed issues with David Huntley PhD, now emeritus professor of groundwater geology at San Diego State University, and John Izbicki PhD at the USGS Water Resources Center in San Diego, CA. In 2008 and 2009, I have also discussed concerns about potential impacts of proposed withdrawals of water in excess of 5 AF/Y from individual well and interpretations of USGS data for this basin with Peter Martin, Director of USGS Water Resources Center and John Ungvarski PhD with US EPA Region IX and with the USGS technicians that do the water level and water quality monitoring in Imperial County. The very large cone of depression is apparently centered in the vicinity of the 3 US Gypsum wells and the well proposed to be used for the Solar 2 project. Before speaking at public hearings I usually try to check with a groundwater expert to be sure my conclusions are not incorrect.

I was listed as a witness for several of the Imperial County lawsuits (both state and federal) related to export of groundwater and testified in court for one lawsuit in Superior Court. Addressed Planning Commission and Board of Supervisors on groundwater impacts and management issues more times than I can count since moving to Ocotillo in 1977.

In 1987 County Counsel Tom Fries asked me and my husband to volunteer to help with research related to the two Appellate Court briefs related to groundwater export/ nuisance and zoning. In that capacity, I reviewed all the technical materials that could be located and county documents related to the history of groundwater use in the basin. I was taught by a staff attorney how to do the writing for a legal brief for County Counsel to consider. Both Appellate Court decisions were in County's favor. Export from both wells in question had ceased prior to Appellate Court decisions. I also did research to distinguish between correlative groundwater rights and prescriptive rights for County Counsel.

1988 was asked by County Counsel to consider drafting language for a County Groundwater Management

Ordinance. I did prepare suggestions, but US Gypsum, the largest groundwater user/exporter in the County objected and ultimately County adopted an ordinance (seemingly authored by a USG attorney) that granted what appeared to be extraordinary privileges only to US Gypsum and no other users. To the best of my knowledge from a former commission member, the Groundwater Management Cttee has met apparently only twice in 15 years and has never had a groundwater user on the committee. I actively argued, (essentially unsuccessfully) for changes in Groundwater nManagement Ordinance to eliminate special protections for largest user.

Over the past 30 years I have commented on groundwater issues associated with mining, landfills, peak energy projects, sewage sludge and sand and gravel operations in Imperial County, San Diego and Riverside counties and submitted written comments for several different organizations and community groups..

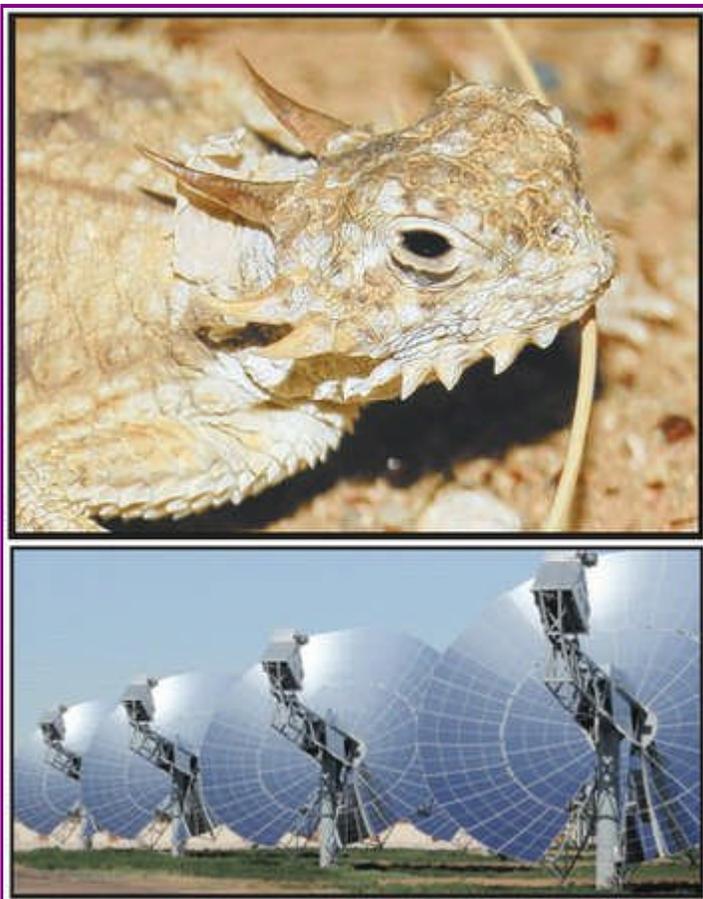
I have reviewed USGS monitoring data and provided written materials on groundwater issues for attorneys for at least six different lawsuits related to groundwater issues in Imperial County since 1997.

## Rush is on for desert solar project

### Developers eager for federal funding, but lizard is an issue

By [Onell R. Soto](#), UNION-TRIBUNE STAFF WRITER

Wednesday, May 26, 2010 at 12:04 a.m.



/ Arizona-Sonora Desert Museum; Tessera Solar

The flat-tailed horned lizard and the proposed solar dishes.



## OVERVIEW

**Background:** A combination of stimulus funding and increasing requirements for power from renewable sources has led to a rush for power projects in the desert, such as a big solar-dish farm planned in the Imperial Valley.

**What's ahead:** With stimulus funding dependent on getting construction or significant manufacturing under way by the end of the year, proponents of such projects are pushing for quick environmental approvals. But regulators are finding they don't have all the information they need to make such decisions.

A proposal to cover 10 square miles of federally owned desert with mirrored dishes to make electricity for San Diego is in a race against time and a lizard.

Tessera Solar and Stirling Energy Systems plan to build 30,000 dishes, each outfitted with an engine driven by the expansion of sun-heated hydrogen, to make 750 megawatts of electricity.

That's more output than from the typical new natural-gas power plant. San Diego Gas & Electric Co. is counting on the project for a big chunk of the renewable power that state law requires it to supply to its customers. The utility also says the project shows the need for the proposed Sunrise Powerlink transmission line.

The company plans to transmit power from the 300-megawatt first phase on the existing Southwest Powerlink. The second phase, 450 megawatts, depends on Sunrise.

If developers can break ground on the \$2 billion-plus Imperial Valley project by the end of the year, or spend a substantial amount on manufacturing, they stand to get a federally guaranteed loan for half the cost, plus a federal grant for 30 percent. They say they want approval by September to get enough work done in time to qualify.

For that, they'll have to get go-aheads from the U.S. Bureau of Land Management and the California Energy Commission. Both agencies are hearing from critics who say the project will destroy irreplaceable desert habitat — that would affect the flat-tailed horned lizard — and uses unproven technology.

“This is public land being given to a private company for an experimental process,” said Donna Tisdale, a backcountry activist opposed to the project.

The BLM has set aside some of the land it manages for solar farms.

The project relies on a different technology than the solar panels most people are familiar with. Instead of using cells that turn sunlight directly into electricity, it uses mirrors to heat an engine the size of a lawn mower's to 1,300 degrees Fahrenheit. Hydrogen heated by the sunlight expands and drives a piston, then it moves to an area cooled by the desert air, contracts and drives another piston.

Each 40-foot-tall dish can produce 25,000 watts — enough power for about 16 homes.

The technology's promise is to make power more cheaply than by burning fossil fuel, said Sean Gallagher, a spokesman for Tessera, the Stirling affiliate building solar farms.

The technology, called a Stirling engine, is far from new. It was invented in 1816, but has never been put into widespread use.

Stirling Energy Systems has been working on using the technology in a solar application for years and has set a record for efficiency, turning 31 percent of the sun's energy into electricity in a test.

The biggest test so far involves 60 dishes that went into operation this year in Peoria, Ariz. The developers want to begin installing the first of 30,000 in the California desert by December.

Stirling Energy Systems, largely owned by Irish conglomerate NTR, is betting that better engineering and the use of automotive mass-manufacturing methods will make the Stirling engines viable.

Critics say it doesn't make sense to devote so much federal land and federal money to something that might not work.

State Energy Commission member Jeffrey Byron said he wants to avoid a massive monument to a failed technology. As an engineer, he worked on solar Stirling engines 30 years ago. But he said he's not in a position to evaluate whether this project will work.

While the commission has to review the need for such a project and consider its environmental impact, it cannot review whether it is feasible, he said.

Stirling is closely guarding the details of how its engines work, although Gallagher said the Peoria test has been gratifying.

"They do work," he said.

Critics are also concerned that the project will destroy land on which the flat-tailed horned lizard lives.

The lizard is being considered for federal protection as an endangered species. About 2,000 to 5,000 of the lizards live in the 6,500 acres of creosote-studded hills and washes 95 miles east of San Diego slated for the project.

The decision on whether to list them as endangered won't come until after September.

"This is exactly the wrong time to be doing this," said Terry Weiner, of the Desert Protective Council, an environmental group.

Tessera Solar plans to buy lizard habitat to make up for what it destroys and to move lizards that are in the way of the solar dishes, Gallagher said.

“The lizard is not going to prevent this project from opening,” he said.

But maybe the lawyers will, said Kieran Suckling, head of the Center for Biological Diversity, which often sues government agencies over the Endangered Species Act.

“These projects are at high risk of getting caught up in litigation,” he said.

Around the Southwest, he said, companies are risking lawsuits in order to build solar projects on federal land using federal funds.

Suckling called the problem “solar sprawl” — and he said it could be avoided by directing solar farms to places where the desert floor has already been disturbed, such as abandoned mines or fallow farms.

“There’s no lack of heavily trashed desert,” Suckling said.

Environmental reviews are being rushed because of the arbitrary stimulus deadline, he said. Congress could change that to allow more time to make sure habitat is protected.

For Byron, the Energy Commission member, projects such as this point to the challenge of powering California without burning fossil fuel.

“We have a very challenging social decision to make,” Byron said. “Are we going to give up desert in order to generate renewables?”

Byron said he’s convinced that desert solar plants are needed because rooftop solar systems in cities alone won’t supply the energy the state needs to meet its aggressive goals of 20 percent non-fossil-fueled electricity by the end of the year, and 33 percent by 2020.

“If we are going to move to renewables in a serious way, we have to build these,” Byron said. “I’d prefer to do it all on rooftops. It can’t be done.”

Onell Soto: (619) 293-1280; onell.soto@uniontrib.com

**Find this article at:**

<http://www.signonsandiego.com/news/2010/may/26/rush-is-on-for-desert-solar-project>



Check the box to include the list of links referenced in the article.

May 12, 2010

U.S. Army Corps of Engineers, Los Angeles District  
Regulatory Branch – San Diego Field Office  
ATTN: CESPL-CO-R-2009-00790-MLM  
6010 Hidden Valley Road, Suite 105  
Carlsbad, California 92011  
[Michelle.l.mattson@usace.army.mil](mailto:Michelle.l.mattson@usace.army.mil)

Public Notice/Application No. SPL-2008 01 MLM

From Edie Harmon, Ocotillo CA 92259

**Re: Tessera/SES Solar Two/Imperial Valley Solar** ACE Application No. SPL-2008 01 MLM  
CEC/BLM SA/DEIS Docket No. 08-AFC-5

1. The ACE discussion of the location for the proposed Imperial Valley Solar Project (IV Solar) formerly the SES Sterling Solar Two Project, a 750 MW proposal for industrial scale solar thermal project to generate electricity in a two Phase project which plans for 30,000 “SunCatchers” with an estimated output of 25 kW each. Text provides details related to the location of the project on more than 6,000 acres of Public Lands managed by BLM and identified the water source as the WestSide Main canal which is part of the Imperial Irrigation District (IID) canal delivery system to provide Colorado River water for use in the IID service area.
2. The BLM lands are “Limited use” lands, in part to restrict vehicle travel to the approved routes of travel. This designation was made after the initial portrayal of these lands as the “Plaster City Area of Critical Environmental Concern” (ACEC) in the 1980 BLM Draft EIS for the California Desert Conservation Area (CDCA) to protect what in 1980 was known to be an extremely important area for prehistoric cultural resources, cremation sites and Native American values. It is my understanding that the ACEC designation as an ACEC for the entire project area was not included in the final determination or Record of Decision (ROD), in part because identification of an area with such easy access near lands identified for OHV activity would have increased the likelihood of damage and vandalism if the cultural resource values were known. (Conversations with many BLM staff locally , and BLM staff involved in the Section 106 consultation with Native American Tribes. (I am participating in those discussion because BLM approved my participation as a “consulting party” as an individual.)

**Purpose and need issues**

3. The ACE discussion of “Evaluation Factors” to be considered in making decisions related to the Applicant’s proposed 30,000 dish SunCatcher solar units states that:

“The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit that reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors that may be relevant to the proposal will be considered, including the cumulative effects thereof.” (ACE p.3)
4. Many individuals and organizations are challenging the assertion by the Applicant that this IV solar Project is necessary to help Sempra Energy and San Diego Gas and Electric Company meet the requirements for renewable energy. However, based on all the publications available and the discussions at workshops and public meetings, it sounds more like the real need and purpose for the

proposed IV Solar project is a return on the investment for shareholders of both the Solar company and the shareholders of /SDG&E/Sempra energy, an Investor Owned Utility company.

5. At the pre-application meeting held in El Centro, the applicant's representatives boasted in glowing terms about "grid ready electricity" to be generated at the IV Solar/then Solar 2 proposed location. When I asked about the possibility of constructing suncatcher units in parking lots in the urban areas to provide power for hospitals, schools, big-box stores, government buildings and commercial buildings/operations, a great silence descended on all those in the room. After a seeming eternity, the representative for Stirling said simply that "it wouldn't be profitable to use solar electrical energy close to the source of generation in Imperial County". It would "only be profitable if it required the construction of Sunrise Powerlink to provide power to San Diego" almost 100 miles to the west. That question ended the meeting, but later several of us have been told that even if heavily subsidized, solar thermal electricity would be too expensive for the rate-payers served by Imperial Irrigation District..
6. In 2007, Bill Powers a PE prepared a study to evaluate the energy options for San Diego. That study takes an in depth look at the many issues related to renewable energy and reducing demand for energy in San Diego while improving quality of life or without diminishing quality of life. Please see Powers, Bill. 2007 San Diego Smart Energy 2020 158 pgs. Pages 69-74 include conclusions and recommendations for solving San Diego's energy needs and reducing energy consumption without large remote industrial scale energy development projects and transmission lines. (See Exhibit 532) also at [http://www.etechninternational.org/new\\_pdfs/smartenergy/52008\\_SmE2020\\_2nd.pdf](http://www.etechninternational.org/new_pdfs/smartenergy/52008_SmE2020_2nd.pdf)
7. The list of publications offering solutions and recommendations should be considered as very viable and affordable alternatives to widespread destruction of prehistoric materials that provides clues into the ways and lives of the earliest inhabitants of the California deserts, and the incredible biological diversity of plants and animals uniquely adapted to the harsh desert environment, resources which, once they have been destroyed or habitats fragmented will never again provide the connectivity from one part of the desert to lands further to the north or upgradient in elevation. Jim Andre, PhD, Director of the Granite Mountain Reserve for the University of California is passionate about the rich biological diversity and sensitivity of plants in the CA deserts and is extremely concerned about the cumulative impacts fo so many solar projects and transmission lines.
8. I spoke with Bill Powers on 2010-05-13 and he sent several emails with attachments See Exhibits 541 and 546) which effectively challenge the Applicant's stated need because there are more cost effective and more energy efficient means of producing renewable solar energy for use in San Diego.. Powers states that
  9. "Desert solar thermal plants are not the future of solar energy development in California. Distributed PV is more cost-effective and is unique among solar technology options in that it can be deployed where electricity is used (and thereby avoid environmental impacts and significant line losses).
  10. Summary: The installed cost (\$6,000/Wac) of group-purchase 4 kW residential PV systems in Southern California is approximately the same, as of 2009, as the estimated installed cost (by RETI) of dry-cooled central station solar thermal plants (\$5,500/Wac). The capacity factor for the fixed residential PV would be about the same as for dry-cooled solar thermal in the same location. Transmission losses largely negate the higher capacity factor of Mojave desert locations compared to near-coastal demand center locations (there is on average about a 10% difference in solar insolation). Note that 1BOG reports an installed cost for 2009 San Diego locations of \$5.29/Wdc. See: <http://solarsandiego.1bog.org/san-diego-solar-panel-cost/>. This translates into an ac cost of approximately \$6/Wac.
  11. Bottom line: Even residential PV using conventional polycrystalline silicon panels can compete now on cost effectiveness with desert solar thermal plants without considering the

additional cost of new transmission necessary to move desert solar thermal power to demand centers. Commercial rooftop-scale PV, and wholesale ground-mounted DG PV, already produce lower-cost solar power than desert solar thermal plants at the projected installed cost for these plants.... Bill Powers to E Harmon 5-13-2010 analysis in Exhibit 541)

12. The Berkeley Law article published in 2009.” In Our Backyard: How to increase renewable energy production on buildings and other local spaces” was an unexpected source for decentralized workable alternatives to industrial scale remote energy projects that would rely on transmission lines that have not yet been built. (Berkeley at p. 1). (Exhibit 533) This paper discusses the top four barriers to decentralized renewable energy on big buildings and local spaces and then discusses the short and long term solutions which are essential if California is to meet its renewable energy requirements. Decentralized energy generation is becoming increasingly cost effective (Berkeley at 8, 9).
13. After reviewing the materials provided by Bill Powers it would appear that if the ACE is truly balancing the need for renewable energy accompanied by serious and significant adverse environmental impacts in the desert, additional study will reveal that the most environmentally sound alternative is to deny the proposed project and recommend that any federal monies that were being sought for the proposed project be redirected to encourage the development of more distributed solar PV systems close to the point of electricity use rather than suffer the transmission losses that also have additional adverse environmental impacts. (See Exhibits 541-547.)
14. The smaller scale distributed energy projects in urban and suburban settings together the conclusions and recommendations of the Powers 2007 report will help provide local jobs in communities where people live. Accordingly, the distributed energy No Action, No Project and No future projects at the proposed site will serve well to meet the objectives and needs of the people of the /State of California for renewable energy and reducing energy demand, The Distributed energy/ increased efficiency/reduced energy demand and the associated No Action, will best serve the public interest by eliminating the adverse impacts on biological resources, washes, cultural resources and cumulative impacts on the Ocotillo Coyote Wells groundwater basin where the location of the well will contribute to the growing cone of depression because of its proximity to the US Gypsum wells which transport water away from the potable groundwater basin.
15. In the end, based on what has been stated at public meetings/workshops and from printed materials related to the proposed IV Solar Project, including brochures and documents posted on the CEC site for Docket No. 08-AFC-5, it seems obvious that the real “purpose and need” for the project is return to the Applicant’s investors from obtaining federal monies to construct what would not otherwise be economically feasible and enabling San Diego Gas and Electric to build a new transmission line (Sunrise Powerlink) so that it can begin to charge the electric rate-payers in San Diego higher costs for electricity, whether or not any renewable energy is used.
16. The URS/BLM color brochure “Imperial Valley Solar Project Frequently asked Questions May 2010” states that the “Energy Policy Act of 2005 encourages the United States Department of the Interior to approve at least 10,000 megawatts of renewable energy on public lands by 2015. Executive Order 13212 mandates that agencies expedite their reviews of permits or take other actions as necessary to accelerate the completion of energy-related projects while maintaining safety, public health, and environmental protections.” And, EO 3283 requires that BLM ensure that the process complies with the requirements of NEPA. (URS/BLM may 2010 “Why is this project needed?” Attached as Exhibit 534)
17. There is no reason to approve any project where there is no need that cannot be met by a more environmentally friendly manner as suggested by Powers and Berkeley sources which are appended as Exhibits 532 and 533 and Exhibits 541-547. Because the “need” is not there, there is no reason to consider the loss of more than 6,000 acres of public lands which had been identified on all Alternatives

for the 1980 BLM DEIS for the CDCA Plan because of the significance of cultural resources, prehistoric values and wildlife habitat. Nothing in the Energy Policy Act suggests that public lands with important resource values should be sacrificed for industrial scale remote energy development if the intended recipient of the energy has other means by which the renewable energy requirements and lowered demand can be met.

18. Please note that this URS/BLM statement of need to review projects and use public lands does not dictate any affirmative outcome, especially where there are sensitive unmitigable resource values long associated with the proposed project site. Furthermore, the URS/BLM statement of need is in sharp contrast to the Purpose for the project as stated in the brochure by Tessera Solar, SES “Imperial Valley Project Fact Sheet (Formerly SES Solar Two)” (Exhibit 535) which asserts a Power Purchase Agreement already signed with /San Diego Gas & Electric (SDG&E), and to help California develop renewables portfolio standards and reducing greenhouse gas emissions. Tessera’s stated goals are identified under the brochure heading “Purpose” can be met by employing the alternatives identified by Powers and Berkeley and do not in any way require the use fo the site identified by the Applicant. Just because the Applicant signed an agreement with SDG&E some time ago does not and should not mandate that public lands and public monies be provided to honor some premature contract agreement.
19. Therefore, it is recommended that CEC, BLM, EPA, and US ACE all choose the No Project/No Action 2 which would Amend the CDCA Plan “to prohibit solar power projects on the power site” and to not approve the proposed IV Solar thermal SunCatcher project.

#### **Power Plant Reliability**

20. During the Scoping period I raised concerns about the reliability of the proposed technology which remains largely untested by a demonstration project, even though the Project applicant sounds confident. One might consider that there is a general lack of confidence on the part of investors because the applicant is seeking ARRA funding in order to make the project financially feasible. Indeed, the SA/DEIS states that:
  21. “Staff cannot determine whether the applicant’s availability goal is achievable and cannot predict what the actual availability might be, given the demonstration status of this Stirling engine and limited data on large-scaled deployments of Stirling engines. (The availability factor of a power plant is the percentage of time it is available to generate power; both planned and unplanned outages subtract from this availability.) Staff believes it possible that the project may face challenges from considerable maintenance demands, reducing its availability.” (SA/DEIS ES-35)
22. The whole issue of power plant reliability becomes moot in the face of a more cost effective and efficient means of generating solar energy closer to the points of use in San Diego.

#### **Activities of concern to ACE re 878 acres of jurisdictional waters of the US**

23. The ACE Location describes a 3.4 mile Right of Way (ROW) on both public and private lands from IID Westside Main Canal. “The proposed Imperial Valley Solar Project would also include an electrical transmission line, water supply pipeline, and a site access road. An offsite 6-inch-diameter water supply pipeline would be constructed a distance of approximately 11.8 miles from the Seeley Waste Water Treatment Facility (SWWTF) to the project boundary.” (ACE p.1)
24. In its description of Activity, the ACE provides the following text related to water supply and pipeline length as follows. “The off-site 6-inch diameter water supply pipeline would be constructed a distance of approximately 3.4 miles from the Westside Main Canal to the project boundary. The water pipeline would be routed in the Union Pacific Railroad ROW, or adjacent to this ROW on federal and

private lands.” (ACE p. 2)

25. Thus, there is confusion about the source of water to be used at the proposed project and about the length of a ROW for a pipeline to supply the water. In terms of the land to be disturbed for a pipeline, there is considerable difference between a 3.4 mile pipeline and an 11.8 mile pipeline in these two descriptions.
26. Other aspects of the proposed project would result in road building for construction and access to the SunCatchers in rows would cross drainages and several figures depict scores of SunCatchers located in primary drainages. (See unnumbered figure “Impacts of Avoidance or partial avoidance of Drainage Areas I, K, C, E, and G” identified as “Preliminary Layout” by RMT in BLM documents provided at workshop on May 4, 2010, possibly dated 4/12/2010. (Exhibit 536)

**Project Applicant’s Supplement to Application for Certification for Alternative Water Supply posted 5/10/2010 requires that ACE change its project description to identify source of well water**

27. Both of these discussions are now somewhat outdated because the documents on file by the project applicant at the CEC for Docket No. 08-AFC-5 docketed on May 10, 2010 include different source of water proposed for the construction and maintenance of mirror washing at the site. ... temporary or up to 3 years or longer. The latest proposed water supply source includes a proposal to truck potable groundwater from well 16S/9E-36G4 from the Ocotillo-Coyote Wells Groundwater basin, an overdrafted basin designated by US EPA as a Sole Source Aquifer in 1996. (Exhibit 516) The Federal Register determination was submitted on May 10, 2010 to CEC as Exhibit 515 US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a “Sole Source Aquifer” 61 FR 47752, Sept 10, 1996 as an exhibit to my testimony for the CEC Evidentiary Hearing scheduled for May 24, 2010.
28. “Additional project details, status, copies of notices, an electronic version of the AFC filed with the CEC, maps and figures, and other relevant documents are available on the internet under Project Proceedings at: [http://www.energy.ca.gov/sitingcases/solartwo/.](http://www.energy.ca.gov/sitingcases/solartwo/)” (ACE p. 1) will confirm the Project Applicant’s Supplement to the Application for Certification which includes discussion of the Alternative Water Supply for a well in the Ocotillo-Coyote Wells Groundwater Basin.
29. The February 2010 Solar 2 SA/DEIS ES-4 also noted that potable water would be delivered to the site and stored in a 5,000 gal tank, but did not identify the source. That information did not provide enough information for informed public or agency comment and did not provide details to evaluate the site-specific or local impacts of the proposed groundwater source. Indeed, it was not included in the ACE Public Notice.
30. The Applicant’s May 2010 Supplemental Project Description in the Supplement to the Application for Certification (SAC) states that:

“This Supplement to the AFC includes proposed changes to the Project Description and Location, originally described in Section 3.0 of the Project AFC. This Supplement to the Project AFC also provides an environmental assessment of the environmental impacts resulting from the proposed Project changes, including minor modifications to the transmission line and water line alignments, an alternative water supply, and modifications to onsite hydrogen storage.” (SAC at p. 1-1)
31. The Applicant has now identified, but failed to provide timely docket information until it was posted Monday May 10, 2010 for the “Alternative Water Supply” (SAC- IV Solar Sec. 1.4). It is noted that this spring it was determined an EIR must be prepared if water from the Seeley Wastewater Treatment Facility is to be used for construction or continuing project uses such as mirror washing. Therefore, the SAC- IV Solar states that:
  32. “If the SWWTF water supply is not available at the start of construction of the Imperial Valley

Solar Project, water would be available through the Dan Boyer Water Company in Ocotillo, California. The Dan Boyer Water Company is a private water purveyor located at 1108 Imperial Avenue, Ocotillo, California 92259, approximately 3.5 miles southwest of the Project site and seven miles by road (Figures 1-3 and 1-4)..” (SAC- IV Solar p. 1-2)....

33. If the SWWTF water supply is not available at the start of construction of the Imperial Valley Solar Project, water would be available through the Dan Boyer Water Company in Ocotillo, California. The Dan Boyer Water Company is a private water purveyor located at 1108 Imperial Avenue, Ocotillo, California 92259, approximately 3.5 miles southwest of the Project site and seven miles by road (Figures 1-3 and 1-4). (SAC- IV Solar p. 1-3)  
<http://www.energy.ca.gov/sitingcases/solartwo/documents/index>.
34. Therefore, because the Applicant has changed the probable source of the water supply for project construction and possibly first three years, the ACE should provide this information in a recirculated Public Notice and extend the comment period so that concerned persons and responsible state and federal agencies, especially US EPA and USGS will have an opportunity to review the potential groundwater use and its reasonably foreseeable detrimental effects on the Ocotillo-Coyote Wells Sole Source Aquifer. The opportunity for groundwater experts, including US EPA groundwater geologists because the location of the well proposed for a source of groundwater was identified by the project applicant at one place as being within 500 ft of one of the US Gypsum industrial wells that pumps water to be transported by pipeline from the potable portion of the aquifer which supplies domestic users. The proposed well source by virtue of its location is a contributor to the large cone of depression in the groundwater basin.
35. On May 10, 2010 I submitted for the CEC Evidentiary hearing for Intervenor Tom Budlong, detailed concerns about the use of the Ocotillo well as a source of water for the project, even on a temporary basin because of the potential for cumulative adverse impacts and impacts on domestic users of water from the same well. These preliminary comments and concerns about use of groundwater even for a short time have not yet been posted at the IV Solar Project site.
36. Information in the table of USGS monitoring data (Exhibit 516) was used to add information to a Figure giving the locations of water wells in the basin. The handwritten water levels AMSL reveal the need for considerably more monitoring information before anyone can really make any determination that additional pumping at the proposed site will not exacerbate downgradient impacts on existing residential domestic water well use. There is simply no publicly available data for water levels of all the largest pumping wells concentrated in a small portion of the groundwater basin.
37. ACE must be advised that from the perspective of domestic users in the groundwater basin, any export of water for commercial/industrial purposes is extremely controversial. County of Imperial has been engaged in litigation related to protection of the basin since the early 1970s when the county filed two lawsuits to stop the exportation of water by tank truck from two separate locations in the groundwater basin. One well was to the north of I-8 and the other to the SE. I was informed by County Counsel several years ago that there had been eight lawsuits related to those wells and that monitoring data and analysis indicated that in addition to declining water levels associated with the pumping wells, there were water quality issues identified at each site. Neither well is exporting water today. (I have been a resident overlying the groundwater basin since 1977 and have been reviewing USGS monitoring data and studies of the basin since the first USGS report on the basin in 1977.)
38. There is also ongoing litigation (first filed in January 1999) related to the groundwater usage by the US Gypsum pumping at three wells in Ocotillo and being transported by pipeline to its Plaster City factory more than 8 miles to the East. The Appellate Court in its D0D034281 Decision of 10/26/00 (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial, US Gypsum, Real Party in Interest. (See Exhibit 538). Remanded the case back to the Superior Court which then required preparation of

an EIR to address the environmental impacts of factory expansion and increased groundwater usage.

39. The Court of Appeal D0D034281 Decision of 10/26/00 could find no evidence from US Gypsum which would nor could support its assertion of an earlier much higher usage. Essentially, that means that the large cone of depression has been created as the result of much lower levels of groundwater extraction than what may have earlier been assumed.
40. The Applicant's proposed water source is identified by the Applicant as being about 500 ft to the west of one of the US Gypsum wells, and must therefore require an analysis of potential adverse impacts in terms of cumulative impacts associated with its location near the major contributor to the large cone of depression caused by pumping for use at a site distant from the potable groundwater basin. (See SAC- IV Solar Fig. 1-4 for location of wells in the groundwater basin.)
41. The map reveals that the wells are all located in close proximity in several locations. Why? Because there are only 15,500 acres of private lands in the basin. The vast majority of lands overlying the groundwater basin and recharge (if any) areas are public lands managed by BLM as either Areas of Critical Environmental Concern (ACEC) or as Wilderness Areas designated by Congress in 1994. Thus, those sensitive public lands are not available for wells and pipelines to provide water for domestic use for overlying residents.
42. There are two small Mutual Water Companies that service most of the older subdivisions in the townsite of Ocotillo. However, residents of the subdivisions in Nomirage and Yuha Estates and other parts of the Ocotillo/Nomirage Community Area have private domestic wells because the groundwater basin characteristics have posed limited quantities of potable water. In the Yuha Estates area pumping of about 100 AF/Y for 5 years cause more than a 60 ft decline in water levels and export pumping stopped even before the legal decisions. (Yuha Estates at present has only 6 or 7 occupied residences and of those the majority are mobile homes.) The export well stopped exporting water in September 1982, but water levels are still recovering, an impact that was not predicted by any computer model or study! When the computer model cannot predict the monitored water levels, then it is the USGS monitoring data which must be considered as accurate, not the computer models, from the first model/simulation in 1977 to present.
43. ACE states that: "All factors that may be relevant to the proposal will be considered, including the cumulative effects thereof. Factors that will be considered include conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production, and, in general, the needs and welfare of the people." (Emphasis added, ACE p. 3) And I would add, that the needs and the welfare of the people who rely on the well intended for use by the applicant should be of special concern because the basin is a Sola Source Aquifer, a fossil water source, that "when it is gone, it is gone" according to USGS's Dr. Izbicki in personal conversations).
44. The residents of the very small communities of West Texas and Painted Gorge to the west of the IV Solar site and NE of the water well proposed for use do not have potable water underlying their homes. Therefore, for many, many years they have been getting tanks filled with water from the Westwind/Boyer well. Any use of the proposed well for industrial purposes could very well have significant adverse impacts on existing domestic users because the IV Solar Applicant is asserting a need/intent to use more water than the permitted pumping allowed under the Terms and Conditions authorized by the County. (Exhibit 527 Terms for Well 16S/9E-436G4 Terms for Well 16S/9E-436G4 was included as an exhibit to the text I provided for the CEC Intervenor Tom Budlong's groundwater concerns for the IV Solar Project on May 10, 2010.)
45. **Arbitrary deadlines must be abandoned and the comment period extended** so that concerned

members of the public and responsible federal agencies have more than 2 days between the availability of the changed project description and the comment deadline. Remembering that NEPA requires carefully following procedure while making no guarantee of an outcome related to any anticipated decision. Additional time for public comment is essential for compliance with the spirit and intent of the law and regulations for both CEQA and NEPA.

46. The errors/omissions identified in the SA/DEIS and the suddenly changes project description posted only 2 days before the US ACE comment deadline reinforce the concerns of the public that the purposes of NEPA and CEQA are not well served by a desperate attempt to complete work by some externally imposed deadline by the applicant's need to get federal funding to make the project financially viable. US ACE seeks input, but to be relevant, that input must be reflective of the changed possible/probable intended source of water for construction and maintenance.
47. Shortening the time between the deadline for submitting comments on the SA/DEIS and release of the Final SA/EIS and proposed ROD, reveals that there is no serious intent to give serious consideration to comments from the public. The public acknowledges that agency staffs are real people who occasionally do need breaks to eat and sleep and that when totally exhausted no one does his or her best work. The public sincerely hopes that the ACE will extend the comment deadline and make available a changed text in its public notice and refer reviewers to the recently docketed Supplement to the Applicant's Supplement to Authorization for Certification at the CEC website.
48. If any state or federal agencies had submitted written comments prior to the May 10, 2010 docketing of the Applicants Alternative Water Supply information in the Supplement to Application for Certification, those doing the comment preparation were unlikely to have been notified of the proposal to use potable groundwater for the construction, dust suppression and mirror washing. Use of water from the intended well could result in changes in water quality based on past experiences where water from this well caused reported dental problems because of increasing fluoride levels. (This was apparently common knowledge and export from the well ceased before I moved to the community so I do not have access to documents to verify this changed water quality.)
49. Accordingly, the rush to meet deadlines for stimulus money should not be the controlling factor in schedule setting for CEQA/NEPA reviews, including the ACE review. A rush to a decision to obtain money could leave both the ACE, State, and BLM later regretting decisions made in haste, but the damage to public lands and resources will be irreparable and likely unmitigable given the resource values at risk. Similarly, the need to protect an existing supply of water for domestic needs should trump the desire of some company to use that same water for industrial purposes when other sources of water are or could be available.
50. I return to the conclusions of Bill Powers, that there is no real need to the proposed project and the electrical energy needs of San Diego can be met by distributed PV close to the point of use and that said alternative is already more cost effective than remote desert solar.

**“Welfare of the people” must include also Native American values, cultural resources issues and Visual Resources or the viewshed so important to Native Americans concerned with sacred sites**

51. Visual resources and viewshed must be evaluated from the perspective of Native Americans who have repeatedly spoken out about the impacts of the proposed project on lands and viewsheds associated with known sacred sites. The SA/DEIS discussion of visual resources at ES-42,43 makes no mention of Native American concerns about viewshed and sacred sites, so it must be concluded that no culturally sensitive visual resources analysis was made. Alternatively, if a culturally sensitive visual resources analysis was made, it was ignored and not mentioned in the ES. Thus a portion of the desert once considered so significant that it was recommended for designation as an ACEC for prehistoric and cultural resources, now becomes slated to be just one sacrifice area dealing yet another blow to traditional Native American cultural ways and oral traditions. .

52. Approval of the proposed project seems inappropriate and extraordinarily disrespectful of the beliefs and cultural values of Native Americans who have spoken publicly about their concerns for the cultural resource values of the area and the impacts that the visual impacts would have on sacred sites in the Coyote Mountains to the west. Remember that in the 1980 BLM DEIS for the CDCA Plan that the entire proposed project site was relatedly identified as the “Plaster City Area of Critical Environment Concern” (ACEC) because of the amount and significance of cultural resources and cremation sites.
53. During the Section 106 consultation meetings held in El Centro, representatives of the Cocopah Indian Tribe and the Quechan Indian Tribe, and well respected Native American elders Carmen Lucas and Preston Arrowweed have expressed overwhelming and passionate concerns about the significance of cultural resources, sacred sites, cremation sites, the viewshed from other sacred sites, and the feelings of concerned tribal members that the consultation has not been satisfactory from their perspectives.
54. As a member of the public who has been approved by BLM to participate in the Section 106 consultation process, I am extremely concerned by what I am hearing from Native American elders and Tribal cultural committee representatives. I have known Preston Arrowhead for about 15 years and found him to be consistently concerned about the importance of protecting sacred sites, cremation sites and sharing the knowledge of culture to the next generations of Native Americans. From what I have heard and formal workshops on the project and in Section 106 meetings and from discussions with Native American participants and representatives outside the formal meetings and workshops that there is a lot of hurt and frustration and there is no doubt that the failure to have access to information and the speeding up of the process leaves Native Americans feeling that their concerns are being ignored, no matter how kind or soothing the statements of Non-Native American participants in the process. I felt an overwhelming sense of sadness and hurt as I listened. And speaking with BLM staff and others, I believe that all are both troubled and frustrated by the timelines for this process.
55. Please remember that BLM spent years addressing the cultural resource, sacred sites issues related to the proposed Glamis Imperial Mine on Indian Pass Road in eastern Imperial County in the late 1990s. The details of that consultative and determinative process which led BLM/DOI to not approve the Plan of Operations for the Glamis Imperial Mine is spelled out in detail in the 362 page decision of the NAFTA Tribunal in the case between Glamis Gold, Ltd. (Claimant) and United States of America (Respondent) decision filed June 8, 2009.
56. Visual Resources Analyses should be/must be done from the perspective of Native Americans who hold the site and environs sacred in order to be meaningful for this proposed project site. For those with such beliefs and whose ancestors lived in the area, visual resources and the religious/sacred landscape/viewshed has a meaning very different from what it might appear to descendants of more recent immigrants to the area. For Native Americans the visual resources and the significance of those visual resources cannot be neatly confined to categories such as visual contrast and “scenic quality”.
57. The cultural resources surveys must be completed and the cultural resource work completed prior to evidentiary hearings and there should be the NEPA full 90 day comment period for public review of the whole of the project and completed environmental reviews by Native American tribes and expert consultants for Intervenors and participants in the Sec. 206 Consultation processes..

**Applicant’s late filing for CEQA/NEPA information of Alternative Water Supply justifies request for additional time for comments on effects of project to ACE**

58. **Applicant’s failure to submit timely documentation related to Alternative Water Supply identified in Applicant’s Opening Testimony dated March 15, 2010** require additional time for public review to meet the intent for public participation in both the CEQA and NEPA processes related to the IV Solar/Solar 2 Project scheduled for Evidentiary Hearing on May 24, 2010 and for the comments on potential effects of the proposed project to be submitted to ACE. Public agencies cannot be blamed for delays and should not be criticized for allowing additional time for public

participation as intended by applicable legislation.

59. Because the DOE indicated at (ACE p.4) that it would be relying the EIS prepared by BLM, comments that I submitted as an individual on behalf of CEC Intervenor Tom Budlong on preliminary groundwater issues on May 10, 2010 will be incorporated in part for these comments to ACE.
60. Because water levels and water quality are interrelated in the Ocotillo-Coyote Wells Groundwater Basin and also dependent on the location of the well in relation to underlying geological formations, I consider all discussion of both water levels and water quality to be essential for ACE understanding of the potential for adverse effects of the project in addition to the cumulative effects of groundwater pumping for existing, present, proposed and anticipated identified future project EIR/EIS submissions.
61. The most recent hydrology/groundwater review prepared for the Coyote Wells Specific Plan project was probably the worst in a long series of EIR/EIS documents that over the decades have sought to minimize or trivialize the impacts of large pumping operations on the single family domestic users. New EIR studies ignore and/or misrepresent the factual information in previous studies in order to assert a less than significant impact. Only someone familiar with all of the studies since 1977 and the USGS monitoring data is likely to catch misstatements of fact and have concerns about the consequences of how USGS data is used or misused, or ignored.

**Water quality issues are different on site from water quality issues at proposed offsite groundwater source and must be addressed separately**

62. ACE p.4 under “water quality” includes the following text. “Additional water monitoring studies are currently being permitted and implemented at the site to meet RWQCB permitting requirements.” Please note that these studies are site specific AT THE SITE of the solar project and do not include any provisions for additional studies associated with the proposed Alternative Water Supply which the applicant identifies as well 16S/9E-36G4, several miles to the west and off site from the proposed project.
63. Without more site specific monitoring data and data for the US Gypsum wells, ACE cannot make any determination about the off-site water quality effects that might be associated with using potable water from a well that currently provides for domestic users to obtain water for use at residences which do not have underlying potable water.
64. I have lived on properties overlying different parts of the Ocotillo/Coyote Wells Groundwater Basin since 1977. I have been researching groundwater issues, legal and analyzing USGS monitoring data since the first week I moved to Ocotillo. I am a groundwater user/owner of a private well for domestic purposes in the southern part of the basin. Our well 17S/10E-11H3 (replacing well 17S/10E-11H2) has been part of the USGS groundwater monitoring program since it began and the well is monitored for both water level (every 6 months) and for water quality (every two years). (See Exhibit 516 EH Table 10, a compilation of USGS water level and water quality data which I prepared for Sierra Club comments on the 2008 US Gypsum FEIR/S and updated for the 2010 Coyote Wells Specific Plan DEIR comments.)
65. The Ocotillo-Coyote Wells Groundwater has been acknowledged as being in a state of local overdraft since the USGS report in 1977, (Exhibit 537) a study cited in CEQA and NEPA documents for projects seeking to use groundwater from this groundwater basin. Evidence of local conditions of overdraft exists in monitored wells which reveal continuing declining water levels even though there have been three years (1976, 1977, and 1981) where there were “100 year storms” that caused considerable flood damage in communities overlying the groundwater basin, and even though there was standing water in sinks that remained for weeks. (Personal observations of flooding and standing

water following heavy rains.)

66. The decades of local concerns about groundwater export activities and declining water levels are reflected repeatedly throughout the text of the Ocotillo Nomirage Community Area Plan (ONCAP) adopted by the Imperial County Board of Supervisors in April 1994 as a part of the Land Use Element of the County's General Plan. (See Exhibit 517 full text of ONCAP)
67. It is because of concerns about the limited availability of groundwater and the issues of well interference where pumping of a large (perhaps 50 to 100 AF/Y depending on location and proximity of other pumping wells) that played a major role in changing the zoning from a land use designation that would have permitted agricultural use to changing the zoning for the vast majority of the more than 15,000 acres of private land in the ONCAP to desert residential, or one dwelling unit per 40 acre lot, It was felt this was necessary to ensure that overlying property owners would be able to obtain sufficient water for domestic purposes for the future.
68. Not only has County of Imperial been a party to what County Counsel Fries once said was at least 8 lawsuits related to export of groundwater by old tanker trucks from the Ocotillo and Yuha areas, but there have been legal challenges to the decisions of the County Board of Supervisors to approve agricultural (El Remate project at Sunrise Butte) and industrial use (US Gypsum factory) of large quantities of potable groundwater from wells where a review of the monitoring data and underlying geology indicated that large scale pumping (by basin standards) would cause or are already associated with large cones of depression that have the potential to create serious adverse impacts on domestic users with small capacity domestic wells. Litigation related to the County's 1998 a failure to require preparation of an EIR for the increased pumping of portable groundwater for industrial purposes is has not yet been resolved.
69. Exhibit will be provided for Appellate Court in its D0D034281 Decision of 10/26/00 (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial, US Gypsum, Real Party in Interest.) Text of the Court decision relates to groundwater studies relied on my several projects and the Court's analysis is instructive, and cited herein. (See Exhibit 538)
70. In light of the history of decades of zoning restrictions and litigation related to groundwater use issues, it is not surprising that the February 2010 SA/DEIS for the IV Solar/Solar 2 Project (at p. C.7-3) sought to avoid conflicts related to groundwater uses when very clearly states that "**NO GROUNDWATER WOULD BE USED BY THE PROJECT** and the effect on groundwater infiltration would be negligible." (Emphasis added.) This very unambiguous statement was reassuring to concerned residents of the groundwater basin, especially those downgradient residents in Nomirage.
71. Does the Applicant's Supplement May 5, 2010 to the Application for Certification for 08-AFC-5 not posted until May 10, 2010 which leaves less than 3 weeks before the end of the SA/DEIS comment period meet the procedural requirements of both CEQA and NEPA? A review of monitoring data from USGS reveal surprising problems/trends in the past and will take more time to shorten comments. .
72. The shortened time for review and detailed analysis of all the cumulative impacts of additional proposed groundwater use at the well identified raises serious concerns. There must be an analysis of both the existing pumping, permitted pumping, projects approved but not yet constructed, development projects proposing additional groundwater use, gravel operations groundwater use, and the proposed and foreseeable future groundwater proposals related to other industrial scale energy development projects both close in and those with wells several miles away.
73. The Comment period for the Supplement to the Application for Certification should be extended and

evidentiary hearing testimony related to hydrology rescheduled or continued to afford responsible State and Federal agencies an opportunity to review and comment on the Alternative Water Supply. Agencies which should review and comment include US EPA because it was the EPA that designated the Ocotillo Coyote Wells Groundwater Basin as a Sole Source Aquifer in 1996. (Exhibit 515).

74. USGS Water Resources Center in San Diego has been monitoring the water levels and water quality of wells in the Ocotillo/Coyote Wells Groundwater basin since the early 1970s when County of Imperial became involved in litigation efforts to stop the export of groundwater from wells on three properties in different parts of the groundwater basin.. It is USGS water level and water quality monitoring data that has been the basis for almost all, if not all of the reports on the groundwater basin used for CEQA and NEPA project reviews and in litigation in both State and Federal courts since 1972. How USGS data is analyzed, the accuracy of representing locations and interpretations of water quality data from USGS monitoring has been a subject of controversy in CEQA reviews for several projects. (See Exhibit 516 EH Table 10, a compilation of USGS water level and water quality data which I prepared for Sierra Club comments on the 2008 US Gypsum FEIR/S and updated for the 2010 Coyote Wells Specific Plan DEIR comments. )
75. Both US EPA and USGS submitted substantive comments and concerns about the 2008 US Gypsum FEIS, which unfortunately was not made available for their review prior to the decision by the County to certify the EIR and grant approvals prior to federal distribution of the joint EIR/EIS to federal agencies. Although made public after the County decision, these letters reveal the ongoing and continuing nature of concern about impacts to the groundwater basin. (See Exhibit 518 US EPA 2010-04-11 letter re Final EIS for US Gypsum project. Exhibit 519 USGS 2008-12-24 letter to Cong. Filner re Final EIS for US Gypsum Project.) Their concerns had been earlier spelled out in comments on the USG DEIR/EIS in 2006 and are found in Exhibits 539 and 540)
76. The ongoing concerns of US EPA related to uses in the groundwater basin are also noted in the letter from EPA related to the NOP for the Coyote Wells Specific Plan project in February 2009. (Exhibit 520.)
77. Nowhere are the problems of foreshortening the opportunities for public review and review by responsible state and federal agencies more glaring than in the applicant's changing the source of water for the construction and maintenance of the project of greater significance than in the assertion that the applicant now intends to use groundwater to be exported by tank trucks from former WestWind Water company now the Dan Boyer Well 16S/9E-34G4 which is close to the US Gypsum export wells. The location of this well and its pumping activities in the 1970s if the well really did pump up to 100 AF/Y made it a major historic contributor to the large cone of depression associated with the even greater pumpage from three nearby wells owned by US Gypsum in the Ocotillo-Coyote Wells Groundwater Basin. (See 1977 USGS Report on the groundwater basin, and water level contour figures in EIRs based on USGS water level monitoring and maps depicting locations of wells for which monitoring data is available. See URS Supplement to Application for Certification Fig 1-4, Well location map p. 1-8. For additional information about well locations and water quality monitoring information see Exhibits 521, 522, 523 which are maps and a table from the 2008 US Gypsum Final EIR/EIS. )
78. Of real concern is the information from the USGS water quality monitoring for this well. Between 1858 and 1975 (last date for USGS water quality data, the water quality as measured by Total dissolved solids increased from 341 in 1958 to 635 in 1975. (See Exhibit 516) This is a very surprising change in water quality and warrants additional investigation about the water quality of this well and the nearby USG wells. The water quality change in this well appears to be the most dramatic change in quality of any well for which data is publicly available.

79. Said proposal "Supplement to Application for Certification" was submitted to CEC by cover letter dated May 5, 2010, **but not available on the /CEC website as of 5-10-2010 early in the morning**. The May 5, 2010 cover letter from URS for this change in water source is part of what the applicant identifies as "Imperial Valley Solar (formerly Solar Two) (08-AFC-5) Supplement to the Application for Certification URS Project No. 27657106.00806". Said 5 part documents were not posted at the CEC site when I called the Public Advisor Jennifer Jennings on May 6<sup>th</sup> 2010. She forwarded all 5 parts of the Supplement to the Application which included the proposed change to use groundwater from Ocotillo. The documents were posted on May 10, 2010 on the CEC site.
80. However, I was not been able to find any computer or printer which is able to print out the Supplement to the Application part 2 of 5. Part 2 of 5 was readable as sent for a very brief time and could be opened but not printed until May 10, 2010. The text appeared to possibly be a portion of the 2006 Draft EIR/EIS for the US Gypsum Modernization and Expansion Project which was prepared following the 2001 decision of the Court of Appeal in Sierra Club v. County of Imperial, US Gypsum, Real Party in interest. Indeed, the 2006 USG DEIR contains USGS monitoring data through 2001 and is therefore outdated and does not reflect the continuing decline in water levels.
81. I am very concerned that US EPA which had made the Sole Source Aquifer determination of the Ocotillo-Coyote Wells Basin in 1996 should be notified and groundwater experts have an opportunity to review the proposal together with a cumulative impacts analysis for all existing and proposed groundwater uses in the basin.
82. Is it the responsibility of the concerned public to notify federal agencies that a project with just 3 weeks left in the formal CEQA/NEPA review has changed a major component of the project description- WATER source Alternative Supply and request federal agency review., hoping that the agency is not currently already overwhelmed with document review for other projects??
83. Should the public contact USGS hydrologists to alert USGS (the source of groundwater monitoring data for the basin) that the water source for the proposed solar project has changed and ask for their review. Please note that the applicant's consultant URS does not include 2010 USGS water level monitoring data or the most recent USGS water quality data for wells in the Ocotillo-Coyote Wells Groundwater Basin which can be obtained at the USGS websites. Alternatively if 2010 data has been included, I have not yet discovered it in the documents from the Applicant. So far, the monitoring data appears to be no more recent than 2001 or 2004.

**Evidentiary hearings on hydrology issues should be rescheduled to allow public and agency review of groundwater issues which are not publicly available on the CEC project site until May 10, 2010**

84. There should be no evidentiary hearings until the review of the whole of the project and all of its components is complete and the public and hydrology experts from responsible agencies such as US EPA and USGS have an opportunity to review the changed proposed source of water for the project and have had an opportunity to compare information and analyses from one section to another and from other recent and past EIR/EIS documents related to groundwater uses from the Ocotillo-Coyote Wells Groundwater Basin.
85. Has the CEC staff considered the groundwater issue and evaluated the impacts, and/or will staff make such an analysis available for public review and comment? Has the ACE done so?
86. It appears that is no assured water supply for the IV Solar/Solar 2 project that will not have potentially serious adverse environmental impacts or cumulative impacts on downgradient biological resources (humans in the case of groundwater.). There are problems associated with the earlier stated intent to use water from the Seeley Wastewater Treatment facility. And there are very different problems and impacts associated with a proposal to use potable groundwater for construction and

mirror washing miles to the east of the water well and from a well upgradient of the scores of small private wells that supply each private parcel in the Nomirage subdivision..

87. As Judge Judith McConnell wrote in her August 31, 2000 Statement of Decision in Case No. 676630 (Save Our forests and Ranchlands v. County of San Diego), “an environmental review deferred is an environmental review denied.” She found that the decision-makers (San Diego County Board of Supervisors) had been deprived of the information it needed about potential environmental impacts, including possible contamination and depletion of groundwater resources, when it approved a General Plan Amendment amending the General Plan’s Land Use Element. Judge McConnell noted that:

“Drafting an EIR or preparing a negative declaration necessarily involves some degree of forecasting. **While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.**” (Emphasis added.)

Guidelines, Cal. Code of Regs., Tit. 14, Sec. 15144.

Where, as here, important, detailed and relevant information is missing, it precludes informed decision making and a prejudicial abuse of discretion results. Kings County Farm Bureau v. City of Hanford (1990) 221 Cal. App. 3d.692.

(Judge McConnell’s language in SOFAR 8/31/00 Statement of Decision at pp. 7,

### **There can be no surplus groundwater for export in an overdrafted basin**

88. **California Constitution Article X, Section 2, Water** states that:

“It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use be prevented, and that the conservation of such waters is to be exercised with a view to reasonable and beneficial use thereof in the interest of the people and for the public welfare.. The right to water or to the use or flow of water ... in this State is and shall be limited to such water as shall be reasonably required for beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water.”

89. Court decisions related to groundwater use have “established that groundwater may be appropriated by others and pumped and transported to land that does not overlie the aquifer, **after the needs of overlying property owners are satisfied, that is when there is a surplus.**” (Crother An undated (1996?) paper entitled “Groundwater Rights in California” by Christie Moon Crother, Senior Water Resources Planning Analyst for the Eastern Municipal Water District, San Jacinto, CA. at p.1.)
90. The use of potable groundwater from the well identified by the Applicant for washing mirrors, wetting dust on unpaved roads and for construction many miles east of the potable portion of the aquifer seems unreasonable in terms of impacts on downgradient users.
91. Katz v. Walkinshaw, overlying owners correlative rights and Imperial County’s legal efforts to stop export of groundwater to Mexico from the Ocotillo-Coyote Wells Groundwater Basin.
92. However, the use by overlying users has been considered as paramount in case law. Katz v. Walkinshaw (1902) 141 Cal. 116 established the concept of overlying water rights in which all property owners above a common groundwater basin or aquifer have a right to use the groundwater underlying their property and to make reasonable use of the groundwater on their land above the groundwater. The rights of overlying property owners to use the groundwater was determined to be “correlative”, or to be shared on a pro rata basis in times of shortage. The correlative rights prevent

unlimited use of the groundwater by a single person or property owner. **The Court found that the right to pump groundwater for use on lands not overlying the basin are subordinate to the correlative rights of overlying users .**

93. In the situation for IV Solar, the thousands of acres of public lands managed by BLM are not on the parcel from which the well intends to pump, therefore the correlative rights of the existing overlying domestic users should be considered superior to the use of water to be transported outside of the potable groundwater basin as defined by US EPA's designation of the Sole Source Aquifer. Please note that County of Imperial has chosen a political boundary for the groundwater basin in order to include the industrial uses by the US Gypsum factory which overlies highly saline water to the east of the Elsinore and Laguna Salada Faults. However, the Plaster City factory is closer to the Westside Main Canal from which Imperial Irrigation District has agreed to provide up to 1000 AF/Y Colorado River water to alleviate the impacts on the potable groundwater basin from which US Gypsum has a gravity flow pipeline. (IID documents related to this approval are provided as part of Exhibits 552.)
94. It was this Katz v. Walkinshaw case that was repeatedly cited and relied upon in Imperial County's proceedings to shut down the export of groundwater from the Clifford-McDougal well in Ocotillo and the McDougal well in Yuha Estates, where both wells overlie the Ocotillo-Coyote Wells Basin. The Appellate Court in its D0D034281 Decision of 10/26/00 (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial, US Gypsum, Real Party in Interest did not forget the numerous cases before that same Appellate Court when Imperial County vigorously defended its authority to stop the export of groundwater from the basin in order to protect the uses of property owners overlying the basin and using water on the parcels overlying the basin.
95. A California Supreme Court decision determined that it was not necessary to adjudicate a groundwater basin to stop the export of groundwater. Corona Foothill Lemon Co. v. Lillibridge (1937) 8Cal 2d 522 found that the **fact that groundwater levels were dropping is sufficient to show that there is no surplus water.**
96. For US Gypsum's proposed project to increase its groundwater export for use on parcels many miles distant from the overlying parcels, the USG DEIR/EIS 4/06/EIS Vol II the Hydrology technical appendices and text, and the text, figures and tables of the USG DEIR/EIS 4/06/EIS reveal:
  - (a) that groundwater levels are and have been dropping (DEIR hydrology impacts discussion at 3.3-66 through 3.3-81) (thus, there is no surplus water) and
  - (b) that USG attempted to assert a right to 767 AF/Y of groundwater purportedly pumped when production levels did not support that figure reported by USG to USGS. (See USG DEIR/EIS 4/06 text at p. 3.3-29, Table 3.3-4 at p. 3.3-28, and Table 3.3-8 at p.3.3-70)
97. Both of these conclusions support the conclusion of the Appellate Court in its D0D034281 Decision of 10/26/00 (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial, US Gypsum, Real Party in Interest. **Furthermore, such a USG inflated claim of groundwater pumpage above production requirements clearly represents an unreasonable use or unreasonable method of use of groundwater or a waste of water prohibited by the California Constitution. And which cannot be upheld as being reasonable for inclusion into any County Ordinances or planning documents.**
98. The following USG DEIR/EIS 4/06 discussion of water levels in the basin, confirms the lack of "surplus" groundwater available for use on parcels other than the overlying property from which it is pumped. USG DEIR/EIS 4/06 text at 3.3-49 referencing Fig. 3.3-9 at p. 3.3-47 notes that the:

"hydrographs for all of the wells shown in Fig. 3.3-9 indicates that the static (non-pumping) water levels in the Ocotillo/Nomirage area have steadily declined over the last 30 years. .... The hydrographs for several of the wells, but most notably 16S/9E-36D2, indicate that the decline has been very consistent over this time period. This is somewhat surprising because the rate of

rainfall in the basin from 1976 to 1993 was generally above average (see Figure 3.3-2) and the rate of water production from the basin from 1979 to 1996 decreased by almost 45 percent (see Figure 3.3-8). (USG DEIR/EIS 4/06 at 3.3-49.)

99. What this means is that the water levels declined in response to a much lower volume of pumping than asserted by USG and reported by USGS to USGS.
100. Additionally, **California Water Codes at Section 106** states that “It is hereby declared to be the established policy of this State that the **use of water for domestic purposes is the highest use of water and that the next highest use is for irrigation.**” Therefore, regardless of the USG DEIR/EIS 4/06 suggestion that the industrial uses at Plaster City and the most economical source for obtaining water for industrial purposes is a need which should trump overlying domestic needs, case law and Water Code Section 106 do not support USG’s DEIR assertions or a conclusion that **IV Solar’s** use of potable water for construction, dust suppression and mirror washing could trump domestic use is unsupportable.
101. **10/26/00 Appellate Court Decision D0D034281** (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial (re USG increased groundwater use without environmental review) in Sierra Club’s favor, contains extensive discussion of groundwater issues and reversed the trial court decision. In March 2001, the Trial Court then entered Judgement consistent with the Appellate Court decision and required preparation of an environmental impact report and rescinded permits based on the required environmental review for the already constructed factory at Plaster City.
102. Furthermore, based on the above cited text of the Appellate Court in its D0D034281 Decision of 10/26/00 (Imperial County Superior Ct. No. 97911) Sierra Club v. County of Imperial, US Gypsum, Real Party in Interest.) decision the County’s 2006 decision to approve US Gypsum’s purported “historic use” of 767 AF/Y is contrary to the clear language of the decision which stated that such use could not be substantiated. If it could not be substantiated, by what authority could the County award such a grant of special privilege? Litigation on this case continues, and the question remains, will the Court have the final say about the groundwater export by US Gypsum?
103. What about IV Solar’s variable use needs ranging from 45,000 to 90,000 gpd according to two sworn testimonies? Surely environmental review requires, not merely submitting outdated studies which do not incorporate the most current USGS data and provide information about the closest wells.
104. **“U.S. Gypsum Variance”** The **“US Gypsum variance”** refers to the difference between water used at the plant based on production versus the inflated amount reported by US Gypsum to USGS in 1975 and is acknowledged in the 2006 USG DEIR/EIS. This text should make anyone concerned about accepting glowing assurances that large-scale pumping will not have adverse impacts, because no one really knows how much water was pumped. For use at the factory. Specifically:

“For the period from 1925 through 1975, USG reported water use to the USGS for use in the USGS groundwater modeling study (USGS, 1977). The basis for the pumping rates reported over this time period are uncertain. For the period from 1970 through 1980, USG also provided Bookman-Edmonston estimates of water use based on wallboard production rates (Bookman-Edmonston, 1996, page 6-2). Bookman-Edmonston reports “Estimates of water use provided to USGS are 70 percent greater than estimates of water use based upon production records during 1970 to 1975 (the only years where these records overlap). The difference could not be reconciled.” Table 3.3-4 shows the water use reported to the USGS and the values based on production rates for the period from 1970 to 1975. The rates reported to USGS range from 575 AF/yr to 767 AF/yr. The rates based on production range from 338 AF/yr to 451 AF/yr. The difference between these two sets of data is referred to as the “U.S. Gypsum Variance” on Figure 3.3-8, Annual Water Production.”

Since 1981, the groundwater extraction rate has reportedly been measured at each well by

USG. Thus, these data are considered the most reliable. (Draft Environmental Impact Report for US Gypsum Expansion/Modernization Vol. I at p. 3.3-29.) (See also Exhibit 524 Bookman -Edmonston 2004 Table 4-2 Historical US Gypsum Well Production.)

105. .See what one gets when one selectively refers to outdated studies and carefully removes references to troubling information?

**ONCAP: overwhelming concern about groundwater quality and quantity issues are central to plan.**

106. There is no source of surplus groundwater in the Ocotillo-Coyote Wells Groundwater basin for export to the Solar 2 project site, although there might be sites further from the center of the cone of depression that would have less adverse impacts on down-gradient domestic well owners, especially in light of the startling changes in water quality in the Boyer well between 1958 and 1975. The basin was designated as a “Sole Source Aquifer” by EPA in 1996, and because of that designation, any project for which there is any federal money to be spent would require a serious study by US EPA and USGS to determine impacts and mitigation for impacts on the SSA. (Exhibit 515.)
107. The Ocotillo-No mirage Community Area Plan (ONCAP) was adopted as a part of the County’s Land Use Element of the General Plan in 1994. (Exhibit 517) The ONCAP specifically requires a site-specific geohydrology study for any project or property intending to use 5 acre/feet/year.
108. While the Coyote Wells Specific Plan Draft EIR was being reviewed, I can assure you that even with weeks of searching, we have not located any recent USGS groundwater monitoring data for either water level or water quality in the area where pumping is concentrated. Without such information it would not be possible to conclude that there would be less than significant impacts to the existing residential users and future property owners downgradient. This information is necessary not only for the Boyer well, but for the US Gypsum wells also if one is to understand the potential for cumulative impacts..

**Any IV Solar/Solar 2 applicant reliance on historic analysis/studies done by the Bookman-Edmonston Company for US Gypsum is flawed because USG pumping data could not be verified by B-E or the Court**

109. Scoping comments requested the 2006 USG DEIR/EIS to present in table format the **annual groundwater usage** at the Plaster City factory since operations began. What is the source of this data? Is it flowmeter readings? If so, when were flowmeters installed for each operational well and what is the amount of water pumped from each operational USG well annually? How does water usage correlate with factory output? If there is any discrepancy, what is the explanation? Such information was not found in the USG Draft EIR/EIS 4/06 or its accompanying appendices.
110. What is the explanation for discrepancies between asserted water usage and production output noted by the USG Bookman-Edmonston (BE) study, USG DEIR Table 3.3-4 at p. 3.3-28, and the Appellate Court Decision? How much water is used for processing? The USG DEIR Table 3.3-4 data reported to USGS for years 1970-1975 appear inflated and to represent an unreasonable and therefore non-beneficial use of groundwater from a basin with declining water levels.
111. **USG has increased its water use from 400 AF/Y reported in the USG DEIR/EIS 4/06 and in 2006 was pumping 550 AF/Y** from the Ocotillo -Coyote Wells Basin according to representatives of USG. USG DRAFT EIR/EIS 4/06 at 2.0-17 and 2.0-32 describes a “gravity feed pipeline” from the Ocotillo area as providing “approximately 400 AF/Y” of groundwater. However, during a 5/18/06 meeting with representatives of and attorneys for USG, the Harmons and Julie Hamilton were told that USG is using 550 AF/Y now. **Why does the USG DRAFT EIR/EIS 4/06 state one figure for groundwater use as of the DEIR which was released for public review in April 2006 when USG employees and attorneys verbally state a figure more than 25% higher for 2006 usage?** Such an increase in groundwater usage appears to violate both CEQA and the intent of the Court when permits were revoked and preparation of an EIR required. The outdated information and a changes source of water certainly points out the necessity for a revised SA/DEIS at the very minimum. Exhibit 524, the Bookman-

Edmonston 2004 Table 4-2 provides only pumping information through 2002, some eight (8) years ago. What has the pumpage for each of the 3 USG wells been from 2003 through 2010? Has this information been provided by the IV Solar Applicant?

112. USG DRAFT EIR/EIS 4/06 at 2.0-18 and elsewhere asserts a “recorded high [water usage] of 767 acre-feet per year”. However, the **Appellate Court concluded that USG asserts a level of pumpage for which it has no data.** Having reviewed no evidence to contradict the Appellate Court’s reasoning, we, therefore, conclude that the 4/06 USG USG DRAFT EIR/EIS 4/06 assertion of a high water use is erroneous. As noted herein, there are a number of submissions by on behalf of USG, including DEIR Table 3.3-4 at p. 3.3-28 which confirm the Court’s conclusions.

113. The USG commissioned Bookman-Edmonston (BE 96) study both in text at p. 6-2 and in Table 6-2 at p. 6-3 reveal no pumpage in excess of the highest estimated water use of 600 AF/Y in 1975 by USG at the Plaster City operations. The USG commissioned BE 96 study noted that:

In addition, water use estimates for years 1970 through 1980 were made by U.S. Gypsum based on production records. Beginning in 1981, water use has been measured at each well. Table 6-2 presents a summary of U.S. Gypsum well production for the years 1976 through 1994. Estimates of water use provided to USGS are 70 percent greater than estimates of water use based upon production records during 1970 to 1975 (the only years where these records overlap). This difference could not be reconciled. (BE 96 at p. 6-2.)

114. BE 04 updates BE 96 Table 6-2, but BE 04 omits information that is related to how accurate or reliable the data might be and fails to provide any reasoning that would contradict why the Appellate Court did not accept USG’s assertion of a high level of pumpage (767 AF/Y) to which USG repeatedly references as some purported “right” which we believe would not be consistent with the language of the California Constitution Article X, Section 2. It is important that the CEC and BLM understand the real reliability or lack thereof with respect to numerical data in past hydrology studies for US Gypsum EIR/EISs.

115. The above BE 96 statement suggests that, according to BE 96 report, the highest recorded USG pumpage is more likely well below the now asserted 767 AF/Y. See also USG DEIR Table 3.3-4 at p. 3.3-28 for the historic USG water use at the Plaster City factory. This also raises questions about the reasons for what appears to be incorrect information provided by the USG company to USGS, the federal agency doing the groundwater study on the sole source basin from which USG was and is the largest pumper and exporter of groundwater. It should also be remembered that USG provided housing for company employees at Plaster City [population of about 65] until approximately 1987. However, it is highly unlikely that such a small population could use a quantity of groundwater so large as to account for the 70 percent discrepancy.

116. It is of interest to note that the company failed to record its water usage at that time to the appropriate State agency to establish its water usage in excess of 25 feet/year as required for users in other counties with even larger groundwater basins. Absent some verifiable data indicating that higher level of pumpage and explaining why pumpage, was so high for that year, the public has good reason to challenge the 1972 pumpage as having established any pre-existing rights and thereby justifying the elimination of a requirement for Draft EIR for the proposed increased groundwater pumpage up-gradient of the nearby residential subdivision of Nomirage.

117. Indeed, the Appellate Court decision, in text and footnotes, also recites the problems with USG’s asserted levels of past pumpage for export to the Plaster City factory. In footnote 2, the Court noted that:

2 Bookman-Edmonston could not reconcile USG’s water use calculated from USG’s production reports with the water use USG reported to the United States Geological Survey, which showed levels 70 percent greater than production use levels. Further, USG admits “[t]he

data used to determine these older water use levels [1966-1975] have not been located.” Therefore, USG’s claimed use of 767 AF in 1972 cannot be verified. (Appellate Decision D0D034281, fn 2 at p.8.)

118. In discussing its concerns about Imperial County’s Groundwater Management Ordinance and the County’s determination that USG has a priority use for 767 AF/Y as a “historical user”, the Court stated:

**... However, USG has admitted that it has no data to back up this use, which occurred in 1972. More troubling is that Bookman-Edmonston, USG’s own experts, could not reconcile USG’s reported water use to USG’s production records for the years 1970 to 1975, which are the years in which USG reported its highest water use. (Fn 4) Bookman-Edmonston found the amounts USG reported were 70 percent greater than the amounts calculated from the production reports. If we reduce USG’s 1972 water use by 70 percent, it would have a priority of only 451 AF as an historical user. (Emphasis added.)**

---

4 **USG’s reported use of water in the years from 1970 to 1975 is, in order: 668, 575, 767, 638, 691, 614 AF. The next highest year is 1969, during which USG reported using 560 AF. USG’s average use of water during those five years is 659 AF. If we reduce that average by 70 percent, as suggested by Bookman-Edmonston, the average becomes 338 AF, an amount almost equal to its 1996 use of 367 AF. (Emphasis added.) (Appellate Decision D0D034281, text and footnote 4 at p.. 15.)**

119. The conclusion of the Court is further supported by the footnote on a table submitted by USG and appended to a 1/9/97 letter from USG Plaster City’s Plan Engineering Manager and included for public distribution in an “EEC Original Pkg” for USG plant expansion preliminary environmental review by the County. That table is entitled “United States Gypsum Company Plaster City Plant Historical County Water Use Records” from 1966 to 1996. This table contains the following footnote:

From 1996 to 1982 the water use figures are based upon flow meter readings. The water use figures from 1981 to 1976 are estimated values based upon several variables including plant board production records. The water use figures from 1975 to 1996 were based on current data and were reported to the United States Geological Service. **The data used to determine these older water use levels have not been located.** (Emphasis added.) (USG table in EEC Original Pkg with fax notation at top of page 10/10/98 09:19 Fax 213-623-0824 McClintock/Westin.)

120. Therefore, no significance should be accorded to the BE06 and BE 04 reports references to 767 AF/Y” or the USG USG DRAFT EIR/EIS 4/06 repeated references to some purported “recorded high of 767 acre-feet per year” (USG DRAFT EIR/EIS 4/06 at 2.0-18, 2.0-32, 2.0-69, 3.3-38) Does the public think this is a big issue? No doubt about it! When there is such well documented controversy about data supplied by US Gypsum, any reliance by a project applicant on some of the numerical information in a draft EIR/EIS for the US Gypsum project without major updates of data seems ill advised as a basis for decision-making. I share this information in the spirit of full disclosure related to USG hydrology..
121. It is apparent that the groundwater basin is far more sensitive to pumping and concentration of wells pumping in close proximity to each other if one factors in that there are a serious overestimate of pumping, meaning that water level declines were attributable to lower levels of pumping.
122. How convenient that the old data for water usage could not be found in 1998 and apparently has not been “found” yet. (2006 USG DEIR Table 3.3-4 at p. 3.3-28) or by 2010. The USG company offers no explanation for why it pumped almost 200 acre-feet per year more in 1972 than it did in 1971 or how it

has been able to maintain its level of production without using that quantity of water either before or since 1972. From the perspective of the public and groundwater users in the Ocotillo/Coyote Wells groundwater basin, one must question whether this level of pumpage was fact or whether it was the number used by the company to assert a high-level of usage and presumably assert some sort of pre-existing rights.

123. The USG DRAFT EIR/EIS 4/06 states that: “The Proposed Action anticipates increasing groundwater pumping from the existing wells up to a maximum of 767 AF/Y (the amount reported by USG in 1972).” (USG DRAFT EIR/EIS 4/06 at 3.3-1.) (To what agency was this purported usage reported and when?) Since USG provided no written justification for the increase in purported estimated water usage of 575 AF/Y in 1971 to 767 AF/Y in 1972 that it reported to USGS or why the numbers it reported to USGS did not match production data. That plus the fact that USG never recorded its water usage with the State or County in the manner required by law, there can be no assertion that 767 AF/Y represents any rights to export groundwater from the overlying parcels on which it is pumped. Such unnecessary pumpage of any quantity in such excess is detriment of the correlative rights of nearby overlying domestic users and nearby undeveloped parcels zoned for residential usage.
124. Citing the Appellate Court Fn 4 at p. 15: **“If we reduce that average by 70 percent, as suggested by Bookman-Edmonston, the average becomes 338 AF, an amount almost equal to its 1996 use of 367 AF.”** Interestingly this is 400 AF/Y less than the amount of groundwater anticipated by the Proposed Action subject of the USG DRAFT EIR/EIS 4/06!
125. Nevertheless, the County Planning Director authorized USG to pump up to 767 AF/Y, ignoring the analysis of USG’s own expert and the language of the Court.

**Downgradient portions of the Ocotillo-Coyote Wells SSA are more sensitive to pumping and respond differently than the upgradient wells according to the 2008 USG FEIR/S. The groundwater basin is complex and predictions are difficult and often projected lack of impacts prove incorrect**

#### **Yuha Estates**

126. “Yuha Estates is located approximately three to four miles southeast and downgradient of the Ocotillo/ Nomirage area. The recent literature research and field observations conducted by Bookman-Edmonston (2003) indicate that the geologic conditions in the Yuha Estates area are markedly different than those in the Ocotillo/Nomirage area. The Yuha Estates area sits on both a topographic and structural ridge trending northeast southwest across the Ocotillo/Coyote Wells Groundwater Basin. The structural ridge is formed by a concave down curvature of the sedimentary beds referred to as an anticline. The combination of the topographic and structural ridges means that the Tertiary sediments occur at a much higher elevation in the Yuha Estates area than in the Ocotillo/Nomirage area. Bookman-Edmonston (2003) indicates that water from some of the deeper wells in the Yuha Estates area comes, at least partially, from the Tertiary sediments underlying the alluvial material.” [*Note that water quality is excellent in all wells and shows no evidence of poorer quality water.*]
127. “Most of the pumping in Yuha Estates is for local domestic use. From 1978 to 1982, water was pumped from one well (17S/10E-11G1) for export to Mexico at a reported rate of approximately 143 AF/yr. Figure 3.3-10, Yuha Estates Area Hydrograph, is a hydrograph of the water level data from the Yuha Estates area. A hydrograph shows the water level data as it changes over time. The wells within the Yuha Estates area for which adequate data exists include:  
  
17S/10E-11H1  
17S/10E-11H2  
17S/10E-11H3 [*EH well*]

17S/10E-11G1 (McDougal Water Co.)  
17S/10E-11G2  
17S/10E-11G4  
17S/10E-11B1

128. “Information regarding well construction and sampling history are presented in Table 3.3-5. The hydrograph (Figure 3.3-10) for the Yuha Estates area is dominated by the pumping of well 17S/10E-11G1. Pumping of this well at 143 AF/yr from 1978 to 1982 resulted in a drawdown, or decline in water levels, of almost 70 feet. Drawdown was also observed in all of the other wells in the Yuha Estates area. The magnitude of drawdown in other wells ranged from approximately 8 feet to over 60 feet.”
129. “Pumping of well 17S/10E-11G1 ceased 20 years ago. [*Export pumping ceased at the end of August 1982 per observations of adjacent property owners including Harmon..*] Water levels, however, have still not recovered to their pre-pumping levels. The water levels in the Yuha Estates area are approximately five to 10 feet below the levels recorded in the early 1970s. As shown in Figure 3.3-10, the rate of recharge has been very slow. The water levels in several of the wells appear to have stabilized and suggest that Yuha Estates is experiencing the same long-term decline in water levels as that observed in the Ocotillo/Nomirage area. As discussed above, this decline has occurred despite periods of above-average precipitation and a significant reduction in the rate of pumping over the same time period.” (USG 2006 DEIR/S at 3.3-49 to 3.3-50.)
130. The 2008 USG Final EIR/EIS confirms that the basin is complex when it states that::
131. “Significant differences have been noted in the hydrogeologic properties, water levels, and water quality between the area near the community of Ocotillo and the area to the east. Near Ocotillo, transmissivities (aquifer properties describing the ease with which groundwater flows through the aquifer) have been noted as significantly higher than those to the east. Transmissivities have been measured in the range of 5,800 to 6,700 square feet per day (ft<sup>2</sup>/day) near Ocotillo, whereas transmissivities of 34 to 957 ft<sup>2</sup>/day have been noted in the eastern region.” (USG 2008 FEIS at 4.0-24.)
132. See Exhibit 516 for the details of groundwater level monitoring in the Yuha Estates area and how domestic wells in 17S/10E exhibited water level declines in response to pumping about 100-143 AF/Y from well 17S/10E-11G1.
133. However, some of the additional analyses of the groundwater basin and changed analyses of the 2004 Bookman-Edmonston study as described in the 2008 USG FEIR/S because the locations and quality of water in wells located in Yuha Estates does not accurately reflect the location and water quality as measured as part of the USGS groundwater monitoring program.
134. How do I know? Because the greatest errors of location and water quality are associated with Harmon’s well 17S/10E-11H3. (Contrast locations of wells on USG 2008 FEIR/S Fig. 11, Calibration targets at 4.0-43 and on USG 2008 FEIR/S Fig. 4 “Wells with Water Quality Data (USGS NWIS) at 4.0-32; and on USG 2008 FEIR/S Fig. 7 Wells with Water Level data at 4.0-38; Table 4.0-3 Wells Monitored by USGS since 2002 at 4.0-36 , (Exhibits 521, 522, 523) This conclusion was confirmed in phone discussions with USGS Water Resources Center staff, Dr. John Izbicki and Peter Martin prior to the public hearing conducted by the Imperial County Board of Supervisors meeting in 2008.
135. Please note that the County Supervisors certified the USG EIR and approved the project BEFORE any federal agency was provided its copy of the FEIS for review. The County refused to delay its

hearing until after Federal agencies had the document and could comment, even after written requests from Congressman Filner.

**Solar 2/IV Solar Alternative Water Supply and Groundwater issue re well 16S/9E-36G4  
WestWind/Boyer well**

136. Solar 2/now Imperial Valley Solar, Stirling/ SES/now Tessera 30,000 unit is proposed solar project on about 6,500 acres of land originally identified as the Plaster City ACEC to protect cultural resources, scared sites and cremation sites in the BLM 1980 Draft EIS for the CDCA Plan. The CEC held an all day workshop on the project in El Centro on Monday March 23, 2010, but very little information about this proposal was disclosed. Difficulty in being able to get print copies of documents mean that detailed analysis of the Applicant's documents will have to wait..
137. Nevertheless, my affirmative testimony is that the cumulative impacts of all the existing, approved and known probable requests to pump more than 5 AF/Y of groundwater from a single well in the area which appears to be the center of the cone of depression have the potential to contribute to ever increasing water level declines, and that these cumulative impacts must be analyzed for public review.
138. Why is this important? Because at present I know of no person downgradient in the cone of depression treating , boiling or distilling well water prior to drinking it. The water in the groundwater basin overlies more highly saline water and if water levels decline, residents and I are concerned that water quality in domestic wells may degrade just as it did in the Yuha Estates area before export pumping ceased (Testimony of Dr. David Huntley in Superior Court) if upwelling or upconing occurs.
139. Earlier, the water for the IV Solar/Solar 2 project was to have come from the Imperial Irrigation District's WestSide Main Canal . However, that would likely have been illegal because, even though Congress extended the IID boundary to be able to supply Colorado River water from the Canal in 1981 to get US Gypsum off groundwater from the Ocotillo-Coyote Wells Sola Source Aquifer, said boundary extension was for the sole purpose identified as serving those industrial activities then identified in 1981. It is my understanding that IID cannot by law serve users outside their water boundaries without extraordinary hurdles.
140. Thus, the next proposed water source was going to be the Seeley WasteWater Treatment Plant facility (SWWTP) 150,000 to 200,000 gal of reclaimed water per day (2010 Solar 2 SA/DEIS ES-4) with clean up and use of RO to reduce solids and TDS so be able to use the water for washing mirrors, and was to have been a source of water for concrete for construction also. The project needs water for Solar 2 SA/DEIS ES-4 washing mirrors and dust suppression and would use about 33,550 gallons/day for those purposes (Solar 2 2010 SA/DEIS c.7-2. The SA/DEIR (at C.7-3) goes on to state that "Potable water would be supplied by a local supplier yet to be determined. Section 2.7-2 is emphatic that **"No groundwater would be used by the project and the effect on groundwater infiltration would be negligible."** (Emphasis added.) Solar 2 SA/DEIS ES-4(February 2010 Solar 2 SA/DEIS at C.7-3)
141. The February 2010 Solar 2 SA/DEIS ES-4 also noted that potable water would be delivered to the site and stored in a 5,000 gal tank, but did not identify the source.
142. Writing for the Sierra Club I was among those who raised concerns about the impacts of diverting treated wastewater from the wetlands with listed species without doing more analysis. State and Federal agencies also had concerns, Thus, the SWWTP decided that it was necessary to do a full EIR rather than approve the upgrades and water transfer by using a mitigated Neg Dec. So, oops, suddenly there was not going to be any ready source of water supply available for construction even if CEC and BLM approved the project.
143. So on March 11, 2010 the applicant asked (through a filing on March 15, 2010, that the commission

approve “a back-up/temporary supply of water for project construction and operation.” Their “preferred back-up/temporary source of water is from a well they claim to have been supplying water “in the region since the 1950s” to construction companies. Maximum permitted quantity was stated to be 40 AF/Y. There has been a very contentious history associated with the well including past litigation related to export from the County, high fluoride levels causing mottling of the teeth of consistent users.

144. The property has been red-tagged several times and there has been a long history of “bickering” (being polite) between former owners and County Planning Dept as can be seen from Condition T-9 which states that “all previous and existing Land-Use violations on the property of water well #16S/9E-36G4 must be abated.” There is another Condition T-7 relating to use of water for domestic purposes to meet CA Safe Drinking Water Standards if water is to be used for domestic purposes. There is the hot spot. Regardless of water quality, I have been informed that a number of households in West Texas and Painted Gorge purchase water for domestic purposes from this well. (Conversations with Tom Hembree, several times spring 2010.)
145. Last time I have data for the fluoride level was 2.7 mg/l in 1975 (or almost double the 1.4 mg/l Maximum Contaminant Level according to the National Drinking Water Standards) and this matches the water quality information provided by the applicant in May 2010.. High fluoride levels in drinking water can leach calcium from bones and causes mottling of teeth, thus the stopping of export from the well to Mexico several decades ago. There has been no regular water quality monitoring of this well by USGS since 1975 (just double checked the info at the USGS websites listed in my Exhibit 19 table of info on wells in the groundwater basin.). Fluoride levels of 2.7 mg/l would require treatment if to be used for drinking and cooking.
146. If water quality issues are brought up and domestic users (not for drinking) end up being shut off by County, there will be many homes and families without any water. It was the County that issued building permits for homes in locations which the County full well understood did NOT have potable water at the location of the home. Therefore, the County should not be permitted to deny the continued domestic uses from the Boyer well. Other than 2 small mutual water companies in Ocotillo proper, all other residences have private wells where water is potable, or was originally thought to be potable. Where water was known to be highly saline, many owners most never wasted the money to put in wells to pump poor quality water.
147. If water goes to Solar 2 then all other existing users would be cut off because of pumping limits.. Several decades ago when the well was exporting water to Mexico, the well was most likely a significant part of the problem with the very large cone of depression created by US Gypsum’s export pumping. Closest wells to the 36 G4 are US Gypsum wells, probably not much more than 500 to 1,000 ft away.

#### **Inconsistent estimated of water needs/water uses by Project Applicant and consultants**

148. The Applicant's "Prepared direct testimony from Marc Van Patten" (3/11/2010) related to the Dan Boyer Water Company in Ocotillo re well 16S/9E-36G4 and Testimony from Moore #8 stating construction demands of 45,000 gpd with a peak of 90,000 gpd don't quite match up with what I learned from the Imperial County Environmental Health Dept. (Exhibit 526) Van Patten and the documentation from county states a "delivery limit of 40 AF/Y". The County documentation states a daily limit of 41,775 gallons/day/250,654/week, 6 days/week coming to 40 AF/Y. (Condition T-2) (See Exhibit 527) Why is the Applicant asserting that it has needs and will use more than what it acknowledges to be the permitted amount in the “Specific Terms for the Groundwater Registration?”
149. By contrast in the Applicant’s opening testimony Moore states in Response to Q8 to describe the temporary/back-up water source, the Applicant states that "Construction water demand will be 45,000

gallons/day with a peak of 90,000 gallons/day....with water demand during operation requiring less than 6-7 trucks/day." 90,000 gal/day x 30 days/mo equals 8.29 AF/month or about 99 AF/Y. If only 6 days/week then 7.18 AF/month or 86.1 AF/Y. Specifically Moore's testimony states that:

"The Applicant is currently negotiating an agreement with the water purveyor. Construction water demand will be approximately 45,000 gallons per day with a peak of 90,000 gallons per day. This equates to approximately 6 to 7 trucks (7,000 gallon trucks) per day on average during construction and up to 13 water trucks per day during construction at peak demand. Water demand during operation is anticipated to be lower, requiring less than 6 -7 trucks per day." (Testimony of Matthew Moore #8, 3/15/2010) (Exhibit 528)

150. These numbers exceed the allowable pumpage for the well in question according to a copy of the Specific Terms presented by the Applicant at the March CEC workshop.. If permitted by the County it would be a real exacerbation of the adverse impacts of US Gypsum's nearby wells.
151. Isn't it great to have sworn testimony of two individuals a few pages apart that present such different info and potentially different magnitude of adverse impacts?!?!?!?
152. The May 2010 Supplemental Project Description for Supplement to Application for Certification refers to a "current permitted pumping of 40 acre feet per year (afy)" (URS 5/5/2010 Supplement at 1-2.)
153. Applicants Comments on SA/DEIS (dated 3/12/2010) (p.70) and (SA/DEIS C.7-2) suggests the Applicant expects to get up to 200,000 gallons/day x 365 days = 224.03 Acre feet/year proposed from Seeley Waste Water Treatment Facility for project needs. But this sentence follows the project might only need 32.7 AF/Y for mirror washing and dust suppression. This is almost a 7 fold difference in the estimated water usage! Why?
154. I was told by staff at the County Environmental Health Department that the well 36G4 is not an active water system monitored by county health dept. That may mean that domestic users might get cut off. I have already gotten a phone call of concern about what would happen if domestic users lose their water supply if the County tried to change the California priorities of water use and make industrial use of potable groundwater a higher use than domestic use.

#### **Groundwater data for the Boyer well? Where is it?**

155. The well in question is 16S/9E-36G4, very close to one of the US Gypsum pumping wells. It is currently supplying domestic users in the Painted Gorge and West Texas areas north of Interstate 8 and just west of the Solar 2 project. See 2006 USG DEIR/S Fig. 3.3-3 Generalized Geology which depicts the location of West Texas and Painted Gorge north of Hwy 80 to the west of Plaster City and East of Coyote Wells. This figure is included in the Applicant's Appendix C which includes a portion of the US Gypsum 2006 Draft EIR/S which includes USGS water quality monitoring data through March 2002 (2006 USG DEIR/S Fig 3.3-12, 13, 14 in Applicant's Hydrology Appendix C, a portion of the 2006 USG DEIR/EIS) and water level data through 2001 (2006 USG DEIR/S 3.3-49, and 2006 USG DEIR/S Table 3.3-5 "Summary of Well Data through 2001 at p. 3.3-33 in Applicant's Hydrology Appendix C which includes only selected pages of the USG 2006 DEIR/EIS).
156. The list of wells for which there was monitoring data through 2001 for the 2006 USG DEIR/S can be found at Table 3.3-10 "List of Current and Proposed monitoring wells in the Ocotillo/Coyote Wells Groundwater Basin at USG 2006 DEIR/S p. 3.3-85 and Table 3.3-5 USG 2006 DEIR at p. 3.3-33 of Applicant's Appendix C.) (See also Exhibit 516)
157. Of the Boyer's Westwind well, the Applicant states that: "'The company operates State well #16S/9E-36G4 with a current permitted pumping rate of 40 acre-feet per year (afy)." (IV Solar SAC :1-2)

(emphasis added)

158. The Applicant's documents assert that the Boyer well at one time pumped a much larger quantity of water for export, but provides no water sales history for the WestWind water company other than from 3 months in 1990 through June 2004 in URS Appendix B.. Why? If water was sold, surely there must have been some records either earlier or more recently. Without any records an assertion of the statement that: "The water source is potable and permitted for use by construction or personal consumption. Historically, the well has typically extracted over 100 afy for uses such as construction, dust control, and personal use. Tessera Solar is currently involved in negotiations for a purchase agreement with the water company." (IV Solar SAC :1-2,3) Without historic records, this asserted use can be considered no more accurate than the inflated claims of USG for its highest use.
159. The (IV Solar SAC: 1-2,3) then goes on to explain that the project intends to use MORE than the permitted quantity of 40 AF/Y when it states that:
160. It is expected that the Imperial Valley Solar Project would require water from the Dan Boyer Water Company for approximately six months to three years. The water would be transported to the Project site by 7,000 gallon water trucks. Based on the expected construction demand of approximately 50 acre-feet per-year (afy) on average, it is anticipated that up to 13 truck trips would be required per day. If the water supply would be used during Project operations, a maximum of seven truck trips per day would be required to supply the approximate 33 afy demand. Once onsite, the water would be stored for construction and/or operations use. (IV Solar SAC: 1-3)
161. Why does the Applicant's Appendix D, a 2010 Groundwater Evaluation include an Appendix D which is a USGS hydrograph for well 16S/9E-36G4 which includes no data any more recent than possibly 2003. Why has there been no more recent monitoring of water levels when this well is proposed as a source of water? Surely it would have been appropriate to request that this well be monitored in spring 2010 when other wells in the Groundwater basin were measures by USGS? Exhibit 516 includes water level data from USGS that is more recent than the hydrograph. I will double check to be certain that EH Table 10 does not contain errors.

#### **Cumulative impacts related to renewable energy projects includes project location mistakes**

162. "NEPA states that cumulative effects can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR §1508.7). Under NEPA, both context and intensity are considered. When considering intensity of an effect, we consider "[w]hether the action is related to other actions with individually minor but cumulatively significant impacts. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts." 40 CFR §1508.27(b)(7)." (Solar 2 SA/DEIS at B.3-1)
163. Before discussing the cumulative impacts related to groundwater use, it is important to note that the SA/DEIS describes several reasons why a large number of renewable applications being submitted are unlikely to be constructed for the following reasons:

**Most of the solar projects with pending applications are proposing generation technologies that have not been implemented at large scales.** [*Emphasis added because this applies to IV Solar SunCatcher project also.*]

The large size of these projects may result in permitting challenges related to endangered species, mitigation measures or requirements, and other issues.

Also after project approval, construction financing must be obtained (if it has not been obtained earlier in the process). The availability of financing will be dependent on the status of competing projects, the laws and regulations related to renewable project investment, and the time required

for obtaining permits. (Solar 2 SA/DEIS at B.3-2)

164. The SA/DEIS Cumulative Impacts Fig 3 shows the location of the (A) Mount Signal Solar Power Station as being NW of El Centro but the text of Cumulative Impacts Table 1B (Solar 2 SA/DEIS at B.3-6) states the location is 8 miles SW of El Centro. Which is correct. The Table and Figure related to cumulative impacts should match.
165. Cumulative Impacts Fig 3 also depicts an incorrect for the location of the proposed © Wind Zero Training Facility/Coyote Wells Specific Plan that is bounded on the west by the residential community of NoMirage and on the east by the BLM Yuha Desert ACEC. Cumulative Impacts Table 3 fails to note that this project proposes to use between 67 to 87.8 AF/Y or based on calculations up to 126 AF/Y of groundwater according to the 2010 DEIR. Coyote Wells Specific Plan Draft EIR SCH No. 2009011063 January 2010, released 1-27-2010 available online at <http://www.icpds.com/?pid=2308> . Comment deadline March 29, 2010. Appendices also available at same site, but contents are scattered, esp for hydrology which is found in hydrology, noise and hazmat sections.(DEIR or CWSP DEIR).
166. Cumulative Impacts Fig 3 for (d) Atlas Storage Facility is incorrect. Atlas Storage Facility is located NW of the junction of State Hwy 98 and S-2 on the south side of Interstate 8.
167. Are there other errors of location for projects that represent cumulative impacts? If the consultants and authors of the SA/DEIS cannot get mapping information and locations correct for some of the closest projects identified as potential for cumulative impacts, the public is left wondering just how many other mapping errors are contained in Cumulative Impacts Fig. 3. All of the projects that I readily knew locations for were wrong! Please be sure to have someone check for factual details and correct the Figures.

#### **Cumulative impacts related to groundwater pumping**

168. The Ocotillo Express Wind Facility 2009 Draft Plan of Development (Exhibit 525 and 529) provides information on the location and magnitude of the wind energy project. BLM has expressed concern to me about what would be the source for water for all these renewable energy projects and transmission towers where groundwater is so limited and the situation for domestic users vulnerable to down-gradient impacts related to both water levels and water quality. Exhibit 525 indicates that this project would require 61.4 AF for construction. (OEW p.7)
169. The 2010 Wind Zero Coyote Wells Specific Plan (CWSP) DEIR Sec. 4.14 Utilities Impact 4.14.1.4 also refers to the “six year groundwater study agreement” and states that:
  170. “There is a potential for the proposed project to further reduce groundwater supply in the cumulative project vicinity. Due to the potential for the proposed project further exacerbate groundwater supply resources in the project area, the proposed project’s applicant will be required to implement a six year ground water study agreement to monitor the condition of the basin and impacts from the proposed project site. If it is determined by Imperial County the project is causing the basin to go into further overdraft, use of basin water in the project area will stopped and alternative water supplies must be used.” (Sec 4.14 Utilities Cumulative Groundwater Impacts, Impact 4.14.1,4 at 2010 CWSP DEIR 4.14-10)
171. How can the Planning Director suggest that the IV Solar project proposal might be able to pump for export almost five times as much water as stated is allowable in the Terms for the well 16S/9E-36G4? What would be the cumulative impacts from such a well so close to the US Gypsum Wells for which pumping quantity is unknown? How would this pumpage combined with other industrial pumpage and the Wind Zero proposed pumping impact water levels and water quality for the down-gradient private well owners of Nomirage?

172. CWSP, CWSP DEIR, and CWSP DEIR Hydrology Appendix provide inconsistent information about amount of water to be pumped. CWSP DEIR Hydrology Appendix (Leighton 2020, at p. 23) (36appg-hydrology p. 26) cite annual water demand as “67 ac-ft annually” .
173. However, CWSP DEIR Hydrology Appendix Leighton (P. 33) following the incomplete Table 10 for estimated water usage, cites the information in the CWSP at p.67 (CWSP DEIR Hydro 36appg at p36). . CWSP Updated Dec 2009 estimates water consumption as **87.8 (high) ac-ft** per year: (CWSP at p. 67).
174. Harmon’s calculations for the totals for the same table 10 suggest annual pumpage for the proposed CWSP project about 126 acre feet/year. Recalculated CWSP Table #10 is appended as Exhibit to CWSP comments. .
175. CWSP DEIR Hydrology Leighton Appendix Sec. 3.2.2 Groundwater Qaulity information is **not** included in Hydrology section of DEIR. Why was this discussion omitted? Leighton’s text follows:
176. “3.2.2 Groundwater Quality The proposed project potentially would generate wastewater from runoff of hardscape and structures, which may contain pollutants that could impact the groundwater or surface water resources in the area. The potential of groundwater degradation due to saline water encroachment has been associated with production of groundwater in selected locations within the basin. As such, the proposed project would need to specifically address the potential of groundwater degradation due to its production of groundwater.” (Emphasis added.) (CWSP DEIR Hydrology Appendix Leighton at p. 24; DEIR 36appg-hydrology p. 27.)
177. CWSP DEIR and Appendices give the public inconsistent information about pumpage and fails to identify existing industrial export of groundwater for the US Gypsum Plaster City factory and cites 1992 pumpage as 379 AF/Y rather than the 533 AF/Y in the BE 2004 Table 4-2 (**Exhibit 35**).. Add to this the new information about proposal to export groundwater from a private well near to the US Gypsum well for IV Solar Project , in addition to the pumping for the proposed CWSP project and there is a very serious potential for exacerbated degradation of the groundwater in the Nomirage area of the basin as noted in Leighton 2010 at p. 24. (CWSP DEIR 36appg-hydrology p. 27.)
178. Leighton was very specific that for those reasons “ the proposed project would need to specifically address the potential of groundwater degradation due to its production of groundwater.” (CWSP 2010 DEIR 36appg-hydrology p. 27.) Why isn’t this issue addressed in the Section of the SA/DEIS for IV Solar Hydrology and water quality? The SA/DEIS doe IV Solar must provide information and be recirculated for public comment.
179. Although the term “Overdraft” is mentioned (CWSP DEIR 4.7-10) and attributed to Leighton, and in discussion of utilities (CWSP DEIR4.14-2, 4.14-6), why is there no serious discussion of the implication of overdraft and the effects of even more pumping within the large cone of depression.?
180. Discussion of the project setting in the chapter on Hydrology and water quality states that: “Under the existing conditions at the project site, there is little to no potential for water quality issues to occur.” (CWSP DEIR 4.7-11) This seems to be a complete contradiction to the text in Leighton at p. 27 and renders the hydrology and water quality analysis incomplete and inadequate. A discussion of the potential impacts on groundwater quality of nearby domestic wells in Nomirage and downgradient wells in Yuha must be included in a revised and recirculated DEIR for CWSP, and SA/DEIS for IV Solar..
181. So what is it with regard to water use for the IV Solar project? Most certainly water for construction, mirror washing and construction should not come from a potable groundwater well located near the center of the large cone of depression in a Sole Source Aquifer. What the Bound comments on the

SA/DEIS says is a water need more than 5 times what is permitted at the intended groundwater well and puts it in the same excessive category as US Gypsum's industrial export of water from the potable portion of the groundwater basin and all without any geohydrology studies, discussion of cumulative impacts and no requirements for monitoring or mitigation. Cumulative effects of increased concentration of pumping are a really a big issue in light of the status of the US Gypsum ongoing litigation because wells are so incredibly close. And water levels are continuing to decline in downgradient domestic wells. There has been no geohydrology study that considers the cumulative impacts of increased removal of potable water for distant industrial uses. Pumping is concentrated because there is relatively little private land.

182. Water resource issues are complicated and the public deserves to be afforded a longer comment period if consideration of the proposed solar project continues to seek groundwater. The Applicant's failure to provide the promised Alternative Water Supply documents and assessment should not be permitted to translate into a foreshortening opportunity for meaningful public comment. It is doubtful that those who received print copies or CDs from the CEC/BLM are or were aware that the proposed water supply for the project has changed just today.
183. Thank you for your consideration of these groundwater concerns.

### **Biological Resources**

184. Botanical surveys must be completed for both fall and spring annuals. Now there is a field of prickly poppies in bloom across the road from where I live that has not bloomed in this way since 1977 and 1978. Every year I have looked for these blooms, and finally after more than 30 years conditions were just right. There have been rains last fall and during the winter, so surveys must be done if annuals are to be observed. Without surveys being conducted at the proper times in relation to rainfalls and by botanists capable of keying out some of the relatively inconspicuous plants, one will never know what vegetation might be associated with the washes where water flows ephemeraly, and what vegetation in those places might mean for wildlife as food or shelter..
185. A survey of the project site in late April really gave me a surprise. Given the lateness of the season and earlier warm weather, I had not expected to find many plants in bloom. Instead I was rewarded with the densest carpet of *Langloisia* that I have ever seen anywhere in the desert. Grasses and annuals seemed to be thriving and shrubs appeared to be vigorously healthy without the typical dieback noted elsewhere in the Yuha Desert ACEC to the South and Jacumba Mountains Wilderness to the SW. The washes had wonderful healthy and dense vegetative cover at the edges and appear to provide excellent habitat for small mammals, reptiles and birds. These washes on the proposed project site represented for me an unexpected treasure full of life.
186. It is my opinion that the washes would be destroyed if suncatchers are installed in washes and/or if roads cross the washes in any direction because the wash banks would be destroyed by repeated vehicle passes. Paving is not an option, because that would also destroy the washes by reducing infiltration of water from rain or flowing water following heavier rains. It is difficult to believe that the washes would not be destroyed by vehicle travel with or without any surface treatments. Using chemicals to stabilize soils could create problems of chemical leachate moving down through wash soils.
187. The fact that bighorn sheep were photographed on site means that there must be a good reason for that many pregnant sheep to be there. If one wants to say that disturbance by ORV activity was the cause then that speaks to a management failure on the part of BLM because critical habitat for this listed species is primarily in the mountains designated as wilderness. It may also reflect the failure of BLM in the past to supply the information gathered by Lilian Olech when she was the wildlife biologist for

BLM El Centro. Lilian had a large collection of horns and skulls in her office and did an excellent job recording sightings, even from members of the public like me. I turned in horns found in the Jacumba Wilderness, reported sighting of sheep in the Interstate Center divide and reported fresh scat, none of this information was reported by BLM to FWS during the listing process after Lilian Olech left El Centro BLM and went to the BLM Sacramento office! So who knows how much info about past historic movements of PBHS is missing.

188. On 3-4-2010, BLM's Daniel Stewart suggested that the materials and research done by Lilian may have been stored in boxes at the BLM EC office. However, former wildlife Biologist Jim Watkins (now with US FWS in Arcata CA) was unable to locate any of Lillian's research when he searched in the 1990s at my request. The 1980 BLM DEIS for the CDCA Plan also referenced Peninsular Bighorn Sheep (PBHS) when it noted that even with the Balanced Alternative that there was the potential for "deleterious influence on transient range of Coyote Mn. Peninsular Bighorn Sheep habitat; potential loss of range." (BLM 1980 DEIS at p. 242) In the same table the 1980 BLM DEIS document also contains the additional following text related to the Plaster City area "Major destruction to several Colorado Desert ecosystems found nowhere else in U.S. i.e., Smoke Tree Wash communities; creosote-desert holly pavements cut with wash stringers."
189. Thus, the SA/DEIS needs more consideration of the significance of PBHS on site and discussion of appropriate mitigation measures. PBHS habitat issues were noted of significance in the Plaster City area in BLM's 1980 CDCA Plan DEIS.
190. What are the potential impacts of having power collected from the SunCatchers to go through a 600 V underground power collection which apparently will collect the units leaching much of the area not only disturbed by roads, but also by the underground powerlines. /What are the potential adverse impacts of this amount of cumulative disturbances to the soils used by burrowing small mammals and lizards. This disturbance is in addition to the 27 miles of paved arterial roads, 14 miles of unpaved perimeter roads, and approximately 234 miles of unpaved access roads associated with the proposed IV Solar site (SA/DEIS ES-5) for a total of 275 miles of roads. For both direct impacts and for the indirect impacts associated with noise and vibrations that travel through the soil..

## References cited

Berkeley Law. 2009.” In Our Backyard: How to increase renewable energy production on buildings and other local spaces” 26 pages.

BLM 1980 Draft EIS for California Desert Conservation Area Plan

Coyote Wells Specific Plan Project by Wind Zero Group, Inc. 2010 DEIR & Appendices SCH 2009011063  
Coyote Wells Specific Plan Draft EIR SCH No. 2009011063 January 2010, released 1-27-2010 available online at <http://www.icpds.com/?pid=2308> .

Huntley, David 1979. Magnitude and potential effects of declining water elevations in the Ocotillo-Coyote Wells groundwater basin.

Judge Judith McConnell in August 31, 2000 Statement of Decision in Case No. 676630 Save Our Forests and Ranchlands v. County of San Diego. Now Justice McConnell of Court of Appeal, Fourth District, Division One

NAFTA Tribunal Decision in the case between Glamis Gold, Ltd. (Claimant) and United States of America (Respondent) filed June 8, 2009.

Ocotillo Express Wind Facility 2009 Draft Plan of Development from BLM El Centro office.

Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map

Powers, Bill. 2007 San Diego Smart Energy 2020 158 pgs, PP 69-74 includes conclusions and recommendations [http://www.etechninternational.org/new\\_pdfs/smartenergy/52008\\_SmE2020\\_2nd.pdf](http://www.etechninternational.org/new_pdfs/smartenergy/52008_SmE2020_2nd.pdf)

Sierra Club comments on 2006 US Gypsum DEIR/EIS and 2008 US Gypsum FEIR/EIS

Sierra Club comments on 2010 Coyote Wells Specific Plan DEIR SCH 2009011063

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial.

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial. \_Reporter’s Appeal Transcript 5-17-99 at p. 28.)

Sierra Club v. County of Imperial, United States Gypsum Company, Real Party in Interest, Court of Appeal Case D034281 Decision 10/26/00, Court of Appeal file recalled from storage and reviewed in January 2008

Skrivan, James. USGS 1977 “Digital - Model Evaluation of the Ground-Water Resources in the Ocotillo-Coyote Wells Basin, Imperial County, California”

US EPA 3/20/95 document “Technical support document for the review of the Ocotillo-Coyote Wells Sole Source Aquifer Petition”. (Court of Appeal Case No. D034281 Clerk’s Transcript on Appeal, vol 2 p. 252.)

US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a “Sole Source Aquifer” 61 FR 47752, Sept 10, 1996)

USGS groundwater monitoring information data for the Ocotillo-Coyote Wells Groundwater Basin at the following source <http://nwis.waterdata.usgs.gov/ca/nwis/gw> for individual well sites in the USGS Imperial County groundwater monitoring program. The water level data is available from USGS both as

a graph of monitored or as a Table of data for each individual monitored well. Water quality data for the individual wells monitored can be obtained at <http://nwis.waterdata.usgs.gov/ca/nwis/qwdata>

USGS well location maps & data for Imperial County, links to individual wells monitored for water levels <http://groundwaterwatch.usgs.gov/ca/025.html>

US Gypsum Expansion and Modernization 2006 DEIR/EIS & Appendices SCH 200121133

US Gypsum Expansion and Modernization 2008 FEIR/EIS & Appendices SCH 200121133

### **Exhibits for Solar 2 groundwater issues**

- 515 US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a “Sole Source Aquifer” 61 FR 47752, Sept 10, 1996)
- 516 “EH Table 10 Water well information, water quality, and groundwater elevations Ocotillo/Coyote Wells Groundwater Basin, a Sole Source Aquifer, Imperial County CA” Updated March 2010 from Sierra Club comments on USG FEIR/EIS 2008 and included in CWSP Scoping comments found at 28appa-nop-initial-study-a at pp 7-17 (USG EIR/EIS Appendix B-1 USGS Hydrologic Data, USGS NWIS water level and quality data & Bookman-Edmonston 3/96 (BE96), BE 1/2004 (BE04). 11pages.
- 517 Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map
- 518 US EPA 2010-04-11 letter re Final EIS for US Gypsum project
- 519 USGS 2008-12-24 letter to Cong. Filner re Final EIS for US Gypsum Project
- 520 US EPA 2009-02-25 comments re NOI for Coyote Wells Specific Plan Area
- 521 USG FEIR/S 4.0 Collective Responses Table 4.0-1 Water quality info from USGS
- 522 USG FEIR/S 4.0 Collective Responses Fig. 4 Wells with Water Quality Data
- 523 USG FEIR/S 4.0 Collective Responses Fig 7. Wells with Recent Water Level data
- 524 BE 2004 Table 4-2 Historic Groundwater Pumping in 2006 USG DEIR/S
- 525 Ocotillo Express Wind Draft Plan of Development 2009
- 526 SES Applicant’s Submittal of Opening Testimony re Van Patten re well 16S/9E-36G4
- 527 Terms for Well 16S/9E-436G4
- 528 Moore in SES Applicant’s submittal of Opening Testimony re well 16S/9E-36G4
- 529 Ocotillo Express Wind Facility 4 pgs
- 530 USG FEIR/S Mitigation & Monitoring re Hydrology ES 9-11 submitted as an exhibit for the CWSP DEIR comments 20210
- 531 USG DEIR/S Mitigation & Monitoring re Hydrology See Applicant’s Appendix C for hydrology and USG DEIR/S Impacts and Mitigation in Summary Table at pp S-7 through S-11
- 532 Powers, Bill. 2007 San Diego Smart Energy 2020 158 pgs, PP 69-74 includes conclusions and recommendations  
[http://www.etechninternational.org/new\\_pdfs/smartenergy/52008\\_SmE2020\\_2nd.pdf](http://www.etechninternational.org/new_pdfs/smartenergy/52008_SmE2020_2nd.pdf)

- 533 Berkeley Law. 2009.” In Our Backyard: How to increase renewable energy production on buildings and other local spaces”
- 534 URS/BLM color brochure “Imperial Valley Solar Project Frequently asked Questions May 2010”
- 535 Tessera Solar, SES “Imperial Valley Project Fact Sheet (Formerly SES Solar Two)” undated color brochure.
- 536 “Impacts of Avoidance or partial avoidance of Drainage Areas I, K, C, E, and G” identified as “Preliminary Layout” by RMT in BLM documents provided at workshop on May 4, 2010, possibly dated 4/12/2010.
- 537 Skrivan, James. USGS 1977 “Digital - Model Evaluation of the Ground-Water Resources in the Ocotillo-Coyote Wells Basin, Imperial County, California”
- 538 Sierra Club v. County of Imperial, United States Gypsum Company, Real Party in Interest, Court of Appeal Case D034281 Decision 10/26/00, Court of Appeal file recalled from storage and reviewed in January 2008
- 539 US EPS re 2006 USG DEIS
- 540 USGS re 2006 USG DEIS
- 541 Powers 2010-05-13 email 4 pgs “best comparative solar costs info I have” & FW other docs
- 542 San Diego solar panels cost less with 1 BOG
- 543 16-apr-10 Renewable Energy World US Solar sees 38% growth in PV capacity in 2009
- 544 7-apr-10 RETI Phase 2B Draft Report pp 4-6 to 4-8 Thin film PV lower cost than solar thermal
- 545 Mar 2010 SNL “SoCalEd orders 200 MW of solar panels, plans solicitation for 250 MW more”
- 546 Powers 2010-05-13 email 1Q 2010 CSI capital cost numbers
- 547 01-may-10 CPUC SunCentric Study in pictures through March 2010 costs trends (52 pages)
- 548 Huntley, D. 1993. Letter re changes in chloride concentration in water quality from a well in Ocotillo-Coyote Wells basin
- 549 Huntley, David 1979. Magnitude and potential effects of declining water elevations in the Ocotillo-Coyote Wells groundwater basin.
- 550 RMT 2010 Impacts of avoidance of drainages Fig. From BLM handout for May 4, 2010 workshop.
- 551 Harmon 2010 values for static water level in feet above mean sea level including most recent USGS data (compiled from Exhibit 516 EH Table 10, a compilation of USGS monitoring data.
- 552 Tisdale 2006 comments on the USG DEIR includes information on the IID source of supply for industrial use at Plaster City/USG factory

**Comments re SA/DEIS for Imperial Valley Solar/SES Solar 2 Project Docket No. 08-AFC-5 and Supplement to the Application for Certification URS Project No. 27657106.00806" (SAFC) proposed to use groundwater from well 16S/9E-36G4 in Ocotillo-Coyote Wells SSA**

May 26, 2010

To: Christopher Meyer  
1516 Ninth Street MS-4  
Sacramento, CA 95814  
[docket@energy.state.ca.us](mailto:docket@energy.state.ca.us)

Daniel Steward  
BLM  
1661 South Fourth St.  
El Centro, CA 92243  
[caivspp@blm.org](mailto:caivspp@blm.org)  
[daniel\\_steward@ca.blm.gov](mailto:daniel_steward@ca.blm.gov)

From: Edie Harmon  
Ocotillo, CA 922599  
[desertharmon@gmail.com](mailto:desertharmon@gmail.com)

Re: SA/DEIS for Imperial Valley Solar/SES Solar 2 Project Docket No. 08-AFC-5 and Supplement to the Application for Certification URS Project No. 27657106.00806" (SAFC) proposed to use groundwater from well 16S/9E-36G4 in Ocotillo-Coyote Wells SSA

1. Please accept these comments on the SA/DEIS for the IV Solar Project Docket No. 08-AFC-5. Unfortunately, my computer just obliterated all evidence of about 15 pages of text so I will do the best I can in the remaining time. I will also incorporate by reference all comments and Exhibits submitted to the CEC for the Evidentiary Hearings on May 24, and 25, 2010 and the comments submitted to the US Army Corps of Engineers. I apologize for repetition, but I have been having computer difficulties and been unable to catch what are probably many duplications., and simply run out of time to remedy what the computer decided to vanish.
2. The numbering of my exhibits will be continuing with the numbers for my testimony before the CEC as a witness for Intervenor Tom Budlong, beginning with Exhibit Number 515. Because of lack of time, comments will go to both agencies and address issues which may be considered for both CEQA and NEPA and the BLM Plan Amendment Process as referenced in BLM materials.
3. I am concerned that the project applicant is rushing consideration for this process, with the end result that the public feels that it is being inadequate time to review the various aspects of the project and being left only with information from the project applicant without enough time for staff input from CEC or BLM before the public is expected to submit comments. In reviewing CEQA and NEPA documents for about 30 years, I have never before seen such a chaotic and time pressured process, or reviewed any project which would so irreparably alter the surface of such a large areas. There have been times during the workshops and even during parts of the evidentiary hearings that it seemed as if decisions have been already made and public input intended to be ignored. Not a good perception for members of the public who have attended

most if not all the public participation opportunities in Imperial County.

4. I am also concerned that the phone conferencing excludes those who do not have landline phone service and cannot afford to participate by cell phone during daytime because it is cost prohibitive. I understand that I am not the only concerned member of the public who lives in a place where the phone companies never have run phone lines. Yes, I was present during the entire two days of evidentiary hearings, but I could never have heard any of that input by phone. An around the world plane trip would likely have been less expensive than a two day cell phone call! So, yes, I can appreciate that the State has a tight budget, but so do concerned members of the public who care enough to want to participate. If the state and BLM cannot afford the costs of travel or staff time to provide opportunities for public participation as intended by CEQA and NEPA than there should be a higher up-front cost for the applicant rather than just excuses about the need for a rush deadline. Staff are real people who also occasionally need a few hours to sleep and occasionally to eat also. If the Applicant fails to provide required information in a timely manner, that is the applicant's problem, not to be pushed off on staff and the public because the applicant's real motive and need to get taxpayer financing for a project that is still unproven on a scale proposed. Yes, it is all about money, not about meeting energy needs.
5. After Van Paten's testimony of May 25, 2010 re need to rush to get taxpayer monies, please, as an alternative to using taxpayer funds to go to the applicant, consider what could be accomplished if that \$2 billion were to go to use known reliable human-scale options that would result in avoidance, reduction, or elimination of some of the anthropogenic emissions of greenhouse gases as a means of meeting the goals of the problems for which solutions are being sought. It seems more prudent to put the largest quantities of funds to making changes that will reduce emissions and reduce or eliminate generation of such emissions in the future. Please note that from the February SA/DEIR the pricetag has gone up from \$1.4 to \$2 billion.
6. Creative solutions and careful zoning and planning should come before widespread destruction of relatively undisturbed public lands financed by taxpayer funds. Again, when will we return to the 55 mph speed limit and require that public buildings and schools have windows that open so that forced air and air conditioning are not required for places with large concentrations of people? Please consider the wisdom of the Native American elders and the knowledge of your parents and grandparents as they lived far more lightly on the environment than those today and created far less adverse impacts on the environment.
7. Mandating the use of new or unproven technologies without first having experience with prototype operations of scale and duration to be assured of reliability seems extremely ill advised use of public funds, especially when there are tight budgets. This IV Solar/Solar 2 applicant and project seem to view the US Treasure as an endless pot of gold awaiting their grab, and with no assurances that this is a workable project on a scale of 30,000 units over almost 6,500 acres!
8. A country that can afford a space program and can afford to be engaged in two wars can certainly afford to spend the money to improve insulation and housing stock so that there are not health problems associated with summertime high temperatures or wintertime cold temperatures by means far more effective than simply increasing energy to avoid making significant changes that will have long term benefits that do not require ever increasing amounts of energy. Using funds NOW to improve the places where people live would most likely play a more significant role in meeting the emission standards than speculative technologies funded by taxpayers.
9. Anyone who has ever lived in rural parts of Africa in Botswana or Namibia knows first hand that the traditional African home construction with extremely thick walls (12-18" of "mud and wattle" style with 12-15" of bundled grass thatched roofs were very comfortable during the

coldest parts of winter and hottest parts of the summer because the homes worked without the addition of external energy sources. But contrast those to the thin 4-6 inch thick concrete walls with corrugated metal roofs of the British, and one instantly sees the wisdom of centuries of traditional knowledge of what works. Water would freeze in basins in my British style home in winter, but those fortunate enough to live in traditional housing did not experience such swings in temperatures of the home. Early homes in the southern parts of the US in days before air conditioning looked to the proper placement of windows to take advantage of breezes to cool in the summer. How sad that in an age of technology we have lost the ability and desire to learn from the wisdom of those who came before us.

10. As decision-makers, you have the opportunity to make the decisions that will reinforce public statements when you say you will not short change the processes and that you will insist that serious solutions to problems are truly deserving of taxpayer funding, not only speculative projects that have a large component interest in "return of monies to the investors". What about the need to invest in a better quality of life for future generations by considering something other than massive destruction of public lands with their treasures cultural and biological resources so necessary for intact ecosystems in a changing world. Why not insist that all the investments will be for implementing technologies and solutions in the communities where lands had already been disturbed for human development in the form of commercial, industrial and agricultural lands in addition solving the problems of existing construction..
11. **Changing Project description without Staff analysis requires revisions, and recirculation for public comment under both NEPA and CEQA** rather than merely a Final EIS for BLM and a Supplemental Staff Assessment from CEC. Having the Staff analysis which is the environmental review documents become available after the close of public comment precludes meaningful public comment.
12. IV Solar Project description has been a moving target and the SA/DEIS does not reflect the current state of the project description under the May 10, 2010 posting of the Applicant's Supplement to the Application for Certification URS Project No. 27657106.00806" (SAFC)
13. How many members of the public would have been aware that the Project Applicant had submitted a SAFC that was posted on May 10, 2010? Even though I have been participating as a witness for Intervenor Tom Budlong, I do not regularly check the CEC website to look for updates without first getting information from the CEC.

**Obtaining and analyzing information takes time and often cannot be rushed**

14. Changing project components and piecemealing review by withholding important information and analysis until after public comment is contrary to the intent of CEQA and NEPA. The public should not be forced to conduct its own research to ferret out information to analyze the accuracy and/or reliability of information provided in the last weeks before comments are due. I have decades of documents related to groundwater use and I have internet access to the very latest monitoring data from USGS (as does the applicant), but I am not paid to do an environmental analysis that should have provided more than outdated and inaccurate information to the CEC and BLM.
15. Could the CEC or BLM staff ever have found some of the information that I have provided, or would they even have known that such information was available and should be considered? Should staff for BLM, CEC or its hopefully 3<sup>rd</sup> party consultants on topics other than cultural resources been required to ferret out essential information withheld by the applicant? After more than 30 years of reviewing information on groundwater I can see how woefully inadequate and erroneous some of the information provided by the applicant was, but that leaves me wondering

about the adequacy and accuracy of information on other topics. Rushing the review to meet the applicant's funding motivated deadlines could leave the public with a monument to ill advised project approvals. And located adjacent to an Interstate, it would be a lasting monument to flaws in the permitting and approvals processes. Any project requiring 6,500 acres most of it public lands with majority of public financing must take longer than what is customary for CEQA and/or NEPA review.

16. US Gypsum environmental review took almost 6 years to produce a DEIR/EIS and then another year and half to produce a final EIR/EIS, and two years after the release of the FEIS, BLM still has not issued its Record of Decision for a right of way for a simple water line adjacent to the road, for which the boundaries of IID were changed almost 30 years ago! And that is a far less damaging project in terms of surface disturbances. It took BLM probably 4-5 years of review before deciding to not approve the Plan of Operations for the Glamis Imperial Mine project. (See NAFTA Tribunal decision of 2008.)
17. At the CEC Evidentiary Hearing in El Centro May 24-25, 2010 there were numerous topics of the SA/DEIS that were not considered for testimony because the CEC Staff had not had sufficient time or opportunity and/or the Applicant had failed to provide the necessary information to complete Staff Analysis, and or public review. Piecemealing project components and intentionally withholding information relevant to the changed project description (such as an assured water supply for future) appears to violate certainly the intent of the law.
18. CEQA defines a project as "the whole of an action" which has the potential to result in a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment. The "Project" refers to the activity being approved and which may be subject to several discretionary approvals by distinct governmental agencies. The analysis must embrace future development that will foreseeably occur if the agency approves the project and also include analysis of cumulative impacts associated with the changed project description which could not have been understood prior to the Applicant's posted changed description on May 10, 2010
19. In my efforts to respond to the Alternative Water Supply, I have documented considerable information which either contradicts what the Applicant states about the Boyer water well 16S/9E-36G4 in Ocotillo or fails to substantiate assertions made by applicant or applicant's consultants related to groundwater usage at the well site. Those letters and their accompanying exhibits are included as Exhibits 566 and 567 and 515-564.
20. **The Changing Project description without Staff analysis requires revisions, and recirculation for public comment under both NEPA and CEQA.**
21. IV Solar Project description has been a moving target and the SA/DEIS does not reflect the current state of the project description under the May 10, 2010 posting of the Applicant's Supplement to the Application for Certification URS Project No. 27657106.00806" (SAFC) which includes a proposal to use groundwater from well 16S/9E-36G4 in the Ocotillo-Coyote Wells Groundwater Basin. This basin is an US EPA designated Sola Source Aquifer in 1996.

**The proposed Imperial Valley Solar Project/SES Solar 2, what is the real project description? How much has changed?**

22. According to information in the February 2010 SA/DEIS and Supplement to the AFC dated May 5, 2020 Stirling Energy Systems Solar Two, LLC applied to the Energy Commission for a license to build and operate the Imperial Valley Solar Project. The proposed project proposes a nominal 750-megawatt facility, with construction planned to begin in late 2010 if the project

applicant is able to secure funding for what was stated to now be a \$2 billion project according to statements by Mark Van Paten on May 25, 2010. 9See Exhibit 569 “Rush is on for desert solar” at signonsansigeo.com, May 26, 2010 account of CEC Evidentiary Hearing.).

23. The primary equipment for the generating facility would include approximately 30,000, 25-kilowatt solar dish SunCatchers, their associated equipment and systems, and their support infrastructure. Power would be generated by groups of 60 SunCatchers connected by underground lines. The project would also require construction of approximately 10.3 miles of double circuit 230 kV transmission lines to connect to the existing SDG&E transmission facilities. In addition to hundreds of miles of roads the solar thermal electric generating facility would include a 230 kV substation and various buildings at the center of the proposed site.
24. More than 5,000 suncatchers would be placed in areas known to be subject to flash flooding (ES-28) There are 878 acres of jurisdictional waters, including 165 acres with permanent impacts (ES-29)
25. The 6,500 acre (more than 10 square miles) project site is located on approximately 6,140 acres of federal public land managed by the Bureau of Land Management (BLM) and approximately 360 acres of privately owned land. The site is approximately 100 miles east of San Diego, 14 miles west of El Centro, and approximately 4 miles east of Ocotillo, even if the SA/DEIS mischaracterizes the location as being 4 miles east of Ocotillo Wells in San Diego County. Conversion of these lands is cumulatively significant, even though it may seem small compared to the approximately one million acres of lands in the California Deserts that have been proposed for solar or wind development. (ES-31). Other resource values would be lost as public lands are converted to industrial scale solar.
26. Although the Staff may conclude that conversion of such acreage under FLPMA is consistent with applicable laws, ordinances, regulations and statutes, (ES-32), it would create a significant and unavoidable impact, the negative effects which would be disproportionately felt is rural communities already suffering from adverse health impacts of air pollution. (See Exhibits 569, 570 and 571 related to Imperial County and EPA concerns about poor air quality and health issues in Imperial County from a community leader, an elected official, and from US EPA..)
27. The BLM lands are “Limited use” lands, in part to restrict vehicle travel to the approved routes of travel. This designation was made after the initial portrayal of these lands as the “Plaster City Area of Critical Environmental Concern” (ACEC) in the 1980 BLM Draft EIS for the California Desert Conservation Area (CDCA) to protect what in 1980 was known to be an extremely important area for prehistoric cultural resources, cremation sites and Native American values. It is my understanding that the ACEC designation as an ACEC for the entire project area was not included in the final determination or Record of Decision (ROD), in part because identification of an area with such easy access near lands identified for OHV activity would have increased the likelihood of damage and vandalism if the cultural resource values were known. (Conversations with many BLM staff locally, and BLM staff involved in the Section 106 consultation with Native American Tribes. I am participating in the consultation process.)
28. “Approximately 27 miles of paved arterial roads, 14 miles of unpaved perimeter roads, and approximately 234 miles of unpaved access routes would be constructed on the SES Solar Two Project site. “ (SA/DEIS ES-5) The project would not be able to operate if wind speeds exceed 35 mph. (ES-6) However, a major concern about the use of unpaved roads is the amount of dust that would be generated as surfaces are continually broken down by vehicular use for construction and maintenance. Increasing the travel speed on the unpaved roads from 15 mph to 25 mph as requested by the applicant on May 24, 2010 at the Evidentiary Hearing for the

purposes of reducing the time spent on travel thorough the site would appear to increase the amount of dust generated. Ultimately, during periods of higher winds, this would result in additional particulates reaching residents to the east, as I have seen when visiting friends in El Centro. I have observed clouds of sand blowing down the streets of El Centro with severely limited visibility, much worse than the dust storms where I live south of Ocotillo. (See Exhibits 569, 570, 571 to read of concerns about Imperial County air quality issues.)

29. When it comes to the issue of power plant reliability, the staff seems quite accurate in asserting that:

Staff cannot determine whether the applicant's availability goal is achievable and cannot predict what the actual availability might be, given the demonstration status of this Stirling engine and limited data on large-scaled deployments of Stirling engines. (The availability factor of a power plant is the percentage of time it is available to generate power; both planned and unplanned outages subtract from this availability.) Staff believes it possible that the project may face challenges from considerable maintenance demands, reducing its availability. (ES-35)

30. Given the unproven nature of the proposed technology and lack of larger scale or longer duration demonstration of success, it seem more than ill-advised to use federal funding to finance a private investor company whose "renewable energy " activities would cause irreparable harm to the public lands and their resources, both for the IV Solar Project site and for the public lands that would be impacted by the activities whether the project succeeded or failed. Accordingly the wise decision in light of the very significant cultural resources and wildlife habitat would appear to be to support the No Action Alternative with Plan Amendment to ensure that no other solar projects submit AFCs in the future. This would be the resource protective and staff would not have to engage kin seemingly endless hours reviewing projects which should not have merited the expenditure of time and effort.
31. How curious it is to review the Staff summary of **Socioeconomics and environmental justice** in the SA/EIS.) At the Evidentiary hearings the applicant spoke of a \$2 billion project, but when one considers the \$8.92 million for local operation annual payroll, property taxes of \$0.84 million, 7.4 million for operations and maintenance, etc, it appears that relatively little money would stay in Imperial County.
32. I was unable to find discussion of **visual resources analysis** from the perspective of Native Americans for whom the lands are sacred. I know that this can be done because BLM considered visual resources issues when it evaluated and decided to deny the Plan of Operations for the proposed Glamis Imperial Mine. Even if sacred sites are not disclosed, and they should not be, It would seem that the public benefits form a better understanding and appreciation of Native American traditions and views of the lands on which their ancestor lived.
33. With reference to staff discussion of Noteworthy public benefits,(ES-47) there is inadequate information for comparisons to ascertain if the same benefits could be achieved by other means.
34. For example, if a goal is reducing GHG, what amount of GHG reduction could be achieved by reducing the speed limit back to 55 mph, increasing the energy efficiency of existing housing stock and using distributed rooftop PV rather than using all the fuel for manufacturing, transportation and construction of the materials needed for the SunCatcher technology and needed new transmission lines? How would those alternatives, either alone or combined make a contribution to reduction of toxic air contaminants?
35. The section on Noteworthy Public Benefits is absolutely unconvincing and appears to be a

desperate attempt to say to find something positive to say about the project, without considering any meaningful alternative solutions and reducing demand. The alternatives suggested in this letter should be able to qualify for loan guarantees under Title XVII of the Energy Policy Act of 2005 (ENACT) given a strict interpretation of the text provided at p. A-3.

36. “The ENACT established a Federal loan guarantee program for eligible energy projects that employ innovative technologies. Title XVII of ENACT authorizes the Secretary of Energy to make loan guarantees for a variety of types of projects, including those that “avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases, and employ new or significantly improved technologies as compared to commercial technologies in service in the U.S. at the time the guarantee is issued.” The two principal goals of the loan guarantee program are to encourage commercial use in the U.S. of new or significantly improved energy-related technologies and to achieve substantial environmental benefits. DOE can comply with the requirements under ENACT by selecting eligible projects that meet the goals of the Act.” (A-3)
37. Why not be innovative and creative and try the new and improved technologies to insulate homes, change behaviors and lifestyles by driving less, and using small portable 6 inch personal fans rather than air conditioning and sweaters and jerseys instead of heating homes and buildings in Southern CA, what about retrofitting windows on public places that would be energy efficient
38. **Project does not have an assured water supply and there is inadequate up to date information on the proposed alternative water supply for any agency decision other than to deny.** The question of an assured water supply and what it means to others who have relied on that source **if groundwater**. I have submitted a detailed analysis with many exhibits on the alternative water supply as a witness for Intervenor Tom Budlong at the CEC Evidentiary Hearings. Yes, there is repetition, and there may be some typos not yet found, but I am submitting them as exhibits for the comments on the SA/DEIS. (See Exhibits 566 and 567.) (The letter to the US ACE is submitted as Exhibit 572.)
39. SA/DEIS at c.7-3 states that “No groundwater would be used by the project and the effect on groundwater infiltration would be negligible.”
40. Project appears now to have no assured water supply. Seeley WasteWater Treatment Facility is in process of doing an EIR for upgrade and to address impacts of loss of outflow to wetlands along New River and could not be ready to deliver water for construction when applicant wants to start ...driven by desire to get federal monies.. May 5th Applicant's Supplemental AFC now identifies use of potable groundwater from Ocotillo by tank trucks for construction, dust suppression and mirror washings. However the documentation provided by the applicant for the hydrology and groundwater issues is more than woefully inadequate given the absence of monitoring information, pumping information and water quality information for the well in question and the nearest wells the US Gypsum wells.
41. We learned that there is no valid permit to export water from the proposed well as of yesterday May 25<sup>th</sup>, 2010 at the Evidentiary hearing.
42. If groundwater were to be approved, it could/would eliminate source of domestic water for residents of Painted Gorge and West Texas who were identified as using this source in documents dating since 1996 and likely much earlier. So much for the CA hierarchy that puts domestic use as a higher priority than industrial or commercial activities. No one could answer the question about what happens if current domestic users lose their supply. Applicant intends to take all the water pumped from the well. The groundwater is from a US EPA designated Sole Source Aquifer, which means that in 1996 when EPA made the determination it recognized the

water availability/water quality problems that are associated with the area where groundwater users get water for all needs. Derailed information and questions about the Boyer Well will be appended at the end of this comment letter.

43. The 2/2010 SA/DEIS document identifies the Seeley Waste Water Treatment Facility (SWWTF) as an intended source for 150,000 to 200,200 gallons of tertiary treated water for construction and operation (ES-4). The environmental impacts of use of this water have not been fully evaluated because there has not been any real discussion of what losing the outfall of treated wastewater would mean to the wetlands now receiving the water.
44. When it comes to water I am wondering (ES-6) what is meant by the statement that the daily water requirement for SunCatcher mirror washing .... would be approximately 10.4 gallons of water/minute.” If 30,000 SunCatchers that sounds like 0.96 AF/min, but again what does this really mean in terms of water usage.

### **Alternatives**

45. SA/DEIS fails as an informational document because the Alternatives discussion really only considers variations in the size and placement of SunCatcher units on the site under NEPA or at off site locations under CEQA in addition to the No Action/No Project Alternative. See Sections starting with B.2.6. There was no consideration of alternative measures or technologies recommended by the public as measures which could accomplish the energy and GHG emissions goals of the proposed project. CEQA and NEPA provide opportunities for considering alternative measures, solutions, or locations to solve a problem even if they are not part of the project as described by a project applicant.
46. Here Alternatives analysis other than the No Action alternatives seem to be driven by the profit motives of the project applicant. The SA/DEIS Alternatives discussion is from the perspective of applicant financial motives, when there must be some analysis of what the same amount of taxpayer funding could accomplish if the same amount of funding were to be made available for community based solutions which would reduce electrical demands on the system.
47. Please add an analysis of public generated recommendations for alternatives to the proposed industrial scale privatization of public lands to solve the energy and emissions problems.
48. And please add to the analysis the savings in fossil fuels that will accrue when the speed limit is reduced to 55 mph as under President Carter. Surely there is abundant data indicating the success of that effort in the past.
49. I am appending a letter submitted to the US ACE for its comments and included a number of exhibits related to the question of new, and alternatives solutions.(Exhibit 572)

### **BLM CDCA Plan Amendment Issues**

50. The Summary in Sec A.3 for Land use plan conformance and amendment raises troubling questions about how BLM language is to be interpreted. I reviewed the section of the SA/DEIS and compared that with text from BLM’s 199 version of the 1980 CDCA Plan.
51. **What uses are categorically allowed in all Class L Multiple Use areas.?** It is extremely troubling to note that the A-8 text suggests that in BLMs’ Class L lands that such intensive surface damaging industrial activities would be consistent with a Class L designation without any amendment to the CDCA Plan.. The SA/DEIS p. A-8 states that: “The proposed project does not require a change in the Multiple-Use Class classification for any area within the CDCA.” Very specifically the BLM CDCA Plan makes the following statement defining Multiple Use Class L:

52. **MULTIPLE-USE CLASS L**

Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished. (BLM CDCA Plan As Amended at p. 13, copied verbatim from Plan).

53. Please explain what it is that I do not understand about the nature of the activities proposed for the solar project including roads, buried piping, installation of SunCatcher units, construction of buildings, etc that is in any way protective of the sensitive natural, scenic, ecological, and cultural resource values that we hear about in public meetings , workshops and evidentiary hearings. What I have heard sounds like privatization , fencing to exclude all other uses, and carving up the land with more than 234 miles of scraped unpaved roads to access the intensive industrial facilities components. Massive industrial conversion of 6,500 acres for private use seems the antithesis of compliance with the language and intent of the Multiple-Use Class L designation.
54. If as other text on BLM 199 Amended CDCA Plan (at p. 13) suggests that 5,883,000 acres of BLM administered public lands (or 48.5% of CDCA lands ) are Class L, should the public now be advised that 48.5% of BLM managed lands or almost 5.9 million acres are now fair game for intensive industrial development for “renewable energy” and could be considered sacrifice areas for disposal to private investors at the expense of the public treasure and at a use loss for the resource values that triggered the Class L designation?
55. Has the definition of Multiple Use Class L already been changed to allow for intensive industrial scale solar, or is it the intent of the CDCA Plan Amendment for this or another project to change the definition of Class L to allow industrial scale solar generating facilities in any and all Class L 5,883,000 acres of public lands managed by BLM in the CDCA? If the definition of Class L has been changed, when was it and by what means was that information conveyed to the public, not just industry.
56. Title VI of the FLPMA, under CDCA, provides for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, and maintenance of environmental quality. Multiple use includes the use of renewable energy resources, and through Title V of FLPMA, the BLM is authorized to grant ROWs for generation and transmission of electric energy. *The acceptability of use of public lands within the CDCA for this purpose is recognized through the Plan’s approval of solar generating facilities within Multiple-Use Class L.* (SA/DEIS at p. A-9) (emphasis added)
57. But what does this mean? Has the definition of Class L already been changed? Or is it that the CDCA wide definition for Multiple Use Class L will be changed if the Plan is Amended for this project, even if the Amendment is to deny the siting of any future solar projects on the proposed IV Solar site? The language of any Plan Amendment is extremely important because the Plan covers more than 12 million acres of BLM managed lands in California. An error or omission in language could create loopholes of unimaginable magnitude and significance. (Imperial County spent more than 15 years and 8 lawsuits in state and federal court, because it ignored public concerns, and compounded that mistake in judgement by the addition of the letter “s” at the end of a single word. Relevant, of course, because that mistake was related to use of groundwater from a single well in Ocotillo, consequences to the groundwater basin locally were bad enough, but years in court for County vs the property owner all could have been avoided. That was one wells, but there was litigation related to impacts of export from a second well also.)

58. I spoke with Daniel Steward at the BLM EL Centro Field office this morning to try to understand answers. There were no answers, only encouragement to raise the issue in comments. I also spoke with Jim Stobaugh and understand that any Plan Amendment would be very site specific. Nevertheless, experience urges caution, because I am uncertain who the ultimate decision-maker or crafter of Plan Amendment text might be.
59. The SA/DEIS mentions site specific plan amendment when it states that “the proposed project would require a BLM ROW grant and a project-specific CDCA Plan Amendment.” (C.8-1) But with more than 1 million acres of the CA desert proposed for solar and wind energy development, any Plan Amendment, no matter how site specific it is intended to be could, indeed would have implications far beyond the specific project site.

#### **NEPA No Action Alternatives**

60. Discussion of the three different BLM No Action Alternatives (SA/DEIS B.2-18) is more than a little confusing without the specific text of any CDCA Plan Amendment related to interpretation of the definition for Multiple Use Class L.
61. I strongly recommend the No Action Alternative, and believe that it makes sense to deny any future consideration of industrial scale solar development at the proposed project site. However, if such a plan amendment would open the door to all Class L lands being available for industrial scale wind and solar in the future, it would be better to have no plan amendment, but what a waste of time energy and resources to have to go through the same process again!
62. A Plan Amendment that would prohibit consideration of any other solar projects at the site and denying the IV Solar Project would best serve the interests of public lands. But Please be extremely careful about the text and I urge that there be NO change in the definition of Multiple Use Class L.

#### **Importance of place to the public, or feeling of sacred sites may be something universal**

63. I have been participating in the Section 106 consultation process because I have had a long time concern about the issues of sacred lands, sacred geography and had the extraordinary opportunity to get to know indigenous people living in North America and from all continents except Antarctic.. I understand the pull of the land, of certain places that change forever how one related to the environment and world in which one finds oneself. For more than a decade I have been invited to participate in conferences where the vast majority of participants are indigenous people coming together to try to find solutions to problems that threaten traditional cultures, ways of life and traditional lands. Each gathering has been inspirational and I have learned so much more than I have been able to share.
64. I have been with Tibetan refugees on several occasions at the site of the proposed Glamis Imperial Mine project in eastern Imperial County and experienced their reluctance to leave, because for them they were in a place that took them back to similar places in Tibet. It is the land, the viewshed, the rocks and diversity of short vegetation that does not interfere with the views of the mountains that gave Tibetans peace in Imperial County. Something about the universality of the sacred and the understanding of sacred geography that pulled Tibetans to the place that has long been sacred to Native American peoples along the Colorado River. And, yes, My husband and I also spent many days there because it was an incredible and awe-inspiring viewshed where one could never get lost, a place to find peace and purpose in life, a place where land matters.
65. So, I was surprised when I left the 106 PA meeting last week and drove west on Interstate 8 through agricultural lands and out into the open desert, a trip I have made hundreds of times in

recent decades. I have always loved the washes and topographic diversity between I-8 and Old Hwy 80, the very lands proposed for the IV Solar project.

66. As I told Carrie Simmons in a phone message after returning home and also mentioned in public comment at the CEC hearing on Monday May 24, 2010, the first word that came to my mind after leaving Ag lands and getting into the open desert was "safe". Over and over again the word "safe" told me about that place, safe and peace. I had not realized just how much this very part of the desert had come to mean to me. For me the IV Solar project site, looking out across the desert, feeling the life associated with the washes all with the Coyote Mountains in the distance, there is a sudden overwhelming sense of suddenly feeling safe and at peace, the washes are almost magical, healthy with vegetation showing no signs of die-back as elsewhere in the western part of the County. In the 33 years I have lived here, this special part of the desert has become sacred to me, because it is bringing me home, close to the desert I love, and away from the technologies and chaos of a fast paced world that often makes no sense in terms of what is important. I was in tears before I got to Ocotillo because the thoughts of losing this open desert and healthy washes was a hurt that caught me off guard, and I am in tears as I write this as Carrie Simmons requested that I share with others at BLM.
67. For those of us who are not city folk and live with the desert as our neighbor, sacred lands are a part of our lives. One does not have to be a Native American or have generations of cultural ties to the land to understand that the concept of sacred sites and viewsheds that encompass the sacred are a part of everyday life, even if we are not physically there every day. Last week I finally understood that for me the north side of I-8 with the lands proposed for IV Solar...that is land and a viewshed that has become part of who I am and what I value and I cannot imagine what losing that viewshed will mean for me. I understand Carmen Lucas and Preston Arrowweed, their passions and concerns, and how difficult it is to get others to understand something that cannot be easily described with written words..
68. The Imperial County desert is not a wasteland to be exploited or sacrificed so people a hundred miles away, who know nothing of the land or its resource values, can have ever increasing consumptive lifestyles. There are other solutions to energy issues that do not involve loss of significant public lands.
69. City people too often see the deserts as sacrifice areas necessary to support affluent urban lifestyles and higher levels of consumption. They can't recognize prehistoric evidence of the desert dwellers hundreds and thousands of years ago. Some seem to prefer Interstates, paved streets, vs. foot trails going from water source to water source with distant mountain peaks to guide the way. Some of us need to see and feel a wide horizon to have any hope for the future. The biological diversity in so much of the desert far surpasses that of the forests...that from my sister who is a botanist for the National Forest Service doing plant surveys in NH and ME, but regularly visits here in the desert.
70. On the day we spent exploring part of the project site it was most amazing twwhat we found.. What a wonderful experience that was, with wildflowers and healthy washes beyond my wildest imagination. And how many hundreds of times have I driven past the site during the past 33 years. It has become part of my sacred geography. One doesn't have to be a Native American to become extremely attached to those open public lands with exciting washes and mountains on the horizon to understand the overwhelming sense of peace and safety that overcomes you as soon as you eliminate the view of agriculture and modern human activities from the horizon. "Safe" was the word I felt as soon as I reached the open desert by the proposed project site after leaving a day of 106 meetings last week. Traveling west, by the time I got to Ocotillo I was in tears at the thoughts that it might all be destroyed for an unneeded project. I had not realized

how much that area had come to mean to me each time I left Imperial Valley agricultural fields for the open desert as it has been left for us all to find peace. Yes, I understand why Native Americans have such a difficult time trying to explain why this area is so important. They speak for the future of all living things, and they are right to care.

### **Environmental Justice**

71. All this really points to is looking at areas with low levels of education, high unemployment and majority non-anglo populations as areas where damaging projects are acceptable to many in remote urban areas, projects that would be rejected near more affluent communities. This **environmental justice** issue was brought home to the CEC during public comment by a faculty member at the college. What is in it for residents of Imperial County, increased air pollution, likely increased asthma rates and an eyesore to remind them of their second class status every time they leave or return to the County, something to remind them that others have found the low income desert communities acceptable sacrifice areas. Siting a project such as Solar 2 adjacent to the Interstate is to be sure that the local people will not be able to ignore how others have chosen this place where they live to be a sacrifice area.
72. Yes, it is an environmental justice issue! If people really cared about the jobs issue, the money would go to distributed rooftop PV and insulating homes to make them use less electricity both winter and summer in the desert. \$2 Billion (that is for Solar 2 only, transmission line is extra) would go a lot further for improving the quality of life for people in Imperial County if NOT spent on an industrial scale solar project not needed by San Diego. Should I find some comfort that it is the electric rate-payers who get their electricity from SDG&E that will have to face the increased electric bills, rather than increasing rates for electricity in Imperial County. But what have the average electric users in San Diego done to deserve what this will cost them? I don't understand why they are not getting very upset. And I don't understand why CEC and BLM are not evaluating serious alternatives to industrial scale remote generation.
73. The only winners would be the investors of the project applicant and SDG&E...and then only maybe. This project is one of many slated for the destruction of Imperial County deserts. Individually ugly, but cumulatively an impending disaster for the species that have adapted to extremely harsh conditions and for the people who call this area home.

### **FTHL**

74. As we listened to the info at the Evidentiary Hearing, with a potential for 2000 to 5000 FTHL on site, if they do construction immediately and increase travel speeds from 15 to 25 mph on the hundreds of miles of unpaved roads, the only real questions are how, when and where the FTHL will be killed. To think of translocation to already occupied habitat in winter sounds like a grand scheme for failure. And inappropriate for a species being considered for listing now.

### **Noise**

75. I was shocked to see and hear the incredible noise of the SunCatchers at the Maricopa site. It would be enough to drive anyone crazy unless the person is already deaf, but animals cannot obtain hearing protection. Until Monday I had not realized how much noise would be generated!

### **De Anza Trail**

76. From what I am learning I believe that there is serious concern about proposals for moving the De Anza trail, which of course was originally an Native American trail going from water source to water source. Hundreds of years ago, and even when Europeans first arrived, there were still

small surface bodies of water. Many were destroyed when the canal broke banks and the New River was formed in 1905, That flood destroyed many historic lakes that are memorialized only in name now. Of course, the original inhabitants knew where the water sources were.

77. San Diego residents who are members of environmental organizations including the Sierra Club and others know the IV Solar project is not needed based on the research and writings of Bill Powers.

**Alternatives and what the \$2 billion could do to solve energy issues**

78. Based on all I know, I am more convinced than ever that the preferred Alternative that makes the most sense is the No Project, BLM Plan Amendment to deny the project and prohibit solar projects on the project site. That recommendation was made in public comments and in my comments as an individual to the Army Corps of Engineers. Yesterday ,the project applicant explained that this is a \$2 billion project and that the deadlines are driven by the Applicant's need to get federal funding.
79. In my mind there are serious questions about whether there can be any justification for using taxpayers' money to destroy fragile desert public lands with important cultural resource/sacred sites values when there are so many viable alternatives that combined would reduce electrical demands, improve quality of life, and reduce greenhouse gases. Does anyone know how much distributed PV and home insulation to reduce demand could be done with the \$2 billion that the industrial scale solar would require for financial viability? \$2 billion for alternatives would mean lots more jobs closer to where people live.

Water well issues related to the Boyer well and the Ocotillo-Coyote Wells groundwater basin:

80. The monitoring data and information about water wells that was used by USGS for its 1977 report on the groundwater basin raised much interest and concern among residents of the groundwater basin. And can be summarized as follows.
  - a. The County Dept. Of Public Works provided to residents copies of the 1977 USGS Groundwater study and model that was locally called the Skrivan Report. (Exhibit 537, USGS 1977)
  - b. Some time after the USGS made its presentation to the Board of Supervisors, and during a public hearing, I challenged the reliability of the computer model because USGS water level monitoring data for the domestic wells in Yuha area and the well that was exporting groundwater showed that there was a significant decline in water level centered at the export well.
  - c. USGS staff agreed with my conclusion that when the computer model cannot predict what the monitoring data shows, that it is the computer model that is inaccurate not the monitoring data.
  - d. I was provided with computer print outs of water level and water quality monitoring data from USGS and a USGS printout that provided information on well construction, location, and ownership (Exhibit 553) that was included in the 1977 USGS Report (USGS 1977 Exhibit 537 and 553) .
81. Water levels and water quality issues in the groundwater basin have been a growing and continuing concern for groundwater users for more than three decades. In fall 1977 I moved from Ocotillo to Yuha and was caretaking a property immediately south of a well which had started to export groundwater in September 1977. In 1977 all the homeowners became very concerned because in September 1977 tank trucks began lining up, leaving engines running and filling with water at all hours of day and night from the Simpson-McDougal well at the center of the 160 acre subdivision in addition to lining up at the well in Ocotillo. Residents were concerned, and when USGS came to monitor wells, residents learned water levels were showing signs of decline.
82. The 1977 USGS study that residents and the County were concerned because the USGS study revealed that:
  - a. Water levels were declining where the residential development was.
  - b. All groundwater pumping in the basin was located in a relatively small area of private land because most land is owned by federal govt BLM (See ONCAP Exhibit 517, Fig 1 after text, and Exhibit 562 a figure depicting location of wells on private lands)
  - c. 90% of annual pumpage is centered in Ocotillo (Exhibit 537 p.1, 45)
  - d. overdraft or groundwater mining because groundwater levels are declining (USGS 1977, 7 Exhibit 537 p. 35) and discussion by USGS at County meeting
  - e. large cones of depression of water levels centered around and downgradient from wells that were pumping 100 AF/Y or more of groundwater in locations relatively close together (USGS 1977, Exhibit 537 Fig 12, pp. 38-39)
  - f. concern about saline intrusion or migration of highly saline groundwater from the east side of the . (USGS 1977, Exhibit 537 p. 1, 20, 41.)

- g. Some wells in residential areas have poor quality water or high fluoride levels (USGS 1977, Exhibit 537 Fig. 6, pp 18-19)
  - h. USGS report stated that when it was prepared that there was only one well exporting water to Mexico, that was well 16S/9E-25K2 in Ocotillo (USGS 1977, Exhibit 537 at p 14) but a second well 17S/10E -11G1 had started to export to Mexico in September 1977. USGS report had not considered impacts of this export because it was not exporting water at the time the report was completed and/or the County had not told USGS that there was a second well exporting groundwater from Yuha Estates.
83. The USGS report discussed overdraft and showed local cones of depression where water levels were lower where wells were pumping more than for single family use. But, additionally, there other studies or analyses that addressed these concerns during years when there was ongoing litigation. Important new insights related to how groundwater basin was responding to pumping came to light in these additional/subsequent reports.
- a. Huntley 1979 described significant well interference in locations where groundwater pumping exceeded 100 AF/Y and declining water levels in spite of years one might consider above average recharge based on rainfall (Huntley 1979 p. 11, 21 Exhibit 549)
  - b. Huntley expressed concern about the computed overdraft or depletion as seen by declining water levels, and “continued uncontrolled pumping” which “suggests that the ground water resources of the basin are seriously overallocated.” (Huntley 1979 p. 21 Exhibit 549)
  - c. Huntley was further concerned that the USGS report tended to “underestimate the problems of overdraft in the Ocotillo-Coyote Wells basin.” (Huntley 1979 p. 21 Exhibit 549)
  - d. Zipp from the State Water Resources Control Board prepared a report for a hearing of the RWQCB and noted that the basin (a very large area of mostly BLM lands) was not in critical condition of overdraft, but that there were several local cones of depression around major extraction areas. (Zipp 1980, Exhibit 554 p. 19)
  - e. 80% of water pumped in basin is exported from the basin. County should use hydrologic boundaries not political boundaries to define basin.. ...”all extractions from basin by US Gypsum must be considered as exports because water is taken across the fault into poor quality, unusable area.” (Zipp 1980 Exhibit 554 p. 7)
  - f. Cones of depression in Ocotillo, Coyote Wells, and Yuha Estates areas have resulted in well interference. (Zipp 1980, Exhibit 554 p. 19)
  - g. There is no evidence of recharge despite years of heavy rainfall,(Zipp 1980, Exhibit 554 p. 19)
  - h. Additional export of water from the areas affected by well interference will only intensify the problem. (Zipp 1980 at p.19)
  - i. Deepening of the pumping cones may induce poor quality water upward from the deeper zones.” (Zipp 1980 at p.19)
  - j. Huntley 1993 in response to my observation that one well exhibited an increase in chloride level which his court testimony had stated could be an indicator of saline intrusion, prepared a report for the APCD in response to a request by US Gypsum to increase the amount of groundwater it exported. (Exhibit 548)

- k. Huntley discusses “local degradation [of water quality] in response to overdraft in the Ocotillo area” at the export well 16S/9E-25K2. (Huntley 1993 p. 1, Exhibit 548)
  - l. “Groundwater level information suggests that local overdraft conditions continue to exist within the Ocotillo-Coyote Wells basin, despite decreases in production from wells.” USGS monitoring data indicated declining water levels including from US Gypsum well 36H1 contrary to the information provided by USG. ((Huntley 1993 p. 2, Exhibit 548)
  - m. Huntley recommended that US Gypsum groundwater production should not exceed 380 AF/Y. (Huntley 1993 p. 2, Exhibit 548)
84. Imperial County updated its General Plan in 1993. The updated General Plan affect planning for the Ocotillo-Coyote Wells Groundwater basin planning area in the following ways related to groundwater usage.
- a. After lengthy input and community meetings, in 1994 the Board of Supervisors adopted the Ocotillo/Nomirage Community Area Plan (ONCAP) as a part of the Land Use Element of the General Plan. (Exhibit 517)
  - b. The intent of the County in preparing the ONCAP “is to maintain and protect the existing rural character of the area and to preserve its natural resources.” (ONCAP p.2 )
  - c. Text notes that “The entire planning area is dependent on groundwater. Historically, water has been of good quality. Recently, however, data seems to indicate a possible decline in water quality in some areas of the basin.” (ONCAP p. 4)
  - d. The ONCAP states that: “Preservation and conservation of groundwater is one of the major concerns of the Ocotillo/Nomirage Community Area Plan. Water use, quality, quantity and protection are key issues in planning for the area. All land use proposals shall be reviewed to determine their impacts on groundwater quantity and quality.” (ONCAP4)
  - e. Protection of Environmental Resources lists Objective 5.3 “Protect the groundwater in the Ocotillo/Nomirage Community Area from overdraft and saline conditions.” (ONCAP p. 10) Objective 5.4 “Ensure that new development proposals do not contribute to overdraft or increase salinity of groundwater.” (ONCAP p. 10) Objective 5.8 Work with IID and US Gypsum to examine other water sources and reduce their dependence on groundwater. (ONCAP p. 10) Objective 5.10 “Impose a limit of 1.5 acre-feet of water per dwelling unit in the Ocotillo/Nomirage Community Area>” (ONCAP 10)
  - f. For the Community Vision Objective 7.2 says: “Ensure that future growth and development is orderly, safe and does not cause overdraft, contamination or increase salinity of the groundwater aquifer.” (ONCAP p. 11)
  - g. The ONCAP specifically requires a site specific geohydrology study for any project or property intending ro use more than 5 acre/feet/year or for any subdivision to be served by groundwater. (ONCAP 14, 15, 16, 17) .
  - h. Under Commercial Development the ONCAP states that: “It is the intent of the plan to maintain the existing character of the community by discouraging regional commercial land uses in order to preserve the groundwater resources from overdraft and contamination.” (ONCAP 22)
85. Did the ONCAP ‘s only reference to the well at the Boyer property (formerly the WestWind Water Company) is found on ONCAP p. 4 ONCAP did not say anything about export of water from this property to Mexico or state how much water us supplied to the residents of Painted

Gorge.

- a. ONCAP in discussion of existing conditions related to water mentions the “West Wind Water Company (Elfring) which supplies Painted Gorge residents.” (ONCAP p. 4) The West Wind Water Company is now known as the Boyer well.
  - b. There is no information about how many homes there are in Painted Gorge or in West Texas which is just to the east of Coyote Wells. Also no information about how many permanent residents live in those places. In the ONCAP, However, information about that water usage at West Texas and Painted Gorge is found in the BE 1996 and 2004 reports for US Gypsum.
86. After the ONCAP was approved and residents had learned more about groundwater issues and seen how other communities tried to protect their groundwater basins from over-development or degraded quality, local residents were inspired by the efforts of the residents of Boulevard after their groundwater basin was designated as a Sole Source Aquifer by US EPA.
- a. USGS report and other studies all showed that the groundwater basin was the only source of water for all domestic needs of the communities overlying the groundwater basin, and reports warned that overpumping could result in the degradation of water quality if water levels continued to decline.
  - b. In May 1994, residents began working together to apply for Sole Source Aquifer status with the aid of a pro bono attorney who lived in the community.
  - c. In September 1996, the Ocotillo-Coyote Wells basin was designated as a “Sole Source Aquifer” by EPA in 1996, and because of that designation, any project for which there is any federal money to be spent would require a serious study by US EPA and USGS to determine impacts and mitigation for impacts on the SSA. (Exhibit 515.)
87. What is the significance of Sole Source Aquifer designation?
- a. The EPA determined that the Ocotillo-Coyote Wells Aquifer in SW Imperial County CA “is the sole or principal source of drinking water for Ocotillo, Nomirage, Yuha Estates, and Coyote Wells and that this aquifer, if contaminated, would create a significant public health hazard.” (EPA 1996 at p. 47752, Exhibit 515)
  - b. “There is no economically feasible alternative drinking water source near the designated area.” (EPA 1996 at p. 4775, Exhibit 515)
  - c. The designation is important because the EPA made its designation based on hydrologic boundaries with the Elsinore Fault marking the northern boundary and the Laguna Salada Fault along the eastern boundary (as recommended by Zipp 1980) rather than using a political boundary to include Plaster City factory as did USGS 1977 presumably at County request.
88. Groundwater basin come from fossil water. Several reports state that there is recharge to the basin from the Jacumba Mountains and Coyote Mts Wilderness areas, but there is very little rainfall in these mountains. There is also supposed to be some recharge to the basin when water in Myer Canyon is flowing if there is runoff in the mountains to the southwest of Ocotillo. However,
- a. No water level monitoring of wells overlying potable waters done by USGS since the 1977 report has shown any increase in water levels in wells even though there have been three 100 year storm events that caused flooding from the Jacumba Mountains, in addition to several years of above average rainfall associated with El Nino years.

- b. My discussions with John Izbicki, PhD of USGS water Resources Center in San Diego over the years leads me to the understanding that the water in the basin is “fossil groundwater” that is a remnant of a different weather and climate pattern toward the end of the last ice age., perhaps 10,000 to 100,000 years ago.
  - c. Groundwater in other desert groundwater basins has been dated and is tens of thousands of years old according to published research by Dr. Izbicki. From Dr. Izbicki and others at USGS I have learned that when the water is gone, it is gone because there is no longer enough rainfall to wet a dry column of soil in many places several hundred feet below the surface.
89. Based on information in technical reports and my own analysis of monitoring data from USGS, I am concerned about the potential for declining water levels and degradation of water quality for downgradient domestic wells in the Nomirage area based on changes already observed in wells monitored in other nearby parts of the groundwater basin.
- a. Based on my review of USGS monitoring data and the studies that have been done, I am concerned that if US Gypsum and other nearby wells are permitted to export or extract 100-200 AF/Y from the existing large capacity wells that water levels will continue to decline and that there are inadequate protections /ineffective mitigation measures / inadequate and unimplemented monitoring which could do anything to protect residents of Nomirage from serious water quantity/quality problems?.
  - b. The Boyer well is the closest well to the USG wells.
90. Why the concern about impacts of pumping near the SE part of Ocotillo on the community of Nomirage?
- a. The Graham well near the center of Nomirage was unable to supply the needs of the Nomirage subdivision decades ago, so all dwellings had to pay to put in private domestic wells to serve each family, even though the subdivision was intended to have a single water supplier such as in the community of Ocotillo a few miles to the NW.
  - b. Depths to groundwater near and in parts of Nomirage are relatively shallow according to USGS 1977 and USGS subsequent water level monitoring (See Exhibit 516 for a table with water levels.).
  - c. The Nomirage area does not respond to pumping the same way as do the larger capacity wells in Ocotillo. Water quality in the Nomirage area is highly variable today with considerable difference for one well to another even on adjoining lots. Water level declines in Nomirage are on a continuum and static water levels are much lower than in Ocotillo. (See details in Exhibit 516, the table I prepared for comments on the 2008 Final EIR/EIS for the US Gypsum project.)
91. The major past or proposed groundwater concerns for the community of Nomirage follow:
- a. Failure of County to adequately and seriously consider impacts of commercial and industrial scale projects on Nomirage
  - b. Past proposal to create a sand and gravel operation on lands adjacent to the SE part of Nomirage, finally denied by Supervisors in November 1998. White Gravel pit would have intersected watertable if permitted and been the first sand and gravel operation in the State of California to be approved on lands designated for residential development..
  - c. Continued or increased groundwater extraction for export from 3 wells owned by US

Gypsum to east and southeast of Ocotillo . County approved US Gypsum expansion and increasing groundwater export in 1998 without requiring any groundwater study as required by the ONCAP. That decision was challenged in Court in January 1999 and still has not been resolved.

- d. Proposal by Wind Zero Group for a military style “law enforcement training facility” and 6.1 mile competitive race course, and luxury townhomes and resort hotel called Coyote Wells Specific Plan (CWSP) on about 944 acres immediately adjacent to Molitar Road, the eastern boundary of Nomirage,
  - e. CWSP project has a FEMA designated floodway going through property and nearby wells have poor quality water. Applicant proposed to use anywhere from 67 to 87 or more AF/Y of groundwater from 2 wells on-site My calculations of the uses suggest closer to 126 AF/Y. CWSP DEIR suggests that even more groundwater might be needed. ( )
  - f. And now the proposal for the Boyer well upgradient of Nomirage to be used as an Alternative Supply of Water for the Imperial Valley Solar/Solar 2 Project pumping 40 AF/Y, but asserting a need for 50 AF/Y during construction..
92. There have been other studies or reports on this groundwater basin that have raised concerns about the potential for adverse impacts of increased groundwater pumping. And I have submitted written comments on those projects for different organizations and community groups.
- a. El Remate 1990 proposal to pump about 1000 AF/Y in the vicinity of Sunrise Butte along the Laguna Salada Fault in the SE part of the basin. Against the recommendations of its own consultant, the County approved a permit for pumping about 600 AF/Y. I submitted comments for the Ocotillo Community Council and Exhibit 562 is one of the maps I prepared to depict geology and well location and extent of private property, and the distance to which the cone of depression would extend, even upgradient. Lawsuit followed and project was abandoned. County decided to Update its General Plan.
  - b. White Pit project adjacent to Nomirage. It took about 5 years for community to convince County to deny this ill-advised project. Land is now for lease.
  - c. US Gypsum expansion project. USG first wanted to increase its groundwater pumping in 1993, then again in 1998. Huntley had recommended that USG’s pumping be limited to 380 AF/Y. I commented on project and problems at Planning Commission on behalf of Sierra Club. After County approved the project without requiring an EIR, Sierra Club filed a lawsuit and the Court of Appeals decision required preparation of an EIR . See Exhibit 538.
  - d. Recently in 2010 the Wind Zero Group’s Coyote Wells Specific Plan for law enforcement training , competitive racing, luxury housing and resort hotel on property through which a FEMA designated floodway passes has raised lots of concerns about groundwater impacts. I submitted comments on behalf of Sierra Club’s San Diego Chapter, the CNRCC Desert Committee, and Desert Survivors.
  - e. The 2009 Ocotillo Express Wind Facility also proposed to use groundwater from undisclosed sources for construction of the wind turbans, using 22,000 gallons of groundwater for each of the 240 wind turbines. Turbines are planned for north and west of Ocotillo and west and south of Nomirage. (See Exhibits 525 and 529 for locations of wind turbines and estimates of water usage..)
  - f. Further away near the Coyote Mountains are Granite Construction wells are pumping water

for the sand and gravel operations.

- g. Then the proposal to use water from the Boyer well in a quantity in excess of the total permitted quantity, and from a well which is currently serving residential users..
93. What have I learned things from reviewing all these Draft and Final EIR/EIS documents that raises concerns about groundwater studies and the potential for success of proposed mitigation measures related to any groundwater pumping?
- a. First, is that applicants always seem to submit studies that were prepared several years prior to the release of the Draft EIR/EIS and have somewhat outdated USGS monitoring information. It doesn't matter who the applicant is.
  - b. Preparers of EIRs and County do not consider the implications of the fact that US Gypsum could not prove that it ever pumped as much as what it told USGS and the County. See discussions about the "US Gypsum variance" which is the difference between the water used at the plant based on production and the amount reported as being used by US Gypsum to USGS and County. This was described both in the Bookman-Edmonston 1996 study , in the DEIR and in the decision of the Court of Appeal.
  - c. The studies for the USG DEIR/S and FEIR/S do not make reference to this discrepancy in groundwater export to the factory or explain how such a 40% discrepancy might affect the conclusions of the USGS 1977 Report or any other groundwater reports .
94. Failure to ignore the discrepancy between what USG likely pumped and what it asserted it pumped is so great as to raise concerns about groundwater basin responses to pumping. Why is this important?
- a. Water levels have continued to decline since the 1977 USGS report and computer model. But what would the estimates of water level and water quality change be if the estimates were based on about half as much pumping as reported?
  - b. Would this mean that the groundwater basin is far more sensitive to smaller amounts of pumping than previously thought? If the basin or parts of the basin are more sensitive/respond to lower levels of pumping with declining water levels or changes in water quality?
  - c. Do the documented changes discovered by USGS monitoring mean that the problem of well interference is even greater than earlier thought?
  - d. What might happen if USG were to pump the quantity it wants, and what about the cumulative impacts of pumping at nearby wells?
95. Information about the Boyer Well 16S/9E-36G4 when learned when reviewing materials provided by the Applicant raises concerns about impacts if the well were to be used as an Alternative Water Supply for IV Solar. Specifically:
- a. IV Solar proposes at different places to use 40 AF/Y, or approximately 50 AF/Y. (Supplemental Application for Certification at pp 1-2, 1-3)
  - b. However, the well is only permitted for 40 AF/Y, but applicant proposed to use 10 AF/Y more than the permitted amount for all uses. (SAC 1-3)
  - c. The temporary nature could be for 6 to 11 months (Appendix D) or 6 months to 3 years (SAC 1-3) , or for the lifespan of operations (if needed). (URS App. D Groundwater Evaluation at p. 6-1)

- d. Well 16S/9E-36G4 is used for “personal use or personal consumption (SAC 1-2), but there is no indication of how many residences are served or how much water is provided for the residential needs of residents of West Texas and Painted Gorge as was noted in the BE 1996 and 2004 hydrology studies for the USG DEIR/S of 2006..
- e. If IV Solar is approved to use 100% of the output of the Boyer well, what will happen to domestic uses by residents of Painted Gorge and West Texas that have historically been met at the Boyer well?
- f. Applicant asserts that the well typically extracted over 100 AF/Y, but provided no documentation to support that assertion.
- g. The only documentation for water sales is from the period part of 1990 through June 2004. (Appendix D)
- h. Neither the 1977 USGS Report, the 1979 Huntley report, 1980 Zipp study, 1993 Huntley letter or 1994 ONCAP contain any statements to suggest that the Boyer well was exporting groundwater or pumping any quantity near 100 AF/Y. Because all of those documents were concerned with groundwater usage and identifying the largest centers of pumping, it seems unlikely that the Boyer well was doing much pumping without being noticed by the County or USGS, especially if there were about 40 trucks/day until 1982 as indicated in the Bammer 7-23-2004 letter. In Appendix D..
- i. Where is the data to support such a claim? Is there documentation or is it simply a claim without basin such as USG’s assertion of pumping up to 767 AF/Y?
- j. Planning Dept response to Brammer letter suggests that County also did not accept that assertion because there was no documentation. (Exhibit 565, referred to in sworn testimony by Harmon and Planning’s Jim Minnick during Evidentiary Hearing on May 25, 2010.
- k. Water level monitoring and water quality data where available suggest that the Boyer well responds in a manner suggestive of well interference and changes in both water level and water quality in wells on the Boyer property raise many questions.
- l. Why were water levels in 36G4 lower than in the USG well 36H1 which is downgradient? It is assumed that the USG well pumped more water than 36G4. (Exhibit 555)
- m. Why did the static water level in 36 H1 decline 6.7 feet between 2004 and 2005 when the well? (Exhibit 555)
- n. Why did water level in 36H1 decline 14.73 ft between 1996 and 2005? (Exhibit 555)
- o. The Westwind table reveals that between 1994 and 1995 when only 7.5 AF was pumped in 1994, that the static **water level in the well 16S/9E-36G4 declined by 16.25 ft. in one year.** Why?
- p. In 2010, the static water level for well 16S/9E-36G4 was 3.27 feet lower than in the nearby USG well 16S/9E-36H1 (USGS monitoring) which was expected to have pumped far more water than the Boyer well.
- q. Which is the center of the cone of depression and/or what is the role of well interference?
- r. At one of the wells on the Boyer property (16S/9E-36G1 ) there was a marked change in water quality when the water quality was monitored between 1958 to 1975. The amount of total dissolved solids (TDS) steadily increased from 341 mg/l to 635 mg/l during that 17 year period. Why? How much was it pumping during that period? How much were any of

the USG wells pumping at that time?

- s. Wells in this location appear to have rather dramatic responses in water level and water quality with only a small amount of pumping
  - t. Both at the Clifford 16S/9E-25K1 well in Ocotillo and McDougal 17S10E-11G1 well in the Yuha, increased pumping for export lead to declining water quality as measures by increased total dissolved solids?
96. It has been stated that the residents of Painted Gorge and West Texas get water trucked from the Boyer Well. It is uncertain how many people live there now. There are reasons related to water quality in different portions of the basin that explain why they get water from the Boyer well.
- a. The 2004 Bookman-Edmonston “Ocotillo-Coyote Wells Hydrology and Groundwater Modeling study” that was included as a Technical Appendix to the US Gypsum Draft EIR/EIS as Appendix B-2 includes two tables and two pages of information about the Painted Gorge and West Texas water issues at pp 4-4 to 4-6. (See Exhibit 563 re BE 2004 information about Painted Gorge, West Texas and WestWind Water company. Exhibit 564 is information from the B-E 1996 report.)
  - b. Table 4-3 estimates the population in 2010 for Painted Gorge to be 50 persons and West Texas as 13 persons, or a total estimated 2010 population without potable drinking water as 63 persons. (BE 2004 at p. 4-4)
  - c. “Westwind Water company is also located in Ocotillo and provides water by privately owned trucks to Painted Gorge, West Texas, and construction sites in the area. Groundwater underlying Painted Gorge is unsuitable for drinking and all water must be trucked in. Groundwater underlying West Texas is suitable for bathing and landscape irrigation, but drinking water must be trucked in.” (BE 2004 at p. 4-5 and Exhibit 564))
97. There is no documentation of how much water is supplied to those residents from the Westwind/Boyer well available for public review. Alternatively, I could find no information that might permit one to estimate how much water trucked in from the Boyer well might be used .
- a. I can find no information about water usage in Painted Gorge and West Texas in materials provided by the IV Solar applicant or information supplied by Boyer. If included it was not readily located.
  - b. However, the 2004 BE appendix in the 2006 US Gypsum DEIR/S Table at p. 4-4 for applied water usage suggests that residents in those areas might be using/hauling 60 gal/day/person. Using that figure 63 persons x 60 g/dx 365 days =1,379,700 gallons or 4.23 AF/Y. (See BE 2004 at p. 4-4; Exhibit 563)
98. I am concerned about what would happen if those residents are no longer permitted to obtain water from the Boyer well because it would be used at the IV Solar project site. Where would they get water?
- a. It appears that the WestWind /Boyer well has long provided water for those parts of the community and that such use was documented in the 1996 E-E study done for the USG DEIR/S..
  - b. I do not think that the Mutual Water companies would be permitted to provide a permanent supply of water for those who are not shareholders.
  - c. It is a matter of environmental justice that residents of those areas not be denied their

traditional water supply in favor of export of water from the Boyer well for construction and mirror washing at the proposed IV Solar Project site near the USG Plaster City factory.

99. The pump test information supplied by URS raises questions.
- a. Given the historic declines in static water level over a one year with limited pumping what was the pump test run for only one 8 hour day rather than for several days ?
  - b. I ask this because the recovery after 17 hours left water in well still 2.98 feet below what it was when pumping started. (URS at 3-2) What might the results have been if pumping on the second day started with water at a depth almost 3 feet lower than when pumping was initiated?
  - c. Why was there no effort made to get a water level measurement at the nearest well?
100. I have concerns about the significance of the pump test based on knowledge of other pump tests in the basin.
- a. Computer models and projections about the nature of impacts from pumping about 100 AF/Y from a well surrounded by domestic wells in Yuha Estates were more than overly optimistic and monitoring data could not be replicated by any computer model, even the most Recent.
  - b. Check the information in Exhibit 516 for the McDougal Yuha well which exhibited a dramatic decline in water level which also caused in declines in water levels in all measured domestic wells. Our well 17S/10E-11H3 (replacing 11H2)( which was less than 1000 ft from the export well 11G1) showed a decline in water level of about 30 feet in a 5 year period. The water level has been recovering ever since September 1982 when export pumping stopped. (See Exhibit 564 with figures depicting the cones of depression centered at Ocotillo and Yuha.)
  - c. All computer models had indicated that there should be no adverse impacts from pumping 100 or more AF/Y. See Exhibit 516 to see change in water levels.
  - d. It is my recollection that when pump tests have been done in the past, that water levels were monitored in the nearest well. But I was unable to find the test results.
101. For the Boyer well, there is already existing information suggesting that the well is more sensitive to pumping than being asserted by the applicant and those were not addressed by URS information provided by Robert Scott, the URS geologist who prepared the "Groundwater Evaluation Report Dan Boyer Water Company well State well No 16S/9E-36G4" dated 26 April 2010 for the IV Solar Alternative Water Supply assessment.
- a. Why did URS rely on the outdated January 2004 hydrology report by Bookman-Edmonston for the US Gypsum EIR/EIS project without providing more recent USGS monitoring data?
  - b. Why submit the hydrology text from the 2006 DEIR/EIS for the US Gypsum expansion project which appears to include monitoring information and tables with information no more recent than 2000, 2001, or 2003?
  - c. Why didn't URS update the studies with USGS water level and water quality information available on the internet through spring 2010?
  - d. What are the URS explanations for the interesting changes in water levels and water quality observed in the Boyer and USG wells?
  - e. Why didn't URS obtain the pumping amounts for each of the three USG wells and why did

- it fail to provide water quantities pumped from the Boyer well for the past 5 years? What analysis might be drawn if information on water levels and amounts pumped for all the USG wells AND the Boyer well
- f. Why does URS include Fig 1 with well locations but fail to include the location of all the USGS monitored wells? Why was well 16S/9E-34B1 to the west of Ocotillo not shown”
102. Why is the information about well 34B1 important?
- a. Because it is the furthest west well, closest to the supposed recharge coming from the mountains, but in 2009 it had a static water level (253.21' AMSL) that is about 15.71 ft lower than the 2009 static water level in the Ocotillo Mutual Water Company (well 16S/9E-25M2) (268.92' AMSL) that is to the east. What is the explanation for the upgradient well to have a lower static water level than those that are pumping more and are located down gradient?
  - b. Without answering some of these questions it is not possible to determine whether or not and to what extent the proposed alternative source of water would have a significant cumulative impact on downgradient domestic wells located within the growing and deepening cone of depression SE of Ocotillo.
  - c. Why was no information presented to indicate the success or failure of the groundwater related to the implementation of the various mitigation and monitoring measures that are part of the USG approvals from Imperial County in 2006?
  - d. Were the new monitoring wells drilled, if so when and by whom monitored?
  - e. Why was there no discussion or identification of other wells pumping more than a few AF/Y to makes some kind of consideration of cumulative impacts analysis? Wells such as the Ocotillo Mutual and Coyote Valley Mutual, , Wind Zero, Atlas Storage, and Ocotillo Express Wind Facility and sand and gravel operations?
  - f. This is especially concerning when the duration of the alternative water supply use was found in at least two places to state that the duration could be for the lifespan of operations.
103. There is ongoing litigation related to the Court requirement for the preparation of the Draft and Final EIR/EIS for the US Gypsum project and said that litigation is ongoing. I do not know if the mitigation and monitoring measures required when the County certified the EIR have been implemented since 2008. I was told by USGS staff that they are doing no additional monitoring of any new wells. So that makes me think that not all mitigation has been implemented or enforced.
104. BLM has NOT made its Record of Decision to approve the Right of Way for the USG waterline to the WestSide Main canal to use Colorado River water for at least a part of the factory use and this ultimately has a significant adverse impact on downgradient water levels .
- a. US Gypsum is currently getting gravity flow groundwater through w water pipeline from Ocotillo.
  - b. USG is not using the up to 1000 AF/Y of Colorado River water authorized by IID because BLM has not issued its Record of Decision for the 2008 USG FEIS.
  - c. BLM cannot issue a ROD until Fish and Wildlife Service completes its Biological Opinion because other projects related to energy are forcing the Service to rush certain reviews and let others wait.

105. The IV Solar Project might also have an adverse impact on the groundwater basin/sole source aquifer by forcing the solar project biological resources review to a priority position ahead of completing the biological opinion related to making it possible for US Gypsum to start reducing its export of groundwater and being using Colorado River. This is a serious but unintended consequence of making renewables issues a higher priority than other projects for the FWS?
- a. It seems obvious that in addition to the concerns about using the Boyer well as a water source for the project, the Solar project is effectively delaying the initiation of actions for USG to use Colorado River water. This continued export of potable groundwater for use in wallboard manufacturing represents an adverse impact on the groundwater basin and allows for continued pumping in the location that is very close to the center of the cone of depression.
106. My conclusions about the proposed Alternative water source are that
- a. First and most important, the monitoring data provided is not current even though it is possible to get current USGS data online.
  - b. In the absence of monitoring data it is not possible to reach the conclusion that impacts of well interference at the Boyer well location will not be significant.
  - c. Accordingly it would be inappropriate to conclude that the proposed well with its lack of pumping withdrawal information would not have an adverse impact if it began pumping and exporting 40 AF/y.

EH re CEC/BLM responses to Applicants Alternative Water Supply from well 16S/9E-36G4 and comments on SA/DEUS for Imperial Valley Solar Project (formerly Solar 2) Docket No. 08-AFC-5

#### **References cited**

Berkeley Law. 2009." In Our Backyard: How to increase renewable energy production on buildings and other local spaces" 26 pages.

Bookman-Edmonston 1996. "Ocotillo/Coyote Wells Basin Hydrology and Groundwater Modeling Study" prepared for US Gypsum Company

Bookman-Edmonston 2004. "Ocotillo/Coyote Wells Basin Hydrology and Groundwater Modeling Study" prepared for US Gypsum Company included as technical Appendin in US Gypsum DEIR/EIS in 2006.

BLM 1980 Draft EIS for California Desert Conservation Area Plan

BLM 1999. 1980 Draft EIS for California Desert Conservation Area Plan as Ammended

Coyote Wells Specific Plan Project by Wind Zero Group, Inc. 2010 DEIR & Appendices SCH 2009011063 Coyote Wells Specific Plan Draft EIR SCH No. 2009011063 January 2010, released 1-27-2010 available online at <http://www.icpds.com/?pid=2308> .

Huntley, David 1979. Magnitude and potential effects of declining water elevations in the Ocotillo-Coyote Wells Basin.

Judge Judith McConnell in August 31, 2000 Statement of Decision in Case No. 676630 Save Our Forests and Ranchlands v. County of San Diego. Now Justice McConnell of Court of Appeal, Fourth District, Division One

NAFTA Tribunal Decision in the case between Glamis Gold, Ltd. (Claimant) and United States of America (Respondent) filed June 8, 2009.

Ocotillo Express Wind Facility 2009 Draft Plan of Development from BLM El Centro office.

Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map

Powers, Bill. 2007 San Diego Smart Energy 2020 158 pgs, PP 69-74 includes conclusions and recommendations [http://www.etechnicalinternational.org/new\\_pdfs/smartenergy/52008\\_SmE2020\\_2nd.pdf](http://www.etechnicalinternational.org/new_pdfs/smartenergy/52008_SmE2020_2nd.pdf)

Sierra Club comments on 2006 US Gypsum DEIR/EIS and 2008 US Gypsum FEIR/EIS

Sierra Club comments on 2010 Coyote Wells Specific Plan DEIR SCH 2009011063

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial.

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial. \_Reporter’s Appeal Transcript 5-17-99 at p. 28.)

Sierra Club v. County of Imperial, United States Gypsum Company, Real Party in Interest, Court of Appeal Case D034281 Decision 10/26/00, Court of Appeal file recalled from storage and reviewed in January 2008

Skrivan, James. USGS 1977 “Digital - Model Evaluation of the Ground-Water Resources in the Ocotillo-Coyote Wells Basin, Imperial County, California”

US EPA 3/20/95 document “Technical support document for the review of the Ocotillo-Coyote Wells Sole Source Aquifer Petition”. (Court of Appeal Case No. D034281 Clerk’s Transcript on Appeal, vol 2 p. 252.)

US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a “Sole Source Aquifer” 61 FR 47752, Sept 10, 1996)

USGS 1977. Computer printout of well ownership and drilling dates and depths.

USGS groundwater monitoring information data for the Ocotillo-Coyote Wells Groundwater Basin at the following source <http://nwis.waterdata.usgs.gov/ca/nwis/gw> for individual well sites in the USGS Imperial County groundwater monitoring program. The water level data is available from USGS both as a graph of monitored or as a Table of data for each individual monitored well. Water quality data for the individual wells monitored can be obtained at <http://nwis.waterdata.usgs.gov/ca/nwis/qwdata>

USGS well location maps & data for Imperial County, links to individual wells monitored for water levels [http://groundwaterwatch.usgs.gov/CA\\_025.html](http://groundwaterwatch.usgs.gov/CA_025.html)

US Gypsum Expansion and Modernization 2006 DEIR/EIS & Appendices SCH 200121133

US Gypsum Expansion and Modernization 2008 FEIR/EIS & Appendices SCH 200121133

Zipp ,R. 1980. Ocotillo-Coyote Wells Groundwater quality-quality study, Imperial County

### **Exhibits for Solar 2 groundwater issues**

515 US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a “Sole Source Aquifer” 61 FR 47752, Sept 10, 1996)

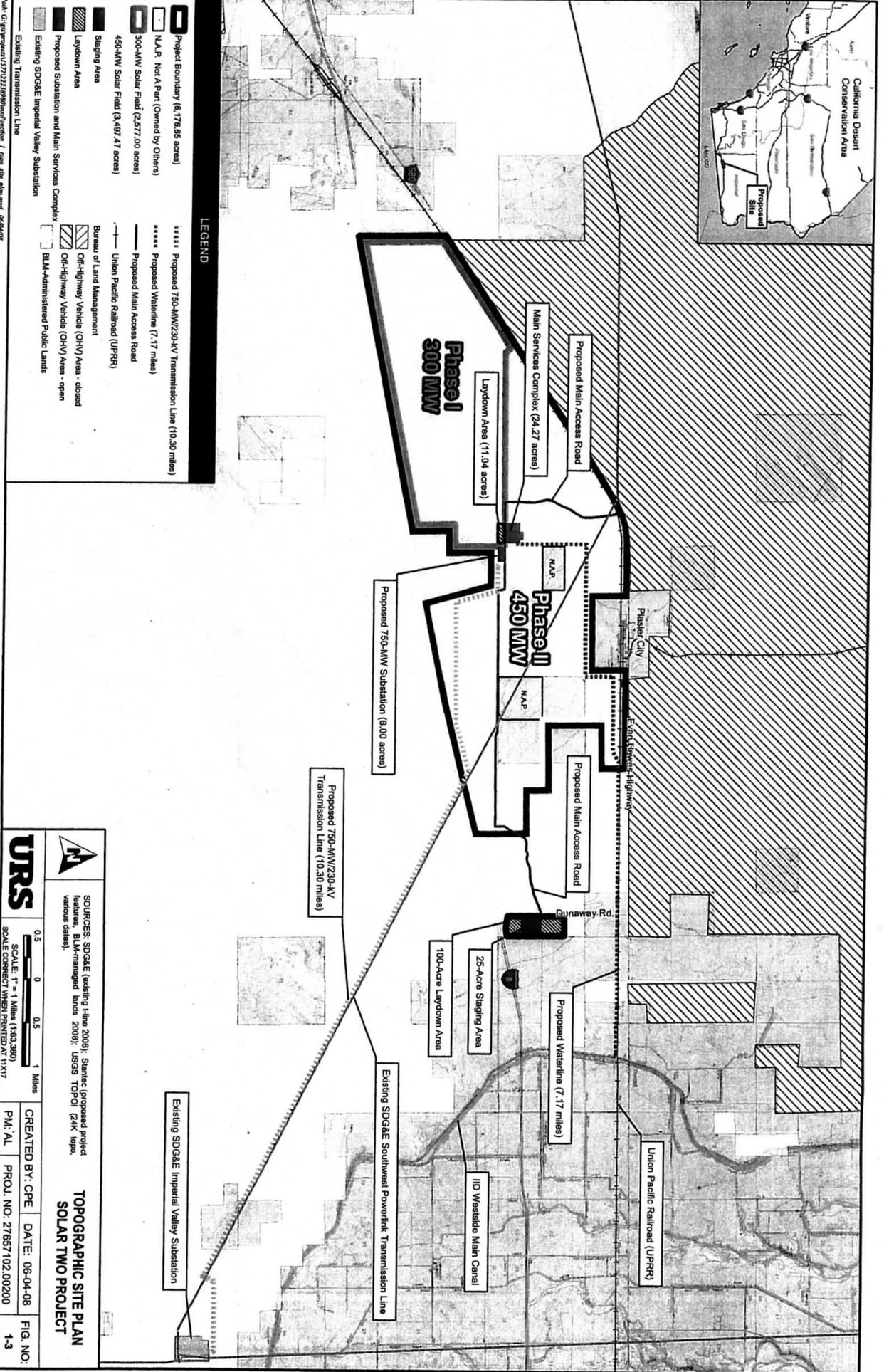
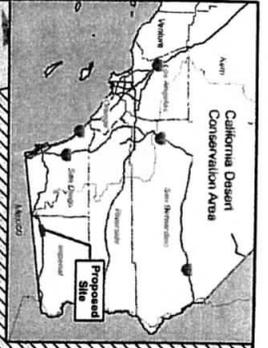
516 “EH Table 10 Water well information, water quality, and groundwater elevations Ocotillo/Coyote

- Wells Groundwater Basin, a Sole Source Aquifer, Imperial County CA” Updated March 2010 from Sierra Club comments on USG FEIR/EIS 2008 and included in CWSP Scoping comments found at 28appa-nop-initial-study-a at pp 7-17 (USG EIR/EIS Appendix B-1 USGS Hydrologic Data, USGS NWIS water level and quality data & Bookman-Edmonston 3/96 (BE96), BE 1/2004 (BE04). 11pages.
- 517 Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map
- 518 US EPA 2010-04-11 letter re Final EIS for US Gypsum project
- 519 USGS 2008-12-24 letter to Cong. Filner re Final EIS for US Gypsum Project
- 520 US EPA 2009-02-25 comments re NOI for Coyote Wells Specific Plan Area
- 521 USG FEIR/S 4.0 Collective Responses Table 4.0-1 Water quality info from USGS
- 522 USG FEIR/S 4.0 Collective Responses Fig. 4 Wells with Water Quality Data
- 523 USG FEIR/S 4.0 Collective Responses Fig 7. Wells with Recent Water Level data
- 524 BE 2004 Table 4-2 Historic Groundwater Pumping in 2006 USG DEIR/S
- 525 Ocotillo Express Wind Draft Plan of Development 2009
- 526 SES Applicant’s Submittal of Opening Testimony re Van Patten re well 16S/9E-36G4
- 527 Terms for Well 16S/9E-436G4
- 528 Moore in SES Applicant’s submittal of Opening Testimony re well 16S/9E-36G4
- 529 Ocotillo Express Wind Facility 4 pgs
- 530 USG FEIR/S Mitigation & Monitoring re Hydrology ES 9-11 submitted as an exhibit for the CWSP DEIR comments 20210
- 531 USG DEIR/S Mitigation & Monitoring re Hydrology See Applicant’s Appendix C for hydrology and USG DEIR/S Impacts and Mitigation in Summary Table at pp S-7 through S-11
- 532 Powers, Bill. 2007 San Diego Smart Energy 2020 158 pgs, PP 69-74 includes conclusions and recommendations  
[http://www.etechnologyinternational.org/new\\_pdfs/smartenergy/52008\\_SmE2020\\_2nd.pdf](http://www.etechnologyinternational.org/new_pdfs/smartenergy/52008_SmE2020_2nd.pdf)
- 533 Berkeley Law. 2009.” In Our Backyard: How to increase renewable energy production on buildings and other local spaces”
- 534 URS/BLM color brochure “Imperial Valley Solar Project Frequently asked Questions May 2010”
- 535 Tessera Solar, SES “Imperial Valley Project Fact Sheet (Formerly SES Solar Two)” undated color brochure.
- 536 “Impacts of Avoidance or partial avoidance of Drainage Areas I, K, C, E, and G” identified as “Preliminary Layout” by RMT in BLM documents provided at workshop on May 4, 2010, possibly dated 4/12/2010.
- 537 Skrivan, James. USGS 1977 “Digital - Model Evaluation of the Ground-Water Resources in the Ocotillo-Coyote Wells Basin, Imperial County, California”
- 538 Sierra Club v. County of Imperial, United States Gypsum Company, Real Party in Interest, Court of Appeal Case D034281 Decision 10/26/00, Court of Appeal file recalled from storage and reviewed in January 2008

539 US EPS re 2006 USG DEIS  
540 USGS re 2006 USG DEIS  
541 Powers 2010-05-13 email 4 pgs “best comparative solar costs info I have” & FW other docs  
542 San Diego solar panels cost less with 1 BOG  
543 16-apr-10 Renewable Energy World US Solar sees 38% growth in PV capacity in 2009  
544 7-apr-10 RETI Phase 2B Draft Report pp 4-6 to 4-8 Thin film PV lower cost than solar thermal  
545 Mar 2010 SNL “SoCalEd orders 200 MW of solar panels, plans solicitation for 250 MW more”  
546 Powers 2010-05-13 email 1Q 2010 CSI capital cost numbers  
547 01-may-10 CPUC SunCentric Study in pictures through March 2010 costs trends (52 pages)  
548 Huntley, D. 1993. Letter re changes in chloride concentration in water quality from a well in Ocotillo-Coyote Wells basin  
549 Huntley, David 1979. Magnitude and potential effects of declining water elevations in the Ocotillo-Coyote Wells groundwater basin.  
550 RMT 2010 Impacts of avoidance of drainages Fig. From BLM handout for May 4, 2010 workshop.  
551 Harmon 2010 values for static water level in feet above mean sea level including most recent USGS data (compiled from Exhibit 516 EH Table 10, a compilation of USGS monitoring data.  
552 Tisdale 2006 comments on the USG DEIR includes information on the IID source of supply for industrial use at Plaster City/USG factory  
553 USGS 1977 computer printout of well ownership and drilling dates for Ocotillo-Coyote Wells Groundwater Basin  
554 Zipp R. 1980. Ocotillo-Coyote Wells Groundwater quality-quality study, Imperial County  
555 Table Westwind Water Sales History & water levels well 16S/9E-36G4 vs USG 16S/9E-36H1  
556 Hamilton 16S/9E-34B1 well location and water level graph from USGS website  
557 Hamilton 16S/9E-34B1 well water level table ‘98-09 from USGS website  
558 Discrepancies in groundwater pumping (AF/Y) by USG wells in Ocotillo-Nomirage area as submitted by Bookman-Edmonston’s Richard Rhone in January and September 2003 (Table 16-17 of Sierra Club comments on 2008 USG FEIR/S)  
559 USG Annual Pumping and water levels in 3 USG wells in Ocotillo area (Table 14 of Sierra Club comments on 2008 USG FEIR/S) source of original information is in Exhibits 560 and 561.  
560 USG Annual Reports 1993-2002 (originally Sierra Club Exhibit 242 for 2008 USG FEIR/S)  
561 Rhone 2003 email re USG Annual pumpage for three wells combined (originally Sierra Club Exhibit 236 for 2008 USG FEIR/S)  
562 Map depicting location of private land and water wells in relation to local geology  
563 Bookman-Edmonston 2004 text and tables related to Westwind Water Company water use from well 16S/9E-26G4 at Painted Gorge and West Texas  
564 Bookman-Edmonston 1996 text and tables related to Westwind Water Company water use from well 16S/9E-26G4 at Painted Gorge and West Texas . Figures depicting cones of depression

centered at wells pumping more than 10 AF/Y

- 565 ICPDS Minnick 2004-09-07 response letter to Brammer re property and Well 16S/9E-36G4.
- 566 Harmon Testimony dated May 10, 2010 for Intervenor Budlong re Alternative Water Supply from well 16S/9E-36G4. Overlying the Ocotillo-Coyote Wells Sole Source Aquifer.
- 567 Harmon Testimony dated May 10, 2010 for Intervenor Budlong re Alternative Water Supply from well 16S/9E-36G4. Overlying the Ocotillo-Coyote Wells Sole Source Aquifer.
- 568 Rush is on for desert solar project. San Diego Union Tribune May 26, 2010. Account of CEC Evidentiary Hearing and public comments.
- 569 Supervisor Fuentes to BOS re EPA ltr and air quality in Imperial County 2010-05-26
- 570 US EPA to Nichols 2010-05-24 re Imperial County air regs
- 572 EH comments to the US ACE re IV Solar Project, including discussion of need.



**LEGEND**

- Project Boundary (6,176.65 acres)
- N.A.P. Not A Part (Owned by Others)
- 300-MW Solar Field (2,577.00 acres)
- 450-MW Solar Field (3,497.47 acres)
- Staging Area
- Laydown Area
- Proposed Substation and Main Services Complex
- Existing SDG&E Imperial Valley Substation
- Existing Transmission Line
- Proposed 750-MW/230-kV Transmission Line (10.30 miles)
- Proposed Waterline (7.17 miles)
- Proposed Main Access Road
- Union Pacific Railroad (UPRR)
- Bureau of Land Management
- Off-Highway Vehicle (OHV) Area - closed
- Off-Highway Vehicle (OHV) Area - open
- BLM-Administered Public Lands

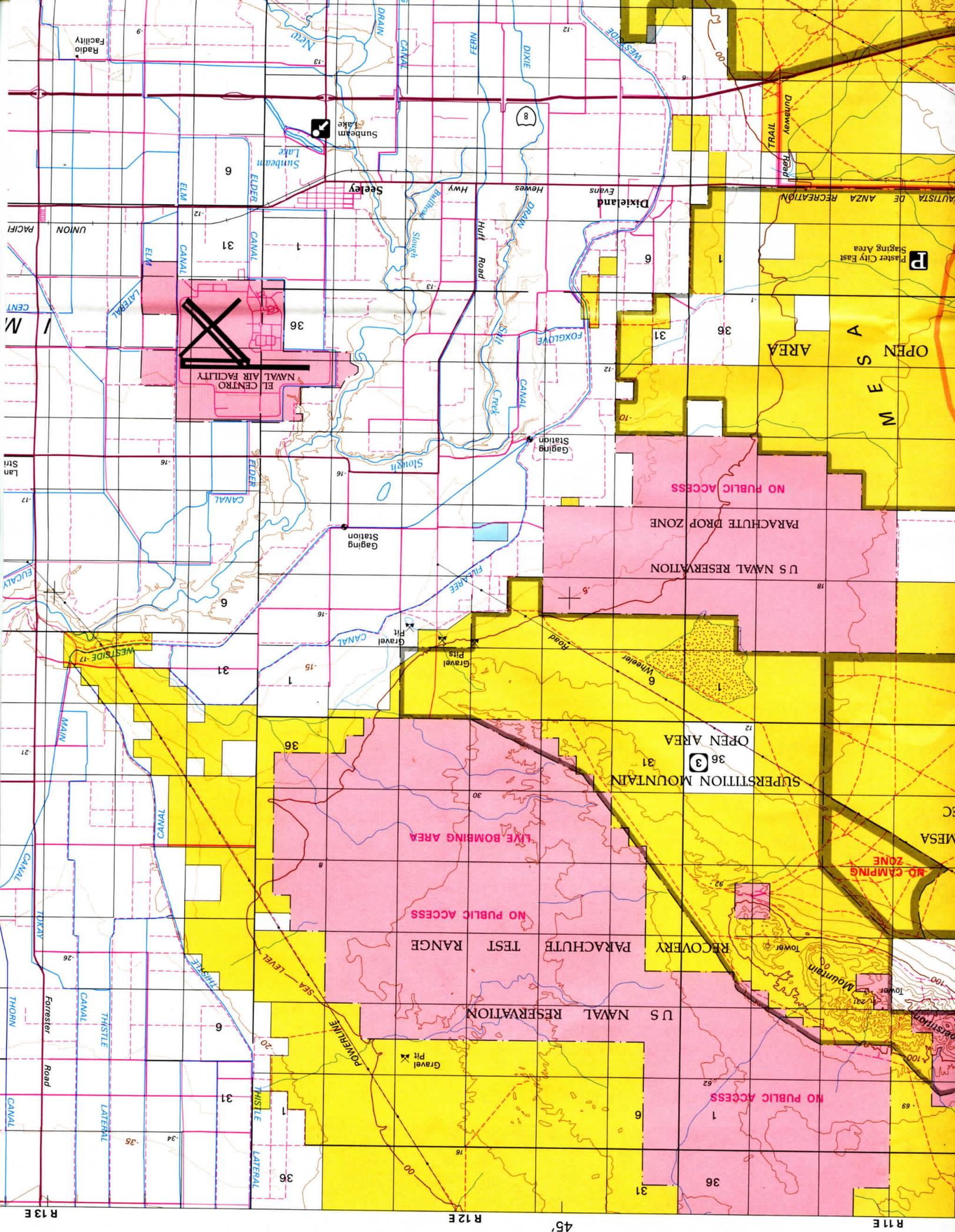
SOURCES: SDG&E (existing line 2009); State (proposed project field); BLM (managed lands 2009); USGS TOPOI (24k topo, various dates).

**TOPOGRAPHIC SITE PLAN**  
**SOLAR TWO PROJECT**

0.5	0	0.5	1
Miles			
CREATED BY: CPE	DATE: 06-04-08	FIG. NO.: 1-3	
PM: AL	PROJ. NO: 27657102.00200		

Path: G:\gwp\wv\ca117\221218\wv\ca117\_topo\_24k\_topo.dwg, 06/04/08





B

C

D

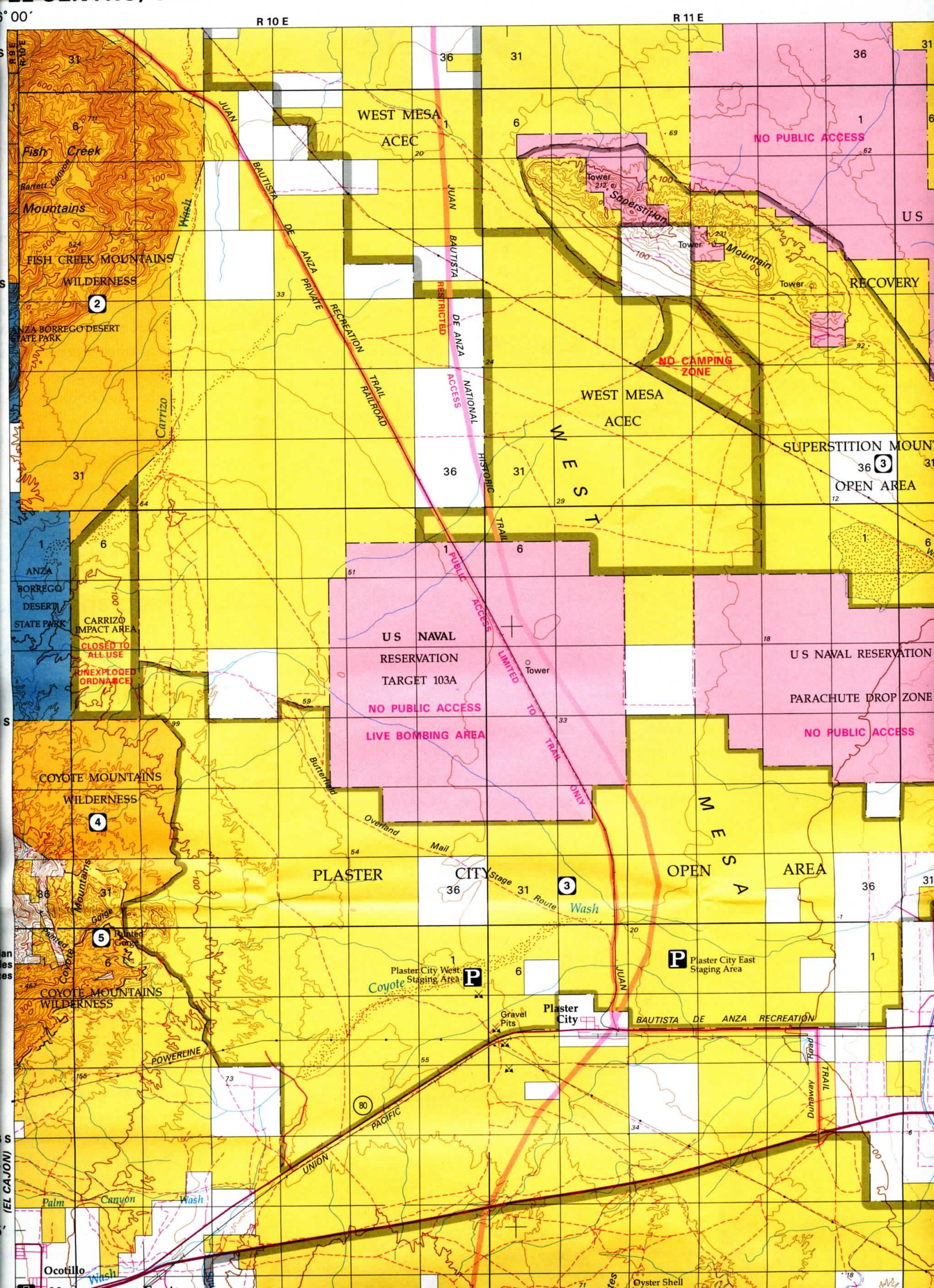
R 11 E

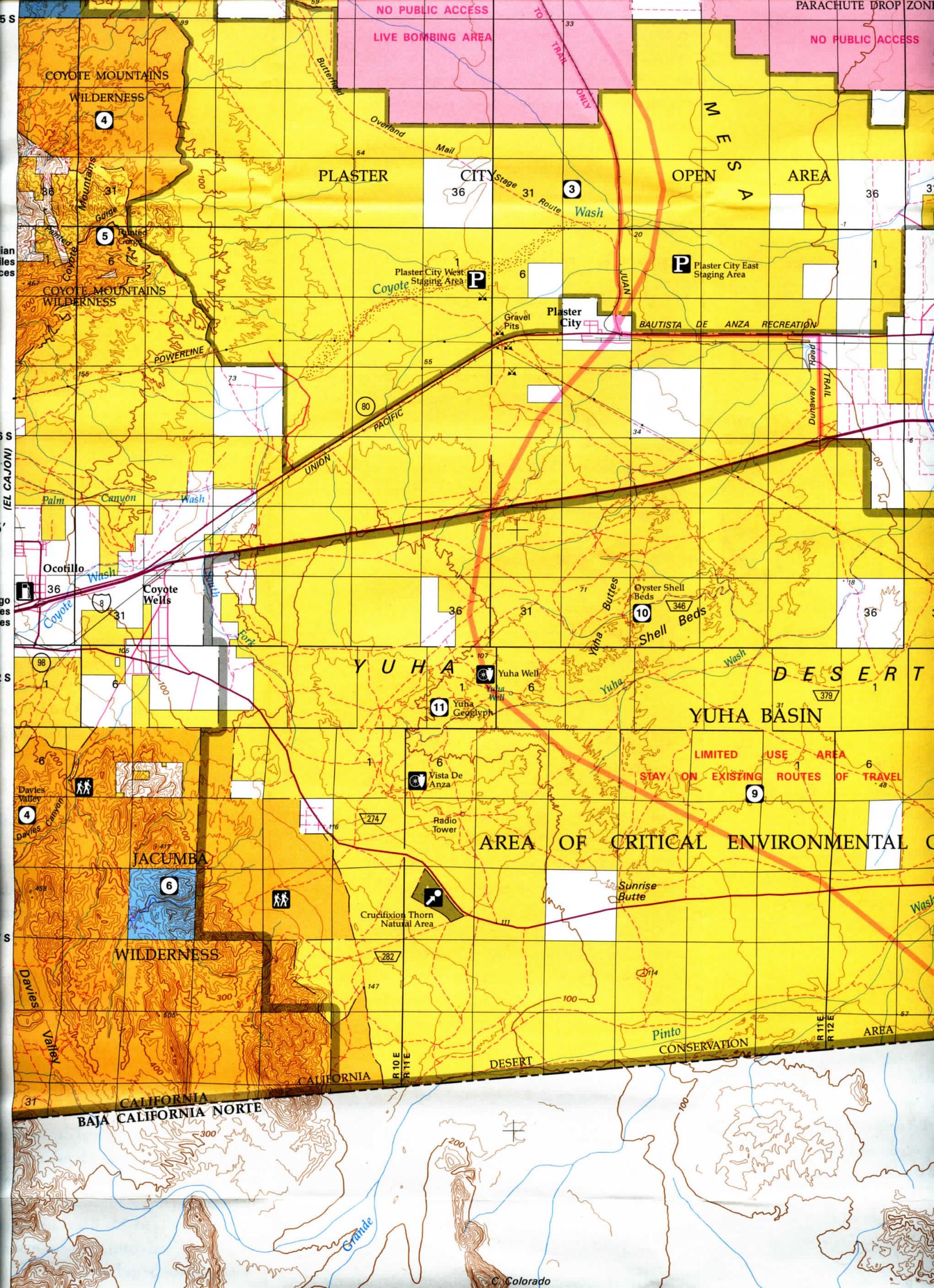
R 12 E

R 13 E

45'







NO PUBLIC ACCESS  
LIVE BOMBING AREA

NO PUBLIC ACCESS  
PARACHUTE DROP ZONE

COYOTE MOUNTAINS  
WILDERNESS

PLASTER CITY

PLASTER CITY

OPEN AREA

COYOTE MOUNTAINS  
WILDERNESS

Plaster City West Staging Area

Plaster City East Staging Area

BAUTISTA DE ANZA RECREATION

UNION PACIFIC

YUMA

YUMA DESERT

YUMA BASIN

LIMITED USE AREA  
STAY ON EXISTING ROUTES OF TRAVEL

AREA OF CRITICAL ENVIRONMENTAL CONCERN

JACUMBA

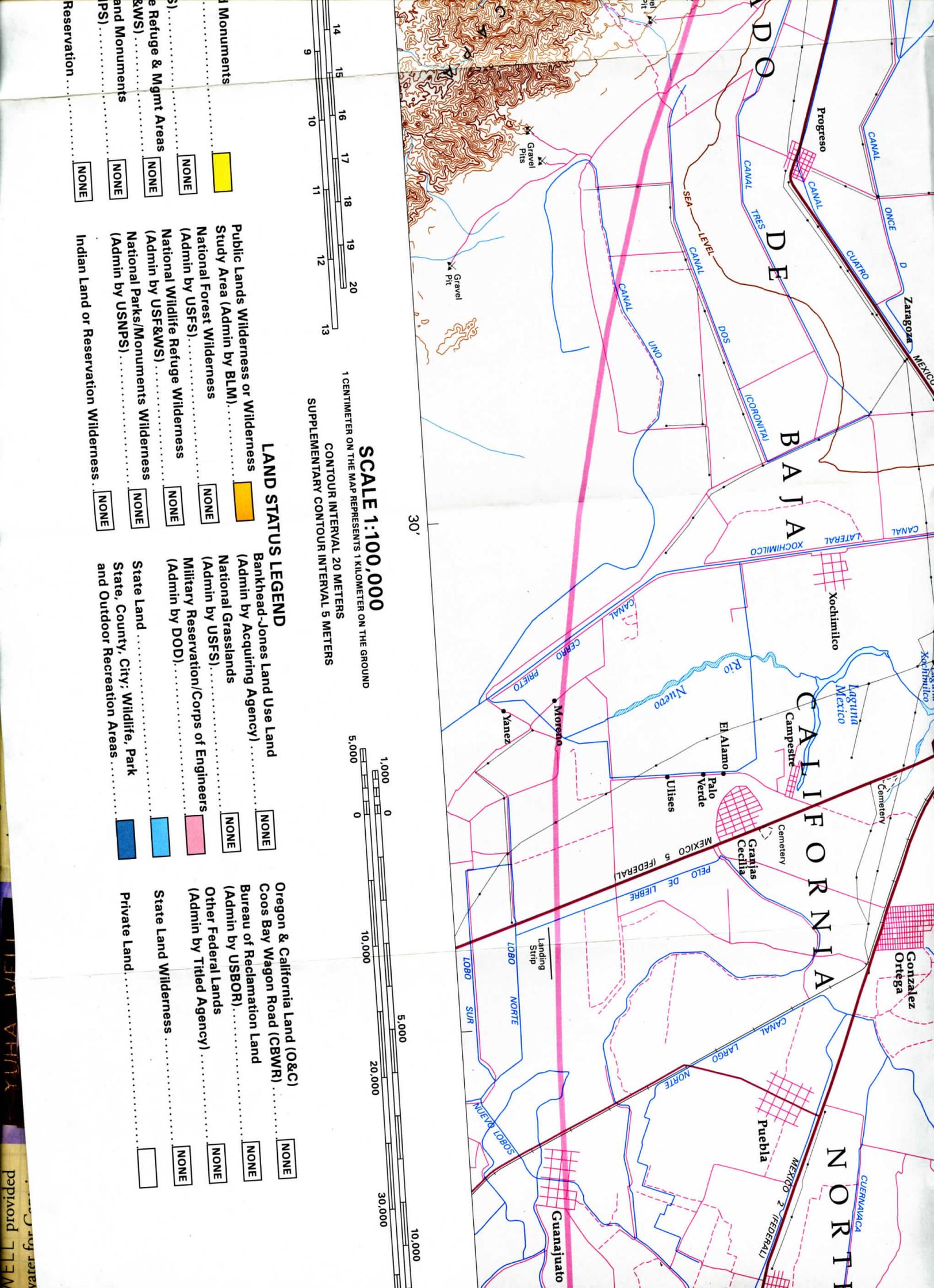
Crucifixion Thorn Natural Area

Sunrise Butte

Pinto CONSERVATION AREA

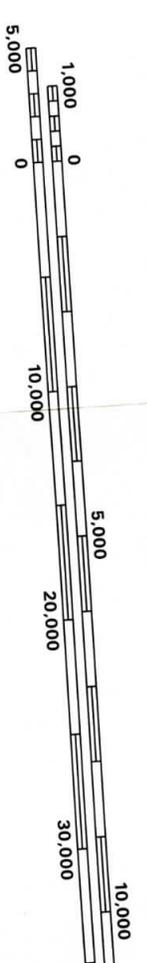
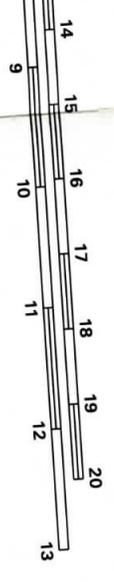
CALIFORNIA  
BAJA CALIFORNIA NORTE

DESERT



**SCALE 1:100,000**

1 CENTIMETER ON THE MAP REPRESENTS 1 KILOMETER ON THE GROUND  
 CONTOUR INTERVAL 20 METERS  
 SUPPLEMENTARY CONTOUR INTERVAL 5 METERS



**LAND STATUS LEGEND**

- |   |  |  |  |   |  |
|---|--|--|--|---|--|
| Public Lands Wilderness or Wilderness<br>(Admin by BLM).....  |  | Bankhead-Jones Land Use Land<br>(Admin by Acquiring Agency).....                       |  | Oregon & California Land (O&C)<br>Coos Bay Wagon Road (CBWR)..... |  |
| Study Area (Admin by BLM).....                                |  | National Grasslands<br>(Admin by USFS).....  |  | Bureau of Reclamation Land<br>(Admin by USBOR).....               |  |
| National Forest Wilderness<br>(Admin by USFS).....            |  | Military Reservation/Corps of Engineers<br>(Admin by DOD).....                         |  | Other Federal Lands<br>(Admin by Titled Agency).....              |  |
| National Wildlife Refuge Wilderness<br>(Admin by USF&WS)..... |  | State Land<br>State, County, City, Wildlife, Park<br>and Outdoor Recreation Areas..... |  | State Land Wilderness.....  |  |
| National Parks/Monuments Wilderness<br>(Admin by USNPS).....  |  | Private Land.....  |  |   |  |
| Indian Land or Reservation Wilderness.....                    |  |  |  |   |  |

# CALIFORNIA

## El Centro

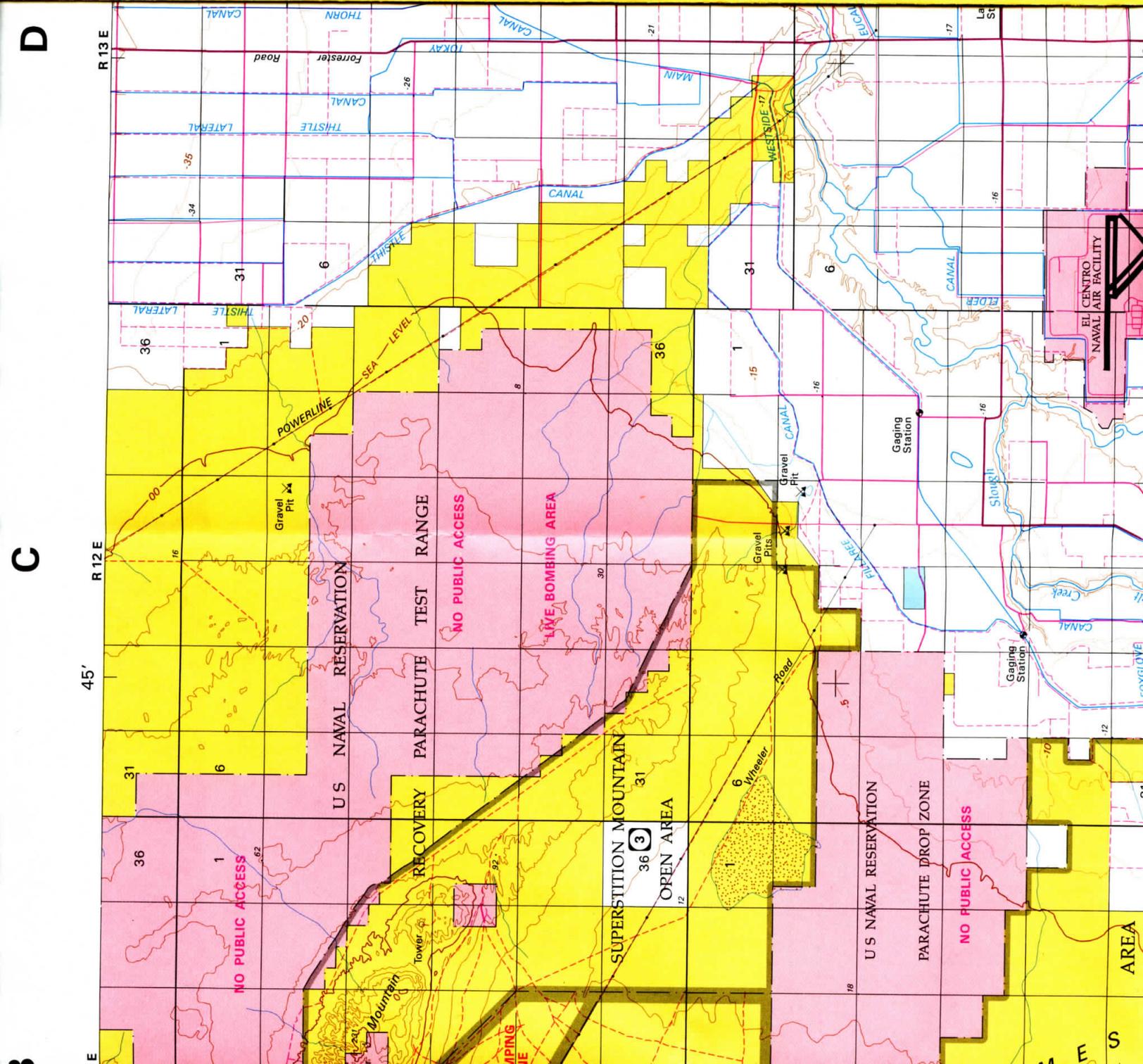


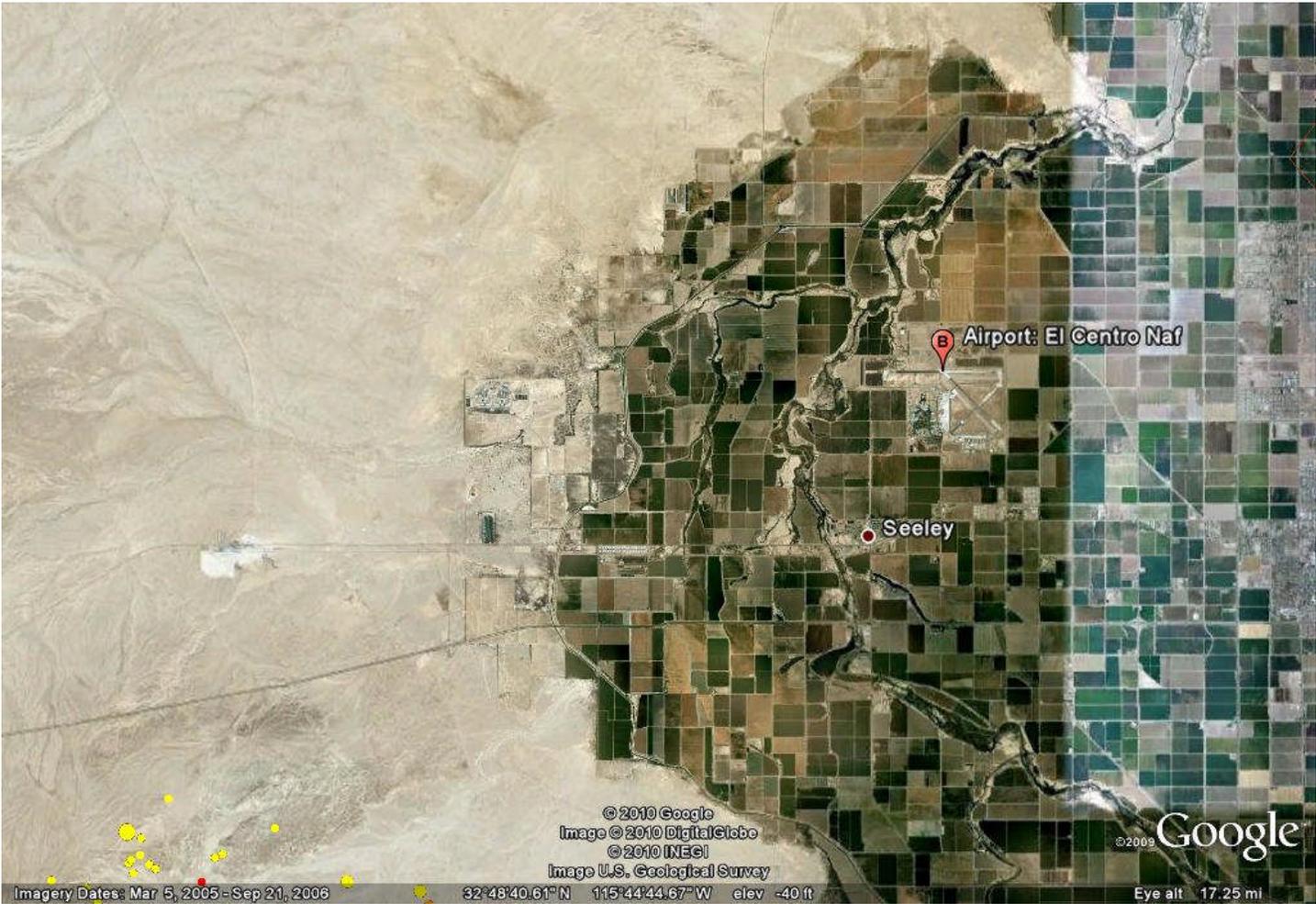
Surface Management Status  
1:100,000-Scale Topographic Map



# 2007

U.S. DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT





# Ocotillo-Coyote Wells Sole Source Aquifer Designated Area

## Notes and Explanation:

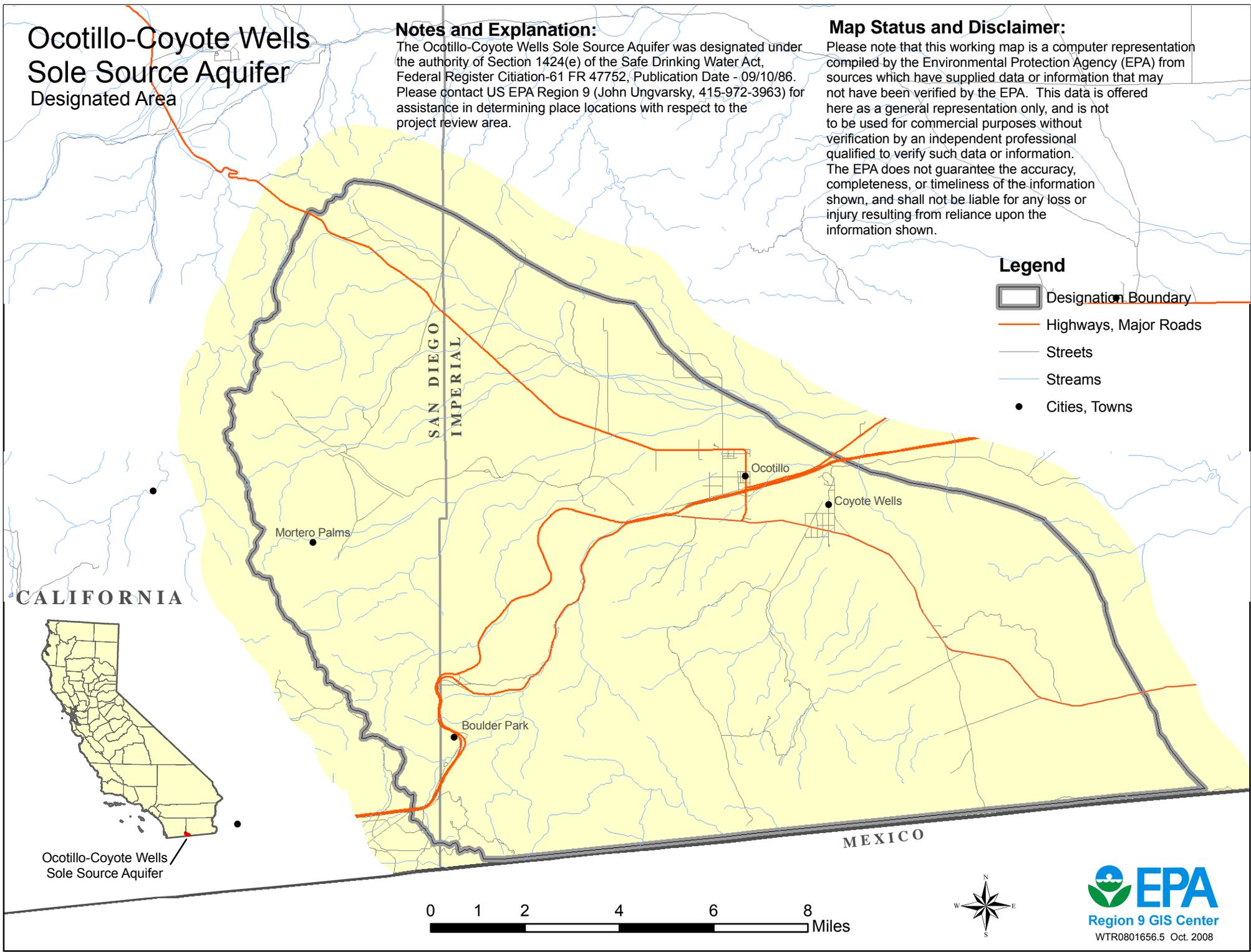
The Ocotillo-Coyote Wells Sole Source Aquifer was designated under the authority of Section 1424(e) of the Safe Drinking Water Act, Federal Register Citation-61 FR 47752, Publication Date - 09/10/86. Please contact US EPA Region 9 (John Ungvarsky, 415-972-3963) for assistance in determining place locations with respect to the project review area.

## Map Status and Disclaimer:

Please note that this working map is a computer representation compiled by the Environmental Protection Agency (EPA) from sources which have supplied data or information that may not have been verified by the EPA. This data is offered here as a general representation only, and is not to be used for commercial purposes without verification by an independent professional qualified to verify such data or information. The EPA does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any loss or injury resulting from reliance upon the information shown.

## Legend

-  Designation Boundary
-  Highways, Major Roads
-  Streets
-  Streams
-  Cities, Towns



CALIFORNIA

0 1 2 4 6 8 Miles

MEXICO

Ocotillo-Coyote Wells  
Sole Source Aquifer

**Comments re SA/DEIS for Imperial Valley Solar/SES Solar 2 Project Docket No. 08-AFC-5 and Supplement to the Application for Certification URS Project No. 27657106.00806" (SAFC) proposed to use groundwater from well 16S/9E-36G4 in Ocotillo-Coyote Wells SSA**

May 26, 2010

To: Christopher Meyer

1516 Ninth Street MS-4  
Sacramento, CA 95814

[docket@energy.state.ca.us](mailto:docket@energy.state.ca.us)

Daniel Steward

BLM

1661 South Fourth St.

El Centro, CA 92243

[caivspp@blm.org](mailto:caivspp@blm.org)

[daniel\\_steward@ca.blm.gov](mailto:daniel_steward@ca.blm.gov)

From: Edie Harmon

Ocotillo, CA 922599

[desertharmon@gmail.com](mailto:desertharmon@gmail.com)

Re: SA/DEIS for Imperial Valley Solar/SES Solar 2 Project Docket No. 08-AFC-5 and Supplement to the Application for Certification URS Project No. 27657106.00806" (SAFC) proposed to use groundwater from well 16S/9E-36G4 in Ocotillo-Coyote Wells SSA

1. Please accept these comments on the SA/DEIS for the IV Solar Project Docket No. 08-AFC-5. Unfortunately, my computer just obliterated all evidence of about 15 pages of text so I will do the best I can in the remaining time. I will also incorporate by reference all comments and Exhibits submitted to the CEC for the Evidentiary Hearings on May 24, and 25, 2010 and the comments submitted to the US Army Corps of Engineers. I apologize for repetition, but I have been having computer difficulties and been unable to catch what are probably many duplications., and simply run out of time to remedy what the computer decided to vanish.
2. The numbering of my exhibits will be continuing with the numbers for my testimony before the CEC as a witness for Intervenor Tom Budlong, beginning with Exhibit Number 515. Because of lack of time, comments will go to both agencies and address issues which may be considered for both CEQA and NEPA and the BLM Plan Amendment Process as referenced in BLM materials.
3. I am concerned that the project applicant is rushing consideration for this process, with the end result that the public feels that it is being inadequate time to review the various aspects of the project and being left only with information from the project applicant without enough time for staff input from CEC or BLM before the public is expected to submit comments. In reviewing CEQA and NEPA documents for about 30 years, I have never before seen such a chaotic and time pressured process, or reviewed any project which would so irreparably alter the surface of such a large areas. There have been times during the workshops and even during parts of the evidentiary hearings that it seemed as if decisions have been already made and public input intended to be ignored. Not a good perception for members of the public who have attended

most if not all the public participation opportunities in Imperial County.

4. I am also concerned that the phone conferencing excludes those who do not have landline phone service and cannot afford to participate by cell phone during daytime because it is cost prohibitive. I understand that I am not the only concerned member of the public who lives in a place where the phone companies never have run phone lines. Yes, I was present during the entire two days of evidentiary hearings, but I could never have heard any of that input by phone. An around the world plane trip would likely have been less expensive than a two day cell phone call! So, yes, I can appreciate that the State has a tight budget, but so do concerned members of the public who care enough to want to participate. If the state and BLM cannot afford the costs of travel or staff time to provide opportunities for public participation as intended by CEQA and NEPA than there should be a higher up-front cost for the applicant rather than just excuses about the need for a rush deadline. Staff are real people who also occasionally need a few hours to sleep and occasionally to eat also. If the Applicant fails to provide required information in a timely manner, that is the applicant's problem, not to be pushed off on staff and the public because the applicant's real motive and need to get taxpayer financing for a project that is still unproven on a scale proposed. Yes, it is all about money, not about meeting energy needs.
5. After Van Paten's testimony of May 25, 2010 re need to rush to get taxpayer monies, please, as an alternative to using taxpayer funds to go to the applicant, consider what could be accomplished if that \$2 billion were to go to use known reliable human-scale options that would result in avoidance, reduction, or elimination of some of the anthropogenic emissions of greenhouse gases as a means of meeting the goals of the problems for which solutions are being sought. It seems more prudent to put the largest quantities of funds to making changes that will reduce emissions and reduce or eliminate generation of such emissions in the future. Please note that from the February SA/DEIR the pricetag has gone up from \$1.4 to \$2 billion.
6. Creative solutions and careful zoning and planning should come before widespread destruction of relatively undisturbed public lands financed by taxpayer funds. Again, when will we return to the 55 mph speed limit and require that public buildings and schools have windows that open so that forced air and air conditioning are not required for places with large concentrations of people? Please consider the wisdom of the Native American elders and the knowledge of your parents and grandparents as they lived far more lightly on the environment than those today and created far less adverse impacts on the environment.
7. Mandating the use of new or unproven technologies without first having experience with prototype operations of scale and duration to be assured of reliability seems extremely ill advised use of public funds, especially when there are tight budgets. This IV Solar/Solar 2 applicant and project seem to view the US Treasure as an endless pot of gold awaiting their grab, and with no assurances that this is a workable project on a scale of 30,000 units over almost 6,500 acres!
8. A country that can afford a space program and can afford to be engaged in two wars can certainly afford to spend the money to improve insulation and housing stock so that there are not health problems associated with summertime high temperatures or wintertime cold temperatures by means far more effective than simply increasing energy to avoid making significant changes that will have long term benefits that do not require ever increasing amounts of energy. Using funds NOW to improve the places where people live would most likely play a more significant role in meeting the emission standards than speculative technologies funded by taxpayers.
9. Anyone who has ever lived in rural parts of Africa in Botswana or Namibia knows first hand that the traditional African home construction with extremely thick walls (12-18" of "mud and wattle" style with 12-15" of bundled grass thatched roofs were very comfortable during the

coldest parts of winter and hottest parts of the summer because the homes worked without the addition of external energy sources. But contrast those to the thin 4-6 inch thick concrete walls with corrugated metal roofs of the British, and one instantly sees the wisdom of centuries of traditional knowledge of what works. Water would freeze in basins in my British style home in winter, but those fortunate enough to live in traditional housing did not experience such swings in temperatures of the home. Early homes in the southern parts of the US in days before air conditioning looked to the proper placement of windows to take advantage of breezes to cool in the summer. How sad that in an age of technology we have lost the ability and desire to learn from the wisdom of those who came before us.

10. As decision-makers, you have the opportunity to make the decisions that will reinforce public statements when you say you will not short change the processes and that you will insist that serious solutions to problems are truly deserving of taxpayer funding, not only speculative projects that have a large component interest in "return of monies to the investors". What about the need to invest in a better quality of life for future generations by considering something other than massive destruction of public lands with their treasures cultural and biological resources so necessary for intact ecosystems in a changing world. Why not insist that all the investments will be for implementing technologies and solutions in the communities where lands had already been disturbed for human development in the form of commercial, industrial and agricultural lands in addition solving the problems of existing construction..
11. **Changing Project description without Staff analysis requires revisions, and recirculation for public comment under both NEPA and CEQA** rather than merely a Final EIS for BLM and a Supplemental Staff Assessment from CEC. Having the Staff analysis which is the environmental review documents become available after the close of public comment precludes meaningful public comment.
12. IV Solar Project description has been a moving target and the SA/DEIS does not reflect the current state of the project description under the May 10, 2010 posting of the Applicant's Supplement to the Application for Certification URS Project No. 27657106.00806" (SAFC)
13. How many members of the public would have been aware that the Project Applicant had submitted a SAFC that was posted on May 10, 2010? Even though I have been participating as a witness for Intervenor Tom Budlong, I do not regularly check the CEC website to look for updates without first getting information from the CEC.

**Obtaining and analyzing information takes time and often cannot be rushed**

14. Changing project components and piecemealing review by withholding important information and analysis until after public comment is contrary to the intent of CEQA and NEPA. The public should not be forced to conduct its own research to ferret out information to analyze the accuracy and/or reliability of information provided in the last weeks before comments are due. I have decades of documents related to groundwater use and I have internet access to the very latest monitoring data from USGS (as does the applicant), but I am not paid to do an environmental analysis that should have provided more than outdated and inaccurate information to the CEC and BLM.
15. Could the CEC or BLM staff ever have found some of the information that I have provided, or would they even have known that such information was available and should be considered? Should staff for BLM, CEC or its hopefully 3<sup>rd</sup> party consultants on topics other than cultural resources been required to ferret out essential information withheld by the applicant? After more than 30 years of reviewing information on groundwater I can see how woefully inadequate and erroneous some of the information provided by the applicant was, but that leaves me wondering

about the adequacy and accuracy of information on other topics. Rushing the review to meet the applicant's funding motivated deadlines could leave the public with a monument to ill advised project approvals. And located adjacent to an Interstate, it would be a lasting monument to flaws in the permitting and approvals processes. Any project requiring 6,500 acres most of it public lands with majority of public financing must take longer than what is customary for CEQA and/or NEPA review.

16. US Gypsum environmental review took almost 6 years to produce a DEIR/EIS and then another year and half to produce a final EIR/EIS, and two years after the release of the FEIS, BLM still has not issued its Record of Decision for a right of way for a simple water line adjacent to the road, for which the boundaries of IID were changed almost 30 years ago! And that is a far less damaging project in terms of surface disturbances. It took BLM probably 4-5 years of review before deciding to not approve the Plan of Operations for the Glamis Imperial Mine project. (See NAFTA Tribunal decision of 2008.)
17. At the CEC Evidentiary Hearing in El Centro May 24-25, 2010 there were numerous topics of the SA/DEIS that were not considered for testimony because the CEC Staff had not had sufficient time or opportunity and/or the Applicant had failed to provide the necessary information to complete Staff Analysis, and or public review. Piecemealing project components and intentionally withholding information relevant to the changed project description (such as an assured water supply for future) appears to violate certainly the intent of the law.
18. CEQA defines a project as "the whole of an action" which has the potential to result in a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment. The "Project" refers to the activity being approved and which may be subject to several discretionary approvals by distinct governmental agencies. The analysis must embrace future development that will foreseeably occur if the agency approves the project and also include analysis of cumulative impacts associated with the changed project description which could not have been understood prior to the Applicant's posted changed description on May 10, 2010
19. In my efforts to respond to the Alternative Water Supply, I have documented considerable information which either contradicts what the Applicant states about the Boyer water well 16S/9E-36G4 in Ocotillo or fails to substantiate assertions made by applicant or applicant's consultants related to groundwater usage at the well site. Those letters and their accompanying exhibits are included as Exhibits 566 and 567 and 515-564.
20. **The Changing Project description without Staff analysis requires revisions, and recirculation for public comment under both NEPA and CEQA.**
21. IV Solar Project description has been a moving target and the SA/DEIS does not reflect the current state of the project description under the May 10, 2010 posting of the Applicant's Supplement to the Application for Certification URS Project No. 27657106.00806" (SAFC) which includes a proposal to use groundwater from well 16S/9E-36G4 in the Ocotillo-Coyote Wells Groundwater Basin. This basin is an US EPA designated Sola Source Aquifer in 1996.

**The proposed Imperial Valley Solar Project/SES Solar 2, what is the real project description? How much has changed?**

22. According to information in the February 2010 SA/DEIS and Supplement to the AFC dated May 5, 2020 Stirling Energy Systems Solar Two, LLC applied to the Energy Commission for a license to build and operate the Imperial Valley Solar Project. The proposed project proposes a nominal 750-megawatt facility, with construction planned to begin in late 2010 if the project

applicant is able to secure funding for what was stated to now be a \$2 billion project according to statements by Mark Van Paten on May 25, 2010. 9See Exhibit 569 “Rush is on for desert solar” at signonsansigeo.com, May 26, 2010 account of CEC Evidentiary Hearing.).

23. The primary equipment for the generating facility would include approximately 30,000, 25-kilowatt solar dish SunCatchers, their associated equipment and systems, and their support infrastructure. Power would be generated by groups of 60 SunCatchers connected by underground lines. The project would also require construction of approximately 10.3 miles of double circuit 230 kV transmission lines to connect to the existing SDG&E transmission facilities. In addition to hundreds of miles of roads the solar thermal electric generating facility would include a 230 kV substation and various buildings at the center of the proposed site.
24. More than 5,000 suncatchers would be placed in areas known to be subject to flash flooding (ES-28) There are 878 acres of jurisdictional waters, including 165 acres with permanent impacts (ES-29)
25. The 6,500 acre (more than 10 square miles) project site is located on approximately 6,140 acres of federal public land managed by the Bureau of Land Management (BLM) and approximately 360 acres of privately owned land. The site is approximately 100 miles east of San Diego, 14 miles west of El Centro, and approximately 4 miles east of Ocotillo, even if the SA/DEIS mischaracterizes the location as being 4 miles east of Ocotillo Wells in San Diego County. Conversion of these lands is cumulatively significant, even though it may seem small compared to the approximately one million acres of lands in the California Deserts that have been proposed for solar or wind development. (ES-31). Other resource values would be lost as public lands are converted to industrial scale solar.
26. Although the Staff may conclude that conversion of such acreage under FLPMA is consistent with applicable laws, ordinances, regulations and statutes, (ES-32), it would create a significant and unavoidable impact, the negative effects which would be disproportionately felt in rural communities already suffering from adverse health impacts of air pollution. (See Exhibits 569, 570 and 571 related to Imperial County and EPA concerns about poor air quality and health issues in Imperial County from a community leader, an elected official, and from US EPA..)
27. The BLM lands are “Limited use” lands, in part to restrict vehicle travel to the approved routes of travel. This designation was made after the initial portrayal of these lands as the “Plaster City Area of Critical Environmental Concern” (ACEC) in the 1980 BLM Draft EIS for the California Desert Conservation Area (CDCA) to protect what in 1980 was known to be an extremely important area for prehistoric cultural resources, cremation sites and Native American values. It is my understanding that the ACEC designation as an ACEC for the entire project area was not included in the final determination or Record of Decision (ROD), in part because identification of an area with such easy access near lands identified for OHV activity would have increased the likelihood of damage and vandalism if the cultural resource values were known. (Conversations with many BLM staff locally, and BLM staff involved in the Section 106 consultation with Native American Tribes. I am participating in the consultation process.)
28. “Approximately 27 miles of paved arterial roads, 14 miles of unpaved perimeter roads, and approximately 234 miles of unpaved access routes would be constructed on the SES Solar Two Project site. “ (SA/DEIS ES-5) The project would not be able to operate if wind speeds exceed 35 mph. (ES-6) However, a major concern about the use of unpaved roads is the amount of dust that would be generated as surfaces are continually broken down by vehicular use for construction and maintenance. Increasing the travel speed on the unpaved roads from 15 mph to 25 mph as requested by the applicant on May 24, 2010 at the Evidentiary Hearing for the

purposes of reducing the time spent on travel thorough the site would appear to increase the amount of dust generated. Ultimately, during periods of higher winds, this would result in additional particulates reaching residents to the east, as I have seen when visiting friends in El Centro. I have observed clouds of sand blowing down the streets of El Centro with severely limited visibility, much worse than the dust storms where I live south of Ocotillo. (See Exhibits 569, 570, 571 to read of concerns about Imperial County air quality issues.)

29. When it comes to the issue of power plant reliability, the staff seems quite accurate in asserting that:

Staff cannot determine whether the applicant's availability goal is achievable and cannot predict what the actual availability might be, given the demonstration status of this Stirling engine and limited data on large-scaled deployments of Stirling engines. (The availability factor of a power plant is the percentage of time it is available to generate power; both planned and unplanned outages subtract from this availability.) Staff believes it possible that the project may face challenges from considerable maintenance demands, reducing its availability. (ES-35)

30. Given the unproven nature of the proposed technology and lack of larger scale or longer duration demonstration of success, it seem more than ill-advised to use federal funding to finance a private investor company whose "renewable energy " activities would cause irreparable harm to the public lands and their resources, both for the IV Solar Project site and for the public lands that would be impacted by the activities whether the project succeeded or failed. Accordingly the wise decision in light of the very significant cultural resources and wildlife habitat would appear to be to support the No Action Alternative with Plan Amendment to ensure that no other solar projects submit AFCs in the future. This would be the resource protective and staff would not have to engage kin seemingly endless hours reviewing projects which should not have merited the expenditure of time and effort.
31. How curious it is to review the Staff summary of **Socioeconomics and environmental justice** in the SA/EIS.) At the Evidentiary hearings the applicant spoke of a \$2 billion project, but when one considers the \$8.92 million for local operation annual payroll, property taxes of \$0.84 million, 7.4 million for operations and maintenance, etc, it appears that relatively little money would stay in Imperial County.
32. I was unable to find discussion of **visual resources analysis** from the perspective of Native Americans for whom the lands are sacred. I know that this can be done because BLM considered visual resources issues when it evaluated and decided to deny the Plan of Operations for the proposed Glamis Imperial Mine. Even if sacred sites are not disclosed, and they should not be, It would seem that the public benefits form a better understanding and appreciation of Native American traditions and views of the lands on which their ancestor lived.
33. With reference to staff discussion of Noteworthy public benefits,(ES-47) there is inadequate information for comparisons to ascertain if the same benefits could be achieved by other means.
34. For example, if a goal is reducing GHG, what amount of GHG reduction could be achieved by reducing the speed limit back to 55 mph, increasing the energy efficiency of existing housing stock and using distributed rooftop PV rather than using all the fuel for manufacturing, transportation and construction of the materials needed for the SunCatcher technology and needed new transmission lines? How would those alternatives, either alone or combined make a contribution to reduction of toxic air contaminants?
35. The section on Noteworthy Public Benefits is absolutely unconvincing and appears to be a

desperate attempt to say to find something positive to say about the project, without considering any meaningful alternative solutions and reducing demand. The alternatives suggested in this letter should be able to qualify for loan guarantees under Title XVII of the Energy Policy Act of 2005 (ENACT) given a strict interpretation of the text provided at p. A-3.

36. “The ENACT established a Federal loan guarantee program for eligible energy projects that employ innovative technologies. Title XVII of ENACT authorizes the Secretary of Energy to make loan guarantees for a variety of types of projects, including those that “avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases, and employ new or significantly improved technologies as compared to commercial technologies in service in the U.S. at the time the guarantee is issued.” The two principal goals of the loan guarantee program are to encourage commercial use in the U.S. of new or significantly improved energy-related technologies and to achieve substantial environmental benefits. DOE can comply with the requirements under ENACT by selecting eligible projects that meet the goals of the Act.” (A-3)
37. Why not be innovative and creative and try the new and improved technologies to insulate homes, change behaviors and lifestyles by driving less, and using small portable 6 inch personal fans rather than air conditioning and sweaters and jerseys instead of heating homes and buildings in Southern CA, what about retrofitting windows on public places that would be energy efficient
38. **Project does not have an assured water supply and there is inadequate up to date information on the proposed alternative water supply for any agency decision other than to deny.** The question of an assured water supply and what it means to others who have relied on that source **if groundwater**. I have submitted a detailed analysis with many exhibits on the alternative water supply as a witness for Intervenor Tom Budlong at the CEC Evidentiary Hearings. Yes, there is repetition, and there may be some typos not yet found, but I am submitting them as exhibits for the comments on the SA/DEIS. (See Exhibits 566 and 567.) (The letter to the US ACE is submitted as Exhibit 572.)
39. SA/DEIS at c.7-3 states that “No groundwater would be used by the project and the effect on groundwater infiltration would be negligible.”
40. Project appears now to have no assured water supply. Seeley WasteWater Treatment Facility is in process of doing an EIR for upgrade and to address impacts of loss of outflow to wetlands along New River and could not be ready to deliver water for construction when applicant wants to start ...driven by desire to get federal monies.. May 5th Applicant's Supplemental AFC now identifies use of potable groundwater from Ocotillo by tank trucks for construction, dust suppression and mirror washings. However the documentation provided by the applicant for the hydrology and groundwater issues is more than woefully inadequate given the absence of monitoring information, pumping information and water quality information for the well in question and the nearest wells the US Gypsum wells.
41. We learned that there is no valid permit to export water from the proposed well as of yesterday May 25<sup>th</sup>, 2010 at the Evidentiary hearing.
42. If groundwater were to be approved, it could/would eliminate source of domestic water for residents of Painted Gorge and West Texas who were identified as using this source in documents dating since 1996 and likely much earlier. So much for the CA hierarchy that puts domestic use as a higher priority than industrial or commercial activities. No one could answer the question about what happens if current domestic users lose their supply. Applicant intends to take all the water pumped from the well. The groundwater is from a US EPA designated Sole Source Aquifer, which means that in 1996 when EPA made the determination it recognized the

water availability/water quality problems that are associated with the area where groundwater users get water for all needs. Derailed information and questions about the Boyer Well will be appended at the end of this comment letter.

43. The 2/2010 SA/DEIS document identifies the Seeley Waste Water Treatment Facility (SWWTF) as an intended source for 150,000 to 200,200 gallons of tertiary treated water for construction and operation (ES-4). The environmental impacts of use of this water have not been fully evaluated because there has not been any real discussion of what losing the outfall of treated wastewater would mean to the wetlands now receiving the water.
44. When it comes to water I am wondering (ES-6) what is meant by the statement that the daily water requirement for SunCatcher mirror washing .... would be approximately 10.4 gallons of water/minute.” If 30,000 SunCatchers that sounds like 0.96 AF/min, but again what does this really mean in terms of water usage.

### **Alternatives**

45. SA/DEIS fails as an informational document because the Alternatives discussion really only considers variations in the size and placement of SunCatcher units on the site under NEPA or at off site locations under CEQA in addition to the No Action/No Project Alternative. See Sections starting with B.2.6. There was no consideration of alternative measures or technologies recommended by the public as measures which could accomplish the energy and GHG emissions goals of the proposed project. CEQA and NEPA provide opportunities for considering alternative measures, solutions, or locations to solve a problem even if they are not part of the project as described by a project applicant.
46. Here Alternatives analysis other than the No Action alternatives seem to be driven by the profit motives of the project applicant. The SA/DEIS Alternatives discussion is from the perspective of applicant financial motives, when there must be some analysis of what the same amount of taxpayer funding could accomplish if the same amount of funding were to be made available for community based solutions which would reduce electrical demands on the system.
47. Please add an analysis of public generated recommendations for alternatives to the proposed industrial scale privatization of public lands to solve the energy and emissions problems.
48. And please add to the analysis the savings in fossil fuels that will accrue when the speed limit is reduced to 55 mph as under President Carter. Surely there is abundant data indicating the success of that effort in the past.
49. I am appending a letter submitted to the US ACE for its comments and included a number of exhibits related to the question of new, and alternatives solutions.(Exhibit 572)

### **BLM CDCA Plan Amendment Issues**

50. The Summary in Sec A.3 for Land use plan conformance and amendment raises troubling questions about how BLM language is to be interpreted. I reviewed the section of the SA/DEIS and compared that with text from BLM’s 199 version of the 1980 CDCA Plan.
51. **What uses are categorically allowed in all Class L Multiple Use areas.?** It is extremely troubling to note that the A-8 text suggests that in BLMs’ Class L lands that such intensive surface damaging industrial activities would be consistent with a Class L designation without any amendment to the CDCA Plan.. The SA/DEIS p. A-8 states that: “The proposed project does not require a change in the Multiple-Use Class classification for any area within the CDCA.” Very specifically the BLM CDCA Plan makes the following statement defining Multiple Use Class L:

52. **MULTIPLE-USE CLASS L**

Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished. (BLM CDCA Plan As Amended at p. 13, copied verbatim from Plan).

53. Please explain what it is that I do not understand about the nature of the activities proposed for the solar project including roads, buried piping, installation of SunCatcher units, construction of buildings, etc that is in any way protective of the sensitive natural, scenic, ecological, and cultural resource values that we hear about in public meetings , workshops and evidentiary hearings. What I have heard sounds like privatization , fencing to exclude all other uses, and carving up the land with more than 234 miles of scraped unpaved roads to access the intensive industrial facilities components. Massive industrial conversion of 6,500 acres for private use seems the antithesis of compliance with the language and intent of the Multiple-Use Class L designation.
54. If as other text on BLM 199 Amended CDCA Plan (at p. 13) suggests that 5,883,000 acres of BLM administered public lands (or 48.5% of CDCA lands ) are Class L, should the public now be advised that 48.5% of BLM managed lands or almost 5.9 million acres are now fair game for intensive industrial development for “renewable energy” and could be considered sacrifice areas for disposal to private investors at the expense of the public treasure and at a use loss for the resource values that triggered the Class L designation?
55. Has the definition of Multiple Use Class L already been changed to allow for intensive industrial scale solar, or is it the intent of the CDCA Plan Amendment for this or another project to change the definition of Class L to allow industrial scale solar generating facilities in any and all Class L 5,883,000 acres of public lands managed by BLM in the CDCA? If the definition of Class L has been changed, when was it and by what means was that information conveyed to the public, not just industry.
56. Title VI of the FLPMA, under CDCA, provides for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, and maintenance of environmental quality. Multiple use includes the use of renewable energy resources, and through Title V of FLPMA, the BLM is authorized to grant ROWs for generation and transmission of electric energy. *The acceptability of use of public lands within the CDCA for this purpose is recognized through the Plan’s approval of solar generating facilities within Multiple-Use Class L.* (SA/DEIS at p. A-9) (emphasis added)
57. But what does this mean? Has the definition of Class L already been changed? Or is it that the CDCA wide definition for Multiple Use Class L will be changed if the Plan is Amended for this project, even if the Amendment is to deny the siting of any future solar projects on the proposed IV Solar site? The language of any Plan Amendment is extremely important because the Plan covers more than 12 million acres of BLM managed lands in California. An error or omission in language could create loopholes of unimaginable magnitude and significance. (Imperial County spent more than 15 years and 8 lawsuits in state and federal court, because it ignored public concerns, and compounded that mistake in judgement by the addition of the letter “s” at the end of a single word. Relevant, of course, because that mistake was related to use of groundwater from a single well in Ocotillo, consequences to the groundwater basin locally were bad enough, but years in court for County vs the property owner all could have been avoided. That was one wells, but there was litigation related to impacts of export from a second well also.)

58. I spoke with Daniel Steward at the BLM EL Centro Field office this morning to try to understand answers. There were no answers, only encouragement to raise the issue in comments. I also spoke with Jim Stobaugh and understand that any Plan Amendment would be very site specific. Nevertheless, experience urges caution, because I am uncertain who the ultimate decision-maker or crafter of Plan Amendment text might be.
59. The SA/DEIS mentions site specific plan amendment when it states that “the proposed project would require a BLM ROW grant and a project-specific CDCA Plan Amendment.” (C.8-1) But with more than 1 million acres of the CA desert proposed for solar and wind energy development, any Plan Amendment, no matter how site specific it is intended to be could, indeed would have implications far beyond the specific project site.

#### **NEPA No Action Alternatives**

60. Discussion of the three different BLM No Action Alternatives (SA/DEIS B.2-18) is more than a little confusing without the specific text of any CDCA Plan Amendment related to interpretation of the definition for Multiple Use Class L.
61. I strongly recommend the No Action Alternative, and believe that it makes sense to deny any future consideration of industrial scale solar development at the proposed project site. However, if such a plan amendment would open the door to all Class L lands being available for industrial scale wind and solar in the future, it would be better to have no plan amendment, but what a waste of time energy and resources to have to go through the same process again!
62. A Plan Amendment that would prohibit consideration of any other solar projects at the site and denying the IV Solar Project would best serve the interests of public lands. But Please be extremely careful about the text and I urge that there be NO change in the definition of Multiple Use Class L.

#### **Importance of place to the public, or feeling of sacred sites may be something universal**

63. I have been participating in the Section 106 consultation process because I have had a long time concern about the issues of sacred lands, sacred geography and had the extraordinary opportunity to get to know indigenous people living in North America and from all continents except Antarctic.. I understand the pull of the land, of certain places that change forever how one related to the environment and world in which one finds oneself. For more than a decade I have been invited to participate in conferences where the vast majority of participants are indigenous people coming together to try to find solutions to problems that threaten traditional cultures, ways of life and traditional lands. Each gathering has been inspirational and I have learned so much more than I have been able to share.
64. I have been with Tibetan refugees on several occasions at the site of the proposed Glamis Imperial Mine project in eastern Imperial County and experienced their reluctance to leave, because for them they were in a place that took them back to similar places in Tibet. It is the land, the viewshed, the rocks and diversity of short vegetation that does not interfere with the views of the mountains that gave Tibetans peace in Imperial County. Something about the universality of the sacred and the understanding of sacred geography that pulled Tibetans to the place that has long been sacred to Native American peoples along the Colorado River. And, yes, My husband and I also spent many days there because it was an incredible and awe-inspiring viewshed where one could never get lost, a place to find peace and purpose in life, a place where land matters.
65. So, I was surprised when I left the 106 PA meeting last week and drove west on Interstate 8 through agricultural lands and out into the open desert, a trip I have made hundreds of times in

recent decades. I have always loved the washes and topographic diversity between I-8 and Old Hwy 80, the very lands proposed for the IV Solar project.

66. As I told Carrie Simmons in a phone message after returning home and also mentioned in public comment at the CEC hearing on Monday May 24, 2010, the first word that came to my mind after leaving Ag lands and getting into the open desert was "safe". Over and over again the word "safe" told me about that place, safe and peace. I had not realized just how much this very part of the desert had come to mean to me. For me the IV Solar project site, looking out across the desert, feeling the life associated with the washes all with the Coyote Mountains in the distance, there is a sudden overwhelming sense of suddenly feeling safe and at peace, the washes are almost magical, healthy with vegetation showing no signs of die-back as elsewhere in the western part of the County. In the 33 years I have lived here, this special part of the desert has become sacred to me, because it is bringing me home, close to the desert I love, and away from the technologies and chaos of a fast paced world that often makes no sense in terms of what is important. I was in tears before I got to Ocotillo because the thoughts of losing this open desert and healthy washes was a hurt that caught me off guard, and I am in tears as I write this as Carrie Simmons requested that I share with others at BLM.
67. For those of us who are not city folk and live with the desert as our neighbor, sacred lands are a part of our lives. One does not have to be a Native American or have generations of cultural ties to the land to understand that the concept of sacred sites and viewsheds that encompass the sacred are a part of everyday life, even if we are not physically there every day. Last week I finally understood that for me the north side of I-8 with the lands proposed for IV Solar...that is land and a viewshed that has become part of who I am and what I value and I cannot imagine what losing that viewshed will mean for me. I understand Carmen Lucas and Preston Arrowweed, their passions and concerns, and how difficult it is to get others to understand something that cannot be easily described with written words..
68. The Imperial County desert is not a wasteland to be exploited or sacrificed so people a hundred miles away, who know nothing of the land or its resource values, can have ever increasing consumptive lifestyles. There are other solutions to energy issues that do not involve loss of significant public lands.
69. City people too often see the deserts as sacrifice areas necessary to support affluent urban lifestyles and higher levels of consumption. They can't recognize prehistoric evidence of the desert dwellers hundreds and thousands of years ago. Some seem to prefer Interstates, paved streets, vs. foot trails going from water source to water source with distant mountain peaks to guide the way. Some of us need to see and feel a wide horizon to have any hope for the future. The biological diversity in so much of the desert far surpasses that of the forests...that from my sister who is a botanist for the National Forest Service doing plant surveys in NH and ME, but regularly visits here in the desert.
70. On the day we spent exploring part of the project site it was most amazing twwhat we found.. What a wonderful experience that was, with wildflowers and healthy washes beyond my wildest imagination. And how many hundreds of times have I driven past the site during the past 33 years. It has become part of my sacred geography. One doesn't have to be a Native American to become extremely attached to those open public lands with exciting washes and mountains on the horizon to understand the overwhelming sense of peace and safety that overcomes you as soon as you eliminate the view of agriculture and modern human activities from the horizon. "Safe" was the word I felt as soon as I reached the open desert by the proposed project site after leaving a day of 106 meetings last week. Traveling west, by the time I got to Ocotillo I was in tears at the thoughts that it might all be destroyed for an unneeded project. I had not realized

how much that area had come to mean to me each time I left Imperial Valley agricultural fields for the open desert as it has been left for us all to find peace. Yes, I understand why Native Americans have such a difficult time trying to explain why this area is so important. They speak for the future of all living things, and they are right to care.

### **Environmental Justice**

71. All this really points to is looking at areas with low levels of education, high unemployment and majority non-anglo populations as areas where damaging projects are acceptable to many in remote urban areas, projects that would be rejected near more affluent communities. This **environmental justice** issue was brought home to the CEC during public comment by a faculty member at the college. What is in it for residents of Imperial County, increased air pollution, likely increased asthma rates and an eyesore to remind them of their second class status every time they leave or return to the County, something to remind them that others have found the low income desert communities acceptable sacrifice areas. Siting a project such as Solar 2 adjacent to the Interstate is to be sure that the local people will not be able to ignore how others have chosen this place where they live to be a sacrifice area.
72. Yes, it is an environmental justice issue! If people really cared about the jobs issue, the money would go to distributed rooftop PV and insulating homes to make them use less electricity both winter and summer in the desert. \$2 Billion (that is for Solar 2 only, transmission line is extra) would go a lot further for improving the quality of life for people in Imperial County if NOT spent on an industrial scale solar project not needed by San Diego. Should I find some comfort that it is the electric rate-payers who get their electricity from SDG&E that will have to face the increased electric bills, rather than increasing rates for electricity in Imperial County. But what have the average electric users in San Diego done to deserve what this will cost them? I don't understand why they are not getting very upset. And I don't understand why CEC and BLM are not evaluating serious alternatives to industrial scale remote generation.
73. The only winners would be the investors of the project applicant and SDG&E...and then only maybe. This project is one of many slated for the destruction of Imperial County deserts. Individually ugly, but cumulatively an impending disaster for the species that have adapted to extremely harsh conditions and for the people who call this area home.

### **FTHL**

74. As we listened to the info at the Evidentiary Hearing, with a potential for 2000 to 5000 FTHL on site, if they do construction immediately and increase travel speeds from 15 to 25 mph on the hundreds of miles of unpaved roads, the only real questions are how, when and where the FTHL will be killed. To think of translocation to already occupied habitat in winter sounds like a grand scheme for failure. And inappropriate for a species being considered for listing now.

### **Noise**

75. I was shocked to see and hear the incredible noise of the SunCatchers at the Maricopa site. It would be enough to drive anyone crazy unless the person is already deaf, but animals cannot obtain hearing protection. Until Monday I had not realized how much noise would be generated!

### **De Anza Trail**

76. From what I am learning I believe that there is serious concern about proposals for moving the De Anza trail, which of course was originally an Native American trail going from water source to water source. Hundreds of years ago, and even when Europeans first arrived, there were still

small surface bodies of water. Many were destroyed when the canal broke banks and the New River was formed in 1905, That flood destroyed many historic lakes that are memorialized only in name now. Of course, the original inhabitants knew where the water sources were.

77. San Diego residents who are members of environmental organizations including the Sierra Club and others know the IV Solar project is not needed based on the research and writings of Bill Powers.

**Alternatives and what the \$2 billion could do to solve energy issues**

78. Based on all I know, I am more convinced than ever that the preferred Alternative that makes the most sense is the No Project, BLM Plan Amendment to deny the project and prohibit solar projects on the project site. That recommendation was made in public comments and in my comments as an individual to the Army Corps of Engineers. Yesterday ,the project applicant explained that this is a \$2 billion project and that the deadlines are driven by the Applicant's need to get federal funding.
79. In my mind there are serious questions about whether there can be any justification for using taxpayers' money to destroy fragile desert public lands with important cultural resource/sacred sites values when there are so many viable alternatives that combined would reduce electrical demands, improve quality of life, and reduce greenhouse gases. Does anyone know how much distributed PV and home insulation to reduce demand could be done with the \$2 billion that the industrial scale solar would require for financial viability? \$2 billion for alternatives would mean lots more jobs closer to where people live.

Water well issues related to the Boyer well and the Ocotillo-Coyote Wells groundwater basin:

80. The monitoring data and information about water wells that was used by USGS for its 1977 report on the groundwater basin raised much interest and concern among residents of the groundwater basin. And can be summarized as follows.
  - a. The County Dept. Of Public Works provided to residents copies of the 1977 USGS Groundwater study and model that was locally called the Skrivan Report. (Exhibit 537, USGS 1977)
  - b. Some time after the USGS made its presentation to the Board of Supervisors, and during a public hearing, I challenged the reliability of the computer model because USGS water level monitoring data for the domestic wells in Yuha area and the well that was exporting groundwater showed that there was a significant decline in water level centered at the export well.
  - c. USGS staff agreed with my conclusion that when the computer model cannot predict what the monitoring data shows, that it is the computer model that is inaccurate not the monitoring data.
  - d. I was provided with computer print outs of water level and water quality monitoring data from USGS and a USGS printout that provided information on well construction, location, and ownership (Exhibit 553) that was included in the 1977 USGS Report (USGS 1977 Exhibit 537 and 553) .
81. Water levels and water quality issues in the groundwater basin have been a growing and continuing concern for groundwater users for more than three decades. In fall 1977 I moved from Ocotillo to Yuha and was caretaking a property immediately south of a well which had started to export groundwater in September 1977. In 1977 all the homeowners became very concerned because in September 1977 tank trucks began lining up, leaving engines running and filling with water at all hours of day and night from the Simpson-McDougal well at the center of the 160 acre subdivision in addition to lining up at the well in Ocotillo. Residents were concerned, and when USGS came to monitor wells, residents learned water levels were showing signs of decline.
82. The 1977 USGS study that residents and the County were concerned because the USGS study revealed that:
  - a. Water levels were declining where the residential development was.
  - b. All groundwater pumping in the basin was located in a relatively small area of private land because most land is owned by federal govt BLM (See ONCAP Exhibit 517, Fig 1 after text, and Exhibit 562 a figure depicting location of wells on private lands)
  - c. 90% of annual pumpage is centered in Ocotillo (Exhibit 537 p.1, 45)
  - d. overdraft or groundwater mining because groundwater levels are declining (USGS 1977, Exhibit 537 p. 35) and discussion by USGS at County meeting
  - e. large cones of depression of water levels centered around and downgradient from wells that were pumping 100 AF/Y or more of groundwater in locations relatively close together (USGS 1977, Exhibit 537 Fig 12, pp. 38-39)
  - f. concern about saline intrusion or migration of highly saline groundwater from the east side of the . (USGS 1977, Exhibit 537 p. 1, 20, 41.)

- g. Some wells in residential areas have poor quality water or high fluoride levels (USGS 1977, Exhibit 537 Fig. 6, pp 18-19)
  - h. USGS report stated that when it was prepared that there was only one well exporting water to Mexico, that was well 16S/9E-25K2 in Ocotillo (USGS 1977, Exhibit 537 at p 14) but a second well 17S/10E -11G1 had started to export to Mexico in September 1977. USGS report had not considered impacts of this export because it was not exporting water at the time the report was completed and/or the County had not told USGS that there was a second well exporting groundwater from Yuha Estates.
83. The USGS report discussed overdraft and showed local cones of depression where water levels were lower where wells were pumping more than for single family use. But, additionally, there other studies or analyses that addressed these concerns during years when there was ongoing litigation. Important new insights related to how groundwater basin was responding to pumping came to light in these additional/subsequent reports.
- a. Huntley 1979 described significant well interference in locations where groundwater pumping exceeded 100 AF/Y and declining water levels in spite of years one might consider above average recharge based on rainfall (Huntley 1979 p. 11, 21 Exhibit 549)
  - b. Huntley expressed concern about the computed overdraft or depletion as seen by declining water levels, and “continued uncontrolled pumping” which “suggests that the ground water resources of the basin are seriously overallocated.” (Huntley 1979 p. 21 Exhibit 549)
  - c. Huntley was further concerned that the USGS report tended to “underestimate the problems of overdraft in the Ocotillo-Coyote Wells basin.” (Huntley 1979 p. 21 Exhibit 549)
  - d. Zipp from the State Water Resources Control Board prepared a report for a hearing of the RWQCB and noted that the basin (a very large area of mostly BLM lands) was not in critical condition of overdraft, but that there were several local cones of depression around major extraction areas. (Zipp 1980, Exhibit 554 p. 19)
  - e. 80% of water pumped in basin is exported from the basin. County should use hydrologic boundaries not political boundaries to define basin.. ...”all extractions from basin by US Gypsum must be considered as exports because water is taken across the fault into poor quality, unusable area.” (Zipp 1980 Exhibit 554 p. 7)
  - f. Cones of depression in Ocotillo, Coyote Wells, and Yuha Estates areas have resulted in well interference. (Zipp 1980, Exhibit 554 p. 19)
  - g. There is no evidence of recharge despite years of heavy rainfall,(Zipp 1980, Exhibit 554 p. 19)
  - h. Additional export of water from the areas affected by well interference will only intensify the problem. (Zipp 1980 at p.19)
  - i. Deepening of the pumping cones may induce poor quality water upward from the deeper zones.” (Zipp 1980 at p.19)
  - j. Huntley 1993 in response to my observation that one well exhibited an increase in chloride level which his court testimony had stated could be an indicator of saline intrusion, prepared a report for the APCD in response to a request by US Gypsum to increase the amount of groundwater it exported. (Exhibit 548)

- k. Huntley discusses “local degradation [of water quality] in response to overdraft in the Ocotillo area” at the export well 16S/9E-25K2. (Huntley 1993 p. 1, Exhibit 548)
  - l. “Groundwater level information suggests that local overdraft conditions continue to exist within the Ocotillo-Coyote Wells basin, despite decreases in production from wells.” USGS monitoring data indicated declining water levels including from US Gypsum well 36H1 contrary to the information provided by USG. ((Huntley 1993 p. 2, Exhibit 548)
  - m. Huntley recommended that US Gypsum groundwater production should not exceed 380 AF/Y. (Huntley 1993 p. 2, Exhibit 548)
84. Imperial County updated its General Plan in 1993. The updated General Plan affect planning for the Ocotillo-Coyote Wells Groundwater basin planning area in the following ways related to groundwater usage.
- a. After lengthy input and community meetings, in 1994 the Board of Supervisors adopted the Ocotillo/Nomirage Community Area Plan (ONCAP) as a part of the Land Use Element of the General Plan. (Exhibit 517)
  - b. The intent of the County in preparing the ONCAP “is to maintain and protect the existing rural character of the area and to preserve its natural resources.” (ONCAP p.2 )
  - c. Text notes that “The entire planning area is dependent on groundwater. Historically, water has been of good quality. Recently, however, data seems to indicate a possible decline in water quality in some areas of the basin.” (ONCAP p. 4)
  - d. The ONCAP states that: “Preservation and conservation of groundwater is one of the major concerns of the Ocotillo/Nomirage Community Area Plan. Water use, quality, quantity and protection are key issues in planning for the area. All land use proposals shall be reviewed to determine their impacts on groundwater quantity and quality.” (ONCAP4)
  - e. Protection of Environmental Resources lists Objective 5.3 “Protect the groundwater in the Ocotillo/Nomirage Community Area from overdraft and saline conditions.” (ONCAP p. 10) Objective 5.4 “Ensure that new development proposals do not contribute to overdraft or increase salinity of groundwater.” (ONCAP p. 10) Objective 5.8 Work with IID and US Gypsum to examine other water sources and reduce their dependence on groundwater. (ONCAP p. 10) Objective 5.10 “Impose a limit of 1.5 acre-feet of water per dwelling unit in the Ocotillo/Nomirage Community Area>” (ONCAP 10)
  - f. For the Community Vision Objective 7.2 says: “Ensure that future growth and development is orderly, safe and does not cause overdraft, contamination or increase salinity of the groundwater aquifer.” (ONCAP p. 11)
  - g. The ONCAP specifically requires a site specific geohydrology study for any project or property intending ro use more than 5 acre/feet/year or for any subdivision to be served by groundwater. (ONCAP 14, 15, 16, 17) .
  - h. Under Commercial Development the ONCAP states that: “It is the intent of the plan to maintain the existing character of the community by discouraging regional commercial land uses in order to preserve the groundwater resources from overdraft and contamination.” (ONCAP 22)
85. Did the ONCAP ‘s only reference to the well at the Boyer property (formerly the WestWind Water Company) is found on ONCAP p. 4 ONCAP did not say anything about export of water from this property to Mexico or state how much water us supplied to the residents of Painted

Gorge.

- a. ONCAP in discussion of existing conditions related to water mentions the “West Wind Water Company (Elfring) which supplies Painted Gorge residents.” (ONCAP p. 4) The West Wind Water Company is now known as the Boyer well.
  - b. There is no information about how many homes there are in Painted Gorge or in West Texas which is just to the east of Coyote Wells. Also no information about how many permanent residents live in those places. In the ONCAP, However, information about that water usage at West Texas and Painted Gorge is found in the BE 1996 and 2004 reports for US Gypsum.
86. After the ONCAP was approved and residents had learned more about groundwater issues and seen how other communities tried to protect their groundwater basins from over-development or degraded quality, local residents were inspired by the efforts of the residents of Boulevard after their groundwater basin was designated as a Sole Source Aquifer by US EPA.
- a. USGS report and other studies all showed that the groundwater basin was the only source of water for all domestic needs of the communities overlying the groundwater basin, and reports warned that overpumping could result in the degradation of water quality if water levels continued to decline.
  - b. In May 1994, residents began working together to apply for Sole Source Aquifer status with the aid of a pro bono attorney who lived in the community.
  - c. In September 1996, the Ocotillo-Coyote Wells basin was designated as a “Sole Source Aquifer” by EPA in 1996, and because of that designation, any project for which there is any federal money to be spent would require a serious study by US EPA and USGS to determine impacts and mitigation for impacts on the SSA. (Exhibit 515.)
87. What is the significance of Sole Source Aquifer designation?
- a. The EPA determined that the Ocotillo-Coyote Wells Aquifer in SW Imperial County CA “is the sole or principal source of drinking water for Ocotillo, Nomirage, Yuha Estates, and Coyote Wells and that this aquifer, if contaminated, would create a significant public health hazard.” (EPA 1996 at p. 47752, Exhibit 515)
  - b. “There is no economically feasible alternative drinking water source near the designated area.” (EPA 1996 at p. 4775, Exhibit 515)
  - c. The designation is important because the EPA made its designation based on hydrologic boundaries with the Elsinore Fault marking the northern boundary and the Laguna Salada Fault along the eastern boundary (as recommended by Zipp 1980) rather than using a political boundary to include Plaster City factory as did USGS 1977 presumably at County request.
88. Groundwater basin come from fossil water. Several reports state that there is recharge to the basin from the Jacumba Mountains and Coyote Mts Wilderness areas, but there is very little rainfall in these mountains. There is also supposed to be some recharge to the basin when water in Myer Canyon is flowing if there is runoff in the mountains to the southwest of Ocotillo. However,
- a. No water level monitoring of wells overlying potable waters done by USGS since the 1977 report has shown any increase in water levels in wells even though there have been three 100 year storm events that caused flooding from the Jacumba Mountains, in addition to several years of above average rainfall associated with El Nino years.

- b. My discussions with John Izbicki, PhD of USGS water Resources Center in San Diego over the years leads me to the understanding that the water in the basin is “fossil groundwater” that is a remnant of a different weather and climate pattern toward the end of the last ice age., perhaps 10,000 to 100,000 years ago.
  - c. Groundwater in other desert groundwater basins has been dated and is tens of thousands of years old according to published research by Dr. Izbicki. From Dr. Izbicki and others at USGS I have learned that when the water is gone, it is gone because there is no longer enough rainfall to wet a dry column of soil in many places several hundred feet below the surface.
89. Based on information in technical reports and my own analysis of monitoring data from USGS, I am concerned about the potential for declining water levels and degradation of water quality for downgradient domestic wells in the Nomirage area based on changes already observed in wells monitored in other nearby parts of the groundwater basin.
- a. Based on my review of USGS monitoring data and the studies that have been done, I am concerned that if US Gypsum and other nearby wells are permitted to export or extract 100-200 AF/Y from the existing large capacity wells that water levels will continue to decline and that there are inadequate protections /ineffective mitigation measures / inadequate and unimplemented monitoring which could do anything to protect residents of Nomirage from serious water quantity/quality problems?.
  - b. The Boyer well is the closest well to the USG wells.
90. Why the concern about impacts of pumping near the SE part of Ocotillo on the community of Nomirage?
- a. The Graham well near the center of Nomirage was unable to supply the needs of the Nomirage subdivision decades ago, so all dwellings had to pay to put in private domestic wells to serve each family, even though the subdivision was intended to have a single water supplier such as in the community of Ocotillo a few miles to the NW.
  - b. Depths to groundwater near and in parts of Nomirage are relatively shallow according to USGS 1977 and USGS subsequent water level monitoring (See Exhibit 516 for a table with water levels.).
  - c. The Nomirage area does not respond to pumping the same way as do the larger capacity wells in Ocotillo. Water quality in the Nomirage area is highly variable today with considerable difference for one well to another even on adjoining lots. Water level declines in Nomirage are on a continuum and static water levels are much lower than in Ocotillo. (See details in Exhibit 516, the table I prepared for comments on the 2008 Final EIR/EIS for the US Gypsum project.)
91. The major past or proposed groundwater concerns for the community of Nomirage follow:
- a. Failure of County to adequately and seriously consider impacts of commercial and industrial scale projects on Nomirage
  - b. Past proposal to create a sand and gravel operation on lands adjacent to the SE part of Nomirage, finally denied by Supervisors in November 1998. White Gravel pit would have intersected watertable if permitted and been the first sand and gravel operation in the State of California to be approved on lands designated for residential development..
  - c. Continued or increased groundwater extraction for export from 3 wells owned by US

Gypsum to east and southeast of Ocotillo . County approved US Gypsum expansion and increasing groundwater export in 1998 without requiring any groundwater study as required by the ONCAP. That decision was challenged in Court in January 1999 and still has not been resolved.

- d. Proposal by Wind Zero Group for a military style “law enforcement training facility” and 6.1 mile competitive race course, and luxury townhomes and resort hotel called Coyote Wells Specific Plan (CWSP) on about 944 acres immediately adjacent to Molitar Road, the eastern boundary of Nomirage,
  - e. CWSP project has a FEMA designated floodway going through property and nearby wells have poor quality water. Applicant proposed to use anywhere from 67 to 87 or more AF/Y of groundwater from 2 wells on-site My calculations of the uses suggest closer to 126 AF/Y. CWSP DEIR suggests that even more groundwater might be needed. ( )
  - f. And now the proposal for the Boyer well upgradient of Nomirage to be used as an Alternative Supply of Water for the Imperial Valley Solar/Solar 2 Project pumping 40 AF/Y, but asserting a need for 50 AF/Y during construction..
92. There have been other studies or reports on this groundwater basin that have raised concerns about the potential for adverse impacts of increased groundwater pumping. And I have submitted written comments on those projects for different organizations and community groups.
- a. El Remate 1990 proposal to pump about 1000 AF/Y in the vicinity of Sunrise Butte along the Laguna Salada Fault in the SE part of the basin. Against the recommendations of its own consultant, the County approved a permit for pumping about 600 AF/Y. I submitted comments for the Ocotillo Community Council and Exhibit 562 is one of the maps I prepared to depict geology and well location and extent of private property, and the distance to which the cone of depression would extend, even upgradient. Lawsuit followed and project was abandoned. County decided to Update its General Plan.
  - b. White Pit project adjacent to Nomirage. It took about 5 years for community to convince County to deny this ill-advised project. Land is now for lease.
  - c. US Gypsum expansion project. USG first wanted to increase its groundwater pumping in 1993, then again in 1998. Huntley had recommended that USG’s pumping be limited to 380 AF/Y. I commented on project and problems at Planning Commission on behalf of Sierra Club. After County approved the project without requiring an EIR, Sierra Club filed a lawsuit and the Court of Appeals decision required preparation of an EIR . See Exhibit 538.
  - d. Recently in 2010 the Wind Zero Group’s Coyote Wells Specific Plan for law enforcement training , competitive racing, luxury housing and resort hotel on property through which a FEMA designated floodway passes has raised lots of concerns about groundwater impacts. I submitted comments on behalf of Sierra Club’s San Diego Chapter, the CNRCC Desert Committee, and Desert Survivors.
  - e. The 2009 Ocotillo Express Wind Facility also proposed to use groundwater from undisclosed sources for construction of the wind turbans, using 22,000 gallons of groundwater for each of the 240 wind turbines. Turbines are planned for north and west of Ocotillo and west and south of Nomirage. (See Exhibits 525 and 529 for locations of wind turbines and estimates of water usage..)
  - f. Further away near the Coyote Mountains are Granite Construction wells are pumping water

for the sand and gravel operations.

- g. Then the proposal to use water from the Boyer well in a quantity in excess of the total permitted quantity, and from a well which is currently serving residential users..
93. What have I learned things from reviewing all these Draft and Final EIR/EIS documents that raises concerns about groundwater studies and the potential for success of proposed mitigation measures related to any groundwater pumping?
- a. First, is that applicants always seem to submit studies that were prepared several years prior to the release of the Draft EIR/EIS and have somewhat outdated USGS monitoring information. It doesn't matter who the applicant is.
  - b. Preparers of EIRs and County do not consider the implications of the fact that US Gypsum could not prove that it ever pumped as much as what it told USGS and the County. See discussions about the "US Gypsum variance" which is the difference between the water used at the plant based on production and the amount reported as being used by US Gypsum to USGS and County. This was described both in the Bookman-Edmonston 1996 study , in the DEIR and in the decision of the Court of Appeal.
  - c. The studies for the USG DEIR/S and FEIR/S do not make reference to this discrepancy in groundwater export to the factory or explain how such a 40% discrepancy might affect the conclusions of the USGS 1977 Report or any other groundwater reports .
94. Failure to ignore the discrepancy between what USG likely pumped and what it asserted it pumped is so great as to raise concerns about groundwater basin responses to pumping. Why is this important?
- a. Water levels have continued to decline since the 1977 USGS report and computer model. But what would the estimates of water level and water quality change be if the estimates were based on about half as much pumping as reported?
  - b. Would this mean that the groundwater basin is far more sensitive to smaller amounts of pumping than previously thought? If the basin or parts of the basin are more sensitive/respond to lower levels of pumping with declining water levels or changes in water quality?
  - c. Do the documented changes discovered by USGS monitoring mean that the problem of well interference is even greater than earlier thought?
  - d. What might happen if USG were to pump the quantity it wants, and what about the cumulative impacts of pumping at nearby wells?
95. Information about the Boyer Well 16S/9E-36G4 when learned when reviewing materials provided by the Applicant raises concerns about impacts if the well were to be used as an Alternative Water Supply for IV Solar. Specifically:
- a. IV Solar proposes at different places to use 40 AF/Y, or approximately 50 AF/Y. (Supplemental Application for Certification at pp 1-2, 1-3)
  - b. However, the well is only permitted for 40 AF/Y, but applicant proposed to use 10 AF/Y more than the permitted amount for all uses. (SAC 1-3)
  - c. The temporary nature could be for 6 to 11 months (Appendix D) or 6 months to 3 years (SAC 1-3) , or for the lifespan of operations (if needed). (URS App. D Groundwater Evaluation at p. 6-1)

- d. Well 16S/9E-36G4 is used for “personal use or personal consumption (SAC 1-2), but there is no indication of how many residences are served or how much water is provided for the residential needs of residents of West Texas and Painted Gorge as was noted in the BE 1996 and 2004 hydrology studies for the USG DEIR/S of 2006..
- e. If IV Solar is approved to use 100% of the output of the Boyer well, what will happen to domestic uses by residents of Painted Gorge and West Texas that have historically been met at the Boyer well?
- f. Applicant asserts that the well typically extracted over 100 AF/Y, but provided no documentation to support that assertion.
- g. The only documentation for water sales is from the period part of 1990 through June 2004. (Appendix D)
- h. Neither the 1977 USGS Report, the 1979 Huntley report, 1980 Zipp study, 1993 Huntley letter or 1994 ONCAP contain any statements to suggest that the Boyer well was exporting groundwater or pumping any quantity near 100 AF/Y. Because all of those documents were concerned with groundwater usage and identifying the largest centers of pumping, it seems unlikely that the Boyer well was doing much pumping without being noticed by the County or USGS, especially if there were about 40 trucks/day until 1982 as indicated in the Bammer 7-23-2004 letter. In Appendix D..
- i. Where is the data to support such a claim? Is there documentation or is it simply a claim without basin such as USG’s assertion of pumping up to 767 AF/Y?
- j. Planning Dept response to Brammer letter suggests that County also did not accept that assertion because there was no documentation. (Exhibit 565, referred to in sworn testimony by Harmon and Planning’s Jim Minnick during Evidentiary Hearing on May 25, 2010.
- k. Water level monitoring and water quality data where available suggest that the Boyer well responds in a manner suggestive of well interference and changes in both water level and water quality in wells on the Boyer property raise many questions.
- l. Why were water levels in 36G4 lower than in the USG well 36H1 which is downgradient? It is assumed that the USG well pumped more water than 36G4. (Exhibit 555)
- m. Why did the static water level in 36 H1 decline 6.7 feet between 2004 and 2005 when the well? (Exhibit 555)
- n. Why did water level in 36H1 decline 14.73 ft between 1996 and 2005? (Exhibit 555)
- o. The Westwind table reveals that between 1994 and 1995 when only 7.5 AF was pumped in 1994, that the static **water level in the well 16S/9E-36G4 declined by 16.25 ft. in one year.** Why?
- p. In 2010, the static water level for well 16S/9E-36G4 was 3.27 feet lower than in the nearby USG well 16S/9E-36H1 (USGS monitoring) which was expected to have pumped far more water than the Boyer well.
- q. Which is the center of the cone of depression and/or what is the role of well interference?
- r. At one of the wells on the Boyer property (16S/9E-36G1 ) there was a marked change in water quality when the water quality was monitored between 1958 to 1975. The amount of total dissolved solids (TDS) steadily increased from 341 mg/l to 635 mg/l during that 17 year period. Why? How much was it pumping during that period? How much were any of

the USG wells pumping at that time?

- s. Wells in this location appear to have rather dramatic responses in water level and water quality with only a small amount of pumping
  - t. Both at the Clifford 16S/9E-25K1 well in Ocotillo and McDougal 17S10E-11G1 well in the Yuha, increased pumping for export lead to declining water quality as measures by increased total dissolved solids?
96. It has been stated that the residents of Painted Gorge and West Texas get water trucked from the Boyer Well. It is uncertain how many people live there now. There are reasons related to water quality in different portions of the basin that explain why they get water from the Boyer well.
- a. The 2004 Bookman-Edmonston “Ocotillo-Coyote Wells Hydrology and Groundwater Modeling study” that was included as a Technical Appendix to the US Gypsum Draft EIR/EIS as Appendix B-2 includes two tables and two pages of information about the Painted Gorge and West Texas water issues at pp 4-4 to 4-6. (See Exhibit 563 re BE 2004 information about Painted Gorge, West Texas and WestWind Water company. Exhibit 564 is information from the B-E 1996 report.)
  - b. Table 4-3 estimates the population in 2010 for Painted Gorge to be 50 persons and West Texas as 13 persons, or a total estimated 2010 population without potable drinking water as 63 persons. (BE 2004 at p. 4-4)
  - c. “Westwind Water company is also located in Ocotillo and provides water by privately owned trucks to Painted Gorge, West Texas, and construction sites in the area. Groundwater underlying Painted Gorge is unsuitable for drinking and all water must be trucked in. Groundwater underlying West Texas is suitable for bathing and landscape irrigation, but drinking water must be trucked in.” (BE 2004 at p. 4-5 and Exhibit 564))
97. There is no documentation of how much water is supplied to those residents from the Westwind/Boyer well available for public review. Alternatively, I could find no information that might permit one to estimate how much water trucked in from the Boyer well might be used .
- a. I can find no information about water usage in Painted Gorge and West Texas in materials provided by the IV Solar applicant or information supplied by Boyer. If included it was not readily located.
  - b. However, the 2004 BE appendix in the 2006 US Gypsum DEIR/S Table at p. 4-4 for applied water usage suggests that residents in those areas might be using/hauling 60 gal/day/person. Using that figure 63 persons x 60 g/dx 365 days =1,379,700 gallons or 4.23 AF/Y. (See BE 2004 at p. 4-4; Exhibit 563)
98. I am concerned about what would happen if those residents are no longer permitted to obtain water from the Boyer well because it would be used at the IV Solar project site. Where would they get water?
- a. It appears that the WestWind /Boyer well has long provided water for those parts of the community and that such use was documented in the 1996 E-E study done for the USG DEIR/S..
  - b. I do not think that the Mutual Water companies would be permitted to provide a permanent supply of water for those who are not shareholders.
  - c. It is a matter of environmental justice that residents of those areas not be denied their

traditional water supply in favor of export of water from the Boyer well for construction and mirror washing at the proposed IV Solar Project site near the USG Plaster City factory.

99. The pump test information supplied by URS raises questions.
- a. Given the historic declines in static water level over a one year with limited pumping what was the pump test run for only one 8 hour day rather than for several days ?
  - b. I ask this because the recovery after 17 hours left water in well still 2.98 feet below what it was when pumping started. (URS at 3-2) What might the results have been if pumping on the second day started with water at a depth almost 3 feet lower than when pumping was initiated?
  - c. Why was there no effort made to get a water level measurement at the nearest well?
100. I have concerns about the significance of the pump test based on knowledge of other pump tests in the basin.
- a. Computer models and projections about the nature of impacts from pumping about 100 AF/Y from a well surrounded by domestic wells in Yuha Estates were more than overly optimistic and monitoring data could not be replicated by any computer model, even the most Recent.
  - b. Check the information in Exhibit 516 for the McDougal Yuha well which exhibited a dramatic decline in water level which also caused in declines in water levels in all measured domestic wells. Our well 17S/10E-11H3 (replacing 11H2)( which was less than 1000 ft from the export well 11G1) showed a decline in water level of about 30 feet in a 5 year period. The water level has been recovering ever since September 1982 when export pumping stopped. (See Exhibit 564 with figures depicting the cones of depression centered at Ocotillo and Yuha.)
  - c. All computer models had indicated that there should be no adverse impacts from pumping 100 or more AF/Y. See Exhibit 516 to see change in water levels.
  - d. It is my recollection that when pump tests have been done in the past, that water levels were monitored in the nearest well. But I was unable to find the test results.
101. For the Boyer well, there is already existing information suggesting that the well is more sensitive to pumping than being asserted by the applicant and those were not addressed by URS information provided by Robert Scott, the URS geologist who prepared the "Groundwater Evaluation Report Dan Boyer Water Company well State well No 16S/9E-36G4" dated 26 April 2010 for the IV Solar Alternative Water Supply assessment.
- a. Why did URS rely on the outdated January 2004 hydrology report by Bookman-Edmonston for the US Gypsum EIR/EIS project without providing more recent USGS monitoring data?
  - b. Why submit the hydrology text from the 2006 DEIR/EIS for the US Gypsum expansion project which appears to include monitoring information and tables with information no more recent than 2000, 2001, or 2003?
  - c. Why didn't URS update the studies with USGS water level and water quality information available on the internet through spring 2010?
  - d. What are the URS explanations for the interesting changes in water levels and water quality observed in the Boyer and USG wells?
  - e. Why didn't URS obtain the pumping amounts for each of the three USG wells and why did

- it fail to provide water quantities pumped from the Boyer well for the past 5 years? What analysis might be drawn if information on water levels and amounts pumped for all the USG wells AND the Boyer well
- f. Why does URS include Fig 1 with well locations but fail to include the location of all the USGS monitored wells? Why was well 16S/9E-34B1 to the west of Ocotillo not shown”
102. Why is the information about well 34B1 important?
- a. Because it is the furthest west well, closest to the supposed recharge coming from the mountains, but in 2009 it had a static water level (253.21' AMSL) that is about 15.71 ft lower than the 2009 static water level in the Ocotillo Mutual Water Company (well 16S/9E-25M2) (268.92' AMSL) that is to the east. What is the explanation for the upgradient well to have a lower static water level than those that are pumping more and are located down gradient?
  - b. Without answering some of these questions it is not possible to determine whether or not and to what extent the proposed alternative source of water would have a significant cumulative impact on downgradient domestic wells located within the growing and deepening cone of depression SE of Ocotillo.
  - c. Why was no information presented to indicate the success or failure of the groundwater related to the implementation of the various mitigation and monitoring measures that are part of the USG approvals from Imperial County in 2006?
  - d. Were the new monitoring wells drilled, if so when and by whom monitored?
  - e. Why was there no discussion or identification of other wells pumping more than a few AF/Y to makes some kind of consideration of cumulative impacts analysis? Wells such as the Ocotillo Mutual and Coyote Valley Mutual, , Wind Zero, Atlas Storage, and Ocotillo Express Wind Facility and sand and gravel operations?
  - f. This is especially concerning when the duration of the alternative water supply use was found in at least two places to state that the duration could be for the lifespan of operations.
103. There is ongoing litigation related to the Court requirement for the preparation of the Draft and Final EIR/EIS for the US Gypsum project and said that litigation is ongoing. I do not know if the mitigation and monitoring measures required when the County certified the EIR have been implemented since 2008. I was told by USGS staff that they are doing no additional monitoring of any new wells. So that makes me think that not all mitigation has been implemented or enforced.
104. BLM has NOT made its Record of Decision to approve the Right of Way for the USG waterline to the WestSide Main canal to use Colorado River water for at least a part of the factory use and this ultimately has a significant adverse impact on downgradient water levels .
- a. US Gypsum is currently getting gravity flow groundwater through w water pipeline from Ocotillo.
  - b. USG is not using the up to 1000 AF/Y of Colorado River water authorized by IID because BLM has not issued its Record of Decision for the 2008 USG FEIS.
  - c. BLM cannot issue a ROD until Fish and Wildlife Service completes its Biological Opinion because other projects related to energy are forcing the Service to rush certain reviews and let others wait.

105. The IV Solar Project might also have an adverse impact on the groundwater basin/sole source aquifer by forcing the solar project biological resources review to a priority position ahead of completing the biological opinion related to making it possible for US Gypsum to start reducing its export of groundwater and being using Colorado River. This is a serious but unintended consequence of making renewables issues a higher priority than other projects for the FWS?
- a. It seems obvious that in addition to the concerns about using the Boyer well as a water source for the project, the Solar project is effectively delaying the initiation of actions for USG to use Colorado River water. This continued export of potable groundwater for use in wallboard manufacturing represents an adverse impact on the groundwater basin and allows for continued pumping in the location that is very close to the center of the cone of depression.
106. My conclusions about the proposed Alternative water source are that
- a. First and most important, the monitoring data provided is not current even though it is possible to get current USGS data online.
  - b. In the absence of monitoring data it is not possible to reach the conclusion that impacts of well interference at the Boyer well location will not be significant.
  - c. Accordingly it would be inappropriate to conclude that the proposed well with its lack of pumping withdrawal information would not have an adverse impact if it began pumping and exporting 40 AF/y.

EH re CEC/BLM responses to Applicants Alternative Water Supply from well 16S/9E-36G4 and comments on SA/DEUS for Imperial Valley Solar Project (formerly Solar 2) Docket No. 08-AFC-5

#### **References cited**

Berkeley Law. 2009." In Our Backyard: How to increase renewable energy production on buildings and other local spaces" 26 pages.

Bookman-Edmonston 1996. "Ocotillo/Coyote Wells Basin Hydrology and Groundwater Modeling Study" prepared for US Gypsum Company

Bookman-Edmonston 2004. "Ocotillo/Coyote Wells Basin Hydrology and Groundwater Modeling Study" prepared for US Gypsum Company included as technical Appendin in US Gypsum DEIR/EIS in 2006.

BLM 1980 Draft EIS for California Desert Conservation Area Plan

BLM 1999. 1980 Draft EIS for California Desert Conservation Area Plan as Ammended

Coyote Wells Specific Plan Project by Wind Zero Group, Inc. 2010 DEIR & Appendices SCH 2009011063 Coyote Wells Specific Plan Draft EIR SCH No. 2009011063 January 2010, released 1-27-2010 available online at <http://www.icpds.com/?pid=2308> .

Huntley, David 1979. Magnitude and potential effects of declining water elevations in the Ocotillo-Coyote Wells Basin.

Judge Judith McConnell in August 31, 2000 Statement of Decision in Case No. 676630 Save Our Forests and Ranchlands v. County of San Diego. Now Justice McConnell of Court of Appeal, Fourth District, Division One

NAFTA Tribunal Decision in the case between Glamis Gold, Ltd. (Claimant) and United States of America (Respondent) filed June 8, 2009.

Ocotillo Express Wind Facility 2009 Draft Plan of Development from BLM El Centro office.

Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map

Powers, Bill. 2007 San Diego Smart Energy 2020 158 pgs, PP 69-74 includes conclusions and recommendations [http://www.etechnicalinternational.org/new\\_pdfs/smartenergy/52008\\_SmE2020\\_2nd.pdf](http://www.etechnicalinternational.org/new_pdfs/smartenergy/52008_SmE2020_2nd.pdf)

Sierra Club comments on 2006 US Gypsum DEIR/EIS and 2008 US Gypsum FEIR/EIS

Sierra Club comments on 2010 Coyote Wells Specific Plan DEIR SCH 2009011063

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial.

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial. \_Reporter’s Appeal Transcript 5-17-99 at p. 28.)

Sierra Club v. County of Imperial, United States Gypsum Company, Real Party in Interest, Court of Appeal Case D034281 Decision 10/26/00, Court of Appeal file recalled from storage and reviewed in January 2008

Skrivan, James. USGS 1977 “Digital - Model Evaluation of the Ground-Water Resources in the Ocotillo-Coyote Wells Basin, Imperial County, California”

US EPA 3/20/95 document “Technical support document for the review of the Ocotillo-Coyote Wells Sole Source Aquifer Petition”. (Court of Appeal Case No. D034281 Clerk’s Transcript on Appeal, vol 2 p. 252.)

US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a “Sole Source Aquifer” 61 FR 47752, Sept 10, 1996)

USGS 1977. Computer printout of well ownership and drilling dates and depths.

USGS groundwater monitoring information data for the Ocotillo-Coyote Wells Groundwater Basin at the following source <http://nwis.waterdata.usgs.gov/ca/nwis/gw> for individual well sites in the USGS Imperial County groundwater monitoring program. The water level data is available from USGS both as a graph of monitored or as a Table of data for each individual monitored well. Water quality data for the individual wells monitored can be obtained at <http://nwis.waterdata.usgs.gov/ca/nwis/qwdata>

USGS well location maps & data for Imperial County, links to individual wells monitored for water levels <http://groundwaterwatch.usgs.gov/ca/nwis/qwdata>

US Gypsum Expansion and Modernization 2006 DEIR/EIS & Appendices SCH 200121133

US Gypsum Expansion and Modernization 2008 FEIR/EIS & Appendices SCH 200121133

Zipp ,R. 1980. Ocotillo-Coyote Wells Groundwater quality-quality study, Imperial County

### **Exhibits for Solar 2 groundwater issues**

515 US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a “Sole Source Aquifer” 61 FR 47752, Sept 10, 1996)

516 “EH Table 10 Water well information, water quality, and groundwater elevations Ocotillo/Coyote

- Wells Groundwater Basin, a Sole Source Aquifer, Imperial County CA” Updated March 2010 from Sierra Club comments on USG FEIR/EIS 2008 and included in CWSP Scoping comments found at 28appa-nop-initial-study-a at pp 7-17 (USG EIR/EIS Appendix B-1 USGS Hydrologic Data, USGS NWIS water level and quality data & Bookman-Edmonston 3/96 (BE96), BE 1/2004 (BE04). 11pages.
- 517 Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map
- 518 US EPA 2010-04-11 letter re Final EIS for US Gypsum project
- 519 USGS 2008-12-24 letter to Cong. Filner re Final EIS for US Gypsum Project
- 520 US EPA 2009-02-25 comments re NOI for Coyote Wells Specific Plan Area
- 521 USG FEIR/S 4.0 Collective Responses Table 4.0-1 Water quality info from USGS
- 522 USG FEIR/S 4.0 Collective Responses Fig. 4 Wells with Water Quality Data
- 523 USG FEIR/S 4.0 Collective Responses Fig 7. Wells with Recent Water Level data
- 524 BE 2004 Table 4-2 Historic Groundwater Pumping in 2006 USG DEIR/S
- 525 Ocotillo Express Wind Draft Plan of Development 2009
- 526 SES Applicant’s Submittal of Opening Testimony re Van Patten re well 16S/9E-36G4
- 527 Terms for Well 16S/9E-436G4
- 528 Moore in SES Applicant’s submittal of Opening Testimony re well 16S/9E-36G4
- 529 Ocotillo Express Wind Facility 4 pgs
- 530 USG FEIR/S Mitigation & Monitoring re Hydrology ES 9-11 submitted as an exhibit for the CWSP DEIR comments 20210
- 531 USG DEIR/S Mitigation & Monitoring re Hydrology See Applicant’s Appendix C for hydrology and USG DEIR/S Impacts and Mitigation in Summary Table at pp S-7 through S-11
- 532 Powers, Bill. 2007 San Diego Smart Energy 2020 158 pgs, PP 69-74 includes conclusions and recommendations  
[http://www.etechnologyinternational.org/new\\_pdfs/smartenergy/52008\\_SmE2020\\_2nd.pdf](http://www.etechnologyinternational.org/new_pdfs/smartenergy/52008_SmE2020_2nd.pdf)
- 533 Berkeley Law. 2009.” In Our Backyard: How to increase renewable energy production on buildings and other local spaces”
- 534 URS/BLM color brochure “Imperial Valley Solar Project Frequently asked Questions May 2010”
- 535 Tessera Solar, SES “Imperial Valley Project Fact Sheet (Formerly SES Solar Two)” undated color brochure.
- 536 “Impacts of Avoidance or partial avoidance of Drainage Areas I, K, C, E, and G” identified as “Preliminary Layout” by RMT in BLM documents provided at workshop on May 4, 2010, possibly dated 4/12/2010.
- 537 Skrivan, James. USGS 1977 “Digital - Model Evaluation of the Ground-Water Resources in the Ocotillo-Coyote Wells Basin, Imperial County, California”
- 538 Sierra Club v. County of Imperial, United States Gypsum Company, Real Party in Interest, Court of Appeal Case D034281 Decision 10/26/00, Court of Appeal file recalled from storage and reviewed in January 2008

539 US EPS re 2006 USG DEIS

540 USGS re 2006 USG DEIS

541 Powers 2010-05-13 email 4 pgs “best comparative solar costs info I have” & FW other docs

542 San Diego solar panels cost less with 1 BOG

543 16-apr-10 Renewable Energy World US Solar sees 38% growth in PV capacity in 2009

544 7-apr-10 RETI Phase 2B Draft Report pp 4-6 to 4-8 Thin film PV lower cost than solar thermal

545 Mar 2010 SNL “SoCalEd orders 200 MW of solar panels, plans solicitation for 250 MW more”

546 Powers 2010-05-13 email 1Q 2010 CSI capital cost numbers

547 01-may-10 CPUC SunCentric Study in pictures through March 2010 costs trends (52 pages)

548 Huntley, D. 1993. Letter re changes in chloride concentration in water quality from a well in Ocotillo-Coyote Wells basin

549 Huntley, David 1979. Magnitude and potential effects of declining water elevations in the Ocotillo-Coyote Wells groundwater basin.

550 RMT 2010 Impacts of avoidance of drainages Fig. From BLM handout for May 4, 2010 workshop.

551 Harmon 2010 values for static water level in feet above mean sea level including most recent USGS data (compiled from Exhibit 516 EH Table 10, a compilation of USGS monitoring data.

552 Tisdale 2006 comments on the USG DEIR includes information on the IID source of supply for industrial use at Plaster City/USG factory

553 USGS 1977 computer printout of well ownership and drilling dates for Ocotillo-Coyote Wells Groundwater Basin

554 Zipp R. 1980. Ocotillo-Coyote Wells Groundwater quality-quality study, Imperial County

555 Table Westwind Water Sales History & water levels well 16S/9E-36G4 vs USG 16S/9E-36H1

556 Hamilton 16S/9E-34B1 well location and water level graph from USGS website

557 Hamilton 16S/9E-34B1 well water level table ‘98-09 from USGS website

558 Discrepancies in groundwater pumping (AF/Y) by USG wells in Ocotillo-Nomirage area as submitted by Bookman-Edmonston’s Richard Rhone in January and September 2003 (Table 16-17 of Sierra Club comments on 2008 USG FEIR/S)

559 USG Annual Pumping and water levels in 3 USG wells in Ocotillo area (Table 14 of Sierra Club comments on 2008 USG FEIR/S) source of original information is in Exhibits 560 and 561.

560 USG Annual Reports 1993-2002 (originally Sierra Club Exhibit 242 for 2008 USG FEIR/S)

561 Rhone 2003 email re USG Annual pumpage for three wells combined (originally Sierra Club Exhibit 236 for 2008 USG FEIR/S)

562 Map depicting location of private land and water wells in relation to local geology

563 Bookman-Edmonston 2004 text and tables related to Westwind Water Company water use from well 16S/9E-26G4 at Painted Gorge and West Texas

564 Bookman-Edmonston 1996 text and tables related to Westwind Water Company water use from well 16S/9E-26G4 at Painted Gorge and West Texas . Figures depicting cones of depression

centered at wells pumping more than 10 AF/Y

- 565 ICPDS Minnick 2004-09-07 response letter to Brammer re property and Well 16S/9E-36G4.
- 566 Harmon Testimony dated May 10, 2010 for Intervenor Budlong re Alternative Water Supply from well 16S/9E-36G4. Overlying the Ocotillo-Coyote Wells Sole Source Aquifer.
- 567 Harmon Testimony dated May 10, 2010 for Intervenor Budlong re Alternative Water Supply from well 16S/9E-36G4. Overlying the Ocotillo-Coyote Wells Sole Source Aquifer.
- 568 Rush is on for desert solar project. San Diego Union Tribune May 26, 2010. Account of CEC Evidentiary Hearing and public comments.
- 569 Supervisor Fuentes to BOS re EPA ltr and air quality in Imperial County 2010-05-26
- 570 US EPA to Nichols 2010-05-24 re Imperial County air regs
- 572 EH comments to the US ACE re IV Solar Project, including discussion of need.

**IMPERIAL COUNTY, CALIFORNIA  
UNITED STATES GYPSUM COMPANY  
EXPANSION/MODERNIZATION PROJECT**

**VOLUME I OF II  
DRAFT  
ENVIRONMENTAL IMPACT REPORT  
ENVIRONMENTAL IMPACT STATEMENT**

*Lead Agencies:*

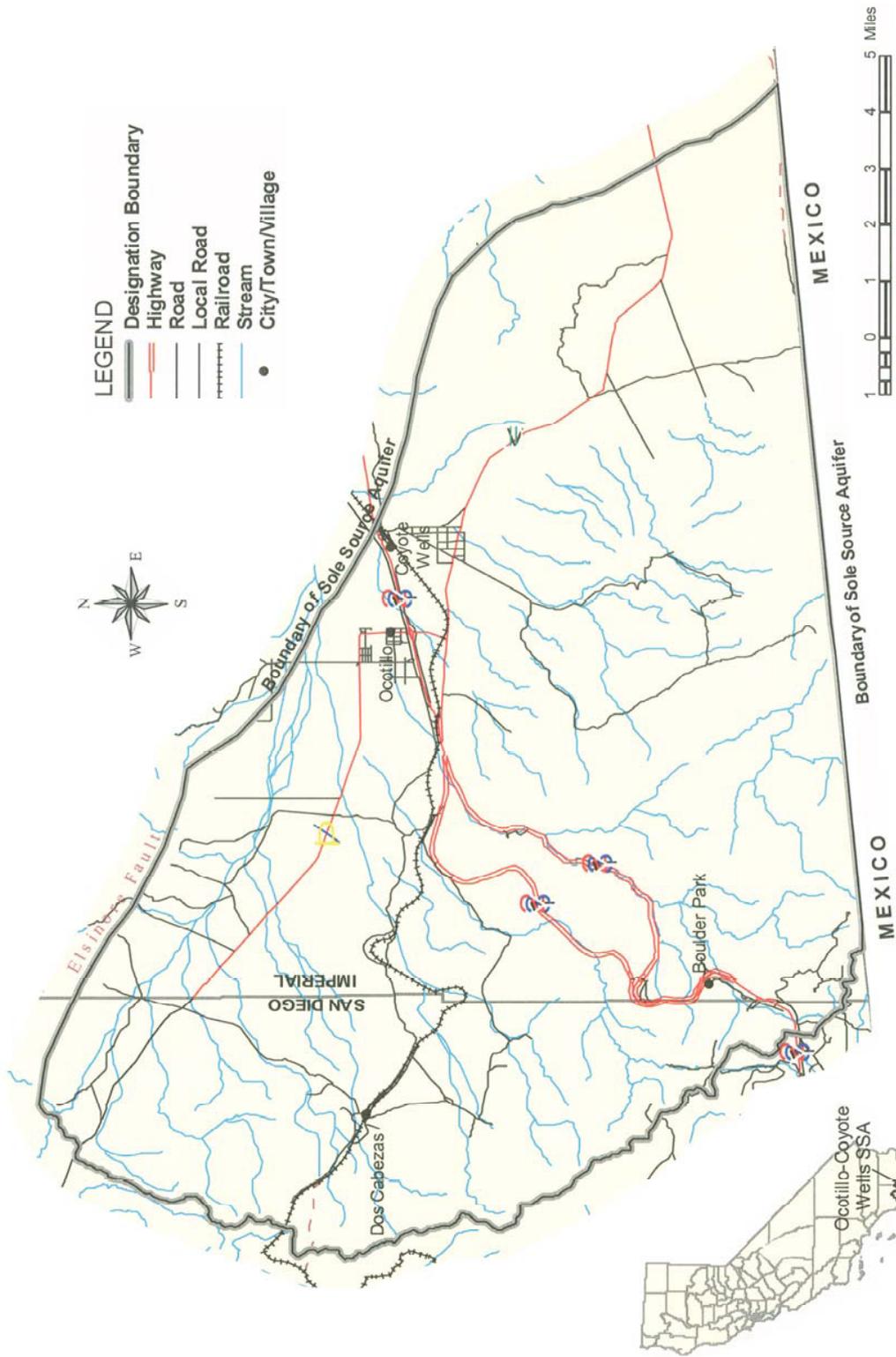
**CEQA**  
**COUNTY OF IMPERIAL**  
El Centro, California

**NEPA**  
**BUREAU OF LAND MANAGEMENT**  
El Centro Field Office

*With the Technical Assistance of:*

**RESOURCE DESIGN TECHNOLOGY, INC.**  
4509 Golden Foothill Parkway, Suite 2  
El Dorado Hills, California 95762

**APRIL 2006**



**Figure 3.3-1**  
**Groundwater Basin Location Map**  
**US GYPSUM EXPANSION/MODERNIZATION PROJECT**  
**IMPERIAL COUNTY, CALIFORNIA**

**IMPERIAL COUNTY, CALIFORNIA  
UNITED STATES GYPSUM COMPANY  
EXPANSION/MODERNIZATION PROJECT**

**VOLUME I OF II  
DRAFT  
ENVIRONMENTAL IMPACT REPORT  
ENVIRONMENTAL IMPACT STATEMENT**

*Lead Agencies:*

**CEQA**  
**COUNTY OF IMPERIAL**  
El Centro, California

**NEPA**  
**BUREAU OF LAND MANAGEMENT**  
El Centro Field Office

*With the Technical Assistance of:*

**RESOURCE DESIGN TECHNOLOGY, INC.**  
4509 Golden Foothill Parkway, Suite 2  
El Dorado Hills, California 95762

**APRIL 2006**



**TABLE S-1  
SUMMARY OF POTENTIAL IMPACTS AND MITIGATION MEASURES\***

Potential Impact	Proposed Action		No Action Alternative		Partial IID Water Supply Alternative		Full IID Water Supply Alternative		
	LOS Before Mit	LOS After Mit	LOS Before Mit	LOS After Mit	LOS Before Mit	LOS After Mit	LOS Before Mit	LOS After Mit	
<b>HYDROLOGY AND WATER QUALITY</b>									
<b>Plant Water Usage</b>									
Increased pumping of USG wells could reduce water levels, increasing the cost of pumping groundwater and, causing some wells to go dry.	S	<p>Mitigation Measure 3.3-1</p> <p>If the water level in a well in the Ocotillo area decreases at a rate faster than one foot every eight years and the average water levels in the surrounding wells also decrease for more than two years in a row due to the Proposed Action, as measured from the interpolated linear of one foot every eight years with a starting reference point being the date that pumping by USG increases above the baseline rate, and there is a documented reduction in the available water to the affected user, then USG, at its election will:</p> <ol style="list-style-type: none"> <li>1. Rehabilitate the well and/or install a new pump to restore the prior pumping rate; or</li> <li>2. Provide an incremental replacement of water equivalent to the amount of the reduced rate of pumping by the affected party, of a like quantity and quality, and provide reimbursement for the incremental increase for the affected party to pump the remaining available groundwater; or</li> <li>3. Provide a full replacement water supply to the affected party of a like kind and quality, at a cost that does</li> </ol>	LS	LS	None required.	LS	S	Same as Proposed Action (See Mitigation Measure 3.3-1)	LS
			LS	LS	Same as Proposed Action (See Mitigation Measure 3.3-1)	S	Same as Proposed Action (See Mitigation Measure 3.3-1)	LS	S

\* LOS = Level of Significance  
S = Significant or Potentially Significant  
LS = Less than Significant

**TABLE S-1  
SUMMARY OF POTENTIAL IMPACTS AND MITIGATION MEASURES\***

<i>Potential Impact</i>	<i>Proposed Action</i>		<i>No Action Alternative</i>		<i>Partial IID Water Supply Alternative</i>		<i>Full IID Water Supply Alternative</i>	
	<i>LOS Before Mit</i>	<i>Mitigation Measures</i>	<i>LOS After Mit</i>	<i>Mitigation Measures</i>	<i>LOS Before Mit</i>	<i>Mitigation Measures</i>	<i>LOS Before Mit</i>	<i>Mitigation Measures</i>
		<p>not exceed the cost to the affected party at the time the impact occurred; or</p> <p>4. Deepen the existing well or provide a new replacement well to the affected party, drilled to a depth that will not be affected by existing or future Project-related declines in the water table, and capable of providing an equivalent quantity and quality of water that existed prior to the impact, and provide reimbursement for incremental increase in cost for the affected party to pump the available water.</p> <p>The extent to which the Proposed Action will be considered as contributing to the decrease in water levels in the Ocotillo area will be determined only after a review of the water level data and a decision by the Imperial County Groundwater Management Committee (ICGMC).</p> <p>The baseline condition in the Basin includes a declining water table, and existing data suggests that water levels recover slowly after significant drawdown occurs. Therefore, if USG elects to provide replacement water or a replacement water supply, arrangements must be made to provide this mitigation until groundwater levels stabilize at a level equal to the projected baseline condition.</p>						

\* LOS = Level of Significance  
S = Significant or Potentially Significant  
LS = Less than Significant

**TABLE S-1  
SUMMARY OF POTENTIAL IMPACTS AND MITIGATION MEASURES\***

Potential Impact	Proposed Action		No Action Alternative		Partial IID Water Supply Alternative		Full IID Water Supply Alternative		
	LOS Before Mit	Mitigation Measures	LOS After Mit	Mitigation Measures	LOS Before Mit	Mitigation Measures	LOS Before Mit	Mitigation Measures	
<b>Impact 3.3-2: Water Depletion at Plant Affecting the Groundwater Basin</b>									
Increased pumping of USG wells could reduce water levels throughout broad areas of the Ocotillo/Coyote Wells Basin, reducing the total amount of water available in the basin.	S	None available.	S	None required.	LS	None required.	LS	None required.	
<b>Impact 3.3-3: Water Quality Degradation at Plant Affecting Individual Well Owners</b>									
Increased pumping from USG wells could degrade water quality in individual wells due to lateral migration of higher-TDS water located to the east of Coyote Wells, lateral migration of higher-TDS water from areas near outcrops of Tertiary marine sediments, or vertical migration of water from or near Tertiary marine sediments underlying the alluvial aquifer throughout most areas of the basin.	S	Mitigation Measure 3.3-2 USG will provide an alternative or replacement source of water if the water quality significantly deteriorates in any well in the Ocotillo area and such deterioration is caused by the Proposed Action. As discussed above, the secondary drinking water standard for TDS is 500 mg/L and water with a TDS level in excess of 1,000 mg/L is considered non-potable. Therefore, if the TDS level in any well exceeds 500 mg/L, or the concentration of any other measured parameter, as described in the Mitigation Monitoring Program below, exceeds its drinking-water standard that is in force at the time of the measurement, then USG will provide the affected party or parties with an alternative supply of water for drinking and cooking, at no cost to the affected party or parties. This alternative supply could be bottled water or a hookup to a replacement water source. If the TDS level in any well exceeds 1,000 mg/L and is caused by the Proposed Action, then the water quality will be such that use of the	LS	None required.	LS	None required.	LS	None required.	LS

\* LOS = Level of Significance  
S = Significant or Potentially Significant  
LS = Less than Significant

**TABLE S-1  
SUMMARY OF POTENTIAL IMPACTS AND MITIGATION MEASURES\***

<i>Potential Impact</i>	<i>Proposed Action</i>		<i>No Action Alternative</i>		<i>Partial IID Water Supply Alternative</i>		<i>Full IID Water Supply Alternative</i>		
	<i>LOS Before Mit</i>	<i>Mitigation Measures</i>	<i>LOS Before Mit</i>	<i>Mitigation Measures</i>	<i>LOS Before Mit</i>	<i>Mitigation Measures</i>	<i>LOS Before Mit</i>	<i>Mitigation Measures</i>	
		<p>water for any domestic purpose will be significantly affected due to scale buildup, damage to plumbing, corrosion, and other similar impacts. If the TDS level exceeds 1,000 mg/L and is caused by the Proposed Action, USG will provide the affected party or parties with a hookup to a replacement supply of water. This replacement supply may be a hookup to an existing municipal district or other appropriate drinking water supply system. USG will bear the full cost of the hookup. The affected party or parties, however, would only be responsible for the annual cost of the replacement water equivalent to their costs to pump water prior to the occurrence of the impact. If the annual cost of water for the replacement supply exceeds the affected party or parties costs to pump water prior to the occurrence of the impact, USG will pay the incremental difference.</p> <p>The extent to which the Proposed Action will be considered as contributing to the decrease in water quality in the Ocotillo area, will be determined only after a review of the water quality data and a decision by the Imperial County Groundwater Management Committee (ICGMC).</p> <p>The existing data from Ocotillo and Yuha Estates indicates that, once the</p>							

\* LOS = Level of Significance  
S = Significant or Potentially Significant  
LS = Less than Significant



**TABLE S-1  
SUMMARY OF POTENTIAL IMPACTS AND MITIGATION MEASURES\***

<i>Potential Impact</i>	<i>Proposed Action</i>		<i>No Action Alternative</i>		<i>Partial IID Water Supply Alternative</i>		<i>Full IID Water Supply Alternative</i>	
	<i>LOS Before Mit</i>	<i>LOS After Mit</i>	<i>LOS Before Mit</i>	<i>LOS After Mit</i>	<i>LOS Before Mit</i>	<i>LOS After Mit</i>	<i>LOS Before Mit</i>	<i>LOS After Mit</i>
		<p><i>Mitigation Measures</i></p> <p>larger number of wells, and these wells are located over a broader area of the basin and not just in the area of the USG pumping wells, it would not be possible to restore the Basin-wide water quality once it is degraded to concentrations at which the groundwater is no longer suitable for its current uses. There is insufficient recharge to restore the Basin and dilute the salts in the saline water. Therefore, it is not possible to mitigate the Basin-wide degradation of water quality. If such trends are detected by the Groundwater Monitoring Program, the only way to halt or reverse these trends would be to curtail pumping by reducing production at the Plant, or by implementing one or more Alternatives that reduce or eliminate withdrawals from the basin, prior to the groundwater quality being degraded to the point where it was no longer suitable for its current uses.</p>						
<b>Quarry Water Usage</b>								
<b>Impact 3.3-5: Water Depletion at Quarry</b>								
The increased pumping rate in the Quarry vicinity from 7.8 AF/yr to 26 AF/yr could reduce water levels in other areas of the Basin, increasing the cost to pump groundwater, reducing the amount of available water in the Basin, or decreasing flow at springs that support Desert Pupfish habitat.	LS	None required.	LS	None required.	LS	None required.	LS	None required.

\* LOS = Level of Significance  
S = Significant or Potentially Significant  
LS = Less than Significant

**TABLE S-1  
SUMMARY OF POTENTIAL IMPACTS AND MITIGATION MEASURES\***

Potential Impact	Proposed Action		No Action Alternative		Partial IID Water Supply Alternative		Full IID Water Supply Alternative	
	LOS Before Mit	Mitigation Measures	LOS After Mit	Mitigation Measures	LOS Before Mit	Mitigation Measures	LOS Before Mit	Mitigation Measures
<b>Impact 3.3-6: Water Quality Degradation at Quarry</b>								
The increased pumping rate in the Quarry vicinity from 7.8 AF/yr to 26 AF/yr could degrade water quality due to vertical migration of saline water from the shallow aquifer.	LS	None required.	LS	None required.	LS	None required.	LS	None required.
<b>Impact 3.3-7: Surface Water Flow at Quarry</b>								
Under normal flow conditions, there could be a negative impact on, or disruption of, existing flows of surface water at the Quarry site, as a result of expanded mining.	S	Mitigation Measure 3.3-7 An earthen berm will be constructed along the west side of the Quarry in order to preserve the natural drainage pathway. The berm would work as a natural earth channel, to preserve existing flow characteristics in the drainage area and protect the Quarry from flood waters by diverting water away from the Quarry and towards the Fish Creek Wash. This channel requires a minimum 50-foot bottom width for the floodway and 2:1 channel side slopes. The graded channel only requires an earthen berm of approximately 5 feet high, assuming 2 feet of freeboard. The berm would be 5 feet high by 20 feet wide, and would provide an adequate solution to contain and divert run-off.	LS	None required.	LS	Same as Proposed Action (See Mitigation Measure 3.3-3)	S	Same as Proposed Action (See Mitigation Measure 3.3-3)
<b>Impact 3.3-8: Cumulative Reduced Water Levels</b>								
Increased pumping of USG wells and the additional commercial pumping from the Westwind well could reduce water levels, increasing the cost of pumping	S	Same as Mitigation Measure 3.3-1. The Monitoring Program for this Mitigation Measure is the same as for Mitigation Measure 3.3-1, as described in Section 3.3.3.	LS/S <sup>1</sup>	--	--	--	--	--

<sup>1</sup> Less than Significant as to individual wells; Significant as to Basin-wide impacts.

\* LOS = Level of Significance  
S = Significant or Potentially Significant  
LS = Less than Significant

**TABLE S-1  
SUMMARY OF POTENTIAL IMPACTS AND MITIGATION MEASURES\***

	Proposed Action		No Action Alternative		Partial IID Water Supply Alternative		Full IID Water Supply Alternative	
	LOS Before Mit	Mitigation Measures	LOS After Mit	Mitigation Measures	LOS Before Mit	Mitigation Measures	LOS Before Mit	Mitigation Measures
Potential Impact								
groundwater, causing some wells to go dry, and reducing the amount of available water in the Groundwater Basin.								
<b>Impact 3.3-9: Cumulative Water Quality Degradation</b>								
Increased pumping of USG wells and the additional commercial pumping from the Westwind well could degrade water quality due to lateral migration of higher-TDS water located to the east of Coyote Wells, lateral migration of higher-TDS water from areas near outcrops of Tertiary marine sediments, or near Tertiary marine sediments underlying the alluvial aquifer throughout most areas of the Groundwater Basin.	S	Same as Mitigation Measure 3.3-2. The Monitoring Program for this Mitigation Measure is the same as for Mitigation Measure 3.3-2, as described in Section 3.3.3.	LS/S <sup>1</sup>					
<b>VEGETATION</b>								
<b>Impact 3.4-1: Loss of Vegetation at Quarry</b>								
Increased activities at the Quarry may contribute to cumulative loss of additional desert shrublands throughout the region.	LS	None required.	LS	None required.	LS	None required.	LS	None required.
<b>Impact 3.4-2: Loss of Vegetation at Well Site and Pipeline</b>								
Disturbance at the proposed Quarry well site and the pipeline alignment may have a negative impact on threatened or endangered plant species in the area.	LS	None required.	LS	None required.	LS	None required.	LS	None required.

\* LOS = Level of Significance  
S = Significant or Potentially Significant  
LS = Less than Significant

**IMPERIAL COUNTY, CALIFORNIA  
UNITED STATES GYPSUM COMPANY  
EXPANSION/MODERNIZATION PROJECT**

**VOLUME I OF II  
DRAFT  
ENVIRONMENTAL IMPACT REPORT  
ENVIRONMENTAL IMPACT STATEMENT**

*Lead Agencies:*

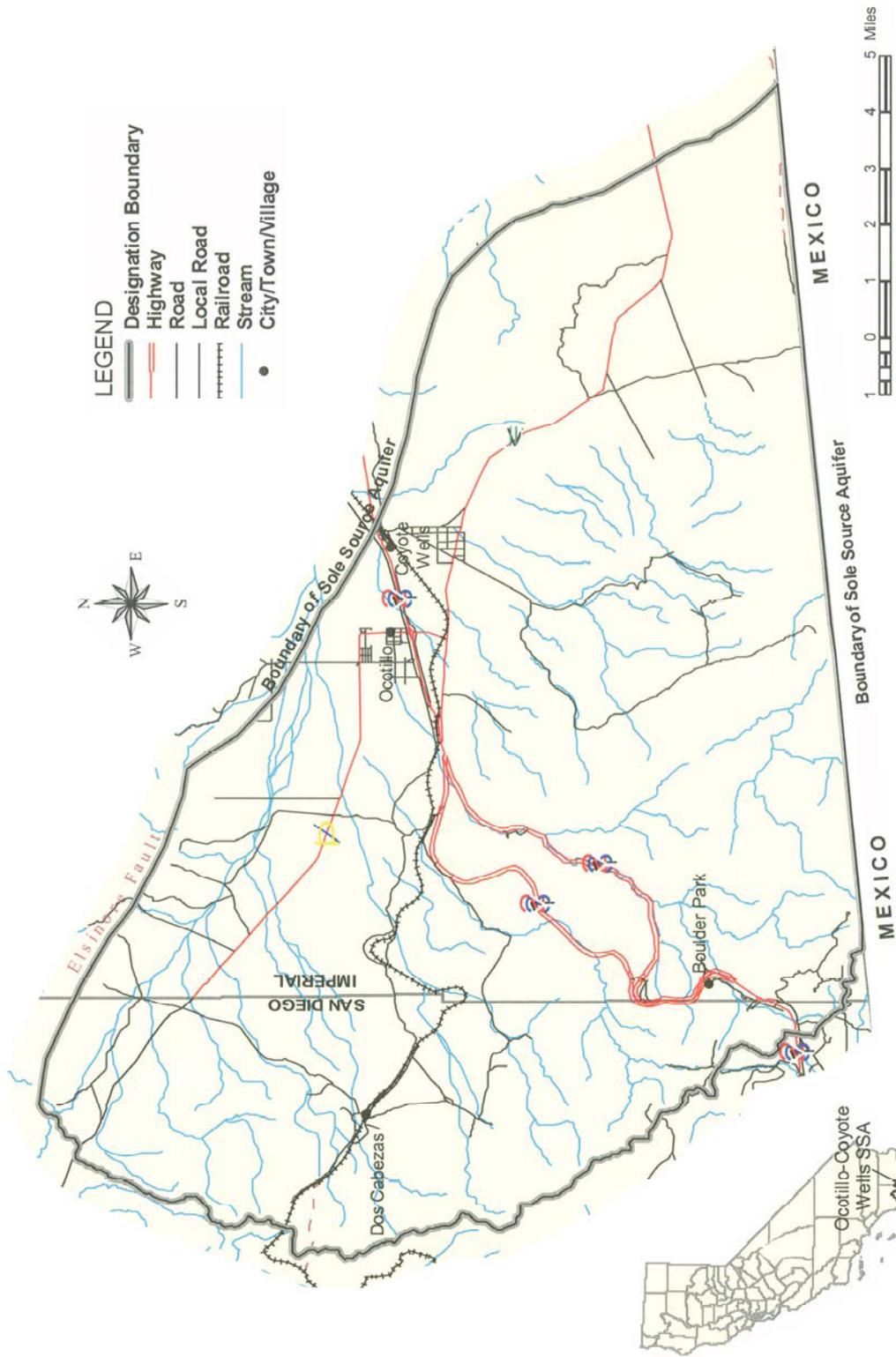
**CEQA**  
**COUNTY OF IMPERIAL**  
El Centro, California

**NEPA**  
**BUREAU OF LAND MANAGEMENT**  
El Centro Field Office

*With the Technical Assistance of:*

**RESOURCE DESIGN TECHNOLOGY, INC.**  
4509 Golden Foothill Parkway, Suite 2  
El Dorado Hills, California 95762

**APRIL 2006**



**Figure 3.3-1**  
**Groundwater Basin Location Map**  
 US GYPSUM EXPANSION/MODERNIZATION PROJECT  
 IMPERIAL COUNTY, CALIFORNIA

**IMPERIAL COUNTY, CALIFORNIA  
UNITED STATES GYPSUM COMPANY  
EXPANSION/MODERNIZATION PROJECT**

**VOLUME I OF II  
DRAFT  
ENVIRONMENTAL IMPACT REPORT  
ENVIRONMENTAL IMPACT STATEMENT**

*Lead Agencies:*

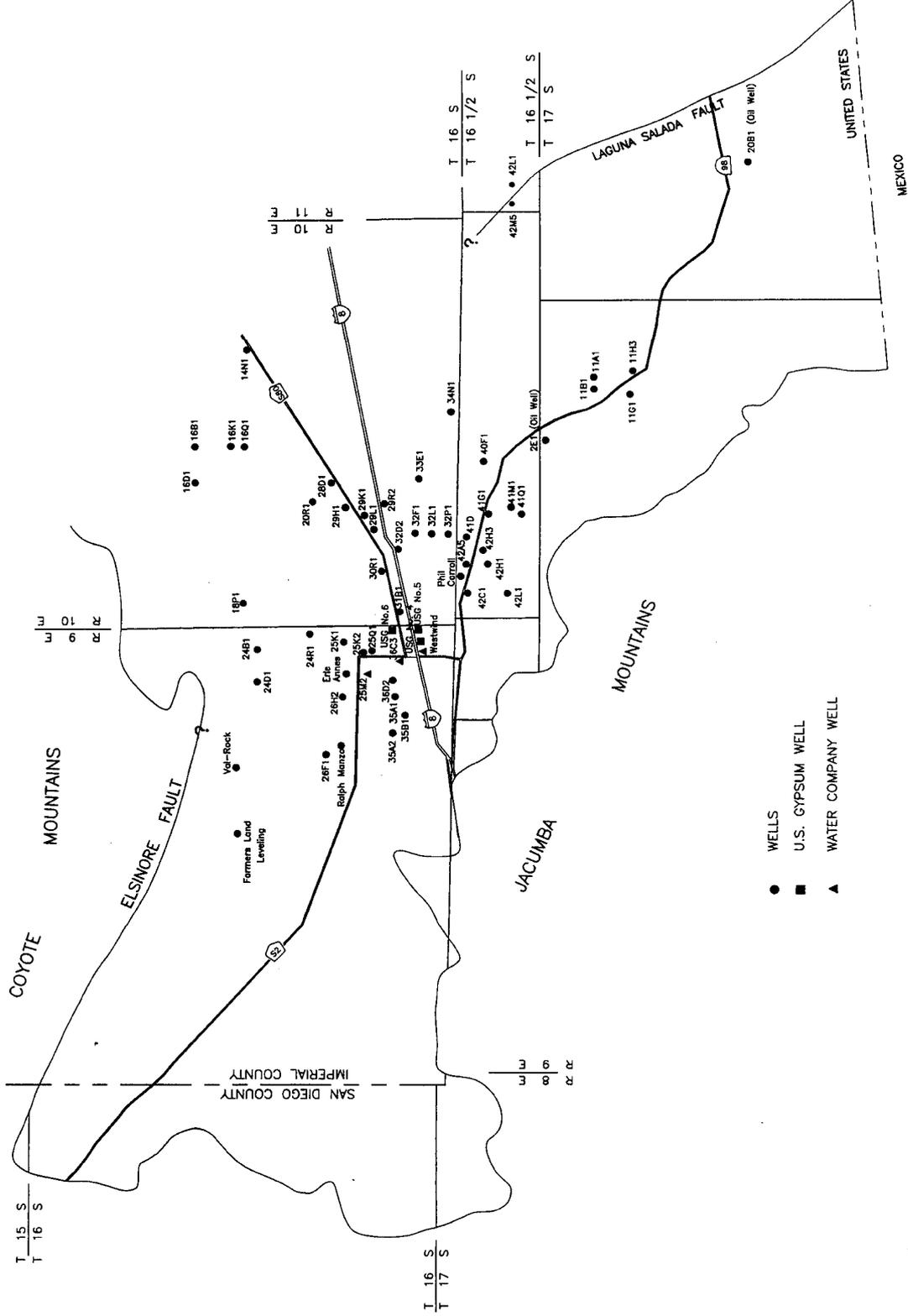
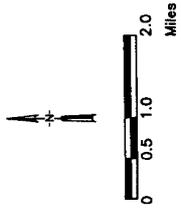
**CEQA**  
**COUNTY OF IMPERIAL**  
El Centro, California

**NEPA**  
**BUREAU OF LAND MANAGEMENT**  
El Centro Field Office

*With the Technical Assistance of:*

**RESOURCE DESIGN TECHNOLOGY, INC.**  
4509 Golden Foothill Parkway, Suite 2  
El Dorado Hills, California 95762

**APRIL 2006**



**Figure 3.3-4**  
**Location of Wells**  
**US GYPSUM EXPANSION/MODERNIZATION PROJECT**  
**IMPERIAL COUNTY, CALIFORNIA**

COUNTY OF IMPERIAL  
COYOTE WELLS SPECIFIC PLAN  
FINAL ENVIRONMENTAL IMPACT REPORT

---

SCH No. 2009011063

*Prepared for:*

COUNTY OF IMPERIAL  
801 MAIN STREET  
EL CENTRO, CA 92243

*Prepared by:*



6020 CORNERSTONE COURT WEST, SUITE 350  
SAN DIEGO, CA 92121

**JULY 2010**

### 3.0 COMMENTS AND RESPONSES TO COMMENTS ON THE DRAFT EIR

---

**Response 12-75:** The commenter states that DEIR Sec. 4.14 Utilities Impact 4.14.1.1 identifies a significant impact and suggests that the pumping rate from wells would be limited to 50 gpd and that "extraction of water from the groundwater basin would be limited to 65-acre feet per year or less or to an amount that would not degrade water quality to less than drinking water standards." As proposed the Specific Plan anticipated a high consumption rate of 87.8 acre-feet per year, however after the DEIR and accompanying technical studies analyzed the specific plan, it was determined the proposed project shall be limited to 65 acre-feet per year. The purpose of the DEIR is to review the proposed project and provide mitigation on the project as proposed. As stated on page 4.14-8 "Ultimate development of the proposed project is estimated to be at 87.8 (high) to 28.2 (low) acre-feet per year. However, the allowable water consumption for the project site will be limited to 65-acre feet per year." Also, as a condition of approval for the proposed project is that the project is limited to 65-acre feet per year or less at ultimate buildout after the six year groundwater monitoring program has been complete.

**Response 12-76:** The commenter claims there is a difference in pumping quantities in the same paragraph. The commenter is referred to Response 12-75 above.

**Response 12-77:** The commenter asks why the differences in numerical information in the Project Description related to groundwater use in each Phase. The commenter is referred to Response 12-75 above.

**Response 12-78:** The commenter asks the above projected water use in a manner consistent with the assurances that: "No water infrastructure would be constructed off-site or extended beyond the project's boundary." The commenter is referred to Response 12-68 above.

**Response 12-79:** The commenter states that the DEIR and Specific Plan are inconsistent. The DEIR page 3.0-21, last paragraph is revised as follows:

"Bunk House

The bunk house/cafeteria would be a maximum of 7,000 square feet and would accommodate groups of up to 60 persons. The bunkhouse is intended to be developed for ~~three to four~~ two persons per room with common restrooms, showers, and a cafeteria."

**Response 12-80:** The commenter states that the " track control tower" is listed for Phase I as a 3 story, 12,000 sq ft structure at DEIR 3.0-4 5; however, Table 3.0-4 Proposed structures identifies the "Track Control Tower Building" as being 12,000 sq ft in size and 80 ft in height (DEIR 3.0-25). An 80 ft tall structure would more likely be thought of as an eight (8) story building rather than a three story building. The project will be limited to a three-story building, as a condition of approval. The comment is noted, this is a policy matter that will be considered by the County as part of the General Plan amendment and adoption of the EIR. The comment will become part of the record presented to the Imperial County Board of Supervisors for consideration. No further response is required.

### 3.0 COMMENTS AND RESPONSES TO COMMENTS ON THE DRAFT EIR

---

Measure (MM 4.7.7g). Additionally, in order to ensure the following language is added to DEIR page 4.4-26, Mitigation Measure MM 4.7.7d and M 4.7.7g, to ensure the project will not cause overdraft in the basin:

**MM 4.7.7d** Prior to the recordation of the final map for Phase I, the proposed project shall install the means of assessing the potential impact of groundwater production at the subject site. The installation of three monitoring wells per production well will be implemented to assess the potential of hydraulic influences outside of the immediate area of production. These monitoring wells shall be situated at standard radial distances (50 feet, 100 feet, and 500 feet) from the proposed production well. If more than one production well is to be operated on the proposed project site an additional monitoring well shall be located at the midpoint between the two production wells.

*Timing/Implementation: As part of groundwater monitoring program and design analyses/Prior to approval of improvement plans for the project and prior to the recordation of the final map for Phase II.*

*Enforcement/Monitoring: Imperial County Department of Planning and Development Services*

**MM 4.7.7g** The proposed project shall enter into a six-year groundwater management plan/agreement with the Imperial County Planning and Development Department to ascertain the potential impact the production of groundwater for the proposed project is having on the described overdrafted basin.

The groundwater management plan/agreement shall focus on site specific impacts and though the use of the data collected onsite will establish the specific area of hydraulic influence, potential for degradation of water quality in the immediate vicinity, and potential mitigation influences.

If it is determined by the third party consultant (not having prior experience or financial interests in the determination of any findings regarding the groundwater resources in the basin)that Phase I and Phase II water consumption (29.2 -acre feet per year) have caused further overdraft in the basin, the project will not be permitted to develop Phase III without securing alternative water supply sources. Phase III (project buildout) will be limited to a total of 65 acre-feet per year. If it is determined the alternative water supply sources are necessary, these alternative water supply sources will be subject to a separate environmental analysis.

*Timing/Implementation: As part of groundwater monitoring program and design analyses/Prior to approval of improvement plans for the project*

## 4.0 ERRATA

---

Page 3.0-21, last paragraph is revised as follows:

“Bunk House

The bunk house/cafeteria would be a maximum of 7,000 square feet and would accommodate groups of up to 60 persons. The bunkhouse is intended to be developed for ~~three to four~~ two persons per room with common restrooms, showers, and a cafeteria.”

Page 3.0-23 of the DEIR the third full paragraph the following text is added:

“...There are no power lines located at the end of the Airstrip. The airstrip extension is proposed to be developed during Phase III to provide time to find an alternate access for the three (3) legal parcels north of the Preston Airstrip and to apply for abandonment of Molitar Road north of Tamarack. The Burn Tower and the Airstrip will be constructed in Phase III. The airstrip will only be constructed upon reaching agreement with property owner for the extension and improvement of the Preston Airstrip.”

Page 3.0-27, the following modifications are made to the fifth bullet:

- ~~“Solar or wind~~ generation facilities to serve uses within Coyote Wells Specific Plan Area...”

Page 3.0-36, the following text is added to the last paragraph:

“Development of the Coyote Wells Specific Plan Area would increase water withdrawal from the Ocotillo-Coyote Wells ~~Valley Groundwater Basin~~ Sole Source Aquifer for uses such as bathing facilities, ~~clothes washing~~ and food preparation. Table 3.0-7 below provides water usage estimates by phase. With ultimate buildout of the Coyote Wells Specific Plan Area, water consumption is estimated to be between 87.8 (high) and 28.3 (low) acre-feet per year, the project will limit the maximum use of the project for a total in Phase III to 65 acre-feet per year.”

Page 3.0-37, the following text is added below Table 3.0-7:

*“The project at buildout, will be limited to ~~demand an~~ 67 65 annual acre-feet of groundwater.”*

*“Source: Coyote Wells Specific Plan, 2009”*

Page 3.0-38, the following tectual revisions are made to the first paragraph, second sentence:

“... ~~Graywater~~ liquid waste from septic tank discharges will flow to a central collection system which discharges to the onsite wastewater treatment plant...”.

Page 3.0-40, the following text is added to the last paragraph:

“The proposed project would provide for on-site fire protection as outlined in the Fire Protection Plan of the Specific Plan (see **Figure 3.0-9**). To address firefighting needs, one or two 200,000-gallon above-ground steel storage tanks and pumping

stations would be installed. The steel tanks would be approximately thirty-four (34) to 46 feet in diameter and 16 feet high. "

Page 3.0-45, the following text is modified:

"It is anticipated that the project would be fully implemented within a nine-year time horizon and in three distinct phases. Phase I is anticipated to begin construction in spring to summer 2010 with completion in winter 2010-early 2011."

- Control Tower Building (three stories, 12,000 square feet)
- Fueling Station for 10,000-gallon high octane fuel
- First Circuit of Paved Road Track
- Pit Area
- Phase I of wastewater treatment and reclamation plant
- One- and Two-Car Garages for Motorsports Facility Users (total of 58 spaces)
- One Parking Lot for Wind Zero Training Facility Users
- Guardhouse at Primary Entrance
- Emergency Vehicle Operations Center (EVOC)
- Paved Handling Area
- Classrooms (two 1,200 square foot prefabricated modular units)
- Indoor Gun Ranges (10,000 total square feet)
- ~~Four~~ Seven Semi-Enclosed Ranges (three @ 50 meters, three @ 100 meters and one @ 300 meters)
- Pole Sign
- Overhead power line and main service (Cholla Street)

Page 3.0-46, the following text revisions are made at the seventh bullet:

"Potable Water: Two new water wells with 200,000 gallon steel storage tanks and two 1,500 gallon per minute fire pumps would serve ~~Phase I development~~ of the Motorsports Facility and the Law Enforcement Training Facility. Groundwater usage would be limited to ~~9,000~~ 3,660 gallons per day (~~104.1~~ acre-feet per year) in Phase I. Total water consumption in Phase II would be limited to 29.2 acre-feet per year). One water well will be developed for Phase I/II. The well will have a 50 GPM pump on it. The second water well will not be developed until Phase III. Total water consumption in Phase III would be limited to 65 acre-feet per year"

Page 3.0-56, fourth bullet is modified as follows:

- Amendment to the ~~Zoning~~ Land Use Ordinance (ZC 08-0003)"

Page 3.0-56, ninth bullet is added as follows:

"Approval of Developer Agreement pursuant to Imperial County Land Use Ordinance, Title 9, Division 23."

## 4.0 ERRATA

---

**MM 4.7.7c** All retention/detention basins constructed on the proposed project site will be constructed with water-level staff gages and county approved measuring devices to allow for the routine recordation of stage data during runoff events.

*Timing/Implementation:* As part of hydraulic and hydrology design analyses/Prior to approval of improvement plans for the project

*Enforcement/Monitoring:* The Imperial County Department of Public Works and Colorado River Basin Regional Water Quality Control Board"

The following language is added to DEIR page 4.4-26, Mitigation Measure MM 4.7.7d and M MM 4.7.7g.:

**"MM 4.7.7d** Prior to the recordation of the final map for Phase I, the proposed project shall install the means of assessing the potential impact of groundwater production at the subject site. The installation of three monitoring wells per production well will be implemented to assess the potential of hydraulic influences outside of the immediate area of production. These monitoring wells shall be situated at standard radial distances (50 feet, 100 feet, and 500 feet) from the proposed production well. If more than one production well is to be operated on the proposed project site an additional monitoring well shall be located at the midpoint between the two production wells.

*Timing/Implementation:* As part of groundwater monitoring program and design analyses/Prior to approval of improvement plans for the project and prior to the recordation of the final map for Phase II.

*Enforcement/Monitoring:* Imperial County Department of Planning and Development Services

**MM 4.7.7g** The proposed project shall enter into a six-year groundwater management plan/agreement with the Imperial County Planning and Development Department to ascertain the potential impact the production of groundwater for the proposed project is having on the described overdrafted basin.

The groundwater management plan/agreement shall focus on site specific impacts and though the use of the data collected onsite will establish the specific area of hydraulic influence, potential for degradation of water quality in the immediate vicinity, and potential mitigation influences.

If it is determined by the third party consultant (not having prior experience or financial interests in the determination of any findings regarding the groundwater resources in the basin) that Phase I and Phase II water consumption (29.2-acre feet per year) have caused further overdraft in the basin, the project will not be permitted to develop Phase

III without securing alternative water supply sources. Phase III (project buildout) will be limited to a total of 65 acre-feet per year. If it is determined the alternative water supply sources are necessary, these alternative water supply sources will be subject to a separate environmental analysis.

*Timing/Implementation: As part of groundwater monitoring program and design analyses/Prior to approval of improvement plans for the project*

*Enforcement/Monitoring: Imperial County Department of Planning and Development Services"*

**5.0 FINAL MITIGATION MONITORING AND REPORTING PROGRAM**

Proposed Mitigation	Summary of Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
MM 4.7.7f	<p>on the minute. The production of a monthly groundwater conditions report shall be provided to the Imperial County Planning and Development Department Director to provide a means of assessing the potential of the additional demand exacerbating the rate of groundwater level decline described in earlier reports.</p> <p>The proposed project shall implement a groundwater sampling program inclusive of the collection of water quality data from the production well and outlying monitoring well(s). The production of a quarterly groundwater quality report with collected physical water quality parameters (e.g. specific conductance, pH, and temperature) will be provided to the Imperial County Planning Department and Development Director to provide a means of assessing the potential of the additional demand on the groundwater resources potentially resulting in water quality degradation due to saline water encroachment.</p>	Imperial County Department of Planning and Development Services	plans for the project.	
MM 4.7.7g	<p>The proposed project shall enter into a six-year groundwater management plan/agreement with the Imperial County Planning and Development Department to ascertain the potential impact the production of groundwater for the proposed project is having on the described overdrafted basin.</p> <p>The groundwater management plan/agreement shall focus on site specific impacts and though the use of the data collected onsite will establish the specific area of hydraulic influence, potential for degradation of water quality in the immediate vicinity, and potential mitigation influences.</p> <p>If it is determined by the third party consultant (not having prior experience or financial interests in the determination of any findings regarding the groundwater resources in the basin) that Phase I and Phase II water consumption (33.3-acre feet per year) have caused further overdraft in the basin, the project will not be permitted to develop Phase III without securing alternative water supply sources. Phase III (project</p>	Imperial County Department of Planning and Development Services	As part of groundwater monitoring program and design analyses/Prior to approval of improvement plans for the project.	

**5.0 FINAL MITIGATION MONITORING AND REPORTING PROGRAM**

Proposed Mitigation	Summary of Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
MM 4.7.7h	<p>buildout) will be limited to a total of 65 acre-feet per year. If it is determined the alternative water supply sources are necessary, these alternative water supply sources will be subject to a separate environmental analysis.</p> <p>All production and monitoring wells constructed at the site shall be constructed in accordance with Division 21 of Title 9, the State Well Standards and by a licensed (C-57) well contractor. All wells shall allow for the routine physical measurement of water-levels. All production wells shall be constructed with a county approved calibrated flow meter capable of reporting instantaneous discharge and total water production at the time of recordation. All monitoring wells shall allow for the routine collection of water quality samples for analytical laboratory analysis.</p>	<p>Imperial County Department of Planning and Development Services; Colorado Regional Water Quality Control Board</p>	<p>As part of groundwater monitoring program and design analyses/Prior to approval of improvement plans for the project.</p>	
MM 4.8.2a	<p>The project applicant shall prepare a Construction Notification Plan. Forty-five days prior to construction, the project applicant shall prepare and submit a Construction Notification Plan to the County of Imperial for approval. The plan shall identify the procedures the applicant will use to inform property owners of the location and duration of construction, identify approvals that are needed prior to posting or publication of construction notices, and include text of proposed public notices and advertisements.</p>	<p>Imperial County Department of Planning and Development Services</p>	<p>45 days prior to construction</p>	
MM 4.8.2b	<p>A public notice mailer shall be prepared and mailed no less than 15 days prior to construction. The notice shall identify construction activities that would restrict, block, remove parking, or require a detour to access existing residential properties. The notice shall state the type of construction activities that will be conducted and the location and duration of construction. The applicant shall mail the notice to all residents or property owners within 1,000 feet of the project site and to any property owners or tenants that could be impacted by construction activities. If construction delays of more than seven days occur. Additional noticing shall be</p>	<p>Imperial of County Department of Planning and Development Services</p>	<p>45 days prior to construction</p>	

# RE-NOTICE OF PUBLIC HEARING & SCHEDULED HEARING DATE(S)

## ATTENTION PROPERTY OWNER:

***You are receiving this notice because you MAY have property within one (1/2) mile of the proposed project.***

This notice is to advise you, (the recipient of this notice), that the **PROJECT** identified below, or attached hereto is currently being reviewed and processed by the County and will be heard by one or several of the below identified public hearing bodies. As an interested person or agency, you have the opportunity to comment on this project by visiting the Department to review the file, or by calling the Department for further information, or by submitting written documentation to the Department or by appearing at the public hearing.

**THIS IS THE ONLY NOTICE YOU WILL RECEIVE ON THIS PROJECT, SO PLEASE NOTE THE DATE (S).**  
(This Notice was mailed July 12, 2010)

<b>Planning Commission</b>	<b>(P.C.)</b>	<b>[9:00 am]</b>	<b>08/11/2010</b>
<b>Board of Supervisors</b>	<b>(BOS)</b>	<b>[1:30 pm]</b>	<b>09/14/2010</b>

## **LOCATION of all HEARINGS (unless noted otherwise):**

**County Administration Center**  
**(Board Room), 940 Main Street, El Centro, CA**

**PROJECT LOCATION:** (see attached or reverse side for map(s))

**Assessor's Parcel Number 033-620-033-000**

The proposed project site is located in an unincorporated portion of Imperial County within the westerly portion of Ocotillo/Normirage Community Area, west of El Centro, and east of the Community of Ocotillo. The proposed project site consists of approximately 943.75 acres and encompasses a portion of the westerly Ocotillo/Normirage Community Area. The proposed site is south of Interstate 8 and the San Diego and Arizona Railroad, largely north of SR 98, east of Palo Verde and Molitar Road and west of the Bureau of Land Management Yuha Basin Area.

**PROJECT DESCRIPTION:** (see attached or reverse side for more information)

**Coyote Wells / Wind Zero**  
**General Plan Amendment #08-0003 / Specific Plan #08-0001, Zone Change #08-0003 /**  
**Tract Map #00985, Conditional Use Permits and Environmental Impact Report**

The proposed project would be comprised of two main components, the open space/recreational area and the open space/preservation area. A law enforcement training facility would encompass 220 acres and a motorsports facility will cover approximately 380 acres. The facility will operate year around.

**STAFF CONTACT:** \_\_\_\_\_ **DAVID BLACK, PLANNER IV**

**PHONE:** 482-4236, ext. 4239

**NOTE:** *This is the only notice you will receive unless there is a change in the schedule. If you have questions on the project or wish to review the project file, please contact the Department for an appointment. (482-4236)* S:\APN FILES\033\620\033\PUBNOTE TO SURROUNDING LAND OWNERS FOR 08/11 2010 PC HEARING.DOC

**Table 6 Hypothetical Water Budgets for Build-out of Ocotillo-Nomirage Community Area**  
 consistent with the acreages, land use designations , density and water use permitted by the  
 Ocotillo-Nomirage Community Area Plan adopted by the Board of Supervisors 4/26/96  
 as part of the Land Use Element of the Imperial County General Plan.

ONCAP “Objective 5.10 Impose a limit of 1.5 acre feet of water per dwelling unit in the Ocotillo/ Nomirage Community Area.”

ONCAP area acres and or # lots at build-out projected by ONCAP 1994	Water use acre feet/year (AF/Y) at build-out per ONCAP 1994	
	1.5 AF/unit or lot/Y at 1DU/lot	1.5 AF/unit or lot/Y at 2DU/lot **
Ocotillo 575 Ac, (0.5 AC min lot size)	450	900 (a)
Unit 1 80 lots		
Unit 2 125 lots		
Unit 3 92 lots		
Ocotillo RV 12 spaces		
Ocotillo motel/RV 16 spaces		
R4T 60 Acres		(b)
NoMirage 96 lots	144	288
Yuha Estates 16 lots	16	48
Davies Valley 36 lots	54	108
385 Ac (5 Ac min) 77 lots	115	230
154 Ac (5 Ac min) 30 lots	45	90 (c)
S-2 jct. S-98 4 lots	6	12
12,386 Ac (40 Ac min.) 309 lots (1 <sup>st</sup> draft ONCAP)		
12,225 Ac (40 Ac min.) 305 lots (4/26/94 BOS approved ONCAP)	457	914 (c)
Commercial/industrial	50	50 (d)
Inkopah 123 Ac		
S of Ocotillo industrial 6 Ac	10	10 (e)
S-2 near Hwy 98 7.6 Ac		
Sand and Gravel Companies (2 wells)	14	25 (f)
<b>TOTAL AF/Y without US Gypsum export</b>	<b>1361</b>	<b>2675</b>
US Gypsum 1998 pumpage proposed (used 333 AF in '98, BE04 Table 4-2)	767	767 (g)
<b>TOTAL AF/Y with US Gypsum export</b>	<b>2128</b>	<b>3442</b>

NOTES:

- \*\* “A second dwelling may be allowed upon approval of a conditional use permit.” Desert Residential (ONCAP p. 14) and Low Density Residential (ONCAP p. 15)  
“A second dwelling may be allowed upon approval of a conditional use permit if the lot meets size requirements for septic systems.” (Residential (ONCAP p. 15)
- a. The number of units is an estimate for the entire 575 acres. Many lots in units 1, 2, and 3 are located within the FEMA floodway, where new construction is very uncertain. Water usage includes estimate for RV parks and commercial usage. 366 dwellings in 1990 within ONCAP.
  - b. Number of RV spaces and water usage is uncertain, included within the figure for Ocotillo. ONCAP 4/26/94 approval allows for an unspecified number of additional RV spaces. Supervisor Shores wanted to see 150 RV spaces approved, more spaces means more water used.
  - c. 154 Ac of desert residential (40 ac lot) in first draft was changed to low density residential (5 Ac min lot size) by BOS on 4/26/94 at request of owners.
  - d. ONCAP provides no limitation on water usage for industrial usage because US Gypsum export is the largest industrial use of groundwater.
  - e. 7.6 Ac of desert residential was changed to commercial by BOS 4/26/94 at request of Twyman’s attorney.
  - f. Pumpage is for two gravel companies in 1994, future estimates are uncertain.
  - g. Earlier reports estimated US Gypsum pumpage at 600 AF/Y, ONCAP states USG reported 379 AF/Y in 1992. 4/06 USG DEIR at p. 2.0-17 states 1998 USG water usage at approximately 400 AF/Y. USG DEIR Vol II Appendix B-2 the Bookman-Edmonston 2004 (BE04) groundwater study done for US Gypsum states that water well production by USG in 1998 was 333 AF/Y. (4/06 USG DEIR vol. II Appendix B-2, BE04 Table 4-2 p. 4-3.) Why doesn’t USG DEIR vol. I use same facts as consultant USG hires?



**Magnitude**

8  
7  
6  
5  
4  
3  
2  
1  
0

**Age**

● Past hour  
● Past day  
● Past week

**Plates**

— Boundaries  
⇒ Convergence

© 2010 Google

Image © 2010 DigitalGlobe  
© 2010 INEGI



© 2009 Google

**A FEIR/EIS cannot correctly locate USG project water wells .**

1. FEIR/EIS fails as an informational document, in part, because it cannot correctly locate USG project water wells even though a substantial portion of the documents relate to groundwater issues in two separate groundwater basins. For these and other reasons cited in these comments, the FEIR/EIS should not be certified as being properly prepared consistent with the requirements of CEQA and NEPA.
2. Notice for 2/13/08 Public Hearing before County Planning Commission included incorrect location of USG water wells. Notice for 2/13/08 Public Hearing before County Board of Supervisors included no location of any USG water wells, either existing or proposed.
3. USG DEIR/EIS and FEIR/EIS and consultant's analyses in Appendices are notable for their seriously flawed map making with examples of the "migrating" USGS monitoring water wells, missing quarry well #3, and USG's wandering industrial export water wells.
4. Locations of wells differ from map to map or figure to figure and explain why the public can place little credibility in the "consultants'" analyses in the draft EIR/EIS. Maps in the EIR are incorrect and cannot consistently or correctly locate the USG wells whose proposed uses are one of the subjects of the EIR, nor can they consistently correctly locate USGS monitored wells.

**Incorrect locations of USG water supply wells**

5. DEIR Fig. 1.0-1 (at p. 1.0-3) shows USG wells south of Nomirage in or near wilderness; the very next map, DEIR Fig. 2.0-1 (p. 2.0-3) shows the USG water tank and wells in the Myers Wash about one mile to the west of Ocotillo. However, USG wells are located with one just east of Ocotillo Unit 2, the other two along the frontage road just south of I-8 between Ocotillo and Nomirage as residents and USGS can verify. The correct location of USG wells, their identification similar to other wells, the amount of pumping of each USG well, and the quality of water in each USG well must be correctly disclosed if potential impacts of existing USG and increased pumping by USG wells is to be correctly interpreted.

**Incorrect or missing location of quarry well #3**

6. The DEIR incorrectly states that the location of quarry well #3 is shown on DEIR Fig. 2.0-1. (DEIR Sec. 2.5.3.1 at p. 2.0-49, 50) In the copy of the DEIR provided for our review, there is absolutely no indication of a location for quarry well #3 anywhere on the figure, not near the quarry and not along the "Quarry to Plant Railroad" or its right-of-way. (DEIR Fig. 2.0-1 "Location of Project Components" at p. 2.0-3) Was the location of quarry well #3 included in the figures provided to agencies or others? The vague purported location of well #3 fails to disclose the potential depth and size of the well or how the large well drilling equipment and water source for completing the well construction will reach the right-of way site along the railroad. Our experience is that well drilling rigs for drilling in alluvial fill are very large and not easily maneuvered over soft or sandy terrain. Additionally, Quarry well #3 is not shown in DEIR Fig. 1.0-1 at DEIR 1.0-3. These omissions were not remedied in the FEIR Figures available in our copy of the 2 volume FEIR/EIS to supplement the 2 volume DEIR/EIS.
7. However, what is really surprising is that our PRA search did reveal an earlier draft version of DEIR Fig. 2.0-1 "Location of Project Components" Lilburn Corp for a Revised Draft 9/26/2003 version of the USG Project Description which correctly locates a Plaster City water tank and well and which

also depicts the location of Quarry Well #3. (Exhibit 238.) This Figure was not the one included in the 4/06 DEIR for public review. Why is an incorrect version of Fig. 2.0-1 in the 4/06 DEIR produced by RDT, rather than use the one by Lilburn? Based on email communications from County files, it appears to be the decision of the County Planning Director for the Lead Agency as to what constituted an acceptable EIR.

**B Planning Commission Hearing on 2/13/08 violated County Rules and Regulations to Implement CEQA because it was conducted prior to distribution of FEIR/EIS to Federal agencies that commented on DEIR/EIS.**

8. The Planning Commission conduct of a Public Hearing on the USG expansion project on 2/13/08 was *not* in compliance with County Rules and Regulations to Implement CEQA. County Rules require that each agency commenting is to be sent a copy of the FEIR at least 15 days prior to the public hearing on the subject. Federal agencies commenting on the project had not received the FEIR. The Planning Director was requested to reschedule its hearing on the USG project, but declined to do so.
9. This was not the first time the Planning Director had caused a notice of a Public Hearing on the USG EIR/EIS to be published without first making sure that federal agencies and/or those commenting on the DEIR had received copies of the FEIR/EIS. The Notice of Public Hearing of the USG EIR/EIS for a Hearing Date of December 12, 2007, before the Imperial County Planning Commission, Agenda Item #5 was published in the Imperial Valley Press on Dec. 2, 2007. (Exhibit 240.) The FEIR had not yet been distributed to the public or approved for printing by BLM, indeed BLM Scoping Transcripts from 2002 had not yet been transcribed, nor BLM Scoping letters included in the FEIR document. The hearing was taken off agenda after public requests.
10. When the County Planning Department mailed Notice of Public Hearing and Scheduled Hearing Date for the US Gypsum project for February 13, 2008 to residents and those who commented on the DEIR/EIS, that notice included a copy of DEIR Fig. 2.0-1 Location of Project Components by Resource Design which incorrectly locates the USG export wells that pipe water for the factory to the west of Ocotillo and omits the location of quarry well #3 completely. (Exhibit 241.)
11. Regardless of what the Planning Director said about getting the FEIR out just 10 days prior to the meeting of the Planning Commission, the County's December 2003 "Rules and Regulations to Implement California Environmental Quality Act (CEQA) as amended" at Section 8: Preparation of Environmental Impact Reports (EIR) (F) Final EIR (FEIR) (3) states: "The Final EIR is sent to **each person or agency commenting on the Draft EIR at least fifteen (15) days prior to public hearing held on the subject.**" (County's CEQA Rules, ... 2003, p. 33 of 36 in the copy obtained from Planning staff on 12/27/07. Emphasis added. This is the same as the text of the 1/30/96 Rules to Implement CEQA .)
12. The County Planning Department as Lead Agency should not have encouraged the Imperial County Planning Commission to proceed with its scheduled Public Hearing on February 13, 2008 because federal agencies such as US EPA and USGS Water Resources Center which submitted detailed substantive questions and comments had not yet been provided with copies of the 1/21/08 Final EIR/EIS for review prior to the hearing date and did not have copies of the FEIR/EIS before the end of February 2008.
13. The federal agencies had not received copies of the Final EIR/EIS because, according to BLM EIR

Centro Resources Field Office NEPA Coordinator, Erin Dreyfuss, the USG FEIR/EIS had not yet been approved for publication of a Federal Register Notice and distribution to federal agencies. On 2/13/08, BLM's Tom Zale explained to the Planning Commission that the FEIR had not been sent to federal agencies because the Federal Register Notice of Availability had not yet been approved for publication.

**State Senator Ducheny and US Congressman Filner asked that PC hearing be rescheduled until after federal agencies had received FEIR/EIS; request denied.**

14. US EPA and USGS and all other federal agencies which commented are among those included in the above **“agency commenting”** referred to in the County's Rules and Regulations to Implement CEQA. Therefore, State Senator Ducheny, U.S. Congressman Filner and Sierra Club and private citizens all respectfully requested that the Planning Commission NOT conduct the scheduled Public Hearing on the USG Expansion/ Modernization project until after all federal agencies have had an opportunity to review the final EIR/EIS as required by the County's own rules. Requested rescheduling was not granted.

**Environmental review delayed for almost seven years. Why now the sudden rush to hearing?**

15. The Court ordered preparation of an EIR for the USG expansion/modernization project in March 2001. After the passage of almost seven years, there certainly can be no justification at this time for a rush to a public hearing without giving federal agencies commenting on the Draft EIR/EIS an opportunity to review the documents. To comply with the County Lead Agency's Rules to Implement CEQA, the Planning Commission should have rescheduled its Public Hearing on the USG Expansion Project which is the subject of the USG Final EIR/EIS.
16. In the case of US Gypsum's activities, by delaying environmental review of US Gypsum's proposed expansion/ modernization from the time of its 7/31/98 application to the County, until completion of the Lead Agency's 1/21/08 draft Final EIR/EIS ordered by the Court, the actions of the County as Lead Agency have served to effectively deny meaningful environmental review. The rush to a Planning Commission hearing prior to distribution of the FEIR to federal agencies only compounds the problem of denying meaningful environmental review as required by law.
17. The statement of Appellate Court Justice Judith McConnell says it best: **“an environmental review deferred is an environmental review denied.”** These were the words of then Superior Court Judge Judith McConnell in her August 31, 2000 Statement of Decision in Case No. 676630 (Save Our Forests and Ranchlands v. County of San Diego) describing an EIR related to the Land Use Element prepared to be part of the San Diego County General Plan. Justice McConnell is currently a justice on the California Court of Appeal, Fourth Appellate District, Division One.
18. Planning Department USG EIR file documents made available during our Public Records Act search in winter 2007-2008 may reveal potential explanations for seven (7) year delay in preparation of the court-ordered EIR. The content of many email communications from consultants, hydrologists, County planning staff, BLM staff, and USG attorneys and consultants show lengthy delays and repeated, but unanswered requests for information from USG on several issues of concern.
19. Those email communications also clarify that the Planning Director is ultimately responsible for the decisions made related to the USG Expansion project EIR. A 4/30/02 email from Planning Director Jurg Heuberger to David Brown of Resource Design Technology states:  
“I realize that things tend to slip once in a while, however I also have an obligation to get this

project done and while I had envisioned slightly more than one year, it now appears to be more than 18 months.” .... (4/30/02 email from Planning Director Heuberger to RDT’s David Brown at p.2.)

“The EIR is being written under the County’s lead. Your task is to be my technical experts and write a defensible EIR. I am the one that ultimately decides whether the document is acceptable or not, not USG if that is what you think! I am also the one that has to answer for delays, etc. not just to USG but the Board. ....” 4/30/02 email from Planning Director Heuberger to RDT’s David Brown at p.3.)

**C 4/006 DEIR/EIS fails to include BLM 2002 Scoping Transcript and Scoping Letters received by BLM in 2002**

20. Failure to include BLM 2002 Scoping Transcript and Scoping Letters received by BLM in 2002 in 4/006 DEIR and presenting them for first time in 1/08 FEIR denied public and responsible state and federal agencies an opportunity to see full range of public concerns and necessitates recirculation because some issues presented as Scoping comments in 2002, but included for first time in FEIR, have not been addressed by either DEIR or FEIR. Several scoping letters submitted to BLM in June 2002 with comments of concern were not included or listed in either the DEIR or FEIR.
21. BLM 5/22/02 Scoping Transcript missing from the 4/06 DEIR/EIS finally appears for public and agency review for the first time in the third version of the FEIR/EIS 68 months after the public Scoping meeting! BLM’s 2002 Scoping hearing transcript was not located in Planning Department files in November 2007. In response to a request for a copy of the transcript from BLM, BLM’s Linda Self in Dec. 2007 stated that BLM had no copy of the transcript, and she thought it had not yet been transcribed. Because there was no BLM transcript included in the 4/06 DEIR/EIS how could the public or state or federal agencies or decision makers ascertain what concerns were expressed at that meeting and whether or not those concerns had been addressed or adequately addressed in the DEIR. They will have an opportunity to see the transcript of the audio tape of the 2/22/2002 BLM Public Scoping meeting for the first time since it was finally included as Appendix D-3 in Volume II of the January 2008 version of the USG FEIR.
22. Scoping letters from Harriet Allen, a long time reviewer of EIR/EIS documents related to the deserts and public lands and from Nomirage property owner Dorothy Hebler were submitted to BLM in June 2002 . These scoping letters contained comments of concern, and Allen’s letter included a number of exhibits. However neither letter was included in the DEIR or FEIR with other letters or listed in either the DEIR or FEIR. These letters are included here as Exhibits 229 and 230. Allen’s concerns about the waste pile were not adequately addressed in the FEIR. One wonders if there commenters received copies of the either the 4/06 DEIR/EIS of the 1/08 Final EIR/EIS.

**Lead Agency (Imperial County) failed to provide a notice by mail of the availability of the Draft EIR/EIS to Defenders of Wildlife and others who submitted written Scoping comments to BLM**

23. Failure of the Lead Agency (Imperial County) to provide a notice by mail of the availability of the Draft EIR/EIS to Defenders of Wildlife and others who submitted written Scoping comments to BLM at the “last known name and address of all organizations and individuals who have previously requested such notice in writing” is a procedural violation of CEQA Sec. 15087 (a) “Public Review of Draft EIR” and NEPA that cannot be remedied by distributing it for the first less than 2 weeks prior to the scheduled 2/13/08 Planning Commission Hearing. Sierra Club copy was not received until

1/31/08.

24. Contrary to the suggestion by the FEIR/EIS response to comments (FEIR 5.0-136), letter 20 (FEIR p 5.0-512) was never resubmitted by the Sierra Club to either the County or BLM in 2006. It was timely submitted to BLM before the end of the Scoping period in 2002. However, the PRA review of County files reveals that more than one memo from BLM's Linda Self to the Planning Department containing this letter was forwarded by BLM along with all the other Scoping letters sent by BLM for at least the second time in response to the County's failure to include any BLM 2002 scoping letters in the 4/06 DEIR/EIS. (Exhibit 231.) The 2002 letter from Sierra Club sent by email to BLM 7/9/02 should have been included with all the other letters dated 2002 and the still missing transcript from BLM's public Scoping meeting in the 4/06 DEIR/EIS because BLM's Self had sent an email memo to Yasha Saber and Dave Brown at Resource Design on April 29, 2005 which states: "I am concerned that the comments received by BLM in response to our "Notice of Intent published May 1, 2002 in the Federal Register weren't included in the package. They were all dated June 7, 2002 - July 10, 2002. Will you check and make sure that Resource Design received copies - they consist of 5 separate e-mails from . ...." (Exhibit 239.) Why did the 4/06 Draft EIR fail to include Scoping comments submitted to BLM and why did the 4/06 DEIR/EIS fail to include the transcript of BLM's public Scoping meeting which had many participants? (See Exhibit 231 a 5/26/06 memo from BLM's Linda Self resending "copies of the Scoping comments that are not in the draft EIR/EIS (as well as the transcript from the May 22, 2002 Scoping meeting).")

## **2 Sierra Club Scoping letters to County were not included in either DEIR or FEIR with other comment letters from public and organizations**

25. Even more curious is why the two Sierra Club Scoping letters to County (for which we have date stamped copies from 2/28/02) were not included even when 7/9/02 Scoping letters to BLM eventually were included in the 1/08 FEIR/EIS? This is strange because the Consultant had requested that all exhibits and materials be provided during Scoping (DEIR Vol II pg 27 of 28). What we do not understand is why those date stamped Sierra Club Scoping letters of 1/30/02 and 2/20/02, even if not the Exhibits, were not included in the DEIR? However, during our PRA review we found a document in County Planning Department files "Catalog of Documents for U.S. Gypsum".
26. Among the original documents in (Exhibit 232 ), "Catalog of Documents for U.S. Gypsum" to be used for preparation of the EIR in a heading after "Water Quality" and before "Biological" were the documents from "Edie Harmon/Sierra Club Comments. 8. Scoping Comments and Exhibits (3 volumes) re US Gypsum proposed expansion" near the bottom of page 1. Pages 4 and 5 of that Catalog includes a list "New exhibits submitted in 2002 (through 116)" giving the page numbers of the Sierra Club submissions all typed by the same computer that made the rest of the "Catalog". The last exhibit identified by number is Exhibit 116. Exhibit 116 is the JLY memo from 2001 that tells about USG threatening to sue the County, the need to revoke all permits within 60 days after the Court's orders and the normal procedures which would require demolition of all construction without permits. Footer on the Catalog of Documents is "096-03 Catalog of Documents. Version 6.doc"
27. Cumulative impacts air quality issues at Centinela State Prison and quarry operation impacts on vegetation and wildlife were among Sierra Club Scoping issues not adequately addressed or addressed at all. Text and figures in both the DEIR and FEIR make no mention of the proximity of the Centinela State Prison even though Sierra Club supplied maps depicting the location of the prison and raised concerns.

**D New Material from Todd reports in FEIR Appendices C-1 and C-2 and incorporated into FEIR Section 4.0 necessitates recirculation and review by USGS**

28. A New Material from Todd reports in FEIR Appendices C-1 and C-2 and incorporated into FEIR Section 4.0 necessitates recirculation and review by USGS because so much of the communication in the Planning Department USG EIR/EIS files from consultants on hydrology issues, including USGS staff appear to have expressed very serious concerns with the model, including the last calibration of the model in 7/03 prepared by Bookman-Edmonston, USG's consultant. Many of the communications about the utility of the model are included in these comments and the communication is appended as exhibits.
29. These comments were completed only after discussions with the following staff at the US Geological Survey California Water Science Center, San Diego Projects Office: Peter Martin the USGS project manager who submitted letter 31 in FEIR Vol. II; Dr. John Izbicki, with whom the author has discussed groundwater issues in general and as related specifically to the Ocotillo-Coyote Wells Groundwater Basin a number of times previously; and Julia Huff, who assisted in getting access to the USGS groundwater quality data, which was more difficult for the public to access than the water level data.

**EIR has no information about how much water is pumped by each of the 3 USG wells**

30. FEIR still fails to provide information about how much water is pumped by each of the 3 USG wells although it states that the water is metered at the well sites. (Response to comment 20-53 at FEIR p. 5.0-147) and as requested during the 5/2002 BLM Scoping meeting (transcript available for first time at FEIR Vol. II Appendix D-3 p 14). However, EIR did provide information about estimated quantities pumped from two other wells owned by others that stopped export operations in 1982 and 1984.
31. Similarly, if it is true that "Water is metered at the well sites" (FEIR response to comment 20-53 at p. 5.0-47), they why does the FEIR fail to provide this information? There is great detail about how much water was estimated to have been pumped from two wells that exported a smaller quantity of water than USG's current operating wells with measurable effects on both water levels and water quality. Why is there not comparable detail about how much is pumped from each USG well and what the quality of that water is? That more detail is needed from each of the three USG wells is evident from discussions and reports from groundwater experts in the Planning Department Files. Many of those documents are referenced in these comments and included as exhibits supporting our concerns.
32. County Planning Dept files for the USG EIR/EIS included USG "Annual Groundwater Reports" for the years 1993 through 2001. (Exhibit 242, 9 pages.) Exhibit 242 also provides information about variable and increasing chloride levels in water tested, presumably at the plant main office. It is uncertain whether this water was treated for human consumption or whether the residue chlorine was in a sample that corresponds to chloride levels in the groundwater. The only well tested for water quality by USGS is USG #5 or 36H1. USGS data do not appear to show the changes in chloride ion concentration that is indicated in Exhibit 242, but water quality in the other two USG wells is not included in USGS NWIS data for recent years. It also seems strange that for fours years in a row, water levels in one well would be identical. Was water level actually measured in each well? Without knowing how much water was pumped from each well, and in what rotation, one wonders what is the explanation for the different rates of water level decline in each of the three wells? Well

36H1 of USG well#5 water level has declined more than 5 feet since the last USG water level reported in 2001. (See Table 14.) Have the other two USG well water levels also declined that much since 2001?

### **USG increased pumping from baseline 333 AF/Y in 1998 to 533 AF/Y in 2002 during EIR preparation**

33. Additional USG Groundwater usage is found in a 9/16/03 email from Dick Rhone of B-E to Andrew Kopania, a hydrologist for the EIR consultant that gives annual USG pumping from 1990 through 2002. (Exhibit 236) This data is a combination of total pumpage for all three USG wells in the Ocotillo area. What is very interesting is that water levels in the USGS monitored well did not exhibit significant decline during this period. It was not until USG increased its groundwater pumping and export from 324 AF/Y in 2000 to 533 AF/Y in 2002 (to who knows what by 2007) that water level declines at USG well 36H1 dramatically increased in comparison to previous periods. Information from these two exhibits is included in our Tables 13 and 14 appended to these comments.
34. The following analysis of data (from the USG FEIR, Technical Appendices C-1, the 7/30/07 Todd Engineering groundwater issues memorandum and 2007 monitoring data from the USGS groundwater monitoring program and available at the USGS internet source : <http://nwis.waterdata.usgs.gov/usa/nwis/gwlevels/?site> for individual well sites in the USGS Imperial County groundwater monitoring program) helps to explain why the USG FEIR/EIS fails to include all relevant or current water data through 2007

### **FEIR relies on “projections” not actual information from Drillers Reports**

35. FEIR 4.0-29 and FEIR Appendix C-1, Todd’s 7/30/07 Fig. 3B “Cross Section near Yuha Estates” (copied from USG’s BE03 Fig. 3-1D) includes a very curious notation in very tiny print. Under the Heading “NOTES” it states that: *“All wells except 11B1 are projected.”* From the Notes, it appears that for the 8 wells shown in the figure, only one used real information. Why? If geologic information presumed to be from the drilling cores brought up at the time the wells were drilled and included on well driller’s logs submitted to the State are included for one well, why weren’t they used for the geology of all wells? The owner of well 11H3 was present during the drilling of the well and observed the meticulous notes on the well driller’s log that were made by the well driller, Rex Anderson, the same well driller who drilled well 11B1. Even if the well drillers did not describe specific geologic formations in the driller’s logs, the information on the logs seems more appropriate rather than projecting subsurface geology. If there is some reason for using projected rather than reported information, that explanation should have been included in the FEIR/EIS.
36. If one is trying to understand the underlying geology of the groundwater basin, it seems more appropriate to use real recorded well drillers’ observations rather than use “projections”. Or is it that the real geologic cores did not support the conclusions the report was intended to reach? Perhaps if the figures had used real information instead of “projections” the report might not have reached some of the erroneous conclusions about water quality and therefore underlying geologic formations for the Yuha Estates area. It makes a difference to know information about specific wells that have been part of the monitoring program and seen well driller’s logs being prepared for one of the wells in question.
37. Similarly, FEIR 4.0-28 Fig. 3A “Cross Section near Ocotillo” (Todd 7/07 copied USG’s BE03 Fig.3-1E) includes a similar very curious notation in very tiny print. This figure in even smaller print states that *“All wells except wells 29L1 and (what looks like) 14N1 are projected.”* Again, why not use information from well driller’s logs. If only two wells are not projections, that means the information for 9 of the 11 wells is projected. Is that because only the data from two wells fit the

report's desired conclusions? If not, why not use data from well drillers' logs?

**Drillers Reports indicate highly variable geology variable and complex geology within the alluvium of the Ocotillo area**

38. The text from a 3/21/03 e-mail correspondence from EIR consultant, A. Kopania, to B-E's Rhone and three hydrogeologists at USGS, Subject "Ocotillo Modeling" (Exhibit 243 at p. 3) expresses concerns about the "highly variable geology variable geology within the alluvium of the Ocotillo area" based on information in well "Drillers Reports" which apparently were available for use by consultants for this EIR/EIS review. Kopania's email discussion of variability of materials reported in Drillers Reports includes the statement that: "These observations indicate that the thickness of the alluvium can vary by over 200 ft in relatively short distances within and west of Ocotillo, probably due to the fault blocks discussed above..." Kopania also noted that based on information in Drillers Reports that the depth at which Tertiary Palm Springs Formation west of Nomirage and south of Ocotillo are found "is highly variable over relatively short distances." (Exhibit 243 at p. 3.)
39. There is also considerable discussion and concerns about interpreting information in Drillers Logs in the 3/25/03 memorandum from Ron Schnabel of B-E to Dick Rhone of B-E, but not to Kopania. Subject: U.S. Gypsum - Comments from Andrew Kopania via email on 3/21/03. (Exhibit 245) B-E is Bookman-Edmonston the company that prepared the original computer models of the Ocotillo-Coyote Wells Groundwater Basin for US Gypsum Company. This memorandum also points to the complexity of the local geology in at least that portion of the groundwater basin where community and individual domestic wells have been drilled.
40. These communications from County files are part of on-going discussions about the basin by USG's consulting groundwater modelers at Bookman-Edmonston. Exhibit 244, Ron Schnabel of B-E. 3/13/03. memorandum to Dick Rhone of B-E. Subject: Geologic interpretation of the Ocotillo-Coyote Wells Basin, imperial County, California, with recommendations for changes to the proposed groundwater model. Once again, this document discussed far more complexities of the basin and concerns about interpretations of those differences and complexities than are revealed in the Draft or Final EIR/EIS.
41. When even those doing analysis related to the computer model identify varied interpretations of the information in Drillers Logs and the difficulties that information presents for understanding the basin and the difficulties that those complexities and differences in nearby wells present, it is not surprising that the public places little confidence in the supposed assurances of the model when it still cannot predict USGS monitored water levels. The 5/15/03 email response of Kopania to B-E's memoranda (Exhibit 246) confirms our earlier and continuing concerns about the model:

"Also, without going in to the technical details too much, it looks like this model will show they are screwed BIG TIME. In the simplest of terms, look at figure 4 of the attachment. In their prior model (and even in my previous assessment) it assumed that 2,100 to 2,400 AF of water per year went into Layer 1 - the zone where the USG wells are screened. They now have only 1081 AF per year going into this zone! What else could the results show but significant drawdown from the increasing pumping?"

"Maybe this is B-E's way to "come clean" with USG? They can say that RDT & USGS constrained them to these conditions (not true, but convenient enough) so they have to live with the results. We'll see where it all goes soon enough." (Emphasis in original. Kopania 5/13/03 e-mail to Dave Brown of Resource Design, Subject: Fwd re: Ocotillo GW flow model - steady state simulation. ) ( Exhibit 246.)

### Consultants point out problems with groundwater model

42. Exhibit 247 makes it even clearer that there are major problems with the model and provides additional reasons why the model is not reassuring. (See: Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum to Heuberger. Subject: Status of Hydrology Evaluation U.S. Gypsum Project” (4 pages with Attachment of 4 pages of 8/21/02 comments from Malcolm Weiss to Brown and Heuberger.) Appended as Exhibit 247) Portions of that Memorandum of special concern follow:
43. “Subsequent test runs of the model indicate that the drawdown trends in the Ocotillo/Coyote Wells area fit the actual data better than they did in previous models. In other areas of the basin, however, the model is not capable of accurately simulating the trends in the actual data, and the magnitude of the drawdowns. This is especially true in a Yuha Estates area, despite the changes made to the model, as described above. Based on these initial results, the USGS has stated that “Considering our level of understanding of the real ground-water system, the uncertainty in model predictions will be large with any flow model for this area, and will be even larger with us all you’d-transport model. Reasonable predictions of worse-case scenarios are all that I expect from the modeling.” (June 16, 2003 each-mail from Greg Lines of USGS)” (Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p2.)
44. “... The new model however, is still not capable of accurately simulating changes in water levels in the basin. The most notable example of the limitations of the model remains the model level behavior in Yuha Estates. The actual drawdowns during the pumping by the McDougall Water Company were on the order of 70 feet, and it has taken decades for the water levels to recover. The current model predicts only 10 feet of drawdown and shows that recovery should occur almost instantaneously. It should be emphasized, however, that you have Estates is not the only area where the model predictions may be of concern. ” (Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p. 3.)
45. “B-E previously stated that the conditions in Yuha Estates are different than those in Ocotillo and that it be efficient stay in the model in a Yuha Estates area should not be used as the basis to dismiss the model predictions in the Ocotillo area. This argument is no longer persuasive for three reasons. First, in the revised model, the unique geologic conditions of a Yuha Estates area were included, so the model should provide a more accurate simulation. Second, an error of this magnitude is a valid basis to be concerned about the ability of the model to predict behavior in other areas of the basin under increasing pumping stresses. McDougall increased pumping in the Yuha Estates area by approximately 200 AF/y. Third, if the model is not reliable in areas outside of Ocotillo, then the model does not provide the ability to evaluate alternative pumping locations and can not support the CEQA alternatives analysis.”” (Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p. 3,4.)
46. “... Unfortunately the revised model still has many of the same limitations as the prior model did. The inability to adequately simulate the effects of pumping in the Yuha Estates area is especially limiting. *The USGS has probably provided the best summary of what the revised model is capable of stating in that the uncertainty is large and that reasonable predictions of worst-case scenarios are all that can be expected.*” (Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p. 4.) (emphasis added)
47. Another Memorandum from Kopania on 6/26/03 to Heuberger, and RDT, BE, USG and USGS, Subject Model Calibration Results, Ocotillo/Coyote Wells Groundwater Basin” (Exhibit 248) contains additional troubling conclusions about any potential reliance on the computer model and any conclusions to be drawn from that model. Specifically, Kopania states that:
- a. “I am concerned that the model may be showing too rapid of a recovery of water levels in as

pumping rates are decreased, suggesting that the recharge and/or transmissivity values are too high.” (Kopania 6/26/03 at p. 1)

- b. “From a CEQA perspective, we are not as concerned about what impacts the proposed project may cause to USG’s only pumping Wells in Ocotillo. We are more concerned about what will happen to the neighboring Wells.” (Kopania 6/26/03 at p. 2)
- c. The actual data for well 25K2 in Ocotillo shows periods with a 40-50 ft of drawdown that are not expressed by the model. The 25KK2 well was used by McDougal for export to Mexico and this pumping is included in the model, based on information previously provided to Weizu. Since the model does not predict any drawdown from pumping and 25K2, the model does not appear to be capable of predicting the effects of increased pumping in this area of Ocotillo. This deficiency raises both the technical and CEQA-related issues. The technical issue is the same as at Yuha Estates - McDougall pumped and there were significant drawdowns observed, but the model does not accurately reproduce those drawdowns. From the CEQA perspective, there has been pumping in Ocotillo, not just in Yuha Estates, that has resulted in drawdowns of several tens of feet that are not reproduced by the model. Unfortunately, this limits the use of the model as an evaluation tool for the EIR.” (Kopania 6/26/03 at p. 2)
- d. “.... In general terms, the concern is that the central parts of the basin (such as Ocotillo and Yuha Estates) may be subject to certain thresholds of productivity due to the limited recharge in the basin, the distance from the pumping areas to the recharge areas, in a very slow rate of groundwater movement.” (Kopania 6/26/03 at p. 3)
- e. “ .... If local pumping rates exceed a certain limit, or thresholds, beyond which the assumption of linearity is no longer valid, the rate of drawdown may increase more rapidly. Furthermore, if local recharge is essentially non-existent, and it takes decades for groundwater to migrate laterally from the recharge areas to the area of pumping, a time frame for recovery will be very long.” (Kopania 6/26/03 at p. 3)
- f. “.... It should also be noted that, during the five-year pumping., water levels in the Yuha Estates area declined continuously and did not stabilize. The current model shows a rapid stabilization of drawdown, not a continuous decline. The pumping by McDougal lasted for five years, but after nearly 20 years the water levels in the Yuha Estates area had not fully recovered. This behavior indicates that the pumping rate exceeded some threshold of stability that resulted in much greater impacts at the pumping well and at the neighboring Wells. The very slow recovery of water levels at Yuha Estates also indicates that, once this threshold is crossed, it may take generations to restore, given the limited recharge and the slow rate of groundwater migration from the recharge areas.” (Kopania 6/26/03 at p. 3,4)
- g. “The pumping by McDougal at well 25K2 in the Ocotillo area also resulted in drawdowns of several tens of feet. Thus the potential to reach a threshold at certain pumping rates also may exist in the Ocotillo area. The recovery of water levels at well 25K2 after the McDougall pumping ceased was fairly rapid, indicating the threshold was not crossed in Ocotillo by the McDougall pumping. Unfortunately, the current model does not predict any appreciable drawdowns at well numeral 25K 2 from the McDougal pumping.” (Kopania 6/26/03 at p. 4)
- h. The proposed project involves increasing the extraction rate at the three existing extraction wells from 333 acre-feet per year (1998 baseline quantity) to a maximum of ... 767 acre-feet per year for 50 to 100 years. The change represents more than a doubling of the sustained pumping rate in the Ocotillo area. The magnitude of this increase is greater than the magnitude of the pumping that occurred at well 25 June 2. Thus, there is the potential that a threshold may be crossed.” (Kopania 6/26/03 at p. 4)

- i. “...In addition, the issues described above limit the nature of assessments that can be made with the model. Most importantly, the model is useful for understanding basin-wide trends in the water levels in what may occur with smaller changes in pumping rates, but the modeling conducted to date has not adequately reproduced effects of the larger (> 100 AF/y) increases in pumping rates.” (Kopania 6/26/03, Exhibit 248 at p. 4)

**2008 FEIR model information still cannot predict 2007 USGS water level monitoring data so EIR should be recirculated for USGS review**

48. Information in the Planning Dept files reveals the concerns of consultants and USGS identified by documents in the County USG EIR/EIS files and the apparent failure of distribution of the Todd Appendix C-1 to consultants and USGS for review prior to what appears to be reliance on the Todd Appendices for the FEIR. Therefore, our concerns about the FEIR hydrology discussion, interpretation of the County Groundwater Management Ordinance, and mitigation measures in the FEIR only increases and seems well founded.
49. FEIR section 4.3-6, based on the Todd study, includes an analysis without disclosing the data itself and in the process distorts USGS monitoring data and well locations and information about other wells. The water level data is available from USGS both as a graph of monitored water levels or as a table of data for each individual monitored well. Concerns about what appears to be misuse or distortions of USGS monitoring data and well locations have been discussed with USGS’s Dr. John Izbicki and Peter Martin of the San Diego Water Resources Field Office even before there was an opportunity to review Planning Department EIR files and organize communications related to hydrology and the utility and/or deficiencies and/or limitations of the computer model.
50. Therefore, it is the inclusion of two groundwater studies July 30, 2007 and November 2007 (FEIR/EIS Appendices C-1 and C-2) by Todd Engineers for the first time in the Final EIS that requires a recirculation of the EIR/EIS or been included as a Supplemental or Subsequent EIR/EIS, so that all members of the public and organizations, state and federal agency staff from USGS and US EPA that had expressed concerns about impacts of the USG project proposal and preferred alternatives impacts on groundwater resources would have an opportunity and adequate time to review and consider whether or not the conclusions and use of government monitoring data and maps could be used to support the conclusions in the USG EIR/EIS.
51. The County Planning Department as Lead Agency appears to have committed a serious violation of CEQA when it failed to make these Todd Studies from July 2007 and November 2007 available for public and agency review by all that had previously submitted written concerns relevant to issues prior to inclusion of the information for the first time in the Final EIR as Appendices C-1 and C-2. To schedule and conduct a Planning Commission Public Hearing on the USG project before the Final EIR/EIS is even distributed to federal agencies that commented and before the Final EIR/EIS is even noticed as available in the Federal Register is not only a violation of CEQA and NEPA, but it shows tremendous disrespect of the co-Lead Agency BLM’s federal agency NEPA procedural requirements.
52. After taking almost seven years from the date of the Superior Court’s 3/29/01 Judgement and Orders to prepare an EIR, there are now serious questions about the County’s sudden rush to proceed to a Planning Commission hearing without first being sure that all federal agencies that commented on the 4/06 DEIR had been provided with copies of the FEIR and afforded the CEQA and County Rules required time for review of the Final EIR/EIS. The County’s rush to hearing without recirculating

new information and without affording federal agencies that commented on the DEIR/EIS an opportunity to review the Final EIR/EIS prior to the County Planning Commission Public Hearing does not appear to be a good faith effort to comply with the Judgment and Orders of the Court which mandated preparation of the USG EIR/EIS.

**FEIR & Appendix C-1 provide no water quality data in table and misinterpret water quality of wells**

53. These are serious problems with the FEIR Appendix C-1 of 7/30/07. The USG FEIR/EIS Appendix C-1 Todd Engineers 7/30/07 Review of Groundwater Issues is notable for the misinformation (source unknown) and for its inclusion of Table 1 misleadingly entitled “Water Quality Information from USGS National Water Information System”. Todd’s Table 1 indicates the State Well Numbers and locations of wells monitored, dates for beginning and ending of monitoring and number of times each well was tested for water quality, BUT absolutely NO information about the water quality in terms of total dissolved solids, specific conductance, chloride or sodium ion concentration, fluoride levels or any other information for the listed monitored wells is included. Appendix C-1, Todd’s 7/30/07 document appears to form the basis of FEIR Section 4.3.6 Hydrology and Groundwater. See our Table 10 for water level and water quality data which is available from USGS NWIS websites with links to USGS data sites. Our Table 10 is appended.
54. FEIR/EIS Appendix C-1 Todd Engineers 7/30/07 “Review of Groundwater Issues” requires the public to ferret out the information that one must assume was intentionally withheld from public review. Todd’s Table 2 (FEIR/EIS Table 4.0-2 at p. 4.0-34) provided selected information about only 6 of the wells for which water quality data is available at the USGS website. Todd did not even identify the USGS website in either text, table or references. The FEIR simply states that the data is “readily available” from the NWIS, but neither the FEIR vol. I, nor FEIR Appendix C-1 includes the information necessary for the public to search to ferret out the missing monitoring data. The USGS website with monitoring data used for making tables of water quality data monitoring is: <http://waterdata.usgs.gov/ca/nwis/qwdata>. Again, please see our Table 10 for water quality information about monitored wells throughout the groundwater basin.

**Misunderstanding of water quality and well locations points out limitations of groundwater model**

55. FEIR/EIS 4.0-43 Appendix C-1 Todd’s 7/30/07 Figures 11 move wells in Yuha Estates 1 mile to the east onto a BLM ACEC to match erroneous conclusions that these wells should have poor quality water because Todd assumes that these wells must be in a different groundwater layer because there were serious adverse impacts or “significant drawdown” from export pumping (FEIR at 4.0-30) which lasted for 5 years and ceased more than 25 years ago. Apparently, Todd and the FEIR at 4.0-30 erroneously assume that the significant drawdown must mean that these wells are completed in the Palm Springs or Imperial Formation without ever checking the USGS NWIS water quality data. In fact, wells at Yuha Estates have water quality comparable to or better than the mutual water companies serving Ocotillo. (USGS data will verify both of our corrections.) We could find no communications in the Planning Dept files that support conclusions about poor quality groundwater in Yuha Estates.
56. In discussions about “Pumping”, FEIR 4.0-51 once again erroneously assumes that wells with excellent quality groundwater at Yuha Estates are completed in Layer 2 Palm Springs or Imperial Formations as are the wells of West Texas which have non-potable water. In phone conversations with Edie Harmon, USGS’s Dr. John Izbicki and Peter Martin have both responded that wells with water of the quality USGS has monitored in Yuha Estates mean that the wells are not completed in the Palm Springs or Imperial Formations. Therefore, we continue to believe that the computer model

and the assumptions or conclusions related to that model cannot be relied upon for decision-making because at least a portion of the information contained in the FEIR based on that model is simply incorrect.

57. The 7/30/07 Todd report (in FEIR Vol. II Appendix C-1) forms the basis of much of the FEIR Section 4.3.6 Hydrology and Groundwater beginning at FEIR p. 4.0-23, and the errors and misrepresentations of USGS data that occur in the Todd 7/30/07 study are incorporated without attribution, except on Figures, into the FEIR text. (There is uncertainty about which consultant assisted in preparation of the FEIR. Was it Resource Design Technology, Inc, whose name appears on the inside cover of the FEIR Vol. 1, or was it Steve Lilburn who was introduced as the consultant at the Planning Commission hearing?)
58. FEIR Fig 11 “Calibration Targets” (at p. 4.0-43) is identical to the same figure in FEIR Appendix C-1 and repeats the mapping errors of the Appendix. This means that the Consultant who put together the USG FEIR included what appear to be mapping errors just as did the DEIR. Wells in the southern part of the basin migrate 1 mile to the east from FEIR Fig 7 at P 4.0-38 to Fig. 11 FEIR p. 4.0-43. Alternatively, if computer model calibrations must relocate wells to fit the model, then the model must not be very accurate or reliable. Any computer model that cannot predict reality based on the true location of monitoring wells and the true monitored data is of very questionable value for long term predictions and decision-making. The model discussion and maps are simply not very convincing to the public. Indeed, our concerns about the reliability and utility of the model are also noted in communications from Kopania in exhibits, including Exhibits 247 and 248.

**Bias favoring USG interests is seen in Planning Director approval of asserted historic use ignoring EIR discussion of lack of supporting evidence**

59. The County’s overwhelming bias favoring USG interests at all costs has been apparent since the 12/98 Neg Dec and the Planning Director’s March 06 grant of USG’s requested historic use of an unverified pumping level of 767 AF/Y (FEIR 5.0-209) in spite of the language of the Court of Appeal Decision at p. 15, and in spite of the Draft EIR/EIS discussion of the “US Gypsum Variance” at DEIR p. 3.3-29 (Exhibit 211), DEIR Table 3.3-4 (Exhibit 210). This action by the County Lead Agency’s Planning Director makes any private consultant’s analysis of the USG EIR hydrology suspect when flaws are readily apparent. The bias toward USG’s requests will also be discussed later in these comments in sections on mitigation measures and the significance of making changes requested by USG. (Notable in the USG groundwater well registration is Specific Term T-8, (FEIR 5.0-211), the iteration of the extent of USG’s indemnification of the County from any claims or actions against the County related to registration and its presumed entitlement and the accompanying pipeline, the uses of both of which are the subject of the Court ordered EIR.) See Exhibit 227, which is FEIR pages 5.0-209 through 5.0-211.

**“U.S. Gypsum Variance”**

60. The “US Gypsum variance” refers to the difference between water used at the plant based on production versus the inflated amount reported by US Gypsum to USGS in 1975. Specifically:

“For the period from 1925 through 1975, USG reported water use to the USGS for use in the USGS groundwater modeling study (USGS, 1977). The basis for the pumping rates reported over this time period are uncertain. For the period from 1970 through 1980, USG also provided Bookman-Edmonston estimates of water use based on wallboard production rates (Bookman-Edmonston, 1996, page 6-2). Bookman-Edmonston reports “Estimates of

water use provided to USGS are 70 percent greater than estimates of water use based upon production records during 1970 to 1975 (the only years where these records overlap). The difference could not be reconciled.” Table 3.3-4 shows the water use reported to the USGS and the values based on production rates for the period from 1970 to 1975. The rates reported to USGS range from 575 AF/yr to 767 AF/yr. The rates based on production range from 338 AF/yr to 451 AF/yr. The difference between these two sets of data is referred to as the “U.S. Gypsum Variance” on Figure 3.3-8, Annual Water Production.” (USG DEIR p. 3.3-29.) (See Exhibit 211.)

61. The FEIR/EIS at 4.0-54 also mentions the difference between the amount of pumping reported by USG and the amount ascribed by USGS without apparently recognizing that it was USG that supplied the information to USGS. The FEIR states:

“USG has estimated pumping for 1970 through 1980 based on wallboard production at about 400 AF/Yr or two thirds the USGS estimate. USG and its consultants could not reconcile the difference between USGS and USG estimates. This may be due to the changing water use in wallboard production; the amount of water needed in production has changed over the years as USG improves its water use efficiency.” (FEIR 4.0-54.) (Exhibit 220)

62. A number of documents in the Planning files document USG’s continued insistence that is or was entitled to use 767 AF/Y even before the Planning Director’s letter of 3/06. Examples of such include Exhibit 255, a 6 page letter Weiss, M. 6/20/03 to Heuberger re “U.S. Gypsum EIR Status at p. 2 which states that: “USG remains satisfied with the 767 AF/Y historical use rate.”

**Consultant states B-E noted USG records reveal production may have been 200-250 AF/Y not 600-700AF/Y as reported to USGS**

63. The above FEIR text is very interesting discussion made even more interesting by the following text from a 5/31/02 email communication from Andy Kopania to Dave Brown at Resource Design, “Subject USG Data Needs”, included as Exhibit 235. After quoting from a Bookman- Edmonston study this e-mail continues:

“I have the US Gypsum records provided to the USGS. This is the data set that shows a brief period of water use up to 600 to 700 AF/yr (this occurred only from 1972-1974). According to B-E, other records that they were provided by US Gypsum indicate production may have been only 200 to 250 A AF/yr during this same time. !!!! These records are not provided in the B-E report, only referenced in the text. Although this is going to be extremely uncomfortable, US Gypsum needs to provide us with those records BECAUSE THEY ARE DISCUSSED IN THEIR OWN CONSULTANTS REPORT. I do not see how I can complete my analysis without these records, unless I just used the 70% number reported by B-E. Note that this observation by B-E, US gypsum’s own consultant, undermine the credibility of the claim that they once pumped up to 700 AF/yr and are now planning to stay within their historic usage.” (5/31/02 email communication from Andy Kopania to Dave Brown at Resource Design, “Subject USG Data Needs”. Emphasis in original.) (Exhibit 235.)

**Correct Well Locations Are Critical to Assess Accurately Impacts on Ground water**

64. The 7/30/07 “Review of Groundwater Issues” by Todd Engineers (FEIR Appendix C-1) does no better than the DEIR at locating domestic monitoring wells consistently when to have them migrate about a mile or more to the east onto public lands better fits the conclusions of the report. Todd Fig. 4 and FEIR Fig. 4(at 4.0-32) “Wells with Water Quality Data” and Todd and FEIR Fig. 7 “Wells with Recent Water Level

Data” (FEIR at 4.0-38) correctly locate some of the wells at Yuha Estates, but some migrate from one part of the subdivision to another from map to map. Fact: Wells 11G1 and 11G2 are on the McDougal and Gallagher properties, but 11G1 is to the south of 11G2 on the west side of Hwy 98, well 11H1 is on the west side of Hwy 98 and 11H3 is on the east side of Hwy 98 (not really accurate on Fig. 4). By Fig. 7 well 11H3 has been moved to the west of Hwy 98 to the north of other wells (it is on the east side of Hwy 98) and 11G4 has been incorrectly located to the east of 11G1, (in fact it is several hundred feet to the west, but it is the second McDougal well, unfinished and unused). Why is well location important? Because the extent to which domestic wells were affected by McDougal’s export pumping of well 11G1 was related to the distance from 11G1 and whether the well was located upgradient or down gradient from the export well, even though all wells were located within the 160 acre subdivision. Kopania’s concern about large volume pumping on nearby wells is noted in Exhibit 248 at p.2. Kopania’s concern about using the data from 11G1, the former export well in Yuha Estates for model calibration is also noted in Exhibit 248.

65. However, because Todd (7/30/07 Appendix C-1 at p. 7) and FEIR want readers to assume that these wells are “characterized by relatively poor quality water” these wells in Todd’s Fig. 11 have suddenly migrated more than a mile to the east and are now mysteriously located in the BLM Yuha Desert Area of Critical Environmental Concern (ACEC), in a place where there are no roads and no private property! Since when is a TDS of about 300 as in USGS water quality monitoring well 11H3 (TDS of 280 in 2001) considered “relatively poor quality” water? It does not appear to be poor quality in FEIR Fig, 5 at 4.0-33. Just four months later in Todd’s November 2007 “Water Supply Assessment”,(Appendix C-2, Fig. 7) (identical to FEIR Fig. 7 at FEIR p. 4.0-38) the wells had once again migrated back 1 mile to their still not yet correct locations with respect to Hwy 98. The Todd Report’s Placement of wells in the wrong locations in Yuha Estates in the SE portion of the basin is important, because this is the area of the basin where surrounding domestic and unused wells showed the greatest effects from export from a centrally located well 11G1.
66. These comments were prepared with the input of the owner of well 11H3 who has lived in the Yuha Estates subdivision for more than 30 years and is familiar with both the locations of all wells and the historic and continuing good quality water, water quality that is in fact of comparable or better quality than that of the two mutual water companies serving subdivisions in Ocotillo, based on numerous reviews of USGS monitoring data over the past 30 years. (See our Table 10 for water quality and water level information, both historic and current.)
67. Well location and use of data from different USGS monitoring wells within the groundwater basin should have been checked with USGS or with well locations on USGS NWIS website before releasing the USG EIR/EIS for public review. So much of the information in the draft FEIR relating to ground-water hydrology and quality is simply wrong. USGS staff also have field monitoring logs. With that information, the FEIR might have been able to place monitoring wells on Figures with the correct relationship to each other and to help explain what is really happening in different parts of the groundwater basin. (In FEIR Fig. 4, 5 well locations are incorrect, as is Figure 11.)

**FEIR includes information about non-existent wells and/or wells not monitored by USGS**

68. FEIR 4.0-30 states that “the other well [monitored for water quality] is located near Yuha Estates.” Yuha Estates is a rather grand sounding name for a not affluent looking 160 acre subdivision with just 16 lots (majority vacant) surrounded by the Jacumba Mountains Wilderness and the Yuha Desert Area of Critical Environmental Concern, both managed by BLM. FEIR 4.0-45 describes well 11G4 as near Yuha Estates rather than in Yuha Estates, and, just three pages earlier, FEIR 4.0-42 identified well 11G4 as being the well in Yuha Estates that exported water to Mexico. In fact well 11G4 is an unused well located on same

lot as well 11G1 which exported water. The only wells monitored in T17S R10E Sec. 11 are all in the residential subdivision with excellent quality groundwater, not somewhere on public lands. (See FEIR Fig. 5 at p. 4.0-33 for confirmation of water quality.) (See our Table 5, list of discrepancies and internal inconsistencies, for information on these and other wells mischaracterized. It is significant because locations of monitored wells tell much about aquifer response to pumping if the locations and data are correctly interpreted.)

69. Local residents in different parts of the groundwater basin have found so much misinformation that there is little credibility placed in the conclusions of the FEIR, the technical Appendices, or the computer modeling. We remind the County and BLM that DEIR Fig. 1.0-1 and 2.0-1, the figures depicting USG project components could not correctly locate the US Gypsum wells that are the subject of the EIR/EIS review! The Notice mailed by the County to residents for the 2/13/08 USG Planning Commission hearing also depicted an incorrect location for the US Gypsum wells. See Table 5 for a list of some of the important misinformation about locations and uses of wells, and a list of the non-existent wells discussed by both Todd and the FEIR. The apparent inability of the County to determine what map correctly depicted the location of USG existing and proposed wells for the USG expansion project became even clearer when the map included on the back of the County Notice for the 3/18/08 appeal of the Planning Commission approval to the Board of Supervisors did not locate any water source for the operation of the Plaster City factory nor the location of the proposed well for quarry dust suppression, or the location of the community of Ocotillo, whose residents received copies of the hearing notice. See Exhibit 256, Notice of Public Hearing & Scheduled Hearing Date(s) for Appeal #08-0001 of the US Gypsum Final EIR/EIS before the Board of Supervisors 3/18/08, postmarked 3/5/08.
70. FEIR includes water quality data for well 29D1 in both a Table and in a graph; however, data for well 29D1 is not in USGS NWIS when we obtained data from that website. FEIR Fig. 6 “Water Quality Trend Differences by Area” includes bar graphs for a well identified as 29D1. FEIR Table 4.0- 2 “Comparison of Water Quality by Well Location”( FEIR at 4.0-34) also includes water quality data for well 29D1. However, none of the Figures depicting locations of wells for any kind of USGS data, either water levels or water quality identifies a well 29D1. Similarly, our review of water quality data at the USGS NWIS water quality website contains no water quality for any well identified as 29D1 and neither does FEIR Table 4.0-1 “Water Quality Information Available from the USGS National Water Information System (NWIS)” at FEIR 4.0-31. From what source did the information in the table and the graph for well 29D1 come or what is the correct well identifier and location for this well? This is an example of the inaccuracy of analyses in the Todd study and FEIR. Both the FEIR Table 4.0-2 and Fig. 6 are identical to those in Appendix C-1.
71. Did any one person have responsibility for reviewing the all text, tables and figures prior to making the FEIR and Appendices documents available for public review?

**Lack of information about pumpage and water quality of USG well 36B1 precludes proper analysis of issues related to changes in water quality in a downgradient well**

72. The draft FEIR fails to disclose critical water level, water quality and water quantity pumpage of USG well 36B1 upgradient of well 30R1, which exhibited significant increase in TDS in the late 1980s, early 1990s. FEIR 4.0-34 refers to changing water quality in well 25K2, the groundwater export well (the subject of County litigation) and a more distant well downgradient from both the export to Mexico well 25K2, and the closer USG export to Plaster City well 36B1 just east of Ocotillo and north of I-8. Text erroneously cites the period of export as from 1974 to 1981, where in fact well 25K2 exported water until at least 1984 as noted elsewhere in the DEIR, and the USG export to Plaster City well 36B1 pumped an

undisclosed amount of water during the same period of time. In spite of repeated requests for information about the amount of pumping by each of the 3 active USG pumping wells, the DEIR and FEIR have consistently failed to disclose that information.

73. Unless there is information about the cumulative amounts pumped by 25K2 *and* USG's 36B1, it is, of course, not exactly unreasonable to conclude that the increase in TDS from 479 in 1975 to 801 in 1990 appear "not to correlate with pumping of well 25K2", but without knowing how much was exported from USG's well 36B1 and the quality of water in USG's well 36B1, it is not possible to determine whether the changes in 30R1 were or were not related to the combined pumping by both 25K2 and 36R1. It is interesting to note that the only water quality data for USG's well 36B1 is 1963 with a TDS of 306 and three years later in 1966 a TDS of 406, a rather remarkable increase in TDS in just a few years, as is seen in the annual water quality monitoring for well 30R1. (See out Table 10 at p. 5 which includes the monitoring data from the USGS NWIS website for well 30R1, Well Name 016S010E30R001S or USGS Site number 324428115581601.) This water quality change should be considered in relation to annual fluctuations in the amount of water pumped by both 25K2 and 36B1 before export at 25K2 stopped *and after, when only 36B1 was pumping significant quantities of groundwater*. There should also be annual pumpage figures for each of the mutual water company wells serving Ocotillo.
74. FEIR Section 4.3.6 "Hydrology and Groundwater" suffers from its excessive reliance on FEIR Appendix C-1, 7/30/07 Todd Memorandum with all the inattention to detail and apparent confusion of the multiple authors and conflicting conclusions by experts. Together they seem but another in a series of excellent examples that can be found associated with the USG EIR/EIS of the often noted problem that:  
"Today's scientists have substituted mathematics for experiments and they wander through equation after equation and eventually build a structure which has no relation to reality." (Nicola Tesla)
75. The reality is that if one uses a ruler on a USGS topo map and prepares a water elevation contour indicating water levels for all wells that are located on that line, the result appears to be a straight line. In other words, water elevation (in terms of feet above mean sea level) exhibits a gradual decline of about 70 feet in the six miles from Ocotillo to Yuha Estates. (Exhibit 217 Figure depicting water level decline from Ocotillo to Yuha Estates in feet Above Mean Sea Level which eliminates topographic variations in land surface elevations.)
76. Concerns about recharge assumptions and the role of climate change are reinforced when one considers FEIR Sec. 4.3-9 discussion of "Groundwater Model Calibration" at FEIR 4.0-65) which states: "In the Basin, there is considerable uncertainty in the estimates of many model input parameters including recharge, subsurface outflow, and hydrological characteristics." This was well documented in cited communication from Kopania and USGS in Planning Dept USG EIR/EIS files.
77. Later, the FEIR agrees that "in the Yuha Estates area, the correlation between predicted groundwater levels and observed groundwater levels was not as good as most areas of the model." (FEIR 4.0-65) And, that has been true from the very beginning of the water export impact issue. The Yuha Estates portion of the basin has never responded as predicted. But the question is why, and do answers need to be considered as significant when considering the impacts on other as yet undeveloped private lands within the basin from USG's proposed 80 year groundwater export for industrial use project?

**Lack of information leads to questions about estimated quantity of potable water in storage in basin**

78. With so little if any monitoring or well drillers report data for information about underlying geology for so much of the basin, the amount of fresh water or potable groundwater in storage is most likely either

uncertain or overestimated or both. See Kopania's Memoranda of 8/15/05 and 9/26/05, Exhibits 253 and 254.

"1. Basin volume ... The revised geologic interpretation of the basin, confirmed by Bookman-Edmonston (B-E) field reconnaissance, indicates that the total volume of the groundwater basin is substantially less than prior estimates. A reduction in the estimated groundwater volume is due to geologic structures (folds and faults) that project basement blocks and folds into shallower depths. Therefore, the assessments provided by the applicant that the reduction in water level and/or groundwater volume as a result of the Proposed Action represent only a small percentage of the basin volume are not consistent with the revised geologic interpretation. Due to the basin complexity, the actual percentage cannot be calculated with the available information." (Kopania, A. 8/15/05, memorandum to RDT's Brown re "Final Hydrology Issues US Gypsum EIR/EIS at p.1) (Exhibit 253)

79. Kopania and Brown prepared another memorandum 9/26/05 in response to comments by USG. This memo provided clarification for a memo dated 8/22/05 which has not been found in the Planning Dept files yet. The 9/26/08 memo discusses basin volume, monitoring issues and conclusions related to impacts. Discussion of basin volume of fresh water follows:

---

"Point 1 - Basin Water Volume.

"(1) In the 1996 Bookman-Edmonston (B-E) evaluation, all of the water-bearing formations in the Ocotillo/coyote Wells groundwater basin were simulated as a single layer. Based on the collaboration between B-E, RDT/EMKO, and the U.S. Geological Survey, the revised 2004 model by B-E simulates the basin as two layers. The upper layer represents the younger Quaternary Alluvium, which contains fresh water (TDS less than 500 mg per liter). The lower layer represents older alluvium and Tertiary marine sediments, which contain saline water. Comparison of Figure 8-1 in the 1996 model with Figure 5-1 of the 2004 model clearly shows that the 1996 groundwater model area, and thus the basin volume, *included both freshwater and saline water areas of the basin*. The evaluation of impacts in the EIR/EIS relates specifically to the *available fresh water* in the basin."

".... it is not relevant whether the 1996 model and the 2004 model have the same basin volume. The appropriate value for consideration is *the volume of fresh water within the upper layer*, or Quaternary Alluvium, in the 2004 model. In 1996 model *did not attempt to separate freshwater volume versus saline water volume* so comparisons with the groundwater volume from the 1996 model do not provide a meaningful benchmark."

"(2) USG's 9/1/05 letter also contains a misleading mathematical assertion that the proposed pumping of up to 767AF/yr represents only one tenth of one percent of the groundwater stored in the basin, assuming that the basin holds 1,200, 000 AF of water. (Note that, based on the 1996 model, the 1, 200, 00 Eight F. Of water includes both fresh and saline water, as discussed above.) The Proposed Project, however, is planned to last for 80 years. Pumping at up to 70067AF/yr for 80 years (61,360 AF) actually represents over five percent of the assumed basin volume of 1,200,000 AF. Thus, over 80 years, USG will use one twentieth of the total water available in the basin, according to B-E's estimate, and a significantly greater volume of the fresh water in the basin."

"While the details of the aquifer cannot be known with certainty, the available data would not strongly support the USG argument, and would be an easy contradiction by basin residents and the Sierra Club." (Kopania, A. & Brown , 9/26/05, to Heuberger re "Comments on issues in September

1, 2005 Letter from Malcolm Weiss US Gypsum EIR/EIS, pages 1, 2, and 3.) (Exhibit 254, emphasis in original.)

80. In light of Kopania and Brown's 9/26/06 analysis, we were surprised to recheck information in the DEIR/EIS and note that text of the DEIR did not reflect the above concerns and analysis. Rather the DEIR discusses basin volume as follows:
- “Previous studies concluded that, since the total volume of water in the basin may range from over 600,000 AF to over 1.2 million AF, an annual overdraft of a few hundred AF/yr is nominal compared to the total volume of water in storage in the Basin. This view, however, may not be consistent with the conditions that occur in the Ocotillo/Coyote Wells Groundwater Basin.” (DEIR Sec. 3.3.3.7, Impact 3.3-1; p. 3.3-66.)
81. Compare how different the text appears just 9 pages later in the DEIR with additional clarifying text reflecting concerns of consultants:
- “Previous studies concluded that, since the total volume of water in the basin may range from over 600,000 AF to over 1.2 million AF, an annual overdraft of a few hundred AF/yr is nominal compared to the total volume of water in storage in the Basin. This view, however, may not be consistent with the conditions that occur in the Ocotillo/Coyote Wells Groundwater Basin. More recent assessments of the basin geology suggest that it is more complex, containing numerous uplifts of older sediments and large folds that bring the Tertiary marine sediments close to the surface. Thus, the available volume of water may be much less than previous estimates.” (DEIR Sec. 3.3.3.7, Impact 3.3-2; p. 3.3-75.)
- The DEIR then correctly concluded that for Impact 3.3-2: “the additional decline in water levels caused by the additional pumping of up to 420 AF/yr for the Proposed Project can not be readily offset by decreases in pumping elsewhere in the Basin, enhancing recharge, or importing water.” (DEIR Sec. 3.3.3.7, Impact 3.3-2; p. 3.3-76.) However, in neither DEIR Hydrology text discussion was there any mention that of the water in storage, part of that water was saline water, not fresh water.

**EIR Figures show vast majority of water estimated to be in storage in the basin is from Layer 2 with poorer quality water**

82. If one looks closely at the Bookman-Edmonston 2004 Hydrology, DEIR v. II Appendix B-2 Figures 3-1B through 3-1F and compares the location of the Base of Layer 1 and Layer 2 to the groundwater level for 2001 data, it is overwhelmingly apparent that the vast majority of water estimated to be in storage in the basin is from Layer 2, which is considered to be the older Tertiary Palm Springs Formation with poorer quality water.
83. FEIR Sec. 4.3.6 Fig. 3A and Fig. 3B ( at p. 4.0-28, 4.0-29) are two of the figures from the B-E DEIR Appendix B-2 and once again clearly depict that the larger volume of water within the basin is definitely poorer quality water of what is thought to be the Palm Springs and Imperial formations with “higher TDS concentrations” of Layer 2. (FEIR 4.0-26, 4.0-34). The relatively smaller quantity of groundwater in storage which is fresh water presents additional uncertainties and increases the possibility/probability that adverse impacts of USG's increased pumping may be both sooner and more serious than anticipated by the overly optimistic and simplistic scenario presented in the Final EIR/EIS.
84. It is the greater volume of Layer 2 storage, the more rapid decline in water levels in Layer 1, and the distribution of private lands in relation to USG's existing and proposed doubling of pumping that have the potential to cause serious adverse impacts. The FEIR states:
- “The current hydrogeologic conceptual model of the Basin provides an improved explanation of the significant differences in hydrogeologic properties, water levels, and

water quality between the area near Ocotillo and the area to the east, and between Ocotillo and Yuha Estates. In brief, the alluvial Layer 1 aquifer near Ocotillo is generally characterized by greater permeability, better water quality, and more rapid recovery from pumping. The less permeable Layer 2 (Palm Springs and Imperial formations) east of Ocotillo and in the Yuha Estates area is characterized by relatively poor water quality and greater, more persistent impacts from pumping. In the Ocotillo area, groundwater levels in Layer 1 are higher than those in Layer 2. However, continued groundwater level declines in Layer 1—at more rapid rates than those in Layer 2—present the potential for reversal of that vertical gradient. In that case, relatively poor groundwater from Layer 2 could migrate into Layer 1, resulting in water quality deterioration in Layer 1. .... The current hydrogeologic conceptual model supports the conclusions of the Draft EIR/EIS regarding the potential significant effects of the Proposed Action.” (FEIR 4.0-45, 4.0-46.)

85. In spite of the many errors of fact in the FEIR Appendix C-1, 7/30/07 Memorandum from Todd Engineers, Sec. 4.3.6 on hydrology and groundwater, there are several statements of concern. Talking about the location of poorer quality water and the relationship of increased pumping on potential for adverse impacts, Todd states and the FEIR repeats :
86. “The potential leakage [of relatively poor quality water] from Layer 2 is primarily situated in upgradient areas to the north and west, and from upward migration directly underneath the larger production wells. Deterioration of water quality, based on the model results, would not be expected to be widespread. However, it could be locally significant in the vicinity of the larger production wells.” (Appendix C-1 Todd 7/30/07 .at p 14-15; FEIR 4.0-63)

#### **Groundwater model should have been updated when 2007 monitoring data became available**

87. “The groundwater model is best used as a tool to support analysis of the groundwater basin based on measured data. Specifically, **the primary function of the groundwater model is to provide a hypothesis to be tested against measured data.** The model can be used to project future groundwater level changes resulting from increased pumping. It can also provide a mechanism to evaluate monitoring data. With this perspective, the following steps are recommended as part of ongoing and future monitoring:
- \* Sensitivity analyses should be undertaken to understand the parameters with the greatest impact on the model.
  - \* Additional calibration should be conducted prior to the monitoring program.
  - \* Solute transport capability should be considered for future scenarios.
  - \* **The model should be updated every 3 to 5 years as new data becomes available.”** (Emphasis added.)  
(Appendix C-1 ,Todd Engineers 7/30/2007 at p. 15.)
88. It is curious that the FEIR talks about “an independent review of the groundwater model developed for the Basin by Todd Engineers (See Appendix C-1 of the Final EIR/EIS)...” when so much of the FEIR/EIS related to hydrology and groundwater and even geology is verbatim quotations from the text, Figures and Tables of Appendix C-1, (without attribution except for Figures). There is no evidence that any such independent review took place.
89. The Bookman Edmonston 2004 (BE04) report used USGS monitoring data only through 2002 (DEIR Vol. II Hydrology Appendix B-2 Table 4-2 at p. 4-3, p. 5-3, Table 5-1, and p. 5-5). Thus, by July 2007, the time of the Todd review, and by January 2008 FEIR and February 2008 scheduled Planning Commission hearing the BE computer model is already overdue for being updated. And, if Todd recalibrated the

model, Todd's recalibrated model also was unable to predict reality, because it moved well locations to try to fit the computer model. It is our use of 2007 USGS monitoring data that convinces us that the BE04 model or recalibrated Todd model is still not capable of predicting monitored reality even over a short time frames. Todd's misrepresentation of so much factual material and data and its inclusion of a map with mysteriously "migrating" monitoring wells requires updating of the hydrology materials that are essential to making any decisions related to groundwater use *unless* the intent is to require the Full IID Water Use Alternative. However, communications from USG found in Planning files indicate that alternative water sources use was never seriously considered by USG. See Exhibits 251 and 255.

90. USG 8/27/03 discussion of "Potential Alternative Water Sources" includes the following: "To the extent alternatives must be evaluated, USG suggests the following..." (Exhibit 251 at p.2.) On the first page in the introduction USG stated:

"Please note, at this time, USG is not in the position to determine whether any of these alternatives are practical, viable or feasible under CEQA. These alternatives are offered for the County's and its consultant's consideration as potential alternatives. Once the groundwater impacts of the project are better defined, then, if necessary, USG will be prepared to develop and provide more information relative to these potential alternatives." (USG's 8/23/03 "Plaster City, California Potential Alternative Water Sources. at p. 1) (Exhibit 251)

**Groundwater model has not been recalibrated since July 2003; 2007 monitoring data suggests that the model does not do well at predicting water level changes in the basin over even such a short time period.**

91. From FEIR text at p. 4.0-66 it is apparent that the model has not been recalibrated since July 2003, therefore the model is more than ready to be tested to see if 2007 and soon 2008 monitoring data are close to the water levels predicted. Our review of USGS NWIS data for 2007 suggests that the model does not do well at predicting water level changes in the basin over even such a short time period. Because it has not been recalibrated since 2003 concerns about modeling remain.
92. One thing we do not understand is the discussion about the Yuha /Estates Area being "located on a moderate structural high" (FEIR 4.0-67) when to the best of our understanding , the residential subdivision is located in a "sink" where during times of heavy rain and runoff, the water stands in the subdivision for times as long as a week, and often leaves the state highway flooded. We do not understand how an area that appears to be in a sink can actually be a structural high and why wells with such high quality potable water can be considered as being in the Palm Springs Formation (FEIR 4.0-67).
93. What is interesting is that Todd's conclusions and recommendations come at the end of Appendix C-1, Todd's 7/30/07 analysis of the "Groundwater Issues" for the Draft EIR/EIS for the US Gypsum project. Todd omits critical USGS data available on the internet, either does not understand which wells are USG or other export wells, misunderstands the locations of monitored wells to the export wells, ignores differences between good vs. poor quality groundwater, and creates a map which moves domestic wells a mile or more to the east onto public lands managed by BLM and conveniently omits any reference to the 2007 water level monitoring data available from USGS on its website. One wonders if Todd was provided copies of all the memoranda, reports, and e-mail communications from Kopania, BE, USG, RDT, USGS, and the County related to hydrology and modeling issues.
94. We cannot understand why so many wells in the NoMirage area, down-gradient of USG's wells and for which there was historic USGS monitoring data and data which showed water level declines have not been remonitored since 1987 or 1988 even though remonitoring was recommended during the scoping period and in comments on the USG DEIR. (See our Table 10 which includes some but not all monitoring data

for both water levels and water quality if measured and on the USGS NWIS website.) Kopania mentioned concerns about paucity of data on the groundwater basin and the fact that many wells had not been monitored since the late 1980s.

**Earthquakes of 1987 suggest a more complex geology in area thought to be fault “barrier” between potable water to west and saline water to east**

95. Todd states that “The revised geological interpretation is based on work by Dr. Thomas Rockwell, Ph.D. of San Diego State University.” (Appendix C-1 Todd 7/30/07 at p.3) However, Todd fails to include any reference to Rockwell in its list of references. Rockwell’s name is also conspicuously missing from the list of references in Bookman-Edmonston 04 in its list of references at BE04 p. 7-1. We find it very strange that the supposedly important work of a Ph.D. at SDSU is not among the listed references by Todd or BE04, but both reports include the authors and titles for three (3) Master’s Theses by students at the same university done in 1983, 1986, and 1978 as references, although not including all in lists of references. From Dr. Rockwell’s information at SDSU we note that “much of [his] recent work has been overseas (Turkey, Israel, Mongolia, Argentina)” and that he is doing “work on faults in Southern California and Mexico”. Specifically, to what publications would Todd and BE refer the public for the “revised geological interpretation” related to the area that is the subject of the USG EIR and what significance did they accord such information?
96. After I reviewed the Todd Memorandum and shared concerns with Dr. Rockwell on 1/30/08, he provided a paper he thought might be helpful. The paper was by two of his students and was included as part of the Friends of the Pleistocene Fieldtrip 1990. (Were BE04 and Todd referring to some other published work of Dr. Rockwell? )
97. As many have known, just based on the water quality monitoring results and USGS earthquake data, the groundwater basin does have a complex geology with more faulting than earlier estimates decades ago. A better understanding of the faulting resulted from geological studies conducted by Dr. Rockwell and his students after the magnitude 6.2 and 6.6 earthquakes on the Elmore Ranch and in the Superstition Hills in November 1987.
98. The discussion of earthquake faulting should not be considered as any reason for trying to minimize the potential for very serious adverse impacts on water quantity and quality issues resulting from increased export pumping resulting in increased overdraft when coupled with the obviously serious consequences of decreased rainfall and increased temperatures that are anticipated in the region in the future related to climate change, and the potential consequences of additional possibly more serious future long-term seismic uncertainty and complexity of block rotation of sediments where the Yuha Wells fault intersects “the general trend of the Elsinore/Laguna Salada Fault” (Thomas and Stinson 1990 at p. 134) in an area near or just east of private property with already poor quality groundwater.
99. Thomas and Stinson conclude by noting that Yuha Wells faulting representing cross-faulting intersecting the Laguna Salada fault:

“Regardless of their origin, the activity of these sinistral faults is very important as active participants in moderate to large magnitude earthquake activity on associated dextral faults. The Superstition Hills earthquake sequence of 1987 demonstrates the importance of these faults. The recent rise in microseismicity in the Yuha Desert centered along the well-expressed Yuha Wells Fault certainly warrants concern for possible future activity on the Laguna Salada/Elsinore Fault system or on the southern San Jacinto Fault system.” (Thomas, A. and A. Stinson, 1990.  
“Northeast striking faults of the Yuha Desert southwestern Salton Trough, southern California.” p.

100. The complexity of the groundwater basin and documented evidence of important cross faulting following the Superstition Hills earthquakes of 11/87 add further evidence for a more comprehensive and detailed examination of the potential for serious cumulative impacts on the groundwater resource not only from USG's requested increased export pumping, but from impacts to the basin associated with earthquakes (in addition to climate change and population growth in the groundwater basin). Are there any special concerns related to the types of faulting and rotational blocks associated with the Yuha Wells fault? These are questions for which the lay public should not be required to ferret out and interpret the scientific answers. It is the EIR/EIS that is supposed to be an informational document prepared by the lead agency, not the public!
101. In any event, the FEIR Appendix C-1, Todd 7/30/07 memorandum is an excellent example of what is wrong with playing with numbers but failing to have any idea of what to do when the monitoring data does not reflect some preconceived notion of a desired interpretation of data. When the model cannot predict measured reality or where water level decline exceeds what is predicted for 36H1 (Appendix C-1 Todd p. 5, 13), at Yuha and Coyote Wells area, or where monitored water quality does not match some geologic explanation, *the answer is but to question the reliability and utility of the model for its purported intended purpose*. When everyone ignores the fact that water level decline throughout the basin is on a gradient with all wells on the transect line exhibiting decline that fits on that gradient line, something doesn't make sense.
102. For FEIR Fig 17 at 4.0-61 Calibration Layer 2 reveals that the well 11G1, 11G4 and 11H3 which have excellent quality potable water and are not likely to be in Layer 2 have monitored water levels that are then furthest from what the model predicts. And that measured water levels following recovery from the impacts of export pumping by well 11G1 are in the range of 18 to 40 feet different from what the model predicts, if we understand Figure 17 correctly.

**Is the proposed groundwater monitoring program adequate to provide early warning?**

103. FEIR/EIS Appendix C-1 Todd 7/30/07 never addresses the question of whether the proposed groundwater monitoring program might be adequate to provide as an early warning system or in any way help in providing or recommending any possible mitigation before it is too late for the environment and domestic users. Of course, if any model is not regularly recalibrated, it cannot possibly have any realistic predictive value. Thus the question of why it was not recalibrated from July 2003 to the present, some 4 + years later?

**Problems of overdraft and lack of data because monitoring of most downgradient wells was discontinued in 1986-1988**

104. Groundwater overdraft is defined as the condition of a groundwater basin or subbasin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin over a period of years, during which the water supply conditions approximate normal conditions. Overdraft can be characterized by groundwater levels that decline over a period of years and never fully recover, even in wet years. (CA DWR Bulletin 118. California's Groundwater .) (Quoted in Todd 7/30/07 FEIR Appendix C-1 at p. 10, and FEIR 4.0-55.)
105. Todd goes on to explain that for the Ocotillo-Coyote Wells Groundwater Basin:  
"The condition of overdraft is characterized in the basin by sustained groundwater level declines

over the past 30 years and by the water balance studies, all of which indicate a decline in storage.” (Appendix C-1 Todd 7/30 at p. 10-11., FEIR 4.0-55)

106. USGS monitoring data reveal that USG’s BE04 computer model cannot predict measured data, but no monitoring has occurred in some of those wells since 1988, almost 20 years ago. Why weren’t previously monitored wells measured again to see what changes might have occurred in the past 20 years? And as noted earlier, the data used by BE04 is current only to 2002, it is now almost 6 years since the latest data used in BE04.
107. Therefore, if the County intends to rely on the Todd 7/07 memorandum or the EIR documents which it was to have reviewed, the computer model should be updated and all the discussion of hydrology, including Todd’s, should be corrected for data and facts, and the pumping information related to each of the three USG export wells should be included through 2007. Since a principal purpose of the FEIR is to provide mitigation for adverse impacts of the project the extent of those impacts must be determined based on the best available information. For that reason, the model must be updated and recalibrated.
108. Because the basin has been known and acknowledged as being in overdraft since the first USGS study in 1977, the overdraft provisions of the County’s Groundwater Management Ordinance have been in effect since the Ordinance was first adopted in 1998. That raises some troubling concerns for overlying domestic groundwater users as spelled out in the County Lead Agency’s interpretation of the impacts of the Ordinance in the FEIR at 4.0-22. (Exhibit 225.) These issues will be discussed in more detail elsewhere in these comments.
109. Even though USGS monitoring data reveal that USG’s BE04 computer model cannot predict measured data, nevertheless, no monitoring has occurred in some of the wells downgradient of USG’s wells (east and southeast) since 1988, after completion of County litigation related to stopping export of groundwater from a well in Ocotillo and one in Yuha Estates almost 20 years ago. Why weren’t previously monitored wells remonitored to see if there were any potentially significant changes in water levels or water quality in downgradient wells, especially in the Nomirage area? (See FEIR Figure 4.0 at FEIR p. 4.0-32 for location of wells, and FEIR table 4.0-1 at FEIR p. 4.0-31 for the most recent water quality monitoring data. See our Table 10 for a summary of some but not all water quality data and water level data from the USGS NWIS website and some additional data from BE reports where data was not provided to USGS.)
110. Trying to draw conclusions about water quality in 2008 or 80 years in the future if USG export pumping increases at a location between the communities of Ocotillo and Nomirage and from a site less than a mile from well 25K2 (that the FEIR notes previously experienced both water level declines and water quality changes associated with pumping a quantity probably less than the quantity which the EIR fails to disclose for the USG wells 36H1, 36G3, or 36B1) is unconvincing and suggests that adverse impacts cannot be mitigated, at least not to a appreciable degree.
111. Very important concerns raised in the USGS letter 7/31/06 (FEIR 5.0-437 - 441) have not been addressed in the response to the comments (FEIR 5.0-442 - 447) or in Appendix C-2 or in the body of the changes to the FEIR Sec. 4.3.6 Hydrology and Groundwater beginning at FEIR p. 4.0-65. This portion of the FEIR appears to be either verbatim inclusion of the Todd 7/31/07 report (without citing it appropriately) and the Todd graphics or reworded text from the flawed Todd analysis. Although the FEIR mentions that Bookman-Edmonston had met with USGS staff, including Peter Martin in June 2003, the July 2006 letter from Peter Martin indicates that USGS still has very real concerns about the content of information presented in the 4/06 DEIR, which appears not to have been addressed in the Final EIR. The FEIR

references a July 2003 meeting with USGS's Martin, but does not address all the specific questions of the USGS 7/06 letter commenting on the 4/06 DEIR/EIS.

112. There are serious questions about the entire FEIR hydrology and groundwater section 4.3.6 because it is possible to easily document that, without including USGS water quality data in its table (data available on USGS NWIS website) FEIR Appendix C-1 misrepresented the USGS water quality for wells in Yuha Estates and draws erroneous conclusions about the aquifer based on a map which erroneously locates monitoring wells (Todd Figure 11 "Calibration Targets" at FEIR 4.0-41). The Todd Report makes erroneous conclusions based on purported USGS data, which is conspicuously not included in FEIR Table 4.0-1.

### **More monitoring of wells in Nomirage area needed**

113. FEIR Fig 4 "Wells with Water Quality Data" (FEIR 4.0-32) which depicts many wells in or in the vicinity of the residential community of Nomirage should be monitored again for water quality, because the FEIR Table of "Water quality information" contains no data that gives any water quality information other than where the well is located and the time period for which data is available, but NO data. It does not even identify the USGS NWIS website. (See our Table 10.)
114. FEIR fails to include water level monitoring data for wells in the Nomirage area which are downgradient from all three of the USG export wells, 36B1, 36G3 and 36H1, whose amount of purportedly metered output is *not* disclosed anywhere in the DEIR or FEIR that we could find in Planning files. Well owners in the Nomirage area are reporting water level declines in January 2008, but USGS water level is conspicuously missing for the nearest downgradient wells for which USGS had water quality data in the past.
115. Compare the FEIR Fig. 4, ( p. 4.0-32), locations of wells downgradient SE from 36H1 and 36G3 with previous water quality monitoring data and the lack of water level data for those same downgradient (SE) wells depicted in FEIR Fig. 7 (FEIR p. 4.0-38). USGS NWIS still has water level monitoring data for all these wells that were part of the initial database used for the 1977 USGS study and that data should have been revealed in the FEIR, especially where data related to previously monitored downgradient wells showed water level declines before monitoring ceased.
116. The ownership of the wells was included in a USGS table showing well characteristics in 1979. We have already entered past historic water level data in our tables from the USGS NWIS website. (See our Table 10.) The owner of monitored well 11H3 is the same as the owner of previously monitored well 11H2 which was replaced by well 11H3, and is very much aware that the monitoring data from well 11H2 and other previously USGS monitored wells was used in the County's litigation to stop export from well 11G1.

### **Most Nomirage area wells for which there was data have not been monitored for almost 18 years!**

117. Two wells of special concern and for which there is much historic water level monitoring data (on the USGS NWIS website) are 16S/10E- 42A5 which had a USGS monitored water level decline of 6.47 feet from 1974 to the last monitoring in 1994, or 0.32 ft/year, almost 18 years ago. Well 16S/10E- 29L1 shows an average decline of 0.53 ft/year from 1976 and 1988 when water level monitoring ceased almost 20 years ago! It is especially important to re-monitor these and a number of other downgradient wells, because several previously monitored shallow wells and wells in the "transition zone" included on the USGS NWIS website were reported as being "dry" before monitoring was discontinued.

**Model must be able to explain and predict measured data and not discount monitoring data that defies easy explanations associated with larger quantity pumping at well 25K2 and 11G1**

118. Although the monitoring data show troubling trends in ground-water quantity and quality in the Aquifer, the EIR fails to require continued monitoring, and offers maps that change the locations of wells. FEIR 4.0-58 even refers to “removing initial Well 25K2 data” because “water levels in Well 25K2 have an atypical response to pumping compares to other Layer 1 wells.” This is manifestly an erroneous manner of treating the data that does not meet professional standards.
119. Water levels are already decreasing at a rate greater than 1 foot every 8 years in some USGS monitored wells. This rate of decline is reported in the USG EIR as follows. (The reported rate of decline could also trigger implementation of mitigation measure 3.3-1).

**Water levels in the Ocotillo/Nomirage area have steadily declined over the last 30 years**

120. Specifically, the EIR (p. 3.3-49) states:  
“ The hydrographs for all of the wells shown in Figure 3.3-9 [Ocotillo/Nomirage Area Hydrograph] indicates that the static (non-pumping) water levels in the Ocotillo/Nomirage area have steadily declined over the last 30 years. The total decline is about five to six feet, for an average rate of water level decline of one foot every five years. The hydro graphs for several of the wells, but most notably 16S/9E-36D2, indicate that the decline has been very consistent over this time period. This is somewhat surprising because the rate of rainfall in the basin from 1976 to 1993 was generally above average (see Fig. 3.3-2) and the rate of water production from the basin 1979 to 1996 decreased by almost 45 percent (see Fig. 3.3-8).” (USG DEIR 3.3-49, emphasis added.)
121. What has not been revealed by the USG DEIR or FEIR is how much USG has been pumping and exporting from each of its three wells. This data is a necessary component of the environmental baseline for the project, and is lacking.
122. Nevertheless, a review of the USGS groundwater monitoring data for well 16S/9E-25M2 for the Ocotillo Mutual Water Company shows that between October 2000 and October 2007 the water level declined 3.78 ft or an average of 0.54 ft/year, or a decline of about 1 foot every 22 months.
123. The Ocotillo/Nomirage area has two residential subdivisions supplied with water by mutual water companies. The area to the immediate east and southeast of the residential community of Ocotillo and to the NW of Nomirage also contains the three USG export wells and the former export Clifford/McDougal well 16S/9E-25K2. The USG DEIR states that:  
“Well 16S/9E-25K2 was pumped for export of water to Mexico from 1974 to 1984. ...water production from this well increased from 138 AF/yr in 1974 to 222 AF/yr in 1977, and then is presumed to have decreased to 137 AF/yr from 1978 to 1984. Actual production data after 1978, however, is uncertain. [See hydrograph Fig. 3.3-9.] Pumping of this well caused drops in the water level of 50 feet to 60 feet between 1975 and 1981.” (USG DEIR p. 3.3-46, emphasis added.)
124. The Final EIR makes no changes to the above text but adds one more sentence to the paragraph which states that: “From 1984 to 1996, water levels in this well have returned to pre-pumping levels” (FEIR p. 3.3-46). It fails to note, however, that there has been no accurate data for that well since 1996 because the well was pumping water on subsequent monitoring visits. Who knows what the water level is in 2007 or any time between 1996 and 2007?

### **Ocotillo export well issues**

125. “Prior to pumping of this well [16S/9E-25K2 ], TDS levels were approximately 250 mg/L to 310 mg/L. Within a few years after pumping began, the TDS concentration increased to as high as 400 mg/L, which is a 60 percent increase from pre-pumping levels. TDS levels have subsequently decreased to between 320 mg/L to 360 mg/L. As shown in Figure 3.3-12, TDS Trends Ocotillo/Nomirage Area, the TDS concentration has not returned to the levels measured prior to pumping. (USG DEIR p. 3.3-59, emphasis added.)

### **USG well 36H1 is experiencing a drawdown in 12 years that is greater than would be predicted for 20 years of pumping at 650 AF/Y**

126. The greatest rate of water level decline is in USG’s well 36H1. USG well 36H1 is experiencing a drawdown in 12 years that is greater than would be predicted for 20 years of pumping at 650 AF/Y. Well monitoring data from USGS reveals that the water level in USG well 16S/9E-36H1 has declined 5.51 ft from 2001 to 2007 or at a rate of 0.92 feet/year, a rate of decline faster than for any other monitored well in the basin at present! The FEIR fails to disclose how much this well has pumped annually. Water quality data is not available for this well for the year 2007, so it is unknown whether water quality is changing as the rate of water level decline has increased. The water level has declined 22.55 ft from 1954 to 2007 or an average of 1 foot every 2.35 years over the more than 50 years since the well was drilled. FEIR 4.0-45 and Todd’s 7/30/07 statement that “well 36H1, located close to USG pumping, exhibited a steep decline of approximately 10 feet from 1995-2005, but has recently begun to recover” and the following Todd text reveal that Todd ignored the fact that well 36H1 is actually the furthest east of the three currently pumping USG export wells. If Todd had looked more carefully at monitoring data for 2001-2007 they would have seen that the water level over the past six years has declined 5.51 ft as previously noted, and does not appear to be “recently recovering” based on USGS NWIS monitoring data available for public review on the internet. USGS NWIS water level monitoring data reveals that water levels have been consistently declining since 1995.

### **Water level changes in wells in the Ocotillo area**

127. Even further west of all residential development and community water supplies or groundwater export , data from two monitoring wells was even more surprising .Well 16S/9E-34B1 (Hamilton well) located west of Ocotillo between S-2 and I-8 showed a decline of 1.05 ft in the past four years or a rate of 0.26 ft/year. This well is one for the closest to recharge from the wash from the mountains.
128. Further east and south, and nearer the junction of I-8 and Hwy 98 well 16S/9E-35M1 revealed a decline of 4.4 ft in the past eight years with the decline in water level from 10/2006 to 10/2007 of 0.92 feet in a one year period, exactly the same rate of decline as for USG export well 36H1 about 1mile away.
129. West of Ocotillo Unit 2 and west of Shell Canyon probably off Via de Coyote, well 16S/9E-36D2 has exhibited a water level decline of 2.71 feet during the past seven years for an average decline of 0.39 ft per year or 1 foot for every 31 months.

### **Water levels in wells east of Coyote Wells**

130. For wells in the transition area east of Coyote Wells the water level in monitored wells to the west “decreased by approximately eight feet from the late 1970s to the late 1980s, as shown on Figure 3.3-11. As indicated in Figure 3.3-8, this time period corresponds to the period of the greatest amount of groundwater pumping from the Basin. The water level in well 16S/10E-29H1, to the east of the transition, decreased by about five feet from 1975 to 2001. This corresponds to an average rate of decline of one foot

every five years which is identical to the rate of decline for the Ocotillo/Nomirage area over the same time period.” (USG DEIR p. 3.3-54, 55.)

**Water level changes in Yuha Estates influenced by export pumping from 1977-1982 have not yet recovered**

131. With respect to the export pumping from a residential subdivision with 6 to 7 other occupied residential lots at the time and about 6 miles southeast of Ocotillo, the USG EIR states that:

“The hydrograph (Fig. 3.3-10) for the Yuha Estates area is dominated by the pumping of well 17S/10E-11G1. Pumping of this well [for export] at 143 AF/Y from 1978 to 1982 resulted in a drawdown, or decline in water levels, of almost 70 feet. Drawdown was also observed in all the other wells [domestic use only] in the Yuha Estates area. The magnitude of drawdown in other wells ranged from approximately 8 feet to over 60 feet.” (USG DEIR at p. 3.3-50, emphasis added.)
132. “Pumping of well 17S/10E-11G1 ceased 20 years ago. [In fact it ceased 9/1/82, now more than 25 years ago.] Water levels, however, have still not recovered to their pre-pumping levels. The water levels in the Yuha Estates area are approximately five to 10 feet below the levels recorded in the early 1970s. As shown in Fig. 3.3-10, the rate of recharge has been very slow. The water levels in several of the wells appear to have stabilized and suggest that Yuha Estates is experiencing the same long-term decline in water levels as that observed in the Ocotillo/Nomirage area. As discussed above, this decline has occurred despite periods of above-average precipitation and a significant reduction in the rate of pumping over the same time period.” (USG DEIR at p. 3.3-50, emphasis added.)
133. The USG EIR and its technical appendices can’t seem to get the facts straight. This misinformation about water well operation and locations in one of the most intensively monitored parts of the basin leads to serious questions as to the reliability of the of conclusions drawn by consultants?
134. FEIR Appendix C-1, Todd Engineers in the 7/31/07 letter to the County at p. 6, states that export pumping from well 11G1 was believed to have stopped 30 years ago: “However, water levels in 11G4 near Yuha Estates have recovered much more slowly and still (30 years later) have not reached pre-pumping levels.” (Emphasis added.) In fact, well 11G4 is only several hundred feet at most from 11G1 and is in fact located just to the west and on the same lot as well 11G1. It was the well driller that informed the owner of well 11H3 that well 11G4 had not been completed because the owner of the lot on which wells 11G1 and 11G4 were located had not made final payment following the drilling of well 11G4. Export pumping from 11G1 began on or about 9/1/77 and had ceased by 9/1/82. So it has been 30 years since export pumping began but just 25 years since it ceased.
135. “Water quality data are not available for well 17S/10E-11G1 [the export well]. Well 17S/10E-11G2, however, is located a few hundred feet [NW] from well 17S/10E-11G1. Prior to pumping for export to Mexico, the TDS level in well 17S/10E-11G2 was approximately 330 mg/L. From 1977 to 1982, however, the TDS level in this well increased steadily to almost 400 mg/L, as shown in Figure 3.3-13.” (USG DEIR at p. 3.3-60.)
136. “In addition, from 1987 to 2001, the TDS level in well 17S/10E-11H3 [replacement well for 11H2 and less than 50 ft from 11H2 and probably only a few hundred feet SE of export well 11G1], has shown a steady decrease, as indicated in Figure 3.3-13.” (USG DEIR at p. 3.3-60.)
137. TDS confirms well 11H2 TDS of 295 in 1984 showed good quality water and 11H3 “showed good

quality water, and even indicating a slight improving trend”when sampled from 1986 to 2002. (FEIR 5.0-214) BE 7/11/06 memo attached to USG DEIR comment letter.

138. Contrary to the information in FEIR Appendix C-1 letter of 7/30/07 p. 6 and FEIR 4.0-42, there is no well 11H4 in Yuha Estates. With the exception of the unused, and never completed well 11G4, all wells are now used for domestic purposes. Only 11G1 was pumped for export; all others have always been used for single family domestic purposes only. USGS staff Field Notes will confirm correct locations and uses of wells monitored by USGS, either past or currently.
139. USG DEIR at “Sec. 3.3.3.5 Discussion of Water Quality Data” provides the following information which will explain why the Regional Water Quality Control Board was correct to have concerns about the proposed increase in the rate of export pumping by USG from three wells located between the residential communities of Ocotillo and Nomirage. (FEIR 5.0-287, 288, 289.)
  - a. *“The water quality data discussed above indicates that pumping of wells for a period of several years at rates of 100 AF/yr to 200 AF/yr or more can have a measurable impact on water quality in certain areas of the basin. When it occurs, this impact appears rapidly and persists for many years after pumping ceases. The decrease in water quality may be due to lateral migration of higher-TDS water from areas near outcrops of Tertiary marine sediment, or vertical migration of water from or near Tertiary marine sediments underlying the alluvial aquifer throughout most areas of the basin.”* (Emphasis added) (USG DEIR at p. 3.3-65.)

#### **EIR provides no information to support USG stated need for low TDS water of a particular quality**

140. The FEIR fails to provide information or substantial evidence to support USG’s purported need for low TDS water for manufacturing wallboard by claiming knowledge of the maximum acceptable TDS is a proprietary secret. (FEIR Response to comments 20-46 at p. 5.0-146.) Apparently no consultant was able to get that information from USG either. There was no such data in the Planning files when we searched.

#### **How much water is pumped by each of the 3 metered USG wells?**

141. FEIR fails to provide information about how much water is pumped by each of the 3 USG wells although it states that the water is metered at the well sites. However, EIR provided information about estimated quantities pumped from two other wells (not USG wells) that stopped export operations in 1982 and 1984. Why the difference? Indeed, the USG FEIR states very specifically that “Water is metered at the well sites.” (Response to comment 20-53 at FEIR p. 5.0-147) Therefore, it should not be difficult to include the amount pumped annually from each of the USG export wells. There is no explanation in the FEIR as to why this critical information, required as part of the baseline, is missing.
142. That being the case, then the EIR fails as an informational document upon which to base any decisions other than to deny the proposed increased use of groundwater. The only reason we can think of for failing to provide information on water quality and water quantity pumped from each of the USG export wells is that the information would raise troubling questions about the existing and potential future impacts of USG’s continued export pumping. If water quality is such a major issue for USG, then why refuse to provide information about the quality of water USG is pumping?

## **E CLIMATE CHANGE**

143. FEIR Appendix C-1 and FEIR Sec. 4.3.7 “Water Balance” are flawed because they ignore scientific information about impacts of climate change on western water resources and because “in the computer

model, recharge remains constant over the study period ..." (FEIR 4.0-49)

144. In light of all recent articles in worldwide press about the very serious consequences of the impacts of global warming and temperature increases on the water resources of the southwest, especially publications by scientists Tim Barnett at Scripps and UC San Diego and University of Arizona, it seems most inappropriate for decision-makers in February 2008 to accept any computer model which is based on current or past recharge estimates based on past rainfall data from a site many miles to the east of the groundwater basin or even past estimates of rainfall in the mountains to the north or west.
145. We include several articles about climate change, anticipated declines in precipitation and increased temperatures (Exhibits 219) to support our conclusions that the computer model as described is an inappropriate tool for decision-making because there are no requirements for reconsideration of activities based on reduced recharge, increased overlying domestic use and no mandatory requirements for increased monitoring of downgradient wells and recalibration of the model at either certain time intervals or triggered by certain defined monitoring results. (Exhibit 219: Univ Arizona projections for temperature and rainfall, U of Arizona climate change maps are available at: [http://www.geo.arizona.edu/dgesl/Assets/research\\_maps/climate\\_change/.](http://www.geo.arizona.edu/dgesl/Assets/research_maps/climate_change/)) Other serious examinations of climate change with predictions have been published during the past year. Among some that give directions relevant for this project are Exhibit 257, Garfin, G., & M. Lenart Jan/Feb 2007. "Climate Change: Effects on Southwest Water Resources." Southwest Hydrology: 16, 17, 34. The authors note that changes over the past 500 years, even with fluctuating precipitation and temperature changes, "clearly show the region could face long-term droughts more severe than those observed in the last century or so."
146. Exhibit 258, Wilkinson, T. 3/4/08. "Climate change's most deadly threat: drought. Anthropologist Brian Fagan uses Earth's distant past to predict crises that may lie in its future." The Christian Science Monitor Online. In this book review Wilkinson quotes anthropologist Fagan by noting that:  
"We're not good at planning for our great-grandchildren yet this is what is required of our generation and those who follow," he writes. "Drought and water are probably the overwhelmingly important issues for this and future centuries, times when we will have to become accustomed to making altruistic decisions that will benefit not necessarily ourselves but future generations yet unborn. This requires political and social thinking of a kind that barely exists today." \
- And, so to the County needs to consider the needs of future generations for clean potable water for domestic use, nor merely the financial desires of a Fortune 500 company seeking to reduce costs today without looking toward the future 80 years at the end of the anticipated life of the proposed project. That is why we also included climate change maps with long term future projections.

### **Rainfall and recharge unlikely to remain constant over 80 year project life as model assumes**

147. Even though the FEIR asserts that the "model underestimates the recharge to the basin" (FEIR 4.0-49), this seems questionable based on the statement in the previous FEIR paragraph that "recharge remains constant over the study period" and with no discussion of the implications of climate change on recharge and changed overlying pumping that is likely to accompany increased ambient temperatures. Because we believe the assumption of "constant recharge" during the next 80 years is more than overly optimistic in light of recent publications about climate change, FEIR Table 4.0-6 (at p. 4.0-62) for the groundwater budget for Layer 1 in the Ocotillo area is totally unrealistic.

### **Climate Change and potential cumulative impacts discussion**

148. "Water is an immensely complex subject which requires the mastery of many disciplines from the practical sciences of hydrology, engineering, and chemistry to an understanding of history, social

organization, and the law.” William L, Kahrl, The California Water Atlas. Kahrl’s discussion of Groundwater Management will be included at the end of these comments because they are as relevant today as they were 30 years ago.

149. The EIR must address the cumulative impacts of USG’s groundwater use in addition to domestic uses of overlying residents at build-out in light of information about increasing temperatures and projections of decreasing rainfall as projected by university programs at University of Arizona and at University of California Santa Barbara doing research on climate change and impacts to future water resources. Information and maps depicting “Projected Annual Precipitation Changes for 2091-2100” projects a 10% reduction in precipitation, “Projected Dec-Jan-Feb Temperature Changes for 2091-2100” projects a 5-6 degree F increase in winter temperature. A similar map for temperature changes June - August project an 8 degree F increase in summer temperatures that can be expected if one considers that the DEIR mentions an 80 year supply of gypsum at the Plaster City Fish Creek quarry (DEIR Sec 3.3.2.2 at p. 3.2-14). These three maps reveal that residents are likely to be increasing water use for irrigating trees to provide shade to reduce the effects of summer temperatures which could be expected to reach 130 degrees in the summer, thereby increasing evapotranspiration from vegetation especially during periods of high winds. Maps from the University of Arizona are available at:  
[http://www.geo.arizona.edu/dgesl/Assets/research\\_maps/climate\\_change/...](http://www.geo.arizona.edu/dgesl/Assets/research_maps/climate_change/...)(Exhibit 219.)
150. An announcement of an up-coming meeting on climate change impacts on the desert included a list of the speakers including a presentation by Dr. Wilkinson, entitled: “Climate change and desert water regimes: inter-agency management challenges” at a seminar on climate change in the desert at Joshua Tree NP on 2/8/08. Information in the programs states that:  
  
“Climate change is already impacting California’s water resources. In the future, warmer temperatures and different patterns of precipitation and run-off will affect the ability of local and regional agencies to manage water supplies in their communities. Local governments and planners need to be aware of these issues and help to coordinate innovative responses with agencies to ensure that the effects of climate change are mitigated to the best of our abilities.”
151. Robert Wilkinson is an Adjunct Instructor for Water Policy at the UC-Santa Barbara Donald Bren School of Environmental Science and Management. Dr. Wilkinson’s research and teaching is focused on water policy, climate change, and issues of environmental policy. He currently serves on the public advisory committee for California’s State Water Plan, and he has represented the University of California on the Governor’s Task Force on Desalination. He has advised the California Energy Commission and the U.S. Environmental Protection Agency on climate research, and has served as coordinator for the climate impacts assessment of the California Region for the U.S. Global Change Research Program and the White House Office of Science and Technology Policy.
152. The issues of concern related to future water uses in Southern California, especially in times of climate change and projected increase in temperatures in the California desert must be addressed by the EIR, and was raised by comments in response to the DEIR. As the opening paragraph in a recent publication on water policy by Dr. Wilkinson states:  
  
“There are many management strategies available in California to provide sufficient, high quality water services to its diverse users. Even though the number of water users and the California economy continue to grow, and conventional water supplies remain limited, new technologies and management approaches are increasing the number of new supply options (from ocean desalination to new end-use

efficiency improvements) and improving their cost-effectiveness. There are, however, real costs and barriers for each option to provide reliable water services and water supplies of appropriate quality for the end uses. Options and strategies must be identified, choices and investments made, and costs and benefits allocated.” Wilkinson, R. & D. Graves. 6/2006. Rethinking Water Policy Opportunities in Southern California , An Evaluation of Current Plans, Future Uncertainty, and Local Resource Potential. Executive Summary at p. 7 of 88 pp. internet website of publication title at <http://www.bren.ucsb.edu/academics/WaterPolicyProgram.htm>.

153. For the USG expansion/modernization project, Imperial County has a golden opportunity to require USG to use Colorado River water because USG has the financial resources to provide the infrastructure and facilities necessary to ensure that the canal water can be used for manufacturing purposes. As Dr. Wilkinson stated there is an “option to provide reliable service and water supplies of appropriate quality for the end uses.” And it will be less expensive over the long term for USG to provide water for its operations with the least adverse environmental impacts. Why? Because as a Fortune 500 company USG is better able to absorb the costs than are other segments of the County. The alternative can be seen in the conclusions of the February 2008 article in National Geographic entitled” Drying of the West”.
154. “The West was built by dreamers. The men who conceived Hoover Dam were, in the words beneath a flagpole on the Nevada side, "inspired by a vision of lonely lands made fruitful." As the climate that underpinned that expansive vision vanishes, the vision needed to replace it has not yet emerged. In a drying climate, the human ecosystems established in a wetter one will have to change—die and be replaced by new ones. The people in the Southwest face the same uncertain future, the same question, as their forests: What happens to the stuff that's there now? (“Drying of the West” by Robert Kunzig, National Geographic February 2008. <http://ngm.nationalgeographic.com/mgm/2008-02/drying-west/kunzig-text.html> )
155. FEIR, Sec. 4.3.12, Climate Change, devotes most of its discussion to the production and emissions of greenhouse gases and concludes that the “GHG emissions from the Project standing alone, will not cause global warming in any meaningful sense or otherwise result in an adverse change in the physical conditions that exist in the area affected by the Project.” (FEIR 4.0-78,79.) The FEIR also concludes because of the location of the project in the desert that it will not be affected by sea level rise. (FEIR n4.0-79)
156. The FEIR authors also apparently are not aware of the research about climate change on temperatures and rainfall in the Southwest deserts that is an ongoing project of the University of Arizona. Rather than the attempt of the FEIR to reassure that climate change is speculative and not likely to have an impact on the project, we have concerns that climate change in terms of anticipated temperature increases and reduction in precipitation will add to the cumulative effect of increased groundwater pumping from an already declining potable Sole Source Aquifer or that the increased pumping will add to the cumulative effect of increased temperature and reduced rainfall/recharge on the impacts of overlying domestic pumping.
157. It is also disingenuous for the FEIR to express concern about emissions that might result from transporting gypsum to a more distant location by either rail or ship and the emissions associated with wallboard transport (FEIR 4.0-80) when our Table 7 “Wallboard manufacturing facilities, construction/closing dates, costs, gypsum and water sources” and the DEIR itself reveal that “most other west coast gypsum production plants rely on waterborne rock shipments from Mexico” (DEIR 2.0-1, 2.0-2) including the new USG wallboard plant at Rainier OR. (See Table 7 and USG information on gypsum to USGS for mineral commodity reports.

## **F Cumulative Impacts**

FEIR and DEIR Cumulative impacts discussion is flawed because it does not address either realistic potential for build-out of private lands in ONCAP or disclose location and proximity of Centinela State Prison and potential cumulative air quality impacts on prison population or cumulative traffic impacts in addition to prison employee, visitor or prison deliveries related traffic.

### **EIR fails to mention closest population center at Centinela State Prison**

158. The FEIR omits any discussion of the closest human population of any size at Centinela State Prison. The DEIR discussion of “Land Use” in the plant and water supply area at p. 3.1-10 should reference the ONCAP planning document. The DEIR curiously lists the communities of Seeley Imperial, Heber, Sunbeam Lake and the Naval Air Station. Many of these locations are at much greater distances from the manufacturing plant at Plaster City and have much smaller populations than the nearest community of any size, the Centinela State Prison, with an inmate population of more than 5,000 discussed earlier. However, the DEIR makes no mention of the Centinela State Prison, nor does the FEIR, other than in comments and exhibits from Sierra Club.
159. Our Scoping comments specifically raised concerns about impacts on the involuntary population at Centinela State Prison. These Scoping concerns related to the potential for impacts on the Centinela population have been ignored and impermissibly excluded from consideration in the DEIR because BLM Scoping letters and the Transcript first were provided for public review in 1/2008 for non-local federal and state agencies. Seeley is a further distance from Plaster City and in 2000 the US Census Bureau reported a population of only 1,624 people for Seeley, a population much smaller than the nearer population at Centinela. CEQA requires that the EIR address concerns raised during Scoping; failure of the EIR to do so is a procedural violation of CEQA. The EIR cannot discuss impacts on communities 18 miles away but consistently fail to acknowledge the presence of an involuntary population just several miles away!
160. The FEIR/EIS identifies El Centro as being 15 miles east of the Plaster City site and the Mexican border Mexicali population as being less than 15 miles to the south. However, the FEIR fails once again to identify the Centinela State Prison which is clearly depicted as being located approximately 4 miles to the ENE of Plaster City on our Scoping Exhibit 129, which was appended to our Scoping comments submitted to BLM in July 2002. Additionally, the same map depicting the location of the Centinela State Prison was included as Exhibit 105 to our Scoping letter submitted to Imperial County in February 2002. Any cumulative impacts discussion which fails to include a map and/or text identifying the close proximity of the Centinela State Prison fails to meet the CEQA informational and disclosure requirements, and is further evidence of the extent to which scoping information and concerns were ignored in preparation of the Lead Agency’s Draft and Final USG EIR/EIS.
161. Did the consultants who prepared the DEIR ever visit Plaster City? If so, weren’t they curious about signs for the State Prison which employs three times as many people as does the Plaster City factory? And, even if the County planners don’t understand the location of the Plaster City wallboard plant in relation to irrigated agriculture and Centinela State Prison, surely the building inspectors could have looked at the figures to check for consistency.
162. The purpose of an EIR is not to make the public ferret out information that should have been in the EIR and provide information and maps that were submitted during the scoping process. Thus, the DEIR and FEIR failure to reveal the location of the involuntary population of more than 5,000 individuals 4 miles to the ENE means that the DEIR/EIS withheld from public and agency view significant information about Centinela State Prison that resulted in a deeply flawed description of the general proposed project location and the “project site overview” of the Plant at Plaster City. (DEIR Sec. 3.1.1.2 at p. 3.1-13, and all

previous project location discussions and Figures found in the DEIR 1.0 Introduction and 2.0 Proposed Action and Alternatives portions of the DEIR.) (See Exhibit 204 to see the location of Centinela State Prison in relation to the location of Plaster City facility.) We provided the information during the Scoping period and at Scoping meetings, so there is no excuse for not including it in the DEIR.

**EIR discussions of Traffic & Circulation, Air Quality and Health and Safety all omit potential cumulative impacts related to prison**

163. DEIR Sec. 3.11 **Traffic and Circulation** also makes no mention of the nearby Centinela State Prison. Prison employees and truck deliveries of supplies to the State Prison would also be using Evan Hewes Highway for access to the Prison, and, if using Interstate 8 would be most likely exiting either from Drew Road or Dunaway Road to reach the prison. All of these roads are listed in DEIR 3.11-1 and 3.11-2 as being in the affected environment for Traffic and Circulation. The FEIR and technical appendices similarly make no mention of traffic related to Centinela State Prison for employees, deliveries, or visitors.
164. Discussion of **Air Quality** issues at DEIR p. 3.1-7, 8 should have addressed potential air quality impacts as contributory to respiratory problems for non-local inmates with no resistance to air-borne pathogens and allergens in the dust at the Centinela State Prison. See Exhibit 215 New York Times 12/30/07 "Infection hits a California prison hard", which supports our concern that cumulative air quality impacts be addressed with respect to the population at Centinela State Prison.
165. April 2006 DEIR is grossly and woefully inadequate in its discussion of **Cumulative impacts** and in its failure to disclose the location of the **Centinela State Prison**. Any Draft EIR released for public review in 4/2006 which was in preparation following scoping meetings in 2002 should have disclosed the location of the Centinela State Prison in DEIR Sec. 3.9.2.2 "Existing Land Uses" at DEIR p. 3.9-2. The Centinela State Prison is about the same distance to Plaster City than the "Navy Desert Test Range and it has a relatively permanent, even if involuntary, residential population.
166. It was readily apparent to BLM and County that the prison was located near to Plaster city and, indeed, is clearly shown, although not identified by name on numerous figures in the **Draft EIR/EIR** and Proposed Land Use Amendment for San Diego Gas & Electric Company Application for the **Sunrise Powerlink Project**, SCH #2006091071, DOI Control No. DES-07-58, 1/2008 Vol. 1 of 6 which was released for public review before the 1/2008 USG FEIR. (Sunrise Figures C-1 "Imperial Valley Link, Alternatives Retained" the prison is just to the left and below the W for the WMC-0 label and on Fig C-9 about 3/4" to the left of #10 to the west of SDG&E Segment A.) (See Exhibit 223, Fig. C-9 from 1/2008 DEIR/EIS for the Sunrise Powerlink Project, SCH # 2006091071 includes a circle to show location of Centinela State Prison to S of Naval Air Facility and just west of irrigated agriculture.)
167. Discussion of the Sunrise DEIR Sec. B.6 Connected Actions and Indirect effects and Sunrise DEIR Fig. B-44a discuss and show the location of the proposed Stirling Energy Systems Solar Two, LLC Project (SES) as being located immediately south of the rail line that goes through Plaster City to the south of the factory and south of Old Hwy 80 extending south to the Interstate 8 covering about 8,000 acres of BLM land and ultimately including "37,400 solar concentrating devices covering 12.5 square miles." In part, the project would have about 525 miles of gravel access roads (which have the potential to generate additional windblown particulate matter), infrastructure to connect to the electrical grid and "a pumped filtration system to connect to IID's existing canal," etc. (Sunrise DEIR B.6.6.1.1 pp. B-10, 102, 103. emphasis added.) SES facilities would occupy approximately 5,700 acres of the 8,000 ac site.
168. Given the location of the proposed SES immediately adjacent to and south of the Plaster City factory, the stated need to use canal water from IID, the USG Alternatives should include shared cost for placing a

pipeline of a size necessary to supply the water needs of both projects and to a potential cement plant as previously proposed in 1980 by the Creole Corporation, a subsidiary of Texas Industries Inc., which triggered the BLM grant of a ROW #CACA 8683 to IID for both a power line and a water line to the Plaster City area in April 1981. (BLM ROW CACA 8683 granted to IID April 1981 following IID's August 1980 Application for said ROW. See aerial photo with BLM CACA8683 ROW superimposed on top of the photo. See Exhibits appended hereto.) This information is also applicable to the failure of the USG FEIR to provide adequate discussion to an alternative source of water for its industrial operations at Plaster City. The SES map also shows the proximity of Centinela State Prison to the Plaster City site.

169. Therefore, DEIR and FEIR impermissibly omit any discussion or even any mention of the proximity and resident population of Centinela State Prison. This omission means that both the Project location description of Existing land Uses near the plant in DEIR Dec, 3.9 Land Uses and the discussion of DEIR Sec. 3.13 **Public Health and Safety** and Cumulative impacts discussions in a number of sections, including Sec 3.6 Air Quality Cumulative impacts discussions, are woefully inaccurate and inadequate given the proximity of the USG factory operations and the prison.
170. USG DEIR Sec., 3.6.2.1 at DEIR 3.6-2 states that: "During the fall and winter they [winds] blow from west and southwest while during the summer, they blow primarily from the southeast." This means that the prison population is down-wind of the USG factory in fall and winter months and should have been considered in discussions of cumulative impacts that could have an adverse impact on respiratory health. Given the size of the prison population, there should be a monitoring station for air pollutants closer to the prison site than the site 17 miles east and downwind of the project site? Air borne particulates from the factory certainly appear to migrate and cover an area far more than the 1/4 mile of the Plant site as an area of concern for air quality issues (DEIR 3.6-39), even though the DEIR suggests otherwise. Plant emissions and dust must be considered together with the dust and airborne particulates generated from the adjacent 30,000 acre Plaster City Off-Road Vehicle Open Area identified in DEIR Sec. 3.9.2.2 at p. 3.9-2.
171. DEIR discussion of public health and safety (at p. 3.1-12) should also include the public health issues that may be associated with water quality degradation for overlying domestic water users if US Gypsum continues to export groundwater from wells located between the communities of Ocotillo and Nomirage in what the DEIR refers to as the "Water Supply Area". DEIR Sec. 3.1.1.2 fails to include any mention of the locations of the three wells that are at the west end of the water pipeline that goes from the Plaster City factory site to the Ocotillo/Coyote Wells groundwater basin (DEIR at p. 3.1-13) at a location known to residents to be between the residential subdivisions of Ocotillo and Nomirage.
172. The location of the USG property in relation to other federal and private land uses and federal land use management designations is important to enable the reader to ascertain whether or to what extent there are off-site impacts on public and/or private lands from the gypsum dust and/or waste piles of wallboard, on biological resources of special concern on nearby public lands and on affected human populations.
173. In addition to the high local incidence of allergies and asthma, there is the potential for valley fever or coccidioidomycosis related to exposure to fungal material in desert dust to a portion of the prison population without previous exposure. Therefore, it is important to locate the factory site in relation to the nearby involuntary population of 5,110 inmates living at **Centinela State Prison** (CA Dept. of Corrections and Rehabilitation 9/30/07, cited in Wikipedia "Centinela State Prison" article downloaded 1/1/08. (Exhibit 216.)). Centinela State Prison also had a staff of 1,192 as of fiscal year 2002/2003 with a budget of \$117.1 million. (Wikipedia from CA Dept. of Corrections and Rehabilitation assessed 12/24/07.) Google aerial photos reveal gypsum dust to the east of the factory and in the direction of Centinela State Prison. (Exhibit 264, Aerial photo depicting location of Plaster City and Centinela State Prison and

showing white dust to east of Plaster City facilities.) (1996 aerial photo DEIR Fig 2.0-4 at p. 2.0-13.) In both written and oral comments during the EIR Scoping process, Sierra Club insisted that the EIR must give an accurate factory location with respect to the proximity of the Plaster City factory to Centinela State Prison with its large involuntary population. (USG DEIR Vol. II Appendix A-3 Transcript, p.16, line 5. Also Exhibit 105 appended to the Sierra Club written Scoping comments submitted on 2/28/02.) The Sierra Club Scoping letters submitted on 2/28/02 are identified as Exhibits 100 and 106, neither of which was included in the USG DEIR Vol. II Appendix 3 or in the 8/07 ,11/07 , or 1/08 versions of the FEIR provided for our review.)

174. The 1/9/02 County Scoping Transcript makes it very clear that we had raised the issue of air quality impacts on the population at Centinela State Prison. Specifically, the transcript states:  
“There was no mention in the project description of the reference to the factory location, with respect to Seeley or the even closer Centinela State Prison. One is a population, it’s a voluntary population. The other has a fairly large involuntary population, which may be impacted if there’s air quality issues.” (USG DEIR Vol. II Appendix A-3 Transcript, p.16, lines 4-6.)
175. The New York Times 12/30/07 article “Infection hits a California prison hard” describes the high numbers of illnesses, infections and deaths related to valley fever related to inhalation of fungal material in the desert dust at Pleasant Valley State Prison at Coalinga, CA. (Exhibit 215.) The Pleasant Valley State Prison is the home to a prison population of 5,300 inmates with a staff of 1,388. (NY Times 12/30/07; Wikipedia Pleasant Valley State Prison reviewed 1/1/08.) This NY Times article gives new meaning to the concerns about possible adverse health impacts on an involuntary population at the Centinela State Prison just a few miles to the ENE of the Plaster City factory. The New York Times article also disclosed that the Arizona health department declared a valley fever “epidemic after more than 5,500 cases were reported in 2006, including 33 deaths.” (See Exhibit 204 and 264 aerial photos for proximity of Centinela State Prison to Plaster City.)
176. A prison population may be more immuno-compromised than the non-prison population and most definitely has a larger population of non-local persons who may never before have been exposed to the fungus in soil dusts. Dust storms and even airborne dust associated with the Northridge earthquake and subsequent landslides was implicated in the increased number of cases cited in San Francisco following a 1977 dust storm and in Northridge in 1994 following the earthquake. In the early 1990s the increased incidence of coccidioidomycosis (valley fever) was “estimated to have cost more than \$66 million in direct medical expenses and time lost from work in Kern County, California, alone.” (Kirkland, T.N. & J. Fierer. 1996. Emerging Infectious Diseases V.2 No.3. “Coccidioidomycosis: A reemerging infectious disease.” pp. 1, 3.)
177. In any event, the health of a non-local prison population or non-local prison employee staff mean that any adverse respiratory health impacts of those associated with the Centinela State Prison will be a tax-payer cost and treatment will be at taxpayer cost.

**Cumulative impacts related to air quality and health should include PM 2.5s, larger particulates and Valley Fever issues related to prison population**

178. Following a 2/29/08 discussion with Miguel Monroy, now retired but formerly with the Imperial County APCD, the issues of valley fever and **PM 2.5s** seem even more critical and should have been addressed by the EIR. Issues of PM 2.5, valley fever and possible asbestos fibers or other fine particles in the gypsum rock dust or becoming entrained in the air from vehicle movement at quarry, along rail line and in the Plaster City area or in the dust being blown from the US Gypsum Plaster City factory site toward the

involuntary population at the prison in addition to the voluntary population living nearby are issues that must be addressed. DEIR Sec. 2.2.1 at p. 2.0-2 identifies the factory as being 18 miles west of El Centro, but fails to disclose the distance from Seeley, the state prison or the Naval Air facility, all of which are closer to Plaster City. Our Scoping comments requested maps that would correctly disclose the location of the project in relation to identified locations where off-site impacts must be addressed. The DEIR makes no early disclosure of sensitive human or resource areas and the Acrobat PDF search was unable to locate the word “prison” even once anywhere in the entire USG DEIR or FEIR, even though the nearby Centinela State Prison just west of irrigated agriculture and N of Evan Hewes Hwy was opened in 1993 and FEIR 5.0-123 Sierra Club Scoping letter dated 7/9/02 and submitted to BLM in 2002, Comment 20-60 about “cumulative particulate air pollution” and the “nearby involuntary human population at the Centinela State Prison”. The location of the prison is also depicted in Exhibit 129 appended to that 2002 letter. The response to comment ignores the issue of the state prison and cumulative impacts on that population, as does the entire text of Response 20-60 (references FEIR Section 4.3.10 “Expanded Air Quality Analysis” beginning at FEIR 4.0-68).

179. Therefore, because the search of both the DEIR Adobe PDF file and the FEIR Adobe PDF file revealed no mention of the state prison, the EIR is deficient in addressing the potential for cumulative impacts including adverse health impacts on an involuntary population of more than 5,000 prison inmates of dust generated by activities at the factory and quarry and transported off-site by winds in combination with dust and possible fungal pathogens in the dust clouds generated by off-road vehicle activities in the adjacent BLM administered Plaster City Open Area. These adverse health related impacts associated with particulate air pollution include not only valley fever, but asthma and allergies among other respiratory problems. Respiratory problems among the inmate population add pressures to the already challenged medical services in Imperial County. Large clouds of windblown dust blanketing the western portion of the County are readily observed and a photographable occurrence seen from the open desert to the south and east of Ocotillo. The clouds of dust do not magically stop or appear diminished before they reach Plaster City or Centinela State Prison, even if the USG EIR fails to locate the State Prison on maps or in text.
180. Increasing the capacity of quarry haul trucks from 35 tons to 60 tons (DEIR Sec. 2.4.2 , p. 2.0-25, 26) means that the heavier vehicles will compact and pulverize the unpaved surface under the trucks, with the likely result that there is a greater potential for generation of PM 2.5 materials and for those materials to be carried off-site by winds. See Google Earth aerial photos of the quarry to realize just how much the off-site areas near the quarry have been covered by a white dust. (Exhibit 264.) Sec. 2.4.3.1 at p. 2.0-26 says that raw gypsum rock is crushed to a “minus four-inch” size, but what does that mean? The FEIR Sec. 4.3.10 does not mention any particulate size smaller than PM 10 (FEIR 4.0-68 et seq. Small particulates in dust can represent a serious cumulative impact on the prison population at Centinela State Prison when considered in addition to particulates generated by OHV activities at the Plaster City Open Area to the west and both of Plaster City.

**Cumulative impacts of project’s proposed long-term reliance on increased withdrawal of groundwater fails to address the cumulative impacts of changed priorities of water use on overlying residential community**

181. FEIR discussion of cumulative impacts of the project’s proposed long-term reliance on an increased withdrawal of groundwater fails to address the cumulative impacts of changed priorities of water use on the future of the currently economically challenged communities of the Ocotillo-Nomirage Community area overlying the potable US EPA designated Sole Source Aquifer known as the Ocotillo-Coyote Wells Groundwater Basin.

182. The EIR must provide meaningful analysis of the cumulative impacts, health and safety, and environmental justice issues facing the small low income community(ies) whose access to underlying potable water may be at risk given the location of USG wells and quantity of water proposed to be exported from those wells, if wallboard production continues to rely on groundwater. Indeed, the EIR must address the long term survival of the existing community of overlying groundwater users and future groundwater users if the basin is to reach full build-out on all private parcels of the 15,000 acres of private land, as anticipated or defined as permissible by the Imperial County General Plan's ONCAP. (See Exhibit 221, a Map depicting location of private land in the Ocotillo-Coyote Wells Groundwater Basin and within the Ocotillo/Nomirage Community Area Plan. ONCAP Fig. 1 Ocotillo/Nomirage Community Area. 1994.) The EIR has not addressed the question of whether build-out as projected by the County General Plan's ONCAP is feasible or mutually compatible with US Gypsum's continued export of groundwater or whether projections for growth are low because of USG's perceived impacts on groundwater availability for overlying domestic use. On these issues, the EIR did not satisfy the requirements of CEQA.
183. DEIR Sec. 3.9 Land Use fails to even mention the Ocotillo Nomirage Community Area Plan (ONCAP) which is part of the Land Use Element of the County General Plan. Contrary to the assertion at DEIR at 3.9-8, the continued export of groundwater from wells in the ONCAP's boundaries is not consistent with the very specific language of that portion of the General Plan's Land Use Element, and is inconsistent with "local community goals" (DEIR 3.9-10) among other issues. There were no changes made to the Land Use Sec. 3.9 in the 1/2008 FEIR/EIS.
184. ONCAP text clearly states that: "the purpose of this plan is to help citizens to secure a better life than would be possible without the efforts of government in their behalf." (ONCAP p. 1) In light of the clear findings that the proposed project would increase the overdraft to the basin (FEIR 4.0- 55) and the severe restrictions on future uses of groundwater by overlying property owners in light of the FEIR 4.0-22 interpretation of priorities of use favoring USG over uses on currently undeveloped residential and commercial properties, how can the FEIR reach a statement of consistency with ONCAP (FEIR 4.0- 74) or expect the residents of the ONCA feel that their life is going to be better?

**We find NO substantial evidence to support a finding of consistency with ONCAP**

185. However, the FEIR 4.3.11 Land Use (Consistency with ONCAP) points out just how differently the County and its consultants interpret the applicable sections of the ONCAP. Because of what residents and others see as the County bias favoring USG over the existing and potential residents and community uses covered by the ONCAP, and selective interpretation and omission of relevant portions of the ONCAP, the FEIR inappropriately reaches a conclusion that "there is substantial evidence to support a finding of consistency with ONCAP in this case." (FEIR 4.0-74)
186. On the contrary, Sierra Club and residents of the affected communities believe that the language of all relevant portions of ONCAP and the information we have provided in response to the USG EIR/EIS provide substantial evidence to support a finding that the proposed project based on an increase in groundwater withdrawals from the EPA designated Sole Source aquifer is NOT consistent with the clear language and intent of ONCAP.

**Cumulative Impacts discussion failed to include groundwater use by sand and gravel operators**

187. As with most of the other Figures in the BE04 Technical appendix, the reproduction is so poor as to render BE04 Fig. 6-14 meaningless. BE04 Fig 6-13 is similarly useless because it fails to project the potential for overlying groundwater use at build-out by 2080. Included is a table prepared in 1994 entitled

“Hypothetical Water Budgets for Build-out of ONCAP” based on the acreages, conditions and lot sizes approved by the Imperial County Board of Supervisors 4/26/94 (Now Table 6.). Note that our table of hypothetical groundwater use does not include any pumpage in excess of 400 AF/Y for US Gypsum export to Plaster City and includes only a maximum of 14 AF/Y for the sand and gravel operations. Our hypothetical water budget was prepared 12 years ago, or long before we were ever aware of Planner Cabanilla’s 5/5/06 comments on the USG Draft EIR/EIS that refers to Granite’s proposal to pump 200 AF/Y from the “proposed Carroll water well at Shell Canyon , located northwest of the existing USG wells.” (Exhibit 263 p.2.) Cabanilla stated 3/14/08 that the application for 200 AF/Y by Granite at that site is on hold, but we are awaiting information on the amounts approved for each sand and gravel operation site.

### **1994 water budget projects more than twice the amount projected by BE04 over the 80 years of the project**

188. That 1994 water budget projects between 1769 - 3064 AF/Y at build-out. That is more than twice the amount projected by BE04 over the 80 years of the project. Therefore, absent any serious consideration of build-out of residential use combined with the already permitted water use by the sand and gravel operations over the next 80 years, the BE04 model must be rejected since it still cannot predict measured water levels at present or even the most recent calibration of the computer model.
189. Although current residents have not planted lawns in the desert and therefore are using less water than is approved for single unit domestic use, lawns are not prohibited by the ONCAP, future residents of the overlying communities and surrounding areas might want to increase their domestic use for planting gardens. It is difficult to project the landscaping preferences of a community over an 80 year period. Therefore more consideration should be given to increased overlying domestic uses. Indeed, FEIR 4.0-22 discussion of priorities of uses suggests that the County has a strong bias favoring industrial extraction and less concern for the future of overlying uses for other purposes.
190. We acknowledge that our estimates of groundwater usage at build-out for overlying uses within the Ocotillo Nomirage community area (ONCAP) have underestimated the groundwater usage by the sand and gravel pits, because we do not have that information. It is interesting to note that request for that information were also made by A. Kopania in his May 31, 2002 e-mail to D. Brown of resource design. Relevant portion of that memo states as follows:

“4) From the County, any additional Conditional Use Permits in the Ocotillo/Coyote Wells area for gravel pits or agriculture that use groundwater. B-E refers to two sand & gravel operations to the northwest of Ocotillo that combined, have reported water usage of about 15% of residential pumping. B-E also refers to three other sand and gravel operations in the area provides no water usage. it is possible that the previous studies have overlooked a water usage factor in the basin that could be equivalent to 25-30% of the residential use. Also, B-E refers to a 1994 letter to the County Planning Dept that discussed a 24-acre Jojoba farm NW of Ocotillo. Based on the ET rate used by others, this could require up to 60 AF/yr of water for irrigation. (5/31/02 email communication from Andy Kopania to Dave Brown at Resource Design, “Subject USG Data Needs”. P. 2) (Exhibit 235.)
191. We were never able to find estimates of water usage by sand and gravel operations at any place in the DEIR or FEIR or technical appendices. Nor were we able to locate any such information in the County files. Why? If the County issues water well permits and requires annual reporting, why does the EIR contain no such information and why did the county not make such information available if the USG

EIR/EIS is supposed to be an informational document in which groundwater usage is a major concern. ?

192. Table 6 “Hypothetical Water Budgets for Build-out of Ocotillo-NoMirage Community Area” appended to these comments projects build-out based on the intensity of land use designations in the ONCAP, with townsite of Ocotillo residential lot size of 1 DU/0.5 ac, to desert residential unsubdivided lands with 1 DU/40 ac estimates potential residential and overlying uses at approximately 1200 AF/Y, with the greatest usage concentrated in the Ocotillo/Nomirage areas because that is where lot sizes are the smallest and where there is the most existing infrastructure. Additional water usage would come from commercial uses and what is pumped near the Elsinore Fault by sand and gravel operators. Build-out with 2 DU/lot with a CUP (if lot size permits size requirements for septic system per ONCAP) could be as much as 2675 without USG export. Groundwater export by US Gypsum for the 80 years of projected operation would be in addition to the residential uses on already approved subdivisions and development at permitted densities. With USG export at 767 AF/Y groundwater uses could reach 2128 to 3442 AF/Y, or well past the safe yield of the already overdrafted Sole Source Aquifer.
193. For a groundwater basin which has already been designated by US EPA as a Sole Source Aquifer with water quantity/water quality concerns, additional or even continued potable groundwater export by US Gypsum seems to spell unmitigable impacts in any cumulative impacts analysis. Indeed, Imperial County recognized this problem in its discussion of population in 1994. ONCAP’s discussion of population concludes by stating that: “Due to water constraints, it is not anticipated the Ocotillo/Nomirage Community Area will experience a significant amount of population growth.” (ONCAP 1994 at p. 4.) What, if any, consideration did the drafters and County reviewers of the 4/06 USG Draft EIR/EIS or any version of the USG FEIR give to the text of the ONCAP 1994 plan which is identified in the document as part of the Land Use Element of the County General Plan from the perspective of potential community growth if water export by USG were not the limiting factor and concern?
194. The USG DEIR appears to inflate the water export use and then tries unconvincingly to suggest that the USG use is still within safe yield and will not cause adverse impacts on over-lying down-gradient domestic water users. The difference in quantities of USG’s water use within the document amounts to 67 acre-feet for 1998. Is this discrepancy or important? It would seem to be when one looks at BE04 Table 4-3 “Applied Water Use” by the overlying domestic groundwater users and realizes that BE04 estimated that for the year 1995 the total domestic use was only 110.4 AF. The discrepancy in USG’s asserted water usage for that period would be approximately 60.1% of the total estimated domestic usage of 1995! 333 AF/Y is only 83% of the elsewhere asserted 400 AF/Y. These differences are important if one is to consider cumulative impacts of increased pumping of potable groundwater for export for industrial purposes in addition to community needs and what the County has already approved for sand and gravel operations (over the objections of residents).
195. The USG FEIR Appendix C-2 Todd 11/07 Water Supply Assessment letter concludes:  
“Because of the overdraft condition, the sustainable groundwater supply is by definition insufficient for the proposed project.”

How can this conclusion lead to an FEIR finding that the project is then consistent with the ONCAP?

196. FEIR Sec. 4.3.7 Water Balance Summary includes the following text:  
“the decline in storage itself is an adverse impact, representing depletion of a shared resource. This groundwater resource is used beneficially for both industrial supply (USG) and as the sole source of municipal and domestic supply. A condition of overdraft undercuts the long-term reliability of that supply. For Impact 3.3-2, Water Depletion at Plant Affecting the Groundwater Basin, the finding of a

significant and unavoidable impact on the Basin acknowledges the condition of overdraft and the fact that the proposed Project's increased pumping would increase the overdraft over the next 80 years." (FEIR 4.3-55.

Once again we ask, how can this Water Balance Summary and conclusion lead to an FEIR finding that the project is then consistent with the ONCAP?

### **Cumulative Impacts related to potential groundwater impacts**

197. DEIR Table S-1 listing of **Cumulative Impacts** related to reduced water levels and **Cumulative Impacts** related to water quality degradation ( Impacts 3.3-8 and 3.3-9 at FEIR p. S-20, 21) makes reference to the "additional commercial pumping from the Westwind well" (11/07 FEIR at S-20), but fails to identify the even larger quantities of commercial/industrial pumping by sand and gravel companies from wells located in the vicinity of the Elsinore Fault near the Coyote Mountains. Why are other non-domestic wells used to supply water for dust suppression at sand and gravel operations not identified as being part of a cumulative impacts analysis, especially when reference is made to the larger Groundwater Basin rather than to impacts on individual well owners? Sand and gravel operations pumping from the vicinity of the Elsinore Fault pose a different risk to the quality of the groundwater resources, and the County failed to require site specific geohydrology studies as required by the County General Plan's Ocotillo/Nomirage Community Area Plan ONCAP, despite repeated requests before the Planning Commission and Board of Supervisors. Residents of a poor community with a small population simply should not be expected to file legal challenges every time the County chooses to ignore the specific requirements of its own adopted General Plan.
198. USG DEIR and FEIR fail to include the potential increased overlying groundwater use for build-out of the Ocotillo/Nomirage Community Area Plan and ignore the nature and extent of non-residential uses. Why do potential cumulative impacts on water levels and/or water quality in the Ocotillo-Coyote Wells Groundwater Basin fail to include the potential increased groundwater use for build-out of all currently approved subdivisions and development on all approved commercial lots in consideration of cumulative impacts? The vast majority of already approved subdivisions are located within the cone of depression created by US Gypsum's export pumping.
199. FEIR (at p. 3.3-27) estimated "current domestic use" of subdivisions of Ocotillo, Nomirage, Yuha Estates, and residences at Coyote Wells and Painted Gorge to be "approximately 120 to 125 AF/Y", but fails to provide any source for that information other than a 1996 Bookman-Edmonston report (no page citation) which is not included in the technical Appendix. Appendix B-2, a Bookman-Edmonston 2004 report (BE 2004, pp 4-4 to 4-6), speculates about local domestic use.

### **Water balance and overdraft**

200. See Exhibit 226 for FEIR discussion of overdraft in the groundwater basin from which USG is currently exporting water for non-overlying industrial use more than 8 miles from its wells FEIR at p. 4.0-55. Specifically, the FEIR states:

The Draft EIR/EIS acknowledges that the USGS has been collecting groundwater data from the Basin since the 1970s in response to concerns regarding potential overdraft.

Overdraft is defined below by the California Department of Water Resources (DWR)

Bulletin 118, *California's Groundwater*:

Groundwater overdraft is defined as the condition of a groundwater basin or

subbasin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin over a period of years, during which the water supply conditions approximate average conditions. Overdraft can be characterized by groundwater levels that decline over a period of years and never fully recover, even in wet years. (FEIR 4.0-55.)

201. In its summary of Section 4.3.7 Water Balance, after defining overdraft, the FEIR states that:  
“This groundwater resource is used beneficially for both industrial supply (USG) and as the sole source of municipal and domestic supply. A condition of overdraft undercuts the long term reliability of that supply. For Impact 3.3-2, Water Depletion at Plant Affecting the Groundwater Basin, the finding of a significant and unavoidable impact on the Basin acknowledges the condition of overdraft and the fact that the proposed Project’s increased pumping would increase the overdraft over the next 80 years.” (FEIR 4.0-55.)
202. Because these comments point out so clearly the contrasting interpretation of government actions with respect to water use in the southwest groundwater dependent part for the county, we are once again reminded that the Board of Supervisors adopted ONCAP in 1994 and ONCAP’s stated intent is defined by stating that: “The purpose of this plan is to help citizens to secure a better life than would be possible without the efforts of government in their behalf.” (ONCAP p.1.) A better life is not a convincing argument if the County adopts findings that the proposed project would increase the overdraft to the basin (FEIR 4.0-55), and place severe restrictions on future uses of groundwater by overlying property owners as spelled out by the FEIR 4.0-22 interpretation of priorities of use favoring USG over uses on currently undeveloped properties. How can the FEIR reach a statement of consistency with ONCAP (FEIR 4.0-74)? And how can the Board of Supervisors expect the residents of the ONCA to feel that their life is going to be better if the County places USG’s financial interests ahead of the needs of overlying property owners of the Planning Area?

## **G Recirculation and/or an Additional environmental document is required to discuss Full IID Water Supply Alternative and Mitigation measures**

203. An Additional environmental document is is required (a) to include details of the Full IID Water Supply Alternative and approved by IID in April 2006 at USG’s request (FEIR 5.0-272 and 5.0-278 to 5.0-282) and (b) because FEIR mitigation measures related to impacts on groundwater basin have been significantly weakened at USG’s request (FEIR 5.0-202, 203,204, and FEIR response at 5.0-224). FEIR Failure to give serious consideration to alternative source of water for proposed project or alternative location for factory site to minimize impacts to groundwater resource violates CEQA. Failure to include necessary environmental review for IID water use alternative means project analysis has been deferred and analysis piecemealed. These issues will be discussed separately in sections on Alternative source discussion and on Mitigation Measures.
204. California Environmental Quality Act (CEQA) Guidelines Section 15088 .5. Recirculation of EIR Prior to Certification (a) requires a lead agency “to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under section 15087 but before certification. .... [if] a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project’s proponents have declined to implement. “Significant new information” requiring recirculation includes, for example, a disclosure showing that:  
(3) A feasible project alternative or mitigation measure considerably different from others

previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents declined to adopt it. (Also cited at FEIR 4.0-82)

(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment precluded.”(CEQA Guidelines Sec. 15088.5 (a), 3, 4.)

205. Sierra Club believes that the EIR needs to be recirculated for both issues cited in CEQA Guidelines above and in separate portions of these comments.

**G** The FEIR failure to give serious consideration to **alternative source of water** for the proposed project or alternative location for factory site violates CEQA. Failure to include necessary environmental review for the IID water use alternative means project analysis has been deferred and analysis piecemealed.

### **Three alternatives as options to reduce impacts to groundwater resource**

206. Any discussion of “Alternatives” to continued USG’s increasing reliance on groundwater from the overdrafted Ocotillo/Coyote Wells Groundwater Basin for its wallboard facility at Plaster City could reasonably be expected to include three alternatives:
- (1) Partial IID Water Use Alternative, using part groundwater and part Colorado River water
  - (2) Full IID Water Use Alternative, using all Colorado River water
  - (3) Alternative factory location which does not depend on any groundwater from the overdrafted Ocotillo/Coyote Wells Groundwater Basin
207. The US Gypsum EIR/EIS document should be revised to include the Alternative water source information with a much more detailed discussion of the full use of IID Colorado River alternative and discussion of mandatory enforceable mitigation measures. This revised Draft EIR/EIS needs to be recirculated because the original April 2006 draft EIR/EIS and similarly the January 2008 failed to provide meaningful discussion including realistic mitigation measures for the feasible Full IID Water Supply Alternative.
208. The Lead Agency surely knew the IID full water alternative was indeed feasible and, in fact, was about to be decided and approved by IID prior to the publication and circulation of the draft EIR. The public now knows this because documentation for the 4/4/06 IID approval of providing “not to exceed” 1000 acre-feet/year of Colorado River water from the Westside Main Canal is included in the Tisdale letter (FEIR 5.0-263-289) with the included IID Board Agenda Memorandum and IID Resolution 8-2006 (at FEIR pp. 5.0-268 - 270 with exhibits identified separately). The Tisdale letter includes (a) the US Gypsum documentation for the formal inclusion process that had been initiated by US Gypsum November 1, 2004 (FEIR p. 5.0-272) and (b) USG’s LAFCO Application (FEIR pp. 5.0-278 - 282)
209. Thus, based on dated IID information included in the Tisdale letter, the DEIR appears to intentionally mislead the public and reviewing agencies by asserting that at the time the DEIR was released for public review that the “legal, social, political and economic feasibility of obtaining Colorado River water pursuant to a service agreement with IID is unknown at this time” (DEIR Sec. 2.6.3 at p. 2.0-70) for the partial IID water use or that “the process of obtaining these approvals would likely require one to three years” for the full use of IID water (DEIR Sec. 2.6.4 at p. 2.0-77).
210. Alternatively, if the Draft EIR was completed without revisions before US Gypsum made its November 1, 2004 application to IID for inclusion of the Plaster City property within IID’s service area, why was the Draft EIR withheld from public review until April 2006? The Tisdale letter (FEIR vol I letter 28, pp.5.0-263 - 289) makes it painfully apparent that this information was known to the

County and should have been included in the DEIR for public and agency review and comment. The Planning Department files are rich sources of repeated communications between County, consultants and US Gypsum employees and attorneys, and the issue of alternative water sources is one of the topics discussed.

211. The 9/1/03 communication from Planning Director Heuberger to USG's Malcolm Weiss, RDT's Brown, Subject USG project includes discussion of "**potential alternatives**" for water supply, and concerns about the "waste pile" at the Plaster City site. (Exhibit 249.) That communication was written after the 7/03 latest computer model calibration, and states in part:
- "A) It appears to me that we have not come to terms between the experts or if we have I missed it. It was my understanding that Andy has that pumping even at the current rate is a problem, something which to date BE seems to not accept. It would appear therefore that "more than an alternative if needed" be seriously considered. I realize CEQA requires an alternative analysis, but at the current moment it seems to me that the current pumping cannot continue indefinitely and an alternative needs to be a real option."
- ...
- "C) The IID alternative I believe is a real alternative and one that could easily be implemented. I believe we have general support from the IID, from BLM etc., so this looks like the "Preferred" alternative at this time."
- "D) Alternative 3 also seems a possible "real" alternative and might even earn some good will from the ocotillo community by lowering the water level on the east side of the vault [sic]. I don't know for a fact that it would be so difficult to obtain quantity, but I do recognize quality is an issue and the cost of treatment could be an issue." (9/1/03 Heuberger to USG's Malcolm Weiss, RDT's Brown, Subject USG project includes discussion of "potential alternatives" for water supply, and concerns about the "waste pile" at the Plaster City site." (Exhibit 249 at p. 1)

### **USG attorney states groundwater use at factory 550 AF/Y in 2002**

212. Brown's 9/4/03 reply to Heuberger and Kopania "USG memo on Alternatives" as relates to Alternatives discussion states that:
- "What we were hoping to avoid is to go through an evaluation of the alternatives throughout the EIR/EIS, only to have USG shoot it down as infeasible. We are not looking, as suggested by Malcolm [USG's attorney], for the USG team to determine if the alternatives are feasible under CEQA, but to provide data on whether the alternatives are *technologically and economically* feasible. I realize this is a painful subject for USG, but the data is in: the project has a significant hydrology effect.
- ".... Reducing the effect is an important concept under CEQA that we are obligated to consider."
- Brown's 9/4/03 reply to Heuberger and Kopania "USG memo on Alternatives" (Exhibit 250, p.1.) This memo also contains disturbing information that "over the past 12 months, the Plant has been using about 550 AF/yr of water." (8/28/03 email from Weiss, quoted in Exhibit 250.) See also USG's 8/23/03 "Plaster City, California Potential Alternative Water Sources. (Exhibit 251, 4 pages with map provided 1/21/04.) More discussion related to Brown's 9/03/03 message is included elsewhere in these comments.
213. The DEIR/EIS and FEIR/EIS failure to provide all the necessary information about the IID full Colorado River use alternative deprived both the concerned public and state and federal agency reviewers of the opportunity to understand this alternative. Nor does the EIR reveal that IID approval has already been referred on to LAFCO for a final boundary modification for inclusion of USG facility at Plaster City. The DEIR at pp.3.3-90 3.3-93 discussion of the IID Colorado River water full use alternative really makes no sense or is extremely confusing at best. The FEIR (at pp. 4.0-19 - 4.0-21)

fails to remedy the deficiencies of the DEIR. Therefore, the US Gypsum EIR has failed to meet the requirements of CEQA (Public Resources Code Sec. 21002 and CEQA Guidelines, CCR Title 14 Sec. 15021 (a) (2) which establish a duty for public agencies to minimize or avoid environmental damage where feasible. Guidelines Sec. 15021 (a) (2) says that: “A public agency should not approve a project as proposed if there are feasible alternatives that would substantially lessen any significant effects that the project would have on the environment.”

214. The revised EIR/EIS must include documentation bearing on the IID Full use of Colorado River water alternative including the US Gypsum is 11/2004 request for inclusion within the IID service area and IID’s 4/4/2006 approval for US Gypsum inclusion for service to US Gypsum property at Plaster City with not to exceed 1,000 AF/Y of Colorado River Water from the Westside Main Canal. This documentation should be readily distinguishable in the Technical Appendices, and referenced within the text of the EIR hydrology section, not merely included as attachments to the Tisdale letter. FEIR (pp. 4.019 - 4.0-21) provided no evidence of any kind and certainly no substantial evidence (as required by CEQA guidelines) to support any decision not to adopt this environmentally superior alternative and seems contrary to the policy of CEQA related to feasible and, indeed, environmentally superior alternatives at PRC Sec. 21002.

215. The clear language of CEQA follows:

**“CEQA Chapter 1: Policy Sec. 21002. Approval of projects; feasible alternative or mitigation measures.**

“The Legislature finds and declares that it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.” (CA Public Resources Code Sec 21002).

216. The FEIR at p. 4.0-21 includes the misleading statement that:

“Although USG is actively investigating the “partial use” alternative and has applied for inclusion within the IID boundaries, the feasibility of this alternative remains unknown. Consequently, the description of the Project has not changed with respect to the proposed sources of water and manner of delivery to the plant.” (FEIR p. 4.0-21.)

This statement is inaccurate, lacks current updating, and fatally taints the alternatives analysis in the FEIR.

217. After discussions with IID Director Menville and County Building Dept’s Donley, we again can not understand the FEIR’s deference to USG’s economic considerations over what is widely perceived to be the best and most reliable long term water source for future industrial needs. After all, the urban centers in Imperial County and other industrial and agricultural operations all use water from IID and treat it to the degree required for the intended use.

218. If Colorado River water from IID’s Westside Main Canal is used there is no need for an 8.5 mile water pipeline or for a new ten inch water pipeline from Ocotillo. We were unable to find any place in the FEIR which stated that if the “Full IID Water Supply Alternative” in either text or in Table S-1 which discloses that if the Full IID water supply is used there would be NO reason or justification for replacing the 8 inch water pipeline from the wells in the Ocotillo area with a replacement 10 inch water

pipeline (FEIR Table S-1 p. S-22; p. 2.0-47), thereby eliminating all mitigation measures for possible impacts along the pipeline from Ocotillo-Nomirage area. The full IID water alternative would require only a new pipeline many miles shorter to be placed linking the Westside Main Canal to a treatment facility to provide water to the Plaster City factory. 8/07 EIR (at 2.0-70, 73) describes a new 12 inch underground water pipeline from the Westside Main Canal going approximately 5.5 miles to the Plaster City plant (FEIR 4.- 20).

219. Table S-1 at p. S-22 is disingenuous in its statement that mitigation measures for providing full IID water over a shorter distance across essentially level land from the Westside Main Canal to Plaster City would require the same mitigation measures for vegetation impacts as for the proposed action of using groundwater and replacing an existing pipeline which crosses a major wash which goes under two lanes of Interstate 8 and the Elsinore/Laguna Salada fault. Merely contacting California Dept. of Fish and Game (CDFG) and the US Army Corps of Engineers (DEIR pp. 3.4-27, 28) and S-22 mitigation measures under Impact 3.4-4 without any indication that there is any intent to comply with any mitigation measures that either might require does not constitute mitigation.
220. A February 1981 letter from Richard Mitchell, Imperial County Planning Director to USG acknowledges the potential for USG to obtain Colorado River water for use at Plaster City when he states that:

“ Recent developments have indicated, however, that an alternative source of water may be developed for the industrial area where your plant is located. Specifically, Creole corporation (a subsidiary of Texas Industries, Inc.) has made application for zoning and other authorizations to construct and operate a new portland cement plant near Plaster City. In order to meet the water needs of the proposed project of approximately 250 acre feet per year, the plant site will be supplied with Colorado River water from the Imperial Irrigation District’s West Side Main Canal located east of Plaster City. Water will be transported to the plant by a pipeline from the West Side Main Canal.” (Mitchell, Planning Director, 2/27/81 to USG RE Water Usage in the Ocotillo-Coyote Wells Ground Water Basin. Court of Appeal Case No. D034281 Clerk’s Transcript on Appeal, vol 2 p. 315, 316 and 306.) (Exhibit 259 to these comments)
221. In September 1980, the Board of Supervisors adopted a report on the issues facing the groundwater basin. “Said report recommended, among other things, that your firm be requested to investigate the possibility of entering a cooperative agreement with Creole Corporation to also use water from the West Side Main Canal.” (Mitchell, Planning director, 2/27/81 to USG RE Water Usage in the Ocotillo-Coyote Wells Ground Water Basin. Court of Appeal Case No. D034281 Clerk’s Transcript on Appeal, vol 2 p. 316.) (Exhibit 259 for 2008 cmts.)
222. That the County’s requests to US Gypsum in 1980 and 1981 were not unreasonable, and were well founded can be seen in the Summary and Conclusion by US EPA in its 3/20/95 document “Technical support document for the review of the Ocotillo-Coyote Wells Sole Source Aquifer Petition”. This report concluded that: “The Ocotillo-Coyote Wells aquifer is the only source of drinking water for the area. Alternate supplies to groundwater for domestic purposes are not presently available and are not economically feasible.” (US EPA 3/20/95. Court of Appeal Case No. D034281 Clerk’s Transcript on Appeal, vol 2 p. 252.)
223. Documents related to the US EPA Sole Source Aquifer designation & conclusions over USG objections are found in the exhibits included with the Sierra Club 2002 Scoping letters to County of Imperial.

**“Right-of-Way Granted” to IID 4/16/81 for water pipeline and power line to Plaster City**

224. BLM CACA 8683 “Right-of-Way Granted” to IID 4/16/81 for water pipeline and power line that goes to Plaster City property line. The County, BLM and IID, and assuredly USG also, had known since 1980 the details of the IID “Application for Right of Way for Power line and Water Line over Public Lands of the United States” which was received by BLM Sacramento CA office on Aug 27, 1980. (Exhibit 201) and BLM’s Decision “Right-of-Way Granted” Board of Directors, Leroy Edwards and dated April 16, 1981. (Exhibit 202.) (BLM CACA 8683 ROW file is available at BLM El Centro office.)
225. In support of its application to BLM for the Right of Way (ROW) for power line and water line, IID provided the following information in support of its application:
- “3. The primary purpose for which the right of way herein applied for is to be used is to provide water and electrical service to a cement plant located in Section 8, T.16 S., R. 11E., S.B.B.&M., County of Imperial, State of California; which is located entirely within the service area and power system of the Imperial Irrigation District. The power line shall be a 92 KV transmission line. The water line shall be an 8-inch diameter P.V.C. pipe.” (IID Application for ROW for power and water lines, BLM CACA 8683 file is available at BLM El Centro office.) (Emphasis added.)
226. The BLM right of way grant includes a stipulation which states that the water pipeline shall be placed a minimum of 3 feet below the surface with the surface restored to a similar level of compaction and contours as prior to construction. Using the BLM geocommunicator map site, [www.geocommunicator.gov/](http://www.geocommunicator.gov/), it was possible to prepare an aerial photo map with the BLM CACA 8683 Right of Way superimposed on the map and thereby depict the ROW along old Hwy 80 to Plaster city. Aerial photo showing ROW CACA 8683 to Plaster City is included as Exhibit 204.
227. IID has been paying the ROW lease rent annually since that time. (Exhibit 203 and available at BLM’s Geocommunicator website for CACA 8683.) IID has continued ROW payments from 1981 through 2007 since the ROW is within IID’s service area. The IID Application for a ROW and the BLM decision to grant the ROW for water and power lines are appended hereto as Exhibits. 201, 202.
228. The Final EIS at p. 4.0-19, 20 identifies the following as being necessary for implementation of the Full Use of IID water Alternative with 100% of the water from the Westside Main canal:
- \* Construction of larger water storage facilities;
  - \* A desalinization plant with associated evaporation ponds (approximately 20 acres) for brine removal;
  - \* Wastewater handling facilities to process concentrated salty water; and
  - \* A water treatment facility to produce potable water for Plant personnel. (FEIR 4.0-19, 20.)
229. It seems disingenuous to suggest that an obstacle to implementing the “Full use of IID Water” Alternative is that a “ water treatment facility to produce potable water for Plant personnel” would be required. Surely, plant personnel could be provided bottled water or potable water from a source such as that used by rural residents, using untreated canal water for irrigation but not for domestic purposes. Why would a water treatment facility be required to provide potable water for plant employees, but if water in domestic overlying wells in the Ocotillo-Coyote Wells Groundwater Basin shows deterioration in quality and becomes non-potable related to USG’s export pumping per Mitigation Measure 3.3-2 (FEIR Table S-1 at p. S-13), “USG will provide the affected party or parties with an alternative supply of water for drinking and cooking ... This alternative supply could be bottled water or a hookup to a replacement water source. ....” If bottled water is good enough for residents of Ocotillo as mitigation, then why isn’t it good enough for USG plant employees?
230. Note that we have been unable to locate any place in either the DEIR or FEIR (or in Planning Dept files

during the PRA review )which identifies this mysterious “alternative supply” or “replacement supply” repeatedly referenced in both the Table S-1 “Summary of Potential Impacts and Mitigation Measures” and related EIR text describing mitigation measures. (And as noted above, US EPA has already made the determination that there is neither a physically feasible nor financially feasible alternative source of potable water to meet the domestic needs of overlying domestic users of groundwater.)

231. The FEIR (p. 4.0-20) notes that: “The Plant site is part of the area which can be included within the boundaries of the IID under the All American Canal Contract dated December 1, 1932.” Therefore, there is ample reason to believe that the USG plant could receive canal water as was sought by USG in April 2006. This helps explain why IID applied for in 8/1980 and was granted by BLM in 4/1981 a Right of Way (CACA 8683) for a power line and water pipeline that goes up to the USG Plaster City property line.
232. The ROW grant was to provide for power and canal water for a proposed cement plant on the west side of Plaster city, but the line goes up to the USG property line. Sierra Club can fathom no reason why the Planning Director has scheduled no LAFCO meeting to hear the matter or why the USG Expansion/Modernization project EIR/EIS fails to include the necessary environmental analysis for the Full or Partial IID Water Use Alternatives. The EIR/EIS project review has, therefore, been piecemealed.
233. See USG’s DEIR 7/14/06 comment analysis of Alternatives, wherein USG identifies and briefly discusses both the Partial Water Supply Alternative and the Full IID Water Supply Alternative and concludes that both are infeasible (USG FEIR 5.0-205) (more than 25 years after the former County Planning Director had requested that USG seriously consider using Colorado River water from IID’s Westside Main Canal). Apparently relying on that USG 7/2006 analysis/conclusions, the USG FEIR 4.0-20 rejects Full Use of IID water alternative as “Infeasible” to using increasing amounts of groundwater even though the amount of land to be disturbed is only 30 acres additional (FEIR 4.0-20) with settling ponds and desalinization vs the already disturbed area of “approximately 80 acres” for the “Inert Material Storage Area” located to the south of the plant (DEIR 2.0-32 or the total of 375 already developed acres (66 of which were apparently developed during the EIR review process) (DEIR p. 2.0-22), or the acreage of the proposed Stirling Energy Solar project being proposed on 8,000 ac of BLM managed land immediately south of Old 80 both to the east and west of Plaster City. That solar project would require water from IID to rinse the solar panels. Specifics can be found in the 1/2008 Sunrise Powerlink DEIR/EIS (Sunrise DEIR) as referenced below. The Sunrise Powerlink DEIR/EIS was released for public review prior to the USG Final EIR/EIS so the Cumulative Impacts discussion should have identified this project. USG EIR/EIS fails to mention Sunrise Powerlink or Sterling Solar. Nevertheless, it is assumed that Colorado River would be treated prior to being used to rinse solar panels if such a proposed project is approved, and the amount of land to be disturbed makes the USG concern for 30 additional acres at the plant area seem small by comparison as does the disturbance of land to remove and replace an 8.5 mile water pipeline from Ocotillo wells to Plaster City.
234. Discussion of the Sunrise DEIR Sec. B.6 “Connected Actions and Indirect Effects” and Sunrise DEIR Fig. B-44a discuss and show the location of the proposed Stirling Energy Systems Solar Two, LLC Project (SES) as being located immediately south of the rail line that goes through Plaster City to the south of the factory and south of Old Hwy 80 extending south to the Interstate 8 covering about 8,000 acres of BLM land and ultimately including “37,400 solar concentrating devices covering 12.5 square miles.” In part, the project would have about 525 miles of gravel access roads, infrastructure to connect to the electrical grid and “a pumped filtration system to connect to IID’s existing canal,” etc. (Sunrise DEIR B.6.6.1.1 pp. B-10, 102, 103. emphasis added.)

235. SES facilities propose to occupy approximately 5,700 acres of the 8,000 ac site. Given the location of the proposed SES immediately adjacent to and south of the Plaster City factory, and the stated need to use canal water from IID, the USG Alternatives should include consideration of shared cost for placing a pipeline of a size necessary to supply the water needs of both projects and to a potential cement plant as previously proposed in 1980 by the Creole Corporation, a subsidiary of Texas Industries Inc., which triggered the BLM grant of a ROW #CACA 8683 to IID for both a power line and a water line to the Plaster City area in April 1981. (BLM ROW CACA 8683 granted to IID April 1981 following IID's August 1980 Application for said ROW.) See aerial photo with BLM CACA8683 ROW superimposed on top of the photo. (Exhibit 204.) ROW CACA8683 appears to extend up to the eastern boundary of the USG Plaster City property.
236. The USG FEIR document goes on to say that this Full Use of IID water alternative is infeasible because of technical difficulties that cannot be overcome. Perhaps USG should have considered this before it began construction of facilities at Plaster City. Perhaps this should have been one location that was to be closed and relocated elsewhere as USG did with other wallboard operations as disclosed in our Table 7 and which discusses the USG operations throughout the USA. See a USG Corp Press release available at its [www.usg.com](http://www.usg.com) website on 1/29/08 (stating that "we recently announced plans to close our 80 - year old Boston wallboard line in March.") USG News and Events 1.29/08. "USG Corporation Reports Fourth "Quarter 2007 Net Sales of \$1.2 Billion and a Net Loss of \$28 million" at p1. (Exhibit 224.)
237. The IID approval of not to exceed 1,000 AF/Y for use at the USG Plaster City facility actually includes the 233 AF/Y above the asserted need for 767 AF/Y of groundwater purportedly needed repeatedly cited in the DEIR of 4/2006.

**No information about purported need for low TDS water**

238. FEIR fails to provide information about purported need for low TDS water for manufacturing wallboard by claiming knowledge of the maximum acceptable TDS is a proprietary secret. The USG arguments that the "formulation of the wallboard is a proprietary secret and cannot be disclosed by any public agency" (FEIR Response to comments 20-46 at 5.0-148) and that "maintaining low concentrations of sodium and chloride ions [which] are a key to the quality of gypsum wallboard" somehow prevents the FEIR from answering the question about what quality of water is acceptable for the manufacture of wallboard. The information about water quality TDS is necessary or to what TDS Colorado River water would need to be treated must be included in the EIR to provide an adequate feasibility analysis of the IID alternative. The refusal to provide any information about water quality issues is interpreted to mean that water quality is not really the issue, but keeping costs as low as possible is the real issue and water quality is an issue to hide behind. We found no information in the County files providing any information about the asserted need for a specified water quality either at this USG facility or any other USG wallboard facility. The information in Exhibit 242, from USG analysis of water quality in the mail office does not indicate whether water has been treated to remove chloride levels or not.
239. If USG chooses to treat water levels, water quantity and water quality at each of the three USG wells for the past decades: as a proprietary secret, then the EIR fails as an informational document upon which to base any decisions other than to deny the proposed increased use of groundwater. Alternatively, the only reason we can think of for failing to provide information on water quality and water quantity pumped from each of the USG export wells is that the information would raise troubling questions about the existing and potential future impacts of USG's continued export pumping. USG's failure to cooperate in providing information essential to the disclosure requirements of CEQA relating to environmental

impacts has rendered the FEIR inadequate.

240. Specific requests had been made for the amount of water being pumped from each of the three USG wells during scoping at FEIR Vol. II Appendix D-3 p.14 of the BLM Scoping meeting Transcript from 2/22/02 but not included in the 4/06 FEIR. Information about the amount pumped at each USG export well is needed to understand the water level declines experienced by USG well 36H1, the only one of the three USG monitored for water levels by USGS. It appears that consultants made similar requests for information but, similarly, failed to get data requested.

**Questions about water pipeline, why 10 inch if 8 was good enough in past, what are cost differences of pipe to Ocotillo v. canal, impacts of removing asbestos component pipeline**

241. Contrary to the assumption that there is a need to replace the existing 8 inch water pipeline from the Ocotillo-Nomirage area with a 10 inch pipeline extending 8.5 miles to the Plaster City factory (DEIR Sec. 2.5.2.1 “Waterline replacement at p. 2.0-47) (FEIR ES-3), the old 8 inch pipeline can be left undisturbed and a new pipeline of about 5.5 miles can be placed using “no-dig” technology from the Westside Main Canal to supply all Colorado River water to the Plaster City factory site (DEIR Sec. 2.6.3 at p. 2.0-70 and IID attachments to Tisdale’s 7/2006 comment letter at FEIR 5.0-263 to 289) (FEIR 4.0-20.). Even if no dig technology is not used, the impacts of placing a water pipeline from the Westside Main Canal even 5.5 miles is far less than the impact of tearing up a strip of land 8.5 miles long to “replace” an existing line whether it be for an 8 inch pipeline or 10 inch pipeline.
242. Why not just leave an unused 8.5 mile water pipeline in the ground rather than remove it? Wouldn’t that reduce or eliminate the potential for environmental contamination and exposure to airborne asbestos fibers if the 8" pipeline were left undisturbed? If the material is asbestos, what volume of space and what precautions would be necessary to remove that pipeline to an appropriate waste disposal site, and is that site intended to be on land or dumping it at sea from one of the cargo vessels such as the ones used to transport gypsum rock from Mexico to west coast factory sites? Indeed, to quote a note appended to the 3/4/02 email from Bruce Steubing to Dave Brown: “If current pipeline can’t handle full volume needed how could it have handled its historical level of 760 acre feet?” (Exhibit 234)
243. The answer to that question, found in the 3/4/02 email from Steubing to Dave Brown in County files, quite clearly states that:  
“As discussed on the conference call, there are several alternatives for the existing (leaky) pipeline that have been brought forth by the BLM. As noted, the existing pipeline can currently handle the full volume needed for the project, but it leaks. The pipeline alternatives are not being considered to increase supply to the plant, but to conserve water. Note that this is likely to be a recommended mitigation measure in the EIR. Pipeline alternatives include a) construct a new pipe along the current route, b) repair the existing pipeline, c) construct a new pipe along a new route, d) construct a canal (or pipe) to take water from the Colorado River, or e) no action (continue to use the existing leaky pipe).” (Steubing 3/4/02 at p.3.) (Exhibit 237)
244. If the existing 8 inch diameter water pipeline can handle the full volume and at one time purportedly handles 767 AF/Y, why then would USG wish to replace an 8 inch diameter pipeline that is 8.5 miles long from Ocotillo to the Plant with a 10 inch diameter pipeline that is 8.5 miles long (FEIR ES-3) versus the cost of putting in a 12 inch diameter pipeline from the Westside Main Canal to the Plaster City factory. After asking for information about pipes and these issues with Dick Verbrough of DB Pump ( 760-352-2020) on 3/8/08, there is information about both costs of pipe and capacity of different diameters of pipe. Why use a 10 inch diameter pipe when an 8 inch diameter pipeline would transport

the purported historic use? Because a 10 inch diameter pipeline would be capable of carrying 56% greater volume of water than would an 8inch diameter pipe! A 12 inch diameter pipe has a capacity for transporting more than twice the volume of water than an 8 inch pipeline.

245. The difference in cost would be considerable to replace an 8" diameter pipe with a 10" pipeline when such is not needed or ever intended to be used. Given the cost differences, the FEIR is unconvincing when it asserts that: "The new 10-inch pipe would provide a more reliable water supply, minimizing the line surges and associated leaks/ruptures, providing a quicker water system recovery after waterline breaks/leaks and maintenance, and improving fire protection at the Plant." (FEIR ES-3.) 8.5 miles is 44,880 linear feet. Approximate water pipeline costs for class 200 PVC for gasketed 20 foot sections are based on costs/linear foot. Those estimated costs are:
246. Approximate water pipeline costs using Class 200 or Class 150 gasketed PVC water pipe and installation costs based on nature of terrain. Rough estimate for both.
- 247.

Table 15 Approximate Costs of Water Pipeline and Installation

Diameter	Dist. mi.	\$/ft Class 200	Cost for PVC pipe Class 200	\$/ft Class 150	Cost for PVC pipe Class 200	Installation cost alone (est at \$45 to \$50/ft includes mtrls)	Location
8"	8.5	9	403,920	7.15	320,890	1,698,708 - 1,923,108	Ocotillo to Plaster City
10"	8.5	14	628,320			1,698,708 - 1,923,108	Ocotillo to Plaster City
12"	5.5	22	638,880	15.38	446,635	860,165 - 1,005,365	IID Canal - Plaster City
12"	5.0	22	580,800	15.38	406,032	781,968 - 913,968	IID Canal - Plaster City

Note that the cost of installation exceeds the cost of the pipe alone and cost for pipe for either distance is not the real difference. Price for Class 200 from Dick Verbrough at DB Pump 760-352-2020 in El Centro. Cost for installation and Class 150 PVC pipe from Rob Fitzgerald of PrimeTime Construction 619-442-5556. Sediment and air bleeds would be additional.

248. From DEIR Fig. 2.0-9 "Potential Westside Main Pipeline Routes (DEIR p. 2.0-71) it appears that the location of the water storage tank at Plaster City is only 5 miles not 5.5 miles as stated in text at DEIR p. 2.0-70. (FEIR 4.0-20) One half mile might not seem like much, but it would make a big difference in total cost and amount of soil disturbed during pipeline installation, estimated to cost \$1.25 million in the 1/3/02 USG application to BLM.. Thus, it was estimated to cost \$1.25 million for a pipeline 8.5 miles long in January 2002, or \$1,698,708 - 1,923,108 for installation alone in 2008 in addition to the cost of the pipe; and it should cost only an estimated \$781,968 - 913,968 (installation costs in addition to cost of pipe in 2008 \$) for a pipeline only 5 miles long which does not have to cross any deep washes or cross an earthquake fault as would the 8.5 mile line of unspecified material from wells in the Ocotillo-Nomirage area. The savings from installing a 5 mile pipeline from the Westside Main Canal to Plaster City instead of the 8.5 mile pipeline from Ocotillo area would be more than \$900,000 to \$1 million in addition to the costs for pipe. The saved money could then be used for whatever facilities

needed to treat the Colorado River water to standards necessary for the wallboard production. The pipeline from the Westside Main Canal is “likely” to be a 12 inch diameter PVC pipe (DEIR Sec. 2.6.3 p. 2.0-73), but we wonder why comparable details are not provided for the 8.5 mile proposed project pipeline. So we used information from the FEIR and pipe sources.

249. Information on No Dig technology was included with our Scoping comments and is available from BLM because BLM required that technology for projects on the east side of Imperial County, and such technology is required for projects under the Bureau of Reclamation per Lynette Elser, formerly staff with BLM El Centro Field Office and earlier with the Bureau of Reclamation. Leaving the old 8 inch pipeline unused buried in the ground would seem to cause less potential for adverse environmental impacts and alleviate the necessity of disposing of a very large quantity of 8.5 miles of 8 inch pipe, which the DEIR asserts is contaminated with asbestos. (DEIR Sec. 2.5.2.1 at p. 2.0-47.) How and where to dispose of asbestos contaminated material is so mysteriously vague (DEIR p. 2.0-47) as to raise questions about whether it is really intended. Where old pipe is exposed at the surface from erosion over time, that portion of the pipeline could be covered or removed while leaving the rest of the pipeline undisturbed.
250. The DEIR at 2.0-47 fails to explain how or why a new water pipeline two inches larger in diameter would or could eliminate the asserted problem that is experienced by the existing line related to “line surges due to air in the line and water hammer caused by rapid changes in flow such as sudden closure of a water control valve.” How would air be kept out of a larger diameter pipeline, and why wouldn’t the problem of sudden closure of a water control valve remain the same unless human behavior closed the valve more slowly? The asserted need for a pipeline 2 inches larger in diameter is not convincing.
251. What are the environmental impacts and human health impacts and costs of digging up and removing 8.5 miles of 8 inch diameter water pipeline? How would the material be transported and to where and what precautions would be taken to prevent asbestos particles from becoming airborne? Would such material need to go to a hazardous waste facility and covered to prevent small particle air pollution? Would this amount of soil disturbance potentially increase airborne spores of the fungus that causes valley fever or coccidioidomycosis in addition to increased exposures to asbestos fibers of pipe estimated to be 20% asbestos? What is the potential for such extensive digging to trigger an outbreak of valley fever as dormant spores are exposed after a wet winter following years of drought? No adequate information was provided to answer these concerns at DEIR p. 2.0-47 or in the FEIR or in Planing Dept files.

#### **IID - USG Service Agreement approved in 4/06**

252. The DEIR is misleading when it asserts that it “would likely require a minimum of one to three years” to get the necessary approvals for using Colorado River water at Plaster City (DEIR Sec. 2.6.3 at p. 2.0-73 and DEIR Sec. 2.6.4 p, 2.0-77) . In fact, the documentation that all approvals except the LAFCO approval under the oversight of the County Planning Director had been approved or set in motion in spite of USG delays even before the DEIR was released for public review in April 2006. Any necessary environmental review for LAFCO approval should have been included as part of this EIR/EIS. To do otherwise is to piecemeal project environmental review.
253. Thus, the EIR errs and misleads reviewers when it states that “the legal, social, political and economic feasibility of obtaining Colorado River water pursuant to a service agreement with IID is unknown at this time.” (DEIR Sec. 2.6.3 at 2.0-74.) FEIR at 4.0-21 states “feasibility of this [partial use of IID water] remains unknown... the full use Alternative is infeasible.” (FEIR 4.0-20) On 2/29/02 IID

Director Jean Pierre Menville stated to Edie Harmon that he did not understand the delay in completing the process for USG to use Colorado River water from IID. Furthermore, if it would take two years to construct the pipeline and related improvements for the 5 mile pipeline from the Westside Main Canal (DEIR p. 2.0-73, and 2.0-77), it would not be inappropriate for the public to conclude that it would take much longer to install an 8.5 mile pipeline that crosses a wash and earthquake fault and goes under the I-8 overpass where part of the westbound land collapsed in 2007.

254. It is our understanding that the right-of-way on public lands from BLM has been in place for more than two decades and is evidenced by the BLM Right-of-Way (ROW) grant (CACA8683) to IID in April 1981 appended as Exhibit 202, as is an aerial photo showing the CACA8683 ROW up to the Plaster City property line, Exhibit 204. IID has maintained its lease payments to BLM since the ROW was granted according to BLM El Centro Realty Specialist Lynda Kastoll and Exhibit 203.
255. In the discussion of the Full IID Water Alternative, reference is made to the need for two 225' x 225' settling/storage reservoirs requiring 9 million gallons of water as on-site storage for 7 days (DEIR Sec. 2.6.4 at p. 2.0-74), but there is no asserted need for a 7 day storage of water from a pipeline that crosses an earthquake fault. The proposed reliance on well water through an 8.5 mile pipeline apparently plans onsite storage of only 500,000 gallons (DEIR Sec. 2.4.1 at p. 2.0-22). However, the DEIR provides no explanation of any kind and provides no evidence for why using Colorado River water requires on-site storage of a quantity 9 times as much as for well water from a much further distance. The FEIR simply dismisses the Full IID Use Alternative as infeasible after making a list of requirements for this alternative (FEIR 4.0-20) as urged by USG in its Comment letter #26 at FEIR 5.0-205.
256. FEIR Response to comments 20-53 (FEIR at 5.0-149) suggests that there are no serious problems with the existing 8 inch diameter pipeline from wells to Plaster City when it states:

“The loss of water in transmission is minimal. There are occasional breaks in the pipeline but the water loss is a minor percent as repairs are quickly made. Leakage from the pipeline is minimal as experience indicates that constant leakage will often appear as plant growth on the pipeline alignment. (FEIR at 5.0-148.)

This is just one more instance where the EIR is internally inconsistent and that information in responses or Appendices does not match that in the text of the EIR or common knowledge of residents, or aerial photos. However, if there are no serious problems, there would be no need to replace the pipeline at the above noted costs and environmental impacts of disturbing that distance of soils along the ROW.

257. DEIR Sec. 2.6.4 the Full IID Use alternative makes repeated reference to salinity levels in the Colorado River water over time, but never reveals what salinity values or range of values is acceptable without treatment in the wallboard manufacturing process. The DEIR Section 2.6.4 (pp. 2.0-74, 77) provides NO information about the water quality that can be used in wallboard production and the water quality variations of Colorado River water available from the Westside Main Canal over time. Similarly DEIR Sec. 2.6.5.1 at p. 20-79, 78) related to wells in the vicinity of Plaster City refers to salinity being a critical issue in the manufacture of wallboard, but fails to identify the salinity above which water must be treated if it is to be used for wallboard manufacture. By contrast response to 2002 Scoping comment 20-46 (FEIR at p. 5.0-146, 147) suggests that water quality and quantity needed to manufacture wallboard is a “proprietary” secret that “cannot be disclosed by any public agency”. It is of interest to note that data from the USG Plant main office shows variations in chlorine

levels on monthly and annual reports over a number of years, although it is unknown whether this water was treated or not, Why? (See Exhibit 242 and Table 13.)

258. Therefore, USG has itself brought about a situation where neither the public, agency reviewers, nor decision-makers can make any intelligent conclusions about the feasibility of the use of Colorado River water. We may infer that US Gypsum does not want to use Colorado River water and that (b) US Gypsum is far more concerned about keeping its production costs down than it is about the effects of its preferred use of potable groundwater from a locally overdrafted Sole Source Aquifer from which it is currently exporting water through a gravity-flow pipeline to the US Gypsum Plaster City Plant. For these reasons, the DEIR fails as an informational document under CEQA. Absent any information on the necessary water quality and concentration of sodium and chloride (the only two constituents identified by name (FEIR at 5.0-147), one must conclude that there is no mysterious reason or constituent in the Colorado River which would preclude its treatment and use for the manufacture of wallboard. Other industries, cities and agriculture all use water supplied by IID, some with treatment and some without treatment.

**County cannot dismiss an alternative without considering resources and deferring resource evaluation to a future date**

259. DEIR Sec. 3.2.3.4 Partial IID Water Supply Alternative reveals that there was no serious consideration of this alternative when Impact 3.2.2 “Loss of paleontological resources” states that during the almost seven years the EIR project has taken to prepare that there has been no survey for paleontological resources along the proposed right-of-way for the water pipeline from the Westside Main Canal to the Plaster City factory site: (DEIR at. P. 3.2-16). Similarly, DEIR Sec. 3.2.3.5 Full IID Water Supply Alternative, Impact 3.3-2 at pp. 3.2-27, 28 makes the same assertion and relies on future surveys for paleontological resources, thereby revealing that neither alternative for using Colorado River Water was given serious consideration. County cannot dismiss an alternative without considering resources and deferring resource evaluation to a future date.
260. USG’s DEIR comment letter #26 discusses USG’s response to both the Partial IID Water Supply Alternative and the Full IID Water Supply Alternative at FEIR 5.0-205. At FEIR 5.0-205 USG rejects both the Partial IID Water Supply Alternative as being “infeasible because its implementation is remote and speculative” and Full IID Water Supply Alternative because it would “require additional speculative permitting and the costs would be prohibitive”. (Exhibit 222.) However, no cost comparison analysis was provided in the FEIR or in documents in Planning files reviewed for either full or partial IID water use alternative.
261. USG provides reasons why it asserts that the Full IID Water Supply Alternative is Infeasible stating that: “These facilities would result in the disturbance of up to an additional thirty acres of land, require additional speculative permitting and the costs would be prohibitive.” (FEIR 5.0-205) The FEIR at 4.0-20 repeats these assertions that the “full use” alternative is infeasible, but omits references to cost. See Table 15 for estimated costs of laying a pipeline from Ocotillo to Plaster City v. from the IID Westside Main Canal for a water source.
262. How does disturbance of an additional 30 acres of land near the factory compare to the amount of land that would be disturbed by replacing 8.5 miles of water pipeline from Ocotillo to Plaster City? If the area disturbed in the ROW for digging and laying the pipeline is 30 feet wide, then the acres disturbed for a pipeline 8.5 miles long would be 30.9 Acres. If the ROW allowed disturbance of a width of 60 feet, the acreage disturbed for the 8.5 mile water pipeline replacement would be 61.8 acres.

263. With regard to the Partial IID Water Supply Alternative , USG’s DEIR comments (included in Exhibit 222) state:

“USG is currently exploring the possibility of obtaining IID water to supplement its existing water supply in Ocotillo. USG’s preliminary investigation indicates that the construction of a pipeline to the Westside Main Canal and use of ID water to serve a *portion* of USG’s water needs is *potentially* feasible. However, there are many unknowns. Among other things, numerous technical, engineering, economic, and legal issues would still need to be resolved. Additionally, the process of obtaining IID water and the necessary right-of-way for the water pipeline will require approvals from multiple governmental agencies, which will take a considerable amount of time. And of course, there is no assurance that such approvals will be granted.” (FEIR 5.0-205, USG 2006 Comment letter for 4/06 DEIR.).

Why, after almost seven years has no analysis or approvals been completed? Why did USG wait until 11/04 to petition to IID for inclusion into the IID service area and to use up to 1,000 AF/Y of Colorado River water?

264. USG’s 7/06 letter continues:

“Although USG will continue to aggressively explore the feasibility of obtaining IID water for a portion of its water needs, we do not anticipate that we will be in a position to know whether this alternative is feasible for a least 1-2 years and it would potentially be 2-3 years (or more) beyond that before the Westside Main Canal water could be piped to Plaster City. Because the feasibility of “Partial ID Water Use Supply Alternative” is unknown at this time and will not be known prior to the County’s decision on the Proposed Action, this alternative should be rejected as in feasible because its implementation is remote and speculative.” (FEIR 5.0-205, USG 2006 Comment letter for 4/06 DEIR.)

265. Nevertheless, any Fortune 500 Company such as USG Corporation including its wholly owned subsidiary United States Gypsum Company, with corporate revenues approaching 5.8 billion in 2006, can well afford to make the investment to treat Colorado River water if it wants to use the Plaster City factory for 80 years. We are confident that the cost of treating Colorado River water will be passed along to the consumer just as is the cost of the \$120+ million US Gypsum was willing to spend for expansion and modernization of the existing facilities at Plaster City and the quarry, and the costs of the new wallboard factories it has been constructing since the late 1990s. For all the details, see USG Corp Annual Reports and SEC 10-K filings and corporate press releases for information on locations and costs of construction of wallboard factories at new sites and renovations of existing wallboard factories. (See also Tables 2, 3, 4, 7, 8, and 9 which are based on information available to the public either from the internet, Planning Department or court records and included with these comments.)

## **H Economic information available on internet suggest that USG has more than adequate financial resources for treating Colorado River water if required to do so.**

266. From our review of the EIR/EIS, it is apparent that in addition to the alternative water use option for mitigating impacts to groundwater and groundwater dependent biological resources, there is another alternative which should be considered as a means of mitigating potential adverse impacts on biological resources and human health and air quality impacts. That is the alternative factory site alternative. The USG EIR cannot exclude serious consideration of an alternative location for the US Gypsum wallboard factory just because USG started construction prior to the conclusion of litigation

and during preparation of an EIR. Location of new USG wallboard facilities proves that USG wallboard plants do not have to be near gypsum rock quarries. See Tables 2, 3, 4, 7, 8, and 9.

**Alternative factory location which does not depend on groundwater**

267. However, the primary reason for considering issues related to alternative factory locations was to ascertain if USG had the financial resources available to provide for the infrastructure and facilities necessary for the Full Use of IID Water at its Plaster City factory site if required to do so. We believe the answer to that question is “yes”, based on the numbers and locations and costs for closing wallboard factories at one site and constructing and starting operations of factories at new locations during the past decade, a time when USG was planning and constructing the expansion of the Plaster City facility. If USG does not want to consider that there is any financially feasible way to implement use of Colorado River water at the Plaster City site, then USG responses can be considered as requiring EIR/EIS consideration of an alternative site as a means of finding an alternative to reduce the impacts of its operations on the Sole Source Groundwater Basin from which it presently extracts groundwater.
268. Accordingly any discussion of “Alternatives” to continued USG’s increasing reliance on groundwater from the overdrafted Ocotillo/Coyote Wells Groundwater Basin for its wallboard facility at Plaster City include three alternatives:
- (1) Partial IID Water Use Alternative,
  - (2) Full IID Water Use Alternative; and
  - (3) Alternative factory location which does not depend on groundwater from the overdrafted Ocotillo/Coyote Wells Groundwater Basin
269. DEIR Section 2.6.5.3 (p. 2.0-81) impermissibly and unrealistically excludes consideration of an alternative location for the US Gypsum wallboard factory. True, the gypsum quarry must be where there is gypsum rock. However, as US Gypsum Corp’s Annual Report for 2006 reveals, US Gypsum Company commenced as of December 31, 2006 capital projects with the total estimated cost indicated “approximately \$180 million for a new low-cost gypsum wallboard plant in Washingtonville, Pa., that will serve the Northeast markets.” Construction began in late 2006 and was expected to be completed in 2008. And, “approximately \$130 million to replace existing capacity at U.S. Gypsum’s Norfolk, Va., gypsum wallboard plant with a new low-cost wallboard line designed to position the company for profitable growth in the mid-Atlantic market.” Construction at this plant began in 2005 and was expected to be complete by 2007. Also another \$70 million for another new gypsum wallboard plant in Tecoman, Colima, Mexico. (USG Corp 2006 Annual Report, p. 28.) However, there are no US Gypsum owned gypsum rock mines and quarries in either Virginia or Pennsylvania according to the USG Corp 2006 Annual Report listing of properties at p. 14, and no US Gypsum quarries or mines near the US Gypsum factories in Charlestown MA, Baltimore MD or New Orleans LA, Alliquippa PA, Bridgeport AL, East Chicago IN, or Rainier OR. We know that the Rainier OR wallboard plant uses gypsum rock shipped from Mexico. Information in USG Annual Reports and 10-K filings with the Securities and Exchange Commission include information on these new factories, most of which have been constructed since 1999. (See Table 7 for information on locations, costs and construction dates for USG new wallboard facilities.)
270. Additional information on USG’s closing of existing wallboard factories and construction and opening of new wallboard factories can be found in the Annual USGS Mineral Commodity Summaries for Gypsum at <http://minerals.usgs.gov/minerals/pubs/commodity/gypsum/>. U.S. Geological Survey (USGS) information provided by USG Corp is also included in Table 7. USGS mineral commodity

gypsum summaries get information from the gypsum companies and provide a detailed list of reference sources for each annual summary. Those references are great sources of additional information. USGS 2000 Gypsum commodity summary includes the following information:

“During 2000, the U.S. gypsum industry experienced several acquisitions and announcements of construction of new plants and of expansion of production capacity at existing plants. Also in 2000, several older, less efficient manufacturing facilities were closed. In October, U.S. Gypsum Co. closed its old plant in Plaster City, CA, and in December, it closed plants in Gypsum, OH and Plasterco, VA. In June, U.S. Gypsum opened a new plant in Aliquippa, PA; in August, it opened a new plant in Plaster City, CA; and in December, it opened a plant in Rainier, OR. Of these three new plants, the Aliquippa uses synthetic gypsum as a raw material, the Plaster City uses natural gypsum brought in by rail from a nearby quarry, and the Rainier is supplied by natural gypsum imported from Mexico. These openings and closings resulted in a net increase in wallboard production capacity of 1.40 billion square feet (130 million square meters).” (Emphasis added. Olson, D.W., 2000. USGS Mineral Commodity Summary for Gypsum, p. 36.1.)

See appended Table 7 for Wallboard Factory locations and source of materials, closures and new construction and costs for a quick summary of these issues.

271. The USG Corp Annual Reports reveal only that following the list of US Gypsum factory locations there are no US Gypsum Co. owned gypsum rock quarries that appear to be near the new factory sites in the US other than the Plaster City facility which is 26 miles from the quarry. This suggests that longer distance for transport of raw gypsum rock to the factory site does not make the cost of producing and shipping wallboard non-competitive. The USGS information about USG’s Rainier OR wallboard factory using gypsum rock imported from Mexico proves that point. It also appears that US Gypsum spent more to construct or replace wallboard factories at other locations than it did at Plaster City in Imperial County. Perhaps either the labor, transportation and water treatment infrastructure costs elsewhere were higher, but higher construction costs did not deter the identified new construction at other US Gypsum wallboard factories.

**Not necessary for a wallboard factory to be located near the gypsum rock quarry**

272. In any event, it obviously is not necessary for a wallboard factory to be located near the gypsum rock quarry. Indeed the USG DEIR confirms this early in the document when it notes that other than the USG Plaster City factory site, “Most other west coast gypsum production plants rely on water borne rock shipments from Mexico.” (USG DEIR at p. 2.0-1, 2) (emphasis added).
273. That US Gypsum proceeded with construction without first completing the Court ordered CEQA environmental review process does not mean that an alternative factory site could have been constructed with far less environmental impacts than those identified at Plaster City. In failing to provide discussion of an alternative location to continued operation at Plaster City even though US Gypsum has closed other wallboard manufacturing operations, the DEIR Sec. 2.6.5.3, (p. 2.0-81) deprived the reviewing public, agency staff and decision-makers of a very real alternative and an understanding of how US Gypsum wallboard operations are conducted as part of a larger corporate operation.
274. Failure to consider an alternative factory location at a time when US Gypsum is and was constructing new wallboard factories in other parts of the United States deprives the reviewers of a true list of alternatives that could lessen the environmental impacts of the proposed project at the proposed location. Clearly, the infrastructure was in place to continue operating other US Gypsum wallboard factories that were closed, and new infrastructure had to be built at new factory sites, so having

infrastructure in place is not a reason to exclude consideration of an alternative location for a wallboard factory, just as USG did in recent years elsewhere.

275. Because USG has closed so many older wallboard factories and constructed so many new wallboard factories at different locations since the late 1990s, including recently announced construction of a new \$220 million facility at Stockton CA , it seems strange that the FEIR at 5.0-413 would expect anyone knowledgeable about the operations of USG Corp during the past decade to be convinced by the assertion that “there is no indication that USG can reasonably acquire or otherwise gain access to an alternative site for the Plant. (See our Table 7 for information about USG factory locations, dates and construction costs compiled from information in USG Annual Reports, USG Corp Press Releases, and filings with the Securities and Exchange Commission for the past decade.) The DEIR and FEIR provide no evidence to suggest that there are “no feasible alternative locations [that] exist for the Project” in light of the recent corporate decisions to close and open factories at a variety of sites in North America, even including transporting gypsum rock by sea to a distant factory site. Because wallboard is a water intensive product to manufacture, it appears that many new factories are located in places where water use is not a major issue.
276. Economic information available on the internet suggest that USG has more than adequate financial resources for treating Colorado River water if required to do so and to cover the costs for bonding and financial guarantees to cover long term monitoring and mitigation associated with potential for adverse impacts if increased groundwater export to Plaster City is permitted from a shared potable US EPA designated Sole Source Aquifer. (See our Tables 7, 8, and 9.) Both the technology and financial resources are available now for USG to install and operate infrastructure necessary to use Colorado River water from the Westside Main Canal.

**Technology and financial resources are available to USG now for USG to install and operate infrastructure necessary to use Colorado River**

277. We cite the following to substantiate the belief that both the technology and financial resources are available to USG now for USG to install and operate infrastructure necessary to use Colorado River water from the Westside Main Canal:
- (a) The IID 4/06 approval of USG’s requested inclusion and IID’s willingness to approve water in a quantity that exceeds that requested by the EIR project (Tisdale letter attachments) and
  - (b) BLM granted IID a right of way for power lines and water pipeline (CACA8683) to Plaster City property line in April 1981, IID has made lease payments since that time, and
  - (c) the fact that US Gypsum was able to afford to pay “approximately \$120 million” to expand and construct a new factory at Plaster City (5/21/01 Declaration under penalty of perjury of USG Plaster City plant manager William Castrey) and
  - (d) A recently authorized the expenditure of another \$132 million [SEC info and press article] for a new “low-cost wallboard facility in Norfolk, Virginia” on the East Coast and a “new joint treatment facility in Baltimore, Maryland” (“USG Corporation reports third quarter 2007 net sales of \$1.3 Billion and net earnings of \$7 million, at [www.USG.com](http://www.USG.com) News and Events article 10/23/07 and information in the USG Corp SEC filings), (our Table 7) and
  - (e) The construction of a new wallboard facility at Stockton, CA that would cost \$222 million (USG Corp Form 10-Q for the quarter ending 9/30/07 at p. 35 SEC filing), and
  - (f) USG Corp “received a \$1.057 billion federal tax refund” in the first quarter of 2007 (USG Corp 9/30/07 10-Q filing with the SEC at p. 19), and
  - (g) “USG Corporation Reports Fourth Quarter 2007 Net Sales of \$1.2 Billion ...” 1/29/08

- USG.com press article (Exhibit 224), and
- (h) USG expended \$30 million for mill modernization at Plaster City to be completed in 2007 (USG SEC 9/30/05 quarterly report), and
  - (I) the fact that the technology to treat water to high quality is currently being used to the west of Mexicali, Baja California, Mexico (O’Shea letter), and
  - (j) Any additional costs for the manufacture of each sheet of wallboard will be passed on to consumers who will purchase wallboard from a source where there is unlikely to be any competition, because USG already boasts that it has more than 30% of the US wallboard market and has a contract to supply Home Depot. (USG Annual Reports.)
278. Therefore, it cannot be considered an undue economic hardship or financially infeasible for the USG Plaster City factory to conduct its manufacturing operations using **all** treated Colorado River water instead of using any groundwater. All that is lacking is the USG will and the County requirement to use Colorado River supplied by IID from the Westside Main Canal.
279. For additional financial information from USG Corp sources, see our Table 7 Wallboard manufacturing facilities, construction/closing dates, costs, gypsum and water sources, Table 8 Financial “Incentives” to US Gypsum related to Plaster City facility in Imperial County CA, and Table 9, USG Corporation financial information 1995 - 2007 .

**Financial issues, bonding, what can US Gypsum afford and why?**

280. Bonding and substantial financial guarantees to be set aside and independent of USG financial issues are absolutely essential in the face of USG Corp’s recent history, plant closures, and actions while the Corporation was under Chapter 11 Bankruptcy protection from 6/25/01 through 6/20/06. (A review of the USG Corp’s Annual Reports and Securities and Exchange Commission 10-K filings for the past decade raise troubling questions about the corporation’s financial responsibilities toward members of the public adversely impacted by the companies’ products or operations.) (See also Exhibit 200: “USG Corp. Bankruptcy agreement shows how Asbestos Trust Fund will hurt victims, allow companies to reap huge windfalls. *Agreement calls for company to create its own fund for victims, but if federal fund now before congress is OK’d, USG will pay billions less.*” [http://publiccitizen.org/pressroom/print\\_release.cfm?ID=2123](http://publiccitizen.org/pressroom/print_release.cfm?ID=2123).) (Also see Table 7 for locations of USG factory closures and new construction locations within the past decade.)
281. If one factors in the realistically anticipated costs of mitigation measures related to US Gypsum’s groundwater use, then the full IID Colorado River use alternative becomes much more economically attractive. The full IID water alternative might also likely reduce regulatory oversight and investigations into water quality related to concerns raised by the Regional Water Quality Control Board. Costs for infrastructure for the full IID water use alternative should be less now than decades into the future. The full IID water use alternative also reduces potential for future litigation related to US Gypsum’s use of groundwater and the County’s responses to the Court decisions in Sierra Club v. Imperial County and /or litigation related to impacts of increased US Gypsum’s groundwater export from its existing wells on existing and future overlying domestic water users, if the ONCAP area experiences or significantly starts to experience build-out as anticipated by that part of Imperial County’s General Plan Land Use Plan, and as has happened elsewhere in Imperial County in recent years.
282. A review of the USG Corp SEC filings since 1998 will reveal additional new US Gypsum factory construction at other locations in the USA, again providing testimony to the fact that US Gypsum Co

and its parent USG Corp have more than adequate financial resources to condition or treat Colorado River water, even with changing water qualities, for use at the Plaster City factory if required to do so. Table 7 Wallboard manufacturing facilities, construction/closing dates, costs, gypsum sources and water sources was compiled from information in USG Corp internet site, SEC filings, annual and quarterly reports, and information from the USGS materials commodity annual reports for gypsum.

#### **“Financial incentives” to USG**

283. As we noted in our 2/20/02 USG EIR Scoping letter to the County, the Planning Department USG files contained information about the 1998 offers of state and local agency or entity subsidies offered to US Gypsum for its continued operation of its factory at Plaster City in Imperial County, CA. The Planning USG files contain a California Trade & Commerce Agency 7/6/98 letter to USG listing over \$11 million in “tangible incentives that can potentially reduce the initial capital and operating cost outlays” (Exhibit 108). There is also a detailed 8 page description of the state and local subsidies to USG for its expansion project, undated (Exhibit 109). We have entered this data as Table 8, Financial “Incentives” to U.S. Gypsum related to Plaster City facility in Imperial County CA with easier to read information on the pages attached to the original County document in Exhibits 108 and 109. We include Table 8 to supplement information to support our conclusion that USG can indeed afford to put in the necessary infrastructure for water treatment facilities to use Colorado River water.
284. The letter from the Director of Public Works to the County CAO indicates that the \$504,000 for County repaving of Evan Hewes Hwy was more than double the projected \$250,000 in 1998. Were other expenditures similarly underestimated to the benefit of USG in 1998?
285. We have no idea of what were the total subsidies of each of the parties identified in Exhibit 109, and whether or not each obligation has been met or to what extent each obligation has been met as of this date, or whether there are issues related to County failure to perform as noted in a 2001 memo by JLY at exhibit 116, submitted with Scoping comments and resubmitted with these comments again as Exhibit 116.
286. The detailed account of the state and local subsidies (Tables, Exhibit 109) was not present when Harmon reviewed the files prior to the public hearing on 12/9/98 when the Imperial County Planning Commission approved the Negative Declaration for the USG factory expansion proposal. It still seems shocking in 2007, as it did in 2002, that the taxpayers and utility rate payers of this economically depressed county have been and are subsidizing a Fortune 500 company! The wealth of US Gypsum even after it filed for bankruptcy protection was revealed by USG’s 1/3/02 Application to BLM to replace pipeline 8-10" from wells in Ocotillo to Plaster City factory, which states that “U.S. Gypsum sales are \$2,000,000,000 [\$2 billion] annually. This project is being completed in conjunction with a \$110,000,000 facility modernization/expansion.” (Exhibit 112.) Thus, the taxpayer and ratepayer subsidies of more than what was identified as \$11 million in 1998 (Exhibit 108) is more than 10% (ten percent) of USG’s 2002 asserted facility modernization/expansion of \$110 million (Exhibit 106). Table 8 is a table of subsidies or “financial incentives” provided by state and local entities for the USG expansion/modernization project. The Table is appended to these comments.
287. Given all the subsidies by both state and local entities, and the annual sales of \$2 billion annually in 2001, and net sales of \$5.2 billion for the USG Corp in 2007, there seems absolutely NO reason why USG cannot afford to obtain all the water for industrial purposes from the Colorado River via pipeline from IID’s Westside Main Canal. USG Corp’s 2006 Annual Report boasts revenues of about \$5.8 billion. See Table 9, USG Corporation financial information 1995 - 2007 which details revenues for both the parent corporation and its wholly owned subsidiary North American Gypsum (of which

United States Gypsum is the largest sector).

288. When completed, the following information in our Table 7 “ Wallboard manufacturing facilities, construction dates, costs, and water sources” that USG has the financial resources to put appropriate water treatment infrastructure in place. Ultimately, the costs for water infrastructure and treatment would be passed on to customers by the addition of a few cents per sheet of wallboard, just as would be the cost for new factory construction-expansion/ modernization that is the subject of the 4/2006 US Gypsum Draft EIR/EIS.
289. Table 7 “ Wallboard manufacturing facilities, construction dates, costs, and water sources” (included at the end of these comments) provides information about new and replacement factory construction from 1998 through 2007, beginning prior to and throughout the period of USG Corp’s Chapter 11 Bankruptcy protection from June 25, 2001 through June 20, 2006. Information is from USG Annual Reports and annual 10-K filings with the Securities and Exchange Commission. Sources of information are: [www.USG.com](http://www.USG.com) and [www.sec.gov/Archives/edgar/data](http://www.sec.gov/Archives/edgar/data), looking up “USG Corp”.
290. Based on information in the Table 7, “Wallboard manufacturing facilities, construction dates, costs, and water sources”, it appears that US Gypsum Co. went on a construction “binge” starting in the late 1990s and 2000-2005, a construction binge which continued through 2007
291. In 1998 when the Imperial County Board of Supervisors approved the Neg Dec for US Gypsum’s expansion, USG was a Fortune 500 company which earned \$2.9 billion the previous year. Nonetheless USG convinced the State of California to contribute \$10.589 million to attract USG to stay in Imperial County near its gypsum quarry, and received \$2.768 million from Imperial Irrigation District to upgrade the high voltage transmission lines to serve USG at Plaster City, (See Table 8) and why the County was willing to offer tax, road improvements and other financial incentives to US Gypsum as referenced by the memo from Assistant County Counsel in April 2001.

**I. Inconsistent project component locations and missing project component locations and other misinformation means EIR fails to meet requirements of CEQA**

292. Locations of Project Component US Gypsum wells are incorrect in both DEIR Figures 1.0-1 and 2.0-2 which purportedly depict the location of project components, first within the County, and second within the southwestern portion of the County. Neither shows quarry well #3. How could the drafters of the DEIR, US Gypsum and County reviewers never have corrected the Figures in the more than 5 years between the time that the Court ordered preparation of the EIR on 3/29/01 and the DEIR was made available for public review and distribution to state and federal agency reviewers who are not familiar with the true location of project components? These Figures were not corrected in the FEIR, so the FEIR fails as informational document and it also fails in a good faith effort at full disclosure mandated by CEQA Guidelines.

**DEIR 2.0 Proposed Action and Alternatives**

293. The 4/06 USG Draft EIR/EIS Figures 2.0-1 “Location of Project Components” and Fig. 2.0-2 “Plaster City Plant Location” (DEIR pp. 2.0-3, 2.0-5) remain woefully inadequate as a means of conveying important information necessary to understand the off-site impacts of the proposed project. Fig. 2.0-2 fails to provide the specifically requested information in Sierra Club’s scoping comments to inform the public about the location of the project components in relation to BLM land use designations, including all wilderness areas, Areas of Critical Environmental Concern, and Critical Habitat in

wilderness areas in the project vicinity and which are within the area depicted by the Figures.

294. USG DEIR Fig. 2.0-1 incorrectly locates the site of the three US Gypsum export pumping wells and water storage tank, which are in fact located between the residential communities of Ocotillo and Nomirage. Fig. 2.0-1 incorrectly locates the Plaster City water tank & well site in Myer wash to the west of Ocotillo rather than to the east between Ocotillo and Nomirage. The Figure also fails to identify the residential subdivision of Nomirage which is south of Coyote Wells. By using a blue toned background for Fig. 1 the blue lines would appear to those familiar with maps to be the locations of streams, when in fact all are dry washes which carry water only during very heavy rains when rainfall comes too rapidly to soak into the soil. Because there is no legend on Fig 1, there is no way for the public or agency staff unfamiliar with the area to tell the difference between paved roads and highways and unpaved dirt roads. (See Table 5 for list of related discrepancies, internal inconsistencies and misrepresentations.)

### **Plaster City homes were removed in 1987 and there are no residences now**

295. DEIR Fig. 2.0-2 is an undated USGS topo sheet that predates the demolition of the employee homes depicted to the west of the words “Plaster City Plant”. DEIR Figure 2.0-2 depicts 14 homes that were demolished in 1987, but which were still occupied in 1972, the year when US Gypsum asserted its largest amount of water use to USGS. The topo also shows the location of two “waste disposal ponds” immediately south of Evans Hewes Hwy to the east of the factory. There is no indication on Fig. 2.0-2 where the property boundaries of the USG 473 acre site (DEIR at 2.0-02) are located within the square mile or 640 acre section 8 of T16S, R114 in which the factory is located. Reference was again made to the residential facilities which were removed and eliminating the use of water for cooling production equipment, thereby resulting in a reduction of water usage in Plaster City (DEIR at p. 2.0-32) from its reported high of 767 AF/Y in 1972 as reported to USGS but only 451 AF/Y based on production. (DEIR Table 3.3-4 “Current and historic groundwater use, Ocotillo/Coyote Wells Groundwater Basin , at p. 3.3-28). See also Case file in Court of Appeal for Case No. D034281 at pp. 457, 459, 460, 462 appended hereto as Exhibits 206 - 209. Please note that the USG data submitted to USGS in 1975 states that the information reported is for USG’s “Plant and Village Yearly Water Usage”. (emphasis added, Exhibit 208.)
296. The DEIR 3.3-28, 29 and FEIR 3.3-29 both acknowledge discrepancies in the amount of water used by USG based on production and the amounts reported by USG to the USGS. See Exhibit 211.

## DEIR 3.0 Affected Environment and Environmental Impacts and Appendices

### 3.1 Regional Overview

297. DEIR Sec. 3.1 refers the reader to Fig. 1.0-1 “Regional Location” for the US Gypsum expansion/modernization project in Imperial County (DEIR at p. 1.0-3). The “Water Supply” component of the project incorrectly locates the US Gypsum export pumping wells on the south side of State Hwy 98 south-southeast of the residential subdivision of Nomirage near or in the Jacumba Mountains Wilderness. DEIR Fig. 2.0-1 “Location of Project Components” is equally incorrect and erratic in its location of the “Plaster City Water Tank & Well Site”. Fig. 2.0-1 places the wells at the far end of the road which appears to be Via de Coyote west of Shell Canyon Rd going west from the portion of Ocotillo served by the Coyote Valley Mutual Water Company to a location at the edge of Myer Wash and beyond the Jackson’s Hide-Away RV park. At no time either present or historically have any large capacity wells been located in either of these areas of the groundwater basin, nor have there ever been water pipelines from these sites to the USG water pipeline south of I-8.

298. In less than 20 pages in the DEIR, the controversial US Gypsum water wells have miraculously migrated a distance of several miles from one place they never existed to another place they never existed! USG's three operating wells are located 1 to the ESE of Ocotillo and the other two SE of Ocotillo and NW of Nomirage just to the south of Interstate 8, not in the location depicted in DEIR Fig1.0-1 (at p. 1.0-3). Why didn't US Gypsum or the County Planning Department correct the information in the DEIR? The DEIR acknowledges that the groundwater issue is one of major concern, so why do the very first figures in the DEIR provide an incorrect location for US Gypsum's export wells? Therefore, 4 volumes of the DEIR and FEIR fail as an informational document upon which to base any decision, Moreover the public notice for the Planning Commission hearing mailed to residents depicted USG wells at an incorrect location.
299. A map with the correct location of the US Gypsum wells on Plate 1 11/19/03 is found at the end of the Bookman-Edmonston 1/16/04 Ocotillo/Coyote Wells Groundwater Modeling Study prepared for U.S. Gypsum Company. It is only DEIR Figure 3.3-4 which will help reviewers understand why the overlying groundwater users with private wells, especially those in Coyote Wells area and in Nomirage (located in DEIR Fig. 3.2-2 at p. 3.2-5) showing location of communities in relation to generalized geology) are so concerned about the impacts of the US Gypsum export pumping. Thus, there are totally contradictory maps purporting to show the location of USG wells within the pages of the EIR.
300. By including Figures 1.0-1 and 2.0-1, which incorrectly locate the US Gypsum export wells, the DEIR, not once, but twice misrepresents factual information which has the effect of misleading the public, agency reviewers, and decision-makers about the potential for significant adverse impacts on individual well owners/overlying domestic groundwater users and on the residents of the residential subdivisions, where overlying residents are users of groundwater supplied by wells within the subdivisions overlying the potable groundwater basin. An EIR with such serious misrepresentations and internal inconsistencies must be corrected and recirculated for public review. Our concerns for accurate project component locations are found in USG DEIR Vol II Appendix A-3 at p16 of the County's 1/9/02 Scoping meeting transcript.) These concerns were dismissed as "comment noted" in the FEIR 5.0-136, 137.

**EIR presents inconsistent and inaccurate information about water use at Plaster City Plant site**

301. DEIR "Hydrology and Water Supply: Plant and Water Supply Area" (at p. 3.1-4) says that the "existing [US Gypsum Plaster City plant] operation and Proposed Action rely on three water supply wells for water for potable domestic uses ..." This statement is misleading because there is no longer any residential community at Plaster City and there has been no residential community since the homes there were demolished in 1987. Therefore there is no domestic usage at Plaster City. Plaster City is the name of the manufacturing and transportation operations property of US Gypsum company, not a real city. In fact with only 14 homes shown on the north of Evan Hewes Hwy and west of the words "Plaster City Plant" on DEIR Fig 2.0-2 (2.0-5) an undated topographic map depicting the Plaster City Plant, but conspicuously missing on the 1996 aerial photo DEIR Fig 2.0-4 (p. 2.0-13), DEIR text referring to "potable domestic uses" at Plaster City is quite misleading, when the only requirements are that plant employees drink potable liquids. Potable water for employee drinking water does not necessitate the export of potable water from 3 wells located between the communities of Ocotillo and Nomirage.

**EIR presents inconsistent information about overlying groundwater use**

302. In its discussion of "Hydrology and Water Supply: Plant and Water Supply Area", the DEIR makes reference to "several other commercial/industrial and agricultural users" in addition to the listed

residential communities (DEIR at p. 3.1-5), but fails to identify those purported other industrial or agricultural users. We know of only the post office, a small café, gas station, laundromat, motel and RV park, sand and gravel operators, and a lounge, and mutual and private water companies that supply overlying domestic users (in addition to the In-Ko-Pah used vehicle lot.)” Indeed, the DEIR both at p. 3.1-5 and DEIR Sec. 1.1.3 EIR/EIS Scope “Documents Incorporated by Reference” (DEIR p. 1.0-11) should have directed reviewers to the Ocotillo/Nomirage Community Area Plan (ONCAP). ONCAP was approved and adopted by the Board of Supervisors on April 26, 1994 as part of the Land Use Element of the Imperial County General Plan. (See ONCAP for listing groundwater users in this small community of about 400 persons.) We are unaware of any commercial agriculture in the groundwater basin. Indeed, ONCAP’s 1994 text (at p. 10) under “Protection of Environmental Resources” includes Objective 5.5 to: “Eliminate agricultural zoning and commercial agricultural land uses within the Ocotillo/Nomirage Community Area. The USG DEIR vol II Hydrology Appendix, B2, BE04 report at p.4-6, notes that in a field inspection in 2/2003 “no commercial agricultural land use was observed.” This observation was ignored in the discussion of water supply.

**Largest groundwater user is US Gypsum’s export for off-basin, non-overlying use for factory use**

303. The largest groundwater user is US Gypsum’s export for off-basin, non-overlying use for industrial purposes at Plaster City. ONCAP, Objective 5.4 directs decision-makers to: “Ensure that new development proposals do not contribute to overdraft or increase salinity of groundwater.” Similarly, ONCAP Objective 5.3 directs decision makers to “Protect the groundwater in the Ocotillo/Nomirage Community area from overdraft and saline conditions.” Nowhere does ONCAP, which is a part of the County General Plan Land Use Element, ever suggest that it would be consistent with the ONCAP to allow US Gypsum to increase its pumpage, knowing that to do so would contribute to increase in the overdraft and/or lead to an increase in the salinity of groundwater where there are domestic subdivisions where residents already rely on private wells in the area covered by the ONCAP Plan, which should direct the County’s land use decisions.

**Resource protected areas not identified on maps**

304. DEIR Regional Environment discussion of Wildlife notes many distant activities that impact wildlife but fails to mention that in the vicinity of the Quarry and Plaster City well locations in the Ocotillo-Nomirage area, there are many resource protected areas, not merely areas that are designated as Critical Habitat. There are several state and federal wilderness areas that surround the quarry and the majority of the land overlying the Ocotillo/Coyote Wells groundwater basin is designated as “Limited Use” with vehicle use restricted to existing approved routes of travel and/or designated as Yuha Desert Area of Critical Environmental Concern or Jacumba Mountains Wilderness Area. These more protective federal land use designations afford greater habitat protection than other areas such as public lands near Plaster City. The effects on these areas are detailed in the Comments of the Center for Biological Diversity.

305. Although the comment letter#26 from USG makes repeated references to the amount of storage of groundwater in the basin (beginning at FEIR 5.0-197), FEIR Fig. 3A and Fig. 3B (at FEIR 4.0-28 and 4.0-29) show that the vast majority of groundwater is in Layer 2 and that is the poorer quality groundwater found in older formations. (Exhibits 260, 261.)

**Groundwater use concentrated because it is restricted to small acreage of private lands**

306. Also, it must be noted that the majority of the basin is lands that are public lands managed by Department of Interior Bureau of Land Management as either wilderness, Area of Critical Environmental Concern or Limited Use area and not available as locations to distribute the overlying

domestic uses of groundwater. Water use will continue to be concentrated in the areas where there is private land, especially private land that has already been subdivided in both Ocotillo, Nomirage and Yuha Estates. (See Exhibit 221 Map depicting location of private land in the Ocotillo-Coyote Wells Groundwater Basin and within the Ocotillo/Nomirage Community Area Plan.) It is most unlikely that BLM will make public lands available for domestic wells and infrastructure to disperse water drawn from the groundwater basin just so USG can increase its pumping or for any other reason.

307. “The Final EIR/EIS is full of errors of fact errors of mapping and is woefully inadequate and misleading. If the Lead Agency believes that the Final EIR/EIS represents the Lead Agency’s best efforts, the County Planning Department has some very serious problems that the Planning Commission or Board of Supervisors should address. It is difficult to believe that County staff actually reviewed the document. Please note that the *only* Lead Agency staff listed in Section 6.0-1 is the County Planning Director, Jurg Heuberger. The document cannot and does not reflect the independent judgment of the Planning Department.

**Preparers of EIR and County staff seem unfamiliar with water source for Painted Gorge area.**

308. Nevertheless, it is obvious to those familiar with the domestic use of the area, that both the preparer of the EIR and the BE 2004 study are unfamiliar with the communities and the sources of water, and apparently County reviewing staff were/are also unfamiliar enough with local water sources that they were unable to correct errors of fact in the DEIR or FEIR. The FEIR states that “Water is also piped to the community of Painted Gorge.” (FEIR at 3.3-27.) However, the FEIR fails to state the location from which water is purportedly piped. By contrast, BE 2004 (at p. 4-5) states that Westwind Water Company in Ocotillo provides water to the communities of Painted Gorge, West Texas and construction sites in the area by privately owned trucks because water in Painted Gorge and West Texas is not suitable for drinking. If the FEIR and Technical Appendices can’t get basic facts correct, how can the public or decision makers be expected to place any reliance on the accuracy of the even more complex hydrological analyses?

309. **How much water is USG pumping from each of its three wells?** The EIR does not disclose that information. However in the trial in case Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911, Hearing 5/17/99, USG’s attorney Bowman stated that:

“First of all, the ordinance itself provides for registration and permitting of all wells. That registration requires reporting of the amounts of water that is being withdrawn. I don’t know if it’s quarterly or biannually. But the county gets reports. So they know.” (Sierra Club v. County of Imperial Reporter’s Appeal Transcript at p. 28.)

If the quantity of water that is pumped from each well is known by the County, why isn’t that I information disclosed to the public and decision makers to better understand the more rapid water level decline seen in USG well 36H1?

**USG increased pumpage from 333 AF/Y in 1998 to 533 AF/Y in 2002 during EIR process**

310. The PRA search found a 9/15/2003 email from Dick Rhone of B-E to Andrew Kopania, Subject vertical flux, which includes a list of the amount of water pumped as reported to the County for 1998, the baseline year. That rate was 333 AF/Y; however, by 2001 it was 433 AF/Y, and by 2002 the quantity had increased to 533 AF/Y. (Exhibit 236) From the table:

Amounts of pumping which were reported by USG to County

Year	AcFt
1990	476
1991	428

1992	379
1993	362
1994	378
1995	327
1996	367
1997	332
1998	333
1999	372
2000	324
2001	433
2002	533

311. This information should have been included in the EIR/EIS but was obtained by Sierra Club only through a PRA search. The annual pumping from 2003 through 2007 is not known. Does this rapid increase in USG’s export pumping (through 2002) explain why well 36H1 is declining more rapidly than other USGS monitored wells in the basin? Why if the status quo was to have been maintained during preparation of the EIR, why did USG increase its pumping from baseline year 1998 of 333 AF/Y to 433 AF/Y in 2001 and to 533 AF/Y in 2002? What had been the changes in amounts of annual pumpage for 2003 through 2007?
312. If the amount of water pumped by USG is recorded and known, why are there such inconsistent statements about USG’s annual pumpage for export from the basin? Are flowmeters before or after the location where water is being discharged to the ground near each of the three well sites ESE of Ocotillo? The amount of vegetation growing to the east of each well where water is seeping into the ground can be seen by the aerial photos included with these comments.
313. USG’s groundwater monitoring information for the Ocotillo-Coyote Wells Groundwater Basin, can be found at the following source: <http://nwis.waterdata.usgs.gov/ca/nwis/gw> for individual well sites in the USGS Imperial County groundwater monitoring program. The water level data is available from USGS both as a graph of monitored wells or as a Table of data for each individual monitored well. Water quality data for the individual wells monitored can be obtained at <http://nwis.waterdata.usgs.gov/ca/nwis/qwdata/>. Our Table 10 also includes some data from the BE96 tables. (BE = Bookman-Edmonston groundwater study prepared for US Gypsum). The 1996 version contains more data, but was revised and cut back in size with a 1/2004 date for the 4/2006 USG DEIR/EIS.

**Why use rainfall data from a distant site rather than local data ?**

314. There is no explanation why the hydrology studies (FEIR 4.0-36), use rainfall data from a community in the IID/Colorado River irrigated portion of Imperial County many miles to the east of the groundwater basin (without making adjustments to reflect the actual rainfall data collected by USGS and available at the USGS water quality data site or past NOAA site in Ocotillo). USGS has rainfall data for 4 years from 1999 through 2002 collected at site 17S/10E-11H Precip. Based on the USGS rainfall data below it is easy to understand why many full-time residents have the subjective impression that there have been years with no measurable rainfall! Those memories seem to be very close to USGS measured reality.

315. Rainfall at USGS site “17S/10E-11H Precip” for those years was:  
**Precipitation measured by USGS at site 17S/10E 11HPrecip**

<u>Year</u>	<u>Rainfall inches</u>
1999	0.09
2000	1.36
2001	0.08
2002	1.26

**Rainfall likely too little to provide much recharge when water is so far below surface**

316. It is most unlikely that any precipitation of that quantity is sufficient to saturate a column of dry soil 200 ft thick to reach the aquifer or result in any recharge. We cite this data to support our concern that recharge estimates for the basin may be overly optimistic when the rainfall data is from a site not overlying the basin and not in an area related in any way to the potential recharge for the basin. That amount of rainfall for the years of 1999 and 2001 would be unlikely to even settle the dust.
317. For 12 of 18 years between 1975 -1993 rainfall was above the average of 3.5 inches/year. However, since 1993 rainfall has been below average (DEIR Sec. 3.1.1.1 Plant and Water Supply area at p. 3.1-3,4), with residents in some locations measuring no rainfall for a period as long as two years related to the rain-shadow effect at different locations overlying the groundwater basin.
318. If recharge is from the Jacumba Mountains of the south face of the Coyote Mountains which are presumed to be the recharge areas, then local rainfall data might be more applicable. We suspect that given the extreme variability of rainfall in this rain-shadow area, that recharge to the aquifer is over-estimated. However, we note that if there had been any serious efforts to study the aquifer recharge, that rainfall monitoring stations could have been set up and rainfall data obtained from a number of sites. After all, there have been a number of studies of the groundwater basin dating back to at least 1977, or more than 30 years ago.
319. Our past discussions with Dr. Huntley and Dr. Izbicki suggests that those studying the basin with no economic motivation do not believe that there is any significant recharge and that wells are currently drawing on what has been called fossil water which recharges the basin at the end of the last ice age. That would explain the continual declining water levels and why only one or two wells in depressions or the badlands have shown any response to hurricanes or flooding since there were three “hundred-year” events within a five year period, 1976, 1977, and 1981.
320. The USGS monitoring data and the locations of monitoring wells and project component wells are misrepresented on various figures and in text of the FEIR. Only those knowledgeable about the true locations of wells and knowledgeable enough about the true USGS monitoring data would catch the significant errors which play major roles in misleading the public, about the potential for adverse impacts of the proposed project.
321. The extent of the consequences of errors of fact are readily apparent in the two analyses contained in the USG FEIR that were submitted by Todd Engineers in July 2007 (FEIR/EIS Appendix C-1) and November 2007 (FEIR/EIS Appendix C-2). Perhaps the errors of fact, conclusions and misrepresentations of USGS data in the Todd submissions may be the result of misplaced reliance on the underlying errors of fact in the DEIR and the technical appendices associated with that document, and the County’s failure to provide information about specific wells. Of course, as noted previously, the DEIR/EIS places the location of USG wells in three different places, with both DEIR Fig. 1.0-1 and Fig. 2.0-1 depicting incorrect well sites.
322. The two Todd studies form the basis of much of the Final EIR/EIS discussion of hydrology. Since

these studies rely on erroneous data and inadequate information, as well as defective analysis, and unsupported conclusions, the FEIR must be recirculated. See our Table 5, a brief list of discrepancies and inconsistent representation of factual material in the USG EIR documents.

### 3.2 Geology

323. DEIR Fig. 3.2-1 “Regional Geology” (p. 3.2-2) has some nice colors but no legend to explain what each color represents or what the different lines and colors of lines represent. The only information the public can get is the locations of faults which appear to be black lines. But what are the dashed black lines, the black dotted lines and what are the red dashed lines to indicate? Two faults to the east of the US Gypsum rail line to the quarry are identified, but no faults to the west are identified by name. The map must be corrected because faulting related to the Ocotillo-Coyote Wells Groundwater basin is mentioned in text and hydrology sections of the DEIR, FEIR Appendix C-1 and FEIR Sec. 4.3.6 and is important in understanding the groundwater quality issues; therefore, names of the faults should be included on the DEIR Fig. 3.2-1 map of regional geology.
324. The DEIR refers to “Tertiary marine sediments” and refers the reader to Fig. 3.2.1, but this makes no sense because unless one is a geologist with very good eyesight and can read the faint letters representing different geologic formations and understands what all the abbreviations mean, then Figure 3.2-1 is useless as a reference for the text discussion of Plant and water supply area geology (DEIR at p. 3.2-2) The revised DEIR Fig. 3.2-1 should have a legend that includes information both for colors and the geologic formations and text that is dark enough to ascertain the location of the Coyote Mountains .
325. When DEIR Sec. 3.2.2.3 text refers the reader to Fig 3.2-1 regional geology, the figure does not identify by name all of the major faults identified in the text at DEIR p. 3.2-15. Indeed, DEIR and FEIR fail to identify by name on Fig. 3.2-1 any of the important faults in the vicinity of the Plaster City Fish Creek Quarry or the groundwater basin where USG wells are located. The only faults identified by name on the map are the Superstition Mt. fault and the Superstition fault, and both appear to be so distant from project components as to be unrelated or insignificant. DEIR Sec. 3.2.2.3 text mentions faults of significance that should have been identified on Fig. 3.2-1, including the Coyote Creek Fault, San Jacinto Fault, and the Elsinore Fault, in addition to the Yuha Wells fault discussed at FEIR 4.0-67. No such information was found in the FEIR Figures, even though FEIR 4.0-24, 26 text refers to faults by name, as does FEIR 4.0-67. The FEIR V. II adds a legend to Fig. 3.2-1 but fails to add any legible names to faults and fails to include that portion of the basin where the Yuha Wells fault is described in text at FEIR vol. I at pp. 4.0-62 and 4.0-67.
326. Neither FEIR Vol. II Appendix C-1 nor FEIR Vol. I Section on Cumulative responses includes any Figure depicting the “important” Yuha Wells fault which appears to have played a role in the recalibration of the computer model in 2003 (FEIR 4.0-67). Specifically, the FEIR states that:

“Rockwell’s findings show that the Elsinore fault and Laguna Salada faults are not continuous, but rather offset by zones of northeast trending left lateral faults. These left lateral fault zones relieve stresses imposed by movement of the right lateral Elsinore to the Laguna Salada fault by left lateral strike slip movement and rotation. The Yuha Wells fault is one of these left lateral fault zones for which corresponding surface movement had been found (Rockwell, personal communications 2003). The nature of the relationships of these faults to groundwater flow is unclear. However, the need for the barrier in the Ocotillo area for well calibration suggests that they are groundwater barriers or have juxtaposed material with different hydraulic conductivities. With addition of the simulated Yuha Wells fault, the model was adjusted to

calibrate more closely with wells in the Yuha Estates area.

5. Yuha Estates The Yuha Estates area was the subject of focused calibration ...” (FEIR 4.0-67.)

Why then does the FEIR include no revised Figures locating this Yuha Wells fault if it is supposedly necessary to understanding revisions to the question of whether or not there is some sort of barrier slowing or preventing the westward migration of saline waters as groundwater withdrawals reduce the water levels of potable groundwater in the Ocotillo-Nomirage areas, as had been originally suggested by the Skrivan 1977 study?

327. We were surprised when the DEIR Fig. 3.2-1 “Regional Geology” , without any corrections or additional identifying information was the Figure that the County printed on the back side of its Notice for the 3-18-08 Public Hearing on this USG Project. (See Exhibit 256.)
328. Understanding the locations and significance of the Tertiary marine sediments is important for understanding the potential for adverse impacts of over-pumping for export in a concentrated area upgradient of the residential community of Nomirage where some wells already have poor quality groundwater. The FEIR omits the word “marine” when describing Tertiary sediments at p. 3.3-53, but does not change any interpretation that Tertiary sediments do not contain high quality potable water, as do the alluvial sediments of more recent age.

**Poor quality water is a problem for some residential areas now**

329. Our understanding of water quality issues suggests that the underlying marine or brackish water formations of Tertiary age may extend closer in to the Nomirage subdivision where ground surface elevations are higher as depicted on DEIR Fig 3.2.2. at p. 3.2-5. One of the most interesting aspects of DEIR Fig 3.2.2 is that it is the first figure in the DEIR to locate all of the residential communities overlying the Ocotillo/Coyote Wells Groundwater Basin or residential communities of West Texas and Painted Gorge, which are supplied potable water for domestic uses from a private water company in Ocotillo because water at West Texas and Painted Gorge locations is not considered potable. The numerous colored figures added to the FEIR volumes fail to include the communities of Ocotillo, Nomirage and Coyote Wells by name, information which would be helpful for members of the overlying communities using groundwater for domestic purposes and the communities overlying the non-potable areas but getting potable water trucked in by tank trucks.
330. The DEIR states that the Plaster City Fish Creek quarry is the largest gypsum quarry in the United States , that it accounts for about 52% of the gypsum produced in California and the expected life of the deposit at the production rate of 1 million tons/year pre factory expansion is more than 80 years. (DEIR Sec. 3.2.2.2 at p. 3.2-14) However, it is unclear if there really will be an 80 year quarry life if US Gypsum starts removing at a rate twice the previous rate as is proposed by the expansion project. This suggestion of an 80 year quarry life must also be questioned in light of the USG Corp 10-K filing with the Securities and Exchange commission for 2004. Under discussion of manufacturing the USG Corp SEC 10-K report (at p. 4 ) states that: “The Corporation’s geologists estimate that its recoverable rock reserves are sufficient for more than 25 years of operation based on the Corporation’s average annual production of crude gypsum during the past five years of 9.5 million tons.” The text of the FEIR does not indicate any changes to the life expectancy of the quarry if quarry output and factory production is significantly increased as proposed by the USG expansion project. Nor does the FEIR clarify any of the discrepancies in the USG representations about quarry life in different sources where USG provided the data. The 10-K filing also noted that about 70% of the gypsum used in the Corporation’s North American plants comes from the 14

company owned gypsum rock quarries or mines. The Plaster City Fish Creek gypsum quarry is one of those 14 sites.

331. There is no technical Appendix for geology for a project which has gypsum quarry operations as one of its components! Neither the DEIR nor the FEIR include within the volume on Appendices a copy of the Mining Plan of Operations and Mine Reclamation Plan which is referenced in the FEIR at p. 4.0-14:
- (1) Mining shall be conducted only as approved in the Plan of Operation and the Mine Reclamation Plan. Reclamation shall be conducted concurrently with mining and it shall be initiated within each phase as soon as is feasible. Reclamation shall include slope contouring and revegetation with native plant species as specified in the Reclamation Plan. (FEIR at p. 4.0-14.)

The FEIR 4.0-82, 83 refers the reviewers to DEIR Sec. 2.5.3.2 which includes a discussion of the quarry operations and Mine Reclamation plan, but requires reviewers to get documents not included other than incorporation by reference. A review of Planning Dept files suggests that the Mining Plan of Operations and Mine Reclamation Plan are no longer in pages than the appendices on hydrology and groundwater and therefore should have been included as a technical appendix for the USG EIR/EIS.

- J Mitigation measures are biased to favor USG and are both inadequate and flawed in light of US EPA Sole Source Aquifer designation.** Mitigation measures in FEIR discussion fail to include costs for bonding and financial assurances to cover costs associated with monitoring and mitigation for any period of time.

**EIR must factor in the cost bonding and financial guarantees to cover costs associated with mitigation**

332. The EIR must factor in the cost bonding and financial guarantees to cover costs associated with mitigation for (1) drilling additional groundwater monitoring wells and replacement groundwater monitoring wells over an 80 to 100 year period/essentially in perpetuity, and (2) paying for a long-term groundwater monitoring with appropriate locations of monitoring wells and frequency of water level and water quality monitoring, and (3) a mitigation program which includes realistic replacement of existing and future domestic needs at build-out with potable water for domestic and landscaping purposes on residential parcels widely separated and without any connecting infrastructure, when and if water quantity and quality are adversely impacted. No source of replacement water has yet been identified anywhere in the EIR/EIS. CA Water Code Sec. 10911 (a) spells out this requirement for EIR analysis and ability to implement the unidentified mitigation measures mentioned in Table S-1 "Mitigation Monitoring Program" for potential water quality Impact 3.3-3 and 3.3-4 (FEIR pp S-10, thru S-21) and Impact 3.3-1 related to groundwater depletion identify vague apparently unenforceable or speculative mitigation measures or potential actions listed as being "USG, at its election" or "if USG elects" (FEIR Table S-1 at pp. S-10, 12 and 3.3-71).
333. A Groundwater Monitoring Program is discussed in DEIR m3.3-81 to 3.3-87. DEIR 3.3-87 (unchanged in the FEIR) states that: "The monitoring will be conducted at the expense of USG." However, there is no indication of who is responsible for payment of costs of drilling new or replacement monitoring wells. The FEIR and Mitigation measures must include discussion of costs, bonding and financial assurances for this program and continuation of the program even if USG

ceases pumping as a result of adverse impacts. There must be discussion of costs and assurances that they will be covered in the event that “any privately currently operating well owner in the Ocotillo, Coyote Wells, and Nomirage areas that would like to include their well in the Monitoring Program may do so by notifying the County within one year after this document is certified” requests to be in the program. (DEIR 3.3-82.)

334. Of real concern to the potentially impacted community of Nomirage is the final sentence of the discussion of the DEIR Groundwater Monitoring Program. The DEIR clearly states:  
“If significant impacts to groundwater have been identified, then this Monitoring Program will continue until those impacts have been fully mitigated and water levels and/or water quality returns to baseline levels, but no longer than 10 years after the Plant ceases operation.”  
(emphasis added. DEIR 3.3-87.)

See Exhibit 253 for the concerns of the consultant about this time frame as being too short to afford the intended mitigation in the face of adverse impacts and the need for monitoring to ensure mitigation success or compliance.

**USG obligations ending after 10 years after the plant ceases operations or reduces pumping**

335. There are repeated references to USG obligations ending after 10 years after the plant ceases operations or reduces pumping even if there are adverse impacts that might be continuing after 10 years. The troubling language is found at FEIR 3.3-79 and in the mitigation measures in the S-1 table. Specifically, mitigation measures ... “or (2) *10 years after USG reduces its pumping from the Ocotillo/Coyote Wells Groundwater Basin to the baseline rate, whichever first occurs.*” (Emphasis added.)
336. FEIR Table S-1 Summary of Potential Impacts and Mitigation Measures Hydrology and Water Quality Plant Water Usage Impact 3.3-1 “Water Depletion at Plant Affecting Individual Well Owners” is either misleading or erroneous in its discussion of the “full IID water supply alternative” because Table S-1 (at FEIR p. S-10) indicates that the mitigation measures are the same as that of the proposed action which was for the US Gypsum factory at Plaster City to use exported groundwater from wells in Ocotillo-Nomirage area 8.5 miles west of factory. How is it possible that if US Gypsum ceases export pumping from the groundwater basin that the “full IID water supply alternative” will have the same effect on the groundwater basin as if US Gypsum doubled its export of groundwater from the 1998 levels?
337. Why would using all Colorado River water at the Plaster City factory require the same mitigation actions as using increasing or even the same quantity of groundwater? If that is true, then it implies that US Gypsum’s export pumping has already caused long-term irreparable adverse impacts to the domestic supply of overlying users at least within the cone of depression created by USG’s export of groundwater and down-gradient of USG’s export pumping to the extent that they cannot be mitigated even now.!
338. These issues have not been adequately discussed or disclosed to the public in the body of the 8/07 FEIR hydrology section at pp. 3.3-90 - 3.3-93, (1/08 FEIR at 3.3-90) and FEIR 4.0-19 - 21. In fact the FEIR Sec. 3.3.10 Full Use of IID Water Alternative: Impacts and Mitigation Measures Impact 3.3-1 “Water Depletion at Plant Affecting Individual Well Owners” actually tries to confuse the issue of potential for adverse of USG’s export of groundwater by stating “Increased pumping of USG wells...” and then striking out the words “and reducing the amount of water available in the Basin.” Repeatedly, elsewhere the document acknowledges that USG pumpage will contribute to a

“decline in storage” and that “the decline in storage itself is an adverse impact, representing sustained depletion of a shared resource.” (FEIR 5.0-222; FEIR 4.0-55. ) Additionally, “the proposed Project’s increased pumping would increase the overdraft over the next 80 years.” (FEIR 4.0-55) Therefore, the FEIR discussion of water use alternatives contains serious internal inconsistencies reflected elsewhere in the FEIR, lack of attention to detail or simply a failure to comprehend what was written coupled with a failure of County review. (See Table 5, Discrepancies, inconsistent information and misrepresentations in USG FEIR/EIS.)

339. Consideration of all mitigation measures and the effects on the environment and human population of increased groundwater pumping and export by USG must be considered in light of the FEIR Summary for Section 4.3.7 “Water Balance”. In part the FEIR Water Balance Summary states:

“The condition of overdraft is characterized in the Basin by sustained groundwater level declines over the past 30 years and by the water balance studies, all of which indicate a negative change in storage.

The decline in storage is gradual and small relative to the overall storage in the Basin; nonetheless, the decline in storage itself is an adverse impact, representing depletion of a shared resource. This groundwater resource is used beneficially for both industrial supply (USG) and as the sole source of municipal and domestic supply. A condition of overdraft undercuts the long term reliability of that supply. For Impact 3.3.2, Water Depletion at Plant Affecting the Groundwater Basin, the finding of a significant and unavoidable impact on the Basin acknowledges the condition of overdraft and the fact that the proposed Project’s increased pumping would increase the overdraft over the next 80 years.” (FEIR 4.0-55) (Exhibit 262.)

340. Mitigation Measure 3.3-1 (FEIR S-10) is notable in the changes that were made in the interest of USG financial interests at the expense of overlying users . Mitigation Measure 3.3-1 was modified from the DEIR Mitigation Measure 3.3-1, as requested by USG (FEIR 5.0-202), to add the words “an existing” before the word well and add the requirement that the adverse impacts which USG might be held accountable must first be determined “to be the cause of” the decrease in water levels.(adding the phrase “to be the cause of” (at FEIR S-11) as requested by USG (FEIR 5.0-202) and as approved by consultant responses to comments #26.4 at FEIR 5.0-224.) This mitigation measure was also modified relative to the timing of any USG obligations to provide replacement water or a replacement water supply to add the words “until groundwater levels return to a level equal to the projected baseline condition or ten years after USG reduces its pumping from the basin to baseline rate, whichever occurs first.” (FEIR 5.0-203, 5.0-224.) Similar language can be found at FEIR 3.3-79. Based on experience elsewhere in the basin, this is protective only of USG financial interests, not the domestic of overlying owners and does not seem a good faith effort intended to alleviate the concerns of domestic well owners in Nomirage where there are now reports of declining water levels in some domestic wells.

**Changes in mitigation measures from DEIR to FEIR exhibit excessive bias toward the requests of USG in FEIR 5.0-202,203, and 204 and are reflected in FEIR Table S-1 Table**

341. In FEIR Table S-1 Mitigation Measures 3.3-1 and 3.3-2 use the phrase “an existing well” on FEIR p. S-10 and S-12; the phrases “if USG elects” or USG at its election” on FEIR S-10, S-12, , if USG is required” FEIR S-14, and “proposed action ...to be the cause” at FEIR S-11, S-14 to be determined either by the Groundwater Management Committee FEIR S-11, or the County Planning Commission FEIR S-14, and that USG responsibility may be terminated “after ten years after USG reduces its

pumping to the baseline rate”( FEIR S-12, 14, 15) even if conditions are not improved, show the overwhelming bias toward USG financial concerns and does not convince the public that mitigation measures are serious or could be successful in the long term. The USG requests for change in text of mitigation measures can be found in FEIR 5.0-202 through 5.0- 204. These changes in wording are persuasive evidence that the overlying domestic users should have a real concern that future overlying uses may be substantially impaired.

342. Given the list of potential impacts and the list of mitigation measures (DEIR Table S-1 at pp. S-9 - S-14, with the changes made favoring USG financial interests at FEIR Table S-10 - S-19) identified for the Proposed Action of US Gypsum expansion relying on the export of potable groundwater from a US EPA designated Sole Source Aquifer, and the knowledge of the viable and IID approved alternative of using all Colorado River water, it is evident that any County decision to approve the US Gypsum Company’s Proposed Action, as described with preferred the alternative to continue reliance on groundwater for factory operations, is clearly in conflict with and contrary to CEQA in the stated legislative policy of the State of California as spelled out in CA Public Resources Code (PRC) Section 21002. “Approval of projects: feasible alternative or mitigation measures”.
343. FEIR and DEIR provide no substantial evidence related to the Full or Partial IID Colorado River Water Use Alternative to explain why this reasonable, already approved, indeed superior, alternative to increased export of potable groundwater has been rejected. The mitigation measures for the “Proposed Action” to more than double groundwater export from baseline average of 347 AF/Y (FEIR 3.3-90) up to 767 AF/Y (approved by Planning Director 3/8/06 without public knowledge, but for which the Appellate Court in Sierra Club v. County of Imperial at p. 15 and DEIR at 3.3-29 found no data to support) are (a) unrealistic for an US EPA designated Sole Source Aquifer or (b) neither mandatory or (c) not convincingly enforceable or affordable. And, the Groundwater Monitoring Program specifically states that even “if significant impacts to the groundwater basin have been identified” the monitoring program will continue ... “no longer than 10 years after the Plant ceases operation.” (DEIR 3.3-87.) This time frame is woefully inadequate and dismissive of the concerns voiced by consultant Kopania in documents in the Planning Department USG EIR/EIS files.
344. Changes in the FEIR actually reduce purported mitigation measures because of the addition of text requiring surrounding wells to also “decrease for more than two years in a row due to Proposed Action...” This is especially meaningless where wells are at quite a distance apart and where there is no on-going monitoring of all domestic wells. And then it is only “at USG’s election”. And users must prove that “the Proposed Action will be considered **to be the cause** ....” (Emphasis in original FEIR Mitigation Measure 3.3-1 after #4.on p. S-11.) As a further demonstration of the lack of reasonableness of the measure is the fact that it would be in effect for as little as “ten years after USG reduces its pumping from the Basin to the baseline rate, whichever occurs first.” This time frame is meaningless because in the Yuha Estates subdivision, the exporting well ceased operations on 9/1/82, more than 25 years ago and wells are still recovering from the effects of less than 150 AF/Y export for a period of less than 5 years! Many of the downgradient wells in the Nomirage area are in places where there may already be problems related to declining water levels even though all wells have not been consistently monitored by USGS. What happens if USG walks away as it appears to have done elsewhere in the US when factories were closed?
345. Kopania’s 8/15/05 Memorandum re “Final Hydrology Issues” (Exhibit 253)also raises concerns about the FEIR Mitigation measures that would place limitations on the duration of mitigation and monitoring required if USG is allowed to continue increasing the amount of water pumped and if an

when adverse impacts occur. Kopania's concerns follow:

“4. Limitation on the Duration of Mitigation and Monitoring. The applicant is proposing to terminate the groundwater mitigation monitoring program 10 years after the plant ceases operation in the case where significant impacts have occurred. Without continuing some sort of groundwater monitoring program until the impacts return to a level below significance, then it would not be possible to determine when the mitigation measures can cease. The duration of monitoring should be tied to the duration of the mitigation necessary to return to a less- than-significant condition.” (Kopania's 8/15/05 Memorandum re “Final Hydrology Issues” at p. 2.) (Exhibit 253)

346. Mitigation Measures for Impacts 3.3-4 (FEIR p. S-17, 18), Impact 3.3-3 (FEIR p. S-12 thru 16) and Impact 3.3-4 make specific reference to a “Mitigation Monitoring Program” which is supposedly “described below”. However, Table S-1 contains no details of the purported Mitigation Monitoring Program or any “Groundwater Monitoring Program” nor any information about the extent or nature of monitoring data to be collected by whom and at what frequency and at what existing or planned additional monitoring wells. Absent such information there is no requirement for any monitoring or any increased monitoring to be done to be funded by US Gypsum or anyone else, even though there is discussion of a monitoring program at DEIR 3.3-81 to 3.3-87. (See FEIR at p. S-13 and S-17.)
347. The FEIR Table 1 p. S-12,13 for Mitigation Measure 3.3-2 proposed mitigation measures and monitoring required for water quality changes fails to recognize that parameters for water quality constituents that may have adverse impacts on health may change over time and that Secondary drinking water standards, related either to total dissolved solids (TDS) or individual standards may be changed during the 80 year life of the project based on a better understanding of the health impacts of either individual constituents, combinations of several constituents or the TDS. If increased groundwater extraction from such a central location is contemplated, mitigation measures must be designed to have the opportunity to make changes based on understanding of various components reflective of water quality. If Secondary Drinking Water standards are changed during the next 80 years (and they likely will be as they have in the past), the mitigation measures constituent standards must be changed to reflect federal or state water quality standards. Mitigation measures provide no requirement or option for modification as written. Mitigation Measure 3.3-2 ties mitigation to:
348. “drinking water standard that is in force at the time the Proposed Action is approved” (S-13) and links duration of mitigation to “(1) concentrations of the above listed constituents in excess of applicable water quality standards return to levels or until the water quality parameters, for which there is data that currently exists, return to pre-Proposed Action levels, (2) ten years after USG reduces its pumping from the Ocotillo/Coyote Wells Groundwater Basin to the baseline rate, whichever comes first” (FEIR S-12, 13.)

**There are no provisions for changed standards and the limits mitigation to monitoring are not protective or realistic**

349. However, there are no constituents listed in Table S-1, there are no provisions for changed standards and the limits mitigation to monitoring are not protective or realistic when one considers that the proposed increased export pumping is intended to be for an 80 year period. Because the FEIR 4.0-54, 55 documents that water levels are already declining, and that there is much uncertainty about the utility of the model because of the scarcity of data from a variety of locations, mitigation

measures should be modified to address changing knowledge, data and concern about cumulative impacts to water quality that may be exacerbated by declining water levels. Restricting mitigation to today's standards and for constituents for which data exists today and failing to include all or even any of the constituents identified at DEIR 3.3-86 does not qualify as a good faith effort at mitigation.

350. Several of these concerns were addressed in Kopania's 8/15/05 memorandum on Final hydrology issues in Exhibit 253 and included here.

"3. Monitoring Limitations. The Applicant is proposing ..., and to limit the mitigation standard to current drinking-water standards. .... In addition, drinking-water standards may change for any or all of these parameters in the future. If that Proposed Action causes an increase in the level of a specific chemical and, at some point during the operation of the plant, the drinking-water standard is decreased to below the concentration, the Applicant will need to mitigate for that exceedance, especially in the situation where the Applicant is providing water from a local water company and the impact affects water company's supply well." (Kopania's 8/15/05 Memorandum re "Final Hydrology Issues", p. 2.) (Exhibit 253)

### **Water depletion or water quality degradation AT the Plant affecting the Groundwater Basin or Individual well Owners**

351. But even more revealing are the very words that are included in identifying the groundwater impacts if US Gypsum were to be permitted to continue to use or increase its use of exported groundwater for non-overlying, off-basin use at its Plaster City factory some 8.5 miles east of its wells. Table S-1 identifies Hydrology and water quality impacts as follows Plant Water Usage "Impact 3.3-1: Water Depletion at Plant Affecting Individual Well Owners" (emphasis added, FEIR p. S-10), "Impact 3.3-2: Water Depletion at Plant Affecting the Groundwater Basin" (emphasis added, FEIR p. S-12), "Impact 3.3-1: Water Quality Degradation at Plant Affecting Individual Well Owners" (emphasis added, FEIR p. S-12), and "Impact 3.3-3 Water Quality Degradation at Plant Affecting the Groundwater Basin" (emphasis added, FEIR p. S-17). Because the Plaster City factory site is 8.5 miles away from the US Gypsum export pumping wells and does not overlie the same groundwater basin, any water depletion at the plant or factory at Plaster City or any water quality degradation at the plant is a description that makes no sense in terms of concerns about the impact the plant operations would have on the groundwater basin from which water is pumped if US Gypsum's export pumping from the potable portion of the Ocotillo/Coyote Wells Groundwater Basin continues and increases. Such language sounds like a USG attorney's dream come true!!!
352. Does the FEIR Table S-1 mean "water depletion *caused by* US Gypsum's pumping in the potable groundwater basin where wells are located" or does it merely mean any noticed depletion at the factory site? Similarly, does the FEIR Table S-1 mean "water quality degradation caused by US Gypsum's pumping in the potable groundwater basin where wells are located" or does it merely mean any noticed degradation of water quality at the factory site? What may be noticed at Plaster City is likely to be very different from what is noticed in monitoring data from individual wells of overlying groundwater users whose wells are located either within the large cone of depression in Nomirage created by US Gypsum's export of groundwater or down-gradient from US Gypsum's export wells, and most likely caused by US Gypsum's increased or continuing export pumping. This ambiguity taints the impact analysis, and induces confusion and uncertainty in reviewers.
353. Consequently, for the many reasons stated above, mitigation measures which include the sentence: "The extent to which the Proposed Action will be considered as contributing to the decrease in water

levels [or water quality] in the Ocotillo area will be determined only after a review of the water level data [or water quality data] and a decision by the Imperial County Groundwater Committee (ICGMC)” for water quantity issues ( FEIR at p. S-11) or the Imperial County Planning Commission for water quality issues ( FEIR p. S-14) can never be reassuring to overlying groundwater users, either in the Nomirage area cone of depression or further downgradient from US Gypsum’s export pumping.

354. **Does “in the Ocotillo area” mean only what it says?** If “in the Ocotillo area” is intended to state that it also includes the subdivisions called Nomirage and Yuha Estates and other privately owned overlying parcels not located in any subdivision but located within the large cone of depression and downgradient impacts many miles away from Ocotillo likely caused by US Gypsum’s export of a quantity of water several times the combined pumping of all domestic users in the basin, then the Mitigation Measures should so state that the area of concern is NOT merely “the Ocotillo area”. DEIR 3.3-82 specifically refers to “any private currently operating well owner in the Ocotillo, Coyote Wells, and Nomirage areas” and specifically excludes Yuha Estates well owners. Mitigation measures in FEIR Table S-1 and FEIR 3.3-78 have added very significant and very limiting words “an existing” before the word “well”, to ensure that any future wells would not be covered by the terms of the mitigation.
355. The final paragraph in mitigation measures in Table S-1 ( Mitigation Measure 3.3-2 at DEIR p. S-13) refers to “existing data from Ocotillo and Yuha Estates” which “indicates that, once the water quality decreases, it may take many decades for the water quality to recover once the pumping causing the impact has ceased.” (FEIR Mitigation measure 3.3-3 at p. S-14, S-16.) The correct word would have been quantity rather than quality, or both water levels and water quality. Nevertheless, the public is probably correct in assuming mitigation measures are not intended to include the downgradient Yuha Estates and/or Nomirage. US Gypsum will avoid responsibility for adverse impacts related to its export pumping with respect to users in those areas.

**K County Groundwater Management Ordinance has major problems and cannot be cited to put industrial export of groundwater as a higher priority than overlying domestic use**

356. **The County Groundwater Management Ordinance** cannot now be cited to place industrial export of groundwater as a higher priority than overlying domestic use and cannot be considered protective as written because it fails to include monitoring program and/or mitigation measures even though referenced in FEIR text (4.0-21, 22, 23 and in responses to comments) and in mitigation measures in Table S-1.
357. Imperial County cannot assert any reliance on its Groundwater Management Ordinance, Sec. 92207.01, for any “Determination of availability of sufficient groundwater for project – ..” because subsection 7 merely vaguely refers to “any other factors that the director reasonably believes it should consider in determining whether sufficient water will be available to the development project.” At no place in the FEIR or DEIR were we able to discover any alternative source or quantity of water to replace that used by overlying users of the Ocotillo-Coyote Wells Sole Source Aquifer or any alternative source related to quarry water. And, at no place in the County’s Groundwater Management Ordinance contains no text related to the mandatory components of a “qualifying groundwater management plan” under CA Water Code Part 2.75, Chapter 3 Groundwater Management Plans, Section 10753 - 10753.10, or any text describing the monitoring protocols or components of a groundwater monitoring program to ascertain to what extent such a

monitoring program would be adequate to monitor various aspects of the potential impacts identified in EIR Table S-1. Additionally, the County's Water Well Ordinance contains no such criteria, nor did the EIR refer to the specific language of any County water ordinance or relevant text in the water element of the County General Plan.

358. Specifically, the County's Groundwater Management Ordinance fails to include the mandatory components for a groundwater management plan. "The plan shall include components relating to the monitoring and management of groundwater levels within the groundwater basin, groundwater quality degradation, inelastic land surface subsidence, and changes in surface flow and surface water quality that directly affect groundwater levels or quality or are caused by groundwater pumping in the basin." (CA Water Code Sec. 10753 (a)(1)).
359. Additionally, the CA Water Code Sec. 10753.7 (a)(4) further mandates that to qualify as a groundwater management plan:
- (4) The local agency shall adopt monitoring protocols that are designed to detect changes in groundwater levels, groundwater quality, ... and flow and quality of surface water that directly affect groundwater levels or quality or are caused by groundwater pumping in the basin. The monitoring protocols shall be designed to generate information that promotes efficient and effective groundwater management. (CA Water Code Sec. 10753.7 (a)(4).)
360. However, there are no sections of the Imperial County Groundwater Management Ordinance which identify any such mandatory monitoring protocols or that satisfy other ground-water management requirements. Because the final sentence in the DEIR discussion of Groundwater Monitoring Program requires that the Monitoring Program will continue no longer than 10 years after the USG Plant ceases operation (DEIR 3.3-87), it cannot be considered that this is a serious effort for either groundwater monitoring or groundwater management.
361. Both the Water Well Ordinance cited by Allegretti I (relevant unreversed portions of Allegretti I or Allegretti & Company v. County of Imperial, an unpublished decision D031154 of 4/19/00 - and the County Groundwater Management ordinance fail to include any standards by which any decision can be measured. CA Water Code Sec. 10753.8 identifies twelve (12) possible components of a groundwater management plan, including several directly relevant to the US Gypsum project proposal. CA Water Code Sec. 10753.8 requires provisions relating to:
- (a) The control of saline water intrusion.
  - (c) Regulation of the migration of contaminated groundwater.
  - (e) Mitigation of conditions of overdraft.
  - (g) Monitoring of groundwater levels and storage.
  - (l) The review of land use plans and coordination with land use planning agencies to assess activities which create a reasonable risk of groundwater contamination." (CA Water Code Sec. 10753.8.)
362. The County Groundwater Management Ordinance is not sufficient for ensuring that the County will require additional mitigation in the future if needed. Similarly, because we believe that the County Groundwater Management Ordinance is defective as a groundwater management plan under the CA Water Code, we believe that the Planning Director's decision to accord US Gypsum "an historic use" priority use of 767 AF/Y under County Groundwater Overdraft Regulations Ordinance Section 92204.00 A. 2 is not valid or legally defensible because the County's Groundwater Management Ordinance fails to include the specific mandatory components identified in CA Water Code Sec. 10753 - 10753.8. We also question the decision of the Planning Director to approve 767 AF/Y as a

historic use by USG in light of the Court of Appeal discussion in its decision in Case D034281 related to that very issue and the DEIR 3.3-29 discussion of the “U.S. Gypsum Variance” wherein USG has been unable to provide documentation to support its asserted highest “historic use” in 1972, some 35 years ago.

363. Sierra Club’s 1/08 PRA request to review all documents used by the Planning Director in approving USG’s asserted use of 767 AF/Y as a “historic use” has had no formal response. However, following the 2/13/08 Planning Commission hearing on the USG matter, Harmon asked to set up an appointment to review the records, only to be told by Planning staff that the requested documents had not yet been located.

**Planning Director had no authority under California law to grant industrial use a priority above domestic use for overlying property owners.**

364. The Planning Director had no authority under California law to grant industrial use a priority above domestic use for overlying property owners. (FEIR at p. 4.0-22, appended as Exhibit 225.) We believe that Water Code Sec. 106 and the language of the California Constitution preclude the County from denying the majority of overlying larger residential lots the use of water for domestic purposes so as not to interfere with USG’s desired increased industrial off-basin use now. This is because the groundwater basin is already experiencing overdraft according to the DEIR and FEIR 4.0-55. This finding triggers the applicable overdraft priority measures of the County Ordinance. Despite the overdraft priority provisions of the ordinance, since 1998, the County has been approving increased industrial use of groundwater by sand and gravel operators and approving domestic wells on large lots.
365. County’s Groundwater Management Ordinance (FEIR/EIS Sec. 4.3.5) does not afford feasible, meaningful, or affordable long term protections to overlying groundwater users impacted by water export operations and neither do proposed mitigation measures described in the USG EIR/EIS, when considered either separately or together.
366. Mitigation measures for impacts affecting individual well owners which include phrases such as for Impact 3.3-1, “USG, at its election will .... ; if USG elects ... (FEIR pp. S-10, 11) contain an enormous loophole and bias in favor of US Gypsum and is stacked against the individual well owners. The bias is because the mitigation measure relies on water level data, and most individual wells have not been monitored since the data was collected for the first USGS study, which was published in 1977.

**Groundwater Management Commission has been previously non-functional/non-operational**

367. But an even greater obstacle is getting any decision from the previously non-functional/non-operational Groundwater Management Commission (Groundwater Management Ordinance Sec. 92201.05 “ (FEIR Table S-1 at p. 11 refers to “a review of water level data and a decision by the Imperial County Groundwater Management Committee (ICGMC)”.) Is the “Committee” mentioned in FEIR Mitigation Measure for Impact 3.3-1 (DEIR at p S-11, and 8/07 FEIR at p. S-11) the same as the “Commission” provided for in the existing County Groundwater Management Ordinance? Does it refer to a committee for which there is no current provision in any ordinance? Or is it just sloppy inattention to detail that escaped all County planning and legal reviewers? By Mitigation Measure 3.3-2 related to water quality degradation, the decision is to be made by the Imperial County Planning Commission ( FEIR at S-14 and FEIR 3.3-79), which is not mentioned in the Groundwater Management Ordinance as having any decision making responsibility.

368. A Planner in the County Planning Department raised some very important concerns about the applicability and utility of the County's Groundwater Management Ordinance to issues past, present or future and the importance of the issues about water use by the known sand and gravel operations along the south face of the Coyote Mountains and what we know to be the vicinity of the Elsinore Fault. Richard Cabanilla 5/5/06 "Review of the USG Draft EIR/EIS for Expansion of Plant" (Exhibit 263) appears to have been comments on the 4/06 Draft EIR/EIS distributed for agency and public review. However, the important comments and questions submitted as comments on the Draft 4/06 missing from the 1/08 FEIR. His comments raise concerns about the County's Groundwater Management Ordinance referenced in the DEIR and about how the Ordinance related to water requested by a sand and gravel operator at the Granite Carroll Water Well/Shell Canyon, a 200 AF/Y project.

369. Cabanilla asks about the "Imperial County Groundwater Management Committee" (ICGMC) referenced in "Impact 3.3-3" and a decision by the ICGMC. Cabanilla asks:

"Who are the standing members of the ICGMC, are they currently reviewing the Draft EIR/EIS for their making of a "**decision**" on the water quality data? Will this same IC Groundwater Management Committee also be involved in the review/decision for the Granite Carroll Water Well/Shell Canyon (200 AFA) project? "(Cabanilla, p. 1, emphasis in original; Exhibit 263.)

Referring to DEIR p. 3.3-49, Sec. 3.3 Hydrology and Water Quality, and text at DEIR 3.3-65 Sec 3.3.3.5 Discussion of Water Quality Data, DEIR 3.3-66-70 Proposed Action: Impacts and Mitigation Measures Affecting Individual Well Owners, DEIR 3.3-71, 72 and proposed Mitigation Measure 3.3-1, Cabanilla follows this by asking: "**Will we also use these same or similar mitigation measures for the Granite Carroll Water Well**". (Cabanilla, p. 2, emphasis in original) (Exhibit 263.)

370. After additional comment on the USG DEIR, Cabanilla concluded his comments with the following important comments and question, the same issues raised by Ocotillo residents and ignored by the County in 2007.

"Since it appears that both the existing Ocotillo individual water well owners and the Ocotillo Groundwater Basin will be impacted by USG's proposed project, i.e. the proposed increase in pumping rates, we will need to address the above when we talked with Granite regarding their CU P. for the proposed Carroll water well at Shell Canyon, located northwest of the existing USG Wells."

"When do you want to schedule Granite Construction staff for a meeting to discuss the future potential impacts to the existing Ocotillo water well owners from Granite proposed water well project of withdrawing up to "200 AF/yr" for sand/gravel dust mitigation purposes?". (Cabanilla, p. 2, emphasis in original) (Exhibit 263.)

371. Cabanilla's questions or concerns were not sufficiently or adequately addressed in the FEIR. Mitigation Measure 3.3.-2 related to water quality is no longer to be subject to the County Groundwater Management Ordinance decision makers, but a "decision by the Imperial County Planning Commission" (FEIR S-14). However, a decision on impacts to water levels would still have "a decision by the Imperial County Groundwater Management Committee". (FEIR S-11.) To the best of our knowledge neither the so-called "Management Committee" or, the Commission are functioning entities.

## **L Failure to Recalibrate the Groundwater Hydrology Model.**

### **Model projections appear further from reality in 2008 than they were using 2002 data in 2003**

372. The Computer model has not been recalibrated since July 2003. Recent 2007 USGS water level monitoring suggests that model projections are further from reality in 2008 than they were using 2002 data in 2003 for BE04. If the model cannot predict current monitored water levels how can it be considered a reasonable tool for prediction effects of pumping 80 years into the future with climate change?
373. USGS monitoring data reveal that computer model cannot predict measured data, but no monitoring has occurred in some of those wells since 1988, almost 20 years ago. The fact that there is a considerable difference between the measured and simulated water levels for well 29H1 (BE04 at p. 5-4) is interesting because that is a 2" diameter monitoring well drilled by the government in 1975 and not a pumped well. The well is located in what was earlier considered the region of a fault zone, but from BE04 Fig 5-18, it appears that measured groundwater levels are about 15 feet lower than the computer model would predict and to us that still suggests that the computer model is not accurate enough to serve as a predictive tool for this sensitive area where well 29H1 is located. How can this be considered a site specific anomaly when well 29R2, also a 2" diameter monitoring well drilled for the government the same year and in the same general vicinity, is also exhibiting an increasing difference with measured water levels being more than 10 feet lower than predicted at the last time for which BE04 includes monitoring data, probably 1988 or more than 19 years ago! (BE04 Fig, 5-20.) Similarly, BE04 Fig. 5-19 also shows an increasing disparity between measured and predicted water levels, but without any monitoring data since 1988. Why was no attempt made to see if the trend of the model not able to replicate reality checked by having well water levels measured in 2003 or 2007?
374. Similarly, the computer model still has not been able to replicate measured water levels in the Yuha Estates area for well 11H3 (BE04 Fig. 5-25), 11G4 (BE04 Fig. 5-256) and 11G1 (BE04 Fig. 5-26) even though 11H3, 11G4, and 11G1 have been regularly measured for water level and water quality from the 1970s through 2007. These measured wells also appear to have measured water levels about 10 or more feet lower than predicted. Why can't the model be manipulated as BE04 describes as "manual trial-and-error adjustments" until the model could more accurately predict reality? What would happen if the model were run using the projected pumping anticipated at build-out as acceptable with the restrictions on development and water use as set forth under the 1994 ONCAP and in our Table 6 appended to these comments? FEIR 4.0-43 and FEIR Appendix C-1 respond with Figure 11 (at p. 4.0-43). This shows the recalibrated model cannot predict monitored data, and the model and text draw erroneous conclusions about Yuha Estates water quality which is not reflected in USGS water quality, monitoring data at USGS NWIS. (FEIR 4.0-45.)
375. This failure of the BE04 model to be able to reflect real USGS water level measurements is carried over into the DEIR discussion and reliance on the old BE96 computer simulations with USG DEIR Fig 3.3-6 depicting 1995 water level contours that are off by more than 20 feet in Yuha Estates, where water levels measured by USGS are about 20 feet lower than the computer model generated and again shown as being about 10 feet higher than measured in the vicinity of West Texas. We thought that the BE04 hydrology study was supposed to try to reconcile computer model with measured reality and DEIR Fig. 3.3-6 proves that effort was either a failure or not considered in

putting together text and figures of the DEIR. Repeated recalibration reported and reflected in FEIR Appendix C-1 from 7/30/08 still cannot replicate monitored data available in 2007. This demonstrates serious flaws in the model.

376. USG DEIR Vol. II, Appendix B-2, the BE04 Figures 6-1 through Fig. 6-8 for baseline and 650 ac-ft/y pumping scenarios are absolutely illegible with the exception of the title. Therefore they are useless and contribute nothing to understanding the hydrological impacts of any groundwater pumping in any quantity. BE04 Figures 6-9 through 6-12 are similarly without value because they are just a blur. How can one place much credibility in computer modeling which cannot even accurately project current measured water level declines? Any changes made to Figures in addition to all the new information in 2007 from the Todd Appendix C-1 were not available to enough people for a long enough period of time to afford meaningful analysis. A rush to hearing on such short notice precludes effective public review, which had essentially been delayed and withheld for almost seven years.
377. For example, in our Tables 11 and 10 showing water well information for USG well 36H1 and other wells, USGS monitoring data reveals that for the 12 year period 1995 - 2007, measured water level in 36H1 dropped 8.9 feet, or more in 12 years than was projected to occur over a 20 year period if USG were to increase its pumping to 650 AF/Y for 20 years in BE04 Table 6-2 "Layer 1 Well Drawdowns (ft) for 650 ac-ft/yr Pumping Scenario". But even more interesting is the list of wells included in the table. Most are wells for which there is very limited or no monitoring data at present so it is not possible to compare reality with predictions. So, USG well 36H1 is experiencing a drawdown in 12 years that is greater than would be predicted for 20 years. That raises several possible interpretations: (a) the model doesn't work even for the USG well with the most monitoring data; (b) USG is already pumping in excess of 650 AF/Y; or (c) some combination of the two.
378. It is also difficult to believe that if the **Ocotillo Mutual Water Company well 25M2** has experienced a 4.75 decline in static water level from 1995 - 2007 with existing pumping quantities (pre-USG proposed project expansion) , or decline of about 0.4 ft/year without any increase in USG pumping, that it would have a water level decline of only 18 to 24 feet if USG were to export either 650 or 767 AF/Y as modeled., a quantity more than double its 1998 baseline pumping at DEIR p. 3.3-28. Indeed, 0.4 ft/yr for 80 years if all pumping from all wells remains at the current levels, is a 32 foot decline by our calculations, or far more than the modeled 24 foot projected decline if 767 AF/Y is pumped.. Because measured water levels are already reflecting water changes that are at a rate in excess of what is projected over an 80 year period at maximum USG water usage without any possibility of any increased overlying uses, the model and its purported assurances fail.
379. Additional concerns about the utility of the computer found in memoranda and e-mail communications from EIR consultants will be included in other parts of these comments that follow..

## **M FEIR Appendix C-2 Water Supply Assessment is flawed**

380. We believe that CA Water Code Section 10910 and 10911 are applicable because EIR analysis of the sufficiency of the groundwater resource to meet the needs of the "existing and planned future uses" of overlying groundwater users without exacerbating the conditions of local overdraft and identified potential adverse impacts on individual well owners directly or indirectly related to additional use by US Gypsum requires a more detailed analysis under CA Water Code Sections 19010 and 19011 "Water Supply Planning to Support Existing and Planned Future Uses". The FEIR Table S-1 at no

place identifies the potential adverse impacts on native wash vegetation and mesquite hummock vegetation if water levels declined or water quality deteriorated in areas where roots of vegetation reach the aquifer in areas of lower elevation now.

381. Water Code Sec. 10911 (a) requires plans with information related to additional water sources which should include:“(1)**The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional [or, in this case, replacement] water supplies. (2) All federal, state and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop additional water supplies”** for the individual well owners or the groundwater basin as referenced in Mitigation Measures 3.3-1, 3,3-2 and 3.3-4 (FEIR Table S-1 at pp. S-10 thru S-21). The EIR cannot essentially ignore all future uses and needs other than those of USG as does the FEIR at pp. ES-5 and ES-6. There is no ES-.6 “Project Objective” for the proposed project to lessen the impacts of its operation on either the physical environment or the human environment and no serious discussion of costs at all.
382. Only by providing the information spelled out in Water Code Sec. 10911 (a) (1) and (2) can the public and/or decision makers make an informed decision or written determination that any mitigation measures are both physically and financially feasible for a groundwater basin which US EPA has previously designated as a Sole Source Aquifer, having reached the conclusion that there were/are no physically or financially feasible alternative water sources for domestic purposes. For the purposes of this part of the water code, the “project” as reviewed by the USG Draft and Final EIR is defined in WMC Sec. 10912 (5) as “a proposed industrial, manufacturing, or processing plant ... occupying more than 40 acres of land.” The Plaster City manufacturing plant is located on a 473 acre site (Draft EIR Sec. 2.2.1 at p. 2.0-1).
383. Because any additional groundwater use would come from US Gypsum Company’s wells, rather than from a public water agency, the county prepared EIR must provide the information rather than other groundwater users or mutual water companies serving only overlying water users. Alternatively, such information for the full IID water use requirement has been provided by IID in documents attached to the Tisdale letter. Only the costs to be incurred by US Gypsum in transporting and treating the Colorado River have not been disclosed.

#### **FEIR Analysis under Water Code Section 10910, Water Supply Assessment is flawed**

384. USG FEIR/EIS Vol. II includes Appendix C-2, “**Water Supply Assessment for US Gypsum Expansion/ Modernization Project**”, (WSA07). This analysis was done in an attempt to comply with **Water Code Sec. 10910**, but is flawed because, we suspect, much relevant and critical numerical information was not provided to the consultant, because to include an analysis based on numerical information available to the public would reveal a more serious adverse environmental effect. Accordingly, we will present a different analysis or partial analysis of information that should have been included under WMC 10910.
385. However, before continuing with comments on the WSA07 of Appendix C-2, it is necessary to consider the following text of the USG 7/30/06 comment letter #26 on the 4/06 USG DEIR/EIS that appears to have played a major role in forming the new analyses and Appendices C-1 and C-2 of the USG FEIR/EIS and conclusions of the 1/2008 USG FEIR/EIS.
386. FEIR Water Supply Alternatives discussion is flawed and needlessly deferred. The Appendix C-2 Water Supply Assessment cannot be considered as in any way ameliorating the need to require the

use of Colorado River water rather than continued reliance on potable groundwater for industrial uses at Plaster City. All consideration of discussion of Water Supply Alternatives and of the Water Supply Assessment appears to have been overwhelmingly influenced by the following text submitted by USG, as were the changes to Mitigation Measures in the FEIR.

387. After listing five reasons why the “Full IID Water Supply Alternative is infeasible, USG’s letter goes on to state that: “These facilities would result in the disturbance of up to an additional thirty acres of land, require additional speculative permitting, and the costs would be prohibitive.” (FEIR 5.0-205) This USG assertion ignores the fact that the USG project site has already disturbed well more than 300 acres of land (DEIR at p. 2.0-10) and the fact that US EPA, in its designation of the Ocotillo-Coyote Wells Groundwater Basin as a Sole Source Aquifer, has already determined that if the groundwater basin is adversely impacted there is no physically or financially feasible alternative source of replacement for overlying residents. US Gypsum Company is a wholly owned subsidiary of the USG Corp, a Fortune 500 Company with net sales in 2007 of \$5.2 Billion (Exhibit 224) and in the process of building a new \$220 million facility at Stockton CA.

388. Nevertheless, the USG comment letter continues:

“USG is currently exploring the possibility of obtaining IID water to supplement its existing water supply in Ocotillo. USG’s preliminary investigation indicates that the construction of a pipeline to the Westside Main Canal and use of ID water to serve a *portion* of USG’s water needs is *potentially* feasible. However, there are many unknowns. Among other things, numerous technical, engineering, economic, and legal issues would still need to be resolved. Additionally, the process of obtaining IID water and the necessary right-of-way for the water pipeline will require approvals from multiple governmental agencies, which will take a considerable amount of time. And of course, there is no assurance that such approvals will be granted.” (FEIR 5.0-205, USG 2006 Comment letter for 4/06 DEIR.)

“Although USG will continue to aggressively explore the feasibility of obtaining IID water for a portion of its water needs, we do not anticipate that we will be in a position to know whether this alternative is feasible for a least 1-2 years and it would potentially be 2-3 years (or more) beyond that before the Westside Main Canal water could be piped to Plaster City. Because the feasibility of “Partial ID Water Use Supply Alternative” is unknown at this time and will not be known prior to the County’s decision on the Proposed Action, this alternative should be rejected as infeasible because its implementation is remote and speculative.” (FEIR 5.0-205, USG 2006 Comment letter for 4/06 DEIR.)

389. We respectfully disagree with the conclusion on WSA07 at p. 2 that “the expansion and modernization of facilities like those of USG are not covered explicitly in the above definitions” for a project by Water Code 10910. Todd WSA07 suggests that USG project is not subject to the requirement because no evidence of surface impacts in excess of 650,000 sq. ft. or acreages in excess of 40 ac. Aerial photos tell a different story, and analysis of sq footage of all construction permits would reveal surface impacts in excess of 650,000 ft and/or greater than total 40 acres. Analysis of DEIR Table 2.0-2 “1998 conditions and proposed changes at the plant at Plaster City” revealed 487,363 sq ft of structures for the “Exterior Improvements” (or 11.9 acres) and footprint of structures in 210 building permits for which dimensions are indicated in excess of 650,000 square feet. The County Assessor’s office may be the best source of information if all building and construction

permits have been provided to the Assessor's office. (Our early searches suggested that not all permits had been forwarded.) An 8.5 mile 30 ft wide ROW would disturb an additional 30.9 acres , or a 60' wide 8.5 mile ROW could result in surface disturbance of 61.8 acres if a pipeline were to be laid from Ocotillo and the old water pipe removed. There would also be surface disturbances associated with the drilling of a new water well for the quarry and for a water pipeline to transport water from well to quarry area for use.

390. The following explains why we believe that the USG Project is indeed covered under "project" definition (5) "A proposed industrial, manufacturing, or processing plant, or industrial park ..., occupying more than 40 acres or land or having more than 650,000 square feet of floor area. Under a Public Records Act request, we have obtained copies of 213 building permits with an inspection cost recovery valuation of \$33,067,707 related to the expansion/modernization project. The sq ft area of structures for which dimensions were provided is 661,666 sq. feet, however many structures which would appear to be quite large have no dimension information provided. This is more than the 487,363 sq. ft. of "exterior improvements" included in DEIR Table 2.0-3 for "Condition after expansion/modernization". We believe there may be an even larger total sq. foot footprint of floor area when one considers whatever additional structures and dimensions were not indicated on permits we copied and whatever additional structures might be included in the missing permits which might have been included in the USG Plant Manager's 5/21/01 Declaration under Penalty of Perjury that construction costs were approximately \$120 million and a later filing with the SEC which indicated another \$30 million for mill modernization. For these reasons, we believe that the size of new construction floor area dimensions means that the USG project is not exempt from a more realistic review under WMC 10910. Assessors records may reveal an even larger total floor area or a different floor area.
391. Furthermore, the project must be included when one realizes that the area occupied by the US Gypsum Plaster City plant operations exceeds "40 acres of land" listed in WC10910 as meeting the definition of a project. DEIR Sec. 2.3.1 states that of the 473 acre USG Plaster City site, "in 1989, approximately 309 acres of the Plant site were disturbed by various uses including the mill, shops, boardings, warehouse, railroad tracks, loading areas, parking lots, the office building, and former employee housing (DEIR at p. 2.0-10). If preconstruction disturbance as seen in aerial photo dated 6/96 for DEIR Fig 2.0-4 at p. 2.0-12 is baseline, it is obvious that DEIR Fig. 2.0-7 at p. 2.0-23 has massively increased the footprint of structures and that the total of disturbed land may well be even greater than the previous 309 acres identified at DEIR p. 2.0-10, thereby meeting the definition as a project for the second time.
392. **Todd's USG FEIR Appendix C-2 also ignores build-out permitted under the existing ONCAP of the Land Use Element of the General Plan and uses unrealistically low figures for domestic use of water.**
393. FEIR Appendix C-2 adds Todd Engineers "Water supply Assessment for US Gypsum Expansion/Modernization Project". This is a woefully inadequate and overly optimistic study favoring USG interests. However this study fails as an informational document upon which to base any decision because of the very serious flaws and omissions listed below.
394. This 11/07 Todd study refers to Water Code Sec. 10910, but ignores build-out permitted under the existing ONCAP of the Land Use Element of the General Plan and uses unrealistically low figures for domestic use. The authors totally ignored the ONCAP, adopted by the County Board of Supervisors in April 1994.

395. Appendix C-2 fails its intended water assessment purpose because it:
- (a) includes no mention of US EPA Sole Source Aquifer designation or its implications,
  - (b) accepts assumption that USG is entitled to use 767 AF/Y of groundwater because Planning Director approved that in 3/06 even though Appellate Court rejected this as historic use (because USG could produce no documentation to support asserted use),
  - © does not recognize the problems in the basin that are exacerbated by the very limited amount and location of private land and existing zoning within the basin and water use authorized at 1.5 AF/DU/Y so potential use by 500 DU could reach 750 AF/Y, not the estimated 68.6 - 285.8 AF/Y in the water Assessment,
  - (d) ignores the fact most lots are large lots to reduce water usage, but residents may choose to use more landscaping as the climate grows warmer and as more residents become year-round residents, and
  - (e) fails to appreciate the implications of 3 USG export wells being located between 2 residential subdivisions, the down-gradient one of which is reliant on private wells because the community well was unable to pump enough water to supply all lots, and
  - (f) fails to appreciate the fact that water in private domestic wells downgradient in Nomirage is highly variable in quality given the underlying geology and topographic features; and
  - (g) fails to note no increase in water levels in wells following three hurricanes (100 year storms and floods within a 5 year period that left many areas with standing water for weeks); and
  - (h) ignores the fact that USG applied for inclusion into IID's service area 11/1/04, that IID approved the use of not to exceed 1,000 AF/Y of water from the Westside Main Canal for use at USG's Plaster City facility and referred the matter to LAFCO for approval with documentation included in Comment letter 28; and
  - (i) is apparently unaware that IID was granted a BLM ROW for power line and water pipeline to USG property line since 4/81 and IID has annually paid the lease fee.
396. Appendix C-2 does note that the monitored well with greatest rate of water level decline is a USG well. However, Todd in Appendix C-2 fails to appreciate the implications of USG export wells being located between 2 residential subdivisions, the down-gradient one which is reliant on private wells because the community well was unable to pump enough to supply all lots, and water in the private wells is highly variable in quality given underlying geology and topographic features. Appendix C-2 also fails to note no increase in water levels following the three hurricanes (100 year storms and floods within a 5 year period that left many areas with standing water for weeks) .
397. Appendix C-2 suggests that USG project is not subject to requirement because no evidence of surface impacts in excess of 650,000 sq. ft. or acreages in excess of 40 ac. Aerial photos tell a different story, and analysis of sq footage of all construction permits would reveal surface impacts in excess of 650,000 ft and/or greater than total 40 acres. Compare the amount of disturbed land at Plaster City in 6/1996 in the DEIR Fig 2.0-4 at DEIR 2.0-13 (Exhibit 267) with Exhibit 265, an aerial photo printed in 3/2008 which shows realigned railroad and a greatly expanded waste storage pile to the SW. In any event the USG FEIR Appendix C-2 Todd 11/07 Water Supply Assessment letter concludes with the apparent contradictions:
- “Because of the overdraft condition, the sustainable groundwater supply is by definition insufficient for the proposed project. However, the water demands of the Project and other existing and future water can be supplied by available groundwater storage.”
- However, given the inaccuracies and inadequacies of data and analysis in the FEIR we are not convinced by that conclusion in light of the inadequate mitigation measures and failure of EIR/EIS to reveal anything about the amount of extraction by sand and gravel operations near the Coyote

Mountains and in the proximity of the Elsinore Fault, north and west of Ocotillo.

## N Permits issues and baseline conditions

398. Permits issues or why was so much construction done without first completing Court ordered environmental review? What are or were supposed to be the **baseline conditions** that are subject of environmental review? What constitutes a good faith effort to comply with the Judgment and Orders of the Court? And what constitutes a good faith effort at full disclosure required by CEQA?
399. At the County's 1/9/02 Scoping meeting for the court-ordered USG EIR, John Bowman, attorney for US Gypsum, stated that at the time of the 10/2000 Appellate Court Decision ordering an EIR, "U.S. Gypsum had proceeded with construction of the expanded wallboard facility. That construction was completed by the time the Court of Appeal had issued its decision. We are now, of course, in compliance with the Court of Appeals decision, proceeding with that EIR that required EIR, which as Bill will explain, include some additional components that were not included in the previous project description, in the interest of describing the project as broadly as possible as CEQA mandates." (Transcript p. 2 of 25, USG DEIR vol II Appendix A-3 Scoping Materials.)
400. Additional comments about the status of US Gypsum Plaster City operations at the Scoping meeting were presented by Bill Castrey, then Plant Manager at Plaster City. He stated that the operation would add \$42.4 million average to the local economy over the first 10 years of operation. (USG DEIR Vol. II Appendix A-3 Transcript, p.7.) He went on to add that: "Other things that were not part of the original part of the project that have come to light and need to, replace the 50-year old water line that comes from Ocotillo from the water wells. We continue to have leaks out in the desert, and that is not very efficient use of the water and we continue to have to fix that line. So, we feel that we need to replace that. And then we see using water somewhere between 700 and 800 acre feet maximum need when we are at full capacity at our optimum efficiency levels." (USG DEIR Vol. II Appendix A-3 Transcript, p.8.)
401. After reviewing those comments from USG sources, a 4/2001 memo from County Counsel's Yeager was recalled. See Exhibit 116 (included with out 2002 Scoping comments and is being resubmitted because of its on-going significance). Briefly Exhibit 116 is the "Jly gypsum summary 1." Undated, probably 4/2001. "Background - U.S. Gypsum" which was found in Planning Dept. USG files during Public Records Act search in 2001. Exhibit 116 includes discussion about the USG threat to sue for failure to deliver on the economic incentive program in 1999, County having 60 days to revoke all permits covering the new expansion to comply with court orders, preparation of EIR, and the standard requirement for demolition of all work done to date for any project built without permit.
402. What has changed since the time of the 2001 "Jly gypsum summary 1" memo? Our Tables on permits issues, Tables 1, 2, and 3 reveal that the County never stopped issuing permits to USG even after the County had set aside the 12/98 Neg Dec on 5/22/01 as noted in Court documents on file in Superior Court Case No. 97911. Planning Director Heuberger's 1/25/02 memo to "All Planning Department Staff" re USG Permit (Exhibit 252) noted that: "The Appellate Court ruled that we were to rescind all prior permits and the implication is we are also not to issue any further permits, at least to some degree. .... It would be greatly appreciated if everyone in this office paid attention to these facts and not issue permits without my expressed permission. .... Most of the files that are pending in litigation have been sequestered." (Emphasis in original.)

403. What else has changed since the time of the 2001 “Jly gypsum summary 1” memo? The memo states that at that time there were about 38 permits related to the new expansion; now we have copies of approximately 213 permits, some of which predate the 12/98 Neg Dec. It appears that no permits have ever been revoked. Permits were continually issued even through 2007. USG filed for bankruptcy Chapter 11 protection in June 2001 and emerged from bankruptcy in June 2006 with net sales in 2006 of \$5.6 billion, more than double the sales in 2001. An EIR ordered by the court in March 2001, which became an EIR/EIS with BLM as co-Lead Agency still, as of 3/2/08, has not been approved for distribution to federal agencies that commented on the 4/06 DEIR/EIS; and, ignoring numerous requests for rescheduling, the Planning Commission rushed to hearing on 2/13/08 without first being sure that all agencies that commented as required by CEQA and County Rules to implement CEQA.
404. By our calculations it appears that the 1/2008 USG Final EIR is more than five (5) years late. (As of March 2, 2008 federal agencies, such as US EPA and USGS, which commented on the DEIR/EIS still have not received copies of the FEIR/EIS to review because no Federal Register Notice has yet been published in compliance with BLM’s procedural requirements under NEPA. During that time the County has issued scores of additional permits and allowed millions of dollars of additional construction for which no environmental review has been considered, contrary to what we understand to be the orders of the Court. See Tables 1, 2, 3, and 4 of Permits issued to USG in relation to legal activities and preparation of an EIR.
405. US Gypsum appears to have been engaging in a construction and acquisition effort at the same time it was (a) trying to convince Imperial County officials to provide special financial incentives to keep its wallboard factory in Imperial County near its gypsum rock source, and (b) trying to convince County officials that it would be cost prohibitive to build a pipeline 5 to 5.5 miles long and to treat Colorado River water to use for wallboard manufacturing rather than replace an existing 8.5 mile pipeline for the export of potable groundwater from a US EPA designated Sole Source Aquifer. See Table 3 for a list of the individual US Gypsum Permit Applications for building/ construction/demolition permits, together with the valuation of those project associated activities. Table 3 (15 pages) is appended to this letter. A summary of information in Table 3 can be found in Tables 1 and 2 for relationship to issuance of permits to various Court and environmental review activities. See Table 7 “Wallboard manufacturing facilities, construction/closing dates, costs, gypsum and water sources” for construction activities and costs at other USG facilities.

### **Cogeneration plant issues**

406. USG 4/2006 Draft EIR/EIS (at p. 2.0-48) discusses the “Installation of an approximate 14.4 megawatt (MW) cogeneration unit” with a natural gas-fired turbine to provide the necessary electrical power and waste heat to dry the wallboard. Again, how is it that US Gypsum could afford to build a cogeneration power plant but not be able to afford to build the infrastructure necessary to supply and treat Colorado River water for use at the Plaster City factory or be subject to other feasible mandatory, enforceable and monitored mitigation measures? Alternatively, does/did US Gypsum expect the utility rate payers of the Imperial Irrigation District to fund the construction of the cogeneration power plant? If so, why should the utility rate-payers be expected to subsidize a power plant that benefits USG. (See Table 8 for “Incentives” and Table 9 for USG Corp financial information.)

### **EIR/EIS Baseline date of 1998 and “Post 1998 Conditions at the Plaster City Plant and Quarry”**

407. How is the public and even public agencies to respond to an EIR for which the County acknowledges a baseline date of 1998, but then goes on to describe all the “Post 1998 Conditions at the Plaster City Plant” and “Post 1998 Conditions at the Plaster City Quarry” (DEIR Sections 2.4.1 and 2.4.2 at pp.

2.0-22 - 2.0-31)? See FEIR 5.0-195 also.) Indeed, what is the purpose of an EIR when the County had and has ignored the requirements of CEQA and NEPA by continuing to issue permits and allowing construction at the factory and quarry to continue as if there were no Court requirement to prepare an EIR/EIS? If some FEIR information uses data to 2007, why aren't all groundwater models calibrated using 2007 data? At least then one could understand whether the model is close or even further off as we believe.

408. Once again we remind the County of the simple but elegant words of then Superior Court Judge Judith McConnell in her August 31, 2000 Statement of Decision in Case No. 676630 (Save Our Forests and Ranchlands v. County of San Diego), **“an environmental review deferred is an environmental review denied.”** She found that the decision-makers (San Diego County Board of Supervisors) had been deprived of the information they needed about potential environmental impacts, including possible contamination and depletion of groundwater resources, when it approved a General Plan Amendment to the General Plan's Land Use Element. (Judith McConnell is now a Justice with the CA Court of Appeal, Fourth Appellate District, Division One. ) In her 2000 decision, then Judge McConnell noted that:

“Drafting an EIR or preparing a negative declaration necessarily involves some degree of forecasting. **While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.**” (Emphasis added.)  
Guidelines, Cal. Code of Regs., Tit. 14, Sec. 15144.

Where, as here, important, detailed and relevant information is missing, it precludes informed decision making and a prejudicial abuse of discretion results. Kings County Farm Bureau v. City of Hanford (1990) 221 Cal. App. 3d.692.

(Judge McConnell's language in SOFAR 8/31/00 Statement of Decision at pp. 7, 8.)  
The SOFAR case was appealed 11/20/2000 as Appellate Court Case No. D036599, but voluntarily dismissed on 6/29/2001. Although The US Gypsum EIR is the product of Imperial County and not San Diego County, the wisdom of Judge McConnell in interpreting the intent of CEQA is just as relevant today when considering whether or not the US Gypsum EIR/EIR prepared by the Lead Agency meets the requirements of CEQA and the Guidelines to implement CEQA.

409. The FEIR 4.0-2 and 4.0-3 acknowledges the need for a good faith effort at full disclosure as required by CEQA Guidelines. However, our comments point out that not only the DEIR, but also the FEIR volumes have failed in their efforts at full disclosure of all relevant and required information and analyses and have failed to consistently correctly locate project components of USG expansion project!

**No CEQA Guideline suggests that it is ever acceptable to complete the proposed project before the EIR process has been completed or before an EIR is ever provided for public review.**

410. CEQA Guidelines Sec. 15080 states that “the EIR process should be combined with the existing planning, review and project approval process...” We find no CEQA Guideline which suggests that it is ever acceptable to complete the proposed project before the EIR process has been completed or before an EIR is ever provided for public review. The actions of the County Planning Department in its role as the Lead Agency for Imperial County has deprived all decision-makers and the concerned public an opportunity to consider the potential impacts and/or proposed mitigation measures prior to completion of the project. Rather, the County conducted a Scoping meeting and accepted written Scoping concerns, but then has apparently chosen to ignore the vast majority of those concerns even though CEQA Guidelines Sec. 15804 (c) states that: “The Lead Agency must consider all information

and comments received.” In the discussion of Guidelines Sec. 15084, citing a 1976 court decision, the Guidelines provide “that the Board of Supervisors cannot delegate the responsibility of considering the final EIR to the staff of the Planning Commission.” (Sundstrom v. Mendicino (1988) 202 Cal. App. 3d 296.) By Lead Agency County Planning Dept. or EIR consultant withholding timely submitted comments on the BLM Scoping process, the FEIR misleads reviewers by asserting or pretending that commenters withheld them for almost 4 years or resubmitted them as comments on the Draft EIR (FEIR 5.0-136 and 157), and withholding from the FEIR a critical letter of comment from a Planner in the County Planning Department (Exhibit 263).

411. Indeed, one of the basic purposes of CEQA is (a) to: “(1) Inform governmental decision-makers and the public about the potential significant environmental effects of proposed activities. (2) Identify the ways that environmental damage can be avoided or significantly reduced. (3) Prevent significant avoidable damage to the environment by requiring changes in projects though the use of alternatives or mitigation measures when the governmental agency finds the changes feasible.” (Emphasis added. CEQA Guidelines Sec. 15002 (a) (1), (2), (3).) “Under CEQA, an agency must solicit and respond to comments from the public and other agencies concerned with the project.” (Emphasis added. CEQA Guidelines Sec. 15002 (j).)
412. It is clear that the intent of CEQA is to do environmental review before final approval of any project and that CEQA mandates that the Lead Agency respond to public comments and concerns. To do review prior to issuance of permits and completion is far less expensive than removing construction or facilities that are later found to be unacceptable because a feasible alternative has been determined to be environmentally superior and would eliminate mitigation measures found to be unenforceable, in addition to mitigation measures being physically and financially infeasible as are those identified in Table S-1 related to groundwater level and quantity issues if factory operations are to continue to use groundwater rather than mandating the IID Colorado River water full use alternative.
413. The complete disregard of both the Court’s judgment and orders by both County Planning Department and US Gypsum is reflected in the ten major construction projects identified in text as being completed at the Plaster City factory site since 1998 (USG DEIR/EIS at Sec. 2.4.1 “Post 1998 Conditions at the Plaster City Plant” p. 2.0-22.) and what appears to be twelve major changes identified in Table 2.0-2 at DEIR p. 2.0-25. (See also FEIR 5.0-195.) ( Here, the Court’s judgment in Sierra Club v. County of Imperial and orders related to the requirement to prepare an EIR and to set aside the approval of the Neg Dec and requirement to aside permits relying on the Neg Dec . The County ordered preparation of an EIR, and set aside the Neg Dec as ordered by the Court, but took no action on the permits before USG filed for bankruptcy protection.) Nothing in the text or table gives which, if any, of these major projects had not been started or not yet been completed prior to the availability of the Final EIR or prior to beginning preparation of the EIR. The wording in Section 2.4.1 makes it sound as if all is in the past tense and therefore all construction has been completed. Were permits ever issued for these projects? . Alternatively, have all major construction projects been completed prior to “the July startup of the new production line at the Plant” (DEIR Sec. 2.4.3.3 at p. 2.0-32)?
414. Our Public Records Act request to review all permits from 1996 to 2007 revealed 213 permits with a cost recovery inspection valuation of \$34.07 million from 1996 through December 2007. It is interesting to note that 141 permits with a cost recovery inspection valuation of about \$9.59 million were issued by the Planning Department AFTER the Court of Appeal Decision to require an EIR. Between the time the appeal from the Superior Court decision in 7/99 to the Court of Appeal Decision reversing the Superior Court judgment, there were 34 permits issued with a cost recovery inspection

valuation of about \$18.36 million. (See Tables 1, 2, and 3 included with these comments.) In court documents USG asserts that the costs to USG for expansion/modernization were about \$120 million according to the Plaster City plant manager. (See Table 4 for costs of the USG Plaster City facility.) That raises the question about when permits were issued and when the work was done? Or was one of the local “incentives” that USG would be exempt from the requirement to obtain County permits only after environmental review had been completed? Our PRA review of building permits revealed a surprising number of files with inspection slips and inspection “finals” missing. And, then there is the additional approximately \$30 million for mill modernization listed in the USG SEC 10-Q for 9/30/05 which was expected to be completed in early 2007. (See Table 4.)

415. The DEIR answers by noting that many, but not all “improvements” had “already [been] made at the Plant and Quarry between 1999 and 2002”. (DEIR Sec. 2.5 Proposed Action at p. 2.0-45), but fails to indicate when or if US Gypsum had obtained all necessary construction permits. Again, DEIR Sec. 2.5.2 Plaster City Plant states that: “The Proposed Action at the Plant site consists of all improvements made to the property since 1998 as discussed in Section 2.4 plus the additional improvements discussed below.” (DEIR Sec. 2.5.2 at p. 2.0-24.)

#### **“deconstruction of the built facilities”**

416. In our view, if baseline for EIR review is 1998, then all construction after that time should be removed because it was done without first completing the necessary environmental review. To have a meaningful EIR with a baseline date of 1998, then the situation on the ground should be what it was in 1998. Indeed, the DEIR identifies “deconstruction of the built facilities” as removal of expanded existing facilities at both the Plaster city factory and the quarry in the No Action Alternative at DEIR Sec. 2.6.2, p. 2.0-69, 70. See also Exhibit 116 which refers to demolition of all work done if permits were revoked as ordered by the court.
417. Of the more than 200 permits for which we have Permit Numbers, we wonder why not all information was passed on to the Assessor’s office. The total land surface area covered by what is called “exterior improvements” is 487,363 square feet in Table 2.0-2 “1998 Conditions and Proposed changes at the Plaster City Plant” (DEIR at p. 2.0-25.) 487,363 sq. ft. equals 11.19 acres! The surface space occupied by the 75,700 cf board stucco silo is unknown because no dimensions are provided. There is also no surface area defined for the 500,000 gallon water storage tank (DEIR p. 2.0-22) which was installed in 2002 (DEIR p. 2.0-32) and supplied by a gravity-fed 8 inch water pipeline from 3 wells (DEIR 2.0-32) located between Ocotillo and Nomirage.
418. Similarly there is neither surface area indicated for employee parking or truck parking if truck parking and waiting occurs at a site separate from the truck loading and tarping area. DEIR Fig. 2.0-9 depicts a substantial acreage of paved surfaces surrounding the factory buildings that are located to the south of Evan Hewes Hwy (old Hwy 80) at Plaster City (DEIR p. 2.0-29), but fails to indicate a location for employee parking or staging area for trucks. Are truck engines idling while trucks are loading and tarping? If the 430 employees are evenly divided on all shifts (assume an 8 hour work day), then unless employees carpool, there may be as many as 143 cars parked at the Plaster City factory site for each shift. Nevertheless, that is an incredible amount of land surface to be impacted without first completing environmental review. Aerial photos predating construction compared to aerial photos at present readily depict the amount of construction.
419. What would be the County’s response if some developer decided to build a shopping mall with more than 11 acres of buildings on an abandoned field or abandoned parking lot without first completing environmental review and obtaining all permits?

**O Reconsideration of issues raised in comments on DEIR and Scoping process that have not been adequately addressed by 1/2008 USG FEIR/EIS.**

420. These comments throughout have pointed out problems associated with the EIR/EIS and the process and not been limited to addressing the question of whether or not the 4/06 USG Draft EIR/EIS adequately addressed the issues raised in our Scoping comments both written and oral to both Imperial County NOP notice and BLM's NOI notice and whether the FEIR addressed issues raised by comments on the Draft and unaddressed Scoping comments. Comments also address problems with the DEIR and technical Appendices which CEQA Guidelines state are part of the FEIR that were perhaps missed during the 2006 review because the DEIR failed to address all relevant scoping issues raised in 2002 because scoping concerns addressed during the BLM Scoping process were not made public or included until the January 2008 FEIR and the FEIR failed to address all the concerns of the comments to the DEIR. References to the DEIR/EIS will so indicate unless there have been changes to referenced text or figures in the Final EIR/EIS which is NOT a stand-alone document. The Final EIR/EIS consists of 4 volumes, 2 distributed in April 2006 and 2 distributed to non federal agencies at the end of January 2008 and to federal agencies in March 2008. Indeed the FEIR 4.0-1 specifically states that "Section 15132 of the CEQA Guidelines states that the Final EIR/EIS shall consist of : The draft EIR/EIS or a revision of the Draft; ...." Again, the DEIR is part of the FEIR(FEIR 1.0-2).

**Additional biological resource issues related to dust and climate change stresses**

421. Most issues on deficiencies of the FEIR discussion of biological resources have been addressed, not by the responses to comments in the FEIR, but in the comments on the FEIR submitted by the Center for Biological Diversity. However, we remain concerned that the issues of accumulation of dust from quarry activities on vegetation will reduce photosynthesis and therefore reduce vegetative productivity and ultimately both the quantity and quality for forage for wildlife including the peninsular bighorn sheep. The quantity and quality of forage and stresses on large mammals such as bighorn sheep and large predators are likely to be further exacerbated by climate changes anticipated in the future, especially in an area that is already vulnerable because of the rainshadow effect of the mountains to the west of the quarry.

**Inert Waste Storage pile**

422. Issues related to the Inert Waste Storage pile have not been adequately addressed, and the failure to address the growing inert waste storage pile were not only addressed by the public in 2002 Scoping comments by Allen and Harmon, but in memos from the Planning Director (Exhibit 249) and Consultants found in the Planning Dept files during our PRA review. Most of those memoranda and e-mail communications also have portions of the text related to groundwater and modeling concerns and are appended to these comments as exhibits. A 9/1/03 e-mail communication from Planning Director Heuberger to USG's attorney Weiss, RDT's Brown and Canger, includes detailed concerns about the "Waste pile"(Exhibit 249 at p. 2). Heuberger noted that by 7/2003 there was about 2.6 million cubic yards of non-saleable materials in the USG Plaster City waste pile and that "the stock pile has grown significantly over the past two years".
423. Heuberger's frustration with USG responses during the EIR/EIS process as relates to the waste pile can be seen in the following concerns:
- "D) You indicate that the actual recycling will vary depending upon market demand and to some degree I would concur however there needs to be a schedule and a manageable way to reduce this pile. I would suggest that the pile be eliminated within 10 years at worst 15 years. I

would also expect that as part of the permit there will be a bond or other surety to make sure that this pile can be removed in the event USG can't or won't. Therefore it only makes sense to have an aggressive removal plan.”

“Frankly I don't consider this to be much of a plan, rather a statement of current past and future conditions and very little on how to get rid of the pile expeditiously. I would strongly suggest that this be a PLAN so that we don't have to alter the visual analysis in the EIR to show that we are building a white mountain.” 9/1/03 e-mail communication from Heuberger to USG's attorney Weiss, RDT's Brown and Canger, includes detailed concerns about the “Waste pile”(Exhibit 249 at p. 2)

424. Consultant Brown's 9/29/03 comments on the waste pile are also revealing about the extent to which it appeared that USG was willing to comply with waste reduction in any serious manner.
425. After reviewing concerns in the Planning files, we checked to see if either the DEIR or FEIR had addressed concerns both realistically and adequately. From the DEIR and FEIR we learn that the inert materials storage area (IMSA) is an 89 acre site (DEIR 2.0-32) to the SW of the wallboard factory where off-specification wallboard is deposited. Additionally,
- “The quantity of material in the IMSA prior to startup of the new production line in July 2000 was estimated at about 2,200,000 cubic yards. The pile contained an estimated 2,600,000 cubic yards of material as of January 2004.” (DEIR 2.0-18)
- “The IMSA has been and is subject to regulation by the California Regional Water Quality Control Board, Board Order 96-001 for Waste Management for Inert Wastes. That Order states the total capacity of the area is 4,694,000 cubic yards ...” (DEIR 2.0-18)

**M Problems associated with BE04 study and 2006 DEIR hydrology and groundwater sections** in addition to 1/08 FEIR volumes. DEIR, Vol.I, 3.3; Vol. II, Appendix B hydrology.

426. Comments on these portions come from reviews of USGS data, reports specific to the two groundwater basins where USG wells are located or proposed to be located for the proposed USG expansion project, research related to groundwater export litigation, and discussions with USGS staff and USGS water resource experts, including Dr. John Izbicki, and with Dr. David Huntley, who was the County's consulting hydrogeologist for the time through groundwater export litigation and until 1993 when he wrote a letter recommending that USG not be permitted to expand its groundwater export above 380 AF/Y for use at the Plaster City facility.
427. The 4 maps included in USG EIR/EIS Appendix B1, USGS Hydrologic Data have symbols in the legend that appear identical so it is not possible to tell which locations are current or historic water level and water quality monitoring wells. For a fact, we are aware that many monitoring wells for water quality including one well in the Coyote Wells area where water quality in the past had some changes are no longer being monitored for water quality. The location of wells currently being monitored for water quality and water levels seems inadequate to provide an early warning of significant groundwater quality changes which may be related to the amount of export pumping done by the three USG wells. Well identifier numbers to identify the location of individual monitoring wells should be included on the USGS maps.
428. The USG EIR Appendix B-1 list of monitoring wells should state which wells are currently being monitored in the Ocotillo/Coyote Wells groundwater basin and when monitoring was discontinued at other wells. Not all 24 wells in the list are currently being monitored. The list should clearly indicate which wells are still in the monitoring program and when monitoring began and/or ended for each

well on the list.

429. There is no reason to include the many pages of monitoring wells in the County-wide Network that are at locations remote from the proposed project area being considered. A list of the 12 wells in the County-wide network that are unrelated to the project discussion are on the USG EIR Appendix B-1 and appears prior to the tables of monitoring data. Information on those wells serves only to complicate the review.
430. USG EIR Vol II, Appendix B2 is the Bookman-Edmonston 2004 (BE04) “Ocotillo/Coyote Wells Hydrology and Groundwater Modeling study prepared for US Gypsum Company” and, as such, it is not unreasonable to expect that BE04 reflects the biases and interpretations or omissions in a manner most favorable to US Gypsum. Communications in the Planning USG EIR/EIS files from USG consultants and attorneys confirm conflicts among experts in interpreting hydrology data, including Drillers Reports and USGS monitoring data, and other information.
431. Knowledge of long-time residents of the basin provide different explanations of what might otherwise appear to be anomalous data and conclusions. This DEIR BE hydrology technical appendix does not provide any data or analysis of the groundwater basin from which USG intends to pump groundwater for quarry dust suppression and other activities at the quarry. The EIR Appendix provides no other analysis of that groundwater basin other than we note that there are two USGS monitoring wells which may be located down-gradient in that groundwater basin from the intended location of the quarry water supply. However, those two wells are not identified as such in the County-wide network table in EIR Hydrology Appendix B-1.
432. Appendix B-2 or BE04 at p. 1-2 confirms our earlier assertion that the BE96 model was not useful because the model did not correspond to measured well monitoring data. BE04 (p. 1-3) states that a single pump test on one of USG’s wells (without identifying which well by USGS number) was conducted on Thanksgiving Day 2002. However, given the complexity of the geology of the basin and the very different responses to different portions of the basin to pumping up to 100 AF/Y from an individual well, we wonder how doing a pumping test at a single centrally located well could be effective in evaluating Basin conditions at parts of the basin many miles up-gradient or down-gradient from the pumping well or the consequences of pumping a larger quantity for a longer period of time might be.
433. BE04 at p. 2-4 describes the Ocotillo-Coyote Wells Groundwater Basin (OCWGB) as being “characterized as an unconfined aquifer with a saturated thickness of approximately 400 feet and depth to groundwater on the order of 100 feet.” However, a review of the recent USGS monitoring data and well characteristics from earlier USGS well data collected for the 1977 USGS Skrivan study reveal that this generalization does not apply in the area where the residential communities of Ocotillo, Nomirage and Yuha Estates are located. We presume that USGS obtained much data from well drillers’ logs in order to determine the depth of the wells measured surface elevations and depths to groundwater. An important way to characterize a groundwater basin is in terms of static water level above mean sea level. A review of USGS monitoring data for some wells in the Nomirage area reveals shallow depth to water because land surface elevations are lower than in Ocotillo and that depth to groundwater in Yuha Estates is closer to 180 to 200 feet below land surface.
434. Nevertheless, when one calculates static water levels in terms of water level “above mean sea level” (AMSL) by subtracting measured water level from surface elevation for all monitored wells and then preparing a figure mapping water level AMSL using the USGS topographic map that was prepared by

USGS with well locations marked on the map, one discovers that water levels fall consistently along a straight line from Ocotillo area to the southern portion of the basin with a significant drop in water elevation AMSL that is reflective of a significant decline in groundwater levels downgradient of the USG centered very large cone of depression. Much useful data is included in summaries of USGS raw data can be found in Appendix A “Inventory of Well Data” from USGS, Appendix B “USGS Water Level Data”, and Appendix E “Surveyed measuring point elevations” which are appended to the Bookman-Edmonston 3/1996 report “Ocotillo/Coyote Wells Basin Hydrology and Groundwater Modeling Study” which is cited herein as BE96 and incorporated by reference because of the important Appendices and better quality Figures. (See our Table 10 for data from USGS NWIS website and some additional data from BE tables for data not in the USGS NWIS.)

435. After trying to create a table of information on wells in the water basin (Table 10) to understand issues related to groundwater elevations and water quality, it appears that some pages of USGS monitoring data are missing from the DEIR Appendix. USGS states that information is current to 2001 for many wells, yet the next page to complete information on several particular wells was found to be missing. Also there was no need to include data for wells near the Arizona border because they are unrelated to the subject of the EIR. Data in USGS tables included in the DEIR Appendix was not always in order according to well identification numbers, appearing that some pages had been shuffled prior to printing the document. However, we were able to create Table 10 with updated water levels using 2007 data available from USGS Water Resources data at: [http://nwis.waterdata.usgs.gov/ca/nwis.gwlevels?county\\_cd...](http://nwis.waterdata.usgs.gov/ca/nwis.gwlevels?county_cd...) and USGS NWIS for water quality data.
436. Water levels are already decreasing at a rate greater than 1 foot every 8 years in some wells which could trigger mitigation measure 3.3-1. The greatest rate of decline is in USG well 36H1. Water level data for the following wells is significant and makes more sense when one understands the location and/or the operator. However, understanding what is really taking place is complicated by the fact that it is unknown how much water is pumped by any individual well pumping for other than single family domestic use. Quantity pumped from each large volume pumping well should be made available for monitoring purposes.
- (a) 16S/9E-36H1, identified by USGS as a U.S. Gypsum Company well, shows a drop in water level of 5.51 feet from 2001 to 2007, or almost an average of 0.92ft/yr;
  - (b) 16S/9E -25M1, a community supply well for the Ocotillo Mutual Water Co. dropped 4.75 feet from 1995 to 2007, or an average of 0.38 ft/yr;
  - (c) 16S/9E-36C3, which serves the Coyote Valley Mutual Water Company where the water level has declined 19.31 ft between 1975 and 2002, or an average of 0.72 ft/y.
  - (d) 16S/9E-24B1 which has a TDS of 1240mg/l and appears to be east of the Elsinore fault, has a static water level that is 2.6 ft higher than the closest monitoring well, 16S/9E-24D1 which has a TDS of 470 mg/l.
  - (e) 16S/11E-42L1 well is at the Yuha springs or well down in the Yuha badlands and is the only well that shows a significant response to El Nino year run-offs. That is where the water drains down into the Yuha Badlands, and standing water and water running in washes has been observed in the Badlands associated with heavy rains which come faster than the soil can absorb them.

Thus, it is readily apparent that the water level for some of the wells for which there is data is already “decreasing at a rate faster than one foot every eight years” identified in Mitigation Measure 3.3-1 as a trigger for mitigation. See Table 10, Water Well information, water elevation and TDS monitoring data from USGS which is appended to these comments.

437. Based on the information in our table of well information, we noticed the following startling information about the groundwater basin, all based on the USGS map of well locations given to Harmon and the USGS monitoring data. First the facts, then the graph. By comparing water elevations by translating the measured depth to water in monitored wells we can look at water levels in terms of elevation of water level in feet above mean sea level (AMSL). There are four wells for which we have data that appear to be essentially on a straight line from Ocotillo Mutual Water Company in Ocotillo to a monitoring well in Yuha Estates 6 miles to the southeast as traced on the USGS map with a scale of 1 inch/mile.
438. The data in Table 11 on following page reveal that:
- (a) In the 6 mile distance from OM to YE, the difference in water elevation between Ocotillo and Yuha was almost 71 feet in 1995.
  - (b) In the 1.25 miles from OM to the USG well water elevation declined by 12.31 feet. After 12 years, the decline in water elevation from Ocotillo OM to the USG well had increased to 21.16 feet! **I am not sure I understand this sentence. [??over what time?] Can you review for accuracy?**
  - (c) The difference in water level from WO to USG well over a distance of 3.75 miles was 39.36 feet.
  - (d) The water level decline in USG well 36H1 was 8.44 ft from 1995 to 2007, or an average of 0.7 ft./year over a 12 year period, but from 2001 to 2007 well 36H1 shows a drop in water level of 5.51 feet from 2001 to 2007 or almost an average of 0.92ft/yr. It appears that the rate of water level decline has increased during the past 6 years in this USG well!
439. Because the data presented by BE in both 1996 and 2004 offers an often erroneous interpretation of what a local well is used for, additional information is provided herein based on the knowledge of long-time resident groundwater users and USGS well owner identification.
440. DEIR Sec. 3.3.2 Plant Water Usage states that the Plaster City factory was pumping an average of 347 AF/Y from 1994 to 1998 from three wells located in the Ocotillo/Coyote Wells Groundwater Basin (DEIR at p. 3.3-1). The proposed action is to more than double exported amount of water from 347 AF/Y to 767 AF/Y, asserting a higher use in 1972, but for which Appellate Court and BE96 found no supporting data. (Sierra Club v. County of Imperial 10/00 at p. 15.) See also DEIR 3.3-29 discussion of the “US Gypsum Variance” included with these comments as Exhibit 211.)

441.

**Table 11      Impacts of groundwater pumping on water elevations in the  
Ocotillo-Coyote Wells Groundwater Basin**

Key:

- OM Ocotillo Mutual Water Company serves residential subdivision of Ocotillo, Unit 1,
- WO well west of Ocotillo closest to potential recharge, 3.75 mi west of USG well 36H1  
USG US Gypsum export pumping well
- NO Well in residential subdivision of Nomirage 200 lots
- MY McDougal export well in Yuha Estates, exported est 100-143 AF/Y 9/77-9/82
- YE Domestic wells in residential subdivision of Yuha Estates 16 lots across from well that  
ceased export in 1982. Est within 1000ft. of 11G1

The distance from OM to YE is 6 miles, OM is 1.25 mi. NW of USG which is 1.25 mi NW of NO

**Table 11 Impacts of groundwater pumping on water elevations in the Ocotillo-Coyote Wells Groundwater Basin**

Information from USGS water monitoring data for 1995 and 2007 available at:  
[http://nwis.waterdata.usgs.gov/ca/nwis/gwlevels?county\\_cd](http://nwis.waterdata.usgs.gov/ca/nwis/gwlevels?county_cd)

Well USGS ID (T/R-S)	Well depth ft.	Land Surface Elevation ft.	Base of well ft. above sea level		Static water level below ground surface ft.	Groundwater elevation ft. AMSL	year
16S/9E-25M2 OM	336	410	64		137.42 142.17	272.58 267.83	1995 2007
16S/9E-35M1 WO	495	616	151		323.16 326.01 323.29 325.34	292.83 289.99 292.57 290.66	1975 1989 1995 2007
<b>16S/9E-36H1 USG</b>	380 410	337.72 BE 342 USGS	-42 -68		80.07 82.61 85.54 91.05	257.65 255.11 252.18 246.67	1974 1995 2001 2007
16S/10E-42A1 NO	130	334	204		87.72	246.28	1995
16S/10E-42A2 NO		328			73.21 76.33 80.59	254.79 251.67 247.41	1974 1984 1994
17S/10E-11G1 MY	300	380.14	80.14		164.94 232.60 182.48 177.15 173.20 171.21	202.99 147.54 197.66 202.88 206.94 208.93	1975 1981 1987 1995 2001 2007
17S/10E-11H2 YE  well failed 4/87	344	380	32		165.00 169.40 189.87 187.41	211 206.6 186.13 188.69	1973 1978 1982 1986
17S/10E-11H3 YE  replaced 11H2	348	380	32		179.29 178.32 174.26 171.69	200.71 201.68 205.74 208.31	1987 1995 2001 2007

### **“Groundwater Basin Location Map” errs when it shows streams**

442. DEIR at p. 3.3-2 correctly states that: “Surface water is not present in the Basin, and there are no water imports into the Basin.” However DEIR Fig, 3.3-1 “Groundwater Basin Location Map” on the page (p. 3.3-3) facing that text (at p. 3.3-2) shows the groundwater basin as being an area with scores of surface “streams” as indicated by blue lines in the Fig. 3.3-1 Legend as “streams”. The effect of the blue lines indicating streams is to mislead those who did not carefully read the text and who are unfamiliar enough with the area as to not know whether the text or the map is correct about the presence of surface waters. DEIR Fig. 3.3-1 provides no source for the information other than the EIR consultant Resource Design Technology.
443. This kind of internal inconsistency noted above related to critical factual information makes the EIR/EIS of questionable accuracy and is a prime example of the document not being properly prepared and not being adequate as an informational document under CEQA or representing a good faith effort at full disclosure. The FEIR is simply a woefully inadequate informational document under CEQA and NEPA that should not be certified.
444. Why is this error significant? Because if a desert groundwater basin has no surface water it means there is not much potential for recharge and there are few if any springs or seeps and, therefore, impacts of groundwater exported from the basin are unlikely to be significantly mitigated by any natural recharge given rainfall data from several decades and projections for reduced rainfall associated with increasing temperatures related to climate change. However, if a desert groundwater basin is crossed by hundreds of miles of “streams”, one could assume there is significant potential for recharge and therefore groundwater export would be of far less concern than the USGS well monitoring data suggests.
445. DEIR ( at p. 3.3-2) and BE04 ( at p. 4-2) text states that there are “several other commercial/ industrial and agricultural users”, but fails to identify them, where they are located, how much groundwater the authors think they might use, and from what source their water comes. BE04 at p. 4-6 states that: “In field inspections of the project area in February, no commercial agricultural land use was observed. This is consistent with DWR 1989 land use, which indicated only one acre of flowers or nursery in the study area.” Overlying owners in the OCWGB know of no commercial groundwater based agriculture in the basin indeed, all proposed large water well uses for agriculture have been denied, and commercial agriculture is a prohibited use in the ONCAP, as noted by BE04 at p. 4-6. Thus, the EIR should either omit discussion of agriculture or identify the supposed location of such locally unknown agriculture and the potential estimated water use.
446. DEIR at p. 3.3-2 lists a number of studies of the groundwater basin, but curiously fails to include three SDSU graduate student studies the county funded until DEIR p. 3.3-12 under discussion of hydrology in Sec. 3.3.2.1. These studies were incorporated by reference in Sierra Club’s Scoping comments and were referenced in Wiedlin’s 7/06 comments on the DEIR. Because these basin specific studies by Jansen, Williams, and Mark were funded by Imperial County they should have been identified by name, considered and incorporated by reference because they contain important information related to geology, faulting and electrical resistivity studies that disclosed the presence of saline water at depth. Because of the repeated references to Mark’s work in the FEIR( at 4.0-46, 47, 48, 49 and Sec. 4.3.9 at p. 4.0-66), his study should have been included and appropriately cited. What is interesting is that BE04 estimates of recharge (1077 AF/Y) are closer to those proposed by Huntley (max 1672 AF/Y) and Mark (1650 AF/Y) in earlier studies than they are to the projection of BE96 (2400 AF/Y). (DEIR at p. 3.3-12, 17.)

447. USG DEIR Figures Sec. 3.3 Hydrology and Water Quality are inconsistent in their depiction of the boundaries of the Ocotillo-Coyote Wells Groundwater Basin. Mischaracterization of the size and boundaries of the groundwater basin being discussed can lead to a misunderstanding of the issues. USG DEIR Fig. 3.3-1 “Groundwater Basin Location Map” prepared by RDT (at DEIR p. 3.3-3) uses the boundary of the 1996 US EPA Sole Source Aquifer designation, but mistakenly identifies hundreds of miles of streams throughout the basin. The “streams” are really dry washes except during heavy rainfall. USG DEIR Fig. 3.3-5 “Simulated Water Level Contours” (p. 3.3-19) uses the old political boundaries for the area extending all the way to the IID Westside Main Canal through which IID transports Colorado River water for use by irrigated agriculture, but provided water contours only for the basin Sole Source Aquifer and parts of the transition area east of Coyote Wells where there are residential uses provided water by truck from WestWind Water Company in Ocotillo. Maps were not corrected in the FEIR.
448. DEIR Fig. 3.3-5 was also prepared by RDT, but the small print in the lower left corner reveals that the source used in this map is the 1977 Skrivan Report prepared by USGS for County of Imperial with co-operative funding. We fail to comprehend why the court-ordered EIR to address groundwater pumping impact includes a map depicting water levels (elevations) as they were published in 1977, but based on earlier 1974-1975 monitoring data. Why wasn't this Figure updated with current groundwater monitoring data in either the BE96 or the more recent data in the BE04 study or FEIR Appendix C-1 for data after FEIR Fig. 3.3-6 (1995 data)? 1995 data was 11 years old at the time of the 4/06 DEIR and 12 years old by the time of the 1/2008 FEIR/EIS. Although the public has access to only limited water level data from USG and the various water companies with wells in the groundwater basin, those records we can get from USGS records point to declines in static water levels in all these wells. How does an additional 30 years of monitoring data change what is known about the size/extent and depth of the large cone of depression in the vicinity where wells are pumping for more than single family domestic use? [The USGS records are not contained in the EIR]
449. Another curiously misleading bit of information on DEIR Fig. 3.3-3 (Generalized Geology) is the identification of Yuha Estates as an “Urban Water Use area”. Yuha Estates is a 160 acre private inholding surrounded by BLM Area of Critical Environmental Concern on the east and north and the Jacumba Mountains wilderness area on the west and south. The subdivision has 16 approximately 10 acre lots, with 6, possibly 7 occupied residences, and 2 lots where a mobile home and structures burned to the ground. Population is estimated to be only 11 or 12 persons, actually probably fewer residents after fire destroyed another home in spring 2007. Current zoning is desert residential with 1 dwelling unit /40 acres, with no potential for future subdividing because most of the subdivision is in a sink which has standing water whenever there is heavy rainfall run-off from the ridge to the east and north and the mountains to the west. USG EIR Vol II Appendix BE04 (at p. 4-1) includes text which refers to a “Table 6-1 [which] is a summary of 1989 land use in the area.” just above Table 4-1 entitled “1989 Land Use”. There is no land use designation such as “suburban residential” for this County Planning Unit. 2000 Census Bureau information reports the median household income for the Ocotillo area as \$26,100.
450. Why did the County accept a Bookman-Edmonston 1/16/2004 purportedly updated version of a Bookman -Edmonston 1996 study which contains an outdated 1989 table for land use relying on the groundwater basin? County could have and should have shared the 1990 census data on the overlying communities, information which is reflected in the ONCAP adopted by the County Board of Supervisors as part of the County General Plan. BE04 (at p. 4-3 and 4-5) referenced numeric information in the ONCAP, so why not update the information in a 1989 table or get 2000 census data? Table 6 showing 1990, 2000 population and dwelling use occupancy and projected acreage and

groundwater use at build-out is appended.

451. Why does BE04 go into much detail about the amount of water that was exported from 2 wells six miles apart that stopped export by 1984, but fail to reveal how much is pumped from each of three closely spaced USG current exporting wells that are centrally located between Ocotillo and Nomirage? There are only two very short paragraphs about USG water export to Plaster City but two pages related to export to Mexico with details about how much one well in Ocotillo exported to Mexico from 1974 to 1978. (BE04 at pp 4-2 thru 4-7.)
452. BE04 report of the pump test in Nov. 2002 does not include critical information about which well was tested. Elsewhere in the EIR well information is identified by USGS numbering. Only USG wells are mysteriously called well #5 or #6 without any clues as to whether they are the wells to the south of the Interstate east of the WestWind Water Company that supplies water to residents of West Texas and Painted Gorge, or the well just east of Ocotillo Unit 2 which is served by the Coyote Valley Mutual Water Company. No clues until BE Fig 5-6 “Location of Pumping Wells” at BE04 pp\_\_\_ (not numbered and is out of order in the copy of Appendices available for our review). Nevertheless, it is noted that the discharge rate exceeded the recharge rate during the pump test. (BE04 Appendix A, p.2.) This is an unacceptable way to present information intended to be full disclosure as required by CEQA.
453. The public was required to search other sources for information for details of well ownership, uses of wells for industrial, commercial or community water supply or government monitoring wells. The intended use of the well and the proximity of wells to each other is important for understanding why certain wells exhibit greater drawdown than might otherwise be expected if for single family domestic use only. From information on BE Fig 5-6 and a copy of 1979 USGS computer print-out description of wells that were part of the 1977 Skrivan study, we learn the following: USG well 36G3(#4) is closest to WestWind. USG 36G3 was drilled in 1952, and two of the three WestWind/Elfring wells 36G1 and 36G4 were drilled in 1957 and 1962. The USGS printout has no date for the Elfring WestWind well 36G2, suggesting that may be the oldest of the three wells. USG 36H1 (#5) is further east both on the south side of I-8 and was drilled in 1952. USG 36B1 (#6) is to the east of the Coyote Valley Mutual Water Company (CVMWC) well and was replaced in 1999. Both USG and CVMWC wells were drilled in 1961. In 1970 CVMWC drilled its third well. Clearly, there is a problem having all but one of the community wells in close proximity to the USG export wells. The location of these wells with the USGS numbers can be seen in EIR Fig 3.3-17 at p. 3.3-83. The only apparent difference between the figure in the Draft and Final EIR is the addition of a legend.

## CONCLUSIONS

454. The County should not certify the EIR/EIS as being properly prepared under CEQA as required by the Court. The EIR/EIS cannot form the basis for making an informed decision about the project because so much relevant requested information was never made available for analysis or for consideration in discussions of cumulative impacts. The EIR/EIS should not be certified because its volumes contain so many internal inconsistencies and mapping errors. Mitigation measures are more than woefully inadequate and of unconvincing chances of success, mitigation and monitoring are not of adequate duration and well locations for monitoring may be inadequate. The Ordinance upon which the County seeks to rely has not been implemented for monitoring or mitigation purposes and decision making responsibility for mitigation measures related to water resources impacts is inconsistent. Very few wells are actually covered by the mitigation measures, rather the county apparently prefers to

place restrictions on residential development based on potable groundwater resources in favor of industrial use which will cause groundwater levels to decline in places where vegetation can now reach the water table in some downgradient areas to the east and southeast of the USG wells.

455. From a recent book review comes wisdom and advice for the future and for decision-makers as noted in these concerns related to the proposed USG reliance on increased amounts of potable groundwater for export for non-overlying industrial uses from an already overdrafted groundwater basin:

"We're not good at planning for our great-grandchildren yet this is what is required of our generation and those who follow," he writes. "Drought and water are probably the overwhelmingly important issues for this and future centuries, times when we will have to become accustomed to making altruistic decisions that will benefit not necessarily ourselves but generations yet unborn. This requires political and social thinking of a kind that barely exists today." (Wilkinson, T. 3/4/08. "Climate change's most deadly threat. Anthropologist Brian Fagan uses Earth's distant past to predict the crisis that may lie in its future." Christian Science Monitor at <http://www.csmonitor.com/2008/0304/p.13s02-bogn.html>)

456. It is recommended that Imperial County now make a decision that will benefit future generations of overlying residential users of potable groundwater in the Ocotillo-Coyote Wells Groundwater Basin/Sole Source Aquifer by requiring USG's industrial use of water for the manufacture of wallboard to come from the Colorado River from IID's Westside Main Canal as approved by the IID decision of April 2006.

Thank you.

### **Addendum A – Problems re: Ground-water Management**

Kahrl: CA Water Atlas re Groundwater Management. (pp. 103-104) identifies the problems of groundwater management in 1978. It is interesting to reread these issues 30 years later and see how little has changed.

"The problems of groundwater management are complicated by a lack of clarity in the legal principles governing groundwater extraction in the competition among pumpers. Questions about groundwater apply both to the nature of the groundwater right and to the possible limitations upon this right which might be imposed in order to develop effective management of the total groundwater resource. The decision of the California Supreme Court in 1975 in *City of Los Angeles v. City of San Fernando* largely destroyed the utility of the "mutual prescription" doctrine under which the rights of groundwater pumpers in overdraft and groundwater basins had been decided on the basis of historical usage by the pumpers. In principle it remains possible to return to concepts developed by the court at the beginning of the 20<sup>th</sup> century, according to which pumpers overlying a groundwater basin and using water on land they own would have the first preference and others would be treated as appropriators of groundwater bound by the principle of 'first in time, first in right.'"

"These concepts are easy to state, but in basins with heavy groundwater pumping at a wide

range of locations and for a diversity of purposes, these concepts may be difficult if not impossible to apply in practice. Another approach, suggested indirectly by the court's opinion in the San Fernando case, is to allocate groundwater pumping rights on the basis of the doctrine of "equitable apportionment." This doctrine, frequently used by the United States Supreme Court in resolving conflicts between states, provides a flexible means for courts to take into account a broad range of factors in order to reach a just result in particular controversies."

"Whatever doctrine is used to allocate groundwater pumping rights after this San Fernando decision, it remains clear that the judiciary could premise any adjudication of groundwater rights upon the notion of "safe yield." In overdraft in basins the aggregate of pumping would have to be reduced in order to return that basin to some balance between extractions and average annual replenishment. It also appears to be clear that under the established precedents, such cutbacks would not entitle present or potential pumpers to compensation for their losses."

"Safe yield adjudication provides one means for achieving effective groundwater management. In several Southern California adjudications of this type, the parties engaged in elaborate negotiations to reach settlements based upon stipulated judgments. These judgments establish relatively sophisticated management programs for the particular groundwater basins in question. These programs, however, has been made possible by the fact that the basins involved a relatively isolated, and in every instance supplemental surface waters have been available to replace water is no longer available from under the ground. The focus of these negotiations consequently has been upon means for paying for the more expensive supplemental surface water, not upon deciding who should receive less water."

"In considering means for bringing effective groundwater management to other areas of California, adjudication may be of limited utility. ...where supplemental surface water is not readily available, and the number of groundwater pumpers may make groundwater rights adjudication entirely impractical."

"A report by the Governor's commission to review California water rights law in 1978 recommended that emphasis be placed upon development of non-adjudicatory means for the effective management of the groundwater resource through the development of a statewide groundwater policy. The commission recommended a process by which local governments would develop groundwater management programs within the context of State groundwater policy. The commission suggested that such a process would be useful in protecting the local and statewide interest in improper groundwater management, both in deficit basins plagued by problems of overdraft, water quality degradation and subsidence, and a non-deficit basins where groundwater surpluses may exist and may serve to meet deficits elsewhere in the state." (Kahrl, William L., et al. 1978. The California Water Atlas. Publ. State of California, p. 103-104.)

Edie Harmon  
P.O. Box 444  
Ocotillo CCA 92259

STATE OF CALIFORNIA  
Energy Resources Conservation and Development Commission

In the matter of: )  
 )  
APPLICATION FOR CERTIFICATION FOR )  
THE IMPERIAL VALLEY SOLAR PROJECT )  
(FORMERLY SES SOLAR TWO) )  
\_\_\_\_\_ )

DOCKET NO. 08-AFC-5

TESTIMONY ON ALTERNATIVE WATER SUPPLY  
OF WITNESS EDIE HARMON  
FOR INTERVENOR TOM BUDLONG

EXHIBIT 591

July 21, 2010

1. This testimony is a continuation of previous testimony and incorporates by reference previous submissions and previous references..

**Major issues related to groundwater Use and the Supplemental or Final Staff Analysis**

- A. **FSA states that Impacts to groundwater resources of Ocotillo-Coyote Wells Sole Source Aquifer would be significant and unmitigable, and remain so even after mitigation measures if groundwater is used for project as proposed in March 2010 after distribution of the SA/DEIS**
  - B. No assured reliable water supply to meet needs over life of project
  - C. FSA fails to consider alternative water supply from IID's WestSide Main Canal or treated waste water from Centinela State Prison to the north of proposed project site
  - D. Inconsistent presentation of duration of groundwater usage in Executive Summary and text related to Soil & Water Resources of the FSA.
  - E. Inconsistent portrayal of location of proposed project site in relation to source of groundwater from within EPA's Ocotillo-Coyote Wells Sole Source Aquifer boundaries Project site is east of Elsinore-Laguna Salada Fault zone and therefore is east of the Ocotillo-Coyote Wells Sole Source Aquifer and does not overlie Sole Source Aquifer
  - F. FSA assumptions about depth of wells and depth to groundwater is incorrect with respect to downgradient domestic water wells in Nomirage where depth to water is shallow and where phreatophytic vegetation exists
  - G. Failure to consider cumulative impacts of proposed 40 year life of project use of groundwater together with the existing and proposed groundwater use from the Sole Source Aquifer including the Planning Director's 2007 Registration for export use of 767 AF/Y from the nearby 3 US Gypsum wells in excess of documentable prior use per USG BE reports.
  - H. FSA inconsistent referrals to projects which have initiated CEQA and/or NEPA review and which intend to use groundwater from Ocotillo-Coyote Wells Sole Source Aquifer
  - I. Reliance on Todd 2007 is misplaced because model cannot accurately predict ongoing USGS groundwater monitoring data as pointed out in Sierra Club's 2008 comments for the Final EIR/EIS on the US Gypsum project
- 
- A. **FSA states that Impacts to groundwater resources of Ocotillo-Coyote Wells Sole Source Aquifer would be significant and unmitigable, and remain so even after mitigation measures if groundwater is used for project as proposed in March 2010 after distribution of the SA/DEIS**
  2. "The Energy Commission staff identified **significant unmitigable impacts** to Biological Resources, Land Use, Soil & **Water Resources**, and Visual Resources. Impacts to Cultural Resources are being analyzed and will be addressed in a document filed subsequently to this document. Because many of the unmitigable impacts identified by staff could be significantly reduced through implementation of Drainage Alternative #1, the Energy Commission staff recommends that it, rather than the proposed project, be approved by the Energy Commission." (Emphasis added. ES-2 FSA IV Solar)
  3. SSA IV Solar ES at p 17 identifies the impacts to soil and hydrology as significant and unmitigable after mitigation for "CEQA .level of significance after mitigation".
  4. "As a result of the delays necessary for the SCWD to prepare the EIR, groundwater for

construction and possibly operation of the IVS Project would be supplied by the Dan Boyer Water Company's well (State Well No. 16S/9E-36G4). Groundwater from the Dan Boyer Water Company well would be treated at an on-site facility adjacent to the on-site substation to produce demineralized water for mirror washing. However, the Ocotillo/Coyote Wells aquifer is a sole source aquifer, meaning it is an aquifer that supplies 50% or more of the drinking water for an area. [In fact, probably 90=95% of domestic water or more comes from the aquifer. Personal observations.]

5. Potable water would be delivered to the site by truck and stored in a 5,000 gal tank in the water treatment area. This tank would be able to provide a two to three day supply of potable water for the operating facility.” (FSA IV Solar, ES p. 5,6)
6. See also text at FSA C.7-1, 7-44, 7-59, 7-73, and 7-87.

**B. No assured reliable water supply or backup water supply to meet needs over life of project**

7. Boyer will serve letter has a duration of six to eleven months (FSA C.7-52)
8. Boyer well could be reliable “if permitted to pump at the required rate” than allowed in existing permit . (FSA C.7-53)
9. Groundwater “not sufficient to satisfy water demands” ((FSA C.7-53)
10. No back-up water supply has been identified (FSA C.7-54)
11. Seeley WasteWater Plant “not a firm existing supply” (FSA C.7-52) “If recycled water becomes available...” (FSA C.7-85)
12. The FSA ES contains no discussion of the alternative groundwater water supply intended by applicant prior to availability of any water from the Seeley Wastewater Treatment Facility. (FSA IV Solar, ES 23-24) Why?

**C. FSA fails to consider alternative water supply from IID's WestSide Main Canal or treated waste water from Centinela State Prison to the north of proposed project site**

13. Centinela State Prison with its inmate population in excess of 5,000, which is nearer than Seeley might be a possible source of treated wastewater for construction and mirror washing. Was this source of wastewater considered? If not why not?
14. Yes, Colorado River water from the WestSide Main canal would require an act of Congress to change the boundaries of the IID, but such was done in 1981 so that the Plaster City factory would have a water source to enable the factory to eliminate or reduce groundwater export from the Ocotillo-Coyote Wells SSA. IID has approvals to supply up to 1,000 AF/Y for the Plaster City factory from the Westside Main Canal, and awaits only a Record of Decision by BLM once the FWS Biological Opinion is complete. The FEIR/S for said project was completed in spring 2008. If it could happen for a larger quantity of water, why not have considered such a request for a smaller quantity?

**D. Inconsistent presentation of duration of groundwater usage in Executive Summary and text related to Soil & Water Resources of the FSA.**

15. **Exhibit 526**, Van Paten's 3/11/2010 testimony refers to the Boyer well as “our preferred back-up/temporary source of water”...
16. **Exhibit 528**, Moore's 3/15/2010 testimony also identifies “a temporary /back-up source of water” being negotiated

17. Although the FSA notes that an EIR is being prepared for the possible use of water from the Seeley Wastewater Treatment Facility, (FSA IV Solar, ES p. 5) it fails to include a recommendation for the need additional environmental review of the potential for impacts if the Boyer well is to supply water for the life of the project as the applicant earlier proposed, late in the project review, especially in light of the cumulative impacts of the proposed off-basin export in addition to all the other existing and proposed uses from the same Ocotillo-Coyote Wells Sole Source Aquifer.
18. Such environmental analysis for the proposed water source is imperative as a review of the FSA leads one to conclude that groundwater is the likely source of water for the life of the project, rather than just a temporary or back-up source. Specifically, the FSA noted when it stated that “groundwater for construction and possibly operation of the IVS Project” would come from the Boyer well. (FSA B.1-16)

**E Inconsistent/incorrect portrayal of location of proposed project site in relation to source of groundwater from within EPA’s Ocotillo-Coyote Wells Sole Source Aquifer boundaries Project site is east of Elsinore-Laguna Salada Fault zone and there fore is east of the Ocotillo-Coyote Wells Sole Source Aquifer and does not overlie Sole Source Aquifer**

19. **FSA is incorrect when it states that the “project site lies primarily over the Ocotillo-Coyote Wells aquifer”.** (FSA at C.7-11)
20. The EPA designated Ocotillo-Coyote Wells Sole Source Aquifer (SSA) is west of the Elsinore fault zone, but the project site is east of the Elsinore Fault. See **Exhibits 515, 579, 581, and 582** for boundaries of the EPA designated Sole Source Aquifer. See also **Exhibit 562** for locations of wells, private lands and faults. Please note that the IV Solar Project is located north of I-8 and east of the location where the highway crosses the railroad.
21. The Ocotillo-Coyote Wells Aquifer was designated as a Sole Source Aquifer by US EPA on September 10, 1996. 61 Fed. Reg. 47752-53. The EPA determined that the aquifer “serves as the ‘sole source’ of drinking water for the residents of Ocotillo, Coyote Wells, Yuha Estates and Nomirage.” *Id.* at 47753. Further, the EPA determined that the aquifer should be protected because “[t]here is no economically feasible alternative drinking water source near the designated area.” *Id.* at 47753. EPA noted the boundary of the sole source aquifer area at the Elsinore Fault which “was chosen as a boundary because it separates the sole source aquifer area, which contains high quality, potable water, from high saline, non-potable water to the east of the fault.” *Id.* At 47753. (See Exhibit 515 for EPA SSA designation in 1996.)
22. The following Exhibits are maps from the 2006 US Gypsum Draft EIR/EIS which indicate that the proposed solar project does not overlie the SSA. **Exhibit 581** is USG 2006 DEIR/S Fig. 3.3-1 US EPA Ocotillo-Coyote Wells SSA boundary, and **Exhibit 582** is USG 2006 DEIR/S Fig. 3.3-4 Location of Wells in Ocotillo Coyote. Wells groundwater basin.
23. The FSA improperly defines the boundaries of the Ocotillo-Coyote Wells Groundwater basin as something very different from the US EPA definition of the Sole Source Aquifer as depicted by maps published by EPA in 1996, with subsequent maps and included earlier as **Exhibit 515**. (An EPA SSA map from 2008 in included as **Exhibit 579**.) This map also depicts the SSA as having an eastern terminus just to the west of the IV Solar project site contrary to the assertion of the IV Solar SSA that 96% of the project site overlies the SSA. 96% of the project does NOT overlie the Ocotillo-Coyote Wells Sole Source Aquifer as mapped by US EPA in either 1996 or 2008.
24. Thus, the following FSA statement at ES-36 is incorrect if it is intended to reflect potential relationship to the Sole Source Aquifer!

25. “11. Approximately 4-percent of the Imperial Valley Solar project overlies the Imperial Valley Groundwater Basin, and the remaining 96-percent overlies the Ocotillo/Coyote Wells Groundwater Basin. This means approximately 4-percent of the water purchased from Dan Boyer Water Company (water that originates in the Ocotillo/Coyote Wells Groundwater Basin) would have to be exported to the Imperial Valley Groundwater Basin, which is prohibited without a permit under Imperial County Land Use Ordinance 9. Condition of Certification **SOIL&WATER-11** prohibits use of Dan Boyer Water Company water within the Imperial Valley Groundwater Basin without a permit from Imperial County.” (FSA IV Solar, ES p. 36)
26. FSA at C.7-11 description of the project area being over the Ocotillo-Coyote Wells Groundwater Basin is inconsistent the map of the SSA prepared by EPA. The Ocotillo-Coyote Wells Sole Source Aquifer as described by US EPA is a hydrological definition that incorporates the potable groundwater basin as an entity separate from the more confusing larger DWR groundwater basin which includes several basins without any hydrologic connection for purposes of understanding the impacts of the proposed groundwater use on overlying domestic users within the SSA or downgradient with highly saline groundwater east of the Elsinore/Laguna Salada Fault system. If one wants to further muddle the groundwater impacts one could include groundwater in the West Mesa which by virtue of being downgradient and north of the IV Solar Project is also irrelevant for purposes of impacts. The FSA should include Figures or maps to clarify the confusing text related to groundwater. The Ocotillo - Coyote Wells Groundwater Basin/Sole Source Aquifer is not the Same as the DWR Ocotillo-Coyote Wells Valley Groundwater Basin (FSA C.7-12) for which the FSA provided no map.
27. FSA C.7-12 should have used actual USGS groundwater quality monitoring from 1977 and subsequent rather than cite outdated 1973 DWR data. USGS data reveal that water quality is more related to location in relation to underlying geology than depth because some deeper wells and electrical resistivity studies reveal saline water at depth. There have been numerous studies on the groundwater basin, and monitoring and electrical resistivity studies reveal that the basin is far more complex and does not respond as computer models have predicted. This was explained in my earlier comments and testimony. See **Exhibit 580** which was submitted as comments on the SA/DEIS for IV Solar.
28. FSA discussion of groundwater basins is extremely confusing and uses a multitude of different names to describe groundwater basins, all with apparently very different boundaries. The only groundwater basin of real concern is the Ocotillo-Coyote Wells Groundwater Basin with the hydrologic boundaries described by the EPA Sole Source Aquifer designation and maps. Confusion reigns in FSA C.7-3 #11, ES-36, C.7-31, 86, and 89. And Ap D-8 response 6. See **Exhibits 515 and 581**. Why has the CEC chosen to use groundwater basin descriptions that go do far beyond the Sole Source Aquifer with its largely potable groundwater when considering the impacts of using the Boyer well for industrial off-hydrologic basin use? I felt very sad and discouraged as I read text by staff unfamiliar with the groundwater basin, its topography, and the groundwater constraints imposed by the pumping restricted to the small amount of private land overlying the SSA. See **Exhibit 562** Map depicting location of private land and water wells in relation to local geology prepared by EH in 1991 from technical information available at the time.
29. Certainly, if one includes a large enough area that could never possibly be impacted by the project (Soil and Water Figure 11 et sec) it is easy to conclude that impacts are insignificant. However, the concern is cumulative local conditions of overdraft and how that impacts downgradient domestic users and future domestic users. Or is it intended that the entire Sole Source Aquifer is just to be considered one more “Sacrifice Area” to meet some perceived need elsewhere or profits elsewhere?
30. What is the source of the groundwater basin boundaries and why does CEC not use the EPA Sole Source Aquifer boundaries as provided by EPA and used in other CEQA/NEPA documents related to the groundwater basin?

- F. **FSA assumptions about depth of wells and depth to groundwater are incorrect with respect to downgradient domestic water wells in Nomirage where depth to water is shallow and where phreatophytic vegetation exists in the groundwater basin E and SE of the Boyer well**
31. The FSA at ES-36 makes the following statement about the Ocotillo Coyote Wells Groundwater Basin that is erroneous and based on a lack of understanding about the topographic effects. Indeed, the downgradient water levels range from about 85 ft below land surface for the nearby US Gypsum well 16S/9E-36H1 to 20-30 to 50 feet below surface for some of the domestic wells in the Nomirage area where surface elevation is lower than at the Boyer well. (personal communications with well owners in Nomirage and Google Earth).
  32. Erroneous assertions about depths of wells in general in the basin are incorrect and found at C.7-3, Resp Ap D-6, C.7-43, and C.7-54. FSA states that: "Assuming an average well depth of 300 feet, depth to water of 125 feet below land surface ...." (FSA C.7-54) This is an incorrect assumption both for domestic wells in the Nomirage area and further downgradient in the Yuha Estates area. Based on USGS data on water levels and well information from resident groundwater users/well owners and Google elevation data from Google earth.
  33. For example, Google Earth indicated that the land surface elevation at the Hall/Steele well in Nomirage is 296 ft, or about 100 feet lower in elevation than the upgradient Boyer well. Hall stated that depth to groundwater is about 45 feet, (or about 251 ft. AMSL) rather than the much deeper depth to water of 125 ft. at the Boyer well where static water level fluctuated from 260 Ft AMSL in 1986 to 244 in 1995 according to FSA Soil and Water Table 7 (C.7-43), but with no current information. What this really shows, however, is just how much the static water levels in the basin are declining both within individual wells and within the downgradient portions of the basin and the influence of upgradient pumping/use. Thus, the urgent need for additional data because assumptions are only that, assumptions.
  34. See **Exhibit 516** for the Table of USGS monitoring water well and static water level information for the Ocotillo-Coyote Wells Groundwater Basin.
  35. As noted earlier, residents of Nomirage report depths to water of 30-45 feet in their domestic wells, with water levels declining during the past decade. (Sadly, these residential wells are not part of the ongoing USGS/Imperial County groundwater monitoring program, so there are no official water level measurements.) But monitoring program needs to be expanded
  36. The place name Coyote Wells comes from the fact that in the past coyotes were able to scratch the surface and groundwater would pool for drinking.
  37. By contrast, because they are not familiar with the local topographic features and locations of domestic wells and native vegetation, the FSA assumed the following:
  38. "8. The expected water level decline from project groundwater consumption is too small to significantly affect existing well yields; there are no reported springs in the area and the present-day water table is too deep to support phreatophytic vegetation. Well interference and the effects of water level declines on other basin users are therefore considered less than significant." (FSA IV Solar, ES p. 36)
  39. There is phreatophytic vegetation which has roots that reach the groundwater. Overlying the Ocotillo-Coyote Wells Groundwater Basin/Sole source Aquifer to the west of the Elsinore-Laguna Salada Faults phreatophytic vegetation includes mesquites and tamarisk along the downgradient Coyote Wash as there are a series of mesquites and tamarisk that obviously have roots reaching the watertable, because otherwise they could not grow to the sizes they do on public lands where they receive no

supplemental water from human activities. There are also mesquite hummocks, a BLM unusual plant assemblage. This vegetation is clearly visible from private residences and by those traveling along Interstate 8. See **Exhibit 589** for Google photo showing mesquite hummocks ESE of Nomirage by Hwy 98. There is no doubt about the vegetation as I pass it every time I travel on Hwy 98 W and I-8 east.

40. .FSA Soil and Water Table 8 (FSA C.7-46,47) fails to provide any meaningful well identification numbers so that one can obtain data for individual wells directly from the USGS website. The table provides no source information and attributes the table to no preparer. Table 9A and 9B suffer from the same lack of information. (FSA C.7-49).
41. Soil and Water Fig 11 (FSA after p. 875 of 1410 on pdf) fails to provide any explanation for the apparent rise in groundwater levels in the bottom right of the map for the Yuha Estates area. This is easily explained when one knows that the well 17S/10E-11G1 ceased export operations of 100-140 AF/Y by September 1982 and has not pumped for export since, and that all wells in the subdivision exhibited well interference related to the large drawdown at 11G1 during the almost 5 years that it pumped groundwater for export. See Exhibit 516 for details about individual wells in the groundwater basin.
42. Any well in Fig 11 exhibiting an increase in static water level is related to reductions in pumpage of a volume for greater than individual domestic purposes on the overlying land nearby. Specifically, the increase in static water level for the well in the bottom left of the Figure 11 is the 16S/9E-36H1 one of the 3 US Gypsum wells that exports groundwater. Because the public does not know how much water is pumped from each of the three wells, it is not possible to draw firm conclusions other than to say economic downturn has resulted in lower production at Plaster City factory (personal communication with IC Planning staff) and therefore less total groundwater usage.
43. Accordingly, it is essential to know not only the location of an individual well, but the owner and use to which the water is put, in addition to the proximity to the nearest large volume pumping. Figures 12 and 13 fail to include locations of downgradient domestic wells in Nomirage and fail to include standard USGS well identifiers. Based on all I have learned in 33 years, I could expect the impacts to be more related to cumulative impacts downgradient to the E and SE rather upgradient to the N or NW as suggested by these figures. These figures are most useful in pointing out the inadequacies of the current County/USGS groundwater monitoring program because it has too few downgradient monitoring wells in Nomirage area.

**Additional downgradient wells in or near Nomirage should be added to the USGS/County Groundwater monitoring program as a mitigation measure**

44. As any mitigation measure, there should be additional well/s downgradient added to the USGS groundwater monitoring program for both water level and water quality.
- G. **Failure to consider cumulative impacts of proposed 40 year life of project use of groundwater together with the existing and proposed groundwater use from the Sole Source Aquifer including the Planning Director's 200? Registration for export use of 767 AF/Y from the nearby 3 US Gypsum wells** means that FSA underestimates cumulative impacts to SSA groundwater basin
45. **Exhibit 588** Table 6 from SC comments on the US Gypsum expansion project includes a list all known existing groundwater users and hypothetical quantities known as of 2008. Since that time we are aware of what is believed to be approximately 125 to 150 AF/Y from sand and gravel operations along the south side of the Coyote Mountains, and the additional renewable energy proposed groundwater uses in addition to the Wind Zero proposal.

46. The FSA identifies Ocotillo Express Wind and Wind Zero in cumulative impacts elsewhere in the FSA, so why not include these two proposed groundwater using projects under cumulative impacts related to Hydrology?
47. Refer to **Exhibit 516** EH Table 10 with USGS monitoring data for individual wells in the Ocotillo-Coyote Wells Groundwater Basin in 2008 and updated.
48. Mitigation measures inadequate to protect downgradient domestic users in Nomirage and Yuha Estates as can be seen from historic continuing groundwater declines and apparent failure to drill additional monitoring wells required as mitigation measure for the US Gypsum expansion approved by Country in 2008.
49. Need for water level and water quality monitoring in addition to volume of pumping if one is to understand the long term cumulative impacts to downgradient SSA water users where depth to groundwater is much closer to surface than at Boyer well.
50. Require placement of downgradient monitoring well to be constructed in manner to allow dating of last significant recharge. (As for other CA desert groundwater basins, one would expect tens of thousands of years ago since last significant recharge per John Izbicki, PhD, USGS).

**H. The FSA Analysis of Cumulative Impacts on groundwater resources of the Ocotillo-Coyote Wells Sole Source Aquifer Is Inadequate, in part, because FSA includes inconsistent referrals to projects which have initiated CEQA and/or NEPA review and which intend to use groundwater from Ocotillo-Coyote Wells Sole Source Aquifer**

51. FSA states that: “Water studies showed that the aquifer is significantly overdrafted and that new well permits are not being granted.” (FSA B.1-14)
52. The FSA then goes on to indicate that nevertheless groundwater would be used
  53. “As a result of the delays necessary for the SCWD to prepare the EIR, groundwater for construction and possibly operation of the IVS Project would be supplied by the Dan Boyer Water Company’s well (State Well No. 16S/9E-36G4). Groundwater from the Dan Boyer Water Company well would be treated at an on-site facility adjacent to the on-site substation to produce demineralized water for mirror washing. However, the Ocotillo/Coyote Wells aquifer is a sole source aquifer, meaning it is an aquifer that supplies 50% or more of the drinking water for an area.” (FSA B.1-16) (emphasis added.)
54. In fact, the groundwater basin provided almost all the drinking water for the residents overlying the basin. There may be individuals who purchase water from stores in El Centro, but all residents I know use well water without treatment unless it has high TDS or high fluoride levels.
55. Wind Zero site and groundwater use is inconsistently portrayed in the FSA and its discussion of cumulative impacts.
56. The Wind Zero site as an alternative site the FSA states that the WZ “Alternative site was eliminated as infeasible because of the pre-existing proposed use as a private military training facility. Currently undergoing environmental review.” (FSA B.2-5)
57. FSA “B.2.8.1 APPLICANT’S SITE ALTERNATIVES” at FSA B.2-97 includes the Wind Zero (Ocotillo) site as one not carried forward. Then it specifically provides the following information:
58. **“Wind Zero Site (Ocotillo)**  
 “The Wind Zero Site near Ocotillo was suggested as an alternative site during the scoping period. The Wind Zero Project is proposed to be located on private land. It would include a military training

facility and motorsport race resort proposed for 944 acres. While this acreage would not be sufficient for a contiguous 750 MW Solar facility; it could be a component of a larger, multiple site solar facility. However, the Wind Zero Site is currently under environmental review for the military training facility. A Notice of Preparation of a Draft Environmental Impact Report was filed with the State Clearinghouse on January 23, 2009 for the proposed Coyote Wells Specific Plan (CEQANET, 2009). The scoping period for that EIR closed on February 23, 2009. Because this alternative site has a proposed use and is currently undergoing environmental review for that proposed Specific Plan, this alternative site was eliminated as unfeasible and is not evaluated further in this SSA.” (FSA B.2-102)

59. In fact the Final EIR for the Wind Zero Project was made publically available on the County’s website on July 19, 2010 at Imperial County website <http://www.icpds.com/?pid=2308>. And the Notice of Public hearings was mailed to residents and is included as **Exhibit 587**, ReNotice Wind Zero-Coyote Wells Specific Plan Notice of Public Hearings before Planning Commission on August 11, 2010 and Board of Supervisors September 14, 2010.
60. The FSA includes the following table and text related to cumulative impacts and identifies the Wind Zero project and another groundwater using proposed project as follows:

### **Cumulative Impacts Table 3**

#### **Future Foreseeable Projects in the Plaster City Area**

“Wind Zero proposes to build a 400-acre training facility for law enforcement, government, college and public near Ocotillo (south of Interstate 8 and north of SR 98) on land that it purchased in 2007. Wind Zero proposes to use the additional 600-acre site to build a 6.1-mile road coarse and racetrack country club.” (FSA B.3-8) and cites “Wind Zero, 2009 – <http://www.wind-zero.com>. Accessed January 7, 2009.” in the references section at FSA B.3-12)

61. Ocotillo Express Wind “Construct an approximately 550 MW wind facility immediately east of the proposed project on approximately 15,000 acres.” (FSA B.3-9) Location is actually west and south of project site. (**Exhibit 529**)
62. In the FSA discussion of biological resources cumulative impacts at C-2-110, the text states:

#### **Effects of Reasonably Foreseeable Future Projects**

63. “Biological resources are expected to be affected by reasonably foreseeable future projects. These projects, which are located within FTHL habitat, include all the future foreseeable projects in the Plaster City area listed in **Cumulative Analysis Table 3** and the following proposed projects (from **Cumulative Analysis Table 1B**)” (FSA C.2-110)
64. Ocotillo Express Wind Facility is a proposed 561 MW wind energy project located on approximately 14,980 acres planned for north and west of Ocotillo and west and south of Nomirage. B(FSA C.2-110)
65. Wind Zero Group, Inc., is a proposed 963-acre law enforcement training facility located in the Ocotillo-Nomirage area between Interstate 8 State Route 98 which includes a racetrack which would be partially developed in the South Fork Coyote Wash. (FSA C-2-110-111)
66. For Geo, soils and paleo resources the FSA identifies the following for cumulative impacts: “Wind Zero Training Facility (400 to 1,000 acres), Mount Signal Solar Power Station (estimated 350 to 400 acres), Ocotillo Express Wind Facility (15,000 acres) (FSA c.4-23)
67. So why did the CEC staff ignore the water requirements of this project (Wind Zero) and the Ocotillo Wind Express when considering impacts on groundwater resources?

68. See Response 37 at Ap D-14 which states that: “Staff accounted for cumulative effects of water usage due to projected population growth, US Gypsum pumping increase projections, and the IVS project. Higher water usage estimates cited for the CWSP project were not considered, as that project’s future is still uncertain.” Why consider the cumulative impacts related to biological resources but not hydrology? This is a serious omission under CEQA.
69. Nevertheless, I refer CEC to the specific text of the CWSP FEIR which refers to a 65 AF/Y use of groundwater for the project (**Exhibit 586 a** Wind Zero-Coyote Wells Specific Plan FEIR text re Hydrology and use of 65 AF/Y groundwater from Ocotillo-Coyote Wells Sole Source Aquifer.)

**I Reliance on Todd 2007 is misplaced because model cannot accurately predict ongoing USGS groundwater monitoring data as pointed out in Sierra Club’s 2008 comments for the Final EIR/EIS on the US Gypsum project**

70. For discussion of concerns about reliance on Todd studies, please see portions of Sierra Club comments on US Gypsum FEIR/EIS following and beginning on page 17 of 36 and after Exhibits for the CEC testimony numbered in the 500s.

71. **Declaration of Edie Harmon**

Re: Testimony on groundwater issues related to the proposed Alternative Water Supply for the Imperial Valley Solar Project/Solar 2 DOCKET NO. 08-AFC-5

I, Edie Harmon, declare as follows:

I prepared the testimony submitted herein. These comments have also incorporated and/or included comments and analysis I have prepared and previously submitted as comments on Draft and Final EIR/EIS documents for the US Gypsum Expansion and Modernization Project in 2006 and 2008, and comments and analysis related to groundwater issues for the 2010 DEIR for the proposed Wind Zero/Coyote Wells Specific Plan Project. The Wind Zero project overlies the Ocotillo Coyote Wells Groundwater Basin with proposed wells just a few miles downgradient to the east of the Applicant's well and west of the Imperial Valley Solar Project. The tables that are submitted as exhibits were prepared by me either as exhibits for the Sierra Club 2008 comments on the USG FEIR/S or for the Imperial Valley Solar Project..

My relevant experience and qualifications are set forth in the Resume which was submitted earlier. I believe that this testimony is true and correct. I am personally familiar with the facts and conclusions included in the attached testimony. If called as a witness, I could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge.

Dated: July 21, 2010

s/ EdieHarmon

At: Ocotillo, California

Edie Harmon

72. EH re CEC/BLM responses to Applicants Alternative Water Supply from well 16S/9E-36G4 and FSA for Imperial Valley Solar Project (formerly Solar 2) Docket No. 08-AFC-5

### References cited

Berkeley Law. 2009. "In Our Backyard: How to increase renewable energy production on buildings and other local spaces" 26 pages.

Bookman-Edmonston 1996. "Ocotillo/Coyote Wells Basin Hydrology and Groundwater Modeling Study" prepared for US Gypsum Company

Bookman-Edmonston 2004. "Ocotillo/Coyote Wells Basin Hydrology and Groundwater Modeling Study" prepared for US Gypsum Company included as technical Appendix in US Gypsum DEIR/EIS in 2006.

BLM 1980 Draft EIS for California Desert Conservation Area Plan

BLM 1999. 1980 Draft EIS for California Desert Conservation Area Plan as Amended

Coyote Wells Specific Plan Project by Wind Zero Group, Inc. 2010 DEIR & Appendices SCH 2009011063  
Coyote Wells Specific Plan Draft EIR SCH No. 2009011063 January 2010, released 1-27-2010 available online at <http://www.icpds.com/?pid=2308> .

Huntley, David 1979. Magnitude and potential effects of declining water elevations in the Ocotillo-Coyote Wells Basin.

Judge Judith McConnell in August 31, 2000 Statement of Decision in Case No. 676630 Save Our Forests and Ranchlands v. County of San Diego. Now Justice McConnell of Court of Appeal, Fourth District, Division One

NAFTA Tribunal Decision in the case between Glamis Gold, Ltd. (Claimant) and United States of America (Respondent) filed June 8, 2009.

Ocotillo Express Wind Facility 2009 Draft Plan of Development from BLM El Centro office.

Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map

Powers, Bill. 2007 San Diego Smart Energy 2020 158 pgs, PP 69-74 includes conclusions and recommendations [http://www.etechnology.org/new\\_pdfs/smartenergy/52008\\_SmE2020\\_2nd.pdf](http://www.etechnology.org/new_pdfs/smartenergy/52008_SmE2020_2nd.pdf)

Sierra Club comments on 2006 US Gypsum DEIR/EIS and 2008 US Gypsum FEIR/EIS

Sierra Club comments on 2010 Coyote Wells Specific Plan DEIR SCH 2009011063

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial.

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial. \_Reporter's Appeal Transcript 5-17-99 at p. 28.)

Sierra Club v. County of Imperial, United States Gypsum Company, Real Party in Interest, Court of Appeal Case D034281 Decision 10/26/00, Court of Appeal file recalled from storage and reviewed in January 2008

Skirvan, James. USGS 1977 "Digital - Model Evaluation of the Ground-Water Resources in the Ocotillo-Coyote Wells Basin, Imperial County, California"

US EPA 3/20/95 document "Technical support document for the review of the Ocotillo-Coyote Wells Sole Source Aquifer Petition". (Court of Appeal Case No. D034281 Clerk's Transcript on Appeal, vol 2 p. 252.)

US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a “Sole Source Aquifer” 61 FR 47752, Sept 10, 1996)

USGS 1977. Computer printout of well ownership and drilling dates and depths.

USGS groundwater monitoring information data for the Ocotillo-Coyote Wells Groundwater Basin at the following source <http://nwis.waterdata.usgs.gov/ca/nwis/gw> for individual well sites in the USGS Imperial County groundwater monitoring program. The water level data is available from USGS both as a graph of monitored or as a Table of data for each individual monitored well. Water quality data for the individual wells monitored can be obtained at <http://nwis.waterdata.usgs.gov/ca/nwis/qwdata>

USGS well location maps & data for Imperial County, links to individual wells monitored for water levels [http://groundwaterwatch.usgs.gov/countymaps/CA\\_025.html](http://groundwaterwatch.usgs.gov/countymaps/CA_025.html)

US Gypsum Expansion and Modernization 2006 DEIR/EIS & Appendices SCH 200121133

US Gypsum Expansion and Modernization 2008 FEIR/EIS & Appendices SCH 200121133

Zipp ,R. 1980. Ocotillo-Coyote Wells Groundwater quality-quality study, Imperial County

### **Exhibits for Solar 2 groundwater issues**

- 515 US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a “Sole Source Aquifer” 61 FR 47752, Sept 10, 1996)
- 516 “EH Table 10 Water well information, water quality, and groundwater elevations Ocotillo/Coyote Wells Groundwater Basin, a Sole Source Aquifer, Imperial County CA” Updated March 2010 from Sierra Club comments on USG FEIR/EIS 2008 and included in CWSP Scoping comments found at 28appa-nop-initial-study-a at pp 7-17 (USG EIR/EIS Appendix B-1 USGS Hydrologic Data, USGS NWIS water level and quality data & Bookman-Edmonston 3/96 (BE96), BE 1/2004 (BE04). 11pages.
- 517 Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map
- 518 US EPA 2010-04-11 letter re Final EIS for US Gypsum project
- 519 USGS 2008-12-24 letter to Cong. Filner re Final EIS for US Gypsum Project
- 520 US EPA 2009-02-25 comments re NOI for Coyote Wells Specific Plan Area
- 521 USG FEIR/S 4.0 Collective Responses Table 4.0-1 Water quality info from USGS
- 522 USG FEIR/S 4.0 Collective Responses Fig. 4 Wells with Water Quality Data
- 523 USG FEIR/S 4.0 Collective Responses Fig 7. Wells with Recent Water Level data
- 524 BE 2004 Table 4-2 Historic Groundwater Pumping in 2006 USG DEIR/S
- 525 Ocotillo Express Wind Draft Plan of Development 2009
- 526 SES Applicant’s Submittal of Opening Testimony re Van Patten re well 16S/9E-36G4
- 527 Terms for Well 16S/9E-436G4
- 528 Moore in SES Applicant’s submittal of Opening Testimony re well 16S/9E-36G4
- 529 Ocotillo Express Wind Facility 4 pgs
- 530 USG FEIR/S Mitigation & Monitoring re Hydrology ES 9-11 submitted as an exhibit for the CWSP DEIR comments 20210
- 531 USG DEIR/S Mitigation & Monitoring re Hydrology See Applicant’s Appendix C for hydrology and

- USG DEIR/S Impacts and Mitigation in Summary Table at pp S-7 through S-11
- 532 Powers, Bill. 2007 San Diego Smart Energy 2020 158 pgs, PP 69-74 includes conclusions and recommendations  
[http://www.etechnology.com/new\\_pdfs/smartenergy/52008\\_SmE2020\\_2nd.pdf](http://www.etechnology.com/new_pdfs/smartenergy/52008_SmE2020_2nd.pdf)
- 533 Berkeley Law. 2009. "In Our Backyard: How to increase renewable energy production on buildings and other local spaces"
- 534 URS/BLM color brochure "Imperial Valley Solar Project Frequently asked Questions May 2010"
- 535 Tessera Solar, SES "Imperial Valley Project Fact Sheet (Formerly SES Solar Two)" undated color brochure.
- 536 "Impacts of Avoidance or partial avoidance of Drainage Areas I, K, C, E, and G" identified as "Preliminary Layout" by RMT in BLM documents provided at workshop on May 4, 2010, possibly dated 4/12/2010.
- 537 Skirvan, James. USGS 1977 "Digital - Model Evaluation of the Ground-Water Resources in the Ocotillo-Coyote Wells Basin, Imperial County, California"
- 538 Sierra Club v. County of Imperial, United States Gypsum Company, Real Party in Interest, Court of Appeal Case D034281 Decision 10/26/00, Court of Appeal file recalled from storage and reviewed in January 2008
- 539 US EPS re 2006 USG DEIS
- 540 USGS re 2006 USG DEIS
- 541 Powers 2010-05-13 email 4 pgs "best comparative solar costs info I have" & FW other docs
- 542 San Diego solar panels cost less with 1 BOG
- 543 16-apr-10 Renewable Energy World US Solar sees 38% growth in PV capacity in 2009
- 544 7-apr-10 RETI Phase 2B Draft Report pp 4-6 to 4-8 Thin film PV lower cost than solar thermal
- 545 Mar 2010 SNL "SoCalEd orders 200 MW of solar panels, plans solicitation for 250 MW more"
- 546 Powers 2010-05-13 email 1Q 2010 CSI capital cost numbers
- 547 01-may-10 CPUC SunCentric Study in pictures through March 2010 costs trends (52 pages)
- 548 Huntley, D. 1993. Letter re changes in chloride concentration in water quality from a well in Ocotillo-Coyote Wells basin
- 549 Huntley, David 1979. Magnitude and potential effects of declining water elevations in the Ocotillo-Coyote Wells groundwater basin.
- 550 RMT 2010 Impacts of avoidance of drainages Fig. From BLM handout for May 4, 2010 workshop.
- 551 Harmon 2010 values for static water level in feet above mean sea level including most recent USGS data (compiled from Exhibit 516 EH Table 10, a compilation of USGS monitoring data.
- 552 Tisdale 2006 comments on the USG DEIR includes information on the IID source of supply for industrial use at Plaster City/USG factory
- 553 USGS 1977 computer printout of well ownership and drilling dates for Ocotillo-Coyote Wells Groundwater Basin
- 554 Zipp R. 1980. Ocotillo-Coyote Wells Groundwater quality-quality study, Imperial County

- 555 Table Westwind Water Sales History & water levels well 16S/9E-36G4 vs USG 16S/9E-36H1
- 556 Hamilton 16S/9E-34B1 well location and water level graph from USGS website
- 557 Hamilton 16S/9E-34B1 well water level table '98-09 from USGS website
- 558 Discrepancies in groundwater pumping (AF/Y) by USG wells in Ocotillo-Nomirage area as submitted by Bookman-Edmonston's Richard Rhone in January and September 2003 (Table 16-17 of Sierra Club comments on 2008 USG FEIR/S)
- 559 USG Annual Pumping and water levels in 3 USG wells in Ocotillo area (Table 14 of Sierra Club comments on 2008 USG FEIR/S) source of original information is in Exhibits 560 and 561.
- 560 USG Annual Reports 1993-2002 (originally Sierra Club Exhibit 242 for 2008 USG FEIR/S)
- 561 Rhone 2003 email re USG Annual pumpage for three wells combined (originally Sierra Club Exhibit 236 for 2008 USG FEIR/S)
- 562 Map depicting location of private land and water wells in relation to local geology
- 563 Bookman-Edmonston 2004 text and tables related to Westwind Water Company water use from well 16S/9E-26G4 at Painted Gorge and West Texas
- 564 Bookman-Edmonston 1996 text and tables related to Westwind Water Company water use from well 16S/9E-26G4 at Painted Gorge and West Texas . Figures depicting cones of depression centered at wells pumping more than 10 AF/Y
- 565 ICPDS Minnick 2004-09-07 response letter to Brammer re property and Well 16S/9E-36G4.
- 566 Harmon Testimony dated May 10, 2010 for Intervenor Budlong re Alternative Water Supply from well 16S/9E-36G4. Overlying the Ocotillo-Coyote Wells Sole Source Aquifer.
- 567 Harmon Testimony dated May 10, 2010 for Intervenor Budlong re Alternative Water Supply from well 16S/9E-36G4. Overlying the Ocotillo-Coyote Wells Sole Source Aquifer.
- 568 Rush is on for desert solar project. San Diego Union Tribune May 26, 2010. Account of CEC Evidentiary Hearing and public comments.
- 569 Supervisor Fuentes to BOS re EPA ltr and air quality in Imperial County 2010-05-26
- 570 US EPA to Nichols 2010-05-24 re Imperial County air regs
- 571 Olmedo 2009 Air Quality issue

**New Exhibits**

- 572 EH comments to the US ACE re IV Solar Project, including discussion of need.
- 573 EH comments re SA/DEIS Docket 08-AFC-5 Final
- 574 Solar 2 near Wind Zero proposal to SW 2008 map
- 575 map SW Imperial County shows NAF and bombing ranges
- 576 map Imperial County region, NAF and bombing ranges AAA
- 577 Imperial County SW & military lands BLM map
- 578 NAF & N of Seeley Google Earth aerial photo
- 579 US EPA 2008 map of Ocotillo-Coyote Wells Sole Source Aquifer shows Elsinore Fault as eastern boundary

- 580 EH comments on SA/DEIS for Imperial Valley Solar Project Docket 08-AFC 5
- 581 USG 2006 DEIR/S Fig. 3.3-1 US EPA Ocotillo-Coyote Wells SSA boundary
- 582 USG 2006 DEIR/S Fig. 3.3-4 Location of Wells in Ocotillo Coyote Wells groundwater basin
- 583 USG 2006 Draft EIR/EIS Table S-1 including mitigation measures for hydrology
- 584 USG 2006 Draft EIR/EIS Fig. 3.3-1 Groundwater basin location
- 585 USG 2006 Draft EIR/EIS Fig. 3.3-4 Location of wells
- 586 a Wind Zero-Coyote Wells Specific Plan FEIR text re Hydrology and use of 65 AF/Y groundwater from Ocotillo-Coyote Wells Sole Source Aquifer see also: Coyote Wells Specific Plan-Wind Zero Final EIR available July 19, 2010 from Imperial County website <http://www.icpds.com/?pid=2308>
- 587 ReNotice Wind Zero-Coyote Wells Specific Plan Notice of Public Hearings before Planning Commission on August 11, 2010 and Board of Supervisors September 14, 2010
- 588 Table 6 Hypothetical Water Budgets for Build-out of Ocotillo-Nomirage Community Area consistent with the acreages, land use designations, density and water use permitted by the Ocotillo-Nomirage Community Area Plan adopted by the Board of Supervisors 4/26/96 as part of the Land Use Element of the Imperial County General Plan. (Prepared in 2008 as exhibit for Comments on USG FEIR/EIS by EH)
- 589 Phreatophytic vegetation/mesquite hummocks downgradient from Boyer well in Ocotillo-Coyote Wells Groundwater Basin E SE of Nomirage by Hwy 98 Google aerial photo .jpg
- 590 Sierra Club March 2008 Final comments on US Gypsum Final EIR/EIS (majority of comments are related to hydrology and the issues related to the Ocotillo-Coyote Wells Sole Source Aquifer)
- 591 Harmon Testimony dated July 21, 2010 for Intervenor Budlong re Alternative Water Supply from well 16S/9E-36G4. Overlying the Ocotillo-Coyote Wells Sole Source Aquifer.
73. **Concerns about Computer models and Todd reports From Sierra Club comments on US Gypsum FEIR/EIS March 2008** (*Text is verbatim with notes in italics and parentheses*)

**USG FEIR/EIR comments from Sierra Club San Diego Chapter & Desert Protective Council**  
3/08 (*The following is part of a 101 page comment letter*)

**A FEIR/EIS cannot correctly locate USG project water wells .**

1. FEIR/EIS fails as an informational document, in part, because it cannot correctly locate USG project water wells even though a substantial portion of the documents relate to groundwater issues in two separate groundwater basins. For these and other reasons cited in these comments, the FEIR/EIS should not be certified as being properly prepared consistent with the requirements of CEQA and NEPA.
2. Notice for 2/13/08 Public Hearing before County Planning Commission included incorrect location of USG water wells. Notice for 2/13/08 Public Hearing before County Board of Supervisors included *no* location of any USG water wells, either existing or proposed.
3. USG DEIR/EIS and FEIR/EIS and consultant's analyses in Appendices are notable for their seriously flawed map making with examples of the "migrating" USGS monitoring water wells, missing quarry well #3, and USG's wandering industrial export water wells.

4. Locations of wells differ from map to map or figure to figure and explain why the public can place little credibility in the “consultants” analyses in the draft EIR/EIS. Maps in the EIR are incorrect and cannot consistently or correctly locate the USG wells whose proposed uses are one of the subjects of the EIR, nor can they consistently correctly locate USGS monitored wells.

#### **Incorrect locations of USG water supply wells**

5. DEIR Fig. 1.0-1 (at p. 1.0-3) shows USG wells south of Nomirage in or near wilderness; the very next map, DEIR Fig. 2.0-1 (p. 2.0-3) shows the USG water tank and wells in the Myers Wash about one mile to the west of Ocotillo. However, USG wells are located with one just east of Ocotillo Unit 2, the other two along the frontage road just south of I-8 between Ocotillo and Nomirage as residents and USGS can verify. The correct location of USG wells, their identification similar to other wells, the amount of pumping of each USG well, and the quality of water in each USG well must be correctly disclosed if potential impacts of existing USG and increased pumping by USG wells is to be correctly interpreted.

*(Beginning on page 7 -16 of 101 from the comments is information relevant to the CEC analysis related to the Boyer Well and the Ocotillo-Coyote Wells Groundwater Basin Sole Source Aquifer and computer models. My apologies for the strange numbering, original formatting was lost on copying.)*

#### **USG FEIR relies on “projections” not actual information from Drillers Reports**

6. .FEIR 4.0-29 and FEIR Appendix C-1, Todd’s 7/30/07 Fig. 3B “Cross Section near Yuha Estates” (copied from USG’s BE03 Fig. 3-1D) includes a very curious notation in very tiny print. Under the Heading “NOTES” it states that: “*All wells except 11B1 are projected.*” From the Notes, it appears that for the 8 wells shown in the figure, only one used real information. Why? If geologic information presumed to be from the drilling cores brought up at the time the wells were drilled and included on well driller’s logs submitted to the State are included for one well, why weren’t they used for the geology of all wells? The owner of well 11H3 was present during the drilling of the well and observed the meticulous notes on the well driller’s log that were made by the well driller, Rex Anderson, the same well driller who drilled well 11B1. Even if the well drillers did not describe specific geologic formations in the driller’s logs, the information on the logs seems more appropriate rather than projecting subsurface geology. If there is some reason for using projected rather than reported information, that explanation should have been included in the FEIR/EIS.

7. If one is trying to understand the underlying geology of the groundwater basin, it seems more appropriate to use real recorded well drillers’ observations rather than use “projections”. Or is it that the real geologic cores did not support the conclusions the report was intended to reach? Perhaps if the figures had used real information instead of “projections” the report might not have reached some of the erroneous conclusions about water quality and therefore underlying geologic formations for the Yuha Estates area. It makes a difference to know information about specific wells that have been part of the monitoring program and seen well driller’s logs being prepared for one of the wells in question.

7. Similarly, FEIR 4.0-28 Fig. 3A “Cross Section near Ocotillo” (Todd 7/07 copied USG’s BE03 Fig.3-1E) includes a similar very curious notation in very tiny print. This figure in

even smaller print states that “*All wells except wells 29L1 and (what looks like) 14N1 are projected.*” Again, why not use information from well driller’s logs. If only two wells are not projections, that means the information for 9 of the 11 wells is projected. Is that because only the data from two wells fit the report’s desired conclusions? If not, why not use data from well drillers’ logs?

**Drillers Reports indicate highly variable geology variable and complex geology within the alluvium of the Ocotillo area**

8. The text from a 3/21/03 e-mail correspondence from EIR consultant, A. Kopania, to B-E’s Rhone and three hydrogeologists at USGS, Subject “Ocotillo Modeling” (Exhibit 243 at p. 3) expresses concerns about the “highly variable geology variable geology within the alluvium of the Ocotillo area” based on information in well “Drillers Reports” which apparently were available for use by consultants for this EIR/EIS review. Kopania’s email discussion of variability of materials reported in Drillers Reports includes the statement that: “These observations indicate that the thickness of the alluvium can vary by over 200 ft in relatively short distances within and west of Ocotillo, probably due to the fault blocks discussed above...” Kopania also noted that based on information in Drillers Reports that the depth at which Tertiary Palm Springs Formation west of Nomirage and south of Ocotillo are found “is highly variable over relatively short distances.” (Exhibit 243 at p. 3.)
9. There is also considerable discussion and concerns about interpreting information in Drillers Logs in the 3/25/03 memorandum from Ron Schnabel of B-E to Dick Rhone of B-E, but not to Kopania. Subject: U.S. Gypsum - Comments from Andrew Kopania via email on 3/21/03. (Exhibit 245) B-E is Bookman-Edmonston the company that prepared the original computer models of the Ocotillo-Coyote Wells Groundwater Basin for US Gypsum Company. This memorandum also points to the complexity of the local geology in at least that portion of the groundwater basin where community and individual domestic wells have been drilled.
10. These communications from County files are part of on-going discussions about the basin by USG’s consulting groundwater modelers at Bookman-Edmonston. Exhibit 244, Ron Schnabel of B-E. 3/13/03. memorandum to Dick Rhone of B-E. Subject: Geologic interpretation of the Ocotillo-Coyote Wells Basin, imperial County, California, with recommendations for changes to the proposed groundwater model. Once again, this document discussed far more complexities of the basin and concerns about interpretations of those differences and complexities than are revealed in the Draft or Final EIR/EIS.
11. When even those doing analysis related to the computer model identify varied interpretations of the information in Drillers Logs and the difficulties that information presents for understanding the basin and the difficulties that those complexities and differences in nearby wells present, it is not surprising that the public places little confidence in the supposed assurances of the model when it still cannot predict USGS monitored water levels. The 5/15/03 email response of Kopania to B-E’s memoranda (Exhibit 246) confirms our earlier and continuing concerns about the model:

“Also, without going in to the technical details too much, it looks like this model will show they are screwed BIG TIME. In the simplest of terms, look at figure 4 of the attachment. In their prior model (and even in my previous assessment) it assumed that 2,100 to 2,400 AF of water per year went into Layer 1 - the zone where the USG wells are screened. They now

have only 1081 AF per year going into this zone! What else could the results show but significant drawdown from the increasing pumping?”

“Maybe this is B-E’s way to “come clean” with USGS? They can say that RDT & USGS constrained them to these conditions (not true, but convenient enough) so they have to live with the results. We’ll see where it all goes soon enough.” (Emphasis in original. Kopania 5/13/03 e-mail to Dave Brown of Resource Design, Subject: Fwd re: Ocotillo GW flow model - steady state simulation. ) ( Exhibit 246.)

### **USG EIR/S hydrology Consultants point out problems with groundwater model**

12. Exhibit 247 makes it even clearer that there are major problems with the model and provides additional reasons why the model is not reassuring. (See: Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum to Heuberger. Subject: Status of Hydrology Evaluation U.S. Gypsum Project” (4 pages with Attachment of 4 pages of 8/21/02 comments from Malcolm Weiss to Brown and Heuberger.) Appended as Exhibit 247) Portions of that Memorandum of special concern follow:
13. “Subsequent test runs of the model indicate that the drawdown trends in the Ocotillo/Coyote Wells area fit the actual data better than they did in previous models. In other areas of the basin, however, the model is not capable of accurately simulating the trends in the actual data, and the magnitude of the drawdowns. This is especially true in a Yuha Estates area, despite the changes made to the model, as described above. Based on these initial results, the USGS has stated that “Considering our level of understanding of the real ground-water system, the uncertainty in model predictions will be large with any flow model for this area, and will be even larger with us all you’d-transport model. Reasonable predictions of worse-case scenarios are all that I expect from the modeling.” (June 16, 2003 each-mail from Greg Lines of USGS)” ( Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p2.)
14. “... The new model however, is still not capable of accurately simulating changes in water levels in the basin. The most notable example of the limitations of the model remains the model level behavior in Yuha Estates. The actual drawdowns during the pumping by the McDougall Water Company were on the order of 70 feet, and it has taken decades for the water levels to recover. The current model predicts only 10 feet of drawdown and shows that recovery should occur almost instantaneously. It should be emphasized, however, that you have Estates is not the only area where the model predictions may be of concern. ” ( Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p. 3.)
15. “B-E previously stated that the conditions in Yuha Estates are different than those in Ocotillo and that it be efficient stay in the model in a Yuha Estates area should not be used as the basis to dismiss the model predictions in the Ocotillo area. This argument is no longer persuasive for three reasons. First, in the revised model, the unique geologic conditions of a Yuha Estates area were included, so the model should provide a more accurate simulation. Second, an error of this magnitude is a valid basis to be concerned about the ability of the model to predict behavior in other areas of the basin under increasing pumping stresses. McDougall increased pumping in the Yuha Estates area by approximately 200 AF/y. Third, if the model is not reliable in areas outside of Ocotillo, then the model does not provide the ability to evaluate alternative pumping locations and can not support the CEQA alternatives analysis.”” ( Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p. 3,4.)
16. “... Unfortunately the revised model still has many of the same limitations as the prior

model did. The inability to adequately simulate the effects of pumping in the Yuha Estates area is especially limiting. *The USGS has probably provided the best summary of what the revised model is capable of stating in that the uncertainty is large and that reasonable predictions of worst-case scenarios are all that can be expected.*” ” (Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p. 4.) (emphasis added)

17. Another Memorandum from Kopania on 6/26/03 to Heuberger, and RDT, BE, USG and USGS, Subject Model Calibration Results, Ocotillo/Coyote Wells Groundwater Basin” (Exhibit 248) contains additional troubling conclusions about any potential reliance on the computer model and any conclusions to be drawn from that model. Specifically, Kopania states that:
  - a. “I am concerned that the model may be showing too rapid of a recovery of water levels in as pumping rates are decreased, suggesting that the recharge and/or transmissivity values are too high.” (Kopania 6/26/03 at p. 1)
  - b. “From a CEQA perspective, we are not as concerned about what impacts the proposed project may cause to USG’s only pumping Wells in Ocotillo. We are more concerned about what will happen to the neighboring Wells.” (Kopania 6/26/03 at p. 2)
  - c. The actual data for well 25K2 in Ocotillo shows periods with a 40-50 ft of drawdown that are not expressed by the model. The 25KK2 well was used by McDougal for export to Mexico and this pumping is included in the model, based on information previously provided to Weizu. Since the model does not predict any drawdown from pumping and 25K2, the model does not appear to be capable of predicting the effects of increased pumping in this area of Ocotillo. This deficiency raises both the technical and CEQA-related issues. The technical issue is the same as at Yuha Estates - McDougall pumped and there were significant drawdowns observed, but the model does not accurately reproduce those drawdowns. From the CEQA perspective, there has been pumping in Ocotillo, not just in Yuha Estates, that has resulted in drawdowns of several tens of feet that are not reproduced by the model. Unfortunately, this limits the use of the model is an evaluation tool for the EIR.” (Kopania 6/26/03 at p. 2)
  - d. “... In general terms, the concern is that the central parts of the basin (such as Ocotillo and Yuha Estates) may be subject to certain thresholds of productivity due to the limited recharge in the basin, the distance from the pumping areas to the recharge areas, in a very slow rate of groundwater movement.” (Kopania 6/26/03 at p. 3)
  - e. “.... If local pumping rates exceed a certain limit, or thresholds, beyond which the assumption of linearity is no longer valid, the rate of drawdown may increase more rapidly. Furthermore, if local recharge is essentially non-existent, and it takes decades for groundwater to migrate laterally from the recharge areas to the area of pumping, a time frame for recovery will be very long.” (Kopania 6/26/03 at p. 3)
  - f. “.... It should also be noted that, during the five-year pumping., water levels in the Yuha Estates area declined continuously and did not stabilize. The current model shows a rapid stabilization of drawdown, not a continuous decline. The pumping by McDougal lasted for five years, but after nearly 20 years the water levels in the Yuha Estates area had not fully recovered. This behavior indicates that the pumping rate exceeded some threshold of stability that resulted in much greater impacts at the pumping well and at the neighboring Wells. The very slow recovery of water levels at Yuha Estates also indicates that, once this

- threshold is crossed, it may take generations to restore, given the limited recharge and the slow rate of groundwater migration from the recharge areas.” (Kopania 6/26/03 at p. 3,4)
- g. “The pumping by McDougal at well 25K2 in the Ocotillo area also resulted in drawdowns of several tens of feet. Thus the potential to reach a threshold at certain pumping rates also may exist in the Ocotillo area. The recovery of water levels at well 25K2 after the McDougall pumping ceased was fairly rapid, indicating the threshold was not crossed in Ocotillo by the McDougall pumping. Unfortunately, the current model does not predict any appreciable drawdowns at well numeral 25K 2 from the McDougal pumping.” (Kopania 6/26/03 at p. 4)
- h. The proposed project involves increasing the extraction rate at the three existing extraction wells from 333 acre-feet per year (1998 baseline quantity) to a maximum of ... 767 acre-feet per year for 50 to 100 years. The change represents more than a doubling of the sustained pumping rate in the Ocotillo area. The magnitude of this increase is greater than the magnitude of the pumping that occurred at well 25 June 2. Thus, there is the potential that a threshold may be crossed.” (Kopania 6/26/03 at p. 4)
- i. “...In addition, the issues described above limit the nature of assessments that can be made with the model. Most importantly, the model is useful for understanding basin-wide trends in the water levels in what may occur with smaller changes in pumping rates, but the modeling conducted to date has not adequately reproduced effects of the larger (> 100 AF/y) increases in pumping rates.” (Kopania 6/26/03, Exhibit 248 at p. 4)

**2008 USG FEIR model information still cannot predict 2007 USGS water level monitoring data so EIR should be recirculated for USGS review**

18. Information in the Planning Dept files reveals the concerns of consultants and USGS identified by documents in the County USG EIR/EIS files and the apparent failure of distribution of the Todd Appendix C-1 to consultants and USGS for review prior to what appears to be reliance on the Todd Appendices for the FEIR. Therefore, our concerns about the FEIR hydrology discussion, interpretation of the County Groundwater Management Ordinance, and mitigation measures in the FEIR only increases and seems well founded.
19. FEIR section 4.3-6, based on the Todd study, includes an analysis without disclosing the data itself and in the process distorts USGS monitoring data and well locations and information about other wells. The water level data is available from USGS both as a graph of monitored water levels or as a table of data for each individual monitored well. Concerns about what appears to be misuse or distortions of USGS monitoring data and well locations have been discussed with USGS’s Dr. John Izbicki and Peter Martin of the San Diego Water Resources Field Office even before there was an opportunity to review Planning Department EIR files and organize communications related to hydrology and the utility and/or deficiencies and/or limitations of the computer model.
20. Therefore, it is the inclusion of two groundwater studies July 30, 2007 and November 2007 (FEIR/EIS Appendices C-1 and C-2) by Todd Engineers for the first time in the Final EIS that requires a recirculation of the EIR/EIS or been included as a Supplemental or Subsequent EIR/EIS, so that all members of the public and organizations, state and federal agency staff from USGS and US EPA that had expressed concerns about impacts of the USG project proposal and preferred alternatives impacts on groundwater resources would have an

opportunity and adequate time to review and consider whether or not the conclusions and use of government monitoring data and maps could be used to support the conclusions in the USG EIR/EIS.

21. The County Planning Department as Lead Agency appears to have committed a serious violation of CEQA when it failed to make these Todd Studies from July 2007 and November 2007 available for public and agency review by all that had previously submitted written concerns relevant to issues prior to inclusion of the information for the first time in the Final EIR as Appendices C-1 and C-2. To schedule and conduct a Planning Commission Public Hearing on the USG project before the Final EIR/EIS is even distributed to federal agencies that commented and before the Final EIR/EIS is even noticed as available in the Federal Register is not only a violation of CEQA and NEPA, but it shows tremendous disrespect of the co-Lead Agency BLM's federal agency NEPA procedural requirements.
22. After taking almost seven years from the date of the Superior Court's 3/29/01 Judgement and Orders to prepare an EIR, there are now serious questions about the County's sudden rush to proceed to a Planning Commission hearing without first being sure that all federal agencies that commented on the 4/06 DEIR had been provided with copies of the FEIR and afforded the CEQA and County Rules required time for review of the Final EIR/EIS. The County's rush to hearing without recirculating new information and without affording federal agencies that commented on the DEIR/EIS an opportunity to review the Final EIR/EIS prior to the County Planning Commission Public Hearing does not appear to be a good faith effort to comply with the Judgment and Orders of the Court which mandated preparation of the USG EIR/EIS.

**USG FEIR & Appendix C-1 provide no water quality data in table and misinterpret water quality of wells**

23. These are serious problems with the FEIR Appendix C-1 of 7/30/07. The USG FEIR/EIS Appendix C-1 Todd Engineers 7/30/07 Review of Groundwater Issues is notable for the misinformation (source unknown) and for its inclusion of Table 1 misleadingly entitled "Water Quality Information from USGS National Water Information System". Todd's Table 1 indicates the State Well Numbers and locations of wells monitored, dates for beginning and ending of monitoring and number of times each well was tested for water quality, BUT absolutely NO information about the water quality in terms of total dissolved solids, specific conductance, chloride or sodium ion concentration, fluoride levels or any other information for the listed monitored wells is included. Appendix C-1, Todd's 7/30/07 document appears to form the basis of FEIR Section 4.3.6 Hydrology and Groundwater. See our Table 10 for water level and water quality data which is available from USGS NWIS websites with links to USGS data sites. Our Table 10 is appended.
24. FEIR/EIS Appendix C-1 Todd Engineers 7/30/07 "Review of Groundwater Issues" requires the public to ferret out the information that one must assume was intentionally withheld from public review. Todd's Table 2 (FEIR/EIS Table 4.0-2 at p. 4.0-34) provided selected information about only 6 of the wells for which water quality data is available at the USGS website. Todd did not even identify the USGS website in either text, table or references. The FEIR simply states that the data is "readily available" from the NWIS, but neither the FEIR vol. I, nor FEIR Appendix C-1 includes the information necessary for the public to search to

ferret out the missing monitoring data. The USGS website with monitoring data used for making tables of water quality data monitoring is: <http://waterdata.usgs.gov/ca/nwis/qwdata>. Again, please see our Table 10 for water quality information about monitored wells throughout the groundwater basin.

**Misunderstanding of water quality and well locations points out limitations of groundwater model**

25. FEIR/EIS 4.0-43 Appendix C-1 Todd's 7/30/07 Figures 11 move wells in Yuha Estates 1 mile to the east onto a BLM ACEC to match erroneous conclusions that these wells should have poor quality water because Todd assumes that these wells must be in a different groundwater layer because there were serious adverse impacts or "significant drawdown" from export pumping (FEIR at 4.0-30) which lasted for 5 years and ceased more than 25 years ago. Apparently, Todd and the FEIR at 4.0-30 erroneously assume that the significant drawdown must mean that these wells are completed in the Palm Springs or Imperial Formation without ever checking the USGS NWIS water quality data. In fact, wells at Yuha Estates have water quality comparable to or better than the mutual water companies serving Ocotillo. (USGS data will verify both of our corrections.) We could find no communications in the Planning Dept files that support conclusions about poor quality groundwater in Yuha Estates.
26. In discussions about "Pumping", FEIR 4.0-51 once again erroneously assumes that wells with excellent quality groundwater at Yuha Estates are completed in Layer 2 Palm Springs or Imperial Formations as are the wells of West Texas which have non-potable water. In phone conversations with Edie Harmon, USGS's Dr. John Izbicki and Peter Martin have both responded that wells with water of the quality USGS has monitored in Yuha Estates mean that the wells are not completed in the Palm Springs or Imperial Formations. Therefore, we continue to believe that the computer model and the assumptions or conclusions related to that model cannot be relied upon for decision-making because at least a portion of the information contained in the FEIR based on that model is simply incorrect.
27. The 7/30/07 Todd report (in FEIR Vol. II Appendix C-1) forms the basis of much of the FEIR Section 4.3.6 Hydrology and Groundwater beginning at FEIR p. 4.0-23, and the errors and misrepresentations of USGS data that occur in the Todd 7/30/07 study are incorporated without attribution, except on Figures, into the FEIR text. (There is uncertainty about which consultant assisted in preparation of the FEIR. Was it Resource Design Technology, Inc, whose name appears on the inside cover of the FEIR Vol. 1, or was it Steve Lilburn who was introduced as the consultant at the Planning Commission hearing?)
28. FEIR Fig 11 "Calibration Targets" (at p. 4.0-43) is identical to the same figure in FEIR Appendix C-1 and repeats the mapping errors of the Appendix. This means that the Consultant who put together the USG FEIR included what appear to be mapping errors just as did the DEIR. Wells in the southern part of the basin migrate 1 mile to the east from FEIR Fig 7 at P 4.0-38 to Fig. 11 FEIR p. 4.0-43. Alternatively, if computer model calibrations must relocate wells to fit the model, then the model must not be very accurate or reliable. Any computer model that cannot predict reality based on the true location of monitoring wells and the true monitored data is of very questionable value for long term predictions and decision-making. The model discussion and maps are simply not very convincing to the public. Indeed, our concerns about the reliability and utility of the model

are also noted in communications from Kopania in exhibits, including Exhibits 247 and 248.

**Bias favoring USG interests is seen in Planning Director approval of asserted historic use ignoring EIR discussion of lack of supporting evidence**

29. The County's overwhelming bias favoring USG interests at all costs has been apparent since the 12/98 Neg Dec and the Planning Director's March 06 grant of USG's requested historic use of an unverified pumping level of 767 AF/Y (FEIR 5.0-209) in spite of the language of the Court of Appeal Decision at p. 15, and in spite of the Draft EIR/EIS discussion of the "US Gypsum Variance" at DEIR p. 3.3-29 (Exhibit 211), DEIR Table 3.3-4 (Exhibit 210). This action by the County Lead Agency's Planning Director makes any private consultant's analysis of the USG EIR hydrology suspect when flaws are readily apparent. The bias toward USG's requests will also be discussed later in these comments in sections on mitigation measures and the significance of making changes requested by USG. (Notable in the USG groundwater well registration is Specific Term T-8, (FEIR 5.0-211), the iteration of the extent of USG's indemnification of the County from any claims or actions against the County related to registration and its presumed entitlement and the accompanying pipeline, the uses of both of which are the subject of the Court ordered EIR.) See Exhibit 227, which is FEIR pages 5.0-209 through 5.0-211.

**"U.S. Gypsum Variance"**

30. The "US Gypsum variance" refers to the difference between water used at the plant based on production versus the inflated amount reported by US Gypsum to USGS in 1975. Specifically:

"For the period from 1925 through 1975, USG reported water use to the USGS for use in the USGS groundwater modeling study (USGS, 1977). The basis for the pumping rates reported over this time period are uncertain. For the period from 1970 through 1980, USG also provided Bookman-Edmonston estimates of water use based on wallboard production rates (Bookman-Edmonston, 1996, page 6-2). Bookman-Edmonston reports "Estimates of water use provided to USGS are 70 percent greater than estimates of water use based upon production records during 1970 to 1975 (the only years where these records overlap). The difference could not be reconciled." Table 3.3-4 shows the water use reported to the USGS and the values based on production rates for the period from 1970 to 1975. The rates reported to USGS range from 575 AF/yr to 767 AF/yr. The rates based on production range from 338 AF/yr to 451 AF/yr. The difference between these two sets of data is referred to as the "U.S. Gypsum Variance" on Figure 3.3-8, Annual Water Production." (USG DEIR p. 3.3-29.) (See Exhibit 211.)

31. The FEIR/EIS at 4.0-54 also mentions the difference between the amount of pumping reported by USG and the amount ascribed by USGS without apparently recognizing that it was USG that supplied the information to USGS. The FEIR states:

"USG has estimated pumping for 1970 through 1980 based on wallboard production at about 400 AF/Yr or two thirds the USGS estimate. USG and its consultants could not reconcile the difference between USGS and USG estimates. This may be due to the changing water use in wallboard production; the amount of water needed in production has

changed over the years as USG improves its water use efficiency.” (FEIR 4.0-54.) (Exhibit 220)

32. A number of documents in the Planning files document USG’s continued insistence that it is or was entitled to use 767 AF/Y even before the Planning Director’s letter of 3/06. Examples of such include Exhibit 255, a 6 page letter Weiss, M. 6/20/03 to Heuberger re “U.S. Gypsum EIR Status at p. 2 which states that: “USG remains satisfied with the 767 AF/Y historical use rate.”

**Consultant states B-E noted USG records reveal production may have been 200-250 AF/Y not 600-700AF/Y as reported to USGS**

33. The above FEIR text is very interesting discussion made even more interesting by the following text from a 5/31/02 email communication from Andy Kopania to Dave Brown at Resource Design, “Subject USG Data Needs”, included as Exhibit 235. After quoting from a Bookman- Edmonston study this e-mail continues:

“I have the US Gypsum records provided to the USGS. This is the data set that shows a brief period of water use up to 600 to 700 AF/yr (this occurred only from 1972-1974). According to B-E, other records that they were provided by US Gypsum indicate production may have been only 200 to 250 A AF/yr during this same time. !!!! These records are not provided in the B-E report, only referenced in the text. Although this is going to be extremely uncomfortable, US Gypsum needs to provide us with those records BECAUSE THEY ARE DISCUSSED IN THEIR OWN CONSULTANTS REPORT. I do not see how I can complete my analysis without these records, unless I just used the 70% number reported by B-E. Note that this observation by B-E, US gypsum’s own consultant, undermine the credibility of the claim that they once pumped up to 700 AF/yr and are now planning to stay within their historic usage.” (5/31/02 email communication from Andy Kopania to Dave Brown at Resource Design, “Subject USG Data Needs”. Emphasis in original.) (Exhibit 235.)

**Correct Well Locations Are Critical to Assess Accurately Impacts on Ground water**

34. The 7/30/07 “Review of Groundwater Issues” by Todd Engineers (FEIR Appendix C-1) does no better than the DEIR at locating domestic monitoring wells consistently when to have them migrate about a mile or more to the east onto public lands better fits the conclusions of the report. Todd Fig. 4 and FEIR Fig. 4(at 4.0-32) “Wells with Water Quality Data” and Todd and FEIR Fig. 7 “Wells with Recent Water Level Data” (FEIR at 4.0-38) correctly locate some of the wells at Yuha Estates, but some migrate from one part of the subdivision to another from map to map. Fact: Wells 11G1 and 11G2 are on the McDougal and Gallagher properties, but 11G1 is to the south of 11G2 on the west side of Hwy 98, well 11H1 is on the west side of Hwy 98 and 11H3 is on the east side of Hwy 98 (not really accurate on Fig. 4). By Fig. 7 well 11H3 has been moved to the west of Hwy 98 to the north of other wells (it is on the east side of Hwy 98) and 11G4 has been incorrectly located to the east of 11G1, (in fact it is several hundred feet to the west, but it is the second McDougal well, unfinished and unused). Why is well location important? Because the extent to which domestic wells were affected by McDougal’s export pumping of well 11G1 was related to the distance from 11G1 and whether the well was located upgradient or down gradient from the export well, even though all wells were located within the 160 acre subdivision. Kopania’s concern about large volume pumping on nearby wells is noted in Exhibit 248 at p.2.

Kopania's concern about using the data from 11G1, the former export well in Yuha Estates for model calibration is also noted in Exhibit 248.

35. However, because Todd (7/30/07 Appendix C-1 at p. 7) and FEIR want readers to assume that these wells are "characterized by relatively poor quality water" these wells in Todd's Fig. 11 have suddenly migrated more than a mile to the east and are now mysteriously located in the BLM Yuha Desert Area of Critical Environmental Concern (ACEC), in a place where there are no roads and no private property! Since when is a TDS of about 300 as in USGS water quality monitoring well 11H3 (TDS of 280 in 2001) considered "relatively poor quality" water? It does not appear to be poor quality in FEIR Fig. 5 at 4.0-33. Just four months later in Todd's November 2007 "Water Supply Assessment", (Appendix C-2, Fig. 7) (identical to FEIR Fig. 7 at FEIR p. 4.0-38) the wells had once again migrated back 1 mile to their still not yet correct locations with respect to Hwy 98. The Todd Report's Placement of wells in the wrong locations in Yuha Estates in the SE portion of the basin is important, because this is the area of the basin where surrounding domestic and unused wells showed the greatest effects from export from a centrally located well 11G1.
36. These comments were prepared with the input of the owner of well 11H3 who has lived in the Yuha Estates subdivision for more than 30 years and is familiar with both the locations of all wells and the historic and continuing good quality water, water quality that is in fact of comparable or better quality than that of the two mutual water companies serving subdivisions in Ocotillo, based on numerous reviews of USGS monitoring data over the past 30 years. (See our Table 10 for water quality and water level information, both historic and current.)
37. Well location and use of data from different USGS monitoring wells within the groundwater basin should have been checked with USGS or with well locations on USGS NWIS website before releasing the USG EIR/EIS for public review. So much of the information in the draft FEIR relating to ground-water hydrology and quality is simply wrong. USGS staff also have field monitoring logs. With that information, the FEIR might have been able to place monitoring wells on Figures with the correct relationship to each other and to help explain what is really happening in different parts of the groundwater basin. (In FEIR Fig. 4, 5 well locations are incorrect, as is Figure 11.)

**USG FEIR includes information about non-existent wells and/or wells not monitored by USGS**

38. FEIR 4.0-30 states that "the other well [monitored for water quality] is located near Yuha Estates." Yuha Estates is a rather grand sounding name for a not affluent looking 160 acre subdivision with just 16 lots (majority vacant) surrounded by the Jacumba Mountains Wilderness and the Yuha Desert Area of Critical Environmental Concern, both managed by BLM. FEIR 4.0-45 describes well 11G4 as near Yuha Estates rather than in Yuha Estates, and, just three pages earlier, FEIR 4.0-42 identified well 11G4 as being the well in Yuha Estates that exported water to Mexico. In fact well 11G4 is an unused well located on same lot as well 11G1 which exported water. The only wells monitored in T17S R10E Sec. 11 are all in the residential subdivision with excellent quality groundwater, not somewhere on public lands. (See FEIR Fig. 5 at p. 4.0-33 for confirmation of water quality.) (See our Table 5, list of discrepancies and internal inconsistencies, for information on these and other wells mischaracterized. It is significant because locations of monitored wells tell much about aquifer response to pumping if the locations and data are correctly interpreted.)

39. Local residents in different parts of the groundwater basin have found so much misinformation that there is little credibility placed in the conclusions of the FEIR, the technical Appendices, or the computer modeling. We remind the County and BLM that DEIR Fig. 1.0-1 and 2.0-1, the figures depicting USG project components could not correctly locate the US Gypsum wells that are the subject of the EIR/EIS review! The Notice mailed by the County to residents for the 2/13/08 USG Planning Commission hearing also depicted an incorrect location for the US Gypsum wells. See Table 5 for a list of some of the important misinformation about locations and uses of wells, and a list of the non-existent wells discussed by both Todd and the FEIR. The apparent inability of the County to determine what map correctly depicted the location of USG existing and proposed wells for the USG expansion project became even clearer when the map included on the back of the County Notice for the 3/18/08 appeal of the Planning Commission approval to the Board of Supervisors did not locate any water source for the operation of the Plaster City factory nor the location of the proposed well for quarry dust suppression, or the location of the community of Ocotillo, whose residents received copies of the hearing notice. See Exhibit 256, Notice of Public Hearing & Scheduled Hearing Date(s) for Appeal #08-0001 of the US Gypsum Final EIR/EIS before the Board of Supervisors 3/18/08, postmarked 3/5/08.
40. FEIR includes water quality data for well 29D1 in both a Table and in a graph; however, data for well 29D1 is not in USGS NWIS when we obtained data from that website. FEIR Fig. 6 “Water Quality Trend Differences by Area” includes bar graphs for a well identified as 29D1. FEIR Table 4.0- 2 “Comparison of Water Quality by Well Location”( FEIR at 4.0-34) also includes water quality data for well 29D1. However, none of the Figures depicting locations of wells for any kind of USGS data, either water levels or water quality identifies a well 29D1. Similarly, our review of water quality data at the USGS NWIS water quality website contains no water quality for any well identified as 29D1 and neither does FEIR Table 4.0-1 “Water Quality Information Available from the USGS National Water Information System (NWIS)” at FEIR 4.0-31. From what source did the information in the table and the graph for well 29D1 come or what is the correct well identifier and location for this well? This is an example of the inaccuracy of analyses in the Todd study and FEIR. Both the FEIR Table 4.0-2 and Fig. 6 are identical to those in Appendix C-1.

*(Conclusions to comments on USG Expansion are modified to be applicable to the CEC:)*

41. From a recent book review comes wisdom and advice for the future and for decision-makers as noted in these concerns related to the proposed USG reliance on increased amounts of potable groundwater for export for non-overlying industrial uses from an already overdrafted groundwater basin:

"We're not good at planning for our great-grandchildren yet this is what is required of our generation and those who follow," he writes. "Drought and water are probably the overwhelmingly important issues for this and future centuries, times when we will have to become accustomed to making altruistic decisions that will benefit not necessarily ourselves but generations yet unborn. This requires political and social thinking of a kind that barely exists today." (Wilkinson, T. 3/4/08. "Climate change's most deadly threat. Anthropologist Brian Fagan uses Earth's distant past to predict the crisis that may lie in its future." Christian Science Monitor at <http://www.csmonitor.com/2008/0304/p.13s02-bogn.html>)

42. It is recommended that Imperial County (*here the CEC*) now make a decision that will benefit future

generations of overlying residential users of potable groundwater in the Ocotillo-Coyote Wells Groundwater Basin/Sole Source Aquifer by requiring USG's industrial use of water for the manufacture of wallboard to come from the Colorado River from IID's Westside Main Canal as approved by the IID decision of April 2006.

### **References cited in comments on the USG Expansion/Modernization Project & Final EIR**

Bookman-Edmonston 1996 "Ocotillo/Coyote Wells Basin Hydrology and Groundwater Modeling Study" (BE96) prepared for U.S. Gypsum Company. Some data is from the BE96 tables. The 1996 version contains more data, but was revised with a 1/2004 date for the 4/06 USG EIR.

Bureau of Land Management (BLM) April 16, 1981 Decision "Right-of-Way Granted" for CACA 8683.

BLM Geocommunicator Land and Minerals Records Reviewer [www.geocommunicator.gov](http://www.geocommunicator.gov)

California Constitution Article X

California Environmental Quality Act (CEQA), Public Resources Code Sec. 21002

California Environmental Quality Act (CEQA) Guidelines, CCR Title 14 Sec. 15021 (a) (2), Section 15088 .5

CA Water Code Sec. 106 domestic use priority

Castrey, William. 5/21/01 Declaration under penalty of perjury of William A. Castrey, USG Plaster City Plant Manager, Exhibit in Support of Motion to Recall Remittitur in Court of Appeal Case D034281 Sierra Club v. County of Imperial.

County of Imperial 3/04/05 "Assessors Current Roll" for APN 0343609101 160.67 Ac at Plaster City found in Planning Dept. File for Permit Application No. 39898.

County of Imperial Planning and Building Dept. USG Permit Applications and inspection sheets for USG expansion/ modernization activities at Plaster City facility, water well and pipelines in Ocotillo area, and Fish Creek quarry from 1996 through 2007.

Fitzgerald, Rob 3/11/08 estimator for PrimeTime Construction 619-442-5556.

Gary, In Post Tribune 10/2/97 site chosen for "state tax incentives and infrastructure funding"

Google Earth website for aerial photos.

Huff, Julia . USGS 1/29 & 30/08 assistance accessing USGS groundwater quality data from NWIS website.

Imperial County December 2003 "Rules and Regulations to Implement California Environmental Quality Act (CEQA) as amended" at Section 8: Preparation of Environmental Impact Reports (EIR) (F)

Final EIR (FEIR) (3)

Imperial County's Groundwater Management Ordinance, (Title 9 Land Use Code, Div. 22 Groundwater Management, Sec. 92201.00 et seq)

Imperial Irrigation District (IID) submitted to BLM an "Application for Right of Way for Power line and Water Line over Public Lands of the United States" which was received by BLM Sacramento CA office on Aug 27, 1980.

Izbicki, John PhD. USGS on 1/30/08 re use and interpretation of USGS water level, water quality and precipitation data and their interpretation re the Ocotillo-Coyote Wells Groundwater Basin, and appropriateness of using data as measurements of water level in feet above mean sea level to describe declining water levels in the basin.

Kahrl, William L., et al. 1978. The California Water Atlas. Publ. State of California, p. 103-104.

Kirkland, T.N. & J. Fierer. 1996. Emerging Infectious Diseases V.2 No.3. "Coccidioidomycosis: A reemerging infectious disease." p. 1, 3. #69

Kunzig, Robert. 2008 "Drying of the West" in National Geographic February 2008.  
<http://ngm.nationalgeographic.com/mgm/2008-02/drying-west/kunzig-text.html> )

Martin, Peter. Projects Manager, USGS, California Water Science Center, 1/31/08 re use and interpretation of USGS water level, water quality and precipitation data and its interpretation re the Ocotillo-Coyote Wells Groundwater Basin and problems associated with groundwater model and monitoring and mitigation proposals related to the USG EIR.

Judge Judith McConnell in August 31, 2000 Statement of Decision in Case No. 676630 Save Our Forests and Ranchlands v. County of San Diego. Now Justice McConnell of Court of Appeal, Fourth District, Division One.

Mitchell, Richard. Former Imperial County Planning Director, 2/27/81 to USG RE Water Usage in the Ocotillo-Coyote Wells Ground Water Basin. Court of Appeal Case No. D034281 Clerk's Transcript on Appeal, vol 2 p. 306, 316.)

Ocotillo/Nomirage Community Area Plan. 1994. Part of the Land Use Element of the Imperial County General Plan adopted by the Board of Supervisors 4/26/94.

Rice, P.A. fall, and winter 2007-2008. Lafayette, CO. Former environmental reporter with the Imperial Valley Press, discussion of issues and assistance with research.

Rockwell, Thomas. PhD, SDSU on 1/29/08 re faulting related to the Superstition Hills 1987 earthquake in unpublished student paper on 1990. He did not refer me to any publications of his covering the question of the "Yuha Wells fault" and how it might change whether or not there is a barrier to eastward groundwater flow east of Coyote Wells.

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial.

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial. \_Reporter’s Appeal Transcript 5-17-99 at p. 28.)

Sierra Club v. County of Imperial, United States Gypsum Company, Real Party in Interest, Court of Appeal Case D034281 Decision 10/26/00, Court of Appeal file recalled from storage and reviewed in January 2008

Skriwan, James. USGS 1977 “Digital - Model Evaluation of the Ground-Water Resources in the Ocotillo-Coyote Wells Basin, Imperial County, California”

Sunrise Powerlink DEIR/EIS 1/2008 223, Fig. C-9 from 1/2008 Project, SCH # 2006091071

Thomas, A. and A. Stinson, 1990. “Northeast striking faults of the Yuha Desert southwestern Salton Trough, southern California.” p. 126-145, in Guidebook for Friends of the Pleistocene Winter Fieldtrip 1990 Western Salton Trough Soils and Neotectonics.

Verbrough, Dick, 3/8/08. DB Pump and supply. Phone conversation about PVC water pipe, costs and capacity and removal of existing 8.5 mile pipeline from Ocotillo to Plaster City..

Wilkinson, Robert 2008 background for lecture on climate change in the desert at Joshua Tree NP on 2/8/08.

Wilkinson, R. & D. Graves. 6/2006. Rethinking Water Policy Opportunities in Southern California , An Evaluation of Current Plans, Future Uncertainty, and Local Resource Potential. Executive Summary at p. 7 of 88 pp. on internet website of publication title at <http://www.bren.ucsb.edu/academics/WaterPolicyProgram.htm>

University of Arizona climate change maps are available at:  
[http://www.geo.arizona.edu/dgesl/Assets/research\\_maps/climate\\_change/](http://www.geo.arizona.edu/dgesl/Assets/research_maps/climate_change/).

U.S. Bureau of Mines Mineral Commodity Summaries for Gypsum for years prior to 1997.

US EPA 3/20/95 document “Technical support document for the review of the Ocotillo-Coyote Wells Sole Source Aquifer Petition”. (Court of Appeal Case No. D034281 Clerk’s Transcript on Appeal, vol 2 p. 252.)

USG 6/2000 “Respondent’s Brief of United States Gypsum Company in Court of Appeal Case No. D034281, Sierra Club v. County of Imperial at p. 14, fn 12.

[www.USG.com](http://www.USG.com) USG Corporation website source of Annual Reports and press releases in addition to information on quarterly filings, construction and closings of factories in various parts of the country. Citations to specific information on website is included at the end of each Table.

USG News and Events 1.29/08. “USG Corporation Reports Fourth “Quarter 2007 Net Sales of \$1.2 Billion and a Net Loss of \$28 million” at p1

USGS Annual Mineral Commodity Summaries for Gypsum from 1997 to present. Information is available for decades for all drywall companies at <http://minerals.usgs.gov/minerals/pubs/commodity/gypsum/>

USGS groundwater monitoring information data for the Ocotillo-Coyote Wells Groundwater Basin at the following source <http://nwis.waterdata.usgs.gov/ca/nwis/gw> for individual well sites in the USGS Imperial County groundwater monitoring program. The water level data is available from USGS both as a graph of monitored or as a Table of data for each individual monitored well. Water quality data for the individual wells monitored can be obtained at <http://nwis.waterdata.usgs.gov/ca/nwis/qwdata/>

USGS topographic map entitled “Location of wells – Ocotillo-Coyote Wells area” provided by USGS to E Harmon in 1979.

US Securities and Exchange Commission EDGAR Archives filings for companies that are publicly held. Source of financial information updated by corporate filings on a regular basis, including quarterly and annual reports. 2007 10-K Annual Report for USG Corporation was available at the SEC website on 2/15/08 at <http://www.sec.gov/Archives/edgar/data> as USG Corp or SIC 3270 or CIK 757011.

With special appreciation to the following who assisted with research, suggestions, editing, and inspiration: Donna Tisdale, Jim Harmon, Martha Bertels, Patricia A. Rice, Evelyn Sepin, Larry Silver, Alice Schori, Ellen Shiveley, Jean Costa, Sandy Kerner, Fred Cagle, Cheryl Reiff, Larry Klaasen, Richard Miller, Lee Olsen, David Huntley, Roger Flynn, Julie Hamilton, Richard Wharton, the Environmental Law Clinic at USD, Willow Wray, and the many academic and government scientists and attorneys who over the years willingly engaged in serious and detailed discussions of both the technical, groundwater, biological, and legal issues, but prefer to remain anonymous.

Sincere appreciation also goes to California State Senator Denise Moreno Ducheny, Jonathan Hardy of Senator Ducheny’s staff, U.S. Congressman Bob Filner and his Community Representative Juanita Salas, and Caridad Sanchez, District Director for U.S. Senator Barbara Boxer, who all so generously listened and responded to concerns about County implementation of its CEQA Rules and the need for the Planning Commission hearing to be rescheduled until a time after all federal agencies that had responded to the Draft EIR/EIS had an opportunity to receive the Final EIR/EIS in compliance with the provisions of CEQA and NEPA.

#### **Exhibits for Sierra Club Comments on USG Expansion/Modernization Project and FEIR/EIS**

- 116 Jly gypsum summary 1. Undated, probably 4/2001. “Background - U.S. Gypsum”. Found in Planning Dept. USG files during Public Records Act search in 2001. Includes discussion about USG threat to sue for failure to deliver on the economic incentive program in 1999, County having 60 days to revoke all permits covering the new expansion to comply with court orders, preparation of EIR,

and the standard requirement for demolition of all work done to date for any project built without permit.

- 200 Public Citizen 1/30/06. “USG Corp. Bankruptcy agreement shows how Asbestos Trust Fund will hurt victims, allow companies to reap huge windfalls. *Agreement calls for company to create its own fund for victims, but if federal fund now before Congress is OK’d, USG will pay billions less.*” [http://publiccitizen.org/pressroom/print\\_release.cfm?ID=2123](http://publiccitizen.org/pressroom/print_release.cfm?ID=2123).
- 201 Imperial Irrigation District Application for Right of Way for Power Line and Water Line over Public Lands of the United States, August 12, 1980. ( ROW = Right-of-Way)
- 202 BLM Right-of-Way Grant to IID April 21, 1981 (CACA8683).
- 203 BLM ROW Case Recordation CACA 8683 showing annual lease payments are current
- 204 Aerial photo showing the BLM CACA8683 ROW up to the Plaster City property line also shows location of Centinela State Prison in SE corner of T15S R11E.
- 205 USGS Topo map “BLM Right-of-Way CACA 8683 granted to IID April 1981 to USG property” line
- 206 US Gypsum Company Plaster City Plant Historical County Water Use Records, See also Case file in Court of Appeal for Case No. D034281 at pp. 457
- 207 1/5/76 letter from USG to USGS re water use, See also Case file in Court of Appeal for Case No. D034281 at pp. 459.
- 208 USG’s “Plant and Village Yearly Water Usage”. See also Case file in Court of Appeal for Case No. D034281 at pp. 460 as reported by USG to USGS in 1976.
- 209 USG estimated water use reported to USGS in 2/17/76 See also Case file in Court of Appeal for Case No. D034281 at pp. 462.
- 210 “Current and historic groundwater use, Ocotillo/Coyote Wells Groundwater Basin,” DEIR at p. 3.3-28
- 211 “U.S. Gypsum Variance” discusses difference between water used and what was reported to USGS. USG DEIR/EIS p. 3.3-29
- 212 DEIR Fig. 1.0-1 Regional Location incorrectly places USG water Supply wells south of Nomirage and south of State Highway 98
- 213 DEIR Fig. 2.0-1 Location of Project Components incorrectly places Plaster City Water Tank and Well Site in the Myer Wash more than 1 mile to the west of the southern most subdivision in Ocotillo
- 214 FEIR Fig. 7 and FEIR 11 depicting USGS monitoring wells in Yuha Estates in different locations
- 215 New York Times 12/30/07 “Infection hits a California prison hard”
- 216 Wikipedia “Centinela State Prison” article downloaded 1/1/08.

- 217 Figure depicting water level decline from Ocotillo to Yuha Estates in feet Above Mean Sea Level which eliminates topographic variations in land surface elevations.
- 218 Minute Orders of Imperial County Board of Supervisors 4/26/94 set a limit of 1.5 AF/Y per dwelling unit in ONCAP and for all residential development standards requires a site-specific geohydrology study if a major subdivisions to be served with groundwater and if commercial development requests to use more than 5 AF/Y of groundwater.
- 219 Univ Arizona projections for temperature and rainfall, University of Arizona climate change maps are available at: [http://www.geo.arizona.edu/dgesl/Assets/research\\_maps/climate\\_change/](http://www.geo.arizona.edu/dgesl/Assets/research_maps/climate_change/).
- 220 FEIR 4.0-54 discussion of differences between what USG wallboard production water use indicates and the higher USGS estimate (provided by USG according to Court records and DEIR 3.3-29)
- 221 Map depicting location of private land in the Ocotillo-Coyote Wells Groundwater Basin and within the Ocotillo/Nomirage Community Area Plan. ONCAP Fig. 1 Ocotillo/Nomirage Community Area. 1994.
- 222 FEIR 5.0-205 USG rejects both the Partial IID Water Supply Alternative as being “infeasible because its implementation is remote and speculative” and Full IID Water Supply Alternative because it would “require additional speculative permitting and the costs would be prohibitive”.
- 223 Fig. C-9 from 1/2008 DEIR/EIS for the Sunrise Powerlink Project, SCH # 2006091071 shows location of Centinela State Prison S of Naval Air Facility.
- 224 USG News and Events 1.29/08. “USG Corporation Reports Fourth “Quarter 2007 Net Sales of \$1.2 Billion and a Net Loss of \$28 million” (4 pages) from [www.usg.com](http://www.usg.com). (Lists net sales for 2007 at \$5.2 billion. on p.1.)
- 225 FEIR p. 4.0-22 discussion of Lead Agency interpretation of effects of Planning Director 3/8/06 “approval” of USG asserted historic use, and the Groundwater Management Ordinance on future use of groundwater by overlying property owners in the groundwater basin
- 226 FEIR discussion of overdraft in the groundwater basin from which USG is currently exporting water for non-overlying industrial use more than 8 miles from its wells FEIR 4.0-55
- 227 Planning Director 3/8/06 approval of USG asserted “historic use” of 767 AF/Y groundwater from 3 wells and the pipeline, and Term T-8 USG indemnification of County from any challenges of this approval. FEIR 5.0-209 to 5.0-211.
- 228 Aerial photo showing USG wells with vegetation growing to east of each well where water spills onto ground.
- 229 Harriet Allen 7/6/02 Scoping letter to BLM re NOI for EIS related to USG expansion, with attached exhibits.
- 230 Dorothy Hebler 6/5/02 Scoping letter to BLM
- 231 BLM’s Linda Self 5/26/06 memo to RDT’s Dave re BLM Scoping transcript and Scoping letters submitted to BLM and missing from draft EIR/EIS.

- 232 “Catalog of Documents for U.S. Gypsum” to be used for preparation of the EIR in a heading after “Water Quality” and before “Biological” were the documents from “Edie Harmon/Sierra Club Comments. 8. Scoping Comments and Exhibits (3 volumes) re US Gypsum proposed expansion”. Pages 4 and 5 of that Catalog includes a list “New exhibits submitted in 2002 (through 116)” giving the page numbers of the Sierra Club submissions all typed by the same computer that made the rest of the “Catalog”. The last exhibit identified by number is Exhibit 116. (Catalog list includes 7 pages, “096-03 Catalog of Documents. Version 6.doc” )
- 233 4/30/02 email from Planning Director Heuberger to RDT’s David Brown at pp. 2, 3.
- 234 3/4/02 email from Bruce Steubing to Dave Brown: “If current pipeline can’t handle full volume needed how could it have handled its historical level of 760 acre feet?”
- 235 5/31/02 email communication from Andy Kopania to Dave Brown at Resource Design, “Subject USG Data Needs”.
- 236 9/15/2003 email from Dick Rhone of B-E to Andrew Kopania, includes a list of the amount of water pumped as reported by USG to the County. For 1998, the baseline year, the rate was 333 AF/Y, however, by 2001 it was 433 AF/Y and by 2002 the quantity had increased to 533 AF/Y.
- 237 3/4/02 email from Bruce Steubing to Dave Brown re USG EIR Response to 8 at p.3 re pipeline.
- 238 Fig. 2.0-1 “Location of Project Components” Lilburn Corp for a Revised Draft 9/26/2003 version of the USG Project Description correctly locates a Plaster City water tank and well and which also depicts the location of Quarry Well #3. This Figure was not the one included in the 4/06 DEIR for public review.
- 239 BLM’s Self had sent an email memo to Yasha Saber and Dave Brown at Resource Design on April 29, 2005 with concerns about 2002 Scoping comments received by BLM including three from environmental organizations.
- 240 Notice of Public Hearing of tne USG EIR/EIS for a Hearing Date of December 12, 2007, before the Imperial County Planning Commission, Agenda Item #5. Imperial Valley Press, Dec. 2, 2007.
- 241 Notice of Public Hearing and Scheduled Hearing Date for the US Gypsum project for 2/13/08 includes map with incorrect and incomplete project water wells.
- 242 USG “Annual Groundwater Reports” for the years 1993 through 2001, included annual pumpage for 3 wells combined and residual chloride values on a monthly basis. (9 pages.)
- 243 A. Kopania. 3/21/03 e-mail correspondence from EIR consultant, to B-E’s Rhone and three hydrogeologists at USGS, Subject “Ocotillo Modeling” refers to Drillers Reports and complexities of basin over very short distances.
- 244 Ron Schnabel of B-E. 3/13/03. memorandum to Dick Rhone of B-E. Subject : Geologic interpretation of the Ocotillo-Coyote Wells Basin, imperial County, California with recommendations for changes to the proposed groundwater model.
- 245 Ron Schnabel of B-E. 3/25/03 memorandum to Dick Rhone and others of B-E, but not to Kopania. Subject: U.S. Gypsum - Comments from Andrew Kopania via email on 3/21/03 re complexities of

basin and information from Drillers Reports.

- 246 Kopania 5/13/03 e-mail to Dave Brown of Resource Design, Subject: Fwd re: Ocotillo GW flow model - steady state simulation.
- 247 Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum to Heuberger. Subject: Status of Hydrology Evaluation U.S. Gypsum Project” (4 pages with Attachment of 4 pages of 8/21/02 comments from Malcolm Weiss to Brown and Heuberger.)
- 248 A. Kopania Memorandum on 6/26/03 to Heuberger, and RDT, BE, USG and USGS, Subject Model Calibration Results, Ocotillo/Coyote Wells Groundwater Basin” re thresholds of productivity due to limited recharge and that model could not produce monitored conditions in 2003. (Monitored data is further from the model in 2007 than 2003.)
- 249 Planning Director Heuberger. 9/1/03 communication from to USG’s Malcolm Weiss, RDT’s Brown, Subject USG project includes discussion of “potential alternatives” for water supply, and concerns about the “waste pile” at the Plaster City site.
- 250 Brown’s 9/4/03 reply to Heuberger and Kopania “USG memo on Alternatives”
- 251 USG’s 8/23/03 “Plaster City, California Potential Alternative Water Sources. (Exhibit 251, 4 pages with map provided 1/21/04, 2 additional pages.)
- 252 Heuberger’s 1/25/02 memo to “All Planning Department Staff” re USG Permit
- 253 Kopania, A. 8/15/05, memorandum to RDT’s Brown re “Final Hydrology Issues US Gypsum EIR/EIS”, 4 pgs.
- 254 Kopania & Brown 9/26/05, to Heuberger re “Comments on issues in September 1, 2005 Letter from Malcolm Weiss US Gypsum EIR/EIS”, 6 pgs.
- 255 Weiss, M. 6/20/03 letter to Heuberger re “U.S. Gypsum EIR Status. 6 pgs.
- 256 Notice of Public Hearing & Scheduled Hearing Date(s) for Appeal #08-0001 of the US Gypsum Final EIR/EIS before the Board of Supervisors 3/18/08, postmarked 3/5/08.
- 257 Garfin, G. , & M. Lenart Jan/Feb 2007. Climate Change: Effects oin the Southwest Water Resources. Southwest Hydrology: 16, 17, 34.
- 258 Wilkinson, T. 3/4/08. “Climate change’s most deadly threat: drought. Anthropologist Brian Fagan uses Earth’s distant past to predict crises that may lie in its future.” The Christian Science Monitor Online.
- 259 Mitchell, Planning Director, 2/27/81 to USG RE Water Usage in the Ocotillo-Coyote Wells Ground Water Basin. Court of Appeal Case No. D034281 Clerk’s Transcript on Appeal, vol 2 p. 315, 316 and 306.)
- 260 FEIR Fig. 3A Cross Section near Ocotillo depicts the largest portion of groundwater basin to be poorer water quality formations of Layer 2

- 261 FEIR Fig. 3B Cross Section near Yuha Estates depicts the largest portion of groundwater basin to be poorer water quality formations of Layer 2
- 262 FEIR 4.0-55 from FEIR Sec. 4.3.7 Water Balance Summary
- 263 Cabanilla, R. 5/5/06 re: "Review of USG Draft EIR/EIS for Expansion of Plant" 2 pages.
- 264 Aerial photo depicting location of Plaster City and Centinela State Prison and showing white dust to east of Plaster City facilities from Google Earth printed on 3/12/08.
- 265 Aerial photo depicting location of Plaster City operations from Google Earth printed on 3/12/08.
- 266 Aerial photo depicting location of USG wells in relation to communities of Ocotillo and Nomirage
- 267 Aerial photo of Plaster City plant dated 6/1996, DEIR Fig. 2.0-4
- 268 Brown, D. 8/29/03. Subject "FW: memo to Jurg" re IMSA waste/stockpiles at Plaster City
- 269 Aerial photo of Plaster City plant from BLM Geocommunicator website on 3/14/08

Edie Harmon  
P.O. Box 444  
Ocotillo CCA 92259

STATE OF CALIFORNIA  
Energy Resources Conservation and Development Commission

In the matter of: )  
 )  
APPLICATION FOR CERTIFICATION FOR )  
THE IMPERIAL VALLEY SOLAR PROJECT )  
(FORMERLY SES SOLAR TWO) )  
\_\_\_\_\_ )

DOCKET NO. 08-AFC-5

TESTIMONY ON ALTERNATIVE WATER SUPPLY  
OF WITNESS EDIE HARMON  
FOR INTERVENOR TOM BUDLONG

EXHIBIT 591

July 21, 2010

1. This testimony is a continuation of previous testimony and incorporates by reference previous submissions and previous references..

**Major issues related to groundwater Use and the Supplemental or Final Staff Analysis**

- A. **FSA states that Impacts to groundwater resources of Ocotillo-Coyote Wells Sole Source Aquifer would be significant and unmitigable, and remain so even after mitigation measures if groundwater is used for project as proposed in March 2010 after distribution of the SA/DEIS**
  - B. No assured reliable water supply to meet needs over life of project
  - C. FSA fails to consider alternative water supply from IID's WestSide Main Canal or treated waste water from Centinela State Prison to the north of proposed project site
  - D. Inconsistent presentation of duration of groundwater usage in Executive Summary and text related to Soil & Water Resources of the FSA.
  - E. Inconsistent portrayal of location of proposed project site in relation to source of groundwater from within EPA's Ocotillo-Coyote Wells Sole Source Aquifer boundaries Project site is east of Elsinore-Laguna Salada Fault zone and therefore is east of the Ocotillo-Coyote Wells Sole Source Aquifer and does not overlie Sole Source Aquifer
  - F. FSA assumptions about depth of wells and depth to groundwater is incorrect with respect to downgradient domestic water wells in Nomirage where depth to water is shallow and where phreatophytic vegetation exists
  - G. Failure to consider cumulative impacts of proposed 40 year life of project use of groundwater together with the existing and proposed groundwater use from the Sole Source Aquifer including the Planning Director's 2007 Registration for export use of 767 AF/Y from the nearby 3 US Gypsum wells in excess of documentable prior use per USG BE reports.
  - H. FSA inconsistent referrals to projects which have initiated CEQA and/or NEPA review and which intend to use groundwater from Ocotillo-Coyote Wells Sole Source Aquifer
  - I. Reliance on Todd 2007 is misplaced because model cannot accurately predict ongoing USGS groundwater monitoring data as pointed out in Sierra Club's 2008 comments for the Final EIR/EIS on the US Gypsum project
- 
- A. **FSA states that Impacts to groundwater resources of Ocotillo-Coyote Wells Sole Source Aquifer would be significant and unmitigable, and remain so even after mitigation measures if groundwater is used for project as proposed in March 2010 after distribution of the SA/DEIS**
  2. "The Energy Commission staff identified **significant unmitigable impacts** to Biological Resources, Land Use, Soil & **Water Resources**, and Visual Resources. Impacts to Cultural Resources are being analyzed and will be addressed in a document filed subsequently to this document. Because many of the unmitigable impacts identified by staff could be significantly reduced through implementation of Drainage Alternative #1, the Energy Commission staff recommends that it, rather than the proposed project, be approved by the Energy Commission." (Emphasis added. ES-2 FSA IV Solar)
  3. SSA IV Solar ES at p 17 identifies the impacts to soil and hydrology as significant and unmitigable after mitigation for "CEQA .level of significance after mitigation".
  4. "As a result of the delays necessary for the SCWD to prepare the EIR, groundwater for

construction and possibly operation of the IVS Project would be supplied by the Dan Boyer Water Company's well (State Well No. 16S/9E-36G4). Groundwater from the Dan Boyer Water Company well would be treated at an on-site facility adjacent to the on-site substation to produce demineralized water for mirror washing. However, the Ocotillo/Coyote Wells aquifer is a sole source aquifer, meaning it is an aquifer that supplies 50% or more of the drinking water for an area. [In fact, probably 90=95% of domestic water or more comes from the aquifer. Personal observations.]

5. Potable water would be delivered to the site by truck and stored in a 5,000 gal tank in the water treatment area. This tank would be able to provide a two to three day supply of potable water for the operating facility.” (FSA IV Solar, ES p. 5,6)
6. See also text at FSA C.7-1, 7-44, 7-59, 7-73, and 7-87.

**B. No assured reliable water supply or backup water supply to meet needs over life of project**

7. Boyer will serve letter has a duration of six to eleven months (FSA C.7-52)
8. Boyer well could be reliable “if permitted to pump at the required rate” than allowed in existing permit . (FSA C.7-53)
9. Groundwater “not sufficient to satisfy water demands” ((FSA C.7-53)
10. No back-up water supply has been identified (FSA C.7-54)
11. Seeley WasteWater Plant “not a firm existing supply” (FSA C.7-52) “If recycled water becomes available...” (FSA C.7-85)
12. The FSA ES contains no discussion of the alternative groundwater water supply intended by applicant prior to availability of any water from the Seeley Wastewater Treatment Facility. (FSA IV Solar, ES 23-24) Why?

**C. FSA fails to consider alternative water supply from IID's WestSide Main Canal or treated waste water from Centinela State Prison to the north of proposed project site**

13. Centinela State Prison with its inmate population in excess of 5,000, which is nearer than Seeley might be a possible source of treated wastewater for construction and mirror washing. Was this source of wastewater considered? If not why not?
14. Yes, Colorado River water from the WestSide Main canal would require an act of Congress to change the boundaries of the IID, but such was done in 1981 so that the Plaster City factory would have a water source to enable the factory to eliminate or reduce groundwater export from the Ocotillo-Coyote Wells SSA. IID has approvals to supply up to 1,000 AF/Y for the Plaster City factory from the Westside Main Canal, and awaits only a Record of Decision by BLM once the FWS Biological Opinion is complete. The FEIR/S for said project was completed in spring 2008. If it could happen for a larger quantity of water, why not have considered such a request for a smaller quantity?

**D. Inconsistent presentation of duration of groundwater usage in Executive Summary and text related to Soil & Water Resources of the FSA.**

15. **Exhibit 526**, Van Paten's 3/11/2010 testimony refers to the Boyer well as “our preferred back-up/temporary source of water”...
16. **Exhibit 528**, Moore's 3/15/2010 testimony also identifies “a temporary /back-up source of water” being negotiated

17. Although the FSA notes that an EIR is being prepared for the possible use of water from the Seeley Wastewater Treatment Facility, (FSA IV Solar, ES p. 5) it fails to include a recommendation for the need additional environmental review of the potential for impacts if the Boyer well is to supply water for the life of the project as the applicant earlier proposed, late in the project review, especially in light of the cumulative impacts of the proposed off-basin export in addition to all the other existing and proposed uses from the same Ocotillo-Coyote Wells Sole Source Aquifer.
18. Such environmental analysis for the proposed water source is imperative as a review of the FSA leads one to conclude that groundwater is the likely source of water for the life of the project, rather than just a temporary or back-up source. Specifically, the FSA noted when it stated that “groundwater for construction and possibly operation of the IVS Project” would come from the Boyer well. (FSA B.1-16)

**E Inconsistent/incorrect portrayal of location of proposed project site in relation to source of groundwater from within EPA’s Ocotillo-Coyote Wells Sole Source Aquifer boundaries Project site is east of Elsinore-Laguna Salada Fault zone and there fore is east of the Ocotillo-Coyote Wells Sole Source Aquifer and does not overlie Sole Source Aquifer**

19. **FSA is incorrect when it states that the “project site lies primarily over the Ocotillo-Coyote Wells aquifer”.** (FSA at C.7-11)
20. The EPA designated Ocotillo-Coyote Wells Sole Source Aquifer (SSA) is west of the Elsinore fault zone, but the project site is east of the Elsinore Fault. See **Exhibits 515, 579, 581, and 582** for boundaries of the EPA designated Sole Source Aquifer. See also **Exhibit 562** for locations of wells, private lands and faults. Please note that the IV Solar Project is located north of I-8 and east of the location where the highway crosses the railroad.
21. The Ocotillo-Coyote Wells Aquifer was designated as a Sole Source Aquifer by US EPA on September 10, 1996. 61 Fed. Reg. 47752-53. The EPA determined that the aquifer “serves as the ‘sole source’ of drinking water for the residents of Ocotillo, Coyote Wells, Yuha Estates and Nomirage.” *Id.* at 47753. Further, the EPA determined that the aquifer should be protected because “[t]here is no economically feasible alternative drinking water source near the designated area.” *Id.* at 47753. EPA noted the boundary of the sole source aquifer area at the Elsinore Fault which “was chosen as a boundary because it separates the sole source aquifer area, which contains high quality, potable water, from high saline, non-potable water to the east of the fault.” *Id.* At 47753. (See Exhibit 515 for EPA SSA designation in 1996.)
22. The following Exhibits are maps from the 2006 US Gypsum Draft EIR/EIS which indicate that the proposed solar project does not overlie the SSA. **Exhibit 581** is USG 2006 DEIR/S Fig. 3.3-1 US EPA Ocotillo-Coyote Wells SSA boundary, and **Exhibit 582** is USG 2006 DEIR/S Fig. 3.3-4 Location of Wells in Ocotillo Coyote. Wells groundwater basin.
23. The FSA improperly defines the boundaries of the Ocotillo-Coyote Wells Groundwater basin as something very different from the US EPA definition of the Sole Source Aquifer as depicted by maps published by EPA in 1996, with subsequent maps and included earlier as **Exhibit 515**. (An EPA SSA map from 2008 in included as **Exhibit 579**.) This map also depicts the SSA as having an eastern terminus just to the west of the IV Solar project site contrary to the assertion of the IV Solar SSA that 96% of the project site overlies the SSA. 96% of the project does NOT overlie the Ocotillo-Coyote Wells Sole Source Aquifer as mapped by US EPA in either 1996 or 2008.
24. Thus, the following FSA statement at ES-36 is incorrect if it is intended to reflect potential relationship to the Sole Source Aquifer!

25. “11. Approximately 4-percent of the Imperial Valley Solar project overlies the Imperial Valley Groundwater Basin, and the remaining 96-percent overlies the Ocotillo/Coyote Wells Groundwater Basin. This means approximately 4-percent of the water purchased from Dan Boyer Water Company (water that originates in the Ocotillo/Coyote Wells Groundwater Basin) would have to be exported to the Imperial Valley Groundwater Basin, which is prohibited without a permit under Imperial County Land Use Ordinance 9. Condition of Certification **SOIL&WATER-11** prohibits use of Dan Boyer Water Company water within the Imperial Valley Groundwater Basin without a permit from Imperial County.” (FSA IV Solar, ES p. 36)
26. FSA at C.7-11 description of the project area being over the Ocotillo-Coyote Wells Groundwater Basin is inconsistent the map of the SSA prepared by EPA. The Ocotillo-Coyote Wells Sole Source Aquifer as described by US EPA is a hydrological definition that incorporates the potable groundwater basin as an entity separate from the more confusing larger DWR groundwater basin which includes several basins without any hydrologic connection for purposes of understanding the impacts of the proposed groundwater use on overlying domestic users within the SSA or downgradient with highly saline groundwater east of the Elsinore/Laguna Salada Fault system. If one wants to further muddle the groundwater impacts one could include groundwater in the West Mesa which by virtue of being downgradient and north of the IV Solar Project is also irrelevant for purposes of impacts. The FSA should include Figures or maps to clarify the confusing text related to groundwater. The Ocotillo - Coyote Wells Groundwater Basin/Sole Source Aquifer is not the Same as the DWR Ocotillo-Coyote Wells Valley Groundwater Basin (FSA C.7-12) for which the FSA provided no map.
27. FSA C.7-12 should have used actual USGS groundwater quality monitoring from 1977 and subsequent rather than cite outdated 1973 DWR data. USGS data reveal that water quality is more related to location in relation to underlying geology than depth because some deeper wells and electrical resistivity studies reveal saline water at depth. There have been numerous studies on the groundwater basin, and monitoring and electrical resistivity studies reveal that the basin is far more complex and does not respond as computer models have predicted. This was explained in my earlier comments and testimony. See **Exhibit 580** which was submitted as comments on the SA/DEIS for IV Solar.
28. FSA discussion of groundwater basins is extremely confusing and uses a multitude of different names to describe groundwater basins, all with apparently very different boundaries. The only groundwater basin of real concern is the Ocotillo-Coyote Wells Groundwater Basin with the hydrologic boundaries described by the EPA Sole Source Aquifer designation and maps. Confusion reigns in FSA C.7-3 #11, ES-36, C.7-31, 86, and 89. And Ap D-8 response 6. See **Exhibits 515 and 581**. Why has the CEC chosen to use groundwater basin descriptions that go do far beyond the Sole Source Aquifer with its largely potable groundwater when considering the impacts of using the Boyer well for industrial off-hydrologic basin use? I felt very sad and discouraged as I read text by staff unfamiliar with the groundwater basin, its topography, and the groundwater constraints imposed by the pumping restricted to the small amount of private land overlying the SSA. See **Exhibit 562** Map depicting location of private land and water wells in relation to local geology prepared by EH in 1991 from technical information available at the time.
29. Certainly, if one includes a large enough area that could never possibly be impacted by the project (Soil and Water Figure 11 et sec) it is easy to conclude that impacts are insignificant. However, the concern is cumulative local conditions of overdraft and how that impacts downgradient domestic users and future domestic users. Or is it intended that the entire Sole Source Aquifer is just to be considered one more “Sacrifice Area” to meet some perceived need elsewhere or profits elsewhere?
30. What is the source of the groundwater basin boundaries and why does CEC not use the EPA Sole Source Aquifer boundaries as provided by EPA and used in other CEQA/NEPA documents related to the groundwater basin?

- F. **FSA assumptions about depth of wells and depth to groundwater are incorrect with respect to downgradient domestic water wells in Nomirage where depth to water is shallow and where phreatophytic vegetation exists in the groundwater basin E and SE of the Boyer well**
31. The FSA at ES-36 makes the following statement about the Ocotillo Coyote Wells Groundwater Basin that is erroneous and based on a lack of understanding about the topographic effects. Indeed, the downgradient water levels range from about 85 ft below land surface for the nearby US Gypsum well 16S/9E-36H1 to 20-30 to 50 feet below surface for some of the domestic wells in the Nomirage area where surface elevation is lower than at the Boyer well. (personal communications with well owners in Nomirage and Google Earth).
32. Erroneous assertions about depths of wells in general in the basin are incorrect and found at C.7-3, Resp Ap D-6, C.7-43, and C.7-54. FSA states that: "Assuming an average well depth of 300 feet, depth to water of 125 feet below land surface ...." (FSA C.7-54) This is an incorrect assumption both for domestic wells in the Nomirage area and further downgradient in the Yuha Estates area. Based on USGS data on water levels and well information from resident groundwater users/well owners and Google elevation data from Google earth.
33. For example, Google Earth indicated that the land surface elevation at the Hall/Steele well in Nomirage is 296 ft, or about 100 feet lower in elevation than the upgradient Boyer well. Hall stated that depth to groundwater is about 45 feet, (or about 251 ft. AMSL) rather than the much deeper depth to water of 125 ft. at the Boyer well where static water level fluctuated from 260 Ft AMSL in 1986 to 244 in 1995 according to FSA Soil and Water Table 7 (C.7-43), but with no current information. What this really shows, however, is just how much the static water levels in the basin are declining both within individual wells and within the downgradient portions of the basin and the influence of upgradient pumping/use. Thus, the urgent need for additional data because assumptions are only that, assumptions.
34. See **Exhibit 516** for the Table of USGS monitoring water well and static water level information for the Ocotillo-Coyote Wells Groundwater Basin.
35. As noted earlier, residents of Nomirage report depths to water of 30-45 feet in their domestic wells, with water levels declining during the past decade. (Sadly, these residential wells are not part of the ongoing USGS/Imperial County groundwater monitoring program, so there are no official water level measurements.) But monitoring program needs to be expanded
36. The place name Coyote Wells comes from the fact that in the past coyotes were able to scratch the surface and groundwater would pool for drinking.
37. By contrast, because they are not familiar with the local topographic features and locations of domestic wells and native vegetation, the FSA assumed the following:
38. "8. The expected water level decline from project groundwater consumption is too small to significantly affect existing well yields; there are no reported springs in the area and the present-day water table is too deep to support phreatophytic vegetation. Well interference and the effects of water level declines on other basin users are therefore considered less than significant." (FSA IV Solar, ES p. 36)
39. There is phreatophytic vegetation which has roots that reach the groundwater. Overlying the Ocotillo-Coyote Wells Groundwater Basin/Sole source Aquifer to the west of the Elsinore-Laguna Salada Faults phreatophytic vegetation includes mesquites and tamarisk along the downgradient Coyote Wash as there are a series of mesquites and tamarisk that obviously have roots reaching the watertable, because otherwise they could not grow to the sizes they do on public lands where they receive no

supplemental water from human activities. There are also mesquite hummocks, a BLM unusual plant assemblage. This vegetation is clearly visible from private residences and by those traveling along Interstate 8. See **Exhibit 589** for Google photo showing mesquite hummocks ESE of Nomirage by Hwy 98. There is no doubt about the vegetation as I pass it every time I travel on Hwy 98 W and I-8 east.

40. .FSA Soil and Water Table 8 (FSA C.7-46,47) fails to provide any meaningful well identification numbers so that one can obtain data for individual wells directly from the USGS website. The table provides no source information and attributes the table to no preparer. Table 9A and 9B suffer from the same lack of information. (FSA C.7-49).
41. Soil and Water Fig 11 (FSA after p. 875 of 1410 on pdf) fails to provide any explanation for the apparent rise in groundwater levels in the bottom right of the map for the Yuha Estates area. This is easily explained when one knows that the well 17S/10E-11G1 ceased export operations of 100-140 AF/Y by September 1982 and has not pumped for export since, and that all wells in the subdivision exhibited well interference related to the large drawdown at 11G1 during the almost 5 years that it pumped groundwater for export. See Exhibit 516 for details about individual wells in the groundwater basin.
42. Any well in Fig 11 exhibiting an increase in static water level is related to reductions in pumpage of a volume for greater than individual domestic purposes on the overlying land nearby. Specifically, the increase in static water level for the well in the bottom left of the Figure 11 is the 16S/9E-36H1 one of the 3 US Gypsum wells that exports groundwater. Because the public does not know how much water is pumped from each of the three wells, it is not possible to draw firm conclusions other than to say economic downturn has resulted in lower production at Plaster City factory (personal communication with IC Planning staff) and therefore less total groundwater usage.
43. Accordingly, it is essential to know not only the location of an individual well, but the owner and use to which the water is put, in addition to the proximity to the nearest large volume pumping. Figures 12 and 13 fail to include locations of downgradient domestic wells in Nomirage and fail to include standard USGS well identifiers. Based on all I have learned in 33 years, I could expect the impacts to be more related to cumulative impacts downgradient to the E and SE rather upgradient to the N or NW as suggested by these figures. These figures are most useful in pointing out the inadequacies of the current County/USGS groundwater monitoring program because it has too few downgradient monitoring wells in Nomirage area.

**Additional downgradient wells in or near Nomirage should be added to the USGS/County Groundwater monitoring program as a mitigation measure**

44. As any mitigation measure, there should be additional well/s downgradient added to the USGS groundwater monitoring program for both water level and water quality.
- G. **Failure to consider cumulative impacts of proposed 40 year life of project use of groundwater together with the existing and proposed groundwater use from the Sole Source Aquifer including the Planning Director's 200? Registration for export use of 767 AF/Y from the nearby 3 US Gypsum wells** means that FSA underestimates cumulative impacts to SSA groundwater basin
45. **Exhibit 588** Table 6 from SC comments on the US Gypsum expansion project includes a list all known existing groundwater users and hypothetical quantities known as of 2008. Since that time we are aware of what is believed to be approximately 125 to 150 AF/Y from sand and gravel operations along the south side of the Coyote Mountains, and the additional renewable energy proposed groundwater uses in addition to the Wind Zero proposal.

46. The FSA identifies Ocotillo Express Wind and Wind Zero in cumulative impacts elsewhere in the FSA, so why not include these two proposed groundwater using projects under cumulative impacts related to Hydrology?
47. Refer to **Exhibit 516** EH Table 10 with USGS monitoring data for individual wells in the Ocotillo-Coyote Wells Groundwater Basin in 2008 and updated.
48. Mitigation measures inadequate to protect downgradient domestic users in Nomirage and Yuha Estates as can be seen from historic continuing groundwater declines and apparent failure to drill additional monitoring wells required as mitigation measure for the US Gypsum expansion approved by Country in 2008.
49. Need for water level and water quality monitoring in addition to volume of pumping if one is to understand the long term cumulative impacts to downgradient SSA water users where depth to groundwater is much closer to surface than at Boyer well.
50. Require placement of downgradient monitoring well to be constructed in manner to allow dating of last significant recharge. (As for other CA desert groundwater basins, one would expect tens of thousands of years ago since last significant recharge per John Izbicki, PhD, USGS).

**H. The FSA Analysis of Cumulative Impacts on groundwater resources of the Ocotillo-Coyote Wells Sole Source Aquifer Is Inadequate, in part, because FSA includes inconsistent referrals to projects which have initiated CEQA and/or NEPA review and which intend to use groundwater from Ocotillo-Coyote Wells Sole Source Aquifer**

51. FSA states that: “Water studies showed that the aquifer is significantly overdrafted and that new well permits are not being granted.” (FSA B.1-14)
52. The FSA then goes on to indicate that nevertheless groundwater would be used
  53. “As a result of the delays necessary for the SCWD to prepare the EIR, groundwater for construction and possibly operation of the IVS Project would be supplied by the Dan Boyer Water Company’s well (State Well No. 16S/9E-36G4). Groundwater from the Dan Boyer Water Company well would be treated at an on-site facility adjacent to the on-site substation to produce demineralized water for mirror washing. However, the Ocotillo/Coyote Wells aquifer is a sole source aquifer, meaning it is an aquifer that supplies 50% or more of the drinking water for an area.” (FSA B.1-16) (emphasis added.)
54. In fact, the groundwater basin provided almost all the drinking water for the residents overlying the basin. There may be individuals who purchase water from stores in El Centro, but all residents I know use well water without treatment unless it has high TDS or high fluoride levels.
55. Wind Zero site and groundwater use is inconsistently portrayed in the FSA and its discussion of cumulative impacts.
56. The Wind Zero site as an alternative site the FSA states that the WZ “Alternative site was eliminated as infeasible because of the pre-existing proposed use as a private military training facility. Currently undergoing environmental review.” (FSA B.2-5)
57. FSA “B.2.8.1 APPLICANT’S SITE ALTERNATIVES” at FSA B.2-97 includes the Wind Zero (Ocotillo) site as one not carried forward. Then it specifically provides the following information:
58. **“Wind Zero Site (Ocotillo)**  
 “The Wind Zero Site near Ocotillo was suggested as an alternative site during the scoping period. The Wind Zero Project is proposed to be located on private land. It would include a military training

facility and motorsport race resort proposed for 944 acres. While this acreage would not be sufficient for a contiguous 750 MW Solar facility; it could be a component of a larger, multiple site solar facility. However, the Wind Zero Site is currently under environmental review for the military training facility. A Notice of Preparation of a Draft Environmental Impact Report was filed with the State Clearinghouse on January 23, 2009 for the proposed Coyote Wells Specific Plan (CEQANET, 2009). The scoping period for that EIR closed on February 23, 2009. Because this alternative site has a proposed use and is currently undergoing environmental review for that proposed Specific Plan, this alternative site was eliminated as unfeasible and is not evaluated further in this SSA.” (FSA B.2-102)

59. In fact the Final EIR for the Wind Zero Project was made publically available on the County’s website on July 19, 2010 at Imperial County website <http://www.icpds.com/?pid=2308>. And the Notice of Public hearings was mailed to residents and is included as **Exhibit 587**, ReNotice Wind Zero-Coyote Wells Specific Plan Notice of Public Hearings before Planning Commission on August 11, 2010 and Board of Supervisors September 14, 2010.
60. The FSA includes the following table and text related to cumulative impacts and identifies the Wind Zero project and another groundwater using proposed project as follows:

### **Cumulative Impacts Table 3**

#### **Future Foreseeable Projects in the Plaster City Area**

“Wind Zero proposes to build a 400-acre training facility for law enforcement, government, college and public near Ocotillo (south of Interstate 8 and north of SR 98) on land that it purchased in 2007. Wind Zero proposes to use the additional 600-acre site to build a 6.1-mile road coarse and racetrack country club.” (FSA B.3-8) and cites “Wind Zero, 2009 – <http://www.wind-zero.com>. Accessed January 7, 2009.” in the references section at FSA B.3-12)

61. Ocotillo Express Wind “Construct an approximately 550 MW wind facility immediately east of the proposed project on approximately 15,000 acres.” (FSA B.3-9) Location is actually west and south of project site. (**Exhibit 529**)
62. In the FSA discussion of biological resources cumulative impacts at C-2-110, the text states:

#### **Effects of Reasonably Foreseeable Future Projects**

63. “Biological resources are expected to be affected by reasonably foreseeable future projects. These projects, which are located within FTHL habitat, include all the future foreseeable projects in the Plaster City area listed in **Cumulative Analysis Table 3** and the following proposed projects (from **Cumulative Analysis Table 1B**)” (FSA C.2-110)
64. Ocotillo Express Wind Facility is a proposed 561 MW wind energy project located on approximately 14,980 acres planned for north and west of Ocotillo and west and south of Nomirage. B(FSA C.2-110)
65. Wind Zero Group, Inc., is a proposed 963-acre law enforcement training facility located in the Ocotillo-Nomirage area between Interstate 8 State Route 98 which includes a racetrack which would be partially developed in the South Fork Coyote Wash. (FSA C-2-110-111)
66. For Geo, soils and paleo resources the FSA identifies the following for cumulative impacts: “Wind Zero Training Facility (400 to 1,000 acres), Mount Signal Solar Power Station (estimated 350 to 400 acres), Ocotillo Express Wind Facility (15,000 acres) (FSA c.4-23)
67. So why did the CEC staff ignore the water requirements of this project (Wind Zero) and the Ocotillo Wind Express when considering impacts on groundwater resources?

68. See Response 37 at Ap D-14 which states that: “Staff accounted for cumulative effects of water usage due to projected population growth, US Gypsum pumping increase projections, and the IVS project. Higher water usage estimates cited for the CWSP project were not considered, as that project’s future is still uncertain.” Why consider the cumulative impacts related to biological resources but not hydrology? This is a serious omission under CEQA.
69. Nevertheless, I refer CEC to the specific text of the CWSP FEIR which refers to a 65 AF/Y use of groundwater for the project (**Exhibit 586 a** Wind Zero-Coyote Wells Specific Plan FEIR text re Hydrology and use of 65 AF/Y groundwater from Ocotillo-Coyote Wells Sole Source Aquifer.)

**I Reliance on Todd 2007 is misplaced because model cannot accurately predict ongoing USGS groundwater monitoring data as pointed out in Sierra Club’s 2008 comments for the Final EIR/EIS on the US Gypsum project**

70. For discussion of concerns about reliance on Todd studies, please see portions of Sierra Club comments on US Gypsum FEIR/EIS following and beginning on page 17 of 36 and after Exhibits for the CEC testimony numbered in the 500s.

71. **Declaration of Edie Harmon**

Re: Testimony on groundwater issues related to the proposed Alternative Water Supply for the Imperial Valley Solar Project/Solar 2 DOCKET NO. 08-AFC-5

I, Edie Harmon, declare as follows:

I prepared the testimony submitted herein. These comments have also incorporated and/or included comments and analysis I have prepared and previously submitted as comments on Draft and Final EIR/EIS documents for the US Gypsum Expansion and Modernization Project in 2006 and 2008, and comments and analysis related to groundwater issues for the 2010 DEIR for the proposed Wind Zero/Coyote Wells Specific Plan Project. The Wind Zero project overlies the Ocotillo Coyote Wells Groundwater Basin with proposed wells just a few miles downgradient to the east of the Applicant's well and west of the Imperial Valley Solar Project. The tables that are submitted as exhibits were prepared by me either as exhibits for the Sierra Club 2008 comments on the USG FEIR/S or for the Imperial Valley Solar Project..

My relevant experience and qualifications are set forth in the Resume which was submitted earlier. I believe that this testimony is true and correct. I am personally familiar with the facts and conclusions included in the attached testimony. If called as a witness, I could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge.

Dated: July 21, 2010

s/ EdieHarmon

At: Ocotillo, California

Edie Harmon

72. EH re CEC/BLM responses to Applicants Alternative Water Supply from well 16S/9E-36G4 and FSA for Imperial Valley Solar Project (formerly Solar 2) Docket No. 08-AFC-5

### References cited

Berkeley Law. 2009. "In Our Backyard: How to increase renewable energy production on buildings and other local spaces" 26 pages.

Bookman-Edmonston 1996. "Ocotillo/Coyote Wells Basin Hydrology and Groundwater Modeling Study" prepared for US Gypsum Company

Bookman-Edmonston 2004. "Ocotillo/Coyote Wells Basin Hydrology and Groundwater Modeling Study" prepared for US Gypsum Company included as technical Appendix in US Gypsum DEIR/EIS in 2006.

BLM 1980 Draft EIS for California Desert Conservation Area Plan

BLM 1999. 1980 Draft EIS for California Desert Conservation Area Plan as Amended

Coyote Wells Specific Plan Project by Wind Zero Group, Inc. 2010 DEIR & Appendices SCH 2009011063  
Coyote Wells Specific Plan Draft EIR SCH No. 2009011063 January 2010, released 1-27-2010 available online at <http://www.icpds.com/?pid=2308>.

Huntley, David 1979. Magnitude and potential effects of declining water elevations in the Ocotillo-Coyote Wells Basin.

Judge Judith McConnell in August 31, 2000 Statement of Decision in Case No. 676630 Save Our Forests and Ranchlands v. County of San Diego. Now Justice McConnell of Court of Appeal, Fourth District, Division One

NAFTA Tribunal Decision in the case between Glamis Gold, Ltd. (Claimant) and United States of America (Respondent) filed June 8, 2009.

Ocotillo Express Wind Facility 2009 Draft Plan of Development from BLM El Centro office.

Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map

Powers, Bill. 2007 San Diego Smart Energy 2020 158 pgs, PP 69-74 includes conclusions and recommendations [http://www.etechnology.org/new\\_pdfs/smartenergy/52008\\_SmE2020\\_2nd.pdf](http://www.etechnology.org/new_pdfs/smartenergy/52008_SmE2020_2nd.pdf)

Sierra Club comments on 2006 US Gypsum DEIR/EIS and 2008 US Gypsum FEIR/EIS

Sierra Club comments on 2010 Coyote Wells Specific Plan DEIR SCH 2009011063

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial.

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial. \_Reporter's Appeal Transcript 5-17-99 at p. 28.)

Sierra Club v. County of Imperial, United States Gypsum Company, Real Party in Interest, Court of Appeal Case D034281 Decision 10/26/00, Court of Appeal file recalled from storage and reviewed in January 2008

Skirvan, James. USGS 1977 "Digital - Model Evaluation of the Ground-Water Resources in the Ocotillo-Coyote Wells Basin, Imperial County, California"

US EPA 3/20/95 document "Technical support document for the review of the Ocotillo-Coyote Wells Sole Source Aquifer Petition". (Court of Appeal Case No. D034281 Clerk's Transcript on Appeal, vol 2 p. 252.)

US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a “Sole Source Aquifer” 61 FR 47752, Sept 10, 1996)

USGS 1977. Computer printout of well ownership and drilling dates and depths.

USGS groundwater monitoring information data for the Ocotillo-Coyote Wells Groundwater Basin at the following source <http://nwis.waterdata.usgs.gov/ca/nwis/gw> for individual well sites in the USGS Imperial County groundwater monitoring program. The water level data is available from USGS both as a graph of monitored or as a Table of data for each individual monitored well. Water quality data for the individual wells monitored can be obtained at <http://nwis.waterdata.usgs.gov/ca/nwis/qwdata>

USGS well location maps & data for Imperial County, links to individual wells monitored for water levels [http://groundwaterwatch.usgs.gov/countymaps/CA\\_025.html](http://groundwaterwatch.usgs.gov/countymaps/CA_025.html)

US Gypsum Expansion and Modernization 2006 DEIR/EIS & Appendices SCH 200121133

US Gypsum Expansion and Modernization 2008 FEIR/EIS & Appendices SCH 200121133

Zipp ,R. 1980. Ocotillo-Coyote Wells Groundwater quality-quality study, Imperial County

### **Exhibits for Solar 2 groundwater issues**

- 515 US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a “Sole Source Aquifer” 61 FR 47752, Sept 10, 1996)
- 516 “EH Table 10 Water well information, water quality, and groundwater elevations Ocotillo/Coyote Wells Groundwater Basin, a Sole Source Aquifer, Imperial County CA” Updated March 2010 from Sierra Club comments on USG FEIR/EIS 2008 and included in CWSP Scoping comments found at 28appa-nop-initial-study-a at pp 7-17 (USG EIR/EIS Appendix B-1 USGS Hydrologic Data, USGS NWIS water level and quality data & Bookman-Edmonston 3/96 (BE96), BE 1/2004 (BE04). 11pages.
- 517 Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map
- 518 US EPA 2010-04-11 letter re Final EIS for US Gypsum project
- 519 USGS 2008-12-24 letter to Cong. Filner re Final EIS for US Gypsum Project
- 520 US EPA 2009-02-25 comments re NOI for Coyote Wells Specific Plan Area
- 521 USG FEIR/S 4.0 Collective Responses Table 4.0-1 Water quality info from USGS
- 522 USG FEIR/S 4.0 Collective Responses Fig. 4 Wells with Water Quality Data
- 523 USG FEIR/S 4.0 Collective Responses Fig 7. Wells with Recent Water Level data
- 524 BE 2004 Table 4-2 Historic Groundwater Pumping in 2006 USG DEIR/S
- 525 Ocotillo Express Wind Draft Plan of Development 2009
- 526 SES Applicant’s Submittal of Opening Testimony re Van Patten re well 16S/9E-36G4
- 527 Terms for Well 16S/9E-436G4
- 528 Moore in SES Applicant’s submittal of Opening Testimony re well 16S/9E-36G4
- 529 Ocotillo Express Wind Facility 4 pgs
- 530 USG FEIR/S Mitigation & Monitoring re Hydrology ES 9-11 submitted as an exhibit for the CWSP DEIR comments 20210
- 531 USG DEIR/S Mitigation & Monitoring re Hydrology See Applicant’s Appendix C for hydrology and

- USG DEIR/S Impacts and Mitigation in Summary Table at pp S-7 through S-11
- 532 Powers, Bill. 2007 San Diego Smart Energy 2020 158 pgs, PP 69-74 includes conclusions and recommendations  
[http://www.etechnology.com/new\\_pdfs/smartenergy/52008\\_SmE2020\\_2nd.pdf](http://www.etechnology.com/new_pdfs/smartenergy/52008_SmE2020_2nd.pdf)
- 533 Berkeley Law. 2009. "In Our Backyard: How to increase renewable energy production on buildings and other local spaces"
- 534 URS/BLM color brochure "Imperial Valley Solar Project Frequently asked Questions May 2010"
- 535 Tessera Solar, SES "Imperial Valley Project Fact Sheet (Formerly SES Solar Two)" undated color brochure.
- 536 "Impacts of Avoidance or partial avoidance of Drainage Areas I, K, C, E, and G" identified as "Preliminary Layout" by RMT in BLM documents provided at workshop on May 4, 2010, possibly dated 4/12/2010.
- 537 Skrivan, James. USGS 1977 "Digital - Model Evaluation of the Ground-Water Resources in the Ocotillo-Coyote Wells Basin, Imperial County, California"
- 538 Sierra Club v. County of Imperial, United States Gypsum Company, Real Party in Interest, Court of Appeal Case D034281 Decision 10/26/00, Court of Appeal file recalled from storage and reviewed in January 2008
- 539 US EPS re 2006 USG DEIS
- 540 USGS re 2006 USG DEIS
- 541 Powers 2010-05-13 email 4 pgs "best comparative solar costs info I have" & FW other docs
- 542 San Diego solar panels cost less with 1 BOG
- 543 16-apr-10 Renewable Energy World US Solar sees 38% growth in PV capacity in 2009
- 544 7-apr-10 RETI Phase 2B Draft Report pp 4-6 to 4-8 Thin film PV lower cost than solar thermal
- 545 Mar 2010 SNL "SoCalEd orders 200 MW of solar panels, plans solicitation for 250 MW more"
- 546 Powers 2010-05-13 email 1Q 2010 CSI capital cost numbers
- 547 01-may-10 CPUC SunCentric Study in pictures through March 2010 costs trends (52 pages)
- 548 Huntley, D. 1993. Letter re changes in chloride concentration in water quality from a well in Ocotillo-Coyote Wells basin
- 549 Huntley, David 1979. Magnitude and potential effects of declining water elevations in the Ocotillo-Coyote Wells groundwater basin.
- 550 RMT 2010 Impacts of avoidance of drainages Fig. From BLM handout for May 4, 2010 workshop.
- 551 Harmon 2010 values for static water level in feet above mean sea level including most recent USGS data (compiled from Exhibit 516 EH Table 10, a compilation of USGS monitoring data.
- 552 Tisdale 2006 comments on the USG DEIR includes information on the IID source of supply for industrial use at Plaster City/USG factory
- 553 USGS 1977 computer printout of well ownership and drilling dates for Ocotillo-Coyote Wells Groundwater Basin
- 554 Zipp R. 1980. Ocotillo-Coyote Wells Groundwater quality-quality study, Imperial County

- 555 Table Westwind Water Sales History & water levels well 16S/9E-36G4 vs USG 16S/9E-36H1
- 556 Hamilton 16S/9E-34B1 well location and water level graph from USGS website
- 557 Hamilton 16S/9E-34B1 well water level table '98-09 from USGS website
- 558 Discrepancies in groundwater pumping (AF/Y) by USG wells in Ocotillo-Nomirage area as submitted by Bookman-Edmonston's Richard Rhone in January and September 2003 (Table 16-17 of Sierra Club comments on 2008 USG FEIR/S)
- 559 USG Annual Pumping and water levels in 3 USG wells in Ocotillo area (Table 14 of Sierra Club comments on 2008 USG FEIR/S) source of original information is in Exhibits 560 and 561.
- 560 USG Annual Reports 1993-2002 (originally Sierra Club Exhibit 242 for 2008 USG FEIR/S)
- 561 Rhone 2003 email re USG Annual pumpage for three wells combined (originally Sierra Club Exhibit 236 for 2008 USG FEIR/S)
- 562 Map depicting location of private land and water wells in relation to local geology
- 563 Bookman-Edmonston 2004 text and tables related to Westwind Water Company water use from well 16S/9E-26G4 at Painted Gorge and West Texas
- 564 Bookman-Edmonston 1996 text and tables related to Westwind Water Company water use from well 16S/9E-26G4 at Painted Gorge and West Texas . Figures depicting cones of depression centered at wells pumping more than 10 AF/Y
- 565 ICPDS Minnick 2004-09-07 response letter to Brammer re property and Well 16S/9E-36G4.
- 566 Harmon Testimony dated May 10, 2010 for Intervenor Budlong re Alternative Water Supply from well 16S/9E-36G4. Overlying the Ocotillo-Coyote Wells Sole Source Aquifer.
- 567 Harmon Testimony dated May 10, 2010 for Intervenor Budlong re Alternative Water Supply from well 16S/9E-36G4. Overlying the Ocotillo-Coyote Wells Sole Source Aquifer.
- 568 Rush is on for desert solar project. San Diego Union Tribune May 26, 2010. Account of CEC Evidentiary Hearing and public comments.
- 569 Supervisor Fuentes to BOS re EPA ltr and air quality in Imperial County 2010-05-26
- 570 US EPA to Nichols 2010-05-24 re Imperial County air regs
- 571 Olmedo 2009 Air Quality issue

**New Exhibits**

- 572 EH comments to the US ACE re IV Solar Project, including discussion of need.
- 573 EH comments re SA/DEIS Docket 08-AFC-5 Final
- 574 Solar 2 near Wind Zero proposal to SW 2008 map
- 575 map SW Imperial County shows NAF and bombing ranges
- 576 map Imperial County region, NAF and bombing ranges AAA
- 577 Imperial County SW & military lands BLM map
- 578 NAF & N of Seeley Google Earth aerial photo
- 579 US EPA 2008 map of Ocotillo-Coyote Wells Sole Source Aquifer shows Elsinore Fault as eastern boundary

- 580 EH comments on SA/DEIS for Imperial Valley Solar Project Docket 08-AFC 5
- 581 USG 2006 DEIR/S Fig. 3.3-1 US EPA Ocotillo-Coyote Wells SSA boundary
- 582 USG 2006 DEIR/S Fig. 3.3-4 Location of Wells in Ocotillo Coyote Wells groundwater basin
- 583 USG 2006 Draft EIR/EIS Table S-1 including mitigation measures for hydrology
- 584 USG 2006 Draft EIR/EIS Fig. 3.3-1 Groundwater basin location
- 585 USG 2006 Draft EIR/EIS Fig. 3.3-4 Location of wells
- 586 a Wind Zero-Coyote Wells Specific Plan FEIR text re Hydrology and use of 65 AF/Y groundwater from Ocotillo-Coyote Wells Sole Source Aquifer see also: Coyote Wells Specific Plan-Wind Zero Final EIR available July 19, 2010 from Imperial County website <http://www.icpds.com/?pid=2308>
- 587 ReNotice Wind Zero-Coyote Wells Specific Plan Notice of Public Hearings before Planning Commission on August 11, 2010 and Board of Supervisors September 14, 2010
- 588 Table 6 Hypothetical Water Budgets for Build-out of Ocotillo-Nomirage Community Area consistent with the acreages, land use designations , density and water use permitted by the Ocotillo-Nomirage Community Area Plan adopted by the Board of Supervisors 4/26/96 as part of the Land Use Element of the Imperial County General Plan. (Prepared in 2008 as exhibit for Comments on USG FEIR/EIS by EH)
- 589 Phreatophytic vegetation/mesquite hummocks downgradient from Boyer well in Ocotillo-Coyote Wells Groundwater Basin E SE of Nomirage by Hwy 98 Google aerial photo .jpg
- 590 Sierra Club March 2008 Final comments on US Gypsum Final EIR/EIS (majority of comments are related to hydrology and the issues related to the Ocotillo-Coyote Wells Sole Source Aquifer
- 591 Harmon Testimony dated July 21, 2010 for Intervenor Budlong re Alternative Water Supply from well 16S/9E-36G4. Overlying the Ocotillo-Coyote Wells Sole Source Aquifer.
73. **Concerns about Computer models and Todd reports From Sierra Club comments on US Gypsum FEIR/EIS March 2008** *(Text is verbatim with notes in italics and parentheses)*

**USG FEIR/EIR comments from Sierra Club San Diego Chapter & Desert Protective Council**  
 3/08 *(The following is part of a 101 page comment letter)*

**A FEIR/EIS cannot correctly locate USG project water wells .**

1. FEIR/EIS fails as an informational document, in part, because it cannot correctly locate USG project water wells even though a substantial portion of the documents relate to groundwater issues in two separate groundwater basins. For these and other reasons cited in these comments, the FEIR/EIS should not be certified as being properly prepared consistent with the requirements of CEQA and NEPA.
2. Notice for 2/13/08 Public Hearing before County Planning Commission included incorrect location of USG water wells. Notice for 2/13/08 Public Hearing before County Board of Supervisors included *no* location of any USG water wells, either existing or proposed.
3. USG DEIR/EIS and FEIR/EIS and consultant’s analyses in Appendices are notable for their seriously flawed map making with examples of the “migrating” USGS monitoring water wells, missing quarry well #3, and USG’s wandering industrial export water wells.

4. Locations of wells differ from map to map or figure to figure and explain why the public can place little credibility in the “consultants” analyses in the draft EIR/EIS. Maps in the EIR are incorrect and cannot consistently or correctly locate the USG wells whose proposed uses are one of the subjects of the EIR, nor can they consistently correctly locate USGS monitored wells.

#### **Incorrect locations of USG water supply wells**

5. DEIR Fig. 1.0-1 (at p. 1.0-3) shows USG wells south of Nomirage in or near wilderness; the very next map, DEIR Fig. 2.0-1 (p. 2.0-3) shows the USG water tank and wells in the Myers Wash about one mile to the west of Ocotillo. However, USG wells are located with one just east of Ocotillo Unit 2, the other two along the frontage road just south of I-8 between Ocotillo and Nomirage as residents and USGS can verify. The correct location of USG wells, their identification similar to other wells, the amount of pumping of each USG well, and the quality of water in each USG well must be correctly disclosed if potential impacts of existing USG and increased pumping by USG wells is to be correctly interpreted.

*(Beginning on page 7 -16 of 101 from the comments is information relevant to the CEC analysis related to the Boyer Well and the Ocotillo-Coyote Wells Groundwater Basin Sole Source Aquifer and computer models. My apologies for the strange numbering, original formatting was lost on copying.)*

#### **USG FEIR relies on “projections” not actual information from Drillers Reports**

6. .FEIR 4.0-29 and FEIR Appendix C-1, Todd’s 7/30/07 Fig. 3B “Cross Section near Yuha Estates” (copied from USG’s BE03 Fig. 3-1D) includes a very curious notation in very tiny print. Under the Heading “NOTES” it states that: “*All wells except 11B1 are projected.*” From the Notes, it appears that for the 8 wells shown in the figure, only one used real information. Why? If geologic information presumed to be from the drilling cores brought up at the time the wells were drilled and included on well driller’s logs submitted to the State are included for one well, why weren’t they used for the geology of all wells? The owner of well 11H3 was present during the drilling of the well and observed the meticulous notes on the well driller’s log that were made by the well driller, Rex Anderson, the same well driller who drilled well 11B1. Even if the well drillers did not describe specific geologic formations in the driller’s logs, the information on the logs seems more appropriate rather than projecting subsurface geology. If there is some reason for using projected rather than reported information, that explanation should have been included in the FEIR/EIS.

7. If one is trying to understand the underlying geology of the groundwater basin, it seems more appropriate to use real recorded well drillers’ observations rather than use “projections”. Or is it that the real geologic cores did not support the conclusions the report was intended to reach? Perhaps if the figures had used real information instead of “projections” the report might not have reached some of the erroneous conclusions about water quality and therefore underlying geologic formations for the Yuha Estates area. It makes a difference to know information about specific wells that have been part of the monitoring program and seen well driller’s logs being prepared for one of the wells in question.

7. Similarly, FEIR 4.0-28 Fig. 3A “Cross Section near Ocotillo” (Todd 7/07 copied USG’s BE03 Fig.3-1E) includes a similar very curious notation in very tiny print. This figure in

even smaller print states that “*All wells except wells 29L1 and (what looks like) 14N1 are projected.*” Again, why not use information from well driller’s logs. If only two wells are not projections, that means the information for 9 of the 11 wells is projected. Is that because only the data from two wells fit the report’s desired conclusions? If not, why not use data from well drillers’ logs?

**Drillers Reports indicate highly variable geology variable and complex geology within the alluvium of the Ocotillo area**

8. The text from a 3/21/03 e-mail correspondence from EIR consultant, A. Kopania, to B-E’s Rhone and three hydrogeologists at USGS, Subject “Ocotillo Modeling” (Exhibit 243 at p. 3) expresses concerns about the “highly variable geology variable geology within the alluvium of the Ocotillo area” based on information in well “Drillers Reports” which apparently were available for use by consultants for this EIR/EIS review. Kopania’s email discussion of variability of materials reported in Drillers Reports includes the statement that: “These observations indicate that the thickness of the alluvium can vary by over 200 ft in relatively short distances within and west of Ocotillo, probably due to the fault blocks discussed above...” Kopania also noted that based on information in Drillers Reports that the depth at which Tertiary Palm Springs Formation west of Nomirage and south of Ocotillo are found “is highly variable over relatively short distances.” (Exhibit 243 at p. 3.)
9. There is also considerable discussion and concerns about interpreting information in Drillers Logs in the 3/25/03 memorandum from Ron Schnabel of B-E to Dick Rhone of B-E, but not to Kopania. Subject: U.S. Gypsum - Comments from Andrew Kopania via email on 3/21/03. (Exhibit 245) B-E is Bookman-Edmonston the company that prepared the original computer models of the Ocotillo-Coyote Wells Groundwater Basin for US Gypsum Company. This memorandum also points to the complexity of the local geology in at least that portion of the groundwater basin where community and individual domestic wells have been drilled.
10. These communications from County files are part of on-going discussions about the basin by USG’s consulting groundwater modelers at Bookman-Edmonston. Exhibit 244, Ron Schnabel of B-E. 3/13/03. memorandum to Dick Rhone of B-E. Subject: Geologic interpretation of the Ocotillo-Coyote Wells Basin, imperial County, California, with recommendations for changes to the proposed groundwater model. Once again, this document discussed far more complexities of the basin and concerns about interpretations of those differences and complexities than are revealed in the Draft or Final EIR/EIS.
11. When even those doing analysis related to the computer model identify varied interpretations of the information in Drillers Logs and the difficulties that information presents for understanding the basin and the difficulties that those complexities and differences in nearby wells present, it is not surprising that the public places little confidence in the supposed assurances of the model when it still cannot predict USGS monitored water levels. The 5/15/03 email response of Kopania to B-E’s memoranda (Exhibit 246) confirms our earlier and continuing concerns about the model:

“Also, without going in to the technical details too much, it looks like this model will show they are screwed BIG TIME. In the simplest of terms, look at figure 4 of the attachment. In their prior model (and even in my previous assessment) it assumed that 2,100 to 2,400 AF of water per year went into Layer 1 - the zone where the USG wells are screened. They now

have only 1081 AF per year going into this zone! What else could the results show but significant drawdown from the increasing pumping?”

“Maybe this is B-E’s way to “come clean” with USGS? They can say that RDT & USGS constrained them to these conditions (not true, but convenient enough) so they have to live with the results. We’ll see where it all goes soon enough.” (Emphasis in original. Kopania 5/13/03 e-mail to Dave Brown of Resource Design, Subject: Fwd re: Ocotillo GW flow model - steady state simulation. ) ( Exhibit 246.)

### **USG EIR/S hydrology Consultants point out problems with groundwater model**

12. Exhibit 247 makes it even clearer that there are major problems with the model and provides additional reasons why the model is not reassuring. (See: Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum to Heuberger. Subject: Status of Hydrology Evaluation U.S. Gypsum Project” (4 pages with Attachment of 4 pages of 8/21/02 comments from Malcolm Weiss to Brown and Heuberger.) Appended as Exhibit 247) Portions of that Memorandum of special concern follow:
13. “Subsequent test runs of the model indicate that the drawdown trends in the Ocotillo/Coyote Wells area fit the actual data better than they did in previous models. In other areas of the basin, however, the model is not capable of accurately simulating the trends in the actual data, and the magnitude of the drawdowns. This is especially true in a Yuha Estates area, despite the changes made to the model, as described above. Based on these initial results, the USGS has stated that “Considering our level of understanding of the real ground-water system, the uncertainty in model predictions will be large with any flow model for this area, and will be even larger with us all you’d-transport model. Reasonable predictions of worse-case scenarios are all that I expect from the modeling.” (June 16, 2003 each-mail from Greg Lines of USGS)” ( Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p2.)
14. “... The new model however, is still not capable of accurately simulating changes in water levels in the basin. The most notable example of the limitations of the model remains the model level behavior in Yuha Estates. The actual drawdowns during the pumping by the McDougall Water Company were on the order of 70 feet, and it has taken decades for the water levels to recover. The current model predicts only 10 feet of drawdown and shows that recovery should occur almost instantaneously. It should be emphasized, however, that you have Estates is not the only area where the model predictions may be of concern. ” ( Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p. 3.)
15. “B-E previously stated that the conditions in Yuha Estates are different than those in Ocotillo and that it be efficient stay in the model in a Yuha Estates area should not be used as the basis to dismiss the model predictions in the Ocotillo area. This argument is no longer persuasive for three reasons. First, in the revised model, the unique geologic conditions of a Yuha Estates area were included, so the model should provide a more accurate simulation. Second, an error of this magnitude is a valid basis to be concerned about the ability of the model to predict behavior in other areas of the basin under increasing pumping stresses. McDougall increased pumping in the Yuha Estates area by approximately 200 AF/y. Third, if the model is not reliable in areas outside of Ocotillo, then the model does not provide the ability to evaluate alternative pumping locations and can not support the CEQA alternatives analysis.”” ( Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p. 3,4.)
16. “... Unfortunately the revised model still has many of the same limitations as the prior

model did. The inability to adequately simulate the effects of pumping in the Yuha Estates area is especially limiting. *The USGS has probably provided the best summary of what the revised model is capable of stating in that the uncertainty is large and that reasonable predictions of worst-case scenarios are all that can be expected.*” ” (Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p. 4.) (emphasis added)

17. Another Memorandum from Kopania on 6/26/03 to Heuberger, and RDT, BE, USG and USGS, Subject Model Calibration Results, Ocotillo/Coyote Wells Groundwater Basin” (Exhibit 248) contains additional troubling conclusions about any potential reliance on the computer model and any conclusions to be drawn from that model. Specifically, Kopania states that:
  - a. “I am concerned that the model may be showing too rapid of a recovery of water levels in as pumping rates are decreased, suggesting that the recharge and/or transmissivity values are too high.” (Kopania 6/26/03 at p. 1)
  - b. “From a CEQA perspective, we are not as concerned about what impacts the proposed project may cause to USG’s only pumping Wells in Ocotillo. We are more concerned about what will happen to the neighboring Wells.” (Kopania 6/26/03 at p. 2)
  - c. The actual data for well 25K2 in Ocotillo shows periods with a 40-50 ft of drawdown that are not expressed by the model. The 25KK2 well was used by McDougal for export to Mexico and this pumping is included in the model, based on information previously provided to Weizu. Since the model does not predict any drawdown from pumping and 25K2, the model does not appear to be capable of predicting the effects of increased pumping in this area of Ocotillo. This deficiency raises both the technical and CEQA-related issues. The technical issue is the same as at Yuha Estates - McDougall pumped and there were significant drawdowns observed, but the model does not accurately reproduce those drawdowns. From the CEQA perspective, there has been pumping in Ocotillo, not just in Yuha Estates, that has resulted in drawdowns of several tens of feet that are not reproduced by the model. Unfortunately, this limits the use of the model is an evaluation tool for the EIR.” (Kopania 6/26/03 at p. 2)
  - d. “... In general terms, the concern is that the central parts of the basin (such as Ocotillo and Yuha Estates) may be subject to certain thresholds of productivity due to the limited recharge in the basin, the distance from the pumping areas to the recharge areas, in a very slow rate of groundwater movement.” (Kopania 6/26/03 at p. 3)
  - e. “.... If local pumping rates exceed a certain limit, or thresholds, beyond which the assumption of linearity is no longer valid, the rate of drawdown may increase more rapidly. Furthermore, if local recharge is essentially non-existent, and it takes decades for groundwater to migrate laterally from the recharge areas to the area of pumping, a time frame for recovery will be very long.” (Kopania 6/26/03 at p. 3)
  - f. “.... It should also be noted that, during the five-year pumping., water levels in the Yuha Estates area declined continuously and did not stabilize. The current model shows a rapid stabilization of drawdown, not a continuous decline. The pumping by McDougal lasted for five years, but after nearly 20 years the water levels in the Yuha Estates area had not fully recovered. This behavior indicates that the pumping rate exceeded some threshold of stability that resulted in much greater impacts at the pumping well and at the neighboring Wells. The very slow recovery of water levels at Yuha Estates also indicates that, once this

- threshold is crossed, it may take generations to restore, given the limited recharge and the slow rate of groundwater migration from the recharge areas.” (Kopania 6/26/03 at p. 3,4)
- g. “The pumping by McDougal at well 25K2 in the Ocotillo area also resulted in drawdowns of several tens of feet. Thus the potential to reach a threshold at certain pumping rates also may exist in the Ocotillo area. The recovery of water levels at well 25K2 after the McDougall pumping ceased was fairly rapid, indicating the threshold was not crossed in Ocotillo by the McDougall pumping. Unfortunately, the current model does not predict any appreciable drawdowns at well numeral 25K 2 from the McDougal pumping.” (Kopania 6/26/03 at p. 4)
- h. The proposed project involves increasing the extraction rate at the three existing extraction wells from 333 acre-feet per year (1998 baseline quantity) to a maximum of ... 767 acre-feet per year for 50 to 100 years. The change represents more than a doubling of the sustained pumping rate in the Ocotillo area. The magnitude of this increase is greater than the magnitude of the pumping that occurred at well 25 June 2. Thus, there is the potential that a threshold may be crossed.” (Kopania 6/26/03 at p. 4)
- i. “...In addition, the issues described above limit the nature of assessments that can be made with the model. Most importantly, the model is useful for understanding basin-wide trends in the water levels in what may occur with smaller changes in pumping rates, but the modeling conducted to date has not adequately reproduced effects of the larger (> 100 AF/y) increases in pumping rates.” (Kopania 6/26/03, Exhibit 248 at p. 4)

**2008 USG FEIR model information still cannot predict 2007 USGS water level monitoring data so EIR should be recirculated for USGS review**

18. Information in the Planning Dept files reveals the concerns of consultants and USGS identified by documents in the County USG EIR/EIS files and the apparent failure of distribution of the Todd Appendix C-1 to consultants and USGS for review prior to what appears to be reliance on the Todd Appendices for the FEIR. Therefore, our concerns about the FEIR hydrology discussion, interpretation of the County Groundwater Management Ordinance, and mitigation measures in the FEIR only increases and seems well founded.
19. FEIR section 4.3-6, based on the Todd study, includes an analysis without disclosing the data itself and in the process distorts USGS monitoring data and well locations and information about other wells. The water level data is available from USGS both as a graph of monitored water levels or as a table of data for each individual monitored well. Concerns about what appears to be misuse or distortions of USGS monitoring data and well locations have been discussed with USGS’s Dr. John Izbicki and Peter Martin of the San Diego Water Resources Field Office even before there was an opportunity to review Planning Department EIR files and organize communications related to hydrology and the utility and/or deficiencies and/or limitations of the computer model.
20. Therefore, it is the inclusion of two groundwater studies July 30, 2007 and November 2007 (FEIR/EIS Appendices C-1 and C-2) by Todd Engineers for the first time in the Final EIS that requires a recirculation of the EIR/EIS or been included as a Supplemental or Subsequent EIR/EIS, so that all members of the public and organizations, state and federal agency staff from USGS and US EPA that had expressed concerns about impacts of the USG project proposal and preferred alternatives impacts on groundwater resources would have an

opportunity and adequate time to review and consider whether or not the conclusions and use of government monitoring data and maps could be used to support the conclusions in the USG EIR/EIS.

21. The County Planning Department as Lead Agency appears to have committed a serious violation of CEQA when it failed to make these Todd Studies from July 2007 and November 2007 available for public and agency review by all that had previously submitted written concerns relevant to issues prior to inclusion of the information for the first time in the Final EIR as Appendices C-1 and C-2. To schedule and conduct a Planning Commission Public Hearing on the USG project before the Final EIR/EIS is even distributed to federal agencies that commented and before the Final EIR/EIS is even noticed as available in the Federal Register is not only a violation of CEQA and NEPA, but it shows tremendous disrespect of the co-Lead Agency BLM's federal agency NEPA procedural requirements.
22. After taking almost seven years from the date of the Superior Court's 3/29/01 Judgement and Orders to prepare an EIR, there are now serious questions about the County's sudden rush to proceed to a Planning Commission hearing without first being sure that all federal agencies that commented on the 4/06 DEIR had been provided with copies of the FEIR and afforded the CEQA and County Rules required time for review of the Final EIR/EIS. The County's rush to hearing without recirculating new information and without affording federal agencies that commented on the DEIR/EIS an opportunity to review the Final EIR/EIS prior to the County Planning Commission Public Hearing does not appear to be a good faith effort to comply with the Judgment and Orders of the Court which mandated preparation of the USG EIR/EIS.

**USG FEIR & Appendix C-1 provide no water quality data in table and misinterpret water quality of wells**

23. These are serious problems with the FEIR Appendix C-1 of 7/30/07. The USG FEIR/EIS Appendix C-1 Todd Engineers 7/30/07 Review of Groundwater Issues is notable for the misinformation (source unknown) and for its inclusion of Table 1 misleadingly entitled "Water Quality Information from USGS National Water Information System". Todd's Table 1 indicates the State Well Numbers and locations of wells monitored, dates for beginning and ending of monitoring and number of times each well was tested for water quality, BUT absolutely NO information about the water quality in terms of total dissolved solids, specific conductance, chloride or sodium ion concentration, fluoride levels or any other information for the listed monitored wells is included. Appendix C-1, Todd's 7/30/07 document appears to form the basis of FEIR Section 4.3.6 Hydrology and Groundwater. See our Table 10 for water level and water quality data which is available from USGS NWIS websites with links to USGS data sites. Our Table 10 is appended.
24. FEIR/EIS Appendix C-1 Todd Engineers 7/30/07 "Review of Groundwater Issues" requires the public to ferret out the information that one must assume was intentionally withheld from public review. Todd's Table 2 (FEIR/EIS Table 4.0-2 at p. 4.0-34) provided selected information about only 6 of the wells for which water quality data is available at the USGS website. Todd did not even identify the USGS website in either text, table or references. The FEIR simply states that the data is "readily available" from the NWIS, but neither the FEIR vol. I, nor FEIR Appendix C-1 includes the information necessary for the public to search to

ferret out the missing monitoring data. The USGS website with monitoring data used for making tables of water quality data monitoring is: <http://waterdata.usgs.gov/ca/nwis/qwdata>. Again, please see our Table 10 for water quality information about monitored wells throughout the groundwater basin.

**Misunderstanding of water quality and well locations points out limitations of groundwater model**

25. FEIR/EIS 4.0-43 Appendix C-1 Todd's 7/30/07 Figures 11 move wells in Yuha Estates 1 mile to the east onto a BLM ACEC to match erroneous conclusions that these wells should have poor quality water because Todd assumes that these wells must be in a different groundwater layer because there were serious adverse impacts or "significant drawdown" from export pumping (FEIR at 4.0-30) which lasted for 5 years and ceased more than 25 years ago. Apparently, Todd and the FEIR at 4.0-30 erroneously assume that the significant drawdown must mean that these wells are completed in the Palm Springs or Imperial Formation without ever checking the USGS NWIS water quality data. In fact, wells at Yuha Estates have water quality comparable to or better than the mutual water companies serving Ocotillo. (USGS data will verify both of our corrections.) We could find no communications in the Planning Dept files that support conclusions about poor quality groundwater in Yuha Estates.
26. In discussions about "Pumping", FEIR 4.0-51 once again erroneously assumes that wells with excellent quality groundwater at Yuha Estates are completed in Layer 2 Palm Springs or Imperial Formations as are the wells of West Texas which have non-potable water. In phone conversations with Edie Harmon, USGS's Dr. John Izbicki and Peter Martin have both responded that wells with water of the quality USGS has monitored in Yuha Estates mean that the wells are not completed in the Palm Springs or Imperial Formations. Therefore, we continue to believe that the computer model and the assumptions or conclusions related to that model cannot be relied upon for decision-making because at least a portion of the information contained in the FEIR based on that model is simply incorrect.
27. The 7/30/07 Todd report (in FEIR Vol. II Appendix C-1) forms the basis of much of the FEIR Section 4.3.6 Hydrology and Groundwater beginning at FEIR p. 4.0-23, and the errors and misrepresentations of USGS data that occur in the Todd 7/30/07 study are incorporated without attribution, except on Figures, into the FEIR text. (There is uncertainty about which consultant assisted in preparation of the FEIR. Was it Resource Design Technology, Inc, whose name appears on the inside cover of the FEIR Vol. 1, or was it Steve Lilburn who was introduced as the consultant at the Planning Commission hearing?)
28. FEIR Fig 11 "Calibration Targets" (at p. 4.0-43) is identical to the same figure in FEIR Appendix C-1 and repeats the mapping errors of the Appendix. This means that the Consultant who put together the USG FEIR included what appear to be mapping errors just as did the DEIR. Wells in the southern part of the basin migrate 1 mile to the east from FEIR Fig 7 at P 4.0-38 to Fig. 11 FEIR p. 4.0-43. Alternatively, if computer model calibrations must relocate wells to fit the model, then the model must not be very accurate or reliable. Any computer model that cannot predict reality based on the true location of monitoring wells and the true monitored data is of very questionable value for long term predictions and decision-making. The model discussion and maps are simply not very convincing to the public. Indeed, our concerns about the reliability and utility of the model

are also noted in communications from Kopania in exhibits, including Exhibits 247 and 248.

**Bias favoring USG interests is seen in Planning Director approval of asserted historic use ignoring EIR discussion of lack of supporting evidence**

29. The County's overwhelming bias favoring USG interests at all costs has been apparent since the 12/98 Neg Dec and the Planning Director's March 06 grant of USG's requested historic use of an unverified pumping level of 767 AF/Y (FEIR 5.0-209) in spite of the language of the Court of Appeal Decision at p. 15, and in spite of the Draft EIR/EIS discussion of the "US Gypsum Variance" at DEIR p. 3.3-29 (Exhibit 211), DEIR Table 3.3-4 (Exhibit 210). This action by the County Lead Agency's Planning Director makes any private consultant's analysis of the USG EIR hydrology suspect when flaws are readily apparent. The bias toward USG's requests will also be discussed later in these comments in sections on mitigation measures and the significance of making changes requested by USG. (Notable in the USG groundwater well registration is Specific Term T-8, (FEIR 5.0-211), the iteration of the extent of USG's indemnification of the County from any claims or actions against the County related to registration and its presumed entitlement and the accompanying pipeline, the uses of both of which are the subject of the Court ordered EIR.) See Exhibit 227, which is FEIR pages 5.0-209 through 5.0-211.

**"U.S. Gypsum Variance"**

30. The "US Gypsum variance" refers to the difference between water used at the plant based on production versus the inflated amount reported by US Gypsum to USGS in 1975. Specifically:

"For the period from 1925 through 1975, USG reported water use to the USGS for use in the USGS groundwater modeling study (USGS, 1977). The basis for the pumping rates reported over this time period are uncertain. For the period from 1970 through 1980, USG also provided Bookman-Edmonston estimates of water use based on wallboard production rates (Bookman-Edmonston, 1996, page 6-2). Bookman-Edmonston reports "Estimates of water use provided to USGS are 70 percent greater than estimates of water use based upon production records during 1970 to 1975 (the only years where these records overlap). The difference could not be reconciled." Table 3.3-4 shows the water use reported to the USGS and the values based on production rates for the period from 1970 to 1975. The rates reported to USGS range from 575 AF/yr to 767 AF/yr. The rates based on production range from 338 AF/yr to 451 AF/yr. The difference between these two sets of data is referred to as the "U.S. Gypsum Variance" on Figure 3.3-8, Annual Water Production." (USG DEIR p. 3.3-29.) (See Exhibit 211.)

31. The FEIR/EIS at 4.0-54 also mentions the difference between the amount of pumping reported by USG and the amount ascribed by USGS without apparently recognizing that it was USG that supplied the information to USGS. The FEIR states:

"USG has estimated pumping for 1970 through 1980 based on wallboard production at about 400 AF/Yr or two thirds the USGS estimate. USG and its consultants could not reconcile the difference between USGS and USG estimates. This may be due to the changing water use in wallboard production; the amount of water needed in production has

changed over the years as USG improves its water use efficiency.” (FEIR 4.0-54.) (Exhibit 220)

32. A number of documents in the Planning files document USG’s continued insistence that it is or was entitled to use 767 AF/Y even before the Planning Director’s letter of 3/06. Examples of such include Exhibit 255, a 6 page letter Weiss, M. 6/20/03 to Heuberger re “U.S. Gypsum EIR Status at p. 2 which states that: “USG remains satisfied with the 767 AF/Y historical use rate.”

**Consultant states B-E noted USG records reveal production may have been 200-250 AF/Y not 600-700AF/Y as reported to USGS**

33. The above FEIR text is very interesting discussion made even more interesting by the following text from a 5/31/02 email communication from Andy Kopania to Dave Brown at Resource Design, “Subject USG Data Needs”, included as Exhibit 235. After quoting from a Bookman- Edmonston study this e-mail continues:

“I have the US Gypsum records provided to the USGS. This is the data set that shows a brief period of water use up to 600 to 700 AF/yr (this occurred only from 1972-1974). According to B-E, other records that they were provided by US Gypsum indicate production may have been only 200 to 250 A AF/yr during this same time. !!!! These records are not provided in the B-E report, only referenced in the text. Although this is going to be extremely uncomfortable, US Gypsum needs to provide us with those records BECAUSE THEY ARE DISCUSSED IN THEIR OWN CONSULTANTS REPORT. I do not see how I can complete my analysis without these records, unless I just used the 70% number reported by B-E. Note that this observation by B-E, US gypsum’s own consultant, undermine the credibility of the claim that they once pumped up to 700 AF/yr and are now planning to stay within their historic usage.” (5/31/02 email communication from Andy Kopania to Dave Brown at Resource Design, “Subject USG Data Needs”. Emphasis in original.) (Exhibit 235.)

**Correct Well Locations Are Critical to Assess Accurately Impacts on Ground water**

34. The 7/30/07 “Review of Groundwater Issues” by Todd Engineers (FEIR Appendix C-1) does no better than the DEIR at locating domestic monitoring wells consistently when to have them migrate about a mile or more to the east onto public lands better fits the conclusions of the report. Todd Fig. 4 and FEIR Fig. 4(at 4.0-32) “Wells with Water Quality Data” and Todd and FEIR Fig. 7 “Wells with Recent Water Level Data” (FEIR at 4.0-38) correctly locate some of the wells at Yuha Estates, but some migrate from one part of the subdivision to another from map to map. Fact: Wells 11G1 and 11G2 are on the McDougal and Gallagher properties, but 11G1 is to the south of 11G2 on the west side of Hwy 98, well 11H1 is on the west side of Hwy 98 and 11H3 is on the east side of Hwy 98 (not really accurate on Fig. 4). By Fig. 7 well 11H3 has been moved to the west of Hwy 98 to the north of other wells (it is on the east side of Hwy 98) and 11G4 has been incorrectly located to the east of 11G1, (in fact it is several hundred feet to the west, but it is the second McDougal well, unfinished and unused). Why is well location important? Because the extent to which domestic wells were affected by McDougal’s export pumping of well 11G1 was related to the distance from 11G1 and whether the well was located upgradient or down gradient from the export well, even though all wells were located within the 160 acre subdivision. Kopania’s concern about large volume pumping on nearby wells is noted in Exhibit 248 at p.2.

Kopania's concern about using the data from 11G1, the former export well in Yuha Estates for model calibration is also noted in Exhibit 248.

35. However, because Todd (7/30/07 Appendix C-1 at p. 7) and FEIR want readers to assume that these wells are "characterized by relatively poor quality water" these wells in Todd's Fig. 11 have suddenly migrated more than a mile to the east and are now mysteriously located in the BLM Yuha Desert Area of Critical Environmental Concern (ACEC), in a place where there are no roads and no private property! Since when is a TDS of about 300 as in USGS water quality monitoring well 11H3 (TDS of 280 in 2001) considered "relatively poor quality" water? It does not appear to be poor quality in FEIR Fig. 5 at 4.0-33. Just four months later in Todd's November 2007 "Water Supply Assessment", (Appendix C-2, Fig. 7) (identical to FEIR Fig. 7 at FEIR p. 4.0-38) the wells had once again migrated back 1 mile to their still not yet correct locations with respect to Hwy 98. The Todd Report's Placement of wells in the wrong locations in Yuha Estates in the SE portion of the basin is important, because this is the area of the basin where surrounding domestic and unused wells showed the greatest effects from export from a centrally located well 11G1.
36. These comments were prepared with the input of the owner of well 11H3 who has lived in the Yuha Estates subdivision for more than 30 years and is familiar with both the locations of all wells and the historic and continuing good quality water, water quality that is in fact of comparable or better quality than that of the two mutual water companies serving subdivisions in Ocotillo, based on numerous reviews of USGS monitoring data over the past 30 years. (See our Table 10 for water quality and water level information, both historic and current.)
37. Well location and use of data from different USGS monitoring wells within the groundwater basin should have been checked with USGS or with well locations on USGS NWIS website before releasing the USG EIR/EIS for public review. So much of the information in the draft FEIR relating to ground-water hydrology and quality is simply wrong. USGS staff also have field monitoring logs. With that information, the FEIR might have been able to place monitoring wells on Figures with the correct relationship to each other and to help explain what is really happening in different parts of the groundwater basin. (In FEIR Fig. 4, 5 well locations are incorrect, as is Figure 11.)

**USG FEIR includes information about non-existent wells and/or wells not monitored by USGS**

38. FEIR 4.0-30 states that "the other well [monitored for water quality] is located near Yuha Estates." Yuha Estates is a rather grand sounding name for a not affluent looking 160 acre subdivision with just 16 lots (majority vacant) surrounded by the Jacumba Mountains Wilderness and the Yuha Desert Area of Critical Environmental Concern, both managed by BLM. FEIR 4.0-45 describes well 11G4 as near Yuha Estates rather than in Yuha Estates, and, just three pages earlier, FEIR 4.0-42 identified well 11G4 as being the well in Yuha Estates that exported water to Mexico. In fact well 11G4 is an unused well located on same lot as well 11G1 which exported water. The only wells monitored in T17S R10E Sec. 11 are all in the residential subdivision with excellent quality groundwater, not somewhere on public lands. (See FEIR Fig. 5 at p. 4.0-33 for confirmation of water quality.) (See our Table 5, list of discrepancies and internal inconsistencies, for information on these and other wells mischaracterized. It is significant because locations of monitored wells tell much about aquifer response to pumping if the locations and data are correctly interpreted.)

39. Local residents in different parts of the groundwater basin have found so much misinformation that there is little credibility placed in the conclusions of the FEIR, the technical Appendices, or the computer modeling. We remind the County and BLM that DEIR Fig. 1.0-1 and 2.0-1, the figures depicting USG project components could not correctly locate the US Gypsum wells that are the subject of the EIR/EIS review! The Notice mailed by the County to residents for the 2/13/08 USG Planning Commission hearing also depicted an incorrect location for the US Gypsum wells. See Table 5 for a list of some of the important misinformation about locations and uses of wells, and a list of the non-existent wells discussed by both Todd and the FEIR. The apparent inability of the County to determine what map correctly depicted the location of USG existing and proposed wells for the USG expansion project became even clearer when the map included on the back of the County Notice for the 3/18/08 appeal of the Planning Commission approval to the Board of Supervisors did not locate any water source for the operation of the Plaster City factory nor the location of the proposed well for quarry dust suppression, or the location of the community of Ocotillo, whose residents received copies of the hearing notice. See Exhibit 256, Notice of Public Hearing & Scheduled Hearing Date(s) for Appeal #08-0001 of the US Gypsum Final EIR/EIS before the Board of Supervisors 3/18/08, postmarked 3/5/08.
40. FEIR includes water quality data for well 29D1 in both a Table and in a graph; however, data for well 29D1 is not in USGS NWIS when we obtained data from that website. FEIR Fig. 6 “Water Quality Trend Differences by Area” includes bar graphs for a well identified as 29D1. FEIR Table 4.0- 2 “Comparison of Water Quality by Well Location”( FEIR at 4.0-34) also includes water quality data for well 29D1. However, none of the Figures depicting locations of wells for any kind of USGS data, either water levels or water quality identifies a well 29D1. Similarly, our review of water quality data at the USGS NWIS water quality website contains no water quality for any well identified as 29D1 and neither does FEIR Table 4.0-1 “Water Quality Information Available from the USGS National Water Information System (NWIS)” at FEIR 4.0-31. From what source did the information in the table and the graph for well 29D1 come or what is the correct well identifier and location for this well? This is an example of the inaccuracy of analyses in the Todd study and FEIR. Both the FEIR Table 4.0-2 and Fig. 6 are identical to those in Appendix C-1.

*(Conclusions to comments on USG Expansion are modified to be applicable to the CEC:)*

41. From a recent book review comes wisdom and advice for the future and for decision-makers as noted in these concerns related to the proposed USG reliance on increased amounts of potable groundwater for export for non-overlying industrial uses from an already overdrafted groundwater basin:

"We're not good at planning for our great-grandchildren yet this is what is required of our generation and those who follow," he writes. "Drought and water are probably the overwhelmingly important issues for this and future centuries, times when we will have to become accustomed to making altruistic decisions that will benefit not necessarily ourselves but generations yet unborn. This requires political and social thinking of a kind that barely exists today." (Wilkinson, T. 3/4/08. "Climate change's most deadly threat. Anthropologist Brian Fagan uses Earth's distant past to predict the crisis that may lie in its future." Christian Science Monitor at <http://www.csmonitor.com/2008/0304/p.13s02-bogn.html>)

42. It is recommended that Imperial County (*here the CEC*) now make a decision that will benefit future

generations of overlying residential users of potable groundwater in the Ocotillo-Coyote Wells Groundwater Basin/Sole Source Aquifer by requiring USG's industrial use of water for the manufacture of wallboard to come from the Colorado River from IID's Westside Main Canal as approved by the IID decision of April 2006.

### **References cited in comments on the USG Expansion/Modernization Project & Final EIR**

Bookman-Edmonston 1996 "Ocotillo/Coyote Wells Basin Hydrology and Groundwater Modeling Study" (BE96) prepared for U.S. Gypsum Company. Some data is from the BE96 tables. The 1996 version contains more data, but was revised with a 1/2004 date for the 4/06 USG EIR.

Bureau of Land Management (BLM) April 16, 1981 Decision "Right-of-Way Granted" for CACA 8683.

BLM Geocommunicator Land and Minerals Records Reviewer [www.geocommunicator.gov](http://www.geocommunicator.gov)

California Constitution Article X

California Environmental Quality Act (CEQA), Public Resources Code Sec. 21002

California Environmental Quality Act (CEQA) Guidelines, CCR Title 14 Sec. 15021 (a) (2), Section 15088 .5

CA Water Code Sec. 106 domestic use priority

Castrey, William. 5/21/01 Declaration under penalty of perjury of William A. Castrey, USG Plaster City Plant Manager, Exhibit in Support of Motion to Recall Remittitur in Court of Appeal Case D034281 Sierra Club v. County of Imperial.

County of Imperial 3/04/05 "Assessors Current Roll" for APN 0343609101 160.67 Ac at Plaster City found in Planning Dept. File for Permit Application No. 39898.

County of Imperial Planning and Building Dept. USG Permit Applications and inspection sheets for USG expansion/ modernization activities at Plaster City facility, water well and pipelines in Ocotillo area, and Fish Creek quarry from 1996 through 2007.

Fitzgerald, Rob 3/11/08 estimator for PrimeTime Construction 619-442-5556.

Gary, In Post Tribune 10/2/97 site chosen for "state tax incentives and infrastructure funding"

Google Earth website for aerial photos.

Huff, Julia . USGS 1/29 & 30/08 assistance accessing USGS groundwater quality data from NWIS website.

Imperial County December 2003 "Rules and Regulations to Implement California Environmental Quality Act (CEQA) as amended" at Section 8: Preparation of Environmental Impact Reports (EIR) (F)

Final EIR (FEIR) (3)

Imperial County's Groundwater Management Ordinance, (Title 9 Land Use Code, Div. 22 Groundwater Management, Sec. 92201.00 et seq)

Imperial Irrigation District (IID) submitted to BLM an "Application for Right of Way for Power line and Water Line over Public Lands of the United States" which was received by BLM Sacramento CA office on Aug 27, 1980.

Izbicki, John PhD. USGS on 1/30/08 re use and interpretation of USGS water level, water quality and precipitation data and their interpretation re the Ocotillo-Coyote Wells Groundwater Basin, and appropriateness of using data as measurements of water level in feet above mean sea level to describe declining water levels in the basin.

Kahrl, William L., et al. 1978. The California Water Atlas. Publ. State of California, p. 103-104.

Kirkland, T.N. & J. Fierer. 1996. Emerging Infectious Diseases V.2 No.3. "Coccidioidomycosis: A reemerging infectious disease." p. 1, 3. #69

Kunzig, Robert. 2008 "Drying of the West" in National Geographic February 2008.  
<http://ngm.nationalgeographic.com/mgm/2008-02/drying-west/kunzig-text.html> )

Martin, Peter. Projects Manager, USGS, California Water Science Center, 1/31/08 re use and interpretation of USGS water level, water quality and precipitation data and its interpretation re the Ocotillo-Coyote Wells Groundwater Basin and problems associated with groundwater model and monitoring and mitigation proposals related to the USG EIR.

Judge Judith McConnell in August 31, 2000 Statement of Decision in Case No. 676630 Save Our Forests and Ranchlands v. County of San Diego. Now Justice McConnell of Court of Appeal, Fourth District, Division One.

Mitchell, Richard. Former Imperial County Planning Director, 2/27/81 to USG RE Water Usage in the Ocotillo-Coyote Wells Ground Water Basin. Court of Appeal Case No. D034281 Clerk's Transcript on Appeal, vol 2 p. 306, 316.)

Ocotillo/Nomirage Community Area Plan. 1994. Part of the Land Use Element of the Imperial County General Plan adopted by the Board of Supervisors 4/26/94.

Rice, P.A. fall, and winter 2007-2008. Lafayette, CO. Former environmental reporter with the Imperial Valley Press, discussion of issues and assistance with research.

Rockwell, Thomas. PhD, SDSU on 1/29/08 re faulting related to the Superstition Hills 1987 earthquake in unpublished student paper on 1990. He did not refer me to any publications of his covering the question of the "Yuha Wells fault" and how it might change whether or not there is a barrier to eastward groundwater flow east of Coyote Wells.

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial.

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial. \_Reporter’s Appeal Transcript 5-17-99 at p. 28.)

Sierra Club v. County of Imperial, United States Gypsum Company, Real Party in Interest, Court of Appeal Case D034281 Decision 10/26/00, Court of Appeal file recalled from storage and reviewed in January 2008

Skriwan, James. USGS 1977 “Digital - Model Evaluation of the Ground-Water Resources in the Ocotillo-Coyote Wells Basin, Imperial County, California”

Sunrise Powerlink DEIR/EIS 1/2008 223, Fig. C-9 from 1/2008 Project, SCH # 2006091071

Thomas, A. and A. Stinson, 1990. “Northeast striking faults of the Yuha Desert southwestern Salton Trough, southern California.” p. 126-145, in Guidebook for Friends of the Pleistocene Winter Fieldtrip 1990 Western Salton Trough Soils and Neotectonics.

Verbrough, Dick, 3/8/08. DB Pump and supply. Phone conversation about PVC water pipe, costs and capacity and removal of existing 8.5 mile pipeline from Ocotillo to Plaster City..

Wilkinson, Robert 2008 background for lecture on climate change in the desert at Joshua Tree NP on 2/8/08.

Wilkinson, R. & D. Graves. 6/2006. Rethinking Water Policy Opportunities in Southern California , An Evaluation of Current Plans, Future Uncertainty, and Local Resource Potential. Executive Summary at p. 7 of 88 pp. on internet website of publication title at <http://www.bren.ucsb.edu/academics/WaterPolicyProgram.htm>

University of Arizona climate change maps are available at:  
[http://www.geo.arizona.edu/dgesl/Assets/research\\_maps/climate\\_change/](http://www.geo.arizona.edu/dgesl/Assets/research_maps/climate_change/).

U.S. Bureau of Mines Mineral Commodity Summaries for Gypsum for years prior to 1997.

US EPA 3/20/95 document “Technical support document for the review of the Ocotillo-Coyote Wells Sole Source Aquifer Petition”. (Court of Appeal Case No. D034281 Clerk’s Transcript on Appeal, vol 2 p. 252.)

USG 6/2000 “Respondent’s Brief of United States Gypsum Company in Court of Appeal Case No. D034281, Sierra Club v. County of Imperial at p. 14, fn 12.

[www.USG.com](http://www.USG.com) USG Corporation website source of Annual Reports and press releases in addition to information on quarterly filings, construction and closings of factories in various parts of the country. Citations to specific information on website is included at the end of each Table.

USG News and Events 1.29/08. “USG Corporation Reports Fourth “Quarter 2007 Net Sales of \$1.2 Billion and a Net Loss of \$28 million” at p1

USGS Annual Mineral Commodity Summaries for Gypsum from 1997 to present. Information is available for decades for all drywall companies at <http://minerals.usgs.gov/minerals/pubs/commodity/gypsum/>

USGS groundwater monitoring information data for the Ocotillo-Coyote Wells Groundwater Basin at the following source <http://nwis.waterdata.usgs.gov/ca/nwis/gw> for individual well sites in the USGS Imperial County groundwater monitoring program. The water level data is available from USGS both as a graph of monitored or as a Table of data for each individual monitored well. Water quality data for the individual wells monitored can be obtained at <http://nwis.waterdata.usgs.gov/ca/nwis/qwdata/>

USGS topographic map entitled “Location of wells – Ocotillo-Coyote Wells area” provided by USGS to E Harmon in 1979.

US Securities and Exchange Commission EDGAR Archives filings for companies that are publicly held. Source of financial information updated by corporate filings on a regular basis, including quarterly and annual reports. 2007 10-K Annual Report for USG Corporation was available at the SEC website on 2/15/08 at <http://www.sec.gov/Archives/edgar/data> as USG Corp or SIC 3270 or CIK 757011.

With special appreciation to the following who assisted with research, suggestions, editing, and inspiration: Donna Tisdale, Jim Harmon, Martha Bertels, Patricia A. Rice, Evelyn Sepin, Larry Silver, Alice Schori, Ellen Shiveley, Jean Costa, Sandy Kerner, Fred Cagle, Cheryl Reiff, Larry Klaasen, Richard Miller, Lee Olsen, David Huntley, Roger Flynn, Julie Hamilton, Richard Wharton, the Environmental Law Clinic at USD, Willow Wray, and the many academic and government scientists and attorneys who over the years willingly engaged in serious and detailed discussions of both the technical, groundwater, biological, and legal issues, but prefer to remain anonymous.

Sincere appreciation also goes to California State Senator Denise Moreno Ducheny, Jonathan Hardy of Senator Ducheny’s staff, U.S. Congressman Bob Filner and his Community Representative Juanita Salas, and Caridad Sanchez, District Director for U.S. Senator Barbara Boxer, who all so generously listened and responded to concerns about County implementation of its CEQA Rules and the need for the Planning Commission hearing to be rescheduled until a time after all federal agencies that had responded to the Draft EIR/EIS had an opportunity to receive the Final EIR/EIS in compliance with the provisions of CEQA and NEPA.

#### **Exhibits for Sierra Club Comments on USG Expansion/Modernization Project and FEIR/EIS**

- 116 Jly gypsum summary 1. Undated, probably 4/2001. “Background - U.S. Gypsum”. Found in Planning Dept. USG files during Public Records Act search in 2001. Includes discussion about USG threat to sue for failure to deliver on the economic incentive program in 1999, County having 60 days to revoke all permits covering the new expansion to comply with court orders, preparation of EIR,

and the standard requirement for demolition of all work done to date for any project built without permit.

- 200 Public Citizen 1/30/06. “USG Corp. Bankruptcy agreement shows how Asbestos Trust Fund will hurt victims, allow companies to reap huge windfalls. *Agreement calls for company to create its own fund for victims, but if federal fund now before Congress is OK’d, USG will pay billions less.*” [http://publiccitizen.org/pressroom/print\\_release.cfm?ID=2123](http://publiccitizen.org/pressroom/print_release.cfm?ID=2123).
- 201 Imperial Irrigation District Application for Right of Way for Power Line and Water Line over Public Lands of the United States, August 12, 1980. ( ROW = Right-of-Way)
- 202 BLM Right-of-Way Grant to IID April 21, 1981 (CACA8683).
- 203 BLM ROW Case Recordation CACA 8683 showing annual lease payments are current
- 204 Aerial photo showing the BLM CACA8683 ROW up to the Plaster City property line also shows location of Centinela State Prison in SE corner of T15S R11E.
- 205 USGS Topo map “BLM Right-of-Way CACA 8683 granted to IID April 1981 to USG property” line
- 206 US Gypsum Company Plaster City Plant Historical County Water Use Records, See also Case file in Court of Appeal for Case No. D034281 at pp. 457
- 207 1/5/76 letter from USG to USGS re water use, See also Case file in Court of Appeal for Case No. D034281 at pp. 459.
- 208 USG’s “Plant and Village Yearly Water Usage”. See also Case file in Court of Appeal for Case No. D034281 at pp. 460 as reported by USG to USGS in 1976.
- 209 USG estimated water use reported to USGS in 2/17/76 See also Case file in Court of Appeal for Case No. D034281 at pp. 462.
- 210 “Current and historic groundwater use, Ocotillo/Coyote Wells Groundwater Basin,” DEIR at p. 3.3-28
- 211 “U.S. Gypsum Variance” discusses difference between water used and what was reported to USGS. USG DEIR/EIS p. 3.3-29
- 212 DEIR Fig. 1.0-1 Regional Location incorrectly places USG water Supply wells south of Nomirage and south of State Highway 98
- 213 DEIR Fig. 2.0-1 Location of Project Components incorrectly places Plaster City Water Tank and Well Site in the Myer Wash more than 1 mile to the west of the southern most subdivision in Ocotillo
- 214 FEIR Fig. 7 and FEIR 11 depicting USGS monitoring wells in Yuha Estates in different locations
- 215 New York Times 12/30/07 “Infection hits a California prison hard”
- 216 Wikipedia “Centinela State Prison” article downloaded 1/1/08.

- 217 Figure depicting water level decline from Ocotillo to Yuha Estates in feet Above Mean Sea Level which eliminates topographic variations in land surface elevations.
- 218 Minute Orders of Imperial County Board of Supervisors 4/26/94 set a limit of 1.5 AF/Y per dwelling unit in ONCAP and for all residential development standards requires a site-specific geohydrology study if a major subdivisions to be served with groundwater and if commercial development requests to use more than 5 AF/Y of groundwater.
- 219 Univ Arizona projections for temperature and rainfall, University of Arizona climate change maps are available at: [http://www.geo.arizona.edu/dgesl/Assets/research\\_maps/climate\\_change/](http://www.geo.arizona.edu/dgesl/Assets/research_maps/climate_change/).
- 220 FEIR 4.0-54 discussion of differences between what USG wallboard production water use indicates and the higher USGS estimate (provided by USG according to Court records and DEIR 3.3-29)
- 221 Map depicting location of private land in the Ocotillo-Coyote Wells Groundwater Basin and within the Ocotillo/Nomirage Community Area Plan. ONCAP Fig. 1 Ocotillo/Nomirage Community Area. 1994.
- 222 FEIR 5.0-205 USG rejects both the Partial IID Water Supply Alternative as being “infeasible because its implementation is remote and speculative” and Full IID Water Supply Alternative because it would “require additional speculative permitting and the costs would be prohibitive”.
- 223 Fig. C-9 from 1/2008 DEIR/EIS for the Sunrise Powerlink Project, SCH # 2006091071 shows location of Centinela State Prison S of Naval Air Facility.
- 224 USG News and Events 1.29/08. “USG Corporation Reports Fourth “Quarter 2007 Net Sales of \$1.2 Billion and a Net Loss of \$28 million” (4 pages) from [www.usg.com](http://www.usg.com). (Lists net sales for 2007 at \$5.2 billion. on p.1.)
- 225 FEIR p. 4.0-22 discussion of Lead Agency interpretation of effects of Planning Director 3/8/06 “approval” of USG asserted historic use, and the Groundwater Management Ordinance on future use of groundwater by overlying property owners in the groundwater basin
- 226 FEIR discussion of overdraft in the groundwater basin from which USG is currently exporting water for non-overlying industrial use more than 8 miles from its wells FEIR 4.0-55
- 227 Planning Director 3/8/06 approval of USG asserted “historic use” of 767 AF/Y groundwater from 3 wells and the pipeline, and Term T-8 USG indemnification of County from any challenges of this approval. FEIR 5.0-209 to 5.0-211.
- 228 Aerial photo showing USG wells with vegetation growing to east of each well where water spills onto ground.
- 229 Harriet Allen 7/6/02 Scoping letter to BLM re NOI for EIS related to USG expansion, with attached exhibits.
- 230 Dorothy Hebler 6/5/02 Scoping letter to BLM
- 231 BLM’s Linda Self 5/26/06 memo to RDT’s Dave re BLM Scoping transcript and Scoping letters submitted to BLM and missing from draft EIR/EIS.

- 232 “Catalog of Documents for U.S. Gypsum” to be used for preparation of the EIR in a heading after “Water Quality” and before “Biological” were the documents from “Eddie Harmon/Sierra Club Comments. 8. Scoping Comments and Exhibits (3 volumes) re US Gypsum proposed expansion”. Pages 4 and 5 of that Catalog includes a list “New exhibits submitted in 2002 (through 116)” giving the page numbers of the Sierra Club submissions all typed by the same computer that made the rest of the “Catalog”. The last exhibit identified by number is Exhibit 116. (Catalog list includes 7 pages, “096-03 Catalog of Documents. Version 6.doc” )
- 233 4/30/02 email from Planning Director Heuberger to RDT’s David Brown at pp. 2, 3.
- 234 3/4/02 email from Bruce Steubing to Dave Brown: “If current pipeline can’t handle full volume needed how could it have handled its historical level of 760 acre feet?”
- 235 5/31/02 email communication from Andy Kopania to Dave Brown at Resource Design, “Subject USG Data Needs”.
- 236 9/15/2003 email from Dick Rhone of B-E to Andrew Kopania, includes a list of the amount of water pumped as reported by USG to the County. For 1998, the baseline year, the rate was 333 AF/Y, however, by 2001 it was 433 AF/Y and by 2002 the quantity had increased to 533 AF/Y.
- 237 3/4/02 email from Bruce Steubing to Dave Brown re USG EIR Response to 8 at p.3 re pipeline.
- 238 Fig. 2.0-1 “Location of Project Components” Lilburn Corp for a Revised Draft 9/26/2003 version of the USG Project Description correctly locates a Plaster City water tank and well and which also depicts the location of Quarry Well #3. This Figure was not the one included in the 4/06 DEIR for public review.
- 239 BLM’s Self had sent an email memo to Yasha Saber and Dave Brown at Resource Design on April 29, 2005 with concerns about 2002 Scoping comments received by BLM including three from environmental organizations.
- 240 Notice of Public Hearing of tne USG EIR/EIS for a Hearing Date of December 12, 2007, before the Imperial County Planning Commission, Agenda Item #5. Imperial Valley Press, Dec. 2, 2007.
- 241 Notice of Public Hearing and Scheduled Hearing Date for the US Gypsum project for 2/13/08 includes map with incorrect and incomplete project water wells.
- 242 USG “Annual Groundwater Reports” for the years 1993 through 2001, included annual pumpage for 3 wells combined and residual chloride values on a monthly basis. (9 pages.)
- 243 A. Kopania. 3/21/03 e-mail correspondence from EIR consultant, to B-E’s Rhone and three hydrogeologists at USGS, Subject “Ocotillo Modeling” refers to Drillers Reports and complexities of basin over very short distances.
- 244 Ron Schnabel of B-E. 3/13/03. memorandum to Dick Rhone of B-E. Subject : Geologic interpretation of the Ocotillo-Coyote Wells Basin, imperial County, California with recommendations for changes to the proposed groundwater model.
- 245 Ron Schnabel of B-E. 3/25/03 memorandum to Dick Rhone and others of B-E, but not to Kopania. Subject: U.S. Gypsum - Comments from Andrew Kopania via email on 3/21/03 re complexities of

basin and information from Drillers Reports.

- 246 Kopania 5/13/03 e-mail to Dave Brown of Resource Design, Subject: Fwd re: Ocotillo GW flow model - steady state simulation.
- 247 Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum to Heuberger. Subject: Status of Hydrology Evaluation U.S. Gypsum Project” (4 pages with Attachment of 4 pages of 8/21/02 comments from Malcolm Weiss to Brown and Heuberger.)
- 248 A. Kopania Memorandum on 6/26/03 to Heuberger, and RDT, BE, USG and USGS, Subject Model Calibration Results, Ocotillo/Coyote Wells Groundwater Basin” re thresholds of productivity due to limited recharge and that model could not produce monitored conditions in 2003. (Monitored data is further from the model in 2007 than 2003.)
- 249 Planning Director Heuberger. 9/1/03 communication from to USG’s Malcolm Weiss, RDT’s Brown, Subject USG project includes discussion of “potential alternatives” for water supply, and concerns about the “waste pile” at the Plaster City site.
- 250 Brown’s 9/4/03 reply to Heuberger and Kopania “USG memo on Alternatives”
- 251 USG’s 8/23/03 “Plaster City, California Potential Alternative Water Sources. (Exhibit 251, 4 pages with map provided 1/21/04, 2 additional pages.)
- 252 Heuberger’s 1/25/02 memo to “All Planning Department Staff” re USG Permit
- 253 Kopania, A. 8/15/05, memorandum to RDT’s Brown re “Final Hydrology Issues US Gypsum EIR/EIS”, 4 pgs.
- 254 Kopania & Brown 9/26/05, to Heuberger re “Comments on issues in September 1, 2005 Letter from Malcolm Weiss US Gypsum EIR/EIS”, 6 pgs.
- 255 Weiss, M. 6/20/03 letter to Heuberger re “U.S. Gypsum EIR Status. 6 pgs.
- 256 Notice of Public Hearing & Scheduled Hearing Date(s) for Appeal #08-0001 of the US Gypsum Final EIR/EIS before the Board of Supervisors 3/18/08, postmarked 3/5/08.
- 257 Garfin, G. , & M. Lenart Jan/Feb 2007. Climate Change: Effects oin the Southwest Water Resources. Southwest Hydrology: 16, 17, 34.
- 258 Wilkinson, T. 3/4/08. “Climate change’s most deadly threat: drought. Anthropologist Brian Fagan uses Earth’s distant past to predict crises that may lie in its future.” The Christian Science Monitor Online.
- 259 Mitchell, Planning Director, 2/27/81 to USG RE Water Usage in the Ocotillo-Coyote Wells Ground Water Basin. Court of Appeal Case No. D034281 Clerk’s Transcript on Appeal, vol 2 p. 315, 316 and 306.)
- 260 FEIR Fig. 3A Cross Section near Ocotillo depicts the largest portion of groundwater basin to be poorer water quality formations of Layer 2

- 261 FEIR Fig. 3B Cross Section near Yuha Estates depicts the largest portion of groundwater basin to be poorer water quality formations of Layer 2
- 262 FEIR 4.0-55 from FEIR Sec. 4.3.7 Water Balance Summary
- 263 Cabanilla, R. 5/5/06 re: "Review of USG Draft EIR/EIS for Expansion of Plant" 2 pages.
- 264 Aerial photo depicting location of Plaster City and Centinela State Prison and showing white dust to east of Plaster City facilities from Google Earth printed on 3/12/08.
- 265 Aerial photo depicting location of Plaster City operations from Google Earth printed on 3/12/08.
- 266 Aerial photo depicting location of USG wells in relation to communities of Ocotillo and Nomirage
- 267 Aerial photo of Plaster City plant dated 6/1996, DEIR Fig. 2.0-4
- 268 Brown, D. 8/29/03. Subject "FW: memo to Jurg" re IMSA waste/stockpiles at Plaster City
- 269 Aerial photo of Plaster City plant from BLM Geocommunicator website on 3/14/08