Institute for Environmental Health
Environmental Engineering Laboratory, Inc.
3538 Hancock St. San Diego, CA 92110 | P: (619) 298-6131 | F: (619) 298-6141

TEST REPORT

RECEIVED SEP 2 5 2007

Recipient:	Tom Lindenmeyer JACUMBA COMM.SERVICE DIST. P.O. BOX 425 JACUMBA, CA 91934	**Report Date:**	09/20/2007
		Matrix:	WATER
		Sampled:	08/22/2007 8:20
		Received:	08/22/2007 11:41
		Collection Address:	
Reference:	0736168	**Sample Location:**	Well #4 "Other"
Lab ID:	0736168-001	**Description:**	
Sample #:		**Date Started:**	08/22/2007
Project#:		**Date Completed:**	09/20/2007
Comment:		**PS Code:**	WAT

Coliform Total (2-10) Colilert

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
Coliform, E. Coli.	Absent	None	0	0	1	SM 9223	08/22/2007 14:15	HD
Total Coliform	Absent	None	0	0	1	SM 9223	08/22/2007 14:15	HD

Recipient:	Tom Lindenmeyer JACUMBA COMM.SERVICE DIST. P.O. BOX 425 JACUMBA, CA 91934	**Report Date:**	09/20/2007
		Matrix:	WATER
		Sampled:	08/22/2007 8:15
		Received:	08/22/2007 11:41
		Collection Address:	
Reference:	0736168	**Sample Location:**	Well #6 "Other"
Lab ID:	0736168-002	**Description:**	
Sample #:		**Date Started:**	08/22/2007
Project#:		**Date Completed:**	09/20/2007
Comment:		**PS Code:**	WAT

Coliform Total (2-10) Colilert

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
Coliform, E. Coli.	Absent	None	0	0	1	SM 9223	08/22/2007 14:15	HD
Total Coliform	Absent	None	0	0	1	SM 9223	08/22/2007 14:15	HD

Recipient:	Tom Lindenmeyer JACUMBA COMM.SERVICE DIST. P.O. BOX 425 JACUMBA, CA 91934	**Report Date:**	09/20/2007
		Matrix:	WATER
		Sampled:	08/22/2007 8:00
		Received:	08/22/2007 11:41
		Collection Address:	
Reference:	0736168	**Sample Location:**	Sample Station #4
Lab ID:	0736168-003	**Description:**	
Sample #:		**Date Started:**	08/22/2007
Project#:		**Date Completed:**	09/20/2007
Comment:		**PS Code:**	WAT

Coliform Total (2-10) Colilert

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
Coliform, E. Coli.	Absent	None	0	0	1	SM 9223	08/22/2007 14:15	HD
Total Coliform	Absent	None	0	0	1	SM 9223	08/22/2007 14:15	HD

L = Reporting Limit MCL = Maximum Contaminant Level MDL = Method Detection Limit N/A = Not Applicable

Institute for Environmental Health
Environmental Engineering Laboratory, Inc.
3539 Hancock St. San Diego, CA 92110 | P: (619) 298-6131 | F: (619) 298-6141

TEST REPORT

Recipient:	Tom Lindenmeyer JACUMBA COMM.SERVICE DIST. BOX 425 JACUMBA, CA 91934	**Report Date:**	07/05/2007
		Matrix:	WATER
		Sampled:	05/09/2007
		Received:	05/09/2007 11:24
		Collection Address:	
Reference:	0735093	**Sample Location:**	PS Code 3710011-006(Well #6)
Lab ID:	0735093-002	**Description:**	
Sample #:		**Date Started:**	05/09/2007
Project#:		**Date Completed:**	
Comment:		**PS Code:**	3710011-006

Radium (228)

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
Radium 228	0.0363	pCi/L	1.0	2.0	1	EPA Ra5	06/01/2007	FGL
Radium 228 Counting Error	0.576	pCi/L	-	-	1	EPA Ra5	06/01/2007	FGL

Test Parameters

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
Uranium	ND	pCi/L	2.0	20	1	EPA200.8	05/17/2007	BSK

U = The analyte was analyzed for but not detected at the sample specific level reported.

Approval: _____ QA/QC Officer _____ Director

RL = Reporting Limit MCL = Maximum Contaminant Level MDL = Method Detection Limit N/A = Not Applicable

ENVIRONMENTAL ENGINEERING LABORATORY, INC.
3538 Hancock St. San Diego, CA 92110 | P:(619)298-6131 | F:(619)298-6141 | ELAP Cert.#2616

Recipient:	Tom Lindenmeyer	**Matrix:**	WATER	
	JACUMBA COMM.SERVICE DIST.	**Sampled:**	07/19/2006	8:40
	BOX 425	**Received:**	07/19/2006	11:15
	JACUMBA, CA 91934	**Collection Address:**		
Reference:	0632439	**Sample Location:**	well # 6 other	
Lab ID:	0632439-005	**Description:**		
Sample #:		**Date Started:**	07/19/2006	
Project#:		**Date Completed:**	08/08/2006	
Comment:		**PS Code:**	WAT	

Coliform Total (2-10) Colilert

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
Chlorine Residual	NA	mg/L	0.1	0	1	*SM4500G*	*07/19/2006 15:05*	*Jli*
Coliform, E. Coli.	Absent	None	0	0	1	SM 9223	07/19/2006 15:05	Jli
Total Coliform	Absent	None	0	0	1	SM 9223	07/19/2006 15:05	Jli

U = The analyte was analyzed for but not detected at the sample specific level reported.

Report Date: 08/08/2006

Approval: Director

RL = Reporting Limit MCL = Maximum Contaminant Level MDL = Method Detection Limit N/A = Not Applicable

Environmental Engineering Laboratory
3538 Hancock Street
San Diego, CA 92110
(619) 298-6131

ELAP certificate number 1738

JACUMBA COMM.SERVICE DIST.
BOX 425
JACUMBA , CA
92034

Customer #: 47 Sample #: 30406312
Reference : WELL #6
Sampled : 04/24/03 08:30AM
Received : 04/24/03 11:05AM P.O. #
Comment : COPY: STATE HEALTH DEPT.

Date Started : 04/24/03
Date Completed: 06/05/03

Test Run:	Result:	MCL	DL	Method:
Sulfide, Iodometric	5.8 mg/L		0.1	SM4500
Arsenic	ND ug/L	50	2.0	SM3120B
Barium	ND ug/L	1000	100.0	SM3120B
Cadmium	ND ug/L	5	1.0	SM3120B
Chromium, Total	1.1 ug/L	50	1.0	SM3120B
Fluoride	2.72 mg/L	2.0	0.1	EPA300.
Lead	ND ug/L	15	5.0	SM3113B
Mercury	ND ug/L	2	1.0	SM3112B
Nitrogen, Nitrate (as NO_3)	ND mg/L	45	0.18	EPA300.
Selenium	ND ug/L	50	5.0	SM3113B
Silver	ND ug/L	100	10.0	SM3120B
Aluminum	ND ug/L	1000	50.0	SM3120B
Thallium	ND ug/L	2	1.0	EP200.9
Antimony	ND ug/L	6	6.0	SM3113B
Bromodichloromethane	ND ug/L		0.5	524.2
Bromoform	ND ug/L		0.5	524.2
Chloroform	ND ug/L		0.5	524.2
Dibromochloromethane	ND ug/L		0.5	524.2
Total Trihalomethanes	ND ug/L	100	0.5	524.2
Benzene	ND ug/L	1.0	0.5	524.2
Carbon Tetrachloride	ND ug/L	0.5	0.5	524.2
1,2-Dichlorobenzene	ND ug/L	600	0.5	524.2
1,4-Dichlorobenzene	ND ug/L	5	0.5	524.2
1,1-Dichloroethane	ND ug/L	5	0.5	524.2
1,2-Dichloroethane	ND ug/L	0.5	0.5	524.2

ND = None Detected DL = Detection Limit MCL = Max Contaminant Levels

Reported by Robert L. Chambers M.S. Michael M. Chambers M.S., P.E. Michael Harris PhD

06/10/03
Date

JACUMBA COMM.SERVICE DIST.

Received : 04/24/03 11:05AM Sample# 30406312

1,1-Dichloroethylene	ND ug/L	6	0.5	524.2
cis-1,2-Dichloroehylene	ND ug/L	6	0.5	524.2
trans-1,2-Dichloroethylene	ND ug/L	10	0.5	524.2
Dichloromethane	ND ug/L	5	0.5	524.2
1,2-Dichloropropane	ND ug/L	5	0.5	524.2
1,3-Dichloropropene	ND ug/L	0.5	0.5	524.2
Ethylbenzene	ND ug/L	700	0.5	524.2
Monochlorobenzene	ND ug/L	70	0.5	524.2
Styrene	ND ug/L	100	0.5	524.2
1,1,2,2-Tetrachloroethane	ND ug/L	1	0.5	524.2
Tetrachloroethylene (PCE)	ND ug/L	5	0.5	524.2
Toluene	ND ug/L	150	0.5	524.2
1,2,4-Trichlorobenzene	ND ug/L	70	0.5	524.2
1,1,1-Trichloroethane	ND ug/L	200	0.5	524.2
1,1,2-Trichloroethane	ND ug/L	5	0.5	524.2
Trichloroethylene (TCE)	ND ug/L	5	0.5	524.2
Trichlorofluoromethane	ND ug/L	150	5.00	524.2
TrichloroTrifluoromethane (Freon 113)	ND ug/L	1200	10.0	524.2
Vinyl Chloride	ND ug/L	0.5	0.5	524.2
Xylenes	ND ug/L	1750	0.5	524.2
Methyl tert-Butyl Ether (MTBE)	ND ug/L	5	3.0	524.2
Bromochloromethane	ND ug/L		0.5	524.2
Bromobenzene	ND ug/L		0.5	524.2
n-Butylbenzene	ND ug/L		0.5	524.2
sec-Butylbenzene	ND ug/L		0.5	524.2
Bromomethane	ND ug/L		0.5	524.2
Chlorodibromomethane	ND ug/L		0.5	524.2
Chloroethane	ND ug/L		0.5	524.2
tert-Butylbenzene	ND ug/L		0.5	524.2
Chloromethane	ND ug/L		0.5	524.2
2-Chlorotoluene	ND ug/L		0.5	524.2
4-Chlorotoluene	ND ug/L		0.5	524.2
Dibromomethane	ND ug/L		0.5	524.2
1,3-Dichlorobenzene	ND ug/L		0.5	524.2
Dichlorodifluoromethane	ND ug/L		0.5	524.2
1,3-Dichloropropane	ND ug/L		0.5	524.2
2,2-Dichloropropane	ND ug/L		0.5	524.2
1,1-Dichloropropene	ND ug/L		0.5	524.2
1,1,1,2-Tetrachloroethane	ND ug/L		0.5	524.2
1,2,3-Trichloropropane	ND ug/L		0.5	524.2
Hexachlorobutadiene	ND ug/L		0.5	524.2
Isoporopylbenzene (Cumene)	ND ug/L		0.5	524.2
p-Isopropyltoluene	ND ug/L		0.5	524.2
Naphthalene	ND ug/L		0.5	524.2
n-Propylbenzene	ND ug/L		0.5	524.2
1,2,3-Trichlorobenzene	ND ug/L		0.5	524.2

ND = None Detected DL = Detection Limit MCL = Max Contaminant Levels

Reported by Robert L. Chambers M.S. Michael M. Chambers M.S., P.E. Michael Harris PhD

06/10/03
Date

JACUMBA COMM.SERVICE DIST.

Received : 04/24/03 11:05AM Sample# 30406312

1,3,5-Trichlorobenzene	ND	ug/L		0.5	524.2
1,2,3-Trimethylbenzene	ND	ug/L		0.5	524.2
1,2,4-Trimethylbenzene	ND	ug/L		0.5	524.2
1,3,5-Trimethylbenzene	ND	ug/L		0.5	524.2
cis-1,3-Dichlorpropene	ND	ug/L		0.5	524.2
trans-1,3-Dichloropropene	ND	ug/L		0.5	524.2
Spike-Vinyl Chloride	82.3	%			524.2
Spike-1,1,Dichloroethene	107	%			524.2
Spike-Benzene	97.6	%			524.2
Spike-Chlorobenzene	96.0	%			524.2
Spike-Toluene	100	%			524.2
Spike-Trichloroethylene (TCE)	97.3	%			524.2
Surrogate-4-Bromofluorobenzene	112	%			524.2
Surrogate-1,2-Dichlorobenzened4	108	%			524.2
Alkalinity - Total	65.2	mg/L		0.2	SM2320B
Alkalinity - Hydroxide	0.0	mg/L		0.2	SM2320B
Alkalinity - Carbonate	8.4	mg/L		0.2	SM2320B
Alkalinity - Bicarbonate	62.5	mg/L		0.2	SM2320B
Calcium	2.8	mg/L		1.0	SM3120B
Chloride	84.4	mg/L		0.2	EPA300.
Conductance, Specific	498	uMHO		1	SM2510B
Copper	ND	ug/L	1000	50.0	SM3120B
Hardness	8.1	mg/L		2.0	SM2340B
Iron	ND	ug/L	300	100.0	SM3120B
Magnesium	0.28	mg/L		1	SM3120B
Manganese	ND	ug/L	50	20.0	SM3120B
Ph	9.48				EPA150.
Sodium	105	mg/L		1	SM3120B
Solids, Dissolved	296	mg/L		10	SM2450C
Sulfate	21.4	mg/L		0.5	EPA300.
Sulfonated Detergent - MBAS	ND	mg/L	0.5	0.05	SM5540C
Zinc	ND	ug/L	5000	50.0	SM3120B
Color, Visual	ND	UNITS		3	SM2120B
Odor	8	UNITS		1	EPA2150
Turbidity	0.22	NTU	1.0	0.10	SM2130B
Dibromochloropropane (DBCP)	ND	ug/L			EPA 504
Ethylene Dibromide (EDB)	ND	ug/L			EPA 504
Glyphosate	ND	ug/L	700	25	547
Endothall	ND	ug/L	100	45	548.1
Diquat	ND	ug/L	20	4.0	549
Additional Test	SEE REPORT				
2,3,7,8-TCDD (Dioxin)	ND	ug/L	0.005	.000006	EPA1613
Cyanide, Total	ND	ug/L	200	100	SM4500E
Nitrogen, Nitrite	ND	ug/L	1000	400	EPA300.
Agressive Index	12.1	mg/L			
Langlier Index	0.16	mg/L			

ND = None Detected DL = Detection Limit MCL = Max Contaminant Levels

Reported by Robert L. Chambers M.S. Michael M. Chambers M.S., P.E. Michael Harris PhD

06/10/03
Date

JACUMBA COMM.SERVICE DIST.

Received : 04/24/03 11:05AM Sample# 30406312

Perchlorate	ND ug/L	4.0	EPA 314

ND = None Detected DL = Detection Limit MCL = Max Contaminant Levels

06/10/03

Reported by Robert L. Chambers M.S. Michael M. Chambers M.S., P.E. Michael Harris PhD Date

Pace AnalyticalServices, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Drinking Water Analysis Results
2,3,7,8-TCDD -- USEPA Method 1613B

Sample ID.....6312 WELL 6
Client.....Environmental Engineering Lab
Lab Sample ID.....104462098

Date Collected.....04/24/2003
Date Received.....04/29/2003
Date Extracted.....04/30/2003

	Sample 104462098	Method Blank	Lab Spike	Lab Spike Dup
[2,3,7,8-TCDD]	**ND**	ND	--	--
PRL	5 pg/L	5 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	83%	85%
Spike Recovery Limit	--	--	73-146%	73-146%
RPD			3.2%	
IS Recovery	**82%**	90%	92%	90%
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	**88%**	90%	83%	87%
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	A30501C_1	A30501B_3	A30501B_1	A30501B_2
Analysis Date	05/01/2003	05/01/2003	05/01/2003	05/01/2003
Analysis Time	18:50	17:39	16:39	17:09
Analyst	BAL	CMP	CMP	CMP
Volume	1.000L	0.980L	1.006L	1.014L
Dilution	NA	NA	NA	NA
CCAL Filename	A30501A_2	A30501A_2	A30501A_2	A30501A_2

!	= Outside the Control Limits
ND	= Not Detected
PRL	= Pace Reporting Limit
Limits	= Control Limits from Method 1613 (10/94 Revision), Tables 6A and 7A
RPD	= Relative Percent Difference of Lab Spike Recoveries
IS	= Internal Standard [2,3,7,8-TCDD-$^{13}C_{12}$]
CS	= Cleanup Standard [2,3,7,8-TCDD-$^{37}Cl_4$]

Project No.....1072035

BSK ANALYTICAL LABORATORIES

Mike Chambers
Environmental Engineering Laboratory
3538 Hancock Street
San Diego, CA 92110

Certificate of Analysis

ELAP Certificate #1180

Report Issue Date: 05/16/2003

BSK Submission #: 2003041665

BSK Sample ID #: 315982

Project ID: Project Desc:

Submission Comments:

Sample Type: Liquid
Sample Description: 6312
Sample Comments:

Date Sampled: 04/24/2003
Time Sampled: 0830
Date Received: 04/25/2003

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Conductivity - Specific (EC)	SM 2510 B	510	µmho/cm	1	1	1	04/25/03	04/25/03
Perchlorate (ClO4)	EPA 314.0	ND	µg/L	4	1	4	05/01/03	05/01/03

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Dibromochloropropane	EPA 504.1	ND	µg/L	0.01	1	0.01	04/29/03	05/05/03
Ethylenedibromide	EPA 504.1	ND	µg/L	0.02	1	0.02	04/29/03	05/05/03
Aldrin	EPA 505	ND	µg/L	0.075	1	0.075	04/29/03	05/07/03
Chlordane	EPA 505	ND	µg/L	0.1	1	0.1	04/29/03	05/07/03
Chlorothalonil (Daconil,Bravo)	EPA 505	ND	µg/L	5.0	1	5	04/29/03	05/07/03
Dieldrin	EPA 505	ND	µg/L	0.02	1	0.02	04/29/03	05/07/03
Endrin	EPA 505	ND	µg/L	0.1	1	0.1	04/29/03	05/07/03
Heptachlor	EPA 505	ND	µg/L	0.01	1	0.01	04/29/03	05/07/03
Heptachlor epoxide	EPA 505	ND	µg/L	0.01	1	0.01	04/29/03	05/07/03
Hexachlorobenzene	EPA 505	ND	µg/L	0.50	1	0.5	04/29/03	05/07/03
Hexachlorocyclopentadiene	EPA 505	ND	µg/L	1	1	1	04/29/03	05/07/03
Lindane	EPA 505	ND	µg/L	0.2	1	0.2	04/29/03	05/07/03
Methoxychlor	EPA 505	ND	µg/L	10	1	10	04/29/03	05/07/03
PCBs: Arochlor Screen	EPA 505	ND	µg/L	0.2	1	0.2	04/29/03	05/07/03
Toxaphene	EPA 505	ND	µg/L	1.0	1	1	04/29/03	05/07/03
Trifluralin	EPA 505	ND	µg/L	1.0	1	1	04/29/03	05/07/03
2,4,5-T	EPA 515.3	ND	µg/L	1.0	1	1	04/30/03	05/02/03
2,4,5-TP (Silvex)	EPA 515.3	ND	µg/L	1.0	1	1	04/30/03	05/02/03
2,4-D	EPA 515.3	ND	µg/L	10	1	10	04/30/03	05/02/03
Bentazon (Basagran)	EPA 515.3	ND	µg/L	2.0	1	2	04/30/03	05/02/03
Dalapon	EPA 515.3	ND	µg/L	10	1	10	04/30/03	05/02/03
Dicamba (Banvel)	EPA 515.3	ND	µg/L	1.5	1	1.5	04/30/03	05/02/03
Dinoseb (DNBP)	EPA 515.3	ND	µg/L	2.0	1	2	04/30/03	05/02/03
Pentachlorophenol (PCP)	EPA 515.3	ND	µg/L	0.2	1	0.2	04/30/03	05/02/03

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Cover Letter for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Mike Chambers
Environmental Engineering Laboratory
3538 Hancock Street
San Diego, CA 92110

Certificate of Analysis

ELAP Certificate #1180

Report Issue Date: 05/16/2003

BSK Submission #: 2003041665

BSK Sample ID #: 315982

Project ID: Project Desc:

Submission Comments:

Sample Type: Liquid
Sample Description: 6312
Sample Comments:

Date Sampled: 04/24/2003
Time Sampled: 0830
Date Received: 04/25/2003

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Picloram	EPA 515.3	ND	µg/L	1.0	1	1	04/30/03	05/02/03
Alachlor (Alanex)	EPA 525.2	ND	µg/L	1.0	1	1	05/01/03	05/04/03
Atrazine (AAtrex)	EPA 525.2	ND	µg/L	1.0	1	1	05/01/03	05/04/03
Benzo(a)pyrene	EPA 525.2	ND	µg/L	0.1	1	0.1	05/01/03	05/04/03
bis(2-ethylhexyl) adipate	EPA 525.2	ND	µg/L	3.0	1	3	05/01/03	05/04/03
bis(2-ethylhexyl) phthalate	EPA 525.2	ND	µg/L	3.0	1	3	05/01/03	05/04/03
Bromacil (Hyvar)	EPA 525.2	ND	µg/L	10	1	10	05/01/03	05/04/03
Butachlor	EPA 525.2	ND	µg/L	0.38	1	0.38	05/01/03	05/04/03
Diazinon	EPA 525.2	ND	µg/L	0.25	1	0.25	05/01/03	05/04/03
Dimethoate (Cygon)	EPA 525.2	ND	µg/L	10	1	10	05/01/03	05/04/03
Metolachlor	EPA 525.2	ND	µg/L	0.5	1	0.5	05/01/03	05/04/03
Metribuzin	EPA 525.2	ND	µg/L	0.5	1	0.5	05/01/03	05/04/03
Molinate (Ordram)	EPA 525.2	ND	µg/L	2.0	1	2	05/01/03	05/04/03
Prometryn (Caparol)	EPA 525.2	ND	µg/L	2.0	1	2	05/01/03	05/04/03
Propachlor	EPA 525.2	ND	µg/L	0.5	1	0.5	05/01/03	05/04/03
Simazine (Princep)	EPA 525.2	ND	µg/L	1.0	1	1	05/01/03	05/04/03
Thiobencarb (Bolero)	EPA 525.2	ND	µg/L	1.0	1	1	05/01/03	05/04/03
3-Hydroxycarbofuran	EPA 531.1	ND	µg/L	3.0	1	3	05/08/03	05/09/03
Aldicarb	EPA 531.1	ND	µg/L	3.0	1	3	05/08/03	05/09/03
Aldicarb Sulfone	EPA 531.1	ND	µg/L	2.0	1	2	05/08/03	05/09/03
Aldicarb Sulfoxide	EPA 531.1	ND	µg/L	3.0	1	3	05/08/03	05/09/03
Carbaryl	EPA 531.1	ND	µg/L	5.0	1	5	05/08/03	05/09/03
Carbofuran	EPA 531.1	ND	µg/L	5.0	1	5	05/08/03	05/09/03
Methomyl	EPA 531.1	ND	µg/L	2.0	1	2	05/08/03	05/09/03
Oxamyl	EPA 531.1	ND	µg/L	20.0	1	20	05/08/03	05/09/03
Glyphosate	EPA 547	ND	µg/L	25	1	25	05/05/03	05/06/03
Endothall	EPA 548.1	ND	µg/L	45	1	45	04/28/03	04/29/03
Diquat	EPA 549.1	ND	µg/L	4	1	4	04/26/03	05/06/03

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Cover Letter for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Mike Chambers
Environmental Engineering Laboratory
3538 Hancock Street
San Diego, CA 92110

Certificate of Analysis

ELAP Certificate #1180

Report Issue Date: 05/16/2003

BSK Submission #: 2003041665

BSK Sample ID #: 315982

Project ID: Project Desc:

Submission Comments:

Sample Type: Liquid
Sample Description: 6312
Sample Comments:

Date Sampled: 04/24/2003
Time Sampled: 0830
Date Received: 04/25/2003

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Surrogate								
Bromoform	EPA 504.1	112.0	% Rec	-	1	N/A	04/29/03	05/05/03
Tetrachloro-m-xylene	EPA 505	87	% Rec		1	N/A	04/29/03	05/07/03
DCPAA	EPA 515.3	75	% Rec		1	N/A	04/30/03	05/02/03
1,3-Dimethyl-2-nitrobenzene	EPA 525.2	100	%Rec		1	N/A	05/01/03	05/04/03
BDMC	EPA 531.1	97	% Rec	-	1	N/A	05/08/03	05/09/03
AMPA	EPA 547	124.1	% Rec	-	1	N/A	05/05/03	05/06/03

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
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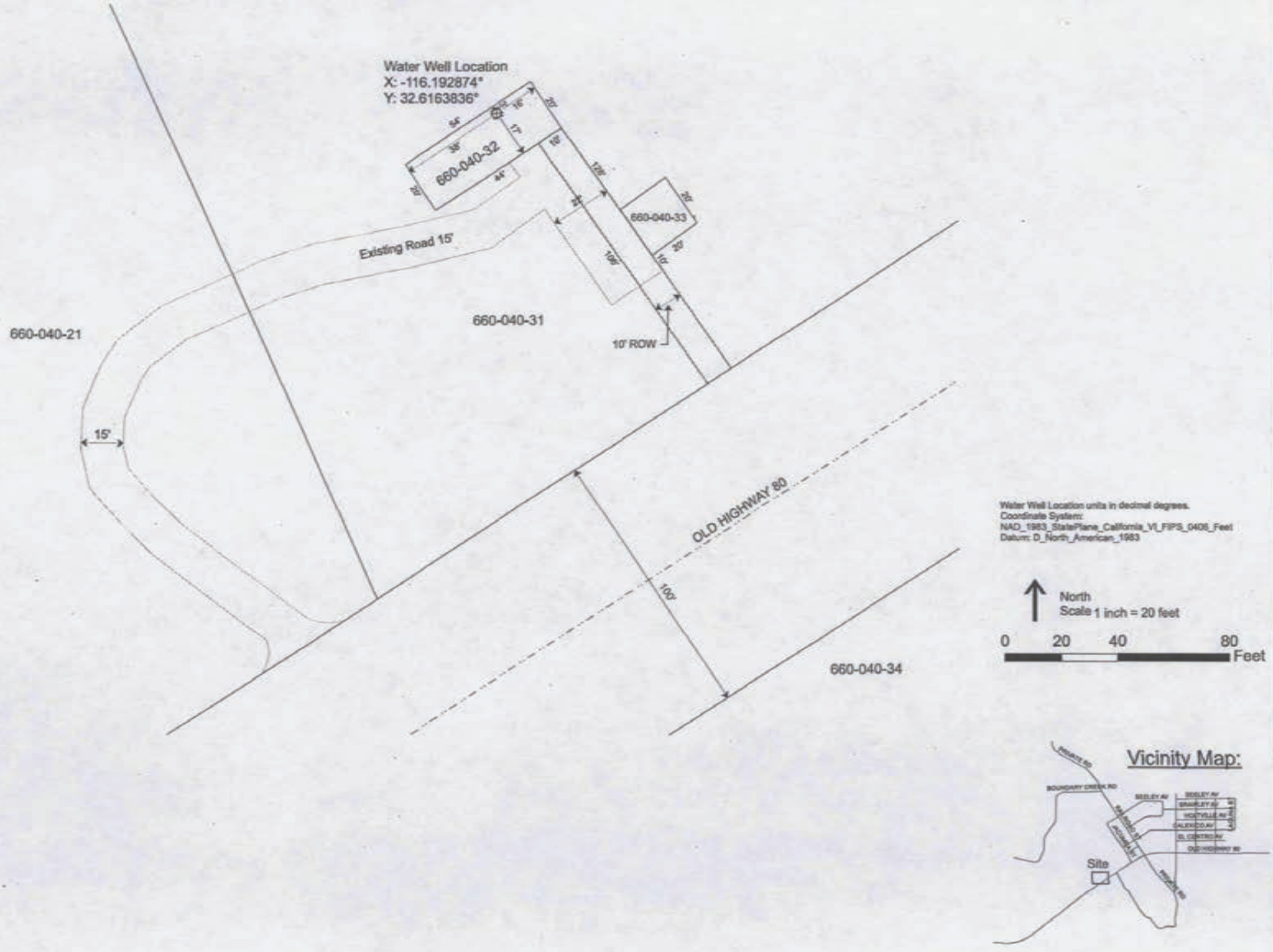

Water Well Location
X: -116.192874°
Y: 32.6163836°
660-040-32
660-040-33
660-040-21
660-040-31
660-040-34
Existing Road 15'
10' ROW
15'
OLD HIGHWAY 80
100'
Water Well Location units in decimal degrees.
Coordinate System:
NAD_1983_StatePlane_California_VI_FIPS_0406_Feet
Datum: D_North_American_1983
North
Scale 1 inch = 20 feet
0
20
40
80
Feet
Vicinity Map:
Site

DRAFT

Groundwater Monitoring and Mitigation Plan
Jacumba Community Services District
Jacumba Hot Springs, San Diego County, California

Lead Agency:

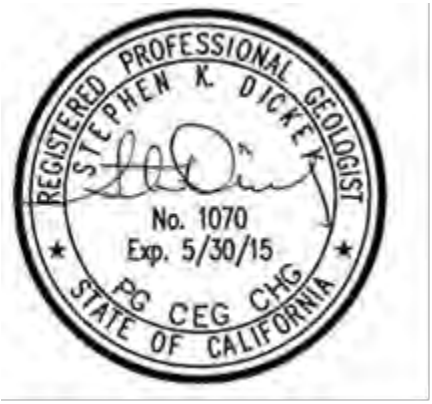
County of San Diego
Planning and Development Services
5510 Overland Avenue
San Diego, California 92123
Contact: Ashely Gungle

Project Proponent:

Jacumba Solar LLC
700 Universe Boulevard
Juno Beach, FL 33408
Contact: Jesse Marshall

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024



Stephen K. Dickey, PG, CHG, CEG

JANUARY 2015

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TABLE OF CONTENTS

FIGURES

TABLE

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1.0 INTRODUCTION

Jacumba Community Services District (JCSD) has been identified as a source of non-potable water for the Jacumba Solar Energy Project (the Project). The Project will import all water for both construction and operation, as no on-site water is available. This Groundwater Monitoring and Mitigation Plan (GMMP) has been prepared by Dudek in order to provide protection of nearby groundwater dependent habitat and ensure adequate groundwater supply for other groundwater users in the area.

As described in the Groundwater Resources Investigation Report for the Jacumba Community Services District (Dudek, 2015), the Project is expected to require approximately 59 acre-feet of water during construction. The JCSD has a non-potable well (Well 6) dedicated for off-site construction water supply use. Well 6 is located at the west end of downtown Jacumba Hot Springs on assessor's parcel number (APN) 660-040-32 (Figure 1). Historically, pumping at Well 6 has been limited to a production of up to 100,000 gallons per day (gpd), which represents approximately 11.6% of the production capacity of the well (Dudek, 2015). There have not been any recorded instances of well interference or deleterious impacts to groundwater storage as a result of pumping Well 6 at 100,000 gpd for off-site water supply.

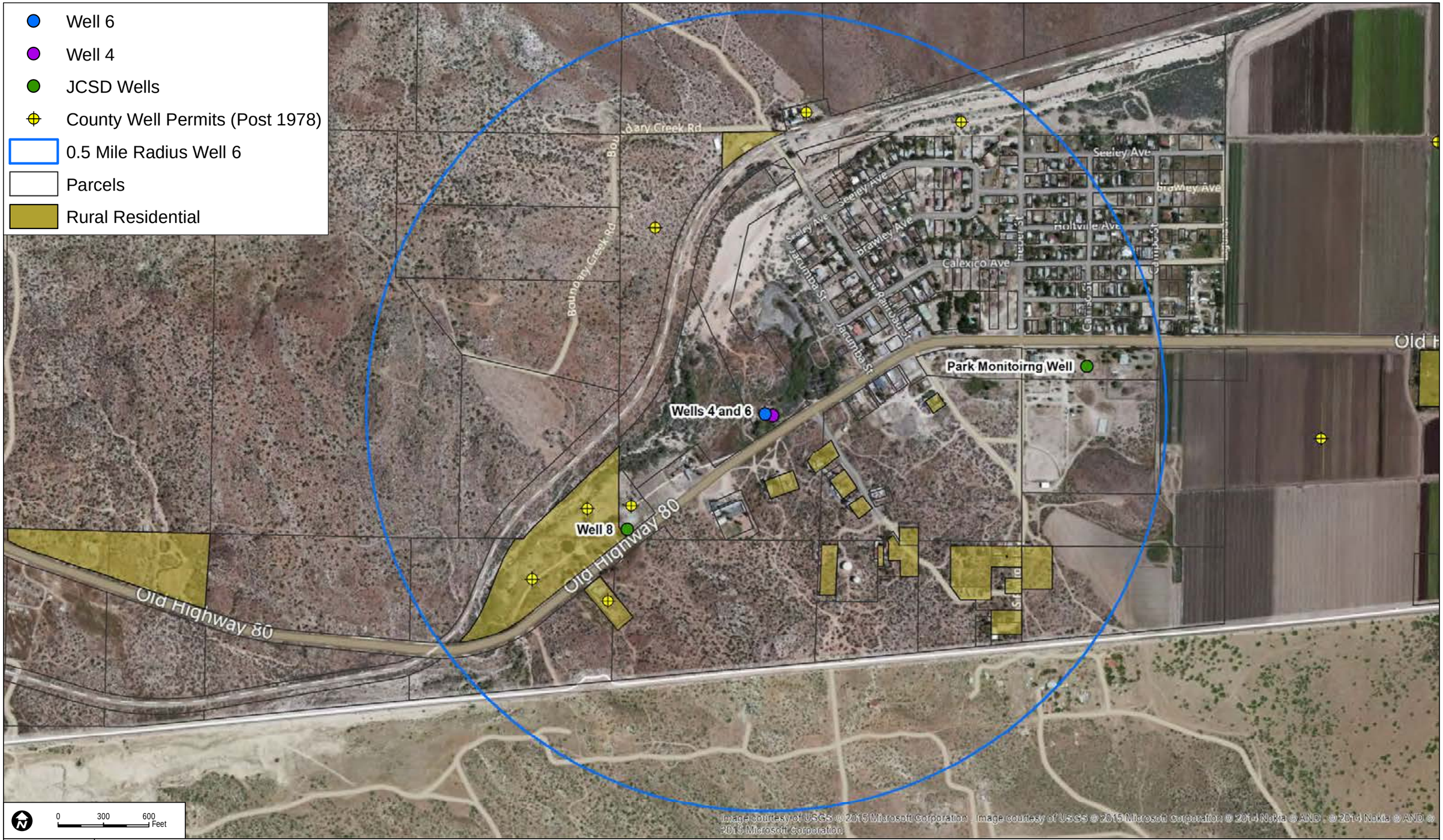
In order to provide a conservative analysis, the Groundwater Resources Investigation Report for the Jacumba Community Services District assumed that Well 6 would supply all of the 59 acre-feet of required water for the Project. Results of the Groundwater Resources Investigation indicate that short-term pumping of Well 6 to meet the Projects' construction water demand would result in a less than significant impact to groundwater storage. Assuming the entire 59 acre-foot water demand was withdrawn from Well 6 at a limited production rate of 100,000 gpd, it would take 192 days to produce the required volume of water. Over this 192 day period, the estimated drawdown at the nearest well (JCSD Well 4) is 2.18 feet based on projecting historical water level data (Dudek, 2015). This is less than the County of San Diego well interference threshold guidance for alluvial wells.

The drawdown at the nearest groundwater dependent habitat as a result of extraction of groundwater for construction use is also estimated at approximately 2.18 feet and would not exceed the historical low water level recorded in Well 4 of approximately 23 feet below ground surface (bgs) (Dudek 2015). Thus, impacts to groundwater dependent habitat would be less than significant.

Because actual conditions during groundwater extraction for the Projects may vary from conditions assumed in the Groundwater Resources Investigation (Dudek, 2105) this GMMP has been prepared for the Jacumba Community Services District. This GMMP establishes protective

groundwater drawdown thresholds for off-site well interference and groundwater-dependent habitat.

This GMMP also describes the monitoring, mitigation and reporting procedures by which the County of San Diego Planning and Development Services (PDS) can ensure that the conditions and criteria for the Project's groundwater extraction activities are continually being upheld. A 5-year monitoring period is proposed to assess the impact of the short-term construction and long-term operational water demand.



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SOURCE: County of San Diego, JCSD, SanGIS

FIGURE 1

On-site and Off-site Well Locations

GROUNDWATER MONITORING AND MITIGATION PLAN - JACUMBA COMMUNITY SERVICES DISTRICT

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2.0 ESTABLISHMENT OF GROUNDWATER THRESHOLDS

According to the County of San Diego Guidelines for Determining Significance and Report Format Content Requirements (County of San Diego, 2007), this Project-related groundwater extraction would incur a significant well interference impact if it results in a decrease in saturated thickness of 5% (20 feet or greater off-site groundwater drawdown in a fractured rock aquifer assuming 400 feet saturated thickness and a 5 foot or greater off-site groundwater drawdown in an alluvial aquifer assuming 100 feet of saturated thickness). Additionally, The County's Guidelines for Determining Significance for Biological Resources (County of San Diego, 2010) defines a project-related drawdown of 3 feet below historical low groundwater levels as causing a significant impact to riparian habitat of a groundwater sensitive natural community. The thresholds established below incorporate these guidelines and represent a conservative basis for monitoring and mitigating potential groundwater impacts related to the Project.

2.1 Potential Off-Site Well Interference

As described in the Groundwater Resources Investigation Report (Dudek, 2015), the JCSD wells identified in the vicinity of the pumping well (Well 6) include Wells 4, 7, 8 and the Park Monitoring Well (Figure 1). Well 4 is completed to an approximate depth of 39 feet and depth to water was measured at 9.42 feet below top of casing (btoc) on December 23, 2014. Well 4 is a potable water production well and supplied 27.7 million gallons (85 acre-feet) in 2013 to meet the water demands of the potable water system (Troutt pers. comm. 2013). Well 6 was drilled to a depth of 465 feet in 2003 and depth to water was measured at 5.25 feet btoc on December 23, 2014. Well 7 and Well 8 were both drilled to a depth of 518 feet in 2008 and 2009, respectively. Depth to water in Well 8 was measured at 32.42 feet btoc on December 23, 2013. No depth to water was measured for Well 7. The Park Monitoring Well depth of completion is unknown; depth to water was measured at 54.50 feet btoc on December 23, 2014.

The five existing JCSD groundwater wells (Well 4, 6, 7, 8 and the Park Monitoring Well) will be included in the groundwater monitoring program (Figure 1). These wells and Well 6 will be fitted with pressure transducers prior to the onset of Project pumping. The pressure transducers will record the water level in the wells at 15 minute intervals for approximately 1 month prior to the onset of Project related groundwater extraction. Transducer accuracy will be confirmed through manual water level measurements recorded with a sounder. Manual water levels will also be recorded for JCSD Wells 4, 6, 7, 8 and the Park Monitoring Well on a weekly basis during Project pumping.

An additional five wells were identified from confidential well logs and a site reconnaissance; these wells, located within a 0.5 mile radius of Well 6, are indicated in Table 1.

Table 1
JCSD Wells within 0.5 Mile Radius of Well 6

Well Number	APN	Use	Distance from Well 6 (feet)
Well 4	660-040-32	Public/Active	60
Well 7	660-040-26	Public	1,206
Well 8	660-040-26	Public/Inactive	1,206
Park Monitoring Well		Public/Inactive	2,151
Private and Confidential Wells[a]			
7965		Domestic	1,540
15216		Domestic	1,955
16137		Domestic	1,300
18049		Domestic	1,950
20019		Domestic	1,000

Notes:
a. Assessor parcel numbers (APN) are redacted for confidential well logs.

The measurements collected from the JCSD wells will be used to establish a water level baseline and capture water level patterns generated by pumping of these wells. An understanding of these patterns will allow for their continued use as monitoring wells despite the possibility that they may be pumped over the duration of the Projects. During pumping at Well 6, a maximum drawdown of 5 feet below the water level baseline at JCSD Wells 7 and 8 will be allowed. This threshold is protective of a maximum drawdown of 5 feet at the closest property with a residential groundwater well located within 0.5 mile feet from the pumping well. In consultation with the County Groundwater Geologist, the threshold has been conservatively set at 5 feet given the unknown aquifer setting of the nearest residential wells.. Additionally, a maximum drawdown of 5 feet below the water level baseline will be allowed at JCSD Well 4. Well 4 is a shallow alluvial well and the County of San Diego Guidelines for Determining Significance establishes a 5 foot decline in water level as the appropriate threshold for alluvial aquifers.

Results of the off-site well interference analysis detailed in the Groundwater Resources Investigation Report conclude that well interference is not anticipated to pose a significant impact. A groundwater monitoring program will be implemented in order to establish a water level baseline in the JCSD wells and characterize change in water levels due to potable and non-potable water system pumping.

2.2 Groundwater Dependent Habitat

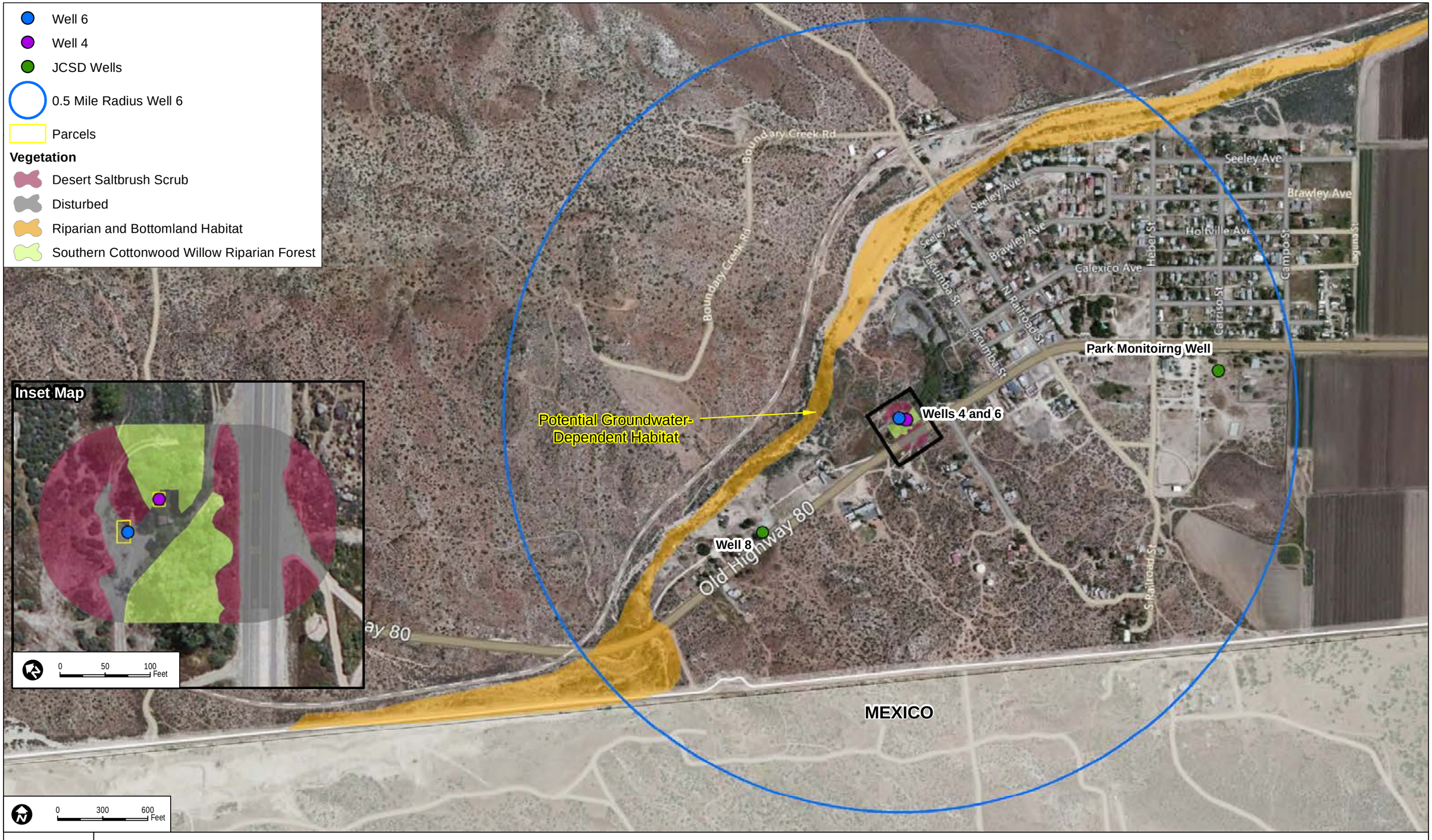
Two groundwater-dependent vegetation communities mapped in the vicinity of Well 6 and Well 4 that may depend on groundwater: desert saltbrush scrub and southern cottonwood willow riparian forest (AECOM, 2011). In addition, several dirt roads located within the vicinity of the

wells are classified as disturbed cover type. The area to the east of the wells has been mapped as a lake/wetland on the Jacumba USGS topographic map (Dudek, 2015) and as freshwater emergent wetland on the U.S. Fish and Wildlife Service (FWS) National Wetland Inventory. Habitat associated with Boundary Creek, located to the north and west of Well 6, is mapped as riparian and bottomland habitat (Figure 2).

The majority of desert saltbrush scrub is mapped north and west of Well 6 and extends to an adjacent parcel to the east, where the desert saltbrush scrub is mapped north and south of Old Highway 80 (Figure 2). The majority of the southern cottonwood willow riparian forest is mapped northeast and southwest of Well 4 and Well 6 (Figure 2). The saltbush scrub and southern cottonwood willow riparian forest are located approximately 25 feet and 50 feet, respectively from Well 6. Results of the Groundwater Resources Investigation Report indicate that there is limited hydraulic connection between primary producing fractures of the pumping well (Well 6) and the shallow alluvial aquifer system. Drawdown in the alluvial aquifer is estimated to be less than drawdown in the fractured rock aquifer as the deeper hot spring aquifer does not appear to be hydraulically connected to the shallow aquifer. The shallow and deep aquifers have different water quality and water temperature and do not appear to be in communication.

Additionally, there is no apparent hydraulic response in Well 4, which is completed to an approximate depth of 39 feet, when Well 6 is pumped (Troutt, pers. comm. 2013). JCSD has provided the San Diego Gas and Electric (SDG&E) East County (ECO) Substation project with 14.9 million gallons (45.8 acre-feet) of non-potable water pumped from Well 6 between March 2013 and June 2014. This construction water demand does not appear to have impacted the water level of the shallow alluvial aquifer (Dudek, 2015). Therefore, project-related groundwater production from Well 6 is not anticipated to result in drawdown of the groundwater table to the detriment of this groundwater-dependent habitat.

Due to the limited hydraulic connection between the shallow alluvial aquifer supporting the groundwater dependent habitat and the deep aquifer that Well 6 extracts from and the relatively short-term timeframe of proposed groundwater withdraw, Dudek recommends no initial monitoring of the groundwater habitat. Monitoring of the groundwater dependent habitat would be required in the event that water levels in Wells 4 drop below historical low groundwater levels, which were recorded at 23 feet below ground surface. Aquifer water level monitoring for the duration of pumping at Well 6 for the Projects is proposed. If groundwater levels exceed thresholds established for Well 4 than monitoring of groundwater dependent habitat would be required. Biological monitoring procedures are described below in Section 3.2.



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SOURCE: Bing Maps, SanGIS, Dudek 2012, AECOM 2011

FIGURE 2
Potential Groundwater-Dependent Vegetation

GROUNDWATER MONITORING AND MITIGATION PLAN - JACUMBA COMMUNITY SERVICES DISTRICT

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3.0 MONITORING PROCEDURES AND MITIGATION CRITERIA

The groundwater monitoring and, if necessary, biological monitoring procedures, and mitigation criteria outlined below will be followed during pumping at Well 6 for the purpose of off-site water supply to the Project. The groundwater monitoring program defined herein will be carried out under the direction of a Certified Hydrogeologist registered in the State of California.

3.1 Groundwater Production and Water Level Monitoring

Pressure transducers will be maintained in a network of the four JCSD groundwater wells (Well 4, Well 7, Well 8, and the Park Monitoring Well, Figure 1) as well as in the production well (Well 6). The pressure transducers will be programed to record the water level every 15 minutes. In addition, ambient barometric pressure and temperature will be recorded at 15 minute intervals with a barometric logger.

Transducer data will be downloaded on a weekly basis at all the instrumented wells for 1 month prior to the onset of Project related groundwater extraction. Transducer data will also be downloaded weekly during periods of pumping for non-potable construction water supply to the Projects. Cumulative groundwater usage will be monitored at Well 6 using an instantaneous flow meter. Flow rate and volume measurements will be recorded daily during pumping for the Projects. The shallow alluvial Well 4 transducer data will be used to observe the effect of construction water production from the deep, fractured rock aquifer on the water level in the shallow alluvial aquifer.

3.2 Groundwater Dependent Habitat Monitoring

The following monitoring program will be carried out for groundwater dependent habitat if water levels in Wells 4 drop below the established threshold. The goal would be to determine if the project's use of groundwater is impacting groundwater dependent habitat in the vicinity of the production well.

3.2.1 Monitoring

Baseline data will be collected within a 1,500 feet radius of Well 6 and confined to groundwater dependent habitat; specifically the riparian corridor associated with Boundary Creek. The 1,500 feet radius was selected based on the distance drawdown of 5 feet is estimated to result from Project pumping based on the Cooper-Jacob approximation of the Theis non-equilibrium flow equation analysis. Potentially affected native trees within the study area would be evaluated for overall physical condition and attributes. The trees would be inventoried by an ISA Certified Arborist or Registered Professional Forester with specific experience evaluating native oak species, in particular coast live oaks. The baseline monitoring evaluations would include the following:

- Establishment of 15 equidistant plots or transects within the riparian and bottomland habitat within 1,500 feet of Well 6. Sample plots/transects would include the range of existing habitat conditions, including elevation, slope and aspect, proximity to roads and other land uses.

- Tagging of trees and recording species, tag number, trunk diameter at breast height (dbh) (in.), height (ft.) and dominance (i.e., whether the tree is under the canopy of another tree or forms the uppermost canopy). Slope, aspect, and elevation of each tree location, existing understory species (including proportion of natives to exotics), presence of debris and litter, and soil type, depth, and parent material will be noted for each tree or plot/transect.
- Assessment of tree status, including documentation of:
    - Dbh measured at 4.5 feet above ground (according to standard practices)
    - Number of stems
    - Overall tree height (based on ocular estimates)
    - Tree crown spread (measurement in each cardinal direction, based on ocular estimate)
    - Overall tree health condition (Good, Fair, Poor, Dead)
    - Overall tree structural condition (Good, Fair, Poor, Dead)
    - Pest presence (Type, Extent – minimal, moderate, high)
    - Disease presence (Type, Extent – minimal, moderate, high)
    - Other specific comments
- Assessment of acorn production, seedling establishment and sapling tree densities and conditions
- The data collection procedure will include full data collection at each plot/transect so that consistency is maintained among sampling plots.
- Creation of database using GIS or similar application

3.3 Groundwater Mitigation Criteria

The following mitigation criteria will be established to protect groundwater resources and groundwater-dependent habitat in the Project area:

- If the groundwater levels at JCSD Wells 7 or 8 drops 5 feet below the baseline water levels, or if the groundwater level at Well 4 drops 5 feet below the baseline water level,

groundwater pumping at Well 6 will cease until the water level at the well that experienced the threshold exceedance has increased above the threshold and remained there for at least 30 continuous days. Additionally, written permission from the County Planning and Development Services (PDS) must be obtained before production may be resumed.

- If groundwater levels at Well 4 drops more than 23 feet below ground surface, than monitoring of the groundwater dependent habitat would be triggered.
- If the groundwater levels exceed historical low water levels in Well 4 (lowest recorded static water level in Well 4 is 23 bgs) and there is evidence of deteriorating riparian habitat health by the Arborist or Forester, there may be a temporary or permanent cessation of pumping at Well 6. If evidence of deterioration persists after a 5 year period, mitigation will consist of offsite wetland/oak woodland credits at a 3:1 ratio.

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4.0 REPORTING REQUIREMENTS

A groundwater monitoring report will be completed by a Certified Hydrogeologist registered in the State of California and submitted to the County PDS no later than 28 days following the end of groundwater extraction from Well 6 to supplement the Projects' construction water demand. Additionally, annual groundwater monitoring reports will be completed by a Certified Hydrogeologist registered in the State of California and submitted to the County PDS no later than 28 days following the end of the calendar year. The reports will include the following information:

- Water level hydrographs and tabulated water level data for each monitoring well.
- Tabulated groundwater production volumes from each production well.
- Documentation of groundwater drawdown at JCSD Wells 4, 7, 8 and Park Monitoring Well included in the groundwater monitoring program.
- Documentation of any threshold-included curtailment of groundwater production.
- Documentation of groundwater dependent habitat monitoring, if necessary, as described above.

If the baseline water levels at the JCSD wells included in the groundwater monitoring program are exceeded by 5 feet, the County PDS will be notified via letter and electronic mail within one working day of the exceedance. Additionally, if water level thresholds at the off-site wells are exceeded by their respective thresholds, pumping of Well 6 shall cease and the County PDS notified via letter and electronic mail within one working day.

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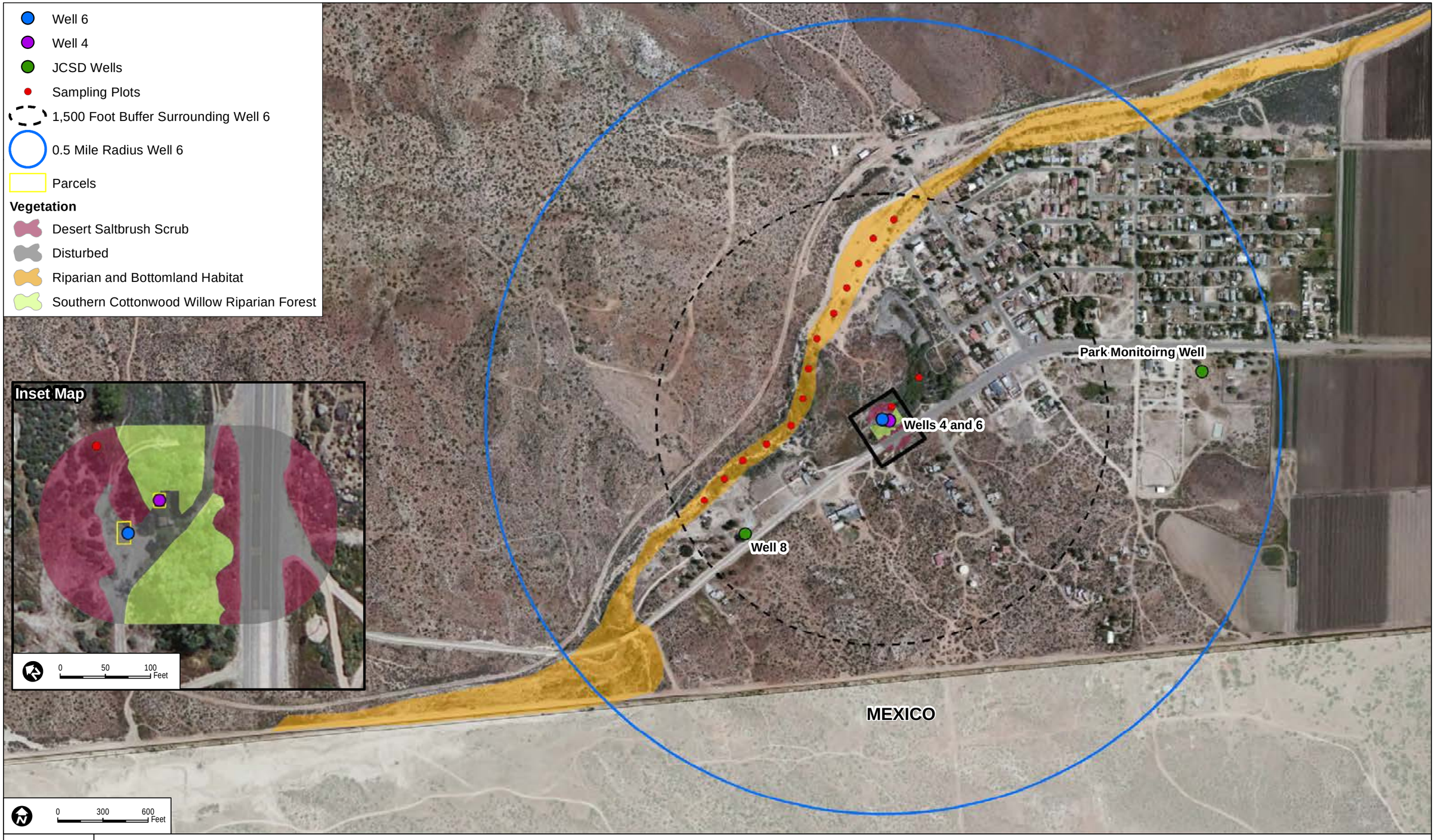

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SOURCE: Bing Maps, SanGIS, Dudek 2012, AECOM 2011

FIGURE 3
Potential Groundwater-Dependent Vegetation Monitoring Locations

GROUNDWATER MONITORING AND MITIGATION PLAN - JACUMBA COMMUNITY SERVICES DISTRICT

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5.0 REFERENCES

AECOM, 2011. Energia Sierra Juarez (ESJ) Well Access Road – Project Number 09-0107420 Biological Letter Report. February 3, 2011.

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Troutt, D. 2013. Personal communication from D. Troutt (General Manger Jacumba Community Services District). December, 2013.

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6.0 LIST OF PREPARERS

This GMMP was prepared by Dudek Hydrogeologists, Trey Driscoll, PG, CHG. Dudek arborist, Michael S. Huff prepared the monitoring program for the groundwater dependent habitat. Dudek Hydrogeologist Stephen K. Dickey, PG, CHG, CEG, provided review assistance and coordination with the County as the County-approved hydrogeologist.

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