



LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

August 13, 2010

Douglass Cooper
Fish and Wildlife Service
2493 Portola Road, Suite B
Ventura, California 93003

RE: Non-Protocol Branchiopod Survey Results, Solargen Energy, Panoche Valley Mitigation Parcels.

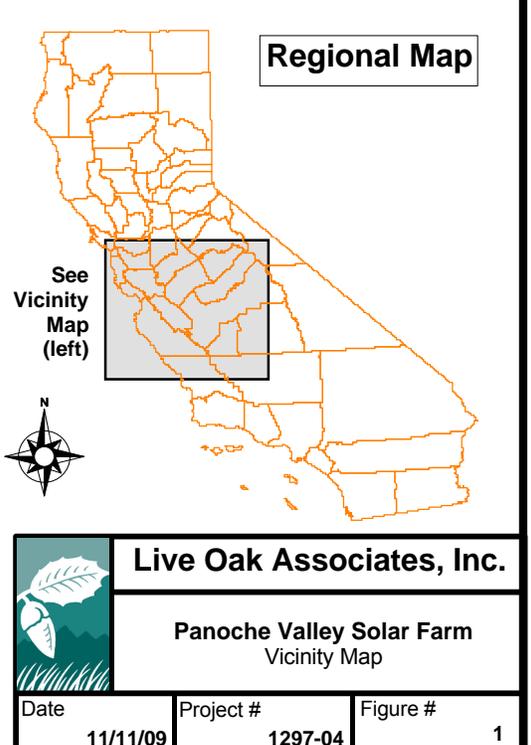
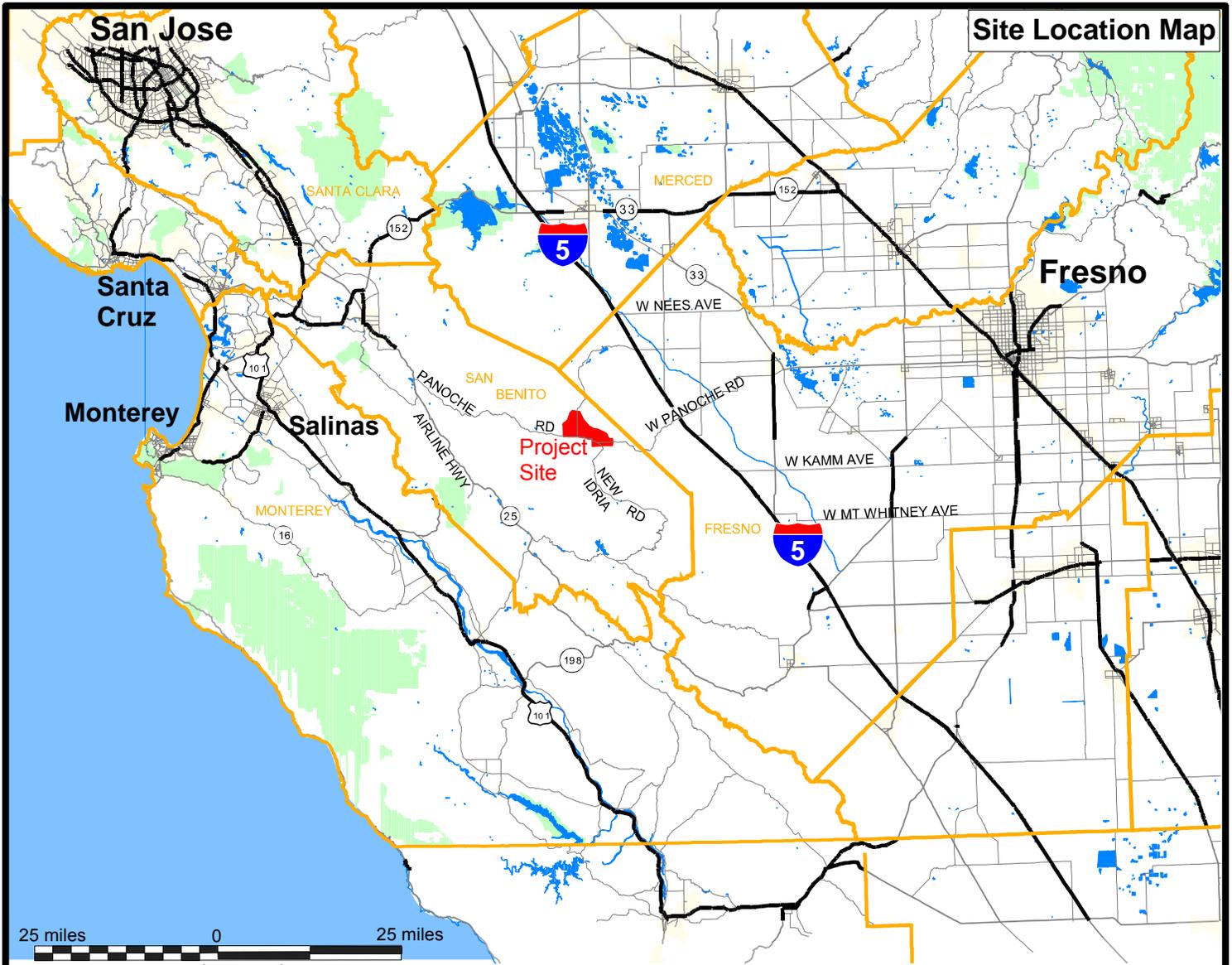
Douglass:

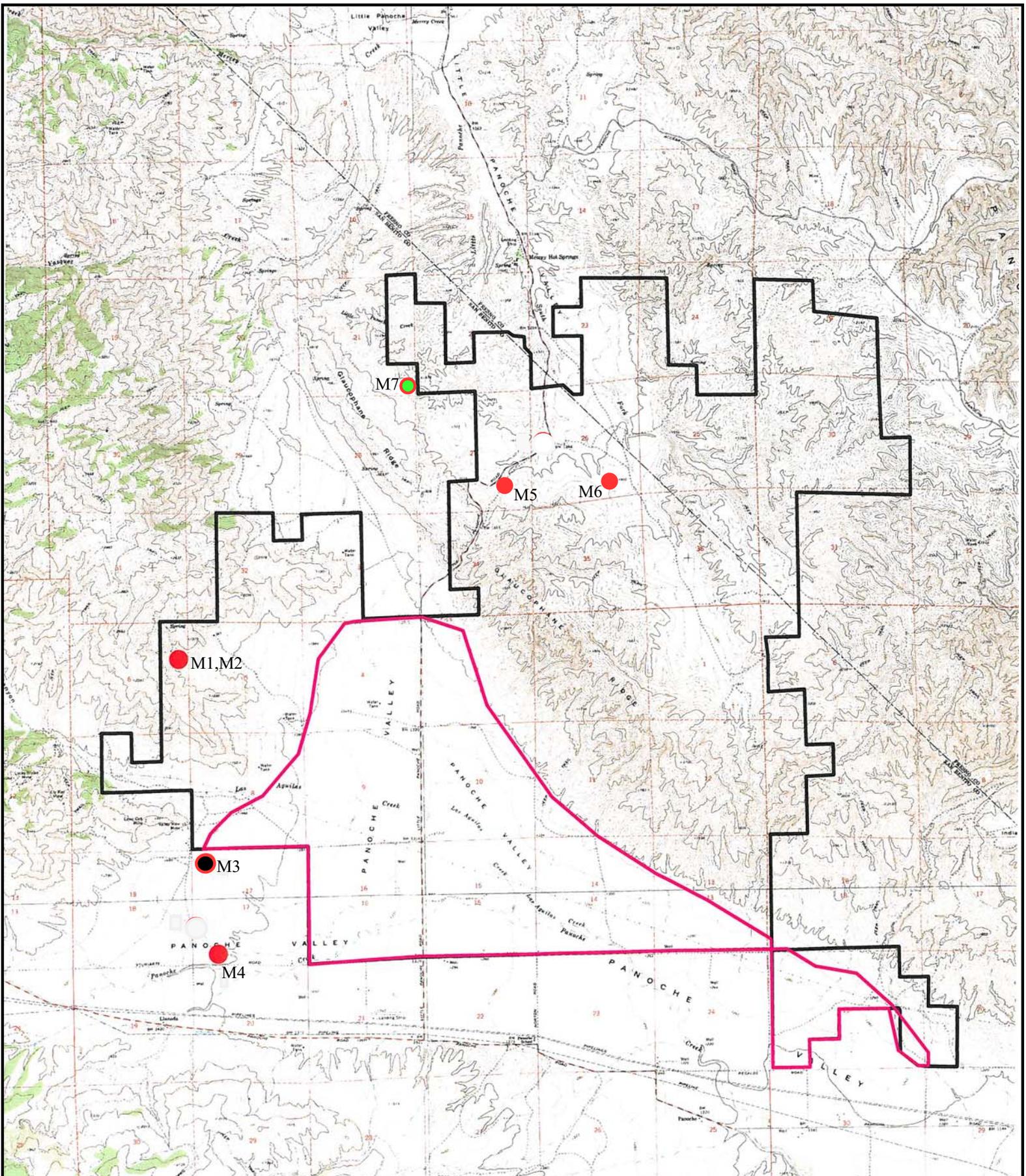
This letter serves the purpose of the 90-day survey report, as required by the U.S. Fish and Wildlife Service (USFWS), for the results of a non-protocol reconnaissance Brachiopod survey conducted on approximately 10,300 acres of property for the Solargen Energy solar project in Panoche Valley, CA. The survey site is located in east-central San Benito County and southwest Fresno County, approximately 8 miles west of Interstate 5, less than 1 mile south of Mercey Hot Springs, east of Pinnacles National Monument, and north of Panoche Road, along Little Panoche Road (Figure 1). The site can be found on the Cerro Colorado, Mercey Hot Springs, Llanada, and Panoche, California U.S.G.S quadrangles, in Sections 19, 30, and 31 of Township 14 south, Range 11 east; Section 21-27 and 32-36 of Township 14 south, Range 10 east; Sections 1-8 and 11-14 of Township 15 south, Range 10 east; Sections 6, 7, 19, and 20 of Township 15 south, Range 11 east (Figure 2).

On April 14th, 2010, Live Oak Associates, Inc. (LOA) biologist Mr. Jeff Gurule (TE-168924-0), assisted by Mr. Geoff Cline (an un-permitted LOA biologist), surveyed the site for federally listed vernal pool crustaceans. The proposed survey was deemed acceptable via a phone conversation between Michele Korpos, LOA Panoche Project Manager, and Chris Diel of the Ventura USFWS office on April 9, 2010 with the understanding that maps delineating the survey area would be sent by Ms. Korpos and a written authorization would be issued by the USFWS after review of the proposed survey area. However, apparently the maps were never received by Mr. Diel and no written authorization was issued. In discussing this issue with Mr. Diel on August 2, 2010, the consensus was that since the surveys were non-protocol surveys conducted on a single day late in the season, the lack of a formal authorization was not concerning.

Methods

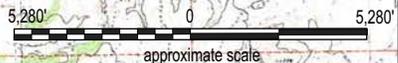
Mr. Gurule and Mr. Cline selected pools to sample as directed by LOA biologist Michele Korpos, who mapped pools potentially suitable for vernal pool crustaceans during the course of other biological surveys of the study area. The sampling method was consistent with USFWS





LEGEND

- Sampled Pool
- *Lepidurus packardii*
- *Ambystoma californiense*
- Approximate Project Boundary



Live Oak Associates, Inc.

**USGS Map/Pool Locations
Mitigation Lands
Panoche Valley Solar Farm**

Date	Project #	Figure #
7/8/10	1297-06	2

Recovery Permit requirements. Each pool was thoroughly sampled with a dip net. Pool characteristics and aquatic species observed were recorded on a previously approved data sheet, authorized via email by David Kelly with the USFWS on November 12, 2008 (See Attachment A). The data sheet is formatted to an Excel spreadsheet, with data entered in the field directly into the spreadsheet via a PDA. Pool location coordinates were collected using a Garmin Rino 120 handheld GPS unit.

Results

Mr. Gurule and Mr. Cline sampled seven pools. Pool locations are presented in Figure 2, survey results are presented in Attachment B, and Lat. Long. coordinates of each sampled pool are presented in Attachment C. Branchiopods were found in one of the seven pools surveyed (Pool M7). Individuals were netted, observed, identified as vernal pool tadpole shrimp (*Lepidurus packardi*), photographed, and released. Additionally, California tiger salamander larvae (*Ambystoma californiense*) were netted in Pool M3. Photos are presented in Attachment D.

Discussion

The discovery of the Federally Endangered *L. packardi* is significant. This represents a fairly substantial range extension of the species. Prior to this discovery, no populations of *L. packardi* were known in San Benito County or western Fresno County (CNDDDB 2010 and Draft Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon 2004).

Although the April 14th, 2010 survey found *L. packardi* in one pool (Pool M7), this single day of surveying does not provide sufficient evidence of the absence of other branchiopods, including listed branchiopods such as the *Branchiata lynchi*, from the site. There remains the possibility that had protocol level surveys been conducted, federally listed anostracans such as *B. lynchi* may have been found in some pools of the site.

Please feel free to contact me with any further questions or comments.

Sincerely,



Jeff Gurule
Senior Project Manager
Staff Ecologist

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Jeff Gurule, Permit # TE-168924-0

Signature:  . Date: August 13, 2010.

**ATTACHMENT A:
DATA SHEET AUTHORIZATION**

Jeff Gurule

From: David_Kelly@fws.gov
Sent: Wednesday, November 12, 2008 7:59 AM
To: Jeff Gurule
Cc: Elizabeth_Warne@fws.gov; Josh_Hull@fws.gov
Subject: Re: Branchiopod Survey Data Sheet
Attachments: Data Sheet Template.xls

Jeff, the data sheet that you presented contains the information that we required in the protocol for the VPb surveys. You are authorized to use this survey form until otherwise notified. Thank you.

David Lee Kelly
Fish and Wildlife Biologist
Recovery Branch
US Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825
Ph. (916) 414-6492

Jeff Gurule <jgurule@loainc.com>

To <David_Kelly@fws.gov>

cc

11/11/2008 04:38 PM

Subject Branchiopod Survey Data Sheet

Hi David,

Last rainy season Live Oak Associates, Inc. conducted branchiopod surveys on three properties in Fresno County with numerous vernal pools on each (the largest containing 92 pools); this resulted in numerous data sheets (over a 1,000 pages of data sheets) submitted with our 90-day reports. Not only were these data sheets difficult to organize and proof, PDF's of the final reports were so huge it was difficult to email them with the data sheets attached. I believe that you expressed interest, yourself, in having us utilize an abbreviated data sheet for ease of handling and reviewing after seeing how many data sheets we had amassed in those surveys.

So, as Live Oak has authorization to conduct 2nd year surveys on properties we surveyed last year, plus additional properties not surveyed last year, I have created an EXCEL template to serve as our data sheet for all surveys conducted this year. I am submitting this template for your approval. I believe using this data sheet will greatly increase efficiency, present the data in a more useful format, and greatly reduce the potential for error.

I have included an explanation of codes that would be used in the Surveyors and Habitat Condition/Land Use columns. This explanation of codes would ultimately be located at the bottom of the EXCEL sheet.

I hope this is acceptable to you or that you have some suggestions on how to further simplify it. I hope to here back from you soon, as weather conditions may necessitate initiation of surveys soon.

Thanks,

Jeff Gurule
Project Manager
Wildlife/Wetland/Plant Ecologist

6/4/2009

**ATTACHMENT B:
DATA SHEET**

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Non-Protocol Survey 2010											Fairy Shrimp ID Sheet 2010						
Panoche Valley Mitigation Land (1297-06), San Benito County, Cerro Colorado, Mercey Hot Springs, Llanada, & Panoche Quads, Township: 15S, Range: 10E & 11E											Panoche Valley Mitigation Land (1297-06)						
Pool #	Surveyors*	Date	Time (24hr)	Water Temp	Air Temp	Depth (cm)	Length (m)	Width (m)	Habitat Conditions/Land Use*	Number of Shrimp in Pool	Number, Sex, Genus Collected	Notes	Number, Sex, Species IDed	Listed Species (x)	Date Identified	Identified By	Comments
M1	JG,GC	4/14/10	1147	14	15	29	5	5	CGM			mitigation pond					
M2	JG,GC	4/14/10	1150	12.5	15	53	9	5	CGM			mitigation pond					
M3	JG,GC	4/14/10	1223	13	15	75+	69	34	CGM			mitigation pond, clam shrimp, 5 CTS					
M4	JG,GC	4/14/10	1251	11	15	75+	57	24	CGM			mitigation pond, clam shrimp					
M5	JG,GC	4/14/10	1717	19	15	25	12.5	10	CGM			mitigation pool					
M6	JG,GC	4/14/10	1735	19	15	10	11	5.5	CGM			mitigation pool					
M7	JG,GC	4/14/10	1818	19	15	13	60	29	CGM	100s	100s of <i>Lepidurus packardii</i>	mitigation pool, 100's tadpole shrimp	No tadpole shrimp collected. See Appendix C for photos	x	4/14/2010	JG	

* JG=Jeff Gurule; GC=Geoff Cline
CGM=Cattle Grazing Moderate

**ATTACHMENT C:
POOL UTM COORDINATES**

Panoche Solar Farm Pool Locations Grid: UTM Datum: NAD83 Zone: 10S

Pool #	Easting	Northing	Altitude
M1	686801	4058372	1663 ft
M2	686757	4058366	1656 ft
M3	686887	4055826	1433 ft
M4	687076	4054586	1376 ft
M5	690899	4061045	1443 ft
M6	692421	4061098	1419 ft
M7	689604	4062415	1438 ft

**ATTACHMENT D:
PHOTOS**



View Looking North of Pool 135 (Tadpole Shrimp Pool)



Tadpole Shrimp



View Looking West Over Survey Area, No Pools in Vicinity.



View Looking East Over Survey Area, No Pools in Vicinity.



View Looking South Over Survey Area, Pool M4 in background out of site.