

From: [REDACTED]
To: RB6enfproceed@waterboards
Cc: [REDACTED]
Subject: Additional Information Requested From the IRP Manager
Date: Thursday, May 21, 2015 5:26:34 PM
Attachments: [IRP_Manager_Recmmendations_Community_Involvement_05-21-2015.pdf](#)

Hello,

Please see the attached letter from the IRP Manager in response to the letter that was dated April 16, 2015 from Patty Kouyoumdjian titled "Additional Information Requested: Proposed Cleanup and Abatement Order requiring Pacific Gas and Electric Company to cleanup discharges of chromium to ground waters in Hinkley. If you are unable to open the attachment please let me know.

Thanks,

Robert Potter | *Project Scientist II*

Project Navigator, Ltd.

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May 21, 2015

Patty Z. Kouyoumdjian
Executive Officer
California Regional Water Quality Control Board, Lahontan Region
2501 Lake Tahoe Boulevard
South Lake Tahoe, California 96150

**RE: Hinkley, CA, Groundwater Remediation Project: IRP Manager's
Recommendations Regarding the California Regional Water Quality
Control Board Lahontan Region's Request for Recommendations to
Engage and Broaden Community Involvement in CAO Implementation.**

Dear Patty:

The Hinkley Community Chromium-6 Groundwater Remediation Project's "Independent Review Panel (IRP) Manager" appreciates the opportunity to provide input and perspectives, gained over many years of work in Hinkley, to the California Regional Water Quality Control Board, Lahontan Region (Water Board) in response to your April 16, 2015 letter¹ for *Additional Information Requested regarding the Proposed Cleanup and Abatement Order*².

Your letter specifically requested information from the IRP Manager regarding:

- **What options would the IRP Manager recommend to engage and broaden community involvement in CAO Implementation?**

The IRP Manager has been providing technical outreach to the Community Advisory Committee (CAC) and the Hinkley Community for more than 3 years. (since February 2012).

Figure 1 explains the role of the IRP Manager as presently envisioned, and how we work with key stakeholders (such as the Hinkley Community, CAC, Water Board, PG&E, and USGS) in the Hinkley Groundwater Remediation Program. A significant component of the IRP Manager function is to generate a project culture of information transparency, and thereby improved trust, within the community via review, comment and interpretation of Water Board Orders and PG&E's data and remedial activities. Our communication and outreach activities

¹ California Regional Water Quality Control Board Lahontan Regional. 2015. *Additional Information Requested: Proposed Cleanup and Abatement Order requiring Pacific Gas and Electric Company to cleanup discharges of chromium to ground waters in Hinkley*. April 16.

² California Regional Water Quality Control Board Lahontan Region. 2015. *Cleanup and Abatement Order [Proposed] No.R6V-2015-Prop, WDID No.6B369107001*. January 21.

have employed mechanisms such as: community meetings (with extensive use of visuals and hard models), open houses, regular office hours at the dedicated Hinkley IRP Manager's office, and focused workshops to explain specific and complex remedial activities performed by PG&E under Water Board CAO's.

From a grand perspective, since our involvement in the project in early 2012 there has been an extensive effort by PG&E in Cr-6 plume delineation and plume hydraulic control and treatment; especially within the original Cr6 plume source area south of Highway-58, where the plume is remediated (In-Situ Reaction Zone (IRZ)) by injecting low concentrations of ethanol into the upper aquifer. **Figure 2** shows the effects of PG&E's Cr-6 management activities on the contoured shape of the plume since the IRP Manager commenced work in 2012 and today. What is evident is that plume treatment enacted in the past few years is vividly affecting the contoured plume size³. This fact is not lost on the Community. Despite the somewhat bumpy road in having the Community Advisory Committee and the Community-at-large buy into and understand the specifics of individual plume assessment actions or remedial systems, it is the IRP Manager's opinion that Community stakeholders, in general, are now realizing that the Cr-6 plume is being appropriately *technically* managed. As will be discussed later in this letter, the situation is different with respect to how the remaining Community feels about how it has been *individually and collectively affected (at ground level)* as the plume is competently managed (at groundwater level).

The IRP Manager's present scope is defined to be limited solely to technical engagement and outreach⁴. In that more and more discussions are being focused on the future of Hinkley, now seemingly rebranded as a town which has a successful remediation project and wants to get back to where it was decades ago, (only better), the decision-makers may want to consider giving the IRP Manager the flexibility to assist the Community vision its future as it may regrow juxtaposed to a long-term groundwater treatment remedy.

Figure 3 shows elements of how the IRP Manager, routinely and innovatively, has performed our outreach and communication during the past three years. The Community we have served is diverse. Many folks have detailed interests in specific parts of the remediation project, whether they are geographical or

³ Equally significantly PG&E is reporting that an estimated 40 per cent of the Cr-6 plume mass has been treated since 2007; viz "Results of the mass removal evaluation described in Appendix F indicates that operation of the Central Area, SCRIA, and source Area IRZ systems from 2007 to 2014 has removed a significant amount of Cr (VI) from groundwater: an estimated 1,900 pounds, which represents approximately 40 percent of Cr (VI) mass present south of Highway 58 before the start of large scale IRZ operations in 2007." Reference: CH2MHill and Arcadis. 2015. *Semiannual Remediation Status Report and Final Cleanup Effectiveness Report (July through December 2014)*, Pacific Gas and Electric Company, Hinkley Compressor Station, Hinkley, California. March 30. Page 7-1.

⁴ See Figure 1

technical. This characteristic of the project has been explained to the Water Board via **Figure 4**⁵, which shows how significant IRP Manager efforts have been expended explaining location-specific issues, (e.g. “black water”, western waste pit), all of which have now been successfully handled), and were a “subset” of the grander plume cleanup mission. This characteristic of the project has been challenging. While it was ongoing, primarily during 2013 and 2014, it did compromise the IRP Manager and staff’s ability to gain momentum, and build technical consensus and trust on more widespread Community level.

However, we now believe we have been able to move beyond the above individual and locale specific topics, by purposely and proactively connecting more significantly with a wider swath of the Community. **Figure 5** shows a map of more than 50 Hinkley Residents that the IRP Manager and/or staff have visited (many multiple times) to discuss various technical topics.

The sense of a desire for the Community to “move on” from discussing detailed plume (below ground) technical topics to focusing on the ground-level, day-to-day issues, some resulting from plume management, is even better exemplified from the data displayed in **Figure 6**, which was collected from an informal IRP Manager survey conducted during the August 2014 Community Meeting and a second later meeting at the Community Center. For example, the results generally show Hinkley residents expressing concerns about lifestyle topics such as property values and the general condition of the town’s environment, as the remedy is successfully implemented at the groundwater table level. Of note, though, is that the focus of technical interest has shifted to the USGS ongoing Cr-6 Background Study⁶ and the results it will deliver in the years ahead.

The clear division between Community interests in below ground Vs above ground topics are diagrammed in **Figure 7**⁷. These observations suggest that the IRP Manager should be given sufficient flexibility in the future, as the new proposed CAO becomes effective, to be able to step solely from a technical-explanations-only role into one which can also assist in solving the above-ground issues, and more grandly help shape the future of Hinkley. The IRP Manager for the past three years has focused mainly on the below ground issues (plume investigation, hydraulic control, IRZ Operations, Ag treatment operations and the SEP Program). We are recommending that the IRP Manager’s role could be appropriately broadened to help the Community work through planning, logistical and technical issues associated with being a Community located at the heart of a

⁵ IRP Manager’s presentation to the Lahontan Water Board at Formal Board Meeting, Barstow, CA, November 12, 2014.

⁶ The IRP Manager is intimately involved in understanding the conduct of, and results emanating from the Background Study (BGS) via the IRP Manager staff’s participation in the BGS Technical Working Group (TWG).

⁷ Also presented and discussed at the Water Board Meeting listed under Footnote 6, above.

complex remediation project, where PG&E owns 4,000+ acres, and will be managing water, both above and below grade, for many years to come.

As part of an evolving strategy to perform outreach for above and below ground topics the IRP Manager has been meeting with different Hinkley Groups to listen and gain perspective. For example, demonstrative of the diversity of interests within the Community, **Figure 8** shows the IRP Manager staff ***simultaneously attending two different meetings*** on April 23, 2015. The two meetings were held simultaneously by the CAC and the Community Center Group. The CAC meeting focused exclusively on the below ground topics of Figure 7 (technical issues) while the Community Center Group meeting focused on the above ground issues (e.g. relocation of the post office, possible redevelopment options which could flow from new Hwy 58 construction and where the plume will be located relative to the Highway and PG&E owned land). Further indication of the diversity of the Community is shown in **Figure 9**, where based on our own personal assessment, four distinct interest groups are shown. The IRP Manager's mission in the years ahead under the pending CAO should be to service, as appropriate, the interests of these groups as they pertain to the Cr-6 plume cleanup.

In conclusion, to specifically address the Water Board's request for how the IRP Manager recommends ***engaging and broadening*** community involvement.

As identified and rationalized above, it is recommended that the IRP Manager's function be modified to have sufficient flexibility and bandwidth to service the technical, and as appropriate, and as they are directly related to the long-term management of the Cr6 groundwater plume, lifestyle/community future issues. **Figure 10** summarizes our path forward recommendations (transitioning from 2014 to 2015) on how the IRP Manager function can engage and broaden Community involvement.

Our recommended approach will consist of, and coordinate and integrate:

- The IRP Manager's ***"Independent"*** Perspective
 - Focus on both above and below ground issues
 - Participation in the USGS BGS, especially via the TWG
- Meetings
 - A significant ramp up in "one-on-ones" with community members in a sounding board/counseling style
 - Workshop formats
 - Continue to meet with the CAC, and its individual members on technical issues, as they may arise
 - Outreach to other community groups (e.g. see Figure 9)
- Techniques
 - Newsletter

- Table top, hard models for workshops
- Office hours
- Sponsor a monthly breakfast
- Work with planning resources which could be in-sourced to assist with defining Hinkley's future

Should you have any questions or comments, please feel free to contact either of the undersigned via email or phone:

Dr. Raudel Sanchez: rsanchez@projectnavigator.com, 714-388-1821.

Dr. Ian A. Webster: iwebster@projectnavigator.com, 714-863-0483.

Sincerely yours,



Raudel Sanchez, Ph.D.
Project Manager



Ian A. Webster, Sc.D.
Hinkley IRP Manager

Attachments: Nine (9) Figures

Figure 1: The Hinkley IRP Manager Reviews, Comments and Communicates with the Hinkley Community.

(The Original Mission, and Ongoing; Commenced Feb 2012).

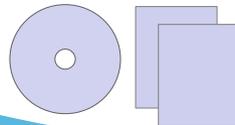
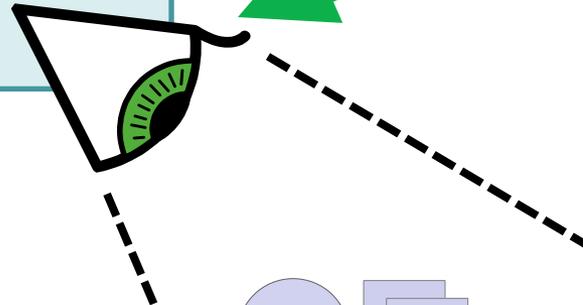


IRP Manager Functions

- Review and Interpretation
- Professional Judgment
- Relationships and Trust Development
- Visualization of Data
- Presentations
- Communications

CAC and Hinkley Community

- 30 Monthly Community Meetings
- 4 Community Open Houses
- 120 Weekly CAC Meetings
- 50 Major Reports Reviewed
- 3 Semi-Monthly Community Mailers
- 4 Community Workshops
- 150 days of office hours in Hinkley
- Hired a panel of experts to assist the CAC and Community which included:
 - EIR Expert
 - Toxicologist
 - Facilitator
- 100'0s of Questions Answered
- www.HinkleyGroundwater.com



100 MB's of files,
1000pp of information

Water Board review
and comment



PG&E's Hinkley Groundwater Remediation Team
(includes many reputable, high quality consulting and engineering firms)



Lahontan Water Board

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

Figure 2: Cr-6 Plume “Shape” Comparison: Between Today and When the IRP Manager Function was Introduced to Assist with Technical Outreach.

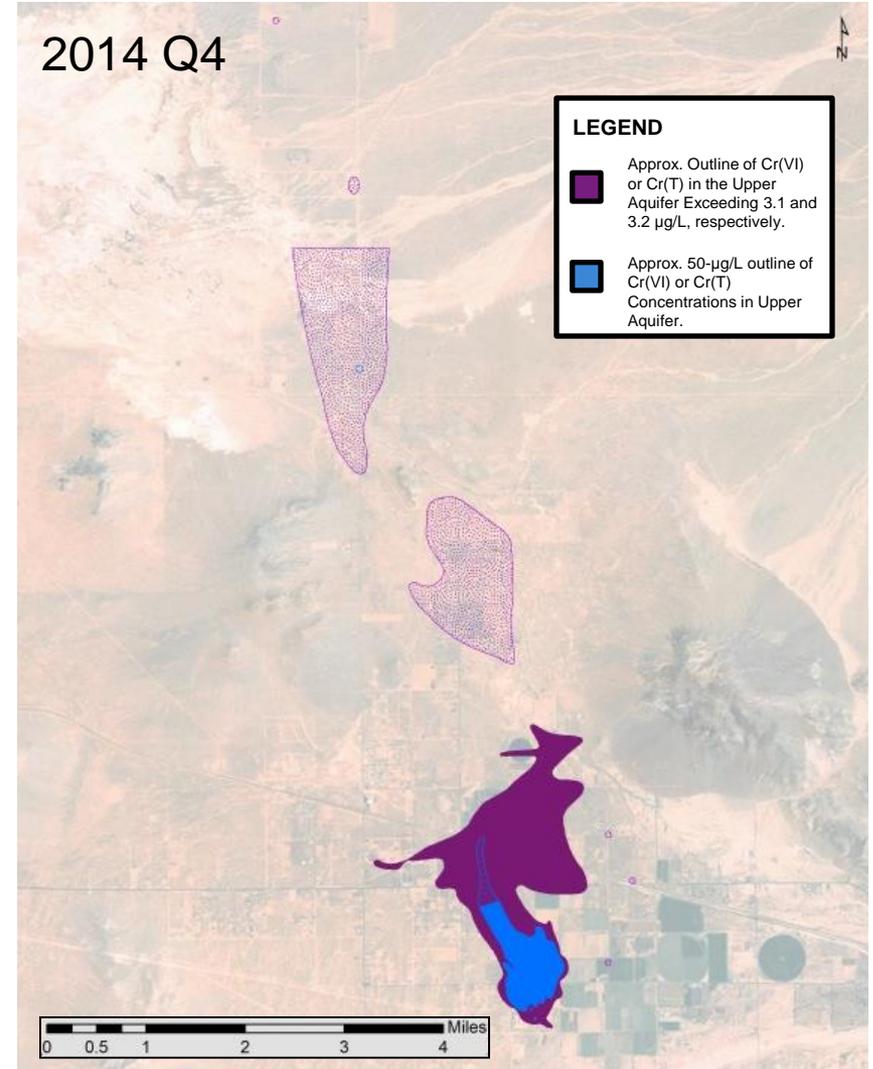
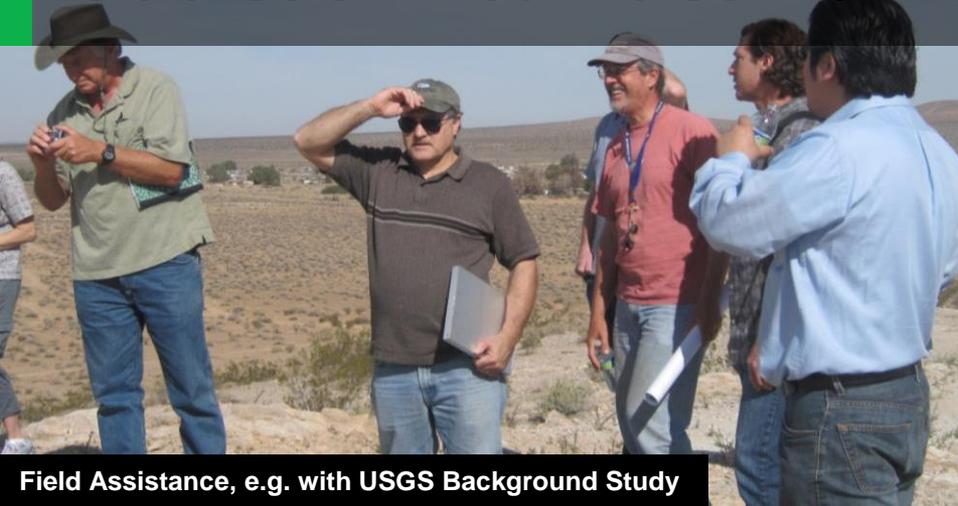


Figure 3: Examples of IRP Manager Technical Outreach Activities During the Past 3 Years.



Field Assistance, e.g. with USGS Background Study



Hosting and Running CAC Meetings



Organizing and Hosting Community BBQs



Hosting and Managing Community Meetings & Workshops

Figure 4: Maintaining a Technical Focus on the Remediation of the Core Cr-6 Plume is Continually Challenging in the Face of a Myriad of Related, But Smaller, Sub-Topics which Garner Interest.

Final, Core Cr-6 Plume Remedy

**Plume's
Western
Finger**

**Perceptions of
Impacts Which
are Clearly
Upgradient**

**Perceptions of
"Black Water"
Releases from
the IRZ**

**Western
Waste Pit**

Figure 5: The IRP Manager and Staff Has Visited More Than 50 Hinkley Community Members at their Homes Since 2012. *(Includes many multiple visits).*

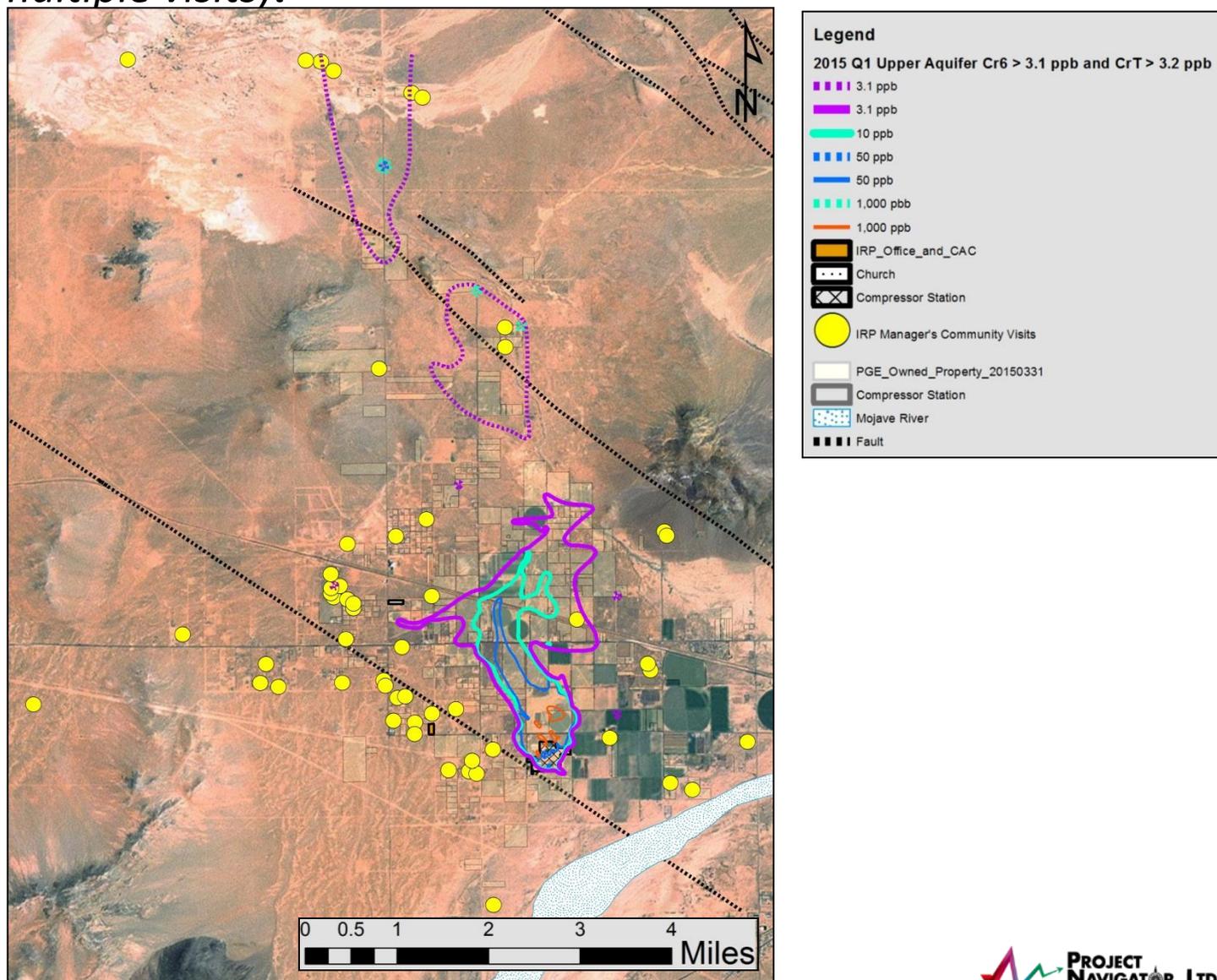


Figure 6: IRP Manager Organized, Informal Community Surveys About “What is Most Important to You?” Revealed that Above Ground Topics are Most Important to the Hinkley Community (Aug 2014).

■ Survey at Community Meeting
■ Survey at Senior Center
Note: Results from Senior Center were after termination of WHW/bottled water programs.

Above Ground Issues



Below Ground Issues

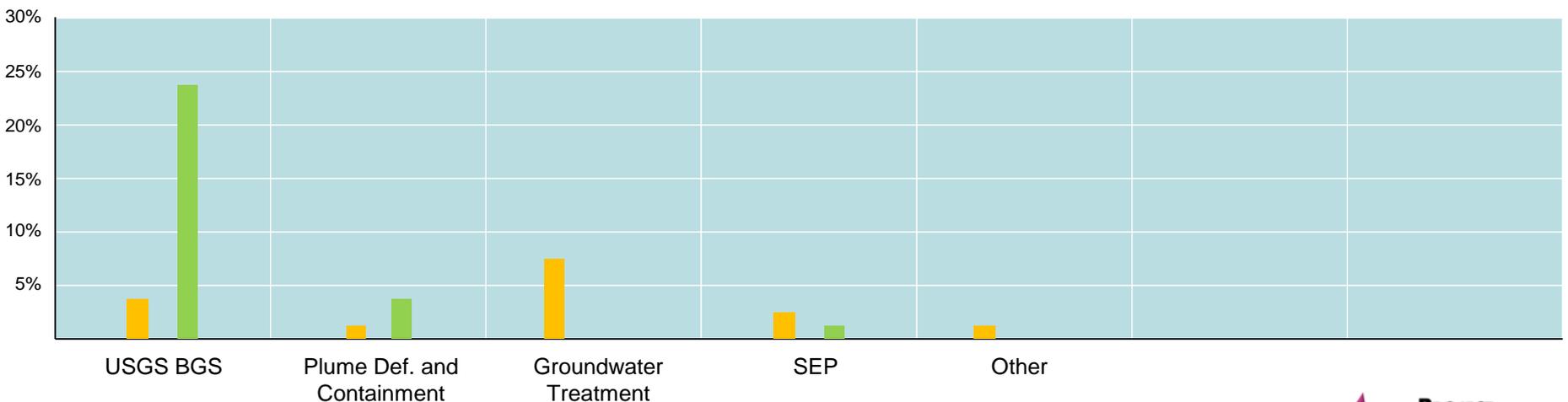
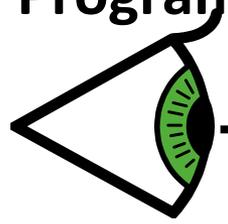


Figure 7: The Hinkley Community Lives in an Environment Which Has Been Altered by PG&E's Successful Cr-6 Plume Remediation Program.



What the Hinkley Community Sees



Declining population

Homes being demolished

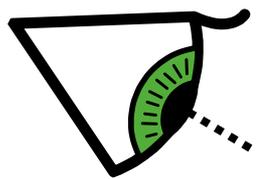
School closing

Dying trees/
Fire hazards

Vacant lots/
Dust

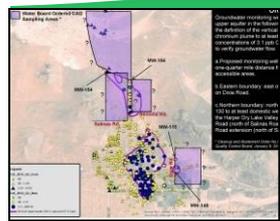
Stray dogs

Ground Surface



Water Board, PG&E, and IRP Manager Focus: Tech Success

“Progress/Success” in plume management is not perceived as “progress” at ground surface



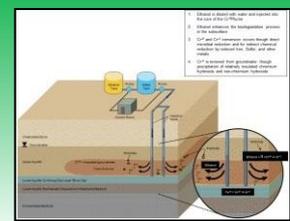
Plume Investigation



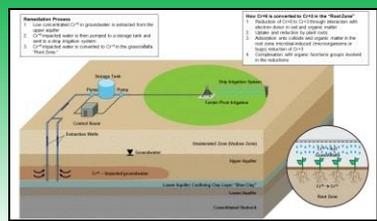
Hydraulic Gradient Controls



Background Study



IRZ Operations



Ag Treatment Operations



SEP Program

Groundwater

(*) New PG&E modeling forecasts predict time frames to attain MCL, plume-wide.
1st DRAFT, 7/3/14, IRP Manager

✓ Cr6 → Cr3 (*)



Figure 8: Hinkley Community Diversity is Exemplified by the IRP Manager's Staff Recently Participating in Two Simultaneous Community Meetings.



**Community Advisory Committee (CAC)
Regular Thursday Night CAC Meeting**
IRP Manager's Office

April 23, 2015 @ 6 PM

Attended by

Dr. Raudel Sanchez and Robert Potter



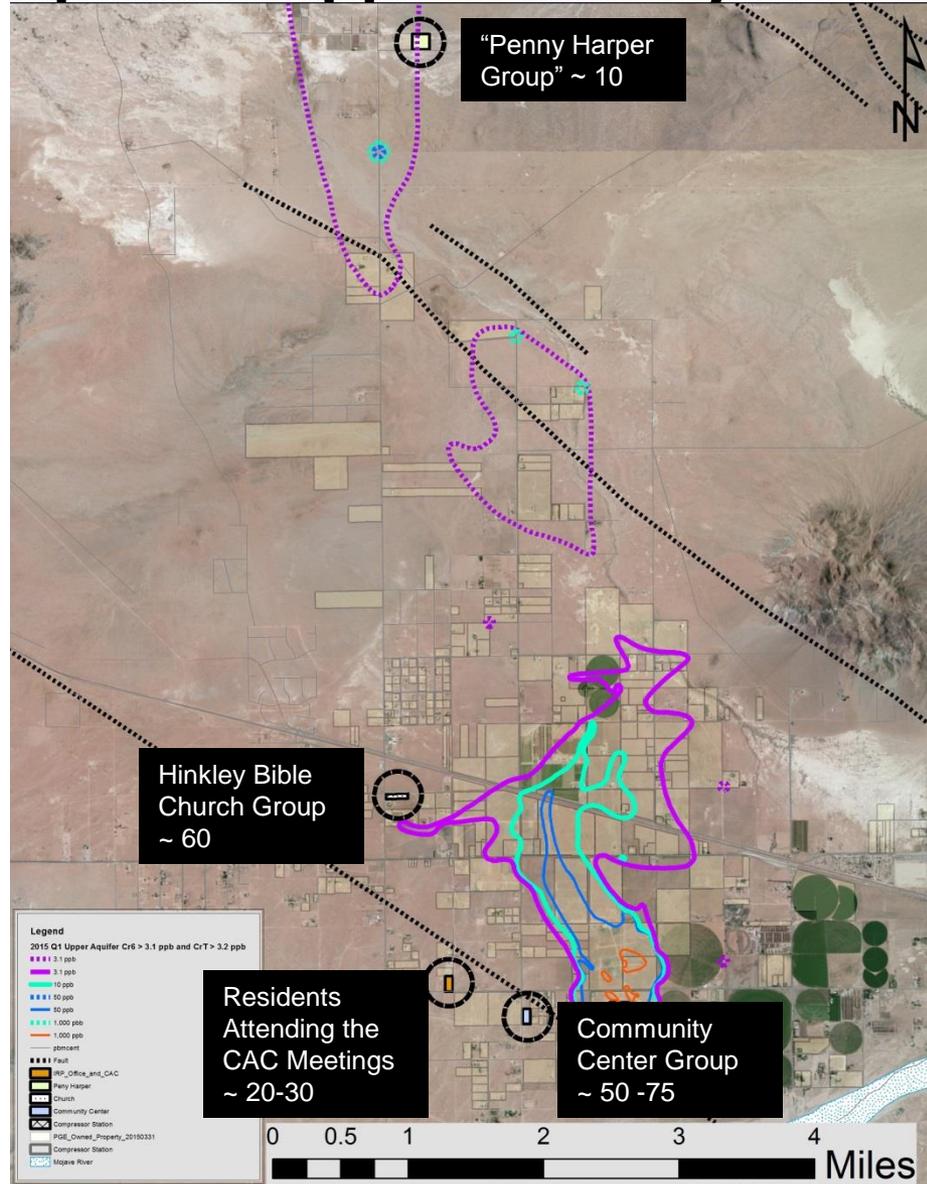
**The Community Center Group
Future Development/Post Office Meeting**
Senior/Community Center

April 23, 2015 @ 6 PM

Attended by

Dr. Halil I. Kavak

Figure 9: The Hinkley Community is Diverse with Many Different Groups and Approximately 200 Households.



Recent attendance figures for individual Group Meetings

Figure 10:

IRP Manager's Recommendations for Community Engagement and Broadened Community Involvement*.

2014

- IRP Manager's "Independent" Perspective Emphasized
 - Refocus on technical education
- Meetings
 - Many, many more "one-on-ones"
 - Workshop format to replace lecture style Community meetings
- Techniques
 - Table top models for workshops
 - Videos of similar work elsewhere
 - Back to basics style
 - Mail delivered newsletter
 - Top 4 things (in simple bullets) as website entry splash page
- Improved Use of External Experts
 - As simple as introducing a "new technical face"
 - "Guest speaker concept"

2015 Vision

- IRP Manager's "Independent" Perspective Emphasized
 - Focus on both above and below ground issues
 - Participate in BGS
- Meetings
 - "One-on-Ones" with community members
 - Workshop format
 - Continue to meet with CAC for technical issues
 - *Outreach to other community groups*
- Techniques
 - Table top models for workshops
 - Videos of similar work elsewhere
 - Office hours
 - Newsletter
 - Sponsor a monthly breakfast
 - Work with planning resources