EXHIBIT 16-B

RECVD BY HS
ON 7/14/2011

LAW OFFICES OF
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July 11, 2011

Bob Brower, Chairman, and
Members of the Board of Directors
Monterey County Water Management District
5 Harris Court, Bldg. G
Monterey, CA 93940

Subject: Fee for Appeal of Administrative Decisions; No Authority in MPWMD Rules; Contrary to Law

Dear Chair Brower and Members of the Board of Directors:

We respectfully make the following request regarding the fee paid for the appeal filed on behalf of our clients, Judy and David Beech. The MPWMD charged an appeal fee, which we paid under protest because it is our understanding that the fee is not authorized by ordinance, and, separately, because the appeal concerns issues of public interest and environmental protection. We requested a fee exemption for this appeal under MPWMD Rule 70. The request was denied by the General Manager. We ask the Board to conclude that the fee should be returned.

MPWMD Fees Must Be Adopted by Ordinance.
If There is No Applicable Adopted fee, then No Fee Can Be Charged.

The Beeches have appealed an administrative decision. The MPWMD has not adopted an ordinance establishing a fee for appeals of administrative decisions.

A public agency may not charge a fee for providing a service unless it has adopted the fee by ordinance. To the best of our knowledge, the MPWMD Fees/Charges table and list of fees does not list such a fee.

The Appeal Concerns Issues of Public Interest and Environmental Protection and Qualifies for a Fee Rebate Under MPWMD Rule 70.

MPWMD Rule 70 allows fee exemptions where the issues raised in the appeal concern issues of public interest or environmental protection. Under Rule 70, the Board has the authority to rebate the appeal fee paid.

This appeal is in the public interest because it seeks to clarify and apply important MPWMD procedures that were adopted in the public interest. These specifically include procedures to show that a new well (or other water source) will reliably meet the applicant's needs, will not harm neighboring systems (wells), or harm sensitive environmental receptors. The appeal also seeks to clarify the notice

procedures to the neighbors regarding testing, which is an essential element of due process and enforceability. This appeal is in the public interest and seeks to prevent environmental harm by ensuring that new wells do not harm vested water rights of residents, and do not excessively dewater hardrock fractures.

For each and both of the reasons stated above, the Beeches ask the Board to rebate in full the fee paid by the Beeches.

Multiple Appeal Fees

To the extent that the MPWMD asserts that a fee must be paid for each water distribution system that is affected by an MPWMD administrative decision, that assertion is not rational. If MPWMD made an administrative determination that affected 50 water distribution systems in Carmel Valley, and that determination was appealed, it would make no sense for MPWMD to require the appellant to pay 50 appeal fees, yet that is the result that would come from the interpretation that the fee is based upon the number of systems affected.

The same logic applies to the Beech appeal. The Beeches appeal the MPWMD determinations. The Beeches do not know which of the two wells (Flores/Pisenti Well #1 or #2) cause the problem with their well. But for the applicant's failure to notify the neighbors in October 2010 before the first test, the Beeches would not be in the position they are in today. The Beeches should not have to pay a penalty for the applicant's failure to comply with MPWMD procedures for the testing of the wells, or for the fact that two wells happened to be tested.

Very truly yours,

LAW OFFICES OF MICHAEL W. STAMP

for Molly Erickson

DOCUMENT IS PRINTED ON CHEMICALLY REACTIVE PAPER - THE BACK OF THIS DOCUMENT INCLUDES A TAMPER EVIDENT CHEMICAL WASH WARNING BOX

THE BACK OF THIS DOCUMENT INCLUDES MICROPRINTED ENDORSEMENT LINES

ORIGINAL DOCUMENT HAS RED KEYHOLE ICON THAT DISAPPEARS WITH HEAT

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COMERICA BANK
CALIFORNIA
MONTEREY, CA 93940
90-3752/1211

008487

July 8, 2011

PAY TO THE ORDER OF Monterey Peninsula Water Management District $250.00

Two hundred fifty + 00/100 DOLLARS

MEMO Beech appeal paid under protest

Molly C
AUTHORIZED SIGNATURE

HEAT SENSITIVE COLOR FADES WITH HEAT

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No. _____ Date 7-11-2011

RECEIVED OF Michael Stamp Office

Two Hundred fifty & 00/100 DOLLARS $ 250.00

Amt. of Account		
Amt. Paid		
Balance Due		

1450 Munras

BY

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July 11, 2011

Bob Brower, Chairman, and
Members of the Board of Directors
Monterey County Water Management District
5 Harris Court, Bldg. G
Monterey, CA 93940

Subject: Appeal of Administrative Decisions in MPWMD Letter of June 24, 2011 to Judy and David Beech et al.

Dear Chair Brower and Members of the Board of Directors:

We respectfully submit the following appeal on behalf of our clients, Judy and David Beech, of 1450 Manor Road, Monterey, CA 93940.

In October 2010, the Beech well ran dry. The problem appears to have been caused by the testing of a new nearby well, called the Flores/Pisenti Well #2. The testing of the Flores/Pisenti Well #2 was not performed in compliance with MPWMD requirements to notify well owners within 1000 feet. The Beech well is one of three wells within 1000 feet.

The Beeches simply seek reassurance that their existing well will not be harmed by the new well. This appeal is prompted by the Beeches' receipt of a June 24, 2011 letter from MPWMD. In that letter, the MPWMD made several determinations. Those administrative determinations are appealable, as MPWMD general manager Fuerst confirmed.

In this letter, we first provide some background and the reason for this appeal. We also describe the extraordinary efforts by the Beeches to try to resolve the matter. Then we present the grounds for the appeal, as follows:

1. Unreasonable deadlines were imposed on the Beeches.
2. MPWMD well recovery procedures were not followed.
3. MPWMD unreasonably delegated its powers to the well applicant.
4. MPWMD did not require the applicant to retest.
5. The retest should use pumping rates not greater than the County estimated rates from the October 2010 tests.

Background

The Beeches have a well that is registered with the MPWMD. In the Beeches' own words, here is a brief overview of the events that have led to this appeal.

> "In mid-to-late October, 2010, our well ran dry. We discovered this when we noticed that our irrigation system was inoperative, due to our storage tanks being empty. We then found that the safety switch on our pump was off, and reset it. The pump ran for a short time before the switch went off again. This was repeated several times for approximately three days, until eventually the pump ran without interruption, refilling the storage tanks.
>
> In the 10 years in which we have owned and resided at this property, we have never encountered a similar problem with the well (which had been installed by the previous owners about 10 years before we came). It was only after this problem arose that we learned from a neighbor of the existence of the new Flores/Pisenti Well #2, and of the testing that had just been taking place of the Flores/Pisenti Wells #1 and #2. We had received no notification of the well or its testing. We had not received a request to monitor our well simultaneously with the testing for potential impact as required by MPWMD Procedures. We would certainly have agreed to this monitoring, as the new well is almost directly up the slope behind us, and its impact needs to be determined by hard data.
>
> We made no change to our water use patterns around that time, so that the strong correlation of the timing of this unique problem – the running dry of our well – with the testing of both the Flores/Pisenti Well #1 and Well #2 suggests that their impact needs to be convincingly investigated.
>
> On June 12, 2011, we provided this background to MPWMD, together with three requests:
>
> - That retesting be carried out in October 2011 to replicate as closely as possible the situation of the October 2010 test.
> - That MPWMD's recovery requirements should be satisfied as written for both Well #1 and Well #2 (MPWMD Procedures, Setting #2, Step 2 [p. 11]).

- That the estimated reduced pumping rates from the 2010 test be used as actual pumping rates for the retesting."

Reason for This Appeal

The MPWMD letter of June 24, 2011 letter denied all three of the Beeches' requests, and set a very aggressive schedule for the Beeches to make a major decision in the absence of vital information they requested from the District. The letter is attached to this appeal as Exhibit A.

Extraordinary Efforts by the Beeches

The current situation arises out of the failure of the Flores/Pisenti Well Applicants to provide the required notification of the October 2010 tests to the nearby well-owners, including the Beeches. The Beeches are as keen as anyone to see a speedy and just resolution of the issues.

The Beeches have made extraordinary efforts to accelerate the process as soon as they were finally able to obtain a copy in late May 2011 of the crucial report titled "72-HOUR CONSTANT RATE WELL PUMPING, AQUIFER RECOVERY TEST AND PUMPING IMPACT ASSESSMENT FOR FLORES/PISENTI WELL #2" dated March 22, 2011. (Exhibit B.) The report was datestamped as received by Monterey County Planning Department on March 29, 2011. Despite the Beeches' request to both the Planning Department and the Monterey County Environmental Health Department to be notified when they received it, the Beeches heard nothing, and continued requests by the Beeches were never answered by either department, even though both departments had possession of the report. It was only after the County scheduled a hearing on the Flores/Pisenti Lot Line Adjustment that the Beeches were able to obtain a copy through their own efforts.

Seven months elapsed before the Beeches were able to obtain any substantial information. Since the Beeches obtained the well reports, in a very short time the Beeches have invested much time and money and suffered personal stress in remedying a situation they did not cause.

The Beeches met the unreasonable deadlines imposed on them by the MPWMD (June 24 letter) to make a major decision, by filing this appeal by the deadline. At great inconvenience, our clients have found the time, despite one of them having an out-patient hospital procedure and having just completed an extended course of treatment every weekday. The Beeches also were busy preparing for a vacation out of the country that was planned and reserved a year ago.

However, at the time this appeal is being written, MPWMD has not met its own short deadlines by answering all of the Beeches' recent questions to them, claiming "These tasks all take time."

Grounds for Appeal #1: Unreasonable Deadlines Were Imposed on the Beeches.

1.1. Summary of Issue.

In the June 24, 2011 MPWMD letter to the Beeches (Exhibit A), MPWMD unilaterally imposed an unreasonable schedule with unreasonable deadlines on the Beeches. The deadlines required a response from the Beeches within seven days, including the July 4th holiday weekend. The letter also authorized the retest of the new well to take place within 14 days of notification of the Beeches.

1.2. MPWMD Rule/Procedure.

There is no MPWMD rule or procedure that requires the 7-day and 14-day deadlines imposed on the Beeches. There are no MPWMD rules as to time deadlines for notice to well-owners within 1000 feet when an applicant wishes to test a well. MPWMD Rule 22.C.5 requires that a well application be denied if the proposed Water Distribution System will adversely affect the ability of existing systems to provide water.

1.3 MPWMD Position.

MPWMD imposed the short seven-and fourteen-day deadlines.

1.4 Reason for Disagreement.

The MPWMD's seven-day and fourteen-day deadlines are arbitrary, and not supported by MPWMD rules. The short deadlines are not reasonable because (a) the issues are too important to rush, (b) the Beeches will be out of town on long-planned travel out of the country during the proposed short deadlines, (c) the Beeches are seeking expert assistance with the situation, and those experts have been unavailable due to their respective vacations and the Fourth of July holiday weekend, (d) the Beeches have had health issues which have taken a significant amount of time and energy, and (e) the current problems are not due to any actions by the Beeches. Further, the Beeches have been working diligently to address the matter. The Beeches have a vested right to the water in their well, and should not be deprived of that right without due process.

On July 5, the Beeches requested an extension on the July 5 deadline. The MPWMD granted a 7-day extension to July 12. However, because the Beeches left on their long-planned travel on July 5, and will not be back in time for the proposed testing on July 19, the 7-day extension does not provide the substantive relief sought. The Beeches wish to be present during the monitoring of their well, which is a reasonable request under the circumstances.

The MPWMD was not able to meet its own short schedule in supplying the Beeches with information essential to resolving some of the issues that the Beeches are now forced to appeal.

Further, the proposed schedule would have allowed the Applicants an advantage which they seem not to deserve, because the Applicants' failure to notify the Beeches of the October 2010 tests has already cost the Beeches much time and expense. That advantage would have been to carry out the tests very early in the dry season and immediately after an unusually wet end to the wet season (including two days of rain in June!), rather than in October when any potential future problem is more likely to be detectable.

1.5 Relief Requested.

The Beeches seek the retesting to determine as far as possible the true facts about Flores/Pisenti Well #1 and Well #2 and their possible impact on the Beech well.

The Board is asked to direct as follows:

A. The retesting of the Flores Well #1 and Well #2 be done in October 2011, in order to replicate as nearly as possible the conditions of the October 2010 tests that apparently caused the Beech well to go dry.

B. Notice of scheduling requests should be reasonable. A seven-day notice is not reasonable under the circumstances, including the Beeches' long-scheduled vacation, the Beeches' health issues, the late provision of the test report, and the tardy provision and failure to respond to the Beeches' questions with regard to the testing and monitoring procedures.

Grounds for Appeal #2:
MPWMD Well Recovery Procedures Were Not Followed.

2.1 Summary of Issue.

The MPWMD did not follow its well testing procedures which are designed to protect the public. In the tests of both Flores/Pisenti Well #1 and Well #2, MPWMD has interpreted one of its procedures in a manner that differs from the procedure's plain meaning. Moreover, MPWMD has interpreted the rule in a way that permits ad hoc calculations without any description of the MPWMD's intent, or criteria for success.

2.2 MPWMD Rule/Procedure.

MPWMD has adopted Implementation Guidelines which are referenced in several MPWMD Rules, including, for example, Rules 20, 21, 22 of the MPWMD Rules.[1] The MPWMD "Procedures for Preparation of Well Source and Pumping Impact Assessments"[2] include "Step 2, Documentation of Drawdown and Recovery" (see Exhibit C, p. 11). The final two sentences of that step read as follows:

> Water level recovery data shall be measured until the recovering water level in the pumping well reaches 95% of the pre-test static water level. If 95% percent recovery is not achieved after two times the pumping period has elapsed, then an evaluation of the test will be conducted by the District to determine whether or not the calculated yield should be reduced.

These requirements are stated to be "minimum requirements" (Exhibit C, p. 1, underlining in the original). They are not identified as approximate requirements, or requirements that can be relaxed.

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[1] No MPWMD Rule specifically authorizes adoption of the Guidelines, per Darby Fuerst email of July 8, 2011.

[2] MPWMD procedures are available online at: http://www.mpwmd.dst.ca.us/pae/wds/WDSPermits/WellAssessProcedures_ver3edit_14sep05.pdf

2.3 MPWMD Position.

MPWMD interpreted the mandatory statement that the "data shall be measured" as optional. MPWMD interpreted that the mandatory "shall" could be overridden by the "evaluation" mentioned in the second sentence.

Then MPWMD applied what it described as "standard formulas" to evaluate the Flores/Pisenti test results. The Beeches requested further information about the so-called "standard formulas" but MPWMD did not provide it before this appeal had to be finalized.

2.4 Reason for Disagreement.

The MPWMD procedure requires that the "water well recovery data shall be measured until" 95% of the pre-test level is achieved. This sentence must be strictly interpreted, because it is intended to provide information as to the recovery rate of the well. That mandatory requirement – that the well shall be measured until it has achieved 95% of its pre-test water level – is not made meaningless by the sentence that follows it, which addresses only what happens in addition "if 95% percent recovery is not achieved after two times the pumping period has elapsed" (e.g., two times the three-day pumping period is six days).[3]

Certified hydrogeologist Mr. Derrik Williams reviewed Mr. Bierman's October 2010 well analysis, including the increasingly steep drawdown curve and the incomplete recovery curve. In Mr. Williams' expert opinion, the drawdown curve is most likely caused by the dewatering of the hardrock fractures. The recovery curve, that shows an incomplete recovery to far less than the required 95%, also is more likely caused by fracture dewatering. (See Exhibit B, and section 5.4 below[4]).

The "standard formulas" have not been disclosed by the MPWMD, despite the Beeches' request. They have not been identified as part of any known standard. The Beeches' requests to MPWMD for MPWMD's documentation of its formulas (or literature citations) and justification of the formulas have not been answered.

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[3] Notably, Monterey County Environmental Health requires an even more stringent requirement than MPWMD. Under County rules, the "well must demonstrate" that within three days of the test, the water level has recovered to a 95% of the original water level, or to within two feet of the original level, whichever is more stringent. (Monterey County Source Capacity Testing Procedures, rev. 9/09, p. 4.)

[4] The figures Mr. Williams cites refer to the County Environmental Health calculation, but the argument applies to the MPWMD figures, as well.

2.5 Relief Requested.

We ask the Board to apply definitive interpretations of these two critical issues in Step 2 of MPWMD Procedures:

(a) That the sentence "Water level recovery data shall be measured until the recovering water level in the pumping well reaches 95% of the pre-test static water level " requires measurement until 95% recovery is actually achieved.

(b) That the sentence "If 95% percent recovery is not achieved after two times the pumping period has elapsed, then an evaluation of the test will be conducted by the District to determine whether or not the calculated yield should be reduced" will be clarified in writing by the MPWMD for the use of the general public, along with the nature of the evaluation intended, and the criteria for its success.

The Board should require retesting of Well #1 and Well #2 in accordance with the Board's direction.

Grounds for Appeal #3:
MPWMD Unreasonably Delegated Its Powers to the Well Applicant.

3.1 Summary of Issue.

MPWMD gave arbitrary and unreasonable direction to the Applicant with regard to contacting the neighboring well owners. The MPWMD is not authorized to delegate its powers delegated to the Applicant. The MPWMD did not limit the applicant's access and questioning regarding the Beech well to what is essential for monitoring purposes. Further, Mr. Bierman did not follow the MPWMD direction to specify the terms of well monitoring to ensure understanding of technical compliance by the Beeches.

3.2 MPWMD Rule/Procedure.

No rule was cited by MPWMD, and none authorizes the MPWMD's direction.

3.3 MPWMD Position.

MPWMD's June 24, 2011 letter (Exhibit A, p. 3, "Direction to Applicants" #2) directed the Applicant's representative Mr. Bierman as follows:

> [N]eighbors ... should be contacted by Mr. Bierman (phone, mail, personal visit, and/or email) and asked whether they wished to have their well monitored, with the understanding that well monitoring means that their well cannot be used for the test duration (at least 3 days). Specify the terms of well monitoring to ensure understanding of technical compliance by the neighbors. Advise the neighbors that their answers should be received no later than 7 days before the scheduled test. If an answer is not provided by that time, it should be deemed to mean "no consent to monitoring."

3.4 Reason for Disagreement.

Notification on these important matters should be conducted directly and in writing by MPWMD, and not delegated to a representative of one of the parties. "Specifying the terms of well monitoring to ensure understanding of technical compliance " and "advising" should be done by MPWMD. Responses should be provided to MPWMD. The required contact with the neighbors is not assured when the well applicant is merely told that he "should" make contact. The term "no consent to monitoring" does not explain the significance of that term – what consequences flow from "no consent."

MPWMD cannot require that the Beeches deal with Mr. Bierman by phone or personal visit. In fact, before Mr. Bierman had read an email from the Beeches declining to accept a personal visit, Mr. Bierman had already phoned and asked for an immediate visit to look around the Beech well and ask at a "minimum" ten questions. It is not reasonable for an Applicant to demand an immediate personal visit or to interrogate the neighbors.

The necessity for clear written communication and guidance by MPWMD on the above matters is highlighted by the length of the "minimum" list in Mr. Bierman's email to the Beeches on June 27, 2011. (Exhibit D, p. 1.) In that email, Mr. Bierman asked ten questions about the Beeches' well:

> "At a minimum, here is what I am looking for at this time.
> 1) How many Parcels does the Beech Well serve?
> 2) What type of pump is installed in the well?
> 3) What is the depth of the pump in the well?
> 4) Does the well have a sounding tube?
> 5) Do the well have a flow meter installed?
> 6) What is the flow rate?
> 7) What is the Static Water Level?

8) What is the Pumping Water Level?
9) What is the pumping frequency of your well?
10) Does your well perform daily irrigation cycles?, if so, for how long does it pump? and what is the flow rate?"[5]

Mr. Bierman's demand was in direct response to the MPWMD's June 24 letter and Mr Bierman appears to be asking these questions under color of authority of the MPWMD. Given that the Beeches' pump would be turned off during monitoring, at least eight of these questions do not appear to be essential to measuring of the water level at the Beech well. Which of these questions are necessary, which are authorized by MPWMD, and which are not?

3.5 Relief Requested.

We ask the Board to direct MPWMD staff not to delegate to Mr. Bierman the responsibilities under item #2 of Direction to Applicants, but instead for MPWMD to discharge them itself in writing (by mail or email), with a reasonable notice period to neighbors.

We also ask the Board to direct that MPWMD staff provide owners of neighboring wells with written specification of "the terms of well monitoring to ensure understanding of technical compliance by the neighbors." For this important information, neighbors should not have to rely on the representations of applicants.

Grounds for Appeal #4:
MPWMD Did Not Require the Applicant to Retest.

4.1 Summary of Issue.

The MPWMD stated that no retest is required of the Flores/Pisenti Wells even where, as here, the previous test did not comply with MPWMD's well recovery procedures, and where the Beech well ran dry during the previous test. MPWMD only required to applicant to retest if the neighbors request monitoring of their wells.

4.2 MPWMD Rule/Procedure.

Nothing authorizes the MPWMD to allow an applicant to avoid the MPWMD well testing procedures. As MPWMD admits, "The hydrogeologic review is the heart of the

[5] Mr. Bierman repeated these questions in an email to Mr. Beech dated July 6, 2011, asking the questions in an increasingly insistent manner. (Exhibit D, p. 2.)

WDS permit assessment, and must show that a well . . . will reliably meet the applicant's needs, will not harm neighboring systems (wells) or harm Sensitive Environmental Receptors . . . ."[6] MPWMD Rule 22.C.5 requires that a well application be denied if the proposed Water Distribution System will adversely affect the ability of existing systems to provide water.

4.3 MPWMD Position.

MPWMD's June 24, 2011 letter (Exhibit A, p. 3, "Direction to Applicants" #4) stated as follows:

> "If no neighbors within 1000 feet of Well #1 or Well #2, respectively, request or consent to well monitoring [within seven days], then a test is not required because the October 2010 tests already addressed offsite impacts using calculations accepted by the District."

4.4 Reason for Disagreement.

If the October 2010 tests failed to comply with MPWMD testing procedures, e.g. recovery requirements, retesting should be required for those reasons, independently of requests from neighbors. Retesting for any reason should be part of the full MPWMD approval process, including a valid permit from County Environmental Health. The proposed Water Distribution System must show that it will not adversely affect the ability of existing systems to provide water to users like the Beeches (MPWMD Rule 22.C.5).

Mr. Derrik Williams of HydroMetrics Inc. wrote a letter in which he raised questions about the cumulative effect of Well #1 and Well #2 which was not taken into account in the report; and challenging the assumptions made about the impact of Well #2. (Exhibit E, pp. 1-2.) The Beeches submitted the HydroMetrics letter to MPWMD.

The District did not provide a response, and instead merely told Mr. Beech that Mr. Williams could contact Robert Marks at Pueblo Water Research. The Williams/HydroMetrics letter has not been responded to by MPWMD.

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[6] Staff report, July 11, 2011 Administrative Committee agenda, item 7 (at http://www.mpwmd.net/asd/board/committees/admincomm/2011/20110711/07/item7.htm)

4.5 Relief Requested.

The Board should require retesting when a test has failed to comply substantively with MPWMD Procedures, especially where the improper test and resulting well analysis has been challenged by expert opinion, and where a nearby well ran dry during the test.

Further, we ask the Board to direct the MPWMD staff to respond to the important concerns raised by the Beeches' hydrogeologist. The MPWMD should understand, and be willing to explain to the public, the procedures and analyses used by the MPWMD, particularly where a deviation from the procedures has occurred.

Grounds for Appeal #5:
The Retests Should Use Minimum Permitted Well Yield as Actual Pumping Rate In Order To Eliminate the Need for Estimates to Meet the 95% Recovery Requirements.

5.1 Summary of Issue.

MPWMD's June 24 letter (Ex. A, p. 3, "Direction to Applicants" #5) states:

> Each well shall be tested for 72 hours at a minimum of 3 gallons per minute.

Allowing pumping at greater than 3 gpm could lead to uncertain estimates of reduced pumping rates as in the October 2010 tests. Instead, the MPWMD should get hard data of recovery and well impacts at the actual pumping rates of 3 gpm for a single connection, and 6 gpm for a double connection.

We may need to discuss this issue with staff and provide additional clarification while this appeal is pending.

5.2 MPWMD Rule/Procedure.

MPWMD Procedures state that: "A well yield of 3 gpm per single-family dwelling is the minimum standard for WDS applications." (Exhibit C [Setting #2 (wells in hard rock formations)], pp. 11-12; same requirement for County Environmental Health.)

5.3 MPWMD Position.

MPWMD would allow the Applicant to pump any rate of 3 gpm and up.

5.4 Reason for Disagreement.

A retest at the minimum pumping rate would make the well recovery rate directly ascertainable. If the well does not recover to 95% after the pumping, then the answer will be clear that the well cannot make the required recovery. No controversial calculations or interpretations will be necessary.

The MPWMD position leaves the door open for the tests to be repeated at a rate of far more than 3 gpm – which is what happened in the October 2010 tests. The October 2010 pumping rates resulted in too much uncertainty in interpreting the well recovery and drawdown results, and impacts on neighboring wells. That uncertainty would be removed by carrying out retests at the minimum well yield rates.

5.5 Relief Requested.

In order to get actual data instead of estimates, the Beeches ask the Board to direct that retesting be carried out at pumping rates of 6 gpm for Flores/Pisenti Well #1, and 3 gpm for Flores/Pisenti Well #2. If clarification is appropriate during the time this appeal is pending, we will amend this request for relief accordingly.

The Appeal Should Be Granted

For all the above reasons, and in the interests of justice and fairness, the Beeches' appeal should be granted.

The Beeches will be back at the end of July. In light of the study of the issues needed by all parties and the Board, and our clients' travel to which they have heavy financial and personal commitments, we respectfully request that the hearing on the appeal be scheduled for either the August 2011 or September 2011 Board meeting.

Very truly yours,

LAW OFFICES OF MICHAEL W. STAMP

for Molly Erickson

Enclosures:

Exhibit A – June 24, 2011 letter from MPWMD to the Beeches

Exhibit B – 72-Hour Constant Rate Well Pumping, Aquifer Recovery Test and Pumping Impact Assessment for Flores/Pisenti Well #2

Exhibit C – MPWMD Procedures for Preparation of Well Source and Pumping Impact Assessments, pages 1 to 6 and 11 to 13

Exhibit D – June 27, 2011 email from Aaron Bierman to David Beech and July 6, 2011 email from Aaron Bierman to David Beech

Exhibit E – June 3, 2011 letter from HydroMetrics to David Beech

EXHIBIT A

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

June 24, 2011

Judy and David Beech
1450 Manor Road
Monterey, CA 93940

Jose Flores
#5 Zaragoza View
Monterey, CA 93940

Pisenti Family Trust
c/o Ed Kramer
317 Montclair Road
Los Gatos, CA 95032

SUBJECT: MPWMD GUIDANCE FOR 2011 WELL TESTS TO DETERMINE IMPACT ASSOCIATED WITH APPLICATION FOR "FLORES" WDS (Well #1) AND "PISENTI" WDS (Well #2)
MPWMD APPLICATION #20110401FLO; APN 103-071-002; 564 Monhollan Road, Monterey
MPWMD APPLICATION #20110401PIS; APN 103-071-019; 577 Monhollan Road, Monterey

Dear Mr. and Mrs. Beech, Mr. Flores and Mr. Kramer:

As you know, the Monterey Peninsula Water Management District (MPWMD or District) has been contacted by Mr. and Mrs. Beech regarding concerns about impact to their well at 1450 Manor Road in Monterey, and has requested that another test be performed in which his well can be monitored. To facilitate this request, consulting hydrogeologist Aaron Bierman is working to arrange a testing date and has also asked a variety of technical questions about the Beech well, which require the installation of a sounding tube. Before proceeding, Mr., Beech, in a June 21, 2011 e-mail to Henrietta Stern, MPWMD Project Manager, asked for written confirmation of certain assumptions (copy of e-mail enclosed as **Enclosure 1**). This letter provides: (a) some basic facts relevant to this situation, (b) responds to the Beech e-mail assumptions, and (c) provides direction to the applicants.

On June 23, 2011, I met with Ms. Stern, Jonathan Lear, MPWMD Senor Hydrogeologist, and Robert Marks (by phone) of Pueblo Water Resources (MPWMD hydrogeologic consultant), to review the relevant files and information. Though the District and the Monterey County Health Department (MCHD) coordinate on regulatory issues, this letter does not speak for that agency.

Relevant Regulatory and Hydrogeology Facts
MPWMD has written procedures on how well testing must be performed. The procedures include alternative protocol for conservative calculations if certain physical data cannot be

obtained. Examples include the number of days to 95% recovery and the inability to monitor adjacent wells. It is noted that the procedures allow for variations on a case-by-case basis, if warranted; written permission is required. The procedures are on the District website at: http://www.mpwmd.dst.ca.us/pae/wds/WDSPermits/WellAssessProcedures_ver3edit_14sep05.pdf

MPWMD strives to apply the procedures equally to all applicants. Retroactive changes to rules are not allowed.

The District procedures accept well testing results from June 1 through November 30 unless written exceptions are granted for testing outside this period. MCHD staff has advised the District that MCHD accepts well testing from June 1 through November 30 for single-connection situations and from August 1 through October 31 for multiple-connection systems.

The time a well takes to attain 95% recovery has no bearing on offsite impacts. Also, the determination of connectivity of one well to another is not affected by when the test is performed (i.e., same conclusion whether testing occurs in June or November).

Beech E-Mail Assumptions (June 21, 2011)

Assumption #1: The District does not agree with Assumption #1 as written. The October 2010 tests for Well #1 and Well #2 were valid and comply with District Procedures. Regarding recovery, an extra deduction on the well yield was applied using standard formulas because the 95% recovery was not attained by the specified time. Below is the procedure that addresses this point (Procedures, page 11, see last sentence).

> **Step 2, Documentation of Drawdown and Recovery.** Drawdown and recovery data in the pumping and monitor wells shall be documented in a summary table(s) and shall include: static water level, flow meter totalizer readings, clock time, elapsed time since pump start (minutes), pumping water levels (feet below ground surface or specified reference point), drawdown (pumping water level minus static water level), elapsed time since pump stop (minutes), residual drawdown (non-pumping water level minus static water level). Water level recovery data shall be measured until the recovering water level in the pumping well reaches 95% of the pre-test static water level. If 95% percent recovery is not achieved after two times the pumping period has elapsed, then an evaluation of the test will be conducted by the District to determine whether or not the calculated yield should be reduced.

Regarding well monitoring, the tests for Well #1 and Well #2 comply with District Procedures in that standard calculations accepted by the District were used to substitute for lack of monitored information for neighboring wells. Below is the procedure that addresses this point (Procedures, page 3).

> 6. ***Wells Monitored.*** In all cases, the production well that is being tested shall be monitored as described in this section. In addition, nearby wells in the expected area of influence of the pumping well shall be monitored where feasible. The District recognizes that it may not be feasible to monitor all nearby wells due to logistical constraints (e.g., availability, monitoring equipment access, pumping requirements, etc.). Accordingly, in cases where nearby wells are not available for use as monitor wells during pumping tests, and the reasons for this are clearly documented in the *Assessment*, data developed from the production well shall be used to the extent possible to support the required analysis and evaluation.

However, it is noted that the Well #1 and Well #2 hydrogeologic reports (footnote #12) indicate that the information on the Beech well was not received before the tests, and thus Mr. Beech was not given the opportunity to allow monitoring. Given that the District files show that the well radius information was not provided to Bierman until after the testing for Well #1 and Well #2, this may be true for other neighboring wells. Thus, though the calculations are technically acceptable, the District concurs that the neighbors were not given the opportunity to agree to well monitoring. See Direction to Applicants below for resolution.

Assumption #2: The District partially agrees with Assumption #2. New tests to assess offsite impacts should be conducted if any neighbor with a well within 1,000 feet of Well #1 or #2 wishes to have their well monitored. If no neighbor desires or allows such monitoring, a new test is not necessary. See Direction to Applicants below for more information.

Assumption #3: The District concurs that neighbors will be notified of their option to request concurrent monitoring of their well. See Direction to Applicants below for more information.

Direction to Applicants

The Flores and Pisenti Well #1 and Well #2 applications should abide by the following direction:

1. Well testing conducted pursuant to District procedures, with an emphasis on offsite impacts to neighboring wells, may be conducted between June 1 and November 30, 2011.
2. At least 14 days before the scheduled test date, neighbors with wells within 1,000 feet of Well #1 and Well #2 should be contacted by Mr. Bierman (phone, mail, personal visit and/or e-mail) and asked whether they wish to have their well monitored, with the understanding that well monitoring means that their well cannot be used for the test duration (at least 3 days). Specify the terms of well monitoring to ensure understanding of technical compliance by the neighbors. Advise the neighbors that their answers should be received no later than 7 days before the scheduled test. If an answer is not provided by that time, it should be deemed to mean "no consent to monitoring."
3. If any neighbor within 1,000 feet of Well #1 requests that their well be monitored, then a test for Well #1 is required in 2011. If any neighbor within 1,000 feet of Well #2 requests that their well be monitored, then a test for Well #2 is required in 2011.
4. If no neighbors within 1,000 feet of Well #1 or Well #2, respectively, request or consent to well monitoring, then a test is not required because the October 2010 tests already addressed offsite impacts using calculations accepted by the District.
5. Based on the above, if testing is needed for both wells, Well #1 should be tested separately from Well #2 (in sequence, not together). The combined effect of the two wells may be calculated based on the Well #1 and Well #2 results. Each well shall be tested for 72 hours at a minimum of 3 gallons per minute. District procedures shall guide recovery, as specified above.

Please contact me at 831/658-5650 or darby@mpwmd.net if you have any questions on this guidance. For procedural questions about the application process, the staff contact is Henrietta Stern at 831/658-5621 or henri@mpwmd.net.

Thank you for your cooperation in this matter.

Sincerely,

Darby W. Fuerst

Darby W. Fuerst
General Manager

Cc: Richard LeWarne, MCHD (via e-mail)
Henrietta Stern, MPWMD (via e-mail)
Joe Oliver, MPWMD (via e-mail)
Jonathan Lear, MPWMD (via e-mail)
Robert Marks, Pueblo WR (via e-mail)
Aaron Bierman, Bierman HydroGeologic (via e-mail)

Enclosure: 6/21/2011 email

U:\Henri\wp\ceqa\2011\WDS2011\BEECH\Beech_WellTestLetter_20110624.docx
Prepared by H. Stern, revised 6/24/11 as directed by DF

ENCLOSURE 1

Henrietta Stern

From: David Beech <dbeech@comcast.net>
Sent: Tuesday, June 21, 2011 5:09 PM
To: Aaron Bierman
Cc: Henrietta Stern; Roger Van Horn; Joe Oliver; Paul Flores; Ed Kramar
Subject: Re: Beech well/Pisenti testing -- Status update

Dear All,

This track seems to have diverged from what we thought was described in MPWMD Procedures, so we need to be sure we are all on the same page before continuing.

We would be grateful if MPWMD and MCEHD could confirm our assumptions below. Henrietta and Roger, if you need to go higher in your organizations to give definitive answers, could you please do so?

Assumptions

1. Now that MPWMD and MCEHD are aware of failures of compliance in the test reports for both Flores/Pisenti Well #1 and Well #2 (not only in regard to notification to nearby well owners and possible concurrent monitoring, but also in the intrinsic requirements such as, but not limited to, 95% recovery within a specified time, and continued pumping until 95% recovery is attained), their regulations do not allow them knowingly to approve those reports.

2. If the applicants wish to continue, both MPWMD and MCEHD require complete new tests of Well #1 and Well #2 to be performed in compliance with their respective written regulations. (The results can, of course, be merged into a single report for each well, as before.)

3. If such new tests are planned, owners of nearby wells will be notified of their option to request concurrent monitoring.

If those assumptions are correct, they describe the process with which we thought we were cooperating. If we all share those assumptions, then we look forward to proceeding from that formal notification, rather than being invited to sail into uncharted waters.

Best regards,

Judy and David Beech

Aaron Bierman wrote:
> To all;

>
> I would like to address the hydrogeologic connectivity with the wells,
> and, in order to do so, I will first need to complete a well
> inspection of the Beech Well and obtain some information from him;
>
> As I understand, the Beech Well is for irrigation use; Questions:
> How many Parcels does the Beech Well serve?
> What type of pump is installed in the well?
> What is the depth of the pump in the well?
> Does the well have a sounding tube?
> Do the well have a flow meter installed?
> What is the flow rate?
> What is the Static Water Level?
> What is the Pumping Water Level?
> What is the pumping frequency of your well? (i.e. does it perform
> daily irrigation cycles?, if so, for how long does it pump? and what
> is the flow
> rate?)
>
> I would be able to answer most of these questions if I was able to
> access your well, assuming it has a sounding tube. Without a sounding
> tube I am limited in what information I can obtain. To monitor your
> well, you may need to have a sounding tube installed (I can recommend
> several contractors who could do this for you).
>
> With your permission, I have time this week to make it to your site
> and perform the initial well inspection. Following initial well
> inspection, I would like to schedule the pumping tests so that I can
> determine which well, if any, are influencing your well. The plan is
> to pump one well at a time while monitoring the other two.
>
> Currently, I have installed pressure transducers in the Flores/Kramer
> wells to obtain baseline data. The data obtained from the pressure
> transducers from these wells should provide additional information as
> to whether your irrigation cycles have impact on the wells in question.
>
> If, for some reason you deny us to access your well, then, the
> technical calculations performed using the project's water demand
> (based on MPWMD
> rules) is adequate to indicate that there is less than significant
> impacts to your well (see previous BHgl reports).
>
> If we are denied access to your well, we request that MCEHB approve
> the lot-line adjustment and that MPWMD approve the WDS permits.
>
> Thanks for your time and cooperation.
>
> Aaron Bierman
>
>
> ----- Original Message ----- From: "Henrietta Stern" <henri@mpwmd.net>
> To: <dbeech@comcast.net>

> Cc: "Aaron Bierman" <abierman@comcast.net>; "Henrietta Stern"
> <henri@mpwmd.dst.ca.us>
> Sent: Friday, June 17, 2011 10:34 AM
> Subject: RE: Beech well/Pisenti testing -- Status update
>
>
> Hello Mr. Beech--
> I don't think any agency would require (or could justify) that the
> well pumping tests be carried out only in October -- that would be
> considered to be unreasonable (or as the lawyers say, "arbitrary and
> capricious") given the rules that are on the books that allow multiple
> months for testing.
>
> If your position is "October or nothing" then you run the risk of a
> test being performed that does not include physical monitoring of your
well.
> There are calculations the hydrogeologist can use if permission for
> physical monitoring of a well is not given.
>
>> From MPWMD's perspective, the goal is to assess whether there is an
>> impact
> to the Beech well, as you have asserted. I might note you are sending
> out mixed messages of: (a) requesting a new test that includes
> physical monitoring of your well, and (b) refusing to cooperate to
> allow such monitoring during a reasonable time frame.
>
> I'm not going to become a mediator between you folks, so I suggest you
> and Mr. Bierman work out something in good faith that is mutually
> satisfactory.
>
> Best regards toward that end...
> hs
>
>
>
> Henrietta Stern
> MPWMD Project Manager
> PO Box 85, Monterey, 93942-0085
> 5 Harris Court, Bldg. G, Monterey (Ryan Ranch)
>
> email: henri@mpwmd.net
> phone 831/658-5621
> fax 831/644-9560
>
> http://www.mpwmd.dst.ca.us
> Please consider the environment - only print if necessary
>
>
> -----Original Message-----
> From: David Beech [mailto:dbeech@comcast.net]
> Sent: Thursday, June 16, 2011 8:08 PM
> To: Henrietta Stern

> Cc: Aaron Bierman
> Subject: Status update
>
> Dear Henrietta,
>
> I tried to reach you by phone, but I'd like to confirm that we are
> preparing some questions of clarification for Mr. Bierman, and aim to
> have them ready by Monday or Tuesday. (We shall be out of town
> tomorrow
> (Friday) through Sunday.)
>
> Since we are requesting that the tests be carried out in October 2011,
> we have not given permission to enter our property prior to that.
>
> Regards,
>
> David
>
>
>
>
>
>

EXHIBIT B

BIERMAN
Hydrogeologic
A Professional Company
Hydrogeologic Consulting & Water Resource Management
Office:(831-869 9888) Cell:(831-334 2237) E-Mail:abierman@comcast.net
3153 Redwood Drive, Aptos, CA. 95003

72-HOUR CONSTANT RATE WELL PUMPING, AQUIFER RECOVERY TEST AND PUMPING IMPACT ASSESSMENT FOR FLORES/PISENTI WELL#2

APN: 103-071-019
577 Monhollan Road
Monterey County, California

March 22, 2011

Prepared For:
Paul Flores
#5 Zaragoza View
Monterey, California 93940

&

Pisenti Family Trust
c/o: Ed Kramar
317 Montclair Road
Los Gatos, California 95032

For Distribution To:
Monterey County Environmental Health Bureau
&
Monterey Peninsula Water Management District

Prepared By:
Bierman Hydrogeologic
A Professional Corporation

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BIERMAN
Hydrogeologic
A Professional Company
Hydrogeologic Consulting & Water Resource Management
Office:(831-869 9888) Cell:(831-334 2237) E-Mail:abierman@comcast.net
3153 Redwood Drive, Aptos, CA. 95003

EXECUTIVE SUMMARY

The purpose for this work and associated report is to satisfy the requirements of Monterey Peninsula Water Management District (MPWMD)[1] and Monterey County Environmental Health Bureau (MCEHB)[2] for obtaining a single parcel Water Distribution System (WDS) permit and/or a single connection water system permit respectively.

This report provides; 1) documentation that a regulated, 72-hr constant rate well pumping & aquifer recovery test was completed on Flores/Pisenti Well #2, by Bierman Hydro-Geo-Logic (BHgl) in October, 2010, and followed MCEHB[3]/MPWMD[4] guidelines, adopted from State Waterworks Standards[5] and, 2) a pumping impact assessment which demonstrates the wells is adequate for intended use with less than significant offsite impacts to neighboring wells and Sensitive Environmental Receptors (SERs).

The parcel is situated inside California American (Cal-Am) service area, and MPWMD boundary. The parcel is outside of the Carmel River Watershed boundary and is greater than 1,000 feet from the Carmel Valley Alluvial Aquifer (CVAA) boundary as shown on Inset Map, Figure 1, and therefore, the well is considered a "Carmel Valley Uplands" well with rules applicable to MPWMD Setting #2[6].

Based on MPWMD Well Radius results and DWR Well Completion Report (Appendix A) the well (Well #2) is perforated across the Monterey Formation, a fractured rock aquifer. The well was drilled and completed by Granite Drilling Company in October 2010 with corresponding MCEHB water well permit #10-11806. Well Construction Information is tabulated on Table 1.

Site Description:

The site addresses is 577 Monhollan Road, Jacks Peak area, Monterey. The parcel is located in Township 16 South, Range 1 East, Section, 4 as shown on Figure 1. The site's Assessor Parcel Number is (APN) 103-071-019 and is noted as being 4.28 acres.

Site Map[7] (Figure 2) shows the parcel to be a generally flat, with a gentle slope to the north and a steep slope to the east where a north-south orientated ephemeral drainage truncates the parcel into two halves. The parcel is vacant, except for an older well (Well #1) and the new well (Well

[1] Monterey Peninsula Water Management District Rules & Regulations. Most Recent Version.
[2] Monterey County Health Department; Monterey County Code, Title 15.08 Water Wells.
[3] Monterey County Health Department; "*Source Capacity Test Procedures*" dated May, 2008, and were generated from earlier guidelines entitled "*Well Capacity Procedures in Fractured Bedrock Formations*" dated March 1996, revised, January 2002, and March 2008.
[4] Monterey Peninsula Water Management District; *Procedures for Preparation of Well Source and Pumping Impact Assessments*, dated September, 14 2005, Revised May 2006.
[5] State of California Waterworks Standards, Source Capacity Standards, March 2008.
[6] Monterey Peninsula Water Management District; *Procedures for Preparation of Well Source and Pumping Impact Assessments*, dated September, 14 2005, Revised May 2006.
[7] Base Map for Site Map completed by Baseline Land Surveyors Inc, and provided to BHgl by Paul Flores.

#2). The parcel is established with mature Pine, Oak, and other native and non-native shrubs/plants/groundcover.

The site is at an approximate elevation of 330 feet mean sea level (msl) and an elevation difference of not more than 60-feet. The Site Map also shows the existing well, proposed conceptual single family dwelling, caretaker unit, guest house and the necessary setbacks from the well to any 'conceptual' septic tank, seepage pit, leach-field and/or septic lateral or distribution box.

Proposed Project: The proposed project will consist of realigning the existing parcel lines with that of the neighboring parcel APN: 103-071-002. The APN-002 parcel (westerly parcel) currently has a small residence with a Cal-Am connection. The purpose of the parcel line adjustment is to position the parcel lines such that there is one well per parcel.

More specifically, Well #1 will be deeded to APN-002 and Well #2 will remain on APN-019, as shown on Figure 2. It should be noted that the parcels sizes do not change. APN-002 will remain at 3.72 acres and APN-019 will remain at 4.28 acres.

It should also be noted that for the purposes of this report, only Well #2 will be discussed within the remainder of this report in regards to its ability to meet the conceptual water demand for serving APN-019 while meeting MPWMD and MCEHB requirements. Well #1 'conceptual' water demand, groundwater quality, calculated yield, and well adequacy for intended use, will be discussed within a different report, as, Well #1 will have its own 'conceptual' project and water demand for serving APN-002. In summary, the proposed project includes;

- Well #2 will serve APN-019 with one, estate style Single Family Dwelling (SFD) and Guest House (GH) with estate style landscaping and an estimated total water demand of 1.27 af/yr.

Water Demand: The water demand for the project was determined by completing MPWMD Residential Fixture Unit Count form for each conceptual structure, and was added to the value derived using MPWMD Non-Potable Water Use Factors form for determining the exterior Estimated Total Water Use (ETWU) for the project.

The Residential Fixture Unit Count was calculated to be 0.51 acre-feet per year (af/yr) which is the combination of the SFD fixture units (0.415 af/yr) and the GH fixture units (0.097 af/yr).

The ETWU was calculated to be 0.76 af/yr. The ETWU (including adding the Outdoor Water Use Factor of 0.01 af/yr) was confirmed not to exceed the Maximum Applied Water Allowance (MAWA) of 1.15 af/yr (Forms included in Appendix B).

Adding the calculated ETWU to the total Residential Fixture Units gives an annual average water demand of 1.27 af/yr. Supporting documentation for the derivation of each agency's water demand is tabulated on Table 2. It should be noted that treatment losses are only accounted for interior use, not exterior use.

Well Adequacy for Intended Use: In order to assess the wells adequacy for intended use our hydrogeologic investigation involved; 1) completion and evaluation of a 72-hour constant rate

well pumping and aquifer recovery test for determining the wells source capacity, and calculated yield and, 2) determination of whether potential onsite and offsite impacts to neighboring wells and SERs exists.

Source capacity testing suggests the wells capacity is adequate for intended use. Specifically; the post-recovery calculated well yield of 24.52 gpm exceeds MPWMD calculated maximum day demand of 2.66 gpm[8] thereby meeting MPWMD requirements for obtaining a WDS permit for a single connection system.

In regards to MCEHB requirements, the post-recovery sustainable pumping rate for the 72hr test was 3.03 gpm exceeding MCEHB requirements for a single-connection water system (3 gpm) as well as, MCEHB maximum day demand of 2.04 gpm[9] and Peak Hourly Demand of 2.66 gpm. *It should be noted that although the final post-recovery pumping rate was 3.03 gpm (barley exceeding MCEHB requirements) the well can produce significant greater quantities, and that the pumping rate during the pump test was manually limited to 6.25 gpm (throttled back with a ball valve) to prevent excessive aquifer drawdown and limit offsite impacts to neighboring wells.*

Table 4 shows the variables and technical calculations for deriving the MCEHB post-recovery pumping rate and credited source capacity, and MPWMD post-recovery calculated well yield.

Onsite & Offsite Impact Analysis: The results of Intermittent Pumping, Time-Drawdown Projections (Table 5) indicate there are no significant drawdown impacts on the pumping well during typical operational patterns at the maximum day demand[10].

The results of the Continuous Pumping, Time & Distance Drawdown Projections (Table 6) on neighboring wells suggests (using conservative storage coefficient values, transmissivities, and isotropic aquifer conditions) no significant cumulative offsite impacts to neighboring wells during continuous pumping of the well at the dry season demand. There are no SERs within 1,000 ft of the pumping well. Supporting documentation for both intermittent and continuous pumping drawdown projections are presented in Appendix E, and Tabulated on Tables, 5 and 6.

In addition to calculating offsite impacts to neighboring wells using the dry season demand rate (as per MPWMD requirements) BHgl has completed additional Continuous Pumping, Time & Distance Drawdown Projections specifically on the Beech Well (Table 7) who has expressed to Monterey County Resource Management Agency (MC RMA)[11] that the parcel line adjustment (Application #PLN100560) be denied based on the implication that his well had significant groundwater level impacts from the Flores/Pisenti Wells, October 2010 pump test[12].

Technical calculations (Table 7 and Appendix E) suggest there could have been a maximum of 19-feet of impact to the Beech Well[13] by pumping Flores/Pisenti Well #1, and 12-feet of impact from pumping the Flores/Pisenti Well #2 during the 72hr pumping test in October 2010.

---

[8] Based on pumping in equivalent 12-hr cycles and accounting for system and treatment losses. Treatment losses only accounted for interior use.
[9] Based on pumping 24/7 and accounting for system and treatment losses. Treatment losses only accounted for interior use.
[10] Bierman Hydrogeologic recommends monitoring the groundwater level against the operational patterns for a more accurate assessment.
[11] Letter from Judy and David Beech to Monterey County Planning Department, Monterey County RMA – Anna Quenga; Re: File #PLN100560 – Objection to Application for Lot Line Adjustment, February 15, 2011.
[12] The Beech Well was not known to be within 1000 feet of Well #2 during the time of the pump test, otherwise an attempt would have been made to obtain well access for monitoring purposes.
[13] Technical calculations based on using same flow rate and duration as that of the October 2010 test – 6.25 gpm for 72 hours.

However, it should also be noted that the equation[14] used to perform the technical calculations assumes isotropic connectivity, does not account for anisotropy conditions typical of fractured rock aquifer, nor, does the equation account for potential groundwater barriers from faulting/fracturing, nor, does it account for flow from different aquifers for wells that are screened independently of each other (as is the case for Well #1 and Beech Well – Figure 4).

In any event, the calculated drawdown values mentioned above should not likely dewater the Beech well, even if the wells were hydrogeologically linked. However, if the wells were hydrogeologically linked, the cyclic pumping of the Beech Well would have been observed in the recovery data of both Flores/Pisenti Wells, if the Beech Well was being pumped during the six days after Flores/Pisenti Well pumping ceased. The recovery data suggests, as depicted on Figure 6, there was no groundwater level fluctuation/response observed in either of the Flores/Pisenti Wells in relation to other neighboring well pumping, and therefore, based on the data, the Beech Well is not considered to be hydrogeologically connected with Flores/Pisenti Wells. Rather, based on the Beech's well use, which is noted[15] as supplying irrigation water to three estate style parcels (1432, 1436 and 1450 Manor Road, Monterey) and based on Aerial Photographs of the Beech/Anastasia Parcel, it appears that the Beech/Anastasia Parcels are dewatering the Beech Well on their own doing, with no relation to Flores/Pisenti Well pumping.

Based on the data, the Flores/Pisenti Wells, and their associated source capacity should have no bearing on approval of the parcel line adjustment for APN-019 and -002.

Groundwater Quality: The groundwater quality will require treatment for potable use. Although the groundwater will require treatment, it should be noted that NO PRIMARY constituents[16] were detected over their respective Maximum Contaminant Level (MCL). Only Secondary constituents[17] were detected above recommended levels.

It should also be noted that although the well was present for Total Coliform and E-coli bacteria, it is believed that it can be removed with subsequent well disinfection, as it is a new well/water system that has not yet been entirely disinfected or permanent pump installed. Disinfection should be completed prior to distribution and hook-up to raw-water storage. A detailed discussion of the groundwater quality and treatment system components is presented later in this report.

Conclusion:

In conclusion, the source capacity of the Flores/Pisenti Well #2 was determined to exceed MPWMD requirements for a single parcel WDS permit, and MCEHB requirements for a single connection Water System permit.

This concludes our executive summary.

---

[14] Driscoll, Groundwater and Wells, Second Edition, 1986, pg 219. Modified Nonequilibrium Equation.

[15] Letter from Judy and David Beech to Monterey County Planning Department, Monterey County RMA – Anna Quenga: Re: File #PLN100560 – Objection to Application for Lot Line Adjustment, February 15, 2011.

[16] Primary constituents are contaminants that may cause adverse effects to human health and safety, and are enforceable by regulatory agencies. MPWMD does not regulate groundwater quality, and MCEHB does not regulate single-connection systems.

[17] Secondary constituents are contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. Secondary constituents are non-enforceable; however, Environmental Protection Agency (EPA) recommends secondary standards to water systems but does not require systems to comply. Individual States and/or local counties may choose to adopt them as enforceable standards. Although MCEHB does not enforce these standards for single-connection system, we recommend treating the secondary constituents to the recommended standards.

EXHIBIT C

PROCEDURES FOR PREPARATION OF

WELL SOURCE AND PUMPING IMPACT ASSESSMENTS

September 2005

Revised May 2006

Purpose and Applicability

Monterey Peninsula Water Management District (MPWMD or District) Rules 20 and 21 require that an application to create or amend a water distribution system (WDS) be submitted to the District. Ordinance No. 122, adopted on August 15, 2005 and effective September 14, 2005, establishes new "impact-based" criteria and four levels of evaluation for WDS applications. Detailed well testing and analysis are required as part of the WDS permit application process for Review Levels 1, 2, 3, and 4, as described in the MPWMD rules and regulations.

The information is to be provided in the form of a "**Well Source and Pumping Impact Assessment**" report (*Assessment*) which is required for three specific purposes: (1) to evaluate the well's capability to meet the proposed demand, (2) to analyze the well's potential impact on water resources in the vicinity, and (3) to analyze the well's potential impact on existing wells in the vicinity. This document describes the minimum required procedures for completing an *Assessment* by a qualified professional.[1] The procedures described herein focus on standard cases that are commonly anticipated within the District (i.e., a WDS intended to serve a single-family dwelling and associated landscaping requirements); accordingly, some modifications and/or additions to these procedures may be required for other cases. This document is prepared using the single-well WDS format; however, the same procedures would apply to WDSs intended for service from multiple well sources. Costs associated with preparation of the *Assessment* shall be borne by the applicant. It should be noted that in cases where a Hydrogeologic Report is also required by Monterey County, it is acceptable to include the required information described herein as part of the Hydrogeologic Report, so that applicants do not need to prepare a separate document to satisfy the District's requirements.

The following sections outline the minimum requirements for production testing, analysis and reporting of groundwater information to comply with the MPWMD rules and regulations. The procedures described herein may be periodically revised as warranted.

---

[1] Qualified professionals include a certified hydrogeologist, a professional geologist with a specialty in hydrogeology, a certified engineering geologist with a specialty in hydrogeology, or a registered civil engineer with a specialty in hydrogeology. These professionals shall be licensed in the State of California. A list of qualified consultants is available from the District. Advice in preparing the *Assessment* can be provided by District staff, but will be billed at the hourly rates as explained in the application.

General Pumping Test Methodology

The following eight **(8) general testing methods** apply for **all** well pumping tests, regardless of the hydrogeologic setting. The District must approve any variation from these general methods in advance on a case-by-case basis.

1. ***Witnessing of Pumping Tests.*** The Monterey County Health Department (MCHD) shall be notified in advance of the pumping test. Contact the MCHD at 755-4507 in advance to schedule the planned test start date.

2. ***Well Testing Method.*** A qualified individual or firm should conduct the pumping test; a state-licensed C-57 well contractor is recommended. The pumping test shall be conducted with the use of a mechanical well pump (vertical turbine or submersible), unless a specific alternate testing method is approved in advance. Pumping tests conducted with airlift pumping techniques are not acceptable. It is strongly recommended that the qualified professional preparing the *Assessment* be onsite at critical points during the test (e.g., test start, test stop), or otherwise oversee the testing program, in order to minimize the potential requirement to repeat the pumping test due to poor testing or data collection methods.

3. ***Timing of Tests.*** Pumping tests shall be conducted during the dry period of the year to better assess well performance under reduced groundwater availability conditions. Accordingly, the period for conducting pumping tests is the six-month period from June 1 through November 30.[2] This period shall apply to all pumping tests required for an *Assessment* unless the District determines a specific alternate testing period, which may be based upon the occurrence of unusually wet hydrologic conditions within the dry season. Given that hydrologic conditions vary from year to year, scheduling of pumping tests outside the dry season shall be guided by Carmel River flows, as a relative measure of dry season conditions.[3] Accordingly, pumping tests outside the dry season shall only be conducted during "Low Flow Periods", defined as "times when stream flow in the Carmel River at the Don Juan Bridge (river mile 10.8) gaging station is less than 20 cubic feet per second (cfs) for five consecutive days". Applicants or consultants wishing to conduct pumping tests outside the six-month dry season must obtain authorization in advance from the MPWMD.

4. ***Discharge Rate.*** The testing must be conducted at a pre-determined flow rate that is held constant over the duration of the test (i.e., Constant Rate Test). The discharge rate shall be maintained within no more than a 10% range, and shall be

[2] Carmel River flows are used as a guide for local hydrologic conditions for the timing of pumping tests; the June 1 through November 30 period corresponds to the six lowest months of Carmel River flows, on average.

[3] The criterion for determining "Low Flow Periods" is from an agreement (referred to as the "Conservation Agreement") entered into between the National Marine Fisheries Service and California-American Water in 2001. Elements of this Agreement were later adopted as part of State Water Resources Control Board Order 2002-0002. In the Agreement and Order, specific operational restrictions are linked to Low Flow Periods, defined as "times when stream flow in the Carmel River at the Don Juan Bridge (RM 10.8) gage is less than 20 cfs for five consecutive days".

closely monitored and documented.[4] For both potable and non-potable intended uses, the minimum test-pumping rate shall be three (3) gallons per minute (GPM)[5], unless another minimum rate is authorized in advance by the MPWMD.

5. ***Control of Well Discharge.*** The discharge water from pumping tests shall be managed to prevent recharge of the well during the testing and recovery periods and shall not be allowed to pond/percolate within 200 feet of the well. Where possible, the discharge water should be directed to storage tanks or applied for irrigation as a means to put the discharge water to beneficial use.

6. ***Wells Monitored.*** In all cases, the production well that is being tested shall be monitored as described in this section. In addition, nearby wells in the expected area of influence of the pumping well shall be monitored where feasible. The District recognizes that it may not be feasible to monitor all nearby wells due to logistical constraints (e.g., availability, monitoring equipment access, pumping requirements, etc.). Accordingly, in cases where nearby wells are not available for use as monitor wells during pumping tests, and the reasons for this are clearly documented in the *Assessment*, data developed from the production well shall be used to the extent possible to support the required analysis and evaluation.

7. ***Data Collection.*** Data collected during the pumping test must be well documented. The following parameters should be collected and recorded during the drawdown (i.e., pumping) phase of the test:

   (1) Initial flow meter totalizer reading,
   (2) Static water level prior to test start,
   (3) Clock time at pump start,
   (4) Water levels in the pumping and monitor wells at the reported times since pump start,
   (5) Pumping rate at the time of each reported water level measurement,
   (6) Flow meter totalizer reading at the time of each reported water level measurement, and,
   (7) Final flow meter totalizer reading.

   The following parameters should be collected and documented during the recovery (i.e., non-pumping) phase of the test:

   (8) Clock time at pump stop, and
   (9) Water levels in the pumping and monitor wells at the reported times since pump stop.

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[4] Automatic recording pumping rate devices are recommended as these devices improve data collection and can reduce operator time and expense.

[5] The minimum 3 GPM test-pumping rate (i.e., total test average) is set as lower pumping rates may not adequately demonstrate the well's production capability. In addition, lower rates become more difficult to accurately measure and control, and may not adequately stress the aquifer system during testing. The test pumping rate should not be confused with the "calculated well yield" as described in this document.

8. ***Water Level Monitoring***. Water level measurements should be recorded to 0.1-foot precision. Acceptable time intervals for reporting water level measurements at the pumped well during pumping tests are as follows:

Time since pump start (or stop) (in minutes)	Time intervals between measurements (in minutes)
0 to 10	0.5 to 1
10 to 15	1
15 to 60	5
60 to 300	30
300 to 1440	60
1440 to end	480 (8 hr)

The type of water level monitoring device to be used must be specified. Due to the potential for inaccurate water level measurements during pumping (e.g., false readings of pumping water levels due to cascading water in the well, pump turbulence, etc.), the use of electrical water level measuring devices (i.e., water level probes) are discouraged during the conduct of the well pumping test.[6] Instead, it is strongly recommended that pressure transducer/datalogger technology be used for the test. With the pressure transducer properly located below the lowest anticipated water level during the test, the potential for false readings due to cascading water above the pumping water level or pump turbulence is minimized. If water level probes are used in place of pressure transducer/dataloggers and there is uncertainty about the quality of the recorded data, the results of the test will be subject to more conservative interpretation by the District. Water levels shall be monitored and recorded during the recovery phase as required in Step 2 of the procedures for each specific setting, as described on the following pages.

Water Quality Testing

If the water well is to supply potable water for a proposed single-connection WDS, the *Assessment* shall include a water quality (chemical) analysis that as a minimum includes primary inorganics, secondary compounds and coliform bacteria (commonly referred to as general mineral, general physical, inorganics), as described in Title 22, Chapter 15 of the California Code of Regulations. Applicants should check with the MCHD for specific requirements if the proposed WDS is intended to serve 2 or more connections. Water quality testing is not required (but is recommended) for wells intended to supply non-potable irrigation uses.

[6] Water level probes are discouraged as the primary measurement device unless used with a sounding tube properly installed below the lowest expected pumping water level. Water level probes are acceptable for the purpose of calibrating/confirming pressure transducer measurements. Water level probes should have clearly marked depth graduations.

Methodology, Contents and Format of Tests and Assessments

The methodology for well pumping tests and calculations of well and aquifer parameters shall be consistent with standard hydrogeologic practices. References and descriptions of these practices are available from the District.

Prior to the preparation of an *Assessment*, the applicant or their consultant will need to request and obtain from the District a map of all known registered wells and potential "sensitive environmental receptors" (SERs) in the vicinity of the well.[7] This map, or a modified version of it, shall be included in the *Assessment*. The *Assessment* will also need to include the items required per Item 17 of the District's WDS application form. Three key items include:

(1) A copy of the MCHD well construction permit,
(2) A copy of the State Department of Water Resources Well Completion Report (well log), and
(3) Water quality testing results if the well is to supply water for potable use.

The *Assessment* shall include sufficient background to briefly describe the:

(1) Site location (nearby streets, lot size, topography),
(2) Well location on the site,
(3) Well construction (size, depth, materials) and completion (screened intervals), and
(4) Hydrogeologic setting (site geology and aquifer system identification).

In addition, a pumping test set-up description shall also be provided, including the:

(1) Pump size (horsepower),
(2) Pump intake setting (feet below ground surface),
(3) Method for maintaining pumping rate (e.g., dole valve, gate valve, etc.), and
(4) Control of discharge water.

The *Assessment* shall be submitted in a format for direct comparison to the step-by-step procedures outlined herein. All references, attachments and supporting data/documents shall be listed in the *Assessment*, and be clearly labeled. The Assessment shall be provided in both printed (three copies) and digital (one compact disk) formats. ***Other analytical methods not conforming to the procedures described herein may be acceptable, but shall be approved in advance on a case-by-case basis by the District.***

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[7] A "Sensitive Environmental Receptor (SER)" is any one of the following areas or locations: (1) the Carmel Valley Alluvial Aquifer (alluvium) as delineated by the State Water Resources Control Board (SWRCB) in Order WR 95-10 as modified by Order 98-04, and as shown on maps at the District office; (2) the five tributaries listed in MPWMD Rule 20, including Tularcitos, Hitchcock Canyon, Garzas, Robinson Canyon and Potrero Creeks; (3) the Seaside Groundwater Basin as delineated by MPWMD, and as shown on maps at the District office; (4) the Pacific Ocean as delineated by the mean high tide line; or (5) other sensitive locations as designated by Resolution of the MPWMD Board of Directors.

Step-by-Step Well Assessment Procedures for Four Settings within the District

The District has developed four (4) sets of specific testing procedures. Each set of procedures is specific to the four hydrogeologic "settings" (or locations) within the District that the well is located. If there is a question as to which setting is appropriate for a specific application, it is strongly recommended that the applicant, or the applicant's consultant, contact District staff before completing the *Assessment* to confirm the appropriate set of procedures that apply **and** to determine what special, site-specific circumstances may require modification to these procedures. Maps showing the location of the four settings described below are available for review at the District office. The four settings are the:

(1) Carmel Valley Alluvial Aquifer,

(2) Carmel Valley Uplands[8] or other fractured/consolidated bedrock formations,

(3) Carmel Valley Uplands and within 1,000 feet of the Carmel Valley Alluvial Aquifer or certain tributary creeks, and

(4) Seaside Groundwater Basin.

[8] "Carmel Valley Uplands" collectively refers to the assemblage of consolidated sedimentary, igneous and metamorphic rocks with common moderate-to-extensive fracturing, within the Carmel River Basin Watershed.

SETTING #2:
PROCEDURES FOR WELLS IN THE CARMEL VALLEY UPLANDS OR OTHER FRACTURED/CONSOLIDATED BEDROCK FORMATIONS

Step 1, Test Length. Pumping tests for wells completed in the Carmel Valley uplands bedrock complex or fractured/consolidated bedrock formations in other locations shall be for a minimum of 72 hours. If pre-testing is conducted to determine the proper pumping rate, the formal constant-rate pumping test shall be delayed until at least twice the pre-testing time has elapsed to allow water level recovery from the pre-testing.

Step 2, Documentation of Drawdown and Recovery. Drawdown and recovery data in the pumping and monitor wells shall be documented in a summary table(s) and shall include: static water level, flow meter totalizer readings, clock time, elapsed time since pump start (minutes), pumping water levels (feet below ground surface or specified reference point), drawdown (pumping water level minus static water level), elapsed time since pump stop (minutes), residual drawdown (non-pumping water level minus static water level). Water level recovery data shall be measured until the recovering water level in the pumping well reaches 95% of the pre-test static water level. If 95% percent recovery is not achieved after two times the pumping period has elapsed, then an evaluation of the test will be conducted by the District to determine whether or not the calculated yield should be reduced.

Step 3, Calculation of Specific Capacity. The transmissivity shall be determined and the specific capacity calculated from the test drawdown data. If casing storage effects[16] are suspected to influence early test data from the pumping well, these effects should be factored out of the transmissivity determination. If the apparent transmissivity decreases between the first half of the test and the end of the test, the 24-hour specific capacity shall be adjusted by multiplying the ratio of late-time transmissivity to early-time transmissivity.

Step 4, Calculation of Available Drawdown. Unless an alternate methodology is authorized in advance, available drawdown for setting #2 is defined as:

one-third of the vertical distance from the static water level to the bottom of the well perforations (i.e., well screen).

Step 5, Calculation of Yield. Unless modified as per **Step 2** above, the yield of the well shall be calculated by multiplying the 24-hour specific capacity by the available drawdown. The well yield represents the theoretical maximum sustainable pumping rate for the well.[17] A well yield of 3 GPM per single-family dwelling is the minimum

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[16] For an example discussion of casing storage effects, see *Groundwater and Wells* (Driscoll, 1986, page 232).

[17] The well casing size, pump size and discharge pipe size are factors that will influence the maximum sustainable pumping rate of a well. These factors may limit achieving the calculated well yield in practice and should be considered in the *Assessment*.

standard for WDS applications.[18] The District must approve any variation from this minimum standard on a case-by-case basis.

Step 6, Estimation of Demand. Estimated "annual" demand for the well should be based upon all the intended potable and/or non-potable uses on the parcel. For most parcels in the unincorporated areas of the District, the District will accept up to 0.5 acre-feet per year (AFY) as the estimated annual demand for a typical single-family dwelling with standard outdoor landscaping. If the well is intended to supply water for large residences on large parcels with extensive landscaping, agriculture or other non-standard uses, then additional documentation (e.g., residential fixture unit count, non-residential demand based on square footage and type of use, area and type of irrigated use) must be provided as justification for the annual demand estimate. Once the annual demand estimate is established, it should be used to calculate "average day", "dry season" and "maximum day" demands. Average day demand is the estimated annual demand divided by 365 days, and expressed as GPM. The six-month period from May through October should be used to estimate typical dry season demand. Based on Cal-Am system long-term water production records, May through October represents the highest six-month demand period, with approximately 60% of annual demand occurring during this period.[19] Similarly, maximum day demand can be estimated at 1.5 times the average day demand.[20] These estimates are acceptable for most single-family residential applications, but may not be appropriate for applications associated with extensive non-potable uses (e.g., commercial, agricultural). Please contact the District with questions regarding selection of the appropriate demand estimation factors. The *dry season demand estimate* should be expressed in equivalent GPM over six months (183 days), and will be used in **Step 8** below. The *maximum day demand estimate* will be used in **Step 7** below and should be expressed in equivalent GPM over 12 hours pumping duration, as wells should not be planned to operate at more than 12-hour daily pumping cycles during maximum demand periods, when supply requirements will be most critical.[21]

Step 7, Confirmation of Well Capacity. If the *maximum day demand estimate* (in equivalent GPM over 12 hours pumping), as determined in **Step 6**, is equal to or less than

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[18] A well pumping at 3 GPM each day on maximum 12-hour daily pumping cycles would produce 2.4 acre-feet in a year, which may exceed demand requirements for some WDSs. However, experience has shown that actual well yields in most hydrogeologic settings, including local fractured rock aquifers, tend to decline with time. This can be due to declines in ground water levels, degradation of well casing materials, well encrustation or other biological activity that reduces permeability in the zone around the well, pump wear, or a combination of any or all of these factors. The 3 GPM minimum well yield rate provides a safety factor that allows for declines in well performance over time.

[19] Monthly production records for the Monterey Division of California American Water for Water Years 1992 to 2003. Monthly breakdown is available from MPWMD.

[20] Analysis of Cal-Am production records *in* Monterey Peninsula Water Supply Project Alternatives, Phase I Technical Memorandum (Camp, Dresser & McKee, March 2003). See page 2-3.

[21] The maximum 12-hour daily well pumping limitation is incorporated into recommended mitigations for maintaining supply capacity for a large groundwater-supplied project in Carmel Valley (see Jones & Stokes Associates, Inc., 1995, Santa Lucia Preserve Project, Final EIR, page 8-31). This limitation is based on the understanding that pumping tests begin with static water level conditions in the well, in contrast to actual pumping conditions during maximum demand periods, when wells will already have undergone some cumulative seasonal drawdown from prior pumpage. Therefore, wells should not be relied upon to operate more than 12 hours per day to reduce the potential for exhausting available drawdown during maximum demand periods.

the *calculated well yield* from **Step 5**, then proceed to **Step 8**. If the *maximum day demand estimate* exceeds the *calculated well yield*, then additional analysis to estimate anticipated drawdown under intermittent (cyclic) pumping conditions is required to confirm the well's capability to supply anticipated demands without excessive drawdown. An acceptable method to approximate drawdown from intermittent pumping can be found in *Groundwater and Wells* (Driscoll, 1986, page 235). This analysis should be conducted at the maximum day demand rate with maximum daily 12-hour pumping and 12-hour recovery cycles for a 30-day period to represent a reasonable assessment of the length of time that the well may be required to operate at or near the maximum rate. If *cumulative drawdown* from the intermittent pumping calculation exceeds *available drawdown* as determined in **Step 4**, then these results will be used by the District to further assess and adjust the allowable system capacity (i.e., production limit) for the proposed WDS.

Step 8, Calculation of Projected Drawdown.[22] To evaluate the potential well pumping effects in the vicinity of the well, calculated drawdown projections shall be made. Comparison of calculated drawdowns shall be made with actual drawdowns measured from nearby monitor wells where available. Drawdown calculations shall be based upon conventional hydrogeologic practice.[23] For drawdown calculations, estimates of hydrogeologic parameters (i.e., transmissivity, storativity) are required. From **Step 3** above, the transmissivity as determined from late-time test data, if applicable, should be used. If storativity cannot be determined from the subject test data, then it should be approximated from other tests, formulas or available literature, as appropriate. The drawdown calculations should utilize the *dry season demand estimate*, expressed in equivalent GPM over six months (183 days), as determined from **Step 6** above. At a minimum, drawdowns shall be calculated for the end of the dry season at the locations of the nearest and farthest existing wells or other receptors within a 1,000-foot radius of the pumping well.

Step 9, Evaluation of Projected Drawdown Impacts. Using the drawdown calculations as determined from **Step 8** above, evaluate the significance of the projected drawdowns on existing wells or other receptors, as a result of pumping for the proposed WDS. Where available, well completion data (e.g., static and pumping water levels, well screened depths, depth of pump setting) for the existing wells within 1,000 feet shall be assembled and reviewed for this evaluation.

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[22] Calculation and evaluation of projected drawdown impacts are not required for Review Level 1 WDS permit applications.

[23] Drawdown calculations should utilize standard methods (e.g., Theis Nonequilibrium Equation, Cooper-Jacob Nonequilibrium Equation) that are described in most hydrogeology textbooks. The District can be contacted for assistance in determining the appropriate analytical methods.

EXHIBIT D

June 27, 2011 email from Aaron Bierman to David Beech:

All;

With the information and directive provided by MPWMD, I would like to schedule the first test (Well #2) on July 12th at 10:00 am (15-days out). I will submit the MCEHB Application for Source Capacity Testing to Mr. Roger Van Horn today for confirmation for July 12th. As per regulations, the 2-hr pre-pumping will commence on Monday, July 11th,. and the 72hr constant rate test will start on July 12th at 10am and continue through July 15th at 10am at which time there will be upto six days of recovery.

Mr. Beech. Obviously, I would like to monitor your well. I will be in the field today on other matters, but would like to drop by your residence and meet in person and of course, with your permission, obtain some information from you and your well. My phone number is (831) 334-223. I will likely be in the area around 11-noon. If this does not work, I can come by early next week.

At a minimum, here is what I am looking for at this time.

1) How many Parcels does the Beech Well serve?
2) What type of pump is installed in the well?
3) What is the depth of the pump in the well?
4) Does the well have a sounding tube?
5) Do the well have a flow meter installed?
6) What is the flow rate?
7) What is the Static Water Level?
8) What is the Pumping Water Level?
9) What is the pumping frequency of your well?
10) Does your well perform daily irrigation cycles?, if so, for how long does it pump? and what is the flow rate?

Additionally; I will also contact the other neighboring well owners in the area today. They include; Marey and Shake.

Thanks for your time and cooperation.

Aaron Bierman

YAHOO! SMALL BUSINESS

Re: Beech/Flores/Pisenti-- MPWMD Response to 6/27 e-mail from Beech

Wednesday, July 6, 2011 7:59 AM

From: "Aaron Bierman" <abierman@comcast.net>

To: "Henrietta Stern" <henri@mpwmd.net>, dbeech@comcast.net

Cc: lewarner@co.monterey.ca.us, "Roger Van Horn" <vanhornrw@co.monterey.ca.us>, QuengaAV@co.monterey.ca.us, rmreal@comcast.net, ekramar@powergatellc.com, "Darby Fuerst" <Darby@mpwmd.net>, "Joe Oliver" <Joe@mpwmd.net>, "Jonathan Lear" <jlear@mpwmd.net>, "Robert C. Marks" <rmarks@pueblo-water.com>, "Molly Erickson" <erickson@stamplaw.us>

Mr. Beech;

As I understand, Your attorney (Mollie Erickson) requested that MPWMD provide you with another week for you to decide whether or not you wish to have your well monitored. As your aware, MCBOS approved the lot line adjustment for the parcels.

Therefore, I will be in the area today. Please call me so that we can meet. Also, please be ready to provide the following information:

> 1) How many Parcels does the Beech Well serve?
> 2) What type of pump is installed in the well?
> 3) What is the depth of the pump in the well?
> 4) Does the well have a sounding tube?
> 5) Do the well have a flow meter installed?
> 6) What is the flow rate?
> 7) What is the Static Water Level?
> 8) What is the Pumping Water Level?
> 9) What is the pumping frequency of your well?
> 10) Does your well perform daily irrigation cycles?, if so, for how
> long does it pump? and what is the flow rate?

Thanks,

Aaron Bierman
(831) 334-2237

----- Original Message ----- From: "Henrietta Stern" <henri@mpwmd.net>
To: <dbeech@comcast.net>
Cc: "Aaron Bierman" <abierman@comcast.net>; <lewarner@co.monterey.ca.us>; "Roger Van Horn" <vanhornrw@co.monterey.ca.us>; <QuengaAV@co.monterey.ca.us>; <rmreal@comcast.net>; <ekramar@powergatellc.com>; "Darby Fuerst" <Darby@mpwmd.net>; "Joe Oliver" <Joe@mpwmd.net>; "Jonathan Lear" <jlear@mpwmd.net>; "Robert C. Marks" <rmarks@pueblo-water.com>; "Molly Erickson" <erickson@stamplaw.us>
Sent: Wednesday, June 29, 2011 5:06 PM
Subject: RE: Beech/Flores/Pisenti-- MPWMD Response to 6/27 e-mail from Beech

EXHIBIT E

HydroMetrics WRI

519 17th Street, Suite 500
Oakland, CA 94612

Mr. David Beech
1450 Manor Road
Monterey, CA 93940

June 3, 2011

Subject: Pumping Impact Assessment for Flore/Pisenti Well#2

Mr. Beech:

I have performed a cursory review of the report titled *72-hour constant rate well pumping, aquifer recovery test and pumping impact assessment for Flores/Pisenti well#2* (Bierman Hydrogeologic, 2011). In my opinion, some of the analysis is problematic, and therefore some of the conclusions are suspect. Note that my opinions are not based on a thorough review of the report or re-analysis of the data included in the report.

My first issue is that the analysis of potential impacts on the Beech Well from pumping the two tested wells is followed by a flawed conclusion. The paragraph at the bottom of page 3 of the subject report states that,

> *"... there could have been a maximum of 19-feet of impact to the Beech Well by pumping Flores/Pisenti Well #1, and 12-feet of impact from pumping the Flores/Pisenti Well #2 during the 72hr pumping test in October 2010."*

Both wells were pumping simultaneously during the October test. Therefore the cumulative impact to the Beech well could have been 31 feet. The conclusion in the subject report is that, "the calculated values [of 31 feet] should not likely dewater the Beech well ..." This suggests that the standard of impact is complete well dewatering. Missing is a discussion of whether 31 feet of dewatering would lower water levels that are customarily above the level of the well pump to a

level that is below the pump. If, for example, pumping groundwater levels in the Beech well are customarily 20 feet above the well pump; lowering these levels an additional 31 feet will result in groundwater levels 11 feet below the pump. This would make the pump in the Beech well turn off because there is no water available to the pump – even though the well is not completely dewatered.

Unfortunately, groundwater levels in the Beech well were not monitored during the tests of the Flores/Pisenti Well #1 and Flores/Pisenti Well #2. Therefore, there is no direct evidence of the magnitude of impact on the Beech well. A test that monitors water levels in the Beech well would be helpful.

A second issue regards observations of the drawdown and recovery curves for the Flores/Pisenti Well #2 test. These two curves, shown on the final two pages in Appendix D to the report, suggest that the Flores/Pisenti Well #2 is dewatering fractures in the Monterey Shale. Two lines of evidence suggest this:

1. The drawdown curve is continuously becoming steeper on the semi-log plots included in the report. This is indicative of a continuously lowering transmissivity – as was accurately identified and analyzed in Appendix D. This lowering transmissivity is usually due to a rapidly dropping water table. In a fractured environment, such as is observed in the Monterey Shale, this lowering transmissivity can be due to complete or partial dewatering of fractures. The report presents an alternative interpretation: that the fracture system did not dewater; but a negative boundary was encountered. My opinion is that dewatering fractures is a more likely interpretation. This is supported by the second observation:
2. The recovery curve shows incomplete recovery. This incomplete recover is accurately observed and commented on in Appendix D, but is again interpreted as the result of a negative boundary condition. More likely, because fractures were dewatered during pumping, there is insufficient water to refill the well after the pump is turned off. Therefore the recovery rate relies on water coming from fewer fractures combined with slow seepage from the rock matrix. The fracture dewatering results in a recovery rate that is much slower than the pumping rate – yielding the observed incomplete drawdown.

The implication of this is that the Flores/Pisenti Well #2 likely obtains water by dewatering fractures in the Monterey Shale. These fractures may be the same fractures that feed the Beech well, and having them dewatered will have a significant impact on the Beech well.

The final issue is a disagreement with the calculations on page 17 of the report. These calculations were prompted by the fact that pumping the Flores/Pisenti Well #2 at 6.25 gpm for three days yielded a recovery of only 43.51% after three days of recovery. The calculations seem to suggest that if the pumping rate is lowered to 3.03 gpm, three days of recovery will result in 95% recovery. This is false. In theory, pumping at half the tested rate of 6.25 gpm will result in only half the observed drawdown; however the three-day recovery will remain at 43.51% of whatever drawdown is observed. This is the theoretical response; the true response can only be assessed with a 3.03 gpm aquifer test.

I hope my observations were helpful. If you have any additional questions, do not hesitate to contact me.

Sincerely,

Derrik Williams

Derrik Williams
President, HydroMetrics Water Resources Inc.
California Professional Geologist #6044
California Certified Hydrogeologist #35