



Hazardous Waste Bureau  
NMED

December 16, 2014

Mr. John Kieling, Chief  
Hazardous Waste Bureau  
New Mexico Environment Department  
2950 Rodeo Park Dr. E, Bldg. 1  
Santa Fe, NM 87505

DEC 18 2014

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Dear Mr. Kieling,

I wish to submit a public comment regarding the conditional approval granted to Sandia National Laboratories' (SNL) Certificate of Completion for its permit to store high-level nuclear waste. I strongly oppose the granting of a permit allowing the permanent storage of such high-level waste, along with other carcinogens and volatile compounds, to SNL. The landfill currently being used is in no way suited to the long-term storage of these materials. It contains no liner and is essentially a series of pits in the earth. If construction of such a facility was proposed today, it would violate both state and federal laws regarding the regulation of radioactive and toxic wastes.

Further, SNL has clearly not complied with the conditions of their permit as they have not completed the required excavation and removal feasibility study. Given that investigations in 1994 found high levels of volatile organic compounds and tritium in the subsoil, and analyses of water wells detected elevated cadmium, chromium, and nickel concentrations, it is almost certain that the storage facility has been breached and material may well be moving toward groundwater, if it is not there already. Thus there are many proponents for excavating the landfill and building an advanced, secure facility for permanent storage.

Finally, it is worth considering the words of Sandia engineer John Cochrane, who has publicly insisted that the current facility is safe. When asked how he was so certain that waste from the site has not and will not make its way to groundwater, he replied, "These are unlined pits holding high-level nuclear wastes, after all. I know. It feels wrong." It doesn't just feel wrong, it clearly *is* wrong.

Again, I would like to recommend that SNL's permit request be denied.

Sincerely,

John Mulhouse, M.S.

1112 Roma Ave. NE  
Albuquerque, NM 87106

[jmhouse@cityofdust.com](mailto:jmhouse@cityofdust.com)

cc: John Weckerle

----- Original message -----

From: Marilyn Lohr

Date: 12/06/2014 2:55 PM (GMT-07:00)

To: "Kieling, John, NMENV"

Subject:

To the Office of the Inspector General C/O David Sedillo:

I am writing to express my concern regarding the efforts of Sandia National Laboratory to obtain a corrective action complete status for the MWL. I would like a public hearing to take place before this status is granted. I think the public has a right to hear the pros and cons of the future of this landfill due to the vast quantity of toxic wastes that have been deposited into this unlined pit for nearly 30 years from 1959 until 1988. This landfill poses a risk to the aquifer from which we get our drinking water as well as a possible risk of explosion from the mix of wastes buried there, i.e. metallic sodium canisters. Sandia should review the feasibility of excavation of this site and not simply continue to leave it buried and claim their actions are complete without public comment and review.

Sincerely,

Marilyn Lohr

[marilynlohr@rocketmail.com](mailto:marilynlohr@rocketmail.com)

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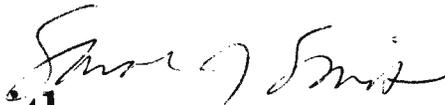
DEC 16 2014

NMED  
Hazardous Waste Bureau

12-06-14

Dear Sir,

I urge you to do whatever needs doing in order to prevent problems of contamination regarding Sandia toxic waste. Please take this situation into personal consideration. Just do whatever you can do for your children or children of loved ones. This is in regard to the Nuclear Meltdown, Welcome to Albuquerque article in the Alibi.

Thank you,   
Sarah J. Smith

**From:** RubyQ [mailto:rubyquail@gmail.com]  
**Sent:** Saturday, December 06, 2014 6:36 PM  
**To:** ighotline@hq.doe.gov; Kieling, John, NMENV  
**Subject:** Sandia Lab Mixed Waste Landfill - URGENT

Dear Mr. Sedillo:

I am grateful that the Environment Department is paying close attention to LANL's failure to protect the public, present and future. I hope our lives are worth more than the paper (Corrective Action Complete) and will be taken seriously. Addressing Sandia's MWL will be a good test.

The frightening fact that nuclear waste is dumped in exposed landfills, covered by dirt (a cover up), along with other major toxins (lead, etc.) and carcinogens, is alarming and even shocking.

Officials dismiss my grandchildren and their children by claiming that ground water and the environment is "safe enough" from this nuclear waste. The knowledge that monitoring wells were misplaced and not corrected, is shameful. The money needed to clean it up isn't in the budget and therefore it seems that if the public is unaware because news sources have not reported much (or often) about the MWL, then less urgent items can be budgeted instead. But, my grandchildren will get sick and die and I refuse to ignore this fact - be accountable, at least. Ethics and morality are important when deciding whether or not to make a big deal out of radioactive nuclear waste, lead, radioactive metals, known carcinogens because this *\*will\** end up in the environment unless a carefully engineered disposal plan is implemented immediately.

Water monitoring wells were misplaced, failing to monitor and report the bad news - that indeed, long term damage is inevitable. And yet, there it is (an urgent environmental situation) and I doubt most people in New Mexico have been made aware of how officials have neglected an unsafe nuclear dump.

Public health is in serious jeopardy and that fact is known; our drinking water is dangerously tainted already; life is hanging on the decisions (and lack thereof) of those who have the power to demand that the MWL landfill is completely cleaned up in such a way as to mitigate present and future harm. I understand that the damage is done, but that does not excuse the continued exposure to life threatening substances dumped (and allowed) as though the entire population is worth the sacrifice (not worth the cost to clean up). At least try hard.

Who is, and has been, unable and unwilling to properly treat this situation as an emergency? I ask that you make a great effort to inform and disclose, just like we would if EBOLA were present in our community. Families need to know the facts from reliable and believable sources (UNM scientists, etc.) about what it means to live in a sacrifice zone, since we are, indeed, being knowingly sacrificed by the few that are aware and in charge.

Grandmother.  
RG Kinsey  
505-750-7829  
POB 714  
Corrales, NM 87048

December 2, 2014

Mr. John Kieling, Chief  
Hazardous Waste Bureau  
NM Environmental Department  
950 Rodeo Park Rd Dr E, Bldg 1  
Santa Fe, NM 87505  
[john.kieling@state.nm.us](mailto:john.kieling@state.nm.us)

Mr. John Weckerle  
US Department of Energy  
Sandia Field Office  
PO Box 5400  
Albuquerque, NM 87185

Office Of Inspector General  
c/o David Sedillo

[ig hotline@hq.doe.gov](mailto:ig hotline@hq.doe.gov)

Dear Sirs:

In regards to Sandia National Lab permit modification request, please take actions to excavate this and all contaminated landfills immediately and add no more radioactive and toxic waste.

It is only reasonable to remedy the pits and landfills to current day standards for the safety and health of the community and nation.

Again, I join those who are strongly against temporary and/or permanent storage of any high-level, mid-level or any level nuclear waste in this site under consideration. I join the demand that the NMED not approve Corrective Action Complete and hold a public hearing for the matter.

Respectfully,

SJ Sanchez  
1718 Escalante SW  
Albuquerque, NM

**From:** sj sanchez [mailto:sjsanchez2008@yahoo.com]

**Sent:** Tuesday, December 02, 2014 6:25 PM

**To:** Kieling, John, NMENV; ighotline@hq.doe.gov

**Subject:** SNL Coorrective Action and pending Permit

Dear Sirs:

Please see attached letter regarding remediation of contaminated landfill.

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DEC 16 2014

NMED  
Hazardous Waste Bureau

December 4, 2014

John Kieling, Chief  
Hazardous Waste Bureau  
New Mexico Environment Department  
2950 Rodeo Park Dr. E Bldg 1  
Santa Fe, NM 87505

John Weckerie  
US Department of Energy Sandia Field Office  
PO Box 5400  
Albuquerque, NM 87185

No permit.

Somebody is going pay for this. And I hope it is not going to be the victims of this crime. I think of all the government agencies whose job it is to protect the people's water, the commons. And instead government agencies are now protecting the companies crimes.

Heads should roll in at least the Sandia National Laboratory, Sandia Mixed Waste Landfill, US Department of Energy, New Mexico Environment Department and National Regulatory Commission NRC.

But I think every one who is complicit in this crime should held accountable.

A Heinous crime has been committed. A crime against humanity, land, air and water, are our common property. I would hope harsh penalties and jail are in order.

Is there radiation already in the aquifer?

When where you going tell us?

Is this a super fund site?

No permit.

1. Immediate radiation remediation procedures need to started immediately.
2. All radiation found on site needs to be removed.
3. All costs for remediation will be incurred to those companies found accountable.
4. A community health testing program on humans in the effected area should be started immediately.
5. All costs for health testing program will be incurred to those companies or the possibly the government found to be accountable.
6. Also a health care service in the effected area should be started immediately.
7. All costs for health care service program will be incurred to those companies accountable.
8. What about the water? Testing? I would certainly hope 3rd party testing is in order. I hope this is not going be an issue.

No permit.

Sincerely,



Richard Rushforth  
PO Box 1443  
Santa Fe, NM 87504

**From:** jack4716@juno.com [mailto:jack4716@juno.com]

**Sent:** Thursday, December 18, 2014 12:31 PM

**To:** Kieling, John, NMENV

**Subject:** Sandia's MWL

I find it completely incomprehensible that we must ask for a hearing for this unlined pit of toxic chemicals and radioactive waste. It should be a given considering how much at risk the citizens of Albuquerque and surrounding areas are for irreparable harm to our clean air, clean water, and clean everything. Sandia National Labs has been completely irresponsible for nearly 30 years, and now they say it's too expensive to clean up?? You did the damage, you do the clean up. It's called the ethical thing to do, probably something they cannot comprehend. A public hearing, a public hearing, a public hearing!!!!

Margaret Jackson

[jack4716@juno.com](mailto:jack4716@juno.com)

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

From: Stephen Spitz [mailto:stephen.spitz@gmail.com]

Sent: Thursday, December 18, 2014 8:56 AM

To: Kieling, John, NMENV

Subject: sandia mixed waste landfill

Dear Mr. Kieling---I produce and host a show on KUNM called New Mexico People Places and Ideas and was wondering if you could tell me, or point me, to where the NMED decides if the landfill has now been granted a "complete" permit that does not require further monitoring.

I am also wondering if you would be available to come on my show and discuss the status of the permit.

Thanks Steve

**From:** Sheila Doran-Benyon [mailto:sdbsouthside@earthlink.net]

**Sent:** Friday, December 5, 2014 1:27 PM

**To:** Kieling, John, NMENV

**Subject:** Please....

....for all of our sakes today and for generations into the future.... I'd like a public hearing held on the Sandia Mixed Waste Landfill, that NMED order denial of the certificate of completion, and that Sandia be ordered to clean up and safely store the MWL waste. How can one NOT agree to actions that protect us from dangerous waste?! sdb

**From:** Deborah Reade [mailto:reade@nets.com]  
**Sent:** Friday, December 5, 2014 11:47 AM  
**To:** Kieling, John, NMENV  
**Subject:** Mixed Waste Landfill in Albuquerque

Dear Mr. Kieling,

I am disturbed by the Environment Department's apparent intention to approve a certification of completion for Sandia Lab's mixed waste landfill when this landfill so obviously violates multiple environmental regulations and laws. I am really sick of NMED's seeming total lack of interest in protecting human health and the environment when it comes to anything in this state that includes radioactive materials.

Though occasional feeble efforts (really more publicity stunts, I believe) are made by NMED when particularly egregious violations come to light--as at WIPP, for instance--nothing ever really changes. I note that WIPP is still going full speed ahead, though we still don't understand what actually happened. Workers in the underground are possibly in great danger, yet you allow this to go on. And LANL, which packed the drum that exploded, is still in the running for increased pit production. Both of these sites should be closed and should be concentrating on clean-up and nothing else at least until they "get it together." WIPP has already failed and should be closed permanently. It will surely fail again since the attitude "good enough for government work" seems to pervade both DOE and NMED.

The mixed waste landfill is a site that threatens the health of hundreds of thousands of people in Albuquerque and beyond and threatens precious water supplies as well. NMED has a sad and embarrassing history of covering up reports that say you should have more stringent requirements for the landfill. You have even gone so far as to violate regulations and have "secret" conversations with no records in order to get around the public and their concerns. In fact, the public seems to be the very last group that you take into consideration. Instead, the Labs and special interests seem to rule all your decisions.

You can repair some of this damage by having a public hearing on the certificate of completion. In fact, I demand that you deny this certificate as the landfill is no where near ready to be closed. Instead, I also demand that you order Sandia Labs to clean up and **safely** store the wastes in the mixed waste landfill with best methods and in a way that will protect the public and our water. You need to have a transparent process, which seems to be something you don't understand, and work **with** the public instead of **against** us.

Sincerely,  
Deborah Reade

-----  
Deborah Reade  
117 Duran Street  
Santa Fe, NM 87501-1817  
Phone/Fax 505-986-9284  
[reade@nets.com](mailto:reade@nets.com)

**From:** Merna Brostoff [mailto:mail@changemail.org]  
**Sent:** Thursday, November 20, 2014 11:04 AM  
**To:** Kieling, John, NMENV  
**Subject:** 10 new people signed: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.

10 new people recently signed Citizen Action New Mexico's petition "[Secretary Ryan Flynn: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.](#)" on Change.org.

There are now 80 signatures on this petition. Read reasons why people are signing, and respond to Citizen Action New Mexico by clicking here:  
<http://www.change.org/p/secretary-ryan-flynn-new-mexico-environmental-department-clean-up-the-high-level-nuclear-and-hazardous-wastes-at-sandia-labs-mixed-waste-landfill/responses/new?response=3b8df1a93dc1>

Dear Mr. John Kieling, Bureau Chief,

Clean up the Sandia Labs Mixed Waste Landfill and allow public comment on this issue!

Sincerely,

80. Merna Brostoff Albuquerque, New Mexico
79. Dolores Martin Albuquerque, New Mexico
78. Jeremy Work Albuquerque, New Mexico
77. Nkazi Sinandile Albuquerque, New Mexico
76. Alberto rivera Albuquerque, New Mexico
75. Carolyn Bemis ABQ, New Mexico
74. Angie Carrico Albuquerque, New Mexico
73. Susan Reid Santa Fe, New Mexico
72. Sarah Shaw Albuquerque, New Mexico
71. Paul Eichhorn Albuquerque, New Mexico

**From:** Sally-Alice Thompson [mailto:mail@changemail.org]  
**Sent:** Tuesday, November 18, 2014 11:19 AM  
**To:** Kieling, John, NMENV  
**Subject:** 10 new people signed: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.

10 new people recently signed Citizen Action New Mexico's petition "[Secretary Ryan Flynn: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.](#)" on Change.org.

There are now 70 signatures on this petition. Read reasons why people are signing, and respond to Citizen Action New Mexico by clicking here:  
<http://www.change.org/p/secretary-ryan-flynn-new-mexico-environmental-department-clean-up-the-high-level-nuclear-and-hazardous-wastes-at-sandia-labs-mixed-waste-landfill/responses/new?response=3b8df1a93dc1>

Dear Mr. John Kieling, Bureau Chief,

Clean up the Sandia Labs Mixed Waste Landfill and allow public comment on this issue!

Sincerely,

70. Sally-Alice Thompson Albuquerque, New Mexico
69. Matthew McGuire Cheshire, Connecticut
68. Susan Schuurman albuquerque, New Mexico
67. george myers Masontown, Pennsylvania
66. Steph Pifer Muncie, Indiana
65. Sara Friederich Albuquerque, New Mexico
64. Ramón Mac Tíre Albuquerque, New Mexico
63. Trista Jackson Albuquerque, New Mexico
62. Karen Graeber Corrales, New Mexico
61. Concerned Citizen New City, New York

**From:** Emily Hawes [mailto:mail@changemail.org]

**Sent:** Tuesday, November 18, 2014 1:23 AM

**To:** Kieling, John, NMENV

**Subject:** 10 new people signed: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.

10 new people recently signed Citizen Action New Mexico's petition "[Secretary Ryan Flynn: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.](#)" on Change.org.

There are now 60 signatures on this petition. Read reasons why people are signing, and respond to Citizen Action New Mexico by clicking here:

<http://www.change.org/p/secretary-ryan-flynn-new-mexico-environmental-department-clean-up-the-high-level-nuclear-and-hazardous-wastes-at-sandia-labs-mixed-waste-landfill/responses/new?response=3b8df1a93dc1>

Dear Mr. John Kieling, Bureau Chief,

Clean up the Sandia Labs Mixed Waste Landfill and allow public comment on this issue!

Sincerely,

59. John DeVcenty Pueblo, Colorado
58. joe devcenty Grand Junction, Colorado
56. Richard Weiner Albuquerque, New Mexico
55. Guida Leicester Albuquerque, New Mexico
54. Arthur Alfreds Albuquerque, New Mexico
53. Karen Dewig Albuquerque, New Mexico
52. Karen Bonime Albuquerque, New Mexico
50. Steve Kramer Albuquerque, New Mexico
49. Cynthia Barber Albuquerque, New Mexico
47. Sally Beers Albuquerque, New Mexico

**From:** peter kelly [mailto:mail@changemail.org]

**Sent:** Monday, November 17, 2014 10:37 PM

**To:** Kieling, John, NMENV

**Subject:** 10 new people signed: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.

10 new people recently signed Citizen Action New Mexico's petition "[Secretary Ryan Flynn: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.](#)" on Change.org.

There are now 60 signatures on this petition. Read reasons why people are signing, and respond to Citizen Action New Mexico by clicking here:

<http://www.change.org/p/secretary-ryan-flynn-new-mexico-environmental-department-clean-up-the-high-level-nuclear-and-hazardous-wastes-at-sandia-labs-mixed-waste-landfill/responses/new?response=3b8df1a93dc1>

Dear Mr. John Kieling, Bureau Chief,

Clean up the Sandia Labs Mixed Waste Landfill and allow public comment on this issue!

Sincerely,

- 60. peter kelly Medowie, Australia
- 59. John DeVency Pueblo, Colorado
- 58. joe devency Grand Junction, Colorado
- 56. Richard Weiner Albuquerque, New Mexico
- 55. Guida Leicester Albuquerque, New Mexico
- 54. Arthur Alfreds Albuquerque, New Mexico
- 53. Karen Dewig Albuquerque, New Mexico
- 52. Karen Bonime Albuquerque, New Mexico
- 50. Steve Kramer Albuquerque, New Mexico
- 49. Cynthia Barber Albuquerque, New Mexico

**From:** Steve Kramer [mailto:mail@changemail.org]

**Sent:** Monday, November 17, 2014 8:29 PM

**To:** Kieling, John, NMENV

**Subject:** 10 new people signed: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.

10 new people recently signed Citizen Action New Mexico's petition "[Secretary Ryan Flynn: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.](#)" on Change.org.

There are now 50 signatures on this petition. Read reasons why people are signing, and respond to Citizen Action New Mexico by clicking here:

<http://www.change.org/p/secretary-ryan-flynn-new-mexico-environmental-department-clean-up-the-high-level-nuclear-and-hazardous-wastes-at-sandia-labs-mixed-waste-landfill/responses/new?response=3b8df1a93dc1>

[the-high-level-nuclear-and-hazardous-wastes-at-sandia-labs-mixed-waste-landfill/responses/new?response=3b8df1a93dc1](http://www.change.org/p/secretary-ryan-flynn-new-mexico-environmental-department-clean-up-the-high-level-nuclear-and-hazardous-wastes-at-sandia-labs-mixed-waste-landfill/responses/new?response=3b8df1a93dc1)

Dear Mr. John Kieling, Bureau Chief,

Clean up the Sandia Labs Mixed Waste Landfill and allow public comment on this issue!

Sincerely,

50. Steve Kramer Albuquerque, New Mexico
49. Cynthia Barber Albuquerque, New Mexico
47. Sally Beers Albuquerque, New Mexico
46. Edward Lopez Albuquerque, New Mexico
45. Margarita Burciaga Albuquerque, New Mexico
44. marisa powers Riverview, Michigan
43. JOSEPH GALLEGOS ALBUQUERQUE, New Mexico
42. Barbara Grothus Albuquerque, New Mexico
41. Joel Gallegos Albuquerque, New Mexico
40. Ruby Moon West Warwick, Rhode Island

**From:** Ruby Moon [mailto:mail@changemail.org]

**Sent:** Monday, November 17, 2014 5:42 PM

**To:** Kieling, John, NMENV

**Subject:** 10 new people signed: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.

10 new people recently signed Citizen Action New Mexico's petition "[Secretary Ryan Flynn: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.](http://www.change.org/p/secretary-ryan-flynn-new-mexico-environmental-department-clean-up-the-high-level-nuclear-and-hazardous-wastes-at-sandia-labs-mixed-waste-landfill/responses/new?response=3b8df1a93dc1)" on Change.org.

There are now 40 signatures on this petition. Read reasons why people are signing, and respond to Citizen Action New Mexico by clicking here:

<http://www.change.org/p/secretary-ryan-flynn-new-mexico-environmental-department-clean-up-the-high-level-nuclear-and-hazardous-wastes-at-sandia-labs-mixed-waste-landfill/responses/new?response=3b8df1a93dc1>

Dear Mr. John Kieling, Bureau Chief,

Clean up the Sandia Labs Mixed Waste Landfill and allow public comment on this issue!

Sincerely,

40. Ruby Moon West Warwick, Rhode Island
39. Bryan Doyle Wallingford, Connecticut
38. Edward Laurson Denver, Colorado
37. John Hargis Dallas, Texas
36. Charles McHenry Central Point, Oregon
33. Ravi Wadhwa Albuquerque, New Mexico
32. Mica Cardillo Phoenix, Oregon

31. Roberta Packer Lanesborough, Massachusetts
30. Oscar Chavarria Albuquerque, New Mexico
29. joanne barlow Ponderay, Idaho

**From:** Oscar Chavarria [mailto:mail@changemail.org]

**Sent:** Monday, November 17, 2014 3:50 PM

**To:** Kieling, John, NMENV

**Subject:** 10 new people signed: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.

10 new people recently signed Citizen Action New Mexico's petition "[Secretary Ryan Flynn: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.](#)" on Change.org.

There are now 29 signatures on this petition. Read reasons why people are signing, and respond to Citizen Action New Mexico by clicking here:

<http://www.change.org/p/secretary-ryan-flynn-new-mexico-environmental-department-clean-up-the-high-level-nuclear-and-hazardous-wastes-at-sandia-labs-mixed-waste-landfill/responses/new?response=3b8df1a93dc1>

Dear Mr. John Kieling, Bureau Chief,

Clean up the Sandia Labs Mixed Waste Landfill and allow public comment on this issue!

Sincerely,

30. Oscar Chavarria Albuquerque, New Mexico
29. joanne barlow Ponderay, Idaho
28. Patricia Kelsey Albuquerque, New Mexico
27. Moegsien Hendricks Cape Town, South Africa
26. Lynn Miller Ocala, Florida
25. Brian Weismuller Glenside, Pennsylvania
24. Jessica King Dickinson, North Dakota
23. Nicole Gumm Albuquerque, New Mexico
22. Ernest W Sturdevant Albuquerque, New Mexico
21. dinda evans san diego, California

**From:** Robert McNeill [mailto:mail@changemail.org]

**Sent:** Monday, November 17, 2014 1:28 PM

**To:** Kieling, John, NMENV

**Subject:** 5 new people signed: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.

5 new people recently signed Citizen Action New Mexico's petition "[Secretary Ryan Flynn: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.](#)" on Change.org.

There are now 20 signatures on this petition. Read reasons why people are signing, and respond

to Citizen Action New Mexico by clicking here:

<http://www.change.org/p/secretary-ryan-flynn-new-mexico-environmental-department-clean-up-the-high-level-nuclear-and-hazardous-wastes-at-sandia-labs-mixed-waste-landfill/responses/new?response=3b8df1a93dc1>

Dear Mr. John Kieling, Bureau Chief,

Clean up the Sandia Labs Mixed Waste Landfill and allow public comment on this issue!

Sincerely,

20. Robert McNeill Albuquerque, New Mexico
19. Gerardo Martinez Albuquerque, New Mexico
18. David McCoy Albuquerque, New Mexico
17. Abdul al-amin Clearwater, Florida
16. Kenneth Ellis alb, New Mexico

**From:** James Bowes [mailto:mail@changemail.org]

**Sent:** Monday, November 17, 2014 12:45 PM

**To:** Kieling, John, NMENV

**Subject:** 5 new people signed: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.

5 new people recently signed Citizen Action New Mexico's petition "[Secretary Ryan Flynn: New Mexico Environmental Department: Clean up the HIGH level Nuclear and Hazardous Wastes at Sandia Labs Mixed Waste Landfill.](#)" on Change.org.

There are now 15 signatures on this petition. Read reasons why people are signing, and respond to Citizen Action New Mexico by clicking here:

<http://www.change.org/p/secretary-ryan-flynn-new-mexico-environmental-department-clean-up-the-high-level-nuclear-and-hazardous-wastes-at-sandia-labs-mixed-waste-landfill/responses/new?response=3b8df1a93dc1>

Dear Mr. John Kieling, Bureau Chief,

Clean up the Sandia Labs Mixed Waste Landfill and allow public comment on this issue!

Sincerely,

15. James Bowes Albuquerque, New Mexico
14. Lloyd Thrap Albuquerque, New Mexico
13. Christel Davies Santa Fe, New Mexico
12. Michael Butler Albuquerque, New Mexico
11. Isaac Cohen Stockholm, Sweden

MWL ENTER  
Mr. John Weckerle  
US Dept of Energy, Sandia Fed off.  
P.O. Bbx 15400  
ABQ, NM 87185

1749 Minaceros Pl NE  
Albuquerque, NM. 87106  
Dec. 17, 2014  
CAROL BENSER Gmail.com

Mr. John Kieling, Chief  
Hazardous Waste Bureau  
N.M. Environment Dept.

RECEIVED

DEC 19 2014

Dear Mr. Kieling; Mr. John Weckerle;  
NEMD Hazardous Waste Bureau  
It is most distressing to see the lack of responsiveness on the Mixed Waste landfill problem. This issue drags on and on, while endangering the lives of Albuquerqueans unreasonably. To see the 5 yr. reviews ignored, knowing the dangerous toxins buried there, is especially disturbing.

I have a reverse mortgage here, which means I need to remain in ABQ, economically speaking. But with the extra possibility of an explosion at Sandia the jet fuel, or alternatively, carbon, in my water; EOBs + radionuclides, or no water at all as a result of extreme drought, spread + contamination, wisdom might dictate relocation.

I am quite concerned about the devaluation of my home in the very near future. Perhaps I must sell + jump off the deep end! We are all aware now that the water from all wells is blended. It is not right that the community be put in this situation. Time for proper clean up + storage!

Yours truly;  
(Ms) Carol Benson

About the landfill near Pueblo  
of Orleta. What are you? a bunch  
of Phyopthei weirdos? Shut down  
Los Alamos and Sandia Labs, use the  
money to clean up the mess!!!

I can't believe how these so  
called experts are destroying the  
whole planet when the water air and  
Earth are poisoned, good luck

Genius

PS not to mention the jet fuel spill  
you not protecting anyone with  
you weapons of mass destruction

Fracking  
coal fired plants  
on and on

RECEIVED

DEC - 8 2014

NMED  
Hazardous Waste Bureau

RECEIVED

COMMENT

 ENTERED

DEC 12 2014

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

NMED  
Hazardous Waste Bureau

2014

Name: Benjamin Imbus Date: 12-8

Contact information: email address and/or phone number with area code: ~~1230~~ 513-405-5544  
*(not required, will be used only if someone has a question about your comment)*

With what has been declassified it so far being so alarming and the fact that several pits remain classified, I am concerned about the hazardous waste.

With only distance separating the materials from groundwater and ~10' of rubble, dirt + dirt separating surfaces organisms, I maintain my concern.

The company's negligence to evaluate excavation as required by law (from my understanding) in 2010 and the reluctance to release the information about the waste suggest to me wrong doing. If I am correct about the '04-'05 Final Order requiring 5 yr. feasibility report being law/court mandated, then citizens are being cheated. → more →

Use as many continuation pages as needed. On each continuation page, please write your name, the page number, and the total number of pages

COMMENT  
Continuation

Name: Benjamin Imbus

If I am uninformed about this, please  
please make a public hearing, in which  
Company representatives, but also independent  
and intelligent citizens can present evidence so  
and the community as a whole,  
democratically,  
can make the decisions we will live with.

Thank you,

Benjamin Imbus

P.S. If I forgot to mention, I'm requesting  
a public hearing.

COMMENT

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

Name: Janet Greenwald Date: 11/18/14

Contact information: email address  
and/or phone number with area code: contactus@cardnm.org  
(not required, will be used only if someone has a  
question about your comment)

Sandia's position is very different from the positions of the stakeholder groups. Sandia and the stakeholder groups base their positions on different sets of facts most of which come from SANL historical documents. We need a <sup>public</sup> hearing so that we can hear experts explain the very different positions presented by both groups and assess the facts and allow the hearing officer to assess the facts and come to an independent decision.

Use as many continuation pages as needed. On each continuation page, please write your name, the page number, and the total number of pages

**COMMENT  
Continuation**

Name: Janet Greenwald

Concerning this very  
dangerous waste site perched  
above our tap water aquifer.

and pleasing your superior  
more important than  
preventing excruciating  
cancer deaths? Take  
a strong public stand  
as a person of conscience  
and balls!

Don Schrader -  
69 yr old long time  
health activist

Albuquerque, N.M. 87185  
1806 WALTERS TOWN 2014 PM 2 L

Albuquerque, N.M. 87185

PERSONAL ATTENTION

Mr. John McQuibben

U.S. Dept. of Energy  
Sandia Field Office

P.O. Box 5406  
Albuquerque  
N.M.

87185



Mr. John Weckerle-

11/27/2014

I strongly OPPOSE the Sandia  
Mixed Waste landfill! It is  
full of extremely hazardous and  
highly radioactive materials buried  
in shallow, unlined pits covered  
in dirt. This is prohibited by  
federal law and violates state  
laws!

In order to protect our ground  
water, the environment and  
our health, it must be excavated  
and landfilled in a secure,  
engineered facility!

Do YOU have the conscience  
and courage to do the right thing  
even if it means risking your  
job as a bureaucrat?

Our lives and future are at  
stake! Have YOU ever sat  
beside a close loved one dying  
of cancer? In following orders

OVER

Mr. John Kieling - 11/27/2014

I strongly OPPOSE the Sandia Mixed Waste Landfill! It is full of extremely hazardous and highly radioactive materials buried in shallow, unlined pits covered in dirt. This is prohibited by federal law, and violates state laws!

In order to protect our ground water, the environment and our health, it must be excavated and landfilled in a secure, engineered facility!

Do YOU have conscience and courage to do the right thing even if it means risking your job as a bureaucrat?

Our lives and future are at stake! Have you ever sat beside a close loved one dying of cancer? Do following orders

ENTERED

(OVER)



Don SCHRADER  
1806 Walter S.E.  
Albuquerque, N.M. 87102

and pleasing U.S. government  
superiors more important  
than preventing exacerbating  
cancer deaths? Take a  
strong public stand as a  
person of conscience and  
balls!

Don Schrader  
A 49 year old longtime health activist

PERSONAL ATTENTION

Mr. John Kieling, Chief

Hazardous Waste Bureau  
New Mexico Environment  
Department  
2905 Rodeo Park Drive, E  
Building 1

Santa Fe  
N.M.  
87505



COMMENT

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

Dec 18 / 14  
899 855

Name: Susan Shotland-Rodriguez

Date: 899 855

Contact information: email address  
and/or phone number with area code:  
(not required, will be used only if someone has a  
question about your comment)

We Demand a public Hearing

We Need to you need to show what is in the landfill  
The land should be excavated & properly & safely  
dealt with. There should be no final substitution  
~~made~~ We are ~~not~~ sure that the waste is  
not leached into the aquifer

These meetings need to be several places  
in Albuquerque & with the Pueblos

Thank you for your attention  
Susan Rodriguez

Use as many continuation pages as needed. On each continuation page, please write your name, the page number, and the total number of pages

RECEIVED

COMMENT

DEC 12 2014

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

NMED  
Hazardous Waste Bureau

Name: Jodene Romero Date: Dec 9, 2014

Contact information: email address  
and/or phone number with area code: jodene@yahoo.com  
*(not required, will be used only if someone has a  
question about your comment)*

Demand a hearing on this  
waste problem!!

Use as many continuation page:s as needed. On each continuation page, please write your name, the page number, and the total number of pages

MWL



ENTERED

RECEIVED

COMMENT

DEC 19 2014

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

NMED  
Hazardous Waste Bureau

Name: Diane Terry Date: Dec. 13, 2014

Contact information: email address/  
and/or phone number with area code: (505) 293-2099  
(not required, will be used only if someone has a question about your comment)

Having agreed with the "final order",  
I think NMED should grant the request  
for class 3 Permit Modification for SWMU76.  
Soil-Vapor investigation + monitoring was a  
good addition.

The corrective measures completed +  
the LTM Plan in place will serve to  
safeguard human health + the environment.

Use as many continuation pages as needed. On each continuation page, please write your name, the page number, and the total number of pages

RECEIVED

COMMENT

DEC 12 2014

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

NMED  
Hazardous Waste Bureau

Name: Ivanna Barabana Ramos Date: 12/17/14

Contact information: email address  
and/or phone number with area code: Ivanna.Barabana@aps.edu  
(not required, will be used only if someone has a question about your comment)

I demand a public hearing, please!

Use as many continuation pages as needed. On each continuation page, please write your name, the page number, and the total number of pages

RECEIVED

COMMENT

DEC 12 2014

NMED  
Hazardous Waste Bureau

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

Name: Nora P. Conejo Date: 12-8-14

Contact information: email address  
and/or phone number with area code: noracone1@msn.com  
*(not required, will be used only if someone has a  
question about your comment)*

I demand a public hearing!

Use as many continuation pages as needed. On each continuation page, please write your name, the page number, and the total number of pages

RECEIVED

COMMENT



ENTERED

DEC 12 2014

**Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories**

NMED  
Hazardous Waste Bureau

Name: Leslie Marsico

Date: 12/8/14

Contact information: email address  
and/or phone number with area code: \_\_\_\_\_  
*(not required, will be used only if someone has a  
question about your comment)*

I demand a public hearing!

Use as many continuation pages as needed. On each continuation page, please write your name, the page number, and the total number of pages



COMMENT

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

Name: Victor Werbin Date: 11-18-2014

Contact information: email address  
and/or phone number with area code:  
*(not required, will be used only if someone has a  
question about your comment)*

victorw1313@gmail.com

I request a public hearing regarding  
this issue.

It should be well publicized  
with plenty of time for experts  
from the community to present  
their data.

Without such a meeting, I  
believe the NMED has no credibility  
regarding the oversight of this  
continuing problem.

Use as many continuation pages as needed. On each continuation page, please write your name, the page number, and the total number of pages

COMMENT

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

Name: Michael Swick Date: 11-18-14

Contact information: email address  
and/or phone number with area code: mswick47@gmail.com  
(not required, will be used only if someone has a  
question about your comment)

According to The Environmental Protection Agency,  
"All landfills will eventually fail and leak  
leachate into ground and surface water."  
The public is concerned about what long term  
plans SNL have to deal with the obvious  
inevitability of this potentially life  
threatening situation. We deserve & demand  
a public hearing to address &  
study this problem.

Use as many continuation pages as needed. On each continuation page, please write your name, the page number, and the total number of pages

COMMENT

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

Name: Marcie Summerlin Date: 11/18/14

Contact information: email address  
and/or phone number with area code: \_\_\_\_\_  
(not required, will be used only if someone has a  
question about your comment)

I found both the displays and the  
people who were working the meeting to be  
extremely clear and informative. It appears  
clear that the Mixed Waste Landfill has  
been well handled and does not pose  
a threat to our groundwater.

Use as many continuation pages as needed. On each continuation page, please write your name, the page  
number, and the total number of pages

COMMENT

RECEIVED

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

DEC 12 7:00

NMED  
Hazardous Waste Bureau

Name: Joe Hartsock Date: \_\_\_\_\_

Contact information: email address  
and/or phone number with area code: joenabg@yahoo.com  
*(not required, will be used only if someone has a  
question about your comment)*

I demand a hearing on the nuclear waste  
being dumped on Sandia Labs area near  
Albuquerque.

I am still not convinced that it is not ~~is~~  
safe and I am worried that it may someday  
leak into our water table.

Use as many continuation pages as needed. On each continuation page, please write your name, the page  
number, and the total number of pages



COMMENT

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

Name: Floy Barrett

Date: 11/18/2014

Contact information: email address  
and/or phone number with area code:  
(not required, will be used only if someone has a  
question about your comment)

There have been too many delays in Sandia National Lab. completing necessary requirements for the corrective action to further the groundwater monitoring that is necessary. The Environment Dept. gave permission to leave the waste under a dirt cover. There is no intent by authorities to excavate these dangerous wastes.

I demand a public hearing is necessary. We deserve no less.

Use as many continuation pages as needed. On each continuation page, please write your name, the page number, and the total number of pages

COMMENT

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

Name: SALLY BEERS Date: 11-18-14

Contact information: email address  
and/or phone number with area code: shelly 1648@ yahoo.com  
(not required, will be used only if someone has a  
question about your comment)

WE NEED A WELL ADVERTISED PUBLIC  
HEARING ON THIS.

NOT ENOUGH PEOPLE KNOW ANYTHING  
ABOUT THIS. AND I CAN SEE & HEAR  
THERE ARE SERIOUS PROBLEMS WITH  
THIS.

Use as many continuation pages as needed. On each continuation page, please write your name, the page number, and the total number of pages

COMMENT

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

Name: Sylviana D Dowilly Date: 11-18-14

Contact information: email address  
and/or phone number with area code: \_\_\_\_\_  
(not required, will be used only if someone has a  
question about your comment)

Because of conflicting

I Newly recovered information AND  
continuing concern about the time +  
money the laboratory is willing to expend  
to ensure very long term monitoring.  
We need a hearing. We want a hearing.  
We deserve a ~~hearing~~ Public hearing.

Use as many continuation pages as needed. On each continuation page, please write your name, the page number, and the total number of pages

COMMENT

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

Name: Dick Fatz Date: 18 Nov 2014

Contact information: email address  
and/or phone number with area code: \_\_\_\_\_  
(not required, will be used only if someone has a  
question about your comment)

This is a very impressive display of  
the relevant technical information leading  
to the Class 3 Permit Mod. I am very  
impressed that the MWH is ~~very~~ progressing  
so well down its regulatory path. The  
work done on the MWH merits its final  
resolution with a Permit Mod - and it  
appears that it will happen. Many kuddos  
to the folks that are doing the work!

Use as many continuation pages as needed. On each continuation page, please write your name, the page  
number, and the total number of pages

COMMENT

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

Name: Robert Aly Date: 11/18/14

Contact information: email address  
and/or phone number with area code: room2@bigfoot.com  
*(not required, will be used only if someone has a  
question about your comment)*

It is immoral to leave the mixed waste landfill  
to our children to clean up.

We need a hearing!  
we need  
!! Public Hearing !!

Use as many continuation pages as needed. On each continuation page, please write your name, the page number, and the total number of pages

COMMENT  
Continuation

Name: Arthur Alfreds.

I would request a Public Hearing,  
for maximum transparency.

COMMENT

Request for Class 3 Permit Modification for  
Solid Waste Management Unit 76, Mixed Waste Landfill  
Sandia National Laboratories

Name: Kirsten Mater Date: 11/18/14

Contact information: email address  
and/or phone number with area code: \_\_\_\_\_  
*(not required, will be used only if someone has a  
question about your comment)*

I think this meeting was very well put together. The posters and the people were all very helpful and informative. I think they did a wonderful job with everything! And the justification binders ~~were~~ particularly looked well put together.

Use as many continuation pages as needed. On each continuation page, please write your name, the page number, and the total number of pages

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

From: michael.barcelona@wmich.edu [mailto:michael.barcelona@wmich.edu]

Sent: Monday, January 05, 2015 2:12 PM

To: NNSA.Sandia

Subject: Request for a Class 3 permit modification to module IV of Waste Permit NM5890110518-1

Dear Mr. Weckerle and Mr. Kieling, I write as a very concerned citizen and ground water scientist to express my continued outrage over the shameful record of both oversight ( by NMED) and history of work at the Sandia Mixed Waste ( SWMU 76) Landfill dump by SNL-DOE. I have also attached my resume which details the work that I was able to contribute to the USEPA's efforts to establish identification, monitoring, and maintenance guidelines for the Resource Conservation and Recovery Act's oversight for hazardous waste sites. We did extensive work in establishing safe reliable sampling methods, selection of materials for wells, pumps, etc. and well construction techniques. The documents are listed in the reports from the University of Illinois, Western Michigan University and the University of Michigan.

I can truthfully say that after working at hundreds of waste sites and some DOE and DOD sites, I have never seen a more troubling site than the Sandia MWL dump. The disposal of high level nuclear and chemical materials without adequate inventory, unlined waste sites with no effective cover, and the ridiculous monitoring well network that NMED told them was faulty in the early 1990's with repeated Notices of Denial through 1998 ( the Garcia report) borders on criminal in proportion to the continuing damage to the environment. The recent ( Sept, 2014) soil vapor monitoring results collected under the MWL dump Long Term Monitoring and Maintenance Plan ( LTMMP) alone show that many volatile organic compounds have been released that have appeared at depths up to 400 feet below land surface. The dump has no doubt been leaking since it's inception in 1959.

-- I have read and agree with the numerous documents submitted to NMED, DOE and various citizen groups over the past 15 years by Mr. Robert Gilkeson, Registered Geologist, Mr David McCoy, (Citizen Action), and Ms. Joni Arends, (Concerned Citizens for Nuclear Safety), and Dr. Eric Nuttall, formerly of the University of New Mexico that have detailed the major issues on this and other sites (LANL Area G) that cry out for responsible action on the part of NMED. I strongly urge NMED to deny the permit modification request and reject the inclusion of the existing monitoring well network in the LTMMP. I would also request that a public hearing be held to openly air the serious issues that are at stake if the status quo is allowed to continue.

Dr. Michael J. Barcelona, Professor of Chemistry, Western Michigan University, 3342 Wood Hall, 1903 W. Michigan, Kalamazoo, MI, 49008-5413, 269-387-2837, FAX 269-387-2909

# MICHAEL JOSEPH BARCELONA

**Professor**  
**Department of Chemistry**  
**Western Michigan University**  
**3442 Wood Hall**  
**Kalamazoo, MI 49008**  
**Phone: 269 387-2837**  
**Fax: 269-387-2909**  
**email:michael.barcelona@wmich.edu**

**EDUCATION:** Ph.D., Marine Chemistry/Chemical Oceanography (1977), University of Puerto Rico, Mayaguez, Puerto Rico  
M.S., Inorganic Chemistry (1974), Northeastern University, Boston, Massachusetts

B.A., Chemistry (1971), St. Mary's College, Winona, Minnesota

**LANGUAGES:** English, Spanish (speaking), Italian (speaking)

**PROFESSIONAL SOCIETIES:** American Chemical Society, Union of Concerned Scientists, Association of Ground Water Scientists and Engineers-National Ground Water Association

**PROFESSIONAL EXPERIENCE:**

**8/01-Present:** Professor of Chemistry, Chairperson (10/02-08/07),  
Department of Chemistry, Western Michigan University,  
Environmental Organic and Analytical Chemistry Research

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**1/94-8/01:** Research Professor, University of Michigan-Ann Arbor, MI Department of Civil and Environmental Engineering, Group Leader - Environmental Geochemistry Research, Director of Operations - National Center for Integrated Bioremediation Research and Development (NCIBRD)

Leader of an environmental geochemistry and remediation technology program with a 16 to 24 person research group focused on organic contaminant transformations in sedimentary and subsurface geochemical environments. Direct responsibility for student advising, staff recruitment and program development, supervision of technology evaluation activities and marketing of group capabilities within the Department of Defense Strategic Environmental Research and Development (SERDP) National Environmental Technology Test Sites (NETTS). Both efforts were entirely funded by external grants and contracts.

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# Michael J. Barcelona

## Professional Experience (continued)

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**12/89-12/93**                      **Professor of Chemistry (with tenure); Adjunct Prof. of Geology; Director, Institute for Water Sciences, Western Michigan University, Kalamazoo, MI.**

Responsible to the Vice President for Research (Dr. Donald Thompson) for the administration of the Institute for Water Sciences, a University center for research and graduate instruction in environmental chemistry, geology, hydrology, geochemistry, geography, engineering and statistics. Also, the leader of a 4 to 8 person research group conducting organic geochemical and contaminant geochemistry research in natural water systems. The Institute was primarily funded by external grants and contracts.

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**10/79-12/89**                      **Aquatic Chemistry Section Head, and Principal Scientist. Aquatic Chemistry Section, Water Survey Division, Illinois Department of Energy & Natural Resources - University of Illinois, Champaign-Urbana, IL.**

Responsible for the recruitment, support and supervision of 24 chemists, geochemists, and engineers in a multidisciplinary program of environmental chemistry, water, and solid waste treatment research and services. Applied research on the transport and fate of chemical constituents in water or sediment systems was an ongoing activity of the group which was primarily funded by external grants and contracts.

---

**6/84-6/85**                      **Acting Director, Hazardous Waste Research and Information Center (HWRIC), (Now the Illinois Sustainable Technology Center) Illinois Department of Natural Resources, Champaign, IL.**

Responsible to the Department Director for the planning, presentation to legislators, and implementation of a comprehensive program to address the critical research, information and technical assistance needs of Illinois on hazardous waste issues. Staff recruiting, research program development, facilities planning and liaison activities with industry, the public and state agencies were part of the assignment. The effort was funded by a special state appropriation targeted at Industrial assistance with waste management.

---

**1/77-9/79**                      **National Institute of Environmental Health Sciences. Research Postdoctoral Fellow with Dr. James J. Morgan, Environmental Engineering Sciences, California Institute of Technology, Pasadena, CA.**

Responsible for the planning, execution, data analysis and interpretation of chemical and physical oceanographic studies supporting the engineering of marine biomass projects; and the direct supervision of four chemists. Applied research was conducted on mass balances for atmospheric carcinogens in the Los Angeles Air Basin, sampling and analytical techniques, and the geochemistry of organic compounds in sedimentary coastal marine and other aquatic environments.

---

**6/75-12/76**                      **Research Associate and Instructor of Chemical Oceanography, Department of Marine Sciences  
University of Puerto Rico, Mayaguez, PR**

**9/73-6/75**                      **Senior Chemist and Manager of Environmental Chemistry Section, Omni Research Incorporated,  
San German, PR**

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# Michael J. Barcelona

## HONORS & AWARDS

1985, Director's Research Excellence Award, Illinois Department of Natural Resources, presented by the Director of IDNR for meritorious accomplishment as Initial Director of Illinois Hazardous Waste and Information Center (now Illinois Sustainable Technology Center)

1992-1993, Outstanding Service Award for service on National Ground Water Association and Ground Water Publishing Company Editorial Board; Awarded to outgoing associate editors – 3/yr.

1998, Outstanding Research Scientist Award, University of Michigan, College of Engineering, \$1,000 (Annual award presented to Faculty and Research Scientists for research accomplishment; 1 or 2/yr.)

2002, Keith Anderson Award, National Ground Water Association – Association of Ground Water Scientists and Engineers Division (now Scientists and Engineers Division). Annual award (1) for Significant Contributors and Commitment to the Division.

2008, Fulbright Senior Lecturing Award, J. William Fulbright Foreign Scholarship Board Commission for Cultural, Educational and Scientific Exchange; University of Las Palmas, Grand Canary Island, Spain (Fall 2008 taught a graduate Marine Chemistry class and a number of seminars); –6,000 awards/yr.

2009, NRC Senior Research Scientist, National Research Council – National Academy of Sciences; (conducted research at Ground Water and Environmental Research Division – U.S. Environmental Protection Agency R.S. Kerr Environmental Research Laboratory, Ada, OK) January-July 2009.

2010, Distinguished Faculty Scholar Award, Western Michigan University, \$2000 (at most 1 or 2 per year)

## VISITING PROFESSORSHIPS/ SCIENTIST

1988; 2000; 2005; Visiting Scientist, National Research Council of Italy Institute for Water Research, Rome and Bari, Italy, one-month summer visits to conduct groundwater research with collaborators, ~1/yr.

1992; Visiting Professor, Department of Environmental Engineering Technical University of Denmark Lyngby, Denmark, one-month visit to conduct research and serve as external examiner on Mr. Gorm Heron's Ph.D. committee Dr. Thomas Christiansen Advisor, ~1/yr.

1996; Visiting Professor, Department of Soil Protection, University of Calabria, Consenza, Italy, one month visit to conduct research and present workshops, Dr. Salvatore Troisi advisor, ~1/yr.

1997; Visiting Professor, Ground Water Research Centre, Department of Civil and Environmental Engineering, University of Waterloo, Waterloo, Canada; visit to serve as external examiner on Ph.D. committee of Mr. Mark King, Dr. James Barker, advisor, ~1/yr.

2003; Visiting Professor, Department of Geochemistry, University of Utrecht, Utrecht, Netherlands, two-week visit to serve as an external examiner on the Ph.D. committee of Mr. Neils Hartog, advisor Dr. C.H.vanderWeijden, ~1/yr.

## MAJOR AREAS OF EXPERTISE

Marine Chemistry and Organic Geochemistry  
Soil and Ground Water Monitoring and Remediation  
Analytical Chemistry  
Environmental Statistics  
Hazardous and Solid Waste Management  
Consulting (last 5 years): DOE,DOD,EPA, Exxon Mobil.  
Fulbright Foundation .

## HOSTED VISITING SCIENTISTS

Western Michigan University, Mr. Giuseppe Passarella, Water Research Institute , IRSA-CNR, Bari, Italy (September-October 1994)

University of Michigan, Mr. Jeffrey Barbaro, Ph.D. Student of Dr. James Barker ,University of Waterloo (2012, U.S. Geological Survey) (June-August, 1995)

University of Michigan, Dr. Luis E. Marin – Professor of Geologia y Geophysica, Institute of Geophysics, Universidad Nacional Autonoma de Mexico (Sabbatical Year 1997-1998)

# Michael J. Barcelona

University of Michigan, Mr. Jaime Nomocatcat, Ph. D Student of Dr. T. A. Abrajano, Rensselaer Polytechnic Institute (1999-2000)

## **HOSTED VISITING SCIENTISTS: (continued)**

Western Michigan University, Dr. Yerdos Ongarbayev, Professor and Chair, Department of Chemistry, Al-Farabi Kazakh National University, Republic of Kazakhstan (September-December 2006)

## **PROFESSIONAL ACTIVITIES**

1991-1993, Board Member, Association of Ground Water Scientists and Engineers Division (now Scientists and Engineers Division) National Ground Water Association (NGWA)

1992-2002, Editor Ground Water Monitoring and Remediation, NGWA

2002-Present, Associate Editor, Editorial Board, Ground Water Monitoring and Remediation (NGWA)

2012-Present, International Advisory Board Member, Journal of Organic Chemistry Research, Natural Sciences Publishing Corporation

**Committee Activities:** WMU-Academic Integrity Committee Member, 2013-Present, Institute of International Education-Technical Reviewer 2013-Present. Fulbright Foundation Council for International Exchange- Discipline reviewer, 2011-Present, Canadian Water Network Proposal Review Committee- Water Management Adaptation for Climate Change 2007- Present, Michigan Environmental Science Review Board member 2/04-8/06, National Groundwater Association Ground Water Monitoring and Remediation Association Editor 1/05-Present, UM-College of Engineering Chair- Honors and Awards Committee '98-'01, National Academy of Sciences-National Research Council, Water Science Technology Board Committee on Environmental Remediation of Naval Facilities '97-'99, Chair, National Water Research Institute, Ground Water Disinfection Review Committee '97, UM-Department of Civil and Environmental Engineering Research Committee '96-'99, Chair, Joint Task Group 2580 Redox Potential, Standard Methods APHA, AWWA, WEF, '95-present, participant in Remediation Technology Development Forum Bioremediation Working Groups '94-'00; Science Committee Member Relative Risk Assessment Project - Michigan Department of Natural Resources '91-'92; Chairman; (AGWSE) Editorial Policy Committee '87-95, JWPCF Ground Water Committee'87-'92, ACS Ground-Water Policy Task Force Committee '86-'91, Ground-Water Advisory Subcommittee, Science Advisory Board-USEPA '85-'87; Technical Advisory Panel-USEPA Hazardous Waste Ground Water Task Force '85, State of California Ground-Water Advisory Group '85-'86, Illinois Department of Public Health-Health Hazardous Substances Registry '84'85, Illinois Attorney General's Hazardous Waste Task Force-Alternative Technologies Committee '83'84.

## **Instructor and Graduate Student Research Supervisor:**

Instructor in: Field Methods in Hydrogeochemistry (CEE 595-UM); Hazardous Waste Processes (CEE 584-UM); Solid Waste Management (CEE 585-UM); Environmental Chemistry of Subsurface Systems (WMU), Analytical Chemistry (CHEM 2250, CHEM 2260), Environmental Organic Chemistry (CHEM 6680), Chemical Safety (CHEM 5060), Ethical Chemical Practice (CHEM 5070) Physical Chemistry Laboratory(CHEM 4360) and Special Problems Courses in Subsurface Characterization and Geochemistry of Subsurface Contamination (Chemistry 14188) Introduction to Chemical Oceanography-University of Las Palmas, GC, Spain.

## **M.S. Student Theses Chair:**

(WMU-Geology) Mr. Gary Blinkiewicz-3/93-"Spatial and Temporal Variability in a Large Volatile Organic Contaminant Plume".

(WMU-Chemistry) Mr. Jie Lu-3/94-" Application of a Modified Analytical Derivatization Method to the Determination of Volatile Fatty Acid Microbial Metabolites in Aquifer Systems".

(WMU-Chemistry) Mr. Daniel Tomczak-3/94-" Identification of Aromatic Acids as Microbial Metabolites of Fossil Fuel Compounds in Aquifer Systems".

(WMU-Geology) Mr. Jiang Wu (8/94) "Total Organic Carbon in a Glacial Aquifer: Measurement and Effects on the Transport of Organic Compounds".

(WMU-Geology) Mr. John Ring (12/95) "Spatial and Temporal Variations of CO<sub>2</sub> Distributions in Vadose Zone Gas Mixtures".

M.S. Student Advisees (UM) Chris Till, Briana Sye, Michael Beebe, Nurul Amin.

(WMU-Chemistry) Charlene Wiglesworth (6/08) "Process Analytical Chemistry for Pharmaceutical Agent Synthesis."

# Michael J. Barcelona

(WMU-Chemistry) Mr. William Lizik (12/09) "A field trial of Nutrient Stimulation of Methanotrophic Microorganism to Reduce Methane Emissions from Landfill Cover Soils"

M.S. Student Committee Member (last three years) WMU Geology, Nathaniel Barnes, Daniel Peabody; WMU Chemistry (Deepti Goel, Jennifer Bunce, Paul Knoll)

## **PROFESSIONAL ACTIVITIES: (continued)**

### **Ph.D. Student Theses Chair:**

Ms. Elizabeth Semkiw (WMU) Field and Lab Evaluation of Organic Election Donors for the Dechlorination of Chlorinated Ethenes (12/08). Chair

Mr. Guibo Xie (9/01) Characterization of Subsurface Petroleum Contaminants and Their Chemical and Biological Remediation with Redox Manipulation, (UM-CEE) Chair.

Current Advisees, Co Chair. 1 Ph.D. student

**Ph.D. Committee Member** UM-CEE (J. Lendvay, 2000; Michael McCormick, Sonny Lontoh, Karen Skubal, 2001; Noemi Barabas, 2002; Hirotaka Saito, 2003, Karlin Danielson, 2003; An-Tsung Huang UM Dept of Public and Environmental Health, 2003); WMU ( Amy Lachance,1992; W. Richard Laton, 1997; Pedro Gonzalez, 2004; Ke Du, 2006; Eric Gato, 2006) Lisa Anderson (3/09), Sandhya Nair 2009

**Reviewer:** Analytical Chemistry, Organic Geochemistry, Science, Environmental Engineering, Geochimica Cosmochimica Acta, Limnology and Oceanography, Ground Water, Ground Water Monitoring and Remediation Environmental Science and Technology, Water Resources Bulletin, Journal of Hydrology, Marine Chemistry Contaminant Hydrology and Water Research; and proposals submitted to the: National Science Foundation Marine Chemistry, Earth Sciences, and Environmental Engineering Program and Earth Sciences Division - U.S.-Israel Binational Research Foundation - University of Illinois and University of Wisconsin Water Resources Centers, U. S. Geological Survey - Office of Water Research, USEPA--NRML, Ada, OK, EMSL-Las Vegas, ERL-Athens, GA, Environmental Affairs Division of Illinois DENR. U.S. Department of Energy (1997-Present), Kuwait Foundation for the Advancement of Science(2011-Present), Department of Defense, Strategic Environmental Research Program (SERDP), (2011-Present) Global Innovation Initiative-British Council; U.S. Department of State- Institute of International Education (2013-Present) Fulbright Foundation (2012-Present)

**NGWA Board Member:** Association of Ground Water Scientists and Engineers (AGWSE), NGWA '91-'93. Ad Hoc Board Member 1992-1995. Chairperson, Education Committee '97-2001. Professional Development Committee 2001-present. Ground Water 2020 Futures Planning 2000-present.

**Consultant:** A number of private firms, consultants, industrial and government groups, as well as the following: National Water Research Institute, '96-present, USDOE Field Research Center Advisory Committee '98-2006, USDOE-Westinghouse Savannah River Co., Hydrogeology Review Team '95-2004, Italian National Research Council '88-Present, USEPA Superfund Technical Oversight '88-'93, Battelle Pacific Northwest Laboratories '87-'91, USEPA-CERI '85-'94, USEPA-U.S. Dept. of Justice '85, Wisconsin and Illinois Attorneys General (Expert Witness), USEPA -Office of Solid Waste, U.S. EPA-ERL (Athens, GA), USEPA/NRMRL, (Ada Oklahoma), USEPA Water Quality Criteria Scientific Advisory Committee '80-'82, NOAA Ocean Chemistry Laboratory '77.

**Program Coordinator:** U.S. Air Force Education With Industry Program-SWS Water Chemistry/Corrosion Training '82-'86.

**Outreach:** Workshops for and Collaborations with: IRSA,,Istituto Recherche Sulle Acqua, Italian Water Research Institute, Bari, Italy, 1987-Present; Michigan Dept. of Environmental Quality, 1990-Present, Washington State Department of Ecology, Oregon Department of Environmental Protection, Maine Department of Environmental Protection, USEPA-HSRC-GLMAC Technical Outreach to Superfund Communities, 1998-2002. Pro Bono consulting for: Concerned Citizens for Nuclear Safety 2009-Present, Clean Water Action 2009-Present, H.O.P.E. ( Honor our Pueblo Existence) 2009-Present. Kalamazoo Rotary Club Member 2014-Present, Board Member Kalamazoo Ballet Theater 2014-Present.

**Patents:** U.S. Patent Office #4,803,869, Flow-Through Analytical Measurement Apparatus and Method for Water Sampling. (With M.R. Schock and E.E. Garske.)

## **PEER-REVIEWED PUBLICATIONS:** (Most Recent Publications)

**Modeling Underground Gypsum Barriers to stop Seawater Intrusion in a Fractured Aquifer at Salento (Southern Italy),** Costantino Masciopinto, Michael J. Barcelona, and MoonKoo Kim, (In review, J. of Water and Climate Change, May, 2014)

**Discussion of Papers "We've Been Here Before"** M.J Barcelona, Ground Water, 51, 6.p 815 (2013)

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- A field trial of nutrient stimulation of Methanotrophs to reduce methane emissions from landfill cover soils. (2013) W. Lizik, J. Im, J.D. Semrau, and M.J. Barcelona *Journal of Air and Waste Management*, 63(3):300-309.
- Editorial: “Déjà Vu All Over Again” (2012) *Ground Water Monitoring and Remediation* 32,4,p.28
- Field Study of Enhanced TCE Reductive Dechlorination by a full-scale dairy whey PRB. E.S. Semkiw and M.J. Barcelona (2011); *Ground Water Monitoring and Remediation*. 31, 1, 68-78
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- Evaluation of Three Electron-Donor PRB Materials for Enhanced Reductive Dechlorination of TCE. E.S. Semkiw, M.J. Dybas, M.J. Barcelona. *Bioremediation Journal*, 13, 1, p. 7-20. (2009).
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## **PEER-REVIEWED PROCEEDINGS, EDITORIALS, AND CONTRACT REPORTS:**

### **WESTERN MICHIGAN UNIVERSITY**

The Use of Molecular and Genomic Techniques Applied to Microbial Diversity, Community Structure and Identification at DNAPL and Metal Contaminated Sites. Ann Azadpour-Keeley, Michael J. Barcelona, Kathleen Duncan, and Joseph M. Suflita USEPA-Environmental Research Brief EPA/600/R-09/103 (September, 2009)

A Gypsum Barrier to stop seawater intrusion in a fractured Aquifer at Salento (Southern Italy);Preliminary Results Barcelona, M.J.,M Kim,,C. Masciopinto, R. Lamantia, SWIM-SWICA, Cagliari, Sardinia, (10/07)

Comparison of Hydraulic Conductivity Determinations in Direct Push and Conventional Wells. S. A. Barrett, G. A.

Robbins, J. D. Mandrick, M. J. Barcelona. W. McCall and M. Kram, Naval Facilities Engineering Service Center, Port Hueneme, CA (11/03).

Oxygenate Remediation: Field Research Site Screening Determination of Oxygen Demand Contaminated Aquifer Sediments, M.J. Barcelona, E. Delaney, D. Mandrick. American Petroleum Institute, Washington, D.C. 11/03.

Site Characterization for Monitored Natural Attenuation (with Dr. Gary Robbins and Richard Brainerd, Univ. of Connecticut USEPA-NRMRL Ada, OK. 10/02

$K_{doc}$  Sorption/Desorption, Kinetics and Access to Transient Reactants Photochemically Generated in Natural Waters. M. J. Barcelona, J. C. Means, M. Sakakibara, A. R. Nicolaescu (For Susan Burns), USEPA-NCERQA Washington, D.C. 9/02

Site Characterization for Volatile Organic Compound Contamination in Ground Water: Spatial and Temporal Variability. M. J. Barcelona, H. A. Wehrmann, M. D. Varljen, G. A. Blinkiewicz, USEPA-EMSL Las Vegas, NV, 1995.

Improved Quantitation of Organic and Inorganic Carbon in Soils and Aquifer Materials. M. E. Caughey and M. J. Barcelona, Illinois Hazardous Waste Research and Information Center, Champaign, IL, HWRIC TR-017, April, 1994, 36 pp.

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Sequential Chemical and Biological Degradation of Jet Fuel. Michael J. Barcelona and Guibo Xie. Ground Water Quality 2001, Sheffield, England 6/01.

MTBE Transport and Fate Under Natural Gradient Tracer Test Conditions. M. J. Barcelona, C. Lee Major and J. Fang. Remediation of Chlorinated and Recalcitrant Compounds. Battelle 2nd International Conference. Monterey, CA 5/22-5/25, 2000.

Subsurface Fate and Transport of MTBE in a Controlled Reactive Tracer Experiment, M. J. Barcelona, D. R. Jaglowski, Proceedings of Petroleum Hydrocarbons and Organic Chemicals in Ground Water, Prevention, Detection and Remediation. American Petroleum Institute and National Ground Water Association. 11/17-19/99 Houston, TX.

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Evolution of Aromatic Hydrocarbon and Organic Acid Plumes in a Shallow Sand Aquifer Contaminated with Jet Fuel, J. Fang and M. J. Barcelona, Proceedings of Petroleum Hydrocarbons and Organic Chemicals in Ground Water, Prevention, Detection and Remediation. American Petroleum Institute and National Ground Water Association. 11/17-19/99 Houston, TX.

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Seasonal Temperature Variation and Microbial Heat Generation at a JP-4 Contaminated Site. L. G. Glascoe, Y. M. Chen, M. J. Barcelona, C. Drummond, and L. M. Abriola, In Situ and On Site Bioremediation 4/19-22/99 San Diego, CA, Battelle Memorial Institute.

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Combining Adaptive Site Characterization and Probabilistic Approaches to Address Heterogeneity. M. D. Varljen and M. J. Barcelona, National Ground Water Association, 50<sup>th</sup> Annual Meeting, 12/13/98-12/16/98, Las Vegas, NV

Evaluation of Natural Bioattenuation at the Macro and Microscopic Level: Field Implementation of Novel Monitoring Methods. P. Adriaens, J. V. Lendvay, M. J. Barcelona, S. K. Haack, and W. Sauck. Abstracts of the 1998 European Geophysical Society Meeting, Nice, France, April 1998.

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Characterization of Organic Carbon in Soils and Aquifer Solids. M. J. Barcelona, R. V. Krishnamurthy, D. M. Shaw and M. E. Caughey, EPA Environmental Research Brief, Office of Research and Development, EPA-R.S. Kerr Environmental Research Laboratory.

A Critical Review of Bioremediation of Fuels, Chapter 5, Monitoring Intrinsic Bioremediation Processes. Jiasong Fang and M. J. Barcelona with R. A. DuPont, R. Sims, W. Doucette, Utah State University, for American Petroleum Institute, Washington, D.C. Final Report. (1996).

Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. R. W. Puls and M. J. Barcelona, EPA Ground Water Issue Paper, Offices of Research and Development and Solid Waste and Emergency Response. Superfund Technology Support Center for Ground Water, RSKERL, Ada, OK, April, 1996. EPA/540/5-95/504, 12 pp.

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Limits to Remediation: Is the Sky Blue or Obscured by Red Tape?, (editorial) M. J. Barcelona, Ground Water Monitoring and Remediation, 15, 2, (4-5) 1995.

Geoprobe Goes Amphibious, M. J. Barcelona, The Probing Times, 4, 1, 1994.

Subsurface Remediation: I Love that Dirty Water, (editorial), M. J. Barcelona, Ground Water Monitoring and Remediation, 14, 4, pp. 4-5, 1994.

Monitoring and Remediation: VOC Symptoms and Substance, (editorial) M. J. Barcelona, Ground Water Monitoring and Remediation 13,2, pp. 4-5, 1993.

Characterization of Organic Carbon in Soils and Aquifer Solids, M. J. Barcelona, R. V. Krishnamurthy, D. M. Shaw and M. E. Caughey, USEPA-RSKERL, Ada, OK, Final Report Submitted November, 1994) 84 pp.

## **WATER SURVEY (Illinois Department of Natural Resources)**

Ground Water Sampling for Metals Analysis, R. W. Puls and M. J. Barcelona. Superfund Ground Water Issue, USEPA, Offices of Research and Development and Solid Waste and Emergency Response. Superfund Technology Support Center for Ground Water, RSKERL, Ada, OK, EPA/540/4-89/001, March, 1989, 6 pp.

Well Casing Materials Evaluation, M. J. Barcelona, J. A. Helfrich, C. G. Hohenboken, E. Hopke. Final Report to DuPont de Nemours, Inc. Fluoropolymer Product Division, September, 1988, 34 pp. + figures/tables.

Uncertainties in Ground-Water Chemistry and Sampling Procedures, M. J. Barcelona. In Proceedings of American Chemical Society Symposium "Chemical Modeling in Aqueous Systems II. 196th National ACS National Meeting, September 25-30, 1988, Los Angeles, CA.

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Metal Complexation by Natural Organic Matter in Ground Water, T. R. Holm and M. J. Barcelona. In Proceedings of Ground Water Geochemistry Conference. Association of Ground Water Scientists and Engineers -AAAS, February 16-18, 1988, Denver, CO, pp. 245-268.

Sampling Frequency for Ground-Water Quality Monitoring, M. J. Barcelona, H. A. Wehrmann, M. R. Schock, M. E. Sievers and J. Kamy. Final report on CR #812165-02 to USEPA-EMSL, January, 1989.

Comparison of Water Samples from PTFE, PVC and SS Monitoring Wells, M. J. Barcelona, G. K. George and Michael R. Schock. Internal report prepared for USEPA-EMSL, Las Vegas, NV. EPA 600/X-88/091, February, 1988.

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Dissolved Oxygen and Oxidation-Reduction Potentials in Ground Water, T. R. Holm, G. K. George and M. J. Barcelona. Prepared for USEPA-RSKERL, Ada, OK. EPA 600/S2-86/042, June, 1986

Effective Porosity of Geologic Materials, G. R. Peyton, J. P. Gibb, M. LeFavre, J. D. Ritchey, S. L. Burch and M. J. Barcelona. Proceedings of the 12th Annual USEPA Hazardous Waste Research Symposium, Cincinnati, Ohio, April, 1986.

Monitoring and Sampling Instrumentation, M. J. Barcelona. Proceedings of State of California-Water Resources Control Board, 15th Biennial Conference on Ground Water, Bahia Hotel, San Diego, CA, September 23-25, 1985.

Hazardous Waste Management Strategy in Illinois: Government's Role, M. J. Barcelona, S. A. Changnon and D. L. Thomas. Proceedings of International Conference on New Frontiers for Hazardous Management sponsored by USEPA, NUS Corporation, National Science Foundation, American Academy of Environmental Engineers, September 15-18, 1985, Pittsburgh, PA.

Practical Guide for Ground Water Sampling, M. J. Barcelona, J. P. Gibb, J. A. Helfrich and

# Michael J. Barcelona

E. E. Garske. State Water Survey Contract Report #374 to RSKERL-Ada, OK, 166 pp. (#CR809966-01) November 1985 (EPA 600/S2-85-104).

Regional Ground Water Contamination. M. J. Barcelona, J. A. Helfrich, T. R. Holm. Report to Hazardous Waste Research and Information Center, August 1985, 36 pp.

Progress Report on the Hazardous Waste Research and Information Center. M. J. Barcelona and W. J. Garrison. Report submitted to Governing Board of HWRIC May 1985, 49 pp. (HWRIC 003).

Assessment of Research Needs on Facilitated Transport Behavior in the Subsurface Environment. M. J. Barcelona, C. Carter, J. Means, J. Parker, S. Rao and M. Tomson. 1985. Report to Subsurface Processes Branch, USEPA-RSKERL, Ada, OK, 16 pp.

Hazardous Materials Laboratory Feasibility Study. M. J. Barcelona. Report to Governing Board of HWRIC, September 1984, 36 pp. (HWRIC 002).

Hazardous Waste Research and Information Center-FY '85 Plan for Action. M. J. Barcelona and S. A. Chagnon. Report to Governing Board of HWRIC, July 1984, 33 pp. (HWRIC 001).

Ground Water Sampling Quality Assurance. Gibb, J. P. and M. J. Barcelona. 1984. Report to USEPA Office of Solid Waste and Emergency Response -Energy Resources Corporation, 215 pp.

Chemical Considerations in Preservation and Handling of Samples. M. J. Barcelona. Chapter XII in Proceedings of Ground Water Monitoring Workshop. SWS-SGS, February 27-28, 1984, Ramada Inn, Champaign, IL

Hazardous Waste in Ogle and Winnebago Counties: Potential Risk Via Ground Water Due to Past and Present Activities. J. P. Gibb, M. J. Barcelona, S. C. Schock and M. W. Hampton. ISWS Contract

Report to Illinois Department of Energy and Natural Resources, #83/26, 100 pp., plus Appendices, September 1983.

A Guide to the Selection of Materials for Monitoring Well Construction and Groundwater Sampling. M. J. Barcelona, J. P. Gibb, and R. A. Miller. USEPA - R. S. Kerr Environmental Research Laboratory, Ada, OK, #CR-809 966-01, (1983), 142 pp. ISWS Contract Report #327 (EPA 600/82-84-024).

Chemical Problems in Ground Water Monitoring. M. J. Barcelona. Presented at the 3rd National Symposium on Aquifer Rehabilitation and Groundwater Monitoring, National Water Well Association, Columbus, Ohio, May 24-27, 1983, p. 263-2

The Feasibility and Benefits of Reclaiming a Man-Made Lake: A Case Study of Lake Paradise Mattoon, IL. G. E. Stout, R. Buhr, S. Deo, M. J. Barcelona, J. Absher and D. Musser, University of Illinois, Water Resources Center Research Report #170, July 1982, 39 pp.

Lake Sediment for Land Use Improvements. G. E. Stout and M. J. Barcelona. Proceedings of the Second Annual Conference-North American Lake Management Society Lake Restoration, Protection and Management, Oct. 26-29, 1982. USEPA Office of Water Regulations and Standards, EPA 440-5-83-001.

Usefulness of Sediment Oxygen Demand as a Tool for Impoundment Management. M. J. Barcelona and Woodrow Wang. University of Illinois at Urbana-Champaign Water Resources Center Research Report No. 169, August 1982, UIIU-WRC-82-0169, 35 pp.

Groundwater Resources in Illinois: A Scientific View. Michael J. Barcelona and James P. Gibb. Illinois Issues, July 1982, p. 40-41.

Handling, Preservation, and Analysis of Groundwater Samples. M. J. Barcelona. Chapter 10 in the Proceedings of the Groundwater Monitoring Workshop, State Water Survey - State Geological Survey - American Water Works Association, February 22-23, 1982, Ramada Inn, Champaign, Illinois.

Lake Paradise Wet Dredging Operations - Feasibility Study. M. J. Barcelona. Water Resources Center UI- UC, August 1980, 42 pp.

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Sampling Frequency for Water Quality Monitoring. R. H. Harmeson and M. J. Barcelona. USEPA Environmental Monitoring Systems Laboratory, Advanced Monitoring Systems Laboratory, Las Vegas, Nevada, (1980), 88 pp.

## CALIFORNIA INSTITUTE OF TECHNOLOGY

Emission/Human Dosage Relationships for Selected Environmental Carcinogens. S. K. Friedlander, J. J. Morgan, W. H. White, M. J. Barcelona, and A. H. Miguel. USEPA-EMSL Surveillance and Monitoring Section, Las Vegas, Nevada (1978).

## UNIVERSITY OF PUERTO RICO

Comparison of Manual and Automated Methods of Inorganic Micro-Nutrient Analyses. NOAA—Ocean Chemistry Laboratory, Technical Memo. NOAA-TM-ERL-AOML-40, NOAA-80020502; PB80-160997; 31 pp. (November, 1979), G. A. Berberian and M. J. Barcelona.

Results of Oceanographic Survey of Manati Offshore Discharge Site: Manati, P. R. (for Black and Veatch Consulting Engineers) D. K. Atwood and M. J. Barcelona (1975).

An Oceanographic Evaluation of the Puerto Rico Site for Location of an Ocean Thermal Energy Conversion Plant. D. K. Atwood, M. Stalcup, C. P. Duncan, and M. J. Barcelona. Interim and Final Reports to NSF-RANK, January 1976 and July 1976.

Final Report on CICAR Oceanographic Methods; Intercalibration Experiment—CINTEX II (NSF - IOC, UNESCO). D. K. Atwood, Tom van't Hof, M. J. Barcelona, C. P. Duncan, and M. C. Stalcup (1975).

## OMNI RESEARCH, INC.

Atmospheric Ethylene Distributions Near a Petrochemical Complex in S.W. Puerto Rico (May 1974) M. J. Barcelona (for PPG Industries, Caribe).

Ethylene Concentrations in the Lajas Valley: Effect of Point vs. Vehicular Sources (July 1975) M. J. Barcelona for PPG Industries, Caribe).

An Oceanographic Survey for a Proposed Sewage Outfall at El Mani, P.R. (for R. M. Guzman and Assoc., under contract with Puerto Rico Aqueducts and Sewer Authority) (May 1974) M. J. Barcelona and W. Marshall.

Economic Reclamation of Copper from Electroplating Solutions in Order to Meet Discharge Requirements (for Diceon Electronics, Naguabo, P.R.) (January 1975) M. J. Barcelona.

Mercury in Nearshore Waters and Marine Organisms of So. Puerto Rico (for PPG Industries, Caribe). W. Marshall, M. J. Barcelona and O. Wheeler (1974, 1975).

## RECENT INVITED LECTURES/WORKSHOPS

NGWA Ground Water Sampling short course, 12/6/13 with David Kaminski, Nashville, TN

Invited Lecturer, Nutrient Stimulation of Methane Oxidizing Bacteria to minimize greenhouse for emissions from a landfill WMU Dept of Geology 12/24/2014.

Low Flow Ground Water Sampling Update, 12/8/12; NGWA National Meeting

Invited Panelist- Problem with the MOA-G site at Los Alamos National Labs, Concerned Citizens for Nuclear Safety, June 2012.

Invited Lecturer, 2/22/12, "Effective Ground Water Sampling Methods for volatile organic compounds," Department of Geology Wayne State University, Detroit, MI

Invited Speaker, 11/30/11, "Updated Sampling Technique for volatile organics and microorganisms in ground water," National Ground Water Association, National Meeting, Las Vegas, NV

Invited Lecturer, 7/30/09 "Innovations in "in-situ" Bioremediation of Organic Compounds." Society for Industrial Biotechnology, Toronto, Canada

## Michael J. Barcelona

Invited Lecturer, 2/25/09, Serious Water Resources Issues in a Rebuilding Economy, California Ground Water Resources Association, Santa Ana, CA.

Invited Lecturer, 8/21/08, Hydrogeochemical Constraints on Subsurface Bioremediation, Society for Industrial Biotechnology, San Diego, CA.

Invited Speaker, 10/7/07 Monitoring Ground Water Quality with Low-Flow Purging and Sampling Workshop With Mr. James Boiseneau, AIPG ( America institute of Professional Geologists) 44<sup>th</sup> Annual Meeting Traverse City, MI

Invited Speaker and Proceeding Paper, 10/7/07 A Gypsum Barrier Design to Stop Saltwater Intrusion in a Fractured Aquifer at Salento ( South Italy) M. J. Barcelona, M. Kim, C. Masciopinto, R. LaMantia.

Invited Speaker, 5/3/06 Ground Water Sampling, Advantage of The Low-Flow Purging and Sampling Approach, M.J. Barcelona, at Ohio Environmental Protection Agency, Columbus, OH

Invited Speaker, 4/24/06 What Information is Needed to Better Define and Protect Future Ground Water Resources? Protecting Strategic Water Resources, Superfund Reauthorization and National Preparedness at National Ground Water Association Ground Water Summit, San Antonio, TX

Invited Speaker, 7/27/05 Low-Flow Sampling of Ground Water in Contaminated Environments, at WMU- Department of Geological Sciences Annual Field Camp, Kalamazoo, MI

Invited Speaker, 7/1/05 Monitoring and Remediation of Seawater Intrusion in Coastal Environments, at National Research Council Water Investigations Laboratory- IRSA, Bari, Italy

Invited Speaker, 5/6/05 Continuing Education Workshop on Ground Water Geochemistry and Sampling, Michigan Association of Environmental Professionals, at St. John's Convention Center, Plymouth, MI

Invited Speaker, 4/7/05 Methyl-t-Butyl Ether and Fuel Plume Remediation Constraints in the Subsurface, Chemistry Department at Ball State University, Muncie, IN

Invited Speaker, 3/22/05 Geochemical Sampling and Analysis of Contaminated Ground Water, Michigan Association of Environmental Professionals Annual Training Course at Westside Sheraton Hotel, Lansing, MI

Invited Speaker, 2/15/05 Sampling Ground Water Efficiently for Remediation and Geochemical Analyses, MDEQ- Remediation and Restoration Division Geological and Leaking Underground Storage Tank Program, Lansing, MI

Invited Speaker, 11/7/04 Future Developments in Ground Water Remediation Strategies, Geological Society of America, at National Meeting Featured Forum organized by the American Institute of Hydrology

Invited Speaker, 8/3/04 Effective Remediation Strategies for Recalcitrant Contaminants Methyl-t-Butyl Ether, at WMU Department of Geological Sciences Seminar, Rood Hall, Kalamazoo, MI

Invited Speaker, 1/13/04 Ground Water Sampling Workshop, Low-Flow Purging and Monitoring Well Dynamics, with D. Kaminski and G.R. Robbins, at Nielsen Ground Water Field Schools, Tampa, FL

Invited Speaker, 11/13/03 Geochemical Considerations for Ground Water Sampling Programs, M. J. Barcelona, at Ground Water Sampling Seminar Am Cham- American Chamber of Commerce, Sao Paulo, Brasil sponsored by Clean Environment, Brasil.

Guest Speaker, 10/2/03 Subsurface Biological and Chemical Reactive Barriers for Ground Water Remediation, M. J. Barcelona, at Midwest Ground Water Conferences. Western Michigan University, Kalamazoo, MI.

Invited Speaker, 9/29/03 Subsurface Geochemical Manipulation to Promote Bioremediation, M. J. Barcelona, Dept of Geochemistry, University of Utrecht, Utrecht, The Netherlands.

Low-Flow Purging and Sampling of Ground Water, M. J. Barcelona at WMU-Geological Sciences Field Camp 8/13/03, Kalamazoo, MI.

Invited Speaker, 2/27/03 Subsurface Geochemistry and the Bioremediation of Fuel Spills, M. J. Barcelona, Dept of Chemistry, Andrews University, Berrien Springs, MI.

# Michael J. Barcelona

Invited Speaker, Effective Strategies for Monitoring Water Quality in the Coastal Zone, M. J. Barcelona, at Second International Conferences in Salt Water Intrusion and Coastal Zone Aquifers, Monitoring, Modeling, and Management, National Autonomous University and Mexican Academy of Sciences, Yucatan Mexico. April, (2003).

Invited Speaker, 2002 Borchardt Conference, University of Michigan, Michigan Dept. of Public Health Drinking Water Plant Operators. February (2002) "Fate, Transport, and Remediation of MTBE in Ground Water"

Invited Speaker, AIPG (American Institute of Professional Geologists) Michigan Section. February (2002) Low Flow Minimal-Drawdown Purging and Sampling of Ground Water.

Invited Keynote Speaker, Groundwater Quality 2001 Sheffield, England, (June 2001). "Sequential Chemical and Biological Degradation of Jet Fuel"

Debate Segment June 2001 Ground Water Quality 2001, Sheffield, England (June 2001) with Dr. Linda Abriola, University of Michigan. Lead discussion of "pro" position for appropriate ground-water remediation at all costs.

Invited Speaker, ASCE Rochester, N.Y. Section- Sampling Innovation for Remedial Ground Water Programs (April 25, 2001)

Invited Speaker, University of Florida, Dept. of Civil and Environmental Engineering (April 16, 2001) A Natural Gradient MTBE/BTEX Tracer Experiment

Michigan Assoc. of Environmental Professionals -Groundwater Sampling Innovation or Obfuscation? (May,2001) Novi, MI.

Univ. of Michigan CEE 260 - Hazardous Waste Investigations and Personnel Protective Equipment Lecture/ Demonstration (February 18, 2001)

Guest Lecturer, UM-Engin. 540, Cellular Biotechnology, Bioremediation Principles and Practice, (2/4/99; 2/8/00).

Guest Lecturer, CEE 260, UM, State of the Art of In-Situ Bioremediation (3/29/99).

Guest Lecturer, Wayne State University, Department of Chemical Engineering, CHE659/HWMTSI, In-Situ Hazardous Waste Treatment (3/23/99).

Geochemical Enhancement of Biotransformations of MTBE. M. J. Barcelona, Center for Environmental Risk Assessment Dept. of Chemistry and Geochemistry Colorado School of Mines, Golden, CO, 10/18/99,

Summary of Remedial Investigation., of Meridian Road Landfill. M. J. Barcelona, Meridian United Concerned Citizens, Fortville, IN 10/6/99.

Environmental Geochemistry Research in Support of Bioremediation. M. J. Barcelona, University of Michigan Environmental and Water Resources Engineering, 9/24/99.

Advanced Monitoring Methods in Support of In-situ Remediation Technology Evaluations, at Michigan Department of Environmental Quality (1999), Geologist Outreach Biennial Training Meeting, Kalamazoo, MI (5/13/99).

Indicators of Bioremediation Effectiveness, Arcadis/Geraghty and Miller, Inc., Remediation Technology Meeting, Tampa, FL (5/8/99).

Mixed Contaminant Source Magnitude and Plume Stability: Fuels and Chlorinated Solvents. M. J. Barcelona, C. L. Major, J. Fang, and M. D. Varljen, In-Situ and On Site Bioremediation 4/19-22/99 San Diego, CA, Battelle Memorial Institute.