



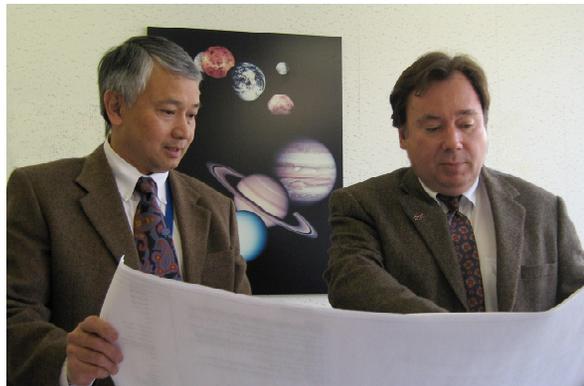
## GROUNDWATER CLEANUP UPDATE

An update on groundwater cleanup activities at the Jet Propulsion Laboratory  
Novedades acerca de las actividades de limpieza del agua subterránea en el Jet Propulsion Laboratory

Bilingual Newsletter April 2006  
Boletín bilingüe abril de 2006

### NASA Proceeds on Agreement to Fund Groundwater Treatment Plant

Under a new agreement, NASA would fund a new treatment plant to remove chemicals from a groundwater aquifer used by the City of Pasadena. The treatment plant would be located on vacant property next to the Windsor Reservoir and would treat water from drinking water wells that are owned by the City of Pasadena and located just southeast of the Jet Propulsion Laboratory. NASA would pay for all of the costs related to the plant's design, construction and operation, and would provide technical support. The City of Pasadena would be responsible for operating the system.



FORMER ASTRONAUT Dr. Eugene Trinh (left), the new Director of the NASA Management Office at the Jet Propulsion Laboratory, and NASA Remedial Project Manager Steve Slaten examine maps and charts related to a proposed NASA-funded groundwater treatment plant on City of Pasadena property adjacent to the Windsor Reservoir.

The City of Pasadena and the California Institute of Technology, as the contractor that manages the Jet Propulsion Laboratory for NASA, recently signed this funding agreement. NASA Groundwater Cleanup Project Manager Steve Slaten calls the agreement "a win-win situation for everyone." Slaten said of the plant's proposed construction, "It is exciting because it allows NASA to be able to clean up the Monk Hill Subarea far sooner than if we tried to remove all the chemicals by building another treatment plant on-site at the Jet Propulsion Laboratory. This major new step moves toward a comprehensive cleanup and helps prevent further spread of unwanted chemicals."

Funding of the new Pasadena plant and continued NASA funding of a treatment facility for two Lincoln Avenue Water Company wells in Altadena is described by NASA in a recently published proposed plan as its "preferred alternative" for a remedial action to clean up off-facility groundwater. A summary of that proposed plan is carried in this newsletter on pages 2 and 3. A public meeting on the proposed plan is scheduled for 7:00-8:30 p.m. on Wednesday, May 3 at the Altadena Community Center, 730 E. Altadena Dr. The public meeting will be preceded and followed by a Community Information Session on the cleanup project from 6:00-7:00 p.m. and 8:30-9:00 p.m. when the public can meet with project staff members and view displays on the project. Public comments on the proposed plan are being solicited by NASA during the period from Wednesday, April 19 through Friday, May 19 (see sidebar for details).

The new plant would treat up to 7,000 gallons of water per minute with a liquid-phase granular activated carbon system to remove volatile organic compounds from the water and an ion exchange system to remove perchlorate. The chemicals originated from waste disposal practices at JPL many decades ago. While those disposal practices were discontinued by the early '60s, chemicals have been found in the aquifer hundreds of feet below the ground surface in areas east and southeast of the Laboratory.

Continued on Page Five

### COMMENT IS INVITED ON PROPOSED PLAN Public Meeting is Scheduled to Discuss It

**PUBLIC MEETING**  
**Wednesday, May 3**  
7:00-8:30 p.m.  
Altadena Community Center  
730 E. Altadena Dr., Altadena

The public meeting will be preceded and followed by a **Community Information Session** on the cleanup project from **6:00 - 7:00 p.m.** and **8:30 - 9:00 p.m.** when the public can meet with project staff members and view displays on the project.

**PUBLIC COMMENT PERIOD**  
**Wednesday, April 19 - Friday, May 19**

NASA is encouraging public input on its Proposed Plan to fund a new groundwater treatment plant for four closed City of Pasadena drinking water wells and continue funding of a treatment plant for Lincoln Avenue Water Company drinking water wells.

NASA has established a public comment period from Wednesday, April 19 - Friday, May 19 and seeks your comments on the document. Once finalized following consideration of public comments, the plan will be described in an interim Record of Decision that will include a summary of the comments received and how comments changed the decision reached.

You are also invited to a public meeting to hear about NASA's Proposed Plan and to offer your views about it. The public meeting will be held from 7:00 - 8:30 p.m. on Wednesday, May 3, at the Altadena Community Center, 730 E. Altadena Dr., Altadena. NASA will prepare a transcript of that meeting and make it available on the website and at local Information Repositories. The public meeting will be preceded and followed by a Community Information Session on the cleanup project from 6:00 - 7:00 p.m. and 8:30-9:00 p.m. when the public can meet with project staff members and view displays on the project.

Comments may also be submitted electronically to [watercleanup@nmo.jpl.nasa.gov](mailto:watercleanup@nmo.jpl.nasa.gov) or by mail to Merrilee Fellows, NASA Groundwater Cleanup Outreach Manager, NASA Management Office, Jet Propulsion Laboratory, 180-801, 4800 Oak Grove Drive, Pasadena, CA 91109. No specific format for the comments is necessary. All comments must be submitted either electronically before midnight, Friday, May 19, or, if posted by mail, the comments must bear a postmark of no later than Friday, May 19.



# Summary of the Proposed Plan

to Fund Construction  
and Operation of  
Treatment Systems for  
Groundwater from  
Drinking Water Wells  
Located Near the  
National Aeronautics  
and Space  
Administration, Jet  
Propulsion Laboratory

## Introduction

This fact sheet summarizes the Proposed Plan. The actual Proposed Plan – containing the details and rationale behind NASA's "Preferred Alternative" – is available at the NASA groundwater cleanup website at: <http://jplwater.nasa.gov> or by request.

NASA has been conducting environmental investigations and cleanup activities at the Jet Propulsion Laboratory (JPL) for more than a decade under the federal law requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). NASA has already implemented several cleanup initiatives – including addressing groundwater – while considering options for the final, long-term cleanup remedy.

For example, two groundwater treatment plants are already operating and cleaning up groundwater. One is on-facility (within the JPL fenceline) to clean water directly

beneath JPL, and one is off-facility (outside the JPL fenceline) for two drinking water wells owned by Lincoln Avenue Water Company in Altadena.

The Proposed Plan outlines NASA's Preferred Alternative for a remedial action to clean up groundwater beyond and adjacent to the JPL facility (referred to as off-facility groundwater). The document also describes alternatives that NASA evaluated for cleaning up this off-facility groundwater, and it describes how the public can comment on the proposed action through written comments and by participating in the public meeting.

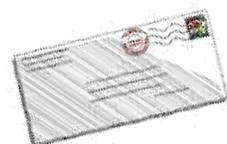
## NASA proposes the following as its "Preferred Alternative"

- ▶ NASA would fund construction and operation of a treatment system proposed to be located on vacant City property next to the Windsor Reservoir.
- ▶ NASA would continue to fund treatment of groundwater from two Lincoln Avenue Water Company drinking water wells at its existing treatment facility in Altadena.

## Invitation to submit comments & attend the public meeting

Before NASA makes a final decision, we want you to find out more about the cleanup plan and make your views known. The plan that is finally chosen will be described in a document referred to as an Interim Record of Decision that will include a summary of the comments received and a statement on how those comments changed the decision that was reached. You are invited to a public meeting Wednesday, May 3 from 7:00-8:30 p.m. at the Altadena Community Center, 730 E. Altadena Dr., Altadena, to hear about NASA's Proposed Plan and to ask questions and offer your views about it.

NASA will prepare and make available a transcript of that meeting. NASA invites public comment on the Proposed Plan from Wednesday, April 19 - Friday, May 19. Written comments may be addressed as noted below in the "Submit Written Comments" box. No specific format for the comments is necessary. All comments must be submitted either electronically before midnight, Friday, May 19, or, if posted by mail, the comments must bear a postmark of no later than Friday, May 19.



### Submit Written Comments

**PUBLIC COMMENT PERIOD:**  
**Wednesday, April 19**  
**through Friday, May 19**

NASA will accept written comments on the Proposed Plan during the public comment period.

You may submit your comments to [watercleanup@nmo.jpl.nasa.gov](mailto:watercleanup@nmo.jpl.nasa.gov) or to:

**Merrilee Fellows**  
NASA Groundwater  
Cleanup Outreach Manager  
NASA Management Office  
Jet Propulsion Laboratory 180-801  
4800 Oak Grove Dr.  
Pasadena, CA 91109

### Attend the Public Meeting



You are invited to a meeting sponsored by NASA to hear about the Proposed Plan to fund construction and operation of treatment systems for groundwater from drinking water wells located near the Jet Propulsion Laboratory. At the meeting you will be able to state your views about the proposed plan.

**The meeting will be held on**  
**Wednesday May 3**  
**7:00-8:30 p.m.**

**Altadena Community Center**  
**730 E. Altadena Dr., Altadena.**



### Location of Information Repositories

**Pasadena Central Library**  
285 East Walnut St.  
Pasadena, CA 91101  
(626) 744-4052

**Altadena Public Library**  
600 East Mariposa Ave.  
Altadena, CA 91001  
(626) 798-0833

**La Cañada Flintridge Public Library**  
4545 Oakwood Ave.  
La Cañada Flintridge, CA 91011  
(818) 790-3330

**JPL Library**  
(JPL On-Site Personnel)  
Bldg 111, Room 112  
Pasadena, CA  
(818) 354-4200

## Summary of Proposed Plan Continued

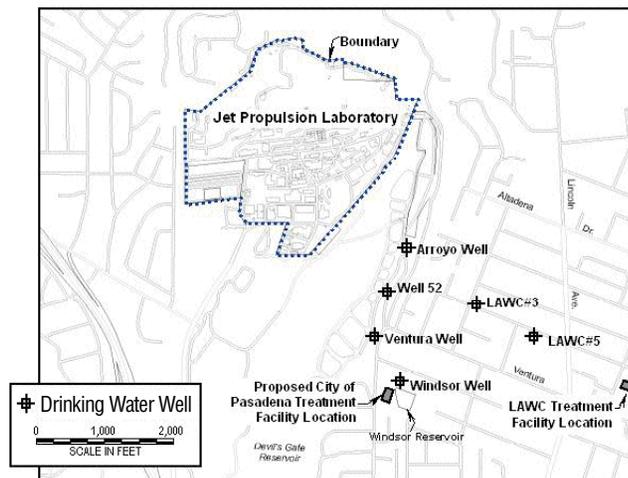
### For More Information

A copy of the proposed plan, which describes the preferred cleanup alternative and the other alternatives that were studied, and technical documents that support the plan and other information about NASA's groundwater cleanup program at the Jet Propulsion Laboratory may be viewed on our website at: <http://jplwater.nasa.gov>, read at any of the public libraries (Information Repositories) noted above, or a copy can be mailed to you upon request. You may call (818) 393-0754 for information. □

### Site Background

In the 1940s and 1950s, liquid wastes from materials used at JPL were disposed of into seepage pits, a practice common at that time. While these disposal practices were discontinued by the early 1960s, some chemicals, such as perchlorate and volatile organic compounds, have been found in groundwater beneath JPL and in areas adjacent to JPL, to the east and southeast.

### Cleanup Action Proposed



#### NASA is proposing as its "Preferred Alternative"

- ▶ To fund the construction and operation of a system for water treatment for four closed City of Pasadena drinking water wells located just southeast of JPL in and near the Arroyo Seco. The proposed treatment plant would be sited on a vacant portion of the same property as the Windsor Reservoir. The City itself would be responsible for operating the system.
- ▶ NASA would also continue to fund treatment of groundwater from two Lincoln Avenue Water Company drinking water wells at an existing treatment facility. The Lincoln Avenue Water Company system was previously constructed and funded by NASA. Lincoln Avenue Water Company would continue to operate the facility.

## Preferred Alternative

NASA prefers this alternative of two separate treatment systems operated by the City of Pasadena and Lincoln Avenue Water Company because it would help achieve the remedial goal of removing target chemicals from throughout the aquifer that is a source of drinking water and help prevent the further migration of chemicals in groundwater. Both the Pasadena and Lincoln Avenue Water Company treatment systems would use liquid phase granular activated carbon and ion exchange systems to permanently remove from the water volatile organic compounds and perchlorate. These systems, combined with the on-going on-site source area groundwater cleanup, are designed to move toward a comprehensive cleanup of the Monk Hill Subarea groundwater.

### Proposed Plan Cleanup Goals

1. Remove target chemicals from the aquifer by treating water pumped from specified drinking water wells in the Monk Hill Subarea of the Raymond Basin. This is referred to as centralized treatment.
2. Prevent further migration of the chemicals in groundwater.
3. Provide additional data to assess possible long-term cleanup remedies for groundwater on and off the JPL facility.

### Your Comments

NASA studied a number of ways to meet these goals, and believes that the proposed action will best protect human health and the environment. Before making a final decision, we want you to find out more about the cleanup plan and make your views known. The plan that is finally chosen will be described in an interim Record of Decision that will include a summary of the public comments received and a statement on how those comments changed the decision that was reached.

# Guide

## A Guide to Navigating the Proposed Plan

NASA takes seriously its responsibility to keep the community informed, although doing so in non-technical language is no easy task.

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), sometimes known as the Superfund law, governs NASA's cleanup and requires certain terminology to be used in formal documents related to the CERCLA process. One such document is the Proposed Plan (see pages 2-3 of this newsletter for a brief summary of that Plan). This guide is intended to provide our readers with assistance in navigating that summary and the Proposed Plan itself.

**The Proposed Plan outlines NASA's Preferred Alternative for a remedial action to clean up off-facility groundwater. To translate the previous sentence:**

**Preferred Alternative** – NASA evaluated several methods and technologies to clean up groundwater located beneath areas beyond the JPL fence line. These other methods are discussed in the full Proposed Plan, available as noted on page 2. The term “Preferred Alternative” refers to NASA's recommendation for what it considers the best method and combination of technologies to meet the cleanup goals.

**Remedial Action** – The term “remediation” is used broadly to refer to removing or reducing the concentration of substances (in this case, chemicals in the groundwater) that are present and need to be addressed. A “remedial action” is essentially the cleanup action that is taken.

**Off-Facility Groundwater** – NASA's extensive studies have shown that unwanted chemicals are present in groundwater. We use the phrase “off-facility groundwater” to refer to that part of the Monk Hill Subarea of the Raymond Basin that is beyond and southeast of the JPL fence line.

**Other terms you may encounter include:**

**Interim Action** – Occasionally, interim cleanup or remedial actions are taken to hasten the cleanup process while studies are still being done to determine the nature of the final cleanup action. Often, interim actions become part of the final or long-term remedial action.

**Ion Exchange** – A technology like that used in home water softeners in which an unwanted chemical is removed. To remove perchlorate, water flows past specially engineered tiny plastic beads called resins, to which the perchlorate attaches. The used resin is later disposed of at a licensed facility. NASA proposes to use this technology to remove perchlorate at the plants discussed in this newsletter.

**Liquid Phase Granular-Activated Carbon** – A water treatment process in which carbon particles are effective in removing unwanted volatile organic compounds that are in the water. The used carbon is later disposed of at a licensed facility. NASA proposes to use this technology to remove volatile organic compounds in groundwater at the plants discussed in this newsletter.

**Removal Action** – Sometimes it makes sense to take a more immediate cleanup step. Think of the term “removal action” as a quicker response!

**Responsiveness Summary** – One of the reasons NASA is issuing a “Proposed Plan” – rather than directly taking action – is to make sure that members of the public have an opportunity to provide their thoughts and comments (see page 1 for information on the Proposed Plan Comment Period and the Public Meeting to discuss the Proposed Plan). A “Responsiveness Summary” refers to the collection of oral and written public comments received by NASA during a public comment period for key documents, and NASA's responses to those comments.

**Record of Decision** – This term refers to the legal, public document that NASA will issue that explains the final cleanup alternative to be used and why NASA arrived at that decision. The Record of Decision also includes the Responsiveness Summary described above.

If you run across other terms or phrases that are not familiar to you, be sure to check our groundwater cleanup program website at <http://jplwater.nasa.gov> for a more complete glossary including most of the acronyms we use. ■

## Inclusion of LAWC in Proposed Plan Looks Toward Overall Cleanup



Technicians conduct maintenance at the NASA-funded Lincoln Avenue Water Company groundwater treatment plant. Shown above is the ion exchange system that removes perchlorate from the water. Another section of the plant, not shown, removes volatile organic compounds from the water.

Readers of NASA's Proposed Plan (see summary on pages 2-3) will note that it recommends continued NASA funding for an existing Lincoln Avenue Water Company (LAWC) treatment plant in Altadena as well as funding for a new Pasadena treatment plant.

NASA has been funding the Lincoln Avenue treatment plant for two of the company's wells as a “removal action,” thus enabling its customers continued use of those wells to provide clean drinking water. A removal action is typically a short-term action. With the Proposed Plan, NASA seeks approval to ensure the Lincoln Avenue treatment operations continue to be funded on a longer-term basis as a part of NASA's overall groundwater cleanup plan for the Monk Hill portion of the Raymond Basin.

The Lincoln Avenue Water Company treatment system has been successfully removing volatile organic compounds and perchlorate from groundwater since July 2004. ■

**Jet Propulsion Laboratory**  
NASA MANAGEMENT OFFICE 4800 Oak Grove Drive Pasadena, CA 91109

**For more information contact**

**Merrilee Fellows**  
Groundwater Cleanup Outreach Manager  
**(818) 393-0754**

**Steve Slaten**  
Remedial Project Manager  
**(818) 393-6683**

**Para más información en español llame a**

**Gabriel Romero**  
NASA JPL  
**Teléfono: (818) 354-8709**

## Updated Community Involvement Plan is Available

An updated Community Involvement Plan for NASA's environmental cleanup project at JPL has recently been completed and may be downloaded from the Groundwater Cleanup Website at <http://jplwater.nasa.gov> or examined in person at any of the Information Repositories listed elsewhere in this newsletter. The purpose of this Plan is to document many of the recent public outreach efforts NASA has taken as part of its commitment to keep the public informed on the cleanup as well as to describe possible future activities NASA may take to inform and involve the public.

The Plan (earlier known as the Community Relations Plan), was first published in 1994 and updated in January 2003. The newest update includes information about community involvement activities that have taken place since then. It also describes results of a series of in-depth community interviews in 2004 and 2005 with multicultural stakeholders and others along with feedback from numerous means of community interaction, including a series of community meetings held over the past two years. This information was used to suggest various ways to keep the community engaged in NASA cleanup efforts. The Community Involvement Plan also lists activities that NASA may undertake in the future to inform and involve the public in the cleanup process in ways identified during community interviews. ■

### NASA Proceeds on Agreement Continued from Page One

The approval process for the proposed treatment system provides extensive opportunity for public comment and regulatory review. Because the proposed location is within Pasadena city limits, as part of the new plant construction the City of Pasadena would obtain local permits prior to constructing a new treatment facility, including a "conditional use permit" and a "building permit." Also, the California Department of Health Services will conduct a public process before issuing a permit to allow the system to supply drinking water.

The City would also be required to certify treatment plant operators, and as part of the new plant construction, Pasadena would need to comply with the California Environmental Quality Act (CEQA), a law that applies to projects undertaken or requiring approval by state or local government agencies. CEQA imposes requirements on those agencies that are similar to the requirements the National Environmental Protection Act (NEPA) imposes on federal agencies. In particular, CEQA requires California public agencies to identify the significant environmental effects of its actions and avoid and/or mitigate potentially negative effects. ■

## Español

### Nuevo Acuerdo Para Limpiar el Agua Subterránea

La NASA propone financiar la construcción de una nueva planta de tratamiento en un área vacante de la propiedad donde se encuentra Windsor Reservoir, en Pasadena; con el propósito de remover los compuestos químicos de un acuífero de agua subterránea. La planta trataría agua proveniente de unos pozos de agua potable cerrados, pertenecientes a la ciudad de Pasadena y localizados al sureste del Jet Propulsion Laboratory.

La NASA pagaría todos los gastos relacionados al diseño, la construcción y la operación de la planta, así como los gastos relacionados al apoyo técnico. La ciudad de Pasadena se haría responsable de la operación del sistema.

Los detalles de la propuesta se encuentran en un resumen del Plan Propuesto, traducido al español, que se halla en las bibliotecas públicas de Pasadena, Altadena y La Cañada y en la página web: <http://jplwater.nasa.gov>.

Parte del proceso de aprobación de la propuesta es que los miembros de la comunidad puedan hacer comentarios por escrito o durante una reunión pública a realizarse el 3 de mayo, 2006. ■

#### La NASA Solicita Comentarios de la Comunidad

La NASA solicita sus comentarios respecto al Plan Propuesto de financiar una nueva planta de tratamiento de agua subterránea que trataría cuatro pozos de agua potable cerrados por la ciudad de Pasadena. Una recomendación del Plan es de continuar la financiación de una planta de tratamiento ya existente, que trata dos pozos de agua potable pertenecientes a Lincoln Avenue Water Company.

El período establecido para recibir los comentarios del público es del miércoles 19 de abril al viernes 19 de mayo. El Plan, una vez aprobado, incluirá un documento con un resumen de los comentarios recibidos y una explicación de como los comentarios influenciaron las decisiones tomadas.

Le pedimos que mande sus comentarios por correo electrónico a: [watercleanup@nmo.jpl.nasa.gov](mailto:watercleanup@nmo.jpl.nasa.gov) o por correo a: Merrilee Fellows, NASA Groundwater Cleanup Outreach Manager, NASA Management Office, Jet Propulsion Laboratory, 180-801, 4800 Oak Grove Drive, Pasadena, CA 91109. Si usa el correo electrónico, por favor mande sus comentarios antes de la medianoche del viernes 19 de mayo. Si usa el correo, asegúrese que el sello tenga fecha límite del viernes 19 de mayo.

### Plan de Limpieza Propuesto

Una recomendación del Plan de Limpieza propuesto por la NASA, es de continuar financiando la planta de tratamiento existente en Lincoln Avenue Water Company en Altadena, y de financiar la construcción y la operación de una nueva planta en Pasadena. Esta recomendación es parte de un programa de limpieza más amplio y a largo plazo. ■

#### Reunión Comunitaria: Plan Propuesto

La NASA le invita a asistir a una reunión comunitaria, el miércoles 3 de mayo de 2006, de 7:00 a 8:30 p.m. en Altadena Community Center, para discutir y obtener sus comentarios del Plan Propuesto de financiar una nueva planta de tratamiento de agua subterránea cerca de Windsor Reservoir. También está invitado a asistir a una sesión comunitaria que se realizará antes y después de la reunión comunitaria, (de 6:00 a 7:00 p.m. y de 8:30 a 9:00 p.m.), para hacer preguntas y conversar con el personal encargado del proyecto. ■

#### Nuevo Plan Comunitario

La NASA acaba de publicar un nuevo Plan Comunitario del proyecto de limpieza del medio ambiente en JPL, el cual está disponible en las bibliotecas públicas de Altadena y Pasadena. El Plan contiene información de las actividades de limpieza pasadas emprendidas por la NASA y las que posiblemente desarrollará en el futuro. El propósito del Plan es mantener a la comunidad informada e involucrada en el proceso de limpieza.

El Plan incluye los resultados y las sugerencias provenientes de entrevistas realizadas en 2004 y 2005 con líderes Latinos, Afro-Americanos, Asiáticos y de otros grupos comunitarios localizados en Pasadena y Altadena.

Una copia del Plan se encuentra en: <http://jplwater.nasa.gov>. ■

NASA Groundwater Cleanup

## JOIN US!

### Public Meeting & Community Information Session

WEDNESDAY, MAY 3, 2006

Public Meeting 7:00-8:30 p.m. Community Information Session 6:00-7:00 p.m. & 8:30-9:00 P.M.

Altadena Community Center  
730 E. Altadena Drive, Altadena

## ¡ASISTAN!

### Reunión Comunitaria y Sesión Comunitaria

MIÉRCOLES, 3 de mayo de 2006

Reunión Comunitaria 7:00 - 8:30 p.m. Sesión Comunitaria 6:00 - 7:00 p.m. & 8:30 - 9:00 p.m.

Altadena Community Center  
730 E. Altadena Drive, Altadena



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APRIL 2006  
UPDATE

NASA Groundwater Cleanup

Public Meeting  
& Community Information Session

**Wednesday, May 3, 2006**

Public Meeting 7:00-8:30 p.m. Community Information Session 6:00-7:00 p.m. & 8:30-9:00 p.m.

Altadena Community Center  
730 E. Altadena Drive, Altadena

Bilingual Newsletter April 2006  
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