

GT - _____1_____

**GENERAL
CORRESPONDENCE**

YEAR(S):

04.24.08-06.01.10

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, June 01, 2010 2:29 PM
To: 'Layne Ashton'
Cc: Baca, Jerome T., RLD; Dalmy, Andy., RLD; Aragon, Fermin, RLD
Subject: RE: Future Geothermal Power Facility Construction permitting requirements near Animas, NM (GTHT-001)

Layne:

The question on construction permits is a valid one. Energy Conservation and Management Division seem to recall both County and Construction Industries Division (CID) components to the construction process; however, the Intrastate nature of this geothermal power generation project probably defers to the CID?

The call I have in with Construction Industries Division/Regulations, Licensing Division (CID/RLD) appears to be appropriate. CID/RLD State Regulations do supersede county regulations, but you can verify with CID/RLD.

In addition to the CID/RLD contacts that I gave you give morning via telephone, I was given the name of Fermin Aragon of CID.

Fermin Aragon,
505-476-4672 ... **CID Rules.**

Please contact Mr. Aragon to determine the construction permitting and any other power project requirements for the geothermal power project near Animas, NM and keep me apprised. From recollection, many of the electrical diagrams, construction, etc. submitted to OCD and in the OCD Online "GTHT-1" electronic file were modeled after Nevada and/or Utah, since this project is modeled after other Raser Facilities.

Please contact me if I may be of further assistance in this matter. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Layne Ashton [mailto:lashton@rasertech.com]
Sent: Tuesday, June 01, 2010 10:19 AM
To: Chavez, Carl J, EMNRD
Subject: Future permitting requirements

Carl,

Good morning. I hope you had a nice holiday weekend.

Raser needs to get started on the permitting for the construction and operations of a geothermal power plant. I don't want to do things last minute and have everyone in crisis mode. That being said, will you please give me the citations and the links if you have them for the OCD permits and requirements that Raser will need for the construction and operation of the plant?

Your help will be greatly appreciated.

Best regards,

W. Layne Ashton
Raser Technologies, Inc.
5152 Edgewood Drive, Suite 375
Provo, Utah 84604
Tel. (801) 765-1200
Fax (801) 374-3314
Cell (801) 473-6090
layne.ashton@rasertech.com

Chavez, Carl J, EMNRD

From: Fesmire, Mark, EMNRD
Sent: Thursday, May 27, 2010 3:54 PM
To: Porter, Jodi, EMNRD; Chavez, Carl J, EMNRD; Dade, Randy, EMNRD; Reeves, Jacqueta, EMNRD
Subject: FW: Progress report on Lightning Dock Geo

Good Job!!

Mark

From: Michael Hayter [mailto:Michael.Hayter@rasertech.com]
Sent: Thursday, May 27, 2010 3:06 PM
To: Cottrell, Sarah, NMENV
Cc: Issa Arnita; Fesmire, Mark, EMNRD; Dantonio, John, OSE; Noel, Jim, EMNRD; Weimer, Brenda, EMNRD; Layne Ashton; Ben Barker
Subject: Progress report on Lightning Dock Geo

Sarah,

I am due to give you and Governor Richardson an update on the geothermal project at Lightning Dock in Hidalgo, County.

We received all permits from BLM, NMOCD, and NMOSE this week necessary to begin drilling at Lightning Dock in Hidalgo County. Our first step is to re-enter the previously plugged and abandoned deep exploratory well by drilling it out and testing the capacity, which will happen through June and July. We will then proceed with drilling additional wells to complete the well field through the remainder of this year. Our goal is to complete the plant by the end of 2011. We have mobilized the rig and should begin drilling over the weekend.

I want to recognize and thank Mark Fesmire and his team at OCD - Carl Chavez, Randy Dade, Jaqueta Reeves – they took the lead and were extremely helpful and professional, even in the face of a serious accident that injured Jaqueta and another employee, Sherry Bonham. I also want to recognize and thank the efforts of John D'Antonio and his team in Deming - Tink Jackson and Haddy Phillips – they have provided needed support throughout the process.

Getting to the drilling phase is a significant accomplishment for our project and we hope for the State of New Mexico. We still have a final permit that is critical for project financing and operations, but I believe we are on our way to a successful project.

Regards,
Mike Hayter

Director - Geothermal Business Development
Raser Technologies, Inc.
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Provo, Utah 84003
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Mobile: +1.801.589.1872
www.rasertech.com

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prohibited. If you are not the intended recipient, please contact the sender immediately and permanently delete the original and any copies of this email and any attachments thereto.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, May 26, 2010 11:49 AM
To: 'Layne Ashton'; Ben Barker
Cc: 'Mike_Smith@blm.gov'; Jackson, Charles L., OSE; Phillips, Haddy L., OSE; Dade, Randy, EMNRD
Subject: OCD Lightning Dock Geothermal Project TFD 55-7 Well Workover G-Form & Bond Approvals

Gentlemen:

The G-101 – 103 Forms and Bonds for the above subject wells have been filed into OCD's Administrative Record at OCD Online (GTHT-1) at <http://ocdimage.emnrd.state.nm.us/imaging/AEOrderFileView.aspx?appNo=pCJC0813635742>).

You have satisfied OCD requirements to begin operations on this well.

Please contact me if you have questions. Thank you.

Please be advised that OCD approval of this plan does not relieve the operator of responsibility should their operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
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Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, March 19, 2010 4:27 PM
To: Chavez, Carl J, EMNRD
Cc: Lucero, Stephen A., EMNRD; VonGonten, Glenn, EMNRD
Subject: Meeting Notes (3/19/2010) to "General Correspondence 2008 - Present" File (GTHT-1)

Ben Barker and Mike Hayter met with Carl Chavez, Glenn von Gonten and Mark Fesmire in Santa Fe on Friday 3/19/2010 at 1:00 p.m. to discuss the OSE Hearing date and any issues. Raser Technologies hand delivered G-101, 102 and 103 Forms for re-entry into PA'd Well 55-7. OCD will review and let Raser know about any deficiencies.

Carl Chavez discussed the regulations, forms, etc. associated with Forms G-101 through G-107; however, OCD is only now responsible for reviewing Forms G-101 – 103.

Glenn von Gonten discussed the drilling aspects.

Raser indicated that OSE is good with their Well 55-7 workover once OCD approves, and Raser provides a single well bond referencing a new OCD API# for the well, Raser is free to conduct its work on this well to determine if shareholders are interested in investment with Raser on the geothermal project.

The issues with OSE can play out in the interim with the first hearing scheduled for 10/26/2010 somewhere down south that could last for 3 -4 days. If OCD approves the G forms, Raser will cleanout the well in April of 2010. The 4 wk. well test with calculated results will be complete by 5/15/2010 and Raser will determine if the project is viable based on the well test. If Raser thinks it is a "go", it will give investors time to decide whether to invest \$15M in the project by 6/15/2010 will know if "yes" or "no". If yes, Raser could have well drilled and in place by 12/30/2010. The plant could be fully operational and transmitting by Q4 of 2011 and selling power by 1/2012. OSE issues would have to be resolved for the above to happen too.

Informed Raser that OCD may be responsible for low and high temperature geothermal regulations and it was currently coordinating with the other agencies about this matter.

OCD requested technical and policy recommendations for streamlining the process by 3/30/2010 in consideration of the Governor's recent Executive Order requiring EMNRD to complete a report w/ DB for deep source geothermal power resource areas, technical and policy recommendations for streamlining the permit process for commercial power companies to help make NM a leader in geothermal renewable power.

End.....

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

Raser Meeting

Friday 3/19/2010

Name	Company	ph	E-mail
Carl Chavez	NMOTD	505-476-3490	Carl.J.Chavez@state.nm.us
M Hayter	Raser	801-765-1200	michael.hayter@rasertech.com
Ben Barker	Raser	801-765-1200	ben.barker@rasertech.com
Glen vonGowen	OCD	476-3488	

Chavez, Carl J, EMNRD

Subject: FW: Raser Technologies Meeting
Location: OCD Conf. Rm.

Start: Fri 3/19/2010 11:00 AM
End: Fri 3/19/2010 12:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Chavez, Carl J, EMNRD

Hey guys:

FYI, status of Raser Technologies (Los Lobos) geothermal project at Lightning Dock near Animas, NM.

I hope you will opt to familiar yourselves with the site file in order to access geothermal information. I encourage OSE, BLM and USGS to share information with OCD that we can scan into our online file system, perhaps under "BLM", "OSE" and "USGS". You can all keep updated on OCD activities by reviewing the site file at the link provided below and or verbal communication.

Please contact me if you have questions. Thank you.

-----Original Appointment-----

From: Chavez, Carl J, EMNRD

Sent: Thursday, March 18, 2010 4:35 PM

To: Sanchez, Daniel J., EMNRD; VonGonten, Glenn, EMNRD; Chavez, Carl J, EMNRD

Subject: Raser Technologies Meeting

When: Friday, March 19, 2010 11:00 AM-12:00 PM (GMT-07:00) Mountain Time (US & Canada).

Where: OCD Conf. Rm.

Mike Hayter is coming in after his OSE meeting to deliver forms for Well 55-7 Well and update OCD on the project. If the APD is approved, and based on feedback from OCD, Raser will proceed to submit a one-well bond or at its discretion bonding for the entire project.

Raser had a meeting w/ BLM and OSE at the facility yesterday. Raser is in Santa Fe tomorrow for a pre-hearing schedule meeting w/ OSE.

Raser will submit OCD APD G-Forms to proceed with a well test of 55-7 Burgett PA'd well in center of project area. The test will be for 4 weeks or less if they reach a pseudo steady-state flow condition and water will be tested and used to water burgett plants and/or a nearby crop. The pump rate is estimated to range from 1500-2000 gpm. Perssure monitoring devices will be monitored to determine aquifer characteristics of the reservoir. Raser's Geothermal Engineer will estimate the power from the reservoir. If the test is successful, they will submit results to investors for \$15M investment to proceed w/ project.

If the test is rejected by investors, Raser may at its discretion drill at least one project well or go forward with the project.

Marshall, Mike & Haddy:

Good afternoon.

You may be aware of the geothermal resource page recently developed by the OCD to address recent comments at the Geothermal Resource Group meeting in Socorro, NM, but if not, please click on the link provided below.

Geothermal

<http://www.emnrd.state.nm.us/oed/Publications.htm> (click on the geothermal resource links)

You will notice from the regulations that OCD must include a couple of other agencies, i.e., USGS and BLM where geothermal data is submitted. I had provided a copy of the Order to the BLM Las Cruces Office (Mike Smith at (575-525-4421 or E-mail: Mike_Smith@nm.blm.gov) on 6/3/2009, but did not include the USGS. Will work to improve on this going forward, but it would be great if you guys could monitor the link below for any/all information going forward on this project that way I would not have to make copies to mail out if they are already available at the link provided below. I could simply alert you to new information posted at the link. Please let me know what you think about this as the OCD can make copies or direct the facility to copy your agencies and/or the OCD can make copies and mail to you.

OCD Online Site File (GTHT-1)

<http://oedimage.emnrd.state.nm.us/imaging/AEOOrderFileView.aspx?appNo=pCJC0813635742>

Current Status:

See above message.

Thank you for your consideration. Please contact me if you have questions.

Carl J. Chavez, CHMM

New Mexico Energy, Minerals & Natural Resources Dept.

Oil Conservation Division, Environmental Bureau 1220 South St. Francis Dr., Santa Fe, New Mexico 87505

Office: (505) 476-3490

Fax: (505) 476-3462

E-mail: CarlJ.Chavez@state.nm.us

Website: <http://www.emnrd.state.nm.us/oed/index.htm>

(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

Subject: Raser Technologies Meeting
Location: OCD Conf. Rm.

Start: Fri 3/19/2010 11:00 AM
End: Fri 3/19/2010 12:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Chavez, Carl J, EMNRD

Required Attendees: Sanchez, Daniel J., EMNRD; VonGonten, Glenn, EMNRD; Chavez, Carl J, EMNRD

Mike Hayter is coming in after his OSE meeting to deliver forms for Well 55-7 Well and update OCD on the project. If the APD is approved, and based on feedback from OCD, Raser will proceed to submit a one-well bond or at its discretion bonding for the entire project.

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If the test is rejected by investors, Raser may at its discretion drill at least one project well or go forward with the project.

Chavez, Carl J, EMNRD

Subject: FW: Raser Technologies Lightning Dock Geothermal Project (GTHT-1) Update
Location: OCD Conf. Rm.
Start: Fri 3/19/2010 11:00 AM
End: Fri 3/19/2010 12:00 PM
Show Time As: Tentative
Recurrence: (none)
Meeting Status: Not yet responded
Organizer: Chavez, Carl J, EMNRD

Ladies and Gentlemen:

Good morning. Yes, there is some geothermal activity going on at Lightning Dock near Animas, NM (see "Current Status" below). To ensure proper communication for this geothermal power project going forward, and after some activity by Raser Technologies, I decided to send this e-mail communiqué, which contains a list of the Federal and State stakeholder agencies associated with this geothermal power project.

First, the New Mexico Oil Conservation Division is required under its regulations (see 19.14.55 NMAC) to provide certain geothermal forms to the NMBGNR and USGS. By receipt of links below, NMOCD is hopeful that all pertinent information needed by any and/or all of the agencies below may be accessed via "OCD Online" at the "GTHT-1" link provided below. OCD will develop thumbnails to store forms, etc. for the project and the general correspondence thumbnail to track activity on the project.

Geothermal

<http://www.emnrd.state.nm.us/ocd/Publications.htm> (click on the geothermal resource links to geothermal regulations and forms)

You will notice from the regulations that OCD must include a couple of other agencies, i.e., USGS and BLM where geothermal data is submitted. I had provided a copy of the Order to the BLM Las Cruces Office (Mike Smith at (575-525-4421 or E-mail: Mike_Smith@nm.blm.gov) on 6/3/2009, but did not include the USGS. Will work to improve on this going forward, but it would be great if you guys could monitor the link below for any/all information going forward on this project that way I would not have to make copies to mail out if they are already available at the link provided below. I could simply alert you to new information posted at the link. Please let me know what you think about this as the OCD can make copies or direct the facility to copy your agencies and/or the OCD can make copies and mail to you.

OCD Online Site File (GTHT-1)

<http://ocdimage.emnrd.state.nm.us/imaging/AEOrderFileView.aspx?appNo=pCJC0813635742>

Current Status:

From: Chavez, Carl J, EMNRD
Sent: Thursday, March 18, 2010 4:35 PM
To: Sanchez, Daniel J., EMNRD; VonGonten, Glenn, EMNRD; Chavez, Carl J, EMNRD; Phillips, Haddy L., OSE; Mike_Smith@blm.gov; mjreed@usgs.gov; Lucero, Stephen A., EMNRD; Miller, Brendan, EDD
Subject: Raser Technologies Meeting
When: Friday, March 19, 2010 11:00 AM-12:00 PM (GMT-07:00) Mountain Time (US & Canada).
Where: OCD Conf. Rm.

Mike Hayter is coming in after his OSE meeting to deliver forms for Well 55-7 Well and update OCD on the project. If the APD is approved, and based on feedback from OCD, Raser will proceed to submit a one-well bond or at its discretion bonding for the entire project.

Raser had a meeting w/ BLM and OSE at the facility yesterday. Raser is in Santa Fe tomorrow for a pre-hearing schedule meeting w/ OSE.

Raser will submit OCD APD G-Forms to proceed with a well test on Well 55-7 (Well 55-7 is well A-36-A-S-20 in OSE Records) Burgett PA'd well in center of project area. The test will be for 4 weeks or less if they reach a pseudo steady-state flow condition and water will be tested and used to water burgett plants and/or a nearby crop. The pump rate is estimated to range from 1500-2000 gpm. Pressure monitoring devices will be monitored to determine aquifer characteristics of the reservoir. Raser's Geothermal Engineer will estimate the power from the reservoir. If the test is successful, they will submit results to investors for \$15M investment to proceed w/ project.

If the test is rejected by investors, Raser may at its discretion drill at least one project well or go forward with the project with its own resources.

STAKEHOLDER AGENCIES:

New Mexico Bureau of Geology & Natural Resources (NMBGNR)

Geothermal Studies
801 Leroy Place
New Mexico Tech
Socorro NM 87801-4796
(575) 835-5420 information
(575) 835-6333 fax

Contact: Mr. Marshall Reiter, Principal Senior Geophysicist (575) 835-5306 (E-mail: mreiter@nmt.edu)

United States Geological Survey (USGS)

Geothermal Studies
5338 Montgomery Blvd., NE Suite 400
Albuquerque, NM 87109-1311
(505) 830-7900

Contact: Ms. Linda Weiss (505) 830-7901 (E-mail: lsweiss@usgs.gov)

Bureau of Land Management (BLM- Federal Lands)

Geothermal Projects
1800 Marquess Street
Las Cruces, NM 88005-3370
(575) 525-4300
(575) 525-4412 FAX

Contact: Mr. John Besse (575) 525-4363 (E-mail: john_besse@blm.gov)

Mr. Michael Smith
Geologist - BLM
Las Cruces District Office
1800 Marquess Street
Las Cruces, NM 88005
575-525-4421
Mike_Smith@blm.gov

New Mexico Oil Conservation Division (NMOCD)

Environmental Bureau- Geothermal Projects
1220 South St. Francis Dr.

Santa Fe, New Mexico 87505

Office: (505) 476-3491

Fax: (505) 476-3462

Contact: Mr. Carl Chavez (505) 476-3491 (E-mail: carlj.chavez@state.nm.us)

New Mexico Office of State Engineer (OSE)

Water Resource Specialist

Office of the State Engineer

P.O. Box 844

Deming, NM 88031

Phone: (575) 546-2851, Fax (575) 546-2290

E-Mail: haddy.phillips@state.nm.us

Web Page: <http://www.ose.state.nm.us>

Contact: Ms. Haddy Phillips (575) 546-2851 (E-mail: haddy.phillips@state.nm.us)

Please contact me if you have questions. Thank you.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, March 18, 2010 8:58 AM
To: 'Layne Ashton'
Cc: Phillips, Haddy L., OSE; Reeves, Jacqueta, EMNRD; Dade, Randy, EMNRD; Brooks, David K., EMNRD
Subject: FW: Lightning Dock Geothermal- Animas, NM

Ashton:

Good morning. You do not seem to be responding to my replies to your inquiries or statements.

Just want to make sure Raser is aware of its obligations under OCD Geothermal Regulations versus doing work under the nursery well.

Please be advised that any work related to geothermal must be supported by the proper geothermal forms, which includes a new APD, G forms, etc. to properly document that a geothermal reservoir exists and that the regulations are followed in Raser's geothermal project at Lightning Dock.

If you have any questions, please contact me. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Phillips, Haddy L., OSE
Sent: Wednesday, March 17, 2010 10:31 AM
To: Chavez, Carl J, EMNRD
Subject: RE: Lightning Dock Geothermal- Animas, NM

Carl,

They are not going to inject, but run the water through the greenhouse system. Since the well is already permitted to be used for the greenhouse operation (well 55-7 is well A-36-A-S-20 in our records) under one of Burgett's permits, our office has no problems with the method of discharge in this case. However since Raser is doing a pump test for other purposes, they are required to obtain a permit to do such a test.

Haddy

From: Chavez, Carl J, EMNRD
Sent: Wednesday, March 17, 2010 10:20 AM
To: Phillips, Haddy L., OSE
Subject: RE: Lightning Dock Geothermal- Animas, NM

Haddy:

The plans have changed from their original intent to inject.....

Carl J. Chavez, CHMM

New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
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E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Phillips, Haddy L., OSE
Sent: Wednesday, March 17, 2010 10:12 AM
To: Chavez, Carl J, EMNRD
Subject: RE: Lightning Dock Geothermal- Animas, NM

Carl,

Thanks for the information on OCD part in the 55-7 test that Raser is planning to run. On the OSE end, Raser will be required to get a permit to run the test, part of the requirements to obtain a permit from OSE will be to submit a pump test plan (which has to be approved by OSE) and they are required to submit a copy of approved OCD permits for 55-7 before we will approve the permit for the pump test. In some cases, depending on the discharge and/or reinjection method a NMED permit is also required prior to approval.

I will keep you informed of further developments involving geothermal for Raser and any other parties that may come in on the OSE end.

Thanks
Haddy Phillips

Water Resource Specialist
Office of the State Engineer
P.O. Box 844
Deming, NM 88031
Phone:(575)546-2851, Fax (575)546-2290
E-Mail: haddy.phillips@state.nm.us
Web Page: <http://www.ose.state.nm.us>

From: Chavez, Carl J, EMNRD
Sent: Tuesday, March 16, 2010 7:44 AM
To: Phillips, Haddy L., OSE
Cc: Brooks, David K., EMNRD; Mike_Smith@blm.gov
Subject: Lightning Dock Geothermal- Animas, NM

Haddy:

Good morning. OCD will be receiving a well work over request to re-enter the PA'd Burgett Well 55-7 in the geothermal project area. While there is no intent (as stated below by Raser in yellow highlight) to use this well as an injection well, for the purpose of Raser's well test, they are planning to run a well test where they will remove ground water and after the test, they will re-inject the ground water back into the reservoir.

As part of OCD's review of Raser's well work over request, and well test for the geothermal project, OCD would like to know if this presents any concerns by the OSE? Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Tuesday, March 16, 2010 7:29 AM
To: 'Layne Ashton'
Cc: Ben Barker; Michael Hayter; Brooks, David K., EMNRD; Dade, Randy, EMNRD; Reeves, Jacqueta, EMNRD
Subject: RE: Licensed Driller

Ashton:

OK, OCD will review the Raser's submittal. Regarding the bond for well 55-7, the bond must be received and approved prior to any work on the well. Once OCD has review your G-Forms, and if OCD approves, OCD will issue an API# for the well, and Raser must submit a well bond for OCD review and approval before any work can commence on the well.

Regarding Burgett's well and OCD confirming acceptability, I don't think this was discussed under the current context of your message. It is important to note that Raser's proposed work on well 55-7 has not been reviewed in its entirety by the OCD and until we approve, the implication is premature at best. This well was not discussed at the hearing for the project; however, OCD understands that Raser needs flexibility to conduct its exploration activities at the project location. Regarding re-injection of cold fluids into Well 55-7 after the test, OCD is still considering this as to introduce cold fluids into the reservoir, this could result in a raise the temperature of the ground water to any downgradient geothermal users with geothermal rights. Again, the intention to inject well test water through Well 55-7 has not yet been approved, but OCD has told Raser that the Discharge Permit requires that injection wells inject at a depth of at least 100 feet below the deepest fresh water well in the project area.

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Layne Ashton [<mailto:lashton@rasertech.com>]
Sent: Monday, March 15, 2010 3:38 PM
To: Chavez, Carl J, EMNRD
Cc: Ben Barker; Michael Hayter
Subject: RE: Licensed Driller

Carl,

Thank you for your message. We are finalizing the bond and the G-100/102/103 forms now, identifying Everett D. Burgett Drilling as the driller. We will be submitting those forms this week. On the bonding, we will add TFD 55-7 under an additional bond once we have the correct API number.

We inquired about the acceptability of Mr. Burgett because we are aware of his previous interaction with the State and BLM. We wanted to offer you an opportunity to express any reservations informally, as a courtesy. Thank you for confirming his acceptability.

Please allow me to clarify the testing and injection issues regarding TFD 55-7. Rosette, Inc. has operated this well under an OSE-issued irrigation well permit for the last decade. They have established water rights and a beneficial use for its output. Our initial operation will merely open more, but not all, of the obstructed wellbore to flow, and Rosette will continue to use the fluid in its operations. Our testing will consist of careful observation of the surrounding wells while TFD 55-7 is flowed into the Rosette, Inc. system as it has before.

We do not intend to use TFD 55-7 for injection in this operation, nor to make any other changes to the Rosette system. If the well demonstrates adequate potential, it will be deemed a "geothermal production well." At that point, Raser will proceed with development according to the requirements you have outlined and as specified in the OCD discharge permit.

Regards,

W. Layne Ashton
Raser Technologies, Inc.
5152 Edgewood Drive, Suite 375
Provo, Utah 84604
Tel. (801) 765-1200
Fax (801) 374-3314
Cell (801) 473-6090
layne.ashton@rasertech.com

W. Layne Ashton
Raser Technologies, Inc.
5152 Edgewood Drive, Suite 375
Provo, Utah 84604
Tel. (801) 765-1200
Fax (801) 374-3314
Cell (801) 473-6090
layne.ashton@rasertech.com

From: Chavez, Carl J, EMNRD [<mailto:CarlJ.Chavez@state.nm.us>]
Sent: Friday, March 12, 2010 3:09 PM
To: Layne Ashton
Cc: Ben Barker; Michael Hayter; Reeves, Jacqueta, EMNRD; VonGonten, Glenn, EMNRD
Subject: RE: Licensed Driller

Ashton:

OCD is awaiting your bond(s) for Well 55-7 along with G-101, 102 and 103 (attached schematic of existing well construction w/ proposed workover itemization for approval of the OCD.

Seems like Raser wants to just work on this well initially. You will note in the discharge permit that injection wells must be constructed at least 100 feet deeper than the deepest fresh water well in the project location; therefore, using Well 55-7 to inject the well test water may not be approvable, unless perhaps it is reconstructed to comply with the terms and conditions of the OCD Discharge Permit? Raser should determine whether there are any downgradient geothermal permit users with standing that could be adversely impacted by any cold water injection. The OCD will have to approve your planned work to see if it meets the terms and conditions of the discharge permit. Bonding must be approved before any G forms can be approved by the OCD allowing Raser to perform the work. Lastly, the construction of the temporary pits, permanent pits and/or evaporation ponds must have liners (capable of handling heat- EDPM, CSPE-R? of sufficient thickness to be approved for use at the project location. To read up on pit design and construction, please go to:

<http://www.emnrd.state.nm.us/ocd/documents/20098-5currentrules-new17and39.pdf> (see Parts 17 and 36) for guidance. Please also be aware of Part 11 if hydrogen sulfide gas will exceed 100 ppm in a public area. There are also Geothermal Forms (<http://www.emnrd.state.nm.us/ocd/Forms.htm>) for well testing, etc. referenced in the regulations and they are available on the OCD Website at

<http://www.emnrd.state.nm.us/ocd/documents/OilConservationDivisionGeothermalApplicationProcess8-18-2009.pdf>.

Raser must use Geothermal Forms to document everything and ultimately certain forms must be attached to individual forms requesting permission to produce and/or inject for each well Raser is planning to place into operation.

I look forward to receipt of you forms and bonding for what you are planning to do.

Please review the OCD discharge permit and contact me to discuss the discharge permit and any questions you may have on the project by Friday COB 3/19/2010. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Layne Ashton [mailto:lashton@rasertech.com]
Sent: Friday, March 12, 2010 2:26 PM
To: Chavez, Carl J, EMNRD
Cc: Ben Barker; Michael Hayter
Subject: Licensed Driller

Carl,

I thought I'd let you know that Raser intends to use Everett D. Burgett Drilling, NM license no. 248 for going into 55-7. Burgett will bring in an appropriate rig, as well as a seasoned crew with extensive geothermal well drilling experience in both NV and UT. Do you have any thoughts or comments? Raser is now in a position to submit the permit now that it has a licensed NM driller & supervisor selected.

Again, please let me know if you have any comments or questions. The best way to reach me is on my cell phone, which is (801) 473-6090. Thank you.

Best wishes,

W. Layne Ashton
Raser Technologies, Inc.
5152 Edgewood Drive, Suite 375
Provo, Utah 84604
Tel. (801) 765-1200
Fax (801) 374-3314
Cell (801) 473-6090
layne.ashton@rasertech.com

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the intended recipient, please contact the sender and destroy all copies of this message. -- This email has been scanned by the Sybari - Antigen Email System.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, March 12, 2010 3:09 PM
To: 'Layne Ashton'
Cc: Ben Barker; Michael Hayter; Reeves, Jacqueta, EMNRD; VonGonten, Glenn, EMNRD
Subject: RE: Licensed Driller

Ashton:

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Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Layne Ashton [mailto:lashton@rasertech.com]
Sent: Friday, March 12, 2010 2:26 PM
To: Chavez, Carl J, EMNRD
Cc: Ben Barker; Michael Hayter
Subject: Licensed Driller

Carl,

I thought I'd let you know that Raser intends to use Everett D. Burgett Drilling, NM license no. 248 for going into 55-7. Burgett will bring in an appropriate rig, as well as a seasoned crew with extensive geothermal well drilling experience in both NV and UT. Do you have any thoughts or comments? Raser is now in a position to submit the permit now that it has a licensed NM driller & supervisor selected.

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Best wishes,

W. Layne Ashton
Raser Technologies, Inc.
5152 Edgewood Drive, Suite 375
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Fax (801) 374-3314
Cell (801) 473-6090
layne.ashton@rasertech.com

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Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, March 09, 2010 2:38 PM
To: 'Michael Hayter'
Cc: VonGonten, Glenn, EMNRD
Subject: FW: Lightning Dock Geothermal Site Vistit and Meeting March 16

Mike:

Good afternoon. I was informed that OCD is still under a travel restriction; therefore, I regret that I cannot attend the upcoming plant meeting.

OCD requests a meeting in Santa Fe or a telephone conference call if you are interested in discussing the facility permit.

I am awaiting your paperwork for Well 55-7. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Tuesday, March 09, 2010 6:40 AM
To: VonGonten, Glenn, EMNRD; Sanchez, Daniel J., EMNRD
Cc: Michael Hayter
Subject: FW: Lightning Dock Geothermal Site Vistit and Meeting March 16

May I attend this permit meeting on either Tuesday, March 16th or Thursday, March 18th, 2010? Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Michael Hayter [<mailto:Michael.Hayter@rasertech.com>]
Sent: Thursday, March 04, 2010 3:47 PM
To: Chavez, Carl J, EMNRD; Mike_Smith@blm.gov; Jackson, Charles L., OSE
Cc: Ben Barker; Layne Ashton
Subject: Lightning Dock Geothermal Site Vistit and Meeting March 16

Gentleman,

We appreciate the opportunity to have met with each of you regarding guidance on the permitting requirements for the re-entry and testing of well 55-7. We should have the permit applications completed and submitted next week. Raser has planned a site visit to Lightning Dock Geothermal and we invite you to join us on site on one of the following days March 16, 17, or 18. The agenda is to walk you around the project and familiarize you, as the critical permitting

agencies, with our project, its characteristics, and challenges; and discuss any final questions outstanding for the permits for well 55-7 and development beyond. We can discuss logistics once you have confirmed your availability.

Please note that our investment partners will be traveling to the site also that week. It would be a good opportunity to introduce you.

Best regards,

Mike

Director - Geothermal Business Development
Raser Technologies, Inc.
5152 North Edgewood Drive
Provo, Utah 84003
Office: +1.801.765.1200 x216
Mobile: +1.801.589.1872
www.rasertech.com

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Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Friday, October 30, 2009 12:07 PM
To: Chavez, Carl J, EMNRD
Cc: Steve Brown; ben.barker@rasertech.com
Subject: Re: LIGHTNING DOCK - GEOTHERMAL DRILLING METHOD

Thanks - Carl,

I have passed the message on to Steve and Ben Barker (Raser's Drilling Director).

Jay

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Cc: "Jones, William V., EMNRD" <William.V.Jones@state.nm.us>
Sent: Fri, October 30, 2009 7:21:51 AM
Subject: RE: LIGHTNING DOCK - GEOTHERMAL DRILLING METHOD

Jay:

Good morning. The drill methods are either rotary or cable tool. You may want to have your Drilling Director take a look at the OCD Geothermal "G" Forms (i.e., G-101 APD) at <http://www.emnrd.state.nm.us/oed/Forms.htm>. Please remember that the OCD Geothermal "G" Forms need to be completed from now on.

In addition, the Drilling Director should review the OCD's Geothermal Regulations and Resource Page under OCD Publications at <http://www.emnrd.state.nm.us/oed/Publications.htm>.

(i.e., 19.14.24 NMAC Rotary Drilling and Cable Tool Drilling at <http://www.nmcpr.state.nm.us/nmac/parts/title19/19.014.0024.htm>)

The OCD prefers that drillers utilize closed-loop systems for drilling for environmental concerns, but understands the operator's needs to install thermally lined temporary (reserve pits) and/or permanent ponds (evaporation ponds) for routine well testing of the geothermal reservoir and is able to use the reserve or permanent pit construction method(s). To learn more about OCD regulations on pits, ponds liner, construction, etc. that may be useful to the Drilling Director, please go to OCD Regulations Parts 17 (PITS, CLOSED-LOOP SYSTEMS, BELOW-GRADE TANKS AND SUMPS) and 36 (SURFACE WASTE MANAGEMENT FACILITIES) at <http://www.emnrd.state.nm.us/oed/documents/20098-5currentrules-new17and39.pdf>. One concern I recall is the selection of a liner that can handle high temperatures, and I provided you with some recommended liner types that can be thermally welded and may withstand the high temperature steam and water better.

These regulations may provide useful design and construction guidelines and transitional requirements on what the OCD requires or recommends to contain drill cuttings, mud management, etc. However, at the time of Raser's application, there were former regulations that were outdated and superceded by the above regulations; consequently, the operator may want to review the regulatory language "Transitional" provisions within the above listed regulations for their applicability to former regulations that existed before the above regulations were enacted.

The Drilling Director may contact Mr. Will Jones (OCD Engineering Bureau) at (505) 476-343448 for any detailed down hole drilling questions.

Please contact me if you have questions or need further assistance. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505

Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Thursday, October 29, 2009 5:22 PM
To: Chavez, Carl J, EMNRD
Subject: LIGHTNING DOCK - DRILLING METHOD

Carl,

Could you send me a short message stating what OCD's preferred drilling method is?

I know that we have talked about this on numerous occasions but we now have a different Drilling Director. He may be more receptive to our cause.

Thanks,

Jay

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Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, August 20, 2009 4:35 PM
To: 'Jay Hamilton'; Michael Hayter
Cc: Reeves, Jacqueta, EMNRD; Fesmire, Mark, EMNRD
Subject: FW: Lightning Dock - Revised C-101, C-102, and C103 for 47-07

FYI. Per Jacqui's msg. below, looks like the APDs are in order.

The OCD-EB is awaiting the signed version of the OCD discharge permit issued on 7/1/2009 from Raser.

For historical reference, please see the progress made to date from action steps listed in an OCD e-mail dated 7/21/2009 (currently completed items are highlighted in yellow) below.

The historical action steps going forward were:

- 1) ~~OCD works to address final changes to discharge permit to be mailed to Los Lobos.~~
- 2) Los Lobos needs to submit bonds for all of their injection and production wells to me here in Santa Fe for review and a final approval letter.
- 3) Artesia District Office, once bonds are approved and is contacted by OCD Santa, Fe, will determine whether the APDs may be approved and signed.
- 4) Final discharge permit mailed to Los Lobos for signature and startup of operations.
- 5) Los Lobos will need to complete all proper "G" Forms and paperwork to demonstrate that there is indeed a high-temp. geothermal resource in the area, and after confirmation and submittal of the required geothermal forms, reporting, etc. must receive final approval by the OCD-EB in order to use each geothermal well. Note that once Los Lobos has proven that there is a high temperature geothermal reservoir for which it would like to proceed with geothermal power development, they will need to address any final issues with the OSE.

Current status of project from above action steps are:

- Item 1: Completed.
- Item 2: OCD-EB is awaiting receipt of the well bonds
- Item 3: OCD Artesia awaiting confirmation of bond approval by OCD-EB for discussion of final APD approval signatures by OCD Artesia w/ submittal of signed documents to OCD-EB for inclusion into the Administrative Record
- Item 4: The final OCD discharge permit was issued on 7/1/2009 and 2 OCD-EB signed copies were mailed to Raser for final signature and OCD is awaiting the final signed discharge permit from Raser
- Item 5: Once Items 2 through 4 are completed, Raser may begin the exploration, testing, and documentation phase to prove that there is a high-temp (250 F at depth geothermal reservoir present in the project area. If the exploration and testing demonstrates to Raser that they should proceed with the commercial construction, the required OCD forms with testing and other info. must be submitted for OCD final approval. Raser will need to communicate with the OSE on any water adjudicatory issues and/or approvals to begin using the water resource for the production of geothermal power under the OCD Geothermal Regulations.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Reeves, Jacqueta, EMNRD
Sent: Thursday, August 20, 2009 3:35 PM
To: Chavez, Carl J, EMNRD
Subject: RE: Lightning Dock - Revised C-101, C-102, and C103 for 47-07

Carl,

The paperwork looks good. They moved the well south 64 feet south. This complies with rule 19.14.23.9., so I'm happy with the revision.

Jacqui Reeves
OCD District II Geologist
1301 W. Grand Ave
Artesia, NM 88210

From: Chavez, Carl J, EMNRD
Sent: Tuesday, August 18, 2009 6:06 PM
To: Reeves, Jacqueta, EMNRD
Cc: Inge, Richard, EMNRD; Jay Hamilton; Steve Brown
Subject: FW: Lightning Dock - Revised C-101, C-102, and C103 for 47-07

Jacqueta:

The C-103 revision of location for Well 47-07 from Los Lobos or Raser at the Lightning Dock Geothermal Project near Lordsburg is attached. Will this work?

Could you please double check the location to see how significant the change is and contact me?. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
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E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Tuesday, August 18, 2009 6:01 PM
To: carl; Chavez, Carl J, EMNRD
Cc: Steve Brown
Subject: Lightning Dock - Revised C-101, C-102, and C103 for 47-07

Carl,

We have revised C-101, C-102 and C-103 for relocating Well 47-07.

If after your review please contact me if you have any concerns or questions.

Thanks,

Jay

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Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, August 18, 2009 6:06 PM
To: Reeves, Jacqueta, EMNRD
Cc: Inge, Richard, EMNRD; 'Jay Hamilton'; Steve Brown
Subject: FW: Lightning Dock - Revised C-101, C-102, and C103 for 47-07
Attachments: Form Revosed C101, 102 and 103.tif

Jacqueta:

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Carl J. Chavez, CHMM
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(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Tuesday, August 18, 2009 6:01 PM
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Cc: Steve Brown
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Carl,

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Thanks,

Jay

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Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
June 19, 2008

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO.
30-0230-20016

5. Indicate Type of Lease

STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name

8. Well Number 477

9. OGRID Number
262071

10. Pool name or Wildcat

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other

2. Name of Operator

Los Lobos Renewable Power, LLC

3. Address of Operator

5125 North Edgewood Drive, Suite 375 Provo, Utah

4. Well Location

Unit Letter : 1155' reet from the South line and 2266' feet from the West line

Section 07

Township 25S

Range 19W

NMPM

County Hidalgo

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

4100 feet

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐

PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐

CHANGE PLANS ☐

PULL OR ALTER CASING ☐

MULTIPLE COMPL ☐

DOWNHOLE COMMINGLE ☐

OTHER:

☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐

ALTERING CASING ☐

COMMENCE DRILLING OPNS.x

P AND A ☐

CASING/CEMENT JOB ☐

OTHER:

☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Move location of Well 477 (See attached Form 102)

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Steven Brown

TITLE Manager

DATE 8/18/09

Type or print name Steven Brown

E-mail address: steve.brown@nase-tech.com

PHONE: 505 765 1200

For State Use Only

APPROVED BY:

TITLE

DATE

Conditions of Approval (if any):

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-11
May 27, 20

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,
PLUGBACK, OR ADD A ZONE**

¹ Operator Name and Address Los Lobos Renewable Power, LLC 5125 North Edgewood Drive Suite 375 Provo, Utah 84604		² OGRID Number 262071
		³ API Number 30 - 023- 20016
³ Property Code	⁵ Property Name Lightning Dock No 1, HI-01 LLC	⁶ Well No. 477
⁹ Proposed Pool 1		¹⁰ Proposed Pool 2

⁷ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	07	25S	19W		1155'	South	2266'	West	Hidalgo

⁸ Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Same									

Additional Well Information

¹¹ Work Type Code N	¹² Well Type Code (P) Production Well	¹³ Cable/Rotary R	¹⁴ Lease Type Code P - Land BLM - Geothermal	¹⁵ Ground Level Elevation 4100
¹⁶ Multiple See Plan of Operation	¹⁷ Proposed Depth 3,400 feet	¹⁸ Formation	¹⁹ Contractor Layne Christensen Company	²⁰ Spud Date May 2008
Depth to Groundwater 40 feet		Distance from nearest fresh water well .4 miles		Distance from nearest surface water - None
Pit: Liner: Synthetic <input checked="" type="checkbox"/> 4.5 mils thick Clay <input type="checkbox"/> Pit Volume: 45,000bbls		Drilling Method: Fresh Water <input type="checkbox"/> Brine <input checked="" type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>		
Closed-Loop System <input checked="" type="checkbox"/>				

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	3/8" Wall	63'	150 Sacks	
17.7"	13.375"	54.5 lb/ft	1,500'	750 Sacks	
12.25"	9.625"	36.0 lb/ft	3,400'	980 Sacks	
	7" Liner (If)	23.0 lb/ft			

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

SEE PLAN OF OPERATION

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Signature:

Printed name: Steve Brown

Title: Member

E-mail Address: steve.brown@raser-tech.com

Date: August, 17, 2009

Phone: (801) 765-1200

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

Conditions of Approval Attached ☐

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico

Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-102

Revised October 12, 2005

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☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30 - 023 - 20016	² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name Lightning Dock No 1, H1-01 LLC	⁶ Well Number 477
⁷ OGRID No. 262071	⁸ Operator Name Los Lobos Renewable Power, LLC	⁹ Elevation -3100

¹⁰ Surface Location

UL or lot no.	Section 07	Township 25S	Range 19W	Lot 1dn	Feet from the 1155'	North/South line South	Feet from the 2266'	East/West line West	County Hidalgo
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. Same	Section	Township	Range	Lot 1dn	Feet from the	North/South line	Feet from the	East/West line	County
-----------------------	---------	----------	-------	---------	---------------	------------------	---------------	----------------	--------

¹² Dedicated Acres 20	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
-------------------------------------	-------------------------------	----------------------------------	-------------------------

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

16				¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or an undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well in this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <i>[Signature]</i> Date: 8/18/09 Printed Name: Steven Brown
				¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. March 31, 2008 Date of Survey Signature and Seal of Professional Surveyor: <i>[Signature]</i> NMRLS 7240 Certificate Number
	47-07 •			

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, August 04, 2009 3:37 PM
To: 'Jay Hamilton'; carl
Cc: Steve Brown; Michael Hayter; Reeves, Jacqueta, EMNRD; Fesmire, Mark, EMNRD
Subject: RE: Fw: Lightning Dock - Move Well 47-07

Jay, et al.:

The OCD testified that moving a well location is possible through the OCD's administrative process.

If Raser is looking to change the location significantly from the originally proposed location, then the OCD would need to scrutinize this more closely in our review and approval process. If the location is slightly altered, the OCD must approve the new location too, but the review process may be minor in scope. I hope this addresses your question. Both reviews fall under the OCD's administrative process and may require a site visit to make a final call too. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Tuesday, August 04, 2009 11:14 AM
To: Chavez, Carl J, EMNRD; carl
Cc: Steve Brown; Michael Hayter
Subject: Fw: Fw: Lightning Dock - Move Well 47-07

Carl,

My moving Well 47-07 will that have impact on Damon or the appealing process?

We are a little gun shy.

Thanks,

Jay

----- Forwarded Message -----

From: Steve Brown <Steve.Brown@rasertech.com>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Cc: Michael Hayter <Michael.Hayter@rasertech.com>
Sent: Monday, August 3, 2009 7:50:55 PM
Subject: RE: Fw: Lightning Dock - Move Well 47-07

Jay,

Will this have an impact on Damon Seawright?

Steve

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Monday, August 03, 2009 12:44 PM
To: Steve Brown; Ben Barker
Subject: Fw: Fw: Lightning Dock - Move Well 47-07

Steve/Ben

Because of State regulations Well 47-07 needs to be moved.

The well needs to be 165 feet from quarter-quarter-quarter section.

Mark has given us a map with the boundaries of where the well can be moved.

Ben this probably is your call. This well will probably be moved in the future unless this it is the first well we will be drilling.

I just need to get this approved so we can moved forward.

Please call if you have questions. I need this as soon as possible.

Thanks,

Jay

-- Forwarded Message ----

From: Mark Winkelaar <winkerstick@gmail.com>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Sent: Monday, August 3, 2009 8:53:17 AM
Subject: Re: Fw: Lightning Dock - Move Well 47-07

Attached map document with description of 100 ft x 100 ft area at least 165 ft from quarter quarter section lines.

Mark Winkelaar

On Wed, Jul 29, 2009 at 9:56 AM, Jay Hamilton<hamiltonenviro@yahoo.com> wrote:

> oops!!! Here is the attachment from the OCD. Well 47-07 needs to be at
> least 165 feet from the outer boundary of the quarter-quarter-quarter
> section.

> Thanks,

>

> Jay

> ----- Forwarded Message -----

> From: Jay Hamilton <hamiltonenviro@yahoo.com>

> To: Mark Winkelaar <winkerstick@gmail.com>

> Cc: Steve Brown <steve.brown@rasertech.com>; Michael Hayter

> <Michael.Hayter@rasertech.com>

> Sent: Wednesday, July 29, 2009 9:52:27 AM

> Subject: Lightning Dock - Move Well 47-07

>

> Mark,
>
> Please give the boundry where we can move Well 47-07 at Lightning Dock.
>
> Thanks,
>
> Jay

This inbound email has been scanned by the MessageLabs Email Security System.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, July 22, 2009 8:27 AM
To: 'mike.hayter@rasertech.com'
Cc: Reeves, Jacqueta, EMNRD
Subject: FW: Lightening Dock Geothermal Wells

Mike:

Re: New Well Location Well 47-07

Please find below the e-mail from Ms. Jacqueta Reeves highlighted in yellow with the location concern on production or development well 47-07. I think the simplest thing to do is to relocate this well and provide new C-103 form indicating a change in well location with new C-101 and 102 forms for Well 47-07 and the new location that complies with the geothermal well spacing requirements (see <http://www.nmcpr.state.nm.us/nmac/parts/title19/19.014.0023.htm>).

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Tuesday, March 24, 2009 4:12 PM
To: Reeves, Jacqueta, EMNRD
Cc: 'mike.hayter@rasertech.com'; 'Jay Hamilton'
Subject: RE: Lightening Dock Geothermal Wells

Jacqui:

Thank you for the API#s. OCD- EB is currently working with Well Fargo Bank to receive all bonding for the wells with the permission of Los Lobos. If the discharge permit is approved on 4/7/2009, I will work with the OCD Artesia District Office on the final signed well APDs for the Administrative Record or well file. We may at that time notify Los Lobos about the Well # 47-07 location problem (see your note below) and have them resubmit a C-101 and 102 with a new well location that can be approved by the Artesia District Office. Thanks again.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Reeves, Jacqueta, EMNRD
Sent: Monday, March 23, 2009 2:52 PM
To: hamiltonenviro@yahoo.com; mike.hayter@rasertech.com

Cc: Bonham, Sherry, EMNRD; Chavez, Carl J, EMNRD

Subject: Lightening Dock Geothermal Wells

Gentlemen,

Attached are the API #'s that will be assigned to the Geothermal wells. There are only a few questions that arose. For the Production well Lightening Dock No 1, DI-01 LLC #13-07, the Lease type code states, " P-Land BLM-Geothermal". When I checked the State's ONGARD system the surface was federal as well as the subsurface. I am currently having a gentleman from the State Land Office look into this matter and plan to have it figured out in a couple days. If it is all federal then it will have to be handled through the BLM. I also had a concern with well # 47-07. The spacing on this well does not meet Rule 19.14.23.9 letter B. The rule states that the well " shall be located at least 165 ft from the outer boundary of the quarter-quarter-quarter section". I would prefer to have the well moved to a location that meets the above noted Rule. If there are circumstances preventing the relocation of this well then a Non Standard Location would have to be approved by Santa Fe.

Jacqui Reeves

OCD District II Geologist

1301 W. Grand Ave

Artesia, NM 88210

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, April 29, 2009 10:48 AM
To: Reeves, Jacqueta, EMNRD
Cc: Fesmire, Mark, EMNRD; Sanchez, Daniel J., EMNRD
Subject: FW: Lightning Dock Geothermal No. 1 (GTHT-001) APD Submittals
Attachments: APD from Los Lobos 3-12-2009.pdf

Jacqui:

Please find attached the APDs for the above geothermal project sent to Sherry Bonham on March 12, 2009.

I think the only location in question based on the submitted APDs to date is the Well 47-07 where Raser is awaiting a decision on the discharge permit by OCD before addressing this well location issue.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Thursday, March 12, 2009 5:51 PM
To: Bonham, Sherry, EMNRD
Cc: Perrin, Charlie, EMNRD; 'Jay Hamilton'; 'mike.hayter@rasertech.com'; 'Patrick_Barnes@wellsfargois.com'
Subject: Lightning Dock Geothermal No. 1 (GTHT-001) APD Submittals

Sherry:

Please find attached the APDs submitted by Jay Hamilton (Hamilton Environmental) for Los Lobos Renewable Power, LLC. I have copied Mike Hayter of Raser Technologies and he should be copied in any e-mails to Jay Hamilton regarding any Artesia District Office issues with the submitted APDs.

When the APDs are approved, and if they are approved, I would appreciate receipt of API# assigned to each well to include in the final draft discharge permit that I am working on for the April 7, 2009 public hearing in Lordsburg, NM.

I would also note that the API# per well must be included in the bonds that are being developed in cooperation with David Brooks and I by Wells Fargo Bank.

Your prompt review of the attached APDs would be appreciated. Please contact me if you have questions. Thank you.

Jay Hamilton
Hamilton Environmental, L.L.C.
485 West 1400 North
Orem, Utah 84057

Office (801) 224-4585
Fax (801) 224-1893
Cell (801) 361-2102
e-mail hamiltonenviro@yahoo.com

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Monday, March 09, 2009 3:24 PM
To: Chavez, Carl J, EMNRD
Subject: Re:

Carl,

You should receive them shortly.

Thanks,

Jay

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Sent: Monday, March 9, 2009 1:05:05 PM
Subject: RE:

Jay:

There were no attachments to your e-mail. Could you please send me electronic attachments? Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Monday, March 09, 2009 1:44 PM
To: Chavez, Carl J, EMNRD; Price, Wayne, EMNRD; Fesmire, Mark, EMNRD
Cc: Steve Brown; Jim Rosser; Michael Hayter
Subject:

Carl,

Please see attachment for the amended C101 and C102.

I will forward a original hard copy in the mail today.

Thanks,

Jay

This inbound email has been scanned by the MessageLabs Email Security System.

Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message. -- This email has been scanned by the Sybari - Antigen Email System.

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RECEIVED
LIGHTNING DOCK
CURRENT API#S, WELL NUMBERS AND OGRID NO.
2007 APR 2 PM 1 24

CURRENT API#s	OCD WELL NO#s	RASER WELL NO#s
30-023-20013	#137	#13-07✓
30-023-20014	#337	#33-07✓
30-023-20015	#457	#45-07✓
30-023-20016	#477	#47-07✓
30-023-20017	#537	#53-07*
30-023-20018	#428	#42-18 ✓
30-023-20019	#532	#53-12 ✓
30-023-20020	#517	#51-07 ✓

* <100' from 2-track Rd

OGRID NO.: 261071

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-
May 27, 2008

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to appropriate District ()

☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,
PLUGBACK, OR ADD A ZONE**

¹ Operator Name and Address Los Lobos Renewable Power, LLC 5125 North Edgewood Drive Suite 375 Provo, Utah 84604		² OGRID Number
		³ API Number 30 -
³ Property Code	⁵ Property Name Lightning Dock No 1, HI-01 LLC	⁶ Well No. 13-07
⁹ Proposed Pool 1		¹⁰ Proposed Pool 2

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	07	25S	19W		3781.0	South	530.1	West	Hidalgo

⁸ Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Same									

Additional Well Information

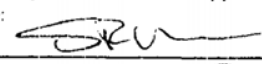
¹¹ Work Type Code N	¹² Well Type Code (P) Production Well	¹³ Cable/Rotary R	¹⁴ Lease Type Code P - Land BLM - Geothermal	¹⁵ Ground Level Elevation 4100
¹⁶ Multiple See Plan of Operation	¹⁷ Proposed Depth 3,400 feet	¹⁸ Formation	¹⁹ Contractor Layne Christensen Company	²⁰ Spud Date May 2008
Depth to Groundwater 40 feet		Distance from nearest fresh water well .2 miles		Distance from nearest surface water - None
Pit: Liner: Synthetic <input checked="" type="checkbox"/> 45 mils thick Clay <input type="checkbox"/> Pit Volume: 45,000 bbls Closed-Loop System <input checked="" type="checkbox"/> Drilling Method: Fresh Water <input type="checkbox"/> Brine <input checked="" type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>				

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	3/8" Wall	63'	150 Sacks	
17.7"	13.375"	54.5 lb/ft	1,500'	750 Sacks	
12.25"	9.625"	36.0 lb/ft	3,400'	980 Sacks	
	7" Liner (If)	23.0 lb/ft			

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

SEE PLAN OF OPERATION

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOC guidelines <input type="checkbox"/> , a general permit <input type="checkbox"/> , or an (attached) alternative OCD-approved plan <input type="checkbox"/> . Signature:  Printed name: <u>Steve Brown</u> Title: <u>Manager</u> E-mail Address: <u>steve.brown@rasartech.com</u> Date: <u>4/21/08</u> Phone: <u>801 765 1200</u>	OIL CONSERVATION DIVISION	
	Approved by:	
	Title:	
	Approval Date:	Expiration Date:
	Conditions of Approval Attached <input type="checkbox"/>	

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

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☐ AMENDED REPORT**WELL LOCATION AND ACREAGE DEDICATION PLAT**

¹ API Number		² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name Lightning Dock No 1, HI-01 LLC		⁶ Well Number 13-07
⁷ OGRID No.	⁸ Operator Name Los Lobos Renewable Power, LLC		⁹ Elevation 4100



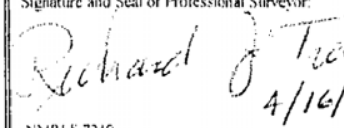
¹⁰ Surface Location

U/I. or lot no.	Section 07	Township 25S	Range 19W	Lot Idn	Feet from the 3781'	North/South line South	Feet from the 530'	East/West line West	County Hidalgo
-----------------	---------------	-----------------	--------------	---------	------------------------	---------------------------	-----------------------	------------------------	-------------------

¹¹ Bottom Hole Location If Different From Surface

U/I. or lot no. Same	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres 20	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

¹⁶ • 13-07 				¹⁷ OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well in this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i>	
					
				Signature Date Steven Brown 4/21/08 Printed Name	
				¹⁸ SURVEYOR CERTIFICATION <i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i> March 12, 2008 Date of Survey Signature and Seal of Professional Surveyor:  NMRLS 7240 Certificate Number	

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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State of New Mexico
Energy Minerals and Natural Resources

Form C-
May 27, 2008

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,
PLUGBACK, OR ADD A ZONE**

¹ Operator Name and Address Los Lobos Renewable Power, LLC 5125 North Edgewood Drive Suite 375 Provo, Utah 84604		² OGRID Number
		³ API Number 30 -
⁴ Property Code	⁵ Property Name Lighting Dock No 1, HI-01 LLC	⁶ Well No. 33-07
⁹ Proposed Pool 1		¹⁰ Proposed Pool 2

⁷ Surface Location

UL or lot no.	Section 07	Township 25S	Range 19W	Lot Idn	Feet from the 3721.2	North/South line South	Feet from the 1789.4	East/West line West	County Hidalgo
---------------	---------------	-----------------	--------------	---------	-------------------------	---------------------------	-------------------------	------------------------	-------------------

⁸ Proposed Bottom Hole Location If Different From Surface

UL or lot no. Same	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
-----------------------	---------	----------	-------	---------	---------------	------------------	---------------	----------------	--------

Additional Well Information

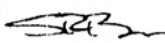
¹¹ Work Type Code N	¹² Well Type Code (P) Production Well	¹³ Cable/Rotary R	¹⁴ Lease Type Code P - Land BLM - Geothermal	¹⁵ Ground Level Elevation 4100
¹⁶ Multiple See Plan of Operation	¹⁷ Proposed Depth 3,400 feet	¹⁸ Formation	¹⁹ Contractor Layne Christensen Company	²⁰ Spud Date May 2008
Depth to Ground water 40 feet		Distance from nearest fresh water well .4 miles		Distance from nearest surface water - None
Pit: Liner: Synthetic <input checked="" type="checkbox"/> 45 mils thick Clay <input type="checkbox"/> Closed-Loop System <input checked="" type="checkbox"/>		Pit Volume: 45,000bbls Drilling Method: Fresh Water <input type="checkbox"/> Brine <input checked="" type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>		

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	3/8" Wall	63'	150 Sacks	
17.7"	13.375"	54.5 lb/ft	1,500'	750 Sacks	
12.25"	9.625"	36.0 lb/ft	3,400'	980 Sacks	
	7" Liner (If)	23.0 lb/ft			

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

SEE PLAN OF OPERATION

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines <input type="checkbox"/> , a general permit <input type="checkbox"/> , or an (attached) alternative OCD-approved plan <input type="checkbox"/> .	OIL CONSERVATION DIVISION	
Signature: 	Approved by:	
Printed name: Steven Brown	Title:	
Title: Manager	Approval Date:	Expiration Date:
E-mail Address: Steve.Brown@nmocd.com		
Date: 4/21/08	Phone: 801 765 1700	Conditions of Approval Attached <input type="checkbox"/>

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
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Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

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☐ AMENDED REPORT**WELL LOCATION AND ACREAGE DEDICATION PLAT**

¹ API Number	² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name Lightning Dock No 1, HI-01 LLC	⁶ Well Number 33-07
⁷ OGRID No.	⁸ Operator Name Los Lobos Renewable Power, LLC	⁹ Elevation 4100

¹⁰ Surface Location


U/L or lot no.	Section 07	Township 25S	Range 19W	Lot Idn	Feet from the 3721'	North/South line South	Feet from the 1789'	East/West line West	County Hidalgo
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¹¹ Bottom Hole Location If Different From Surface

U/L or lot no. Same	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres 20	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

¹⁶				¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <i>[Signature]</i> Date: 4/21/08 Printed Name: <i>Stacy Bran</i>	
		33-07 •			¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. March 12, 2008 Date of Survey Signature and Seal of Professional Surveyor: <i>Richard J. Truesdale</i> 4/16/08 NMRLS 7240 Certificate Number



District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural ResourcesForm C-
May 27, 2008Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to appropriate District ()

☐ AMENDED REPORTAPPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,
PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address Los Lobos Renewable Power, LLC 5125 North Edgewood Drive Suite 375 Provo, Utah 84604		² OGRID Number
		³ API Number 30 -
⁴ Property Code	⁵ Property Name Lightning Dock No 1, HI-01 LLC	⁶ Well No. 45-07
⁹ Proposed Pool 1		¹⁰ Proposed Pool 2

⁷ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	07	25S	19W		2360.0	South	2278.3	West	Hidalgo

⁸ Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Same									

Additional Well Information

¹¹ Work Type Code N	¹² Well Type Code (P) Production Well	¹³ Cable/Rotary R	¹⁴ Lease Type Code P - Land BLM - Geothermal	¹⁵ Ground Level Elevation 4100
¹⁶ Multiple See Plan of Operation	¹⁷ Proposed Depth 3,400 feet	¹⁸ Formation	¹⁹ Contractor Layne Christensen Company	²⁰ Spud Date May 2008
Depth to Groundwater 40 feet		Distance from nearest fresh water well .4 miles		Distance from nearest surface water - None
Pit: Liner: Synthetic <input checked="" type="checkbox"/> .45 mils thick Clay <input type="checkbox"/> Pit Volume: 45,000 bbls Closed-Loop System <input checked="" type="checkbox"/> Drilling Method: Fresh Water <input type="checkbox"/> Brine <input checked="" type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>				

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	3/8" Wall	63'	150 Sacks	
17.7"	13.375"	54.5 lb/ft	1,500'	750 Sacks	
12.25"	9.625"	36.0 lb/ft	3,400'	980 Sacks	
	7" Liner (If)	23.0 lb/ft			

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

SEE PLAN OF OPERATION

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOC guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Signature:



Printed name: Steven Brown

Title: Manager

E-mail Address: Steve.Brown@rosertech.com

Date: 4/21/08

Phone: 847 765 1247

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

Conditions of Approval Attached ☐

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102

Revised October 12, 2005

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☐ AMENDED REPORT**WELL LOCATION AND ACREAGE DEDICATION PLAT**

¹ API Number		² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name Lightning Dock No 1, HI-01 LLC		⁶ Well Number 45-07
⁷ OGRID No.	⁸ Operator Name Los Lobos Renewable Power, LLC		⁹ Elevation 4100

¹⁰ Surface Location

U/L or lot no.	Section 07	Township 25S	Range 19W	Lot Idn	Feet from the 2360'	North/South line South	Feet from the 2278'	East/West line West	County Hidalgo
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¹¹ Bottom Hole Location If Different From Surface

U/L or lot no. Same	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
------------------------	---------	----------	-------	---------	---------------	------------------	---------------	----------------	--------

¹² Dedicated Acres 20	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
-------------------------------------	-------------------------------	----------------------------------	-------------------------

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

¹⁶				¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by this division. Signature <u>Steven Bow</u> Date <u>4/21/08</u> Printed Name <u>Steven Bow</u>
				¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. March 31, 2008 Date of Survey Signature and Seal of Professional Surveyor. <u>Richard J. Trease</u> <u>4/16/08</u> NMRLS 7240 Certificate Number

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-
May 27, 2008

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,
PLUGBACK, OR ADD A ZONE**

¹ Operator Name and Address Los Lobos Renewable Power, LLC 5125 North Edgewood Drive Suite 375 Provo, Utah 84604		² OGRID Number
		³ API Number 30 -
⁴ Property Code	⁵ Property Name Lightning Dock No 1, HI-01 LLC	⁶ Well No. 47-07
⁹ Proposed Pool 1		¹⁰ Proposed Pool 2

⁷ Surface Location									
UL or lot no.	Section 07	Township 25S	Range 19W	Lot Idn	Feet from the 1219.1	North/South line South	Feet from the 2266.3	East/West line West	County Hidalgo

⁸ Proposed Bottom Hole Location If Different From Surface									
UL or lot no. Same	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Additional Well Information

¹¹ Work Type Code N	¹² Well Type Code (P) Production Well	¹³ Cable/Rotary R	¹⁴ Lease Type Code P - Land BLM - Geothermal	¹⁵ Ground Level Elevation 4100
¹⁶ Multiple See Plan of Operation	¹⁷ Proposed Depth 3,400 feet	¹⁸ Formation	¹⁹ Contractor Layne Christensen Company	²⁰ Spud Date May 2008
Depth to Groundwater 40 feet		Distance from nearest fresh water well .4 miles		Distance from nearest surface water - None
Pit: Liner: Synthetic <input checked="" type="checkbox"/> 45 mils thick Clay <input type="checkbox"/> Pit Volume: 45,000bbls Closed-Loop System <input checked="" type="checkbox"/> Drilling Method: Fresh Water <input type="checkbox"/> Brine <input checked="" type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>				

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	3/8" Wall	63'	150 Sacks	
17.7"	13.375"	54.5 lb/ft	1,500'	750 Sacks	
12.25"	9.625"	36.0 lb/ft	3,400'	980 Sacks	
	7" Liner (If)	23.0 lb/ft			

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

SEE PLAN OF OPERATION

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Signature:

Printed name: Steven Brown

Title: Manager

E-mail Address: Steve.Brown@nmocd.com

Date: 4/21/08

Phone: 861.765.1242

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

Conditions of Approval Attached ☐

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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☐ AMENDED REPORT

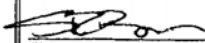
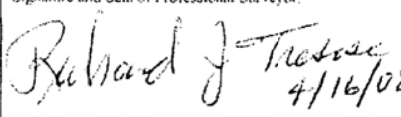
WELL LOCATION AND ACREAGE DEDICATION PLAT


¹ API Number		² Pool Code		³ Pool Name	
⁴ Property Code	⁵ Property Name Lightning Dock No 1, HI-01 LLC			⁶ Well Number 47-07	
⁷ OGRID No.	⁸ Operator Name Los Lobos Renewable Power, LLC			⁹ Elevation 4100	

¹⁰ Surface Location									
U/L or lot no.	Section 07	Township 25S	Range 19W	Lot ldn	Feet from the 1219'	North/South line South	Feet from the 2266'	East/West line West	County Hidalgo

¹¹ Bottom Hole Location If Different From Surface									
U/L or lot no. Same	Section	Township	Range	Lot ldn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres 20		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

16					<div><p>¹⁷ OPERATOR CERTIFICATION</p><p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or in a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p><p> 4/21/08 Signature Date</p><p>Steven Brown Printed Name</p><p>¹⁸ SURVEYOR CERTIFICATION</p><p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p><p>March 31, 2008 Date of Survey</p><p>Signature and Seal of Professional Surveyor:  4/16/08 NMRLS 7240 Certificate Number</p></div>
		47-07 •			



District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
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State of New Mexico
Energy Minerals and Natural Resources

Form C-
May 27, 2008

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,
PLUGBACK, OR ADD A ZONE**

¹ Operator Name and Address Los Lobos Renewable Power, LLC 5125 North Edgewood Drive Suite 375 Provo, Utah 84604		² OGRID Number
		³ API Number 30 -
³ Property Code	⁵ Property Name Lightning Dock No 1, HI-01 LLC	⁶ Well No. 53-07
⁹ Proposed Pool 1		¹⁰ Proposed Pool 2

7 Surface Location

UL or lot no.	Section 07	Township 25S	Range 19W	Lot Idn	Feet from the 3775.3	North/South line South	Feet from the 3052.1	East/West line West	County Hidalgo
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8 Proposed Bottom Hole Location If Different From Surface

UL or lot no. Same	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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Additional Well Information

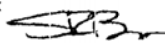
¹¹ Work Type Code N	¹² Well Type Code (P) Production Well	¹³ Cable/Rotary R	¹⁴ Lease Type Code P -- Land BLM -- Geothermal	¹⁵ Ground Level Elevation 4100
¹⁶ Multiple See Plan of Operation	¹⁷ Proposed Depth 3,400 feet	¹⁸ Formation	¹⁹ Contractor Layne Christensen Company	²⁰ Spud Date May 2008
Depth to Groundwater 40 feet		Distance from nearest fresh water well .4 miles		Distance from nearest surface water - None
Pit: Liner: Synthetic <input checked="" type="checkbox"/> 45 mils thick Clay <input type="checkbox"/> Closed-Loop System <input checked="" type="checkbox"/>		Pit Volume: 45,000bbls Drilling Method: Fresh Water <input type="checkbox"/> Brine <input checked="" type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>		

21 Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	3/8" Wall	63'	150 Sacks	
17.7"	13.375"	54.5 lb/ft	1,500'	750 Sacks	
12.25"	9.625"	36.0 lb/ft	3,400'	980 Sacks	
	7" Liner (lf)	23.0 lb/ft			

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

SEE PLAN OF OPERATION

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines <input type="checkbox"/> , a general permit <input type="checkbox"/> , or an (attached) alternative OCD-approved plan <input type="checkbox"/> .	OIL CONSERVATION DIVISION	
Signature: 		
Printed name: Steven Brown	Approved by:	
Title: Manager	Title:	
E-mail Address: Steve.Brown@nmtelco.com	Approval Date:	Expiration Date:
Date: 4/21/09	Phone: 801.745.1200	Conditions of Approval Attached <input type="checkbox"/>

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102

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☐ AMENDED REPORT**WELL LOCATION AND ACREAGE DEDICATION PLAT**

¹ API Number		² Pool Code		³ Pool Name	
⁴ Property Code		⁵ Property Name Lightning Dock No 1, III-01 LLC			⁶ Well Number 53-07
⁷ OGRID No.		⁸ Operator Name Los Lobos Renewable Power, LLC			⁹ Elevation 4106

¹⁰ Surface Location

UL, or lot no.	Section 07	Township 25S	Range 19W	Lot Idn	Feet from the 3775'	North/South line South	Feet from the 3052'	East/West line West	County Hidalgo
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¹¹ Bottom Hole Location If Different From Surface

UL, or lot no. Same	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres 20		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

¹⁶					¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <i>[Signature]</i> Date: 4/8/08 Printed Name: Steven Brown
				53-07 •	
					¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. March 12, 2008 Date of Survey: Signature and Seal of Professional Surveyor: <i>[Signature]</i> 4/16/08 NMRLS 7240 Certificate Number

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
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State of New Mexico
Energy Minerals and Natural Resources

Form C-
May 27, 2008

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,
PLUGBACK, OR ADD A ZONE**

¹ Operator Name and Address Los Lobos Renewable Power, LLC 5125 North Edgewood Drive Suite 375 Provo, Utah 84604		² OGRID Number
		³ API Number 30 -
³ Property Code	⁵ Property Name Lightning Dock No 1, HI-01 LLC	⁶ Well No. 42-18
⁹ Proposed Pool 1		¹⁰ Proposed Pool 2

Surface Location

UL or lot no.	Section 18	Township 25S	Range 19W	Lot Idn	Feet from the 1307.0	North/South line North	Feet from the 2123.1	East/West line West	County Hidalgo
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Proposed Bottom Hole Location If Different From Surface

UL or lot no. Same	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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Additional Well Information

¹¹ Work Type Code N	¹² Well Type Code (I) Injection Well	¹³ Cable/Rotary R	¹⁴ Lease Type Code P - Land BLM - Geothermal	¹⁵ Ground Level Elevation 4100
¹⁶ Multiple See Plan of Operation	¹⁷ Proposed Depth 3,400 feet	¹⁸ Formation	¹⁹ Contractor Layne Christensen Company	²⁰ Spud Date May 2008
Depth to Groundwater 40 feet		Distance from nearest fresh water well .4 miles		Distance from nearest surface water - None
Pit: Liner: Synthetic <input checked="" type="checkbox"/> 45 mills thick Clay <input type="checkbox"/> Pit Volume: 45,000bbls		Drilling Method: Fresh Water <input type="checkbox"/> Brine <input checked="" type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>		
Closed-Loop System <input checked="" type="checkbox"/>				

Proposed Casing and Cement Program

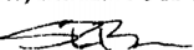
Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	3/8" Wall	63'	150 Sacks	
17.7"	13.375"	54.5 lb/ft	1,500'	750 Sacks	
12.25"	9.625"	36.0 lb/ft	3,400'	980 Sacks	
	7" Liner (If)	23.0 lb/ft			

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

SEE PLAN OF OPERATION

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOC guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Signature:



Printed name: Steven Brown

Title: Manager

E-mail Address: Steve.Brown@nmocd.com

Date: 4/11/08

Phone: 801.765.1240

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

Conditions of Approval Attached ☐

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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☐ AMENDED REPORT**WELL LOCATION AND ACREAGE DEDICATION PLAT**

¹ API Number	² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name Lightning Dock No 1, HI-01 LLC	
⁷ OGRID No.	⁸ Operator Name Los Lobos Renewable Power, LLC	
		⁶ Well Number 42-18
		⁹ Elevation 4106

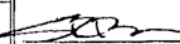

¹⁰ Surface Location

U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	18	25S	19W		1307'	North	2123'	West	Hidalgo

¹¹ Bottom Hole Location If Different From Surface

U/L or lot no. Same	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres 20	¹³ Joint or Infill	¹⁴ Consolidation Code		¹⁵ Order No.					

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

¹⁶ 42-18 •				¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well in this location pursuant to a contract with an owner of such a mineral or working interest, or in a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.	
				 Signature	
				4/24/08 Date	
				Steven Brown Printed Name	
				¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.	
				March 12, 2008 Date of Survey	
				Signature and Seal of Professional Surveyor:  NAIRES 7240 Certificate Number	

District I
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State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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May 27, 200

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☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,
PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address Los Lobos Renewable Power, LLC 5152 North Edgewood Drive Suite 375 Provo, Utah		² OGRID Number 261071
³ Property Code	⁵ Property Name Lightning Dock No 1, III-01 LLC	⁴ Well No. 532
⁷ Proposed Pool 1		¹⁰ Proposed Pool 2

⁷ Surface Location

U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	12	25S	20W		1574.8	North	3350	West	Hidalgo

⁸ Proposed Bottom Hole Location If Different From Surface

U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Additional Well Information

¹¹ Work Type Code N	¹² Well Type Code (1) Injection	¹³ Cable/Rotary R	¹⁴ Lease Type Code P-Land BLM - Geothermal	¹⁵ Ground Level Elevation 4103
¹⁶ Multiple See Plan of Operation	¹⁷ Proposed Depth 3,400 feet	¹⁸ Formation Honquilla	¹⁹ Contractor Patterson Drilling Company	²⁰ Spud Date May 2009
Depth to Groundwater 40 feet		Distance from nearest fresh water well 4 miles		Distance from nearest surface water - None
Pit: Liner: Synthetic X .45 mils thick Clay <input type="checkbox"/> Pit Volume: 45,000bbls Closed-Loop System <input type="checkbox"/> Drilling Method: Fresh Water <input type="checkbox"/> Brine X Dissolt/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>				

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	3/8" Wall	63'	150 Sacks	
17.7"	13.375"	54.5 lb/ft	1,500'	750 Sacks	
12.25'	9.625"	36.0 lb/ft	3,400'	980 Sacks	

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

SEE PLAN OF OPERATION

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐ a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

Signature:

Printed name: Sieve Brown

Title: Member

E-mail Address:

Date: March 06, 2009

Phone: (801) 765-1200

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

Conditions of Approval Attached ☐

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brumas Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code		³ Pool Name Hacienda	
⁴ Property Code		⁵ Property Name Lightning Duck No 1		⁶ Well Number 532	
⁷ OCRIID No.		⁸ Operator Name Los Lobos Renewable Power, LLC		⁹ Elevation 4103	
¹⁰ Surface Location					
¹¹ U.T. or lot no.	Section 12	Township 25S	Range 20W	Lot Idn 1574.8'	Feet from the North/South line North
				Feet from the East/West line West	County Hidalgo
¹¹ Bottom Hole Location If Different From Surface					
¹² U.T. or lot no. Same	Section	Township	Range	Lot Idn	Feet from the North/South line
					Feet from the East/West line
¹³ Dedicated Acres 20		¹⁴ Joint or Infill	¹⁵ Consolidation Code	¹⁶ Order No.	

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

				¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns or controls or is authorized to act on behalf of the land including the proposed bottom hole location or has control to drill this well as they have no present or future interest in such a mineral or water right interest, or has a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <i>[Signature]</i> Date: 3/09/09 Printed Name: <i>Steve R. Brown</i>
				¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from current GIS data provided to me and does not reflect an actual field survey. Date of Survey: November 17, 2008 Signature and Seal of Professional Surveyor: <i>[Signature]</i> REV 3/5/09 NMRLS 7240 Certificate Number

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-10
Nov. 11, 200

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,
PLUGBACK, OR ADD A ZONE**

¹ Operator Name and Address Los Lobos Renewable Power, LLC 5125 North Edgewood Drive Suite 375 Provo, Utah 84604		² OGRID Number 261071
		³ API Number 30 - 023-20020
³ Property Code	³ Property Name Lightning Dock No 1, HI-01 LLC	⁶ Well No. 517
⁹ Proposed Pool 1		¹⁰ Proposed Pool 2

7 Surface Location

UL or lot no.	Section 07	Township 25S	Range 19W	Lot Idn	Feet from the 169.2	North/South line North	Feet from the 2406.9	East/West line East	County Hidalgo
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8 Proposed Bottom Hole Location If Different From Surface

UL or lot no. Same	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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Additional Well Information

¹¹ Work Type Code N	¹² Well Type Code (I) Injection Well	¹³ Cable/Rotary R	¹⁴ Lease Type Code P - Land BLM - Geothermal	¹⁵ Ground Level Elevation 4108
¹⁶ Multiple See Plan of Operation	¹⁷ Proposed Depth 3,400 feet	¹⁸ Formation Horquilla	¹⁹ Contractor Patterson Drilling Company	²⁰ Spud Date May 2008
Depth to Groundwater: 40 feet		Distance from nearest fresh water well: .4 miles		Distance from nearest surface water: None
Pit: Liner: Synthetic <input checked="" type="checkbox"/> 45 mils thick Clay <input type="checkbox"/> Pit Volume: 45,000bbls				
Drilling Method: Fresh Water <input type="checkbox"/> Brine <input checked="" type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>				

21 Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	3/8" Wall	63'	150 Sacks	
17.7"	13.375"	54.5 lb/ft	1,500'	750 Sacks	
12.25"	9.625"	36.0 lb/ft	3,400'	980 Sacks	
	7" Liner (If)	23.0 lb/ft			

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

SEE PLAN OF OPERATION

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOC guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Signature:

[Signature]

Printed name:

Hevon Brown

Title:

Member

E-mail Address:

Date:

Nov 17, 2008

Phone:

801 765-1200

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

Conditions of Approval Attached ☐

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
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☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code		³ Pool Name Horquilla	
⁴ Property Code		⁵ Property Name Lightning Dock No 1			⁶ Well Number 517
⁷ OGRID No.		⁸ Operator Name Los Lobos Renewable Power, LLC			⁹ Elevation 4108

¹⁰ Surface Location

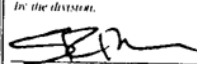
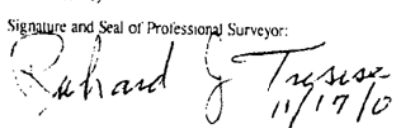
UL or lot no.	Section 07	Township 25S	Range 19W	Lot Idn	Feet from the 169.2'	North/South line North	Feet from the 2406.9'	East/West line East	County Hidalgo
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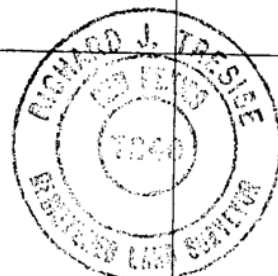
¹¹ Bottom Hole Location If Different From Surface

UL or lot no. Same	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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¹² Dedicated Acres 20	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
-------------------------------------	-------------------------------	----------------------------------	-------------------------

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

16		• 517	¹⁷ OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i> Signature:  Date: <u>Nov 17, 2008</u> Printed Name: <u>Steven Brown</u>	
				¹⁸ SURVEYOR CERTIFICATION <i>I hereby certify that the well location shown on this plat was plotted from current GIS data provided to me and does not reflect an actual field survey.</i> November 17, 2008 Date of Survey Signature and Seal of Professional Surveyor:  NMRLS 7240 Certificate Number



Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, April 29, 2009 10:39 AM
To: Reeves, Jacqueta, EMNRD
Cc: Fesmire, Mark, EMNRD
Subject: FW: Lightning Dock - Well # 53-12 C101 and 102
Attachments: Well 53-12 101 - To Carl.doc; Well 53-12 102 - To Carl.doc

Here is the APD for Well #53-12.

APDs for the rest of the wells soon to follow. Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Monday, March 09, 2009 3:22 PM
To: Chavez, Carl J, EMNRD; Price, Wayne, EMNRD; Fesmire, Mark, EMNRD
Cc: Steve Brown; Jim Rosser; Michael Hayter
Subject: Lightning Cock - C101 and 102

See attachment

----- Forwarded Message -----

From: Jay Hamilton <hamiltonenviro@yahoo.com>
To: "EMNRD Chavez, Carl J" <CarlJ.Chavez@state.nm.us>; wayne.price@state.nm.us; Mark Fesmire <mark.fesmire@state.nm.us>
Cc: Steve Brown <steve.brown@rasertech.com>; Jim Rosser <Jim.Rosser@rasertech.com>; Michael Hayter <Michael.Hayter@rasertech.com>
Sent: Monday, March 9, 2009 12:44:13 PM
Subject:

Carl,

Please see attachment for the amended C101 and C102.

I will forward a original hard copy in the mail today.

Thanks,

Jay

This inbound email has been scanned by the MessageLabs Email Security System.

District I
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1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-10
May 27, 200

Submit to appropriate District Office

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,
PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address Los Lobos Renewable Power, LLC 5152 North Edgewood Drive Suite 375 Provo, Utah		² OGRID Number 261071
		³ API Number 30-023-20019
³ Property Code	³ Property Name Lightning Dock No 1, HH-01 LLC	⁶ Well No. 532
⁴ Proposed Pool 1		¹⁰ Proposed Pool 2

⁷ Surface Location

U/L, or lot no.	Section 12	Township 25S	Range 20W	Lot Idn	Feet from the 1574.8	North/South line North	Feet from the 3350	East/West line West	County Hidalgo
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⁸ Proposed Bottom Hole Location If Different From Surface

U/L, or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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Additional Well Information

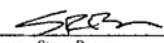
¹¹ Work Type Code N	¹² Well Type Code (1) Injection	¹³ Cable/Rotary R	¹⁴ Lease Type Code P-Land BLM - Geothermal	¹⁵ Ground Level Elevation 4103
¹⁶ Multiple See Plan of Operation	¹⁷ Proposed Depth 3,400 feet	¹⁸ Formation Horquilla	¹⁹ Contractor Patterson Drilling Company	²⁰ Spud Date May 2009
Depth to Groundwater 40 feet		Distance from nearest fresh water well .4 miles		Distance from nearest surface water - None
Pit: Liner: Synthetic X .45 _____mils thick Clay <input type="checkbox"/> Closed-Loop System <input type="checkbox"/>		Pit Volume: .45,000bbls Drilling Method: Fresh Water <input type="checkbox"/> Brine X Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>		

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	3/8" Wall	63'	150 Sacks	
17.7"	13.375"	54.5 lb/ft	1,500'	750 Sacks	
12.25"	9.625"	36.0 lb/ft	3,400'	980 Sacks	

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

SEE PLAN OF OPERATION

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines <input type="checkbox"/> , a general permit <input type="checkbox"/> , or an (attached) alternative OCD-approved plan <input type="checkbox"/> .		OIL CONSERVATION DIVISION	
Signature: 		Approved by:	
Printed name: Steve Brown		Title:	
Title: Member		Approval Date:	
E-mail Address:		Expiration Date:	
Date: March 06, 2009	Phone: (801) 765-1200	Conditions of Approval Attached <input type="checkbox"/>	

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Bravos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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Revised October 12, 2005
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☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code		³ Pool Name Harculla	
⁴ Property Code		⁵ Property Name Lightning Duck No 1			⁶ Well Number 532
⁷ OGRID No.		⁸ Operator Name Los Lobos Renewable Power, LLC			⁹ Elevation 4103

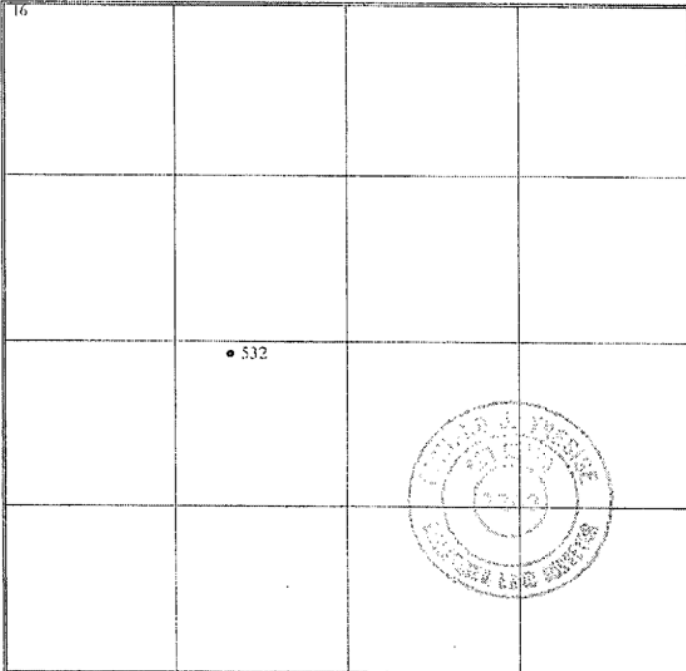
Surface Location

U1, or lot no.	Section 12	Township 25S	Range 20W	Lot 14a	Feet from the 1574.8'	North/South line North	Feet from the 3350'	East/West line West	County Hidalgo
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Bottom Hole Location If Different From Surface

U1, or lot no. Same	Section	Township	Range	Lot 14a	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres 20		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

<div>16</div> 	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well on the land or pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <i>[Signature]</i> Date: 3/03/09 Printed Name: <i>Heva R. Brown</i>	
	18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from current GIS data provided to me and does not reflect an actual field survey. November 17, 2008 Date of Survey Signature and Seal of Professional Surveyor: <i>[Signature]</i> REV 3/5/09 NMRLS 7240 Certificate Number	

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, April 29, 2009 10:34 AM
To: Reeves, Jacqueta, EMNRD
Cc: Fesmire, Mark, EMNRD; Sanchez, Daniel J., EMNRD
Subject: FW: Lightening Dock Geothermal Wells
Attachments: LIGHTDOCAPD.docx

Jacqui:

Mark Fesmire called me this a.m. to request that I resend you the APDs (C-101s & 102s) for the 5 Production Wells and 3 Injection Wells for the above geothermal facility.

I am forwarding this message first, since I told Mark that OCD DO2 had some concerns about the location of Well #4707 (your msg. below).

Also, I informed Mark that the procedure for finalizing or approving APDs for this facility is as follows:

- 1) Discharge Permit must be approved by the Director
- 2) Bonds must be established and approved in a letter from David Brooks. OCD-EB is point of contact for bonds and will work through David Brooks (current status: Well Fargo is supposedly waiting to see if permit is approved by OCD before sending in bonds)
- 3) APDs can be signed by OCD DO2 once #1 and 2 above are complete. The location of Well #47-07 is in question. Raser is aware of this and is waiting to see if permit approved by OCD before resolving the issue with this well and resubmitting a new C-101 and 102 to OCD DO2 for approval or further discussion of the process for a "non-standard" location under Geothermal Regs.

Please contact me if you have questions. C-101s and 102s to follow. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Reeves, Jacqueta, EMNRD
Sent: Monday, March 23, 2009 2:52 PM
To: hamiltonenviro@yahoo.com; mike.hayter@rasertech.com
Cc: Bonham, Sherry, EMNRD; Chavez, Carl J, EMNRD
Subject: Lightening Dock Geothermal Wells

Gentlemen,

Attached are the API #'s that will be assigned to the Geothermal wells. There are only a few questions that arose. For the Production well Lightening Dock No 1, DI-01 LLC #13-07, the Lease type code states, "P-Land BLM-Geothermal". When I checked the State's ONGARD system the surface was federal as well as the subsurface. I am currently having a gentleman from the State Land Office look into this matter and plan to have it figured out in a couple days. If it is all federal then it will have to be handled through the BLM. I also

had a concern with well # 47-07. The spacing on this well does not meet Rule 19.14.23.9 letter B. The rule states that the well "shall be located at least 165 ft from the outer boundary of the quarter-quarter-quarter section". I would prefer to have the well moved to a location that meets the above noted Rule. If there are circumstances preventing the relocation of this well then a Non Standard Location would have to be approved by Santa Fe.

Jacqui Reeves

OCD District II Geologist

1301 W. Grand Ave

Artesia, NM 88210

CURRENT API#s

OCD WELL NO#s

RASER WELL NO#s

30-023-20013

#137

#13-07✓

30-023-20014

#337

#33-07✓

30-023-20015

#457

#45-07✓

30-023-20016

#477

#47-07✓

30-023-20017

#537

#53-07★

30-023-20018

#428

#42-18 ✓

30-023-20019

#532

#53-12 ✓

30-023-20020

#517

#51-07 ✓

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, March 12, 2009 5:51 PM
To: Bonham, Sherry, EMNRD
Cc: Perrin, Charlie, EMNRD; 'Jay Hamilton'; 'mike.hayter@rasertech.com'; 'Patrick_Barnes@wellsfargois.com'
Subject: Lightning Dock Geothermal No. 1 (GTHT-001) APD Submittals
Attachments: APD from Los Lobos 3-12-2009.pdf

Sherry:

Please find attached the APDs submitted by Jay Hamilton (Hamilton Environmental) for Los Lobos Renewable Power, LLC. I have copied Mike Hayter of Raser Technologies and he should be copied in any e-mails to Jay Hamilton regarding any Artesia District Office issues with the submitted APDs.

When the APDs are approved, and if they are approved, I would appreciate receipt of API# assigned to each well to include in the final draft discharge permit that I am working on for the April 7, 2009 public hearing in Lordsburg, NM.

I would also note that the API# per well must be included in the bonds that are being developed in cooperation with David Brooks and I by Wells Fargo Bank.

Your prompt review of the attached APDs would be appreciated. Please contact me if you have questions. Thank you.

Jay Hamilton
Hamilton Environmental, L.L.C.
485 West 1400 North
Orem, Utah 84057

Office (801) 224-4585
Fax (801) 224-1893
Cell (801) 361-2102
e-mail hamiltonenviro@yahoo.com

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Monday, March 09, 2009 3:24 PM
To: Chavez, Carl J, EMNRD
Subject: Re:

Carl,

You should receive them shortly.

Thanks,

Jay

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Sent: Monday, March 9, 2009 1:05:05 PM
Subject: RE:

Jay:

There were no attachments to your e-mail. Could you please send me electronic attachments? Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Monday, March 09, 2009 1:44 PM
To: Chavez, Carl J, EMNRD; Price, Wayne, EMNRD; Fesmire, Mark, EMNRD
Cc: Steve Brown; Jim Rosser; Michael Hayter
Subject:

Carl,

Please see attachment for the amended C101 and C102.

I will forward a original hard copy in the mail today.

Thanks,

Jay

This inbound email has been scanned by the MessageLabs Email Security System.

Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message. -- This email has been scanned by the Sybari - Antigen Email System.

This inbound email has been scanned by the MessageLabs Email Security System.

Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Thursday, December 11, 2008 11:32 AM
To: Chavez, Carl J, EMNRD; Price, Wayne, EMNRD; Fesmire, Mark, EMNRD
Cc: Steve Brown; Michael Hayter; Jim Rosser; Brent Cook
Subject: Re: Lightning Dock - Solid Wastes

Carl,

Thanks, for the information.

Regarding the Reserve and Well pits. It is the intent of Raser to have the smallest footprint as possible for the pits. During the drilling process the Reserve Pit needs to be approximately 250' X 100'. After the drilling and testing has been completed soil samples will be collected of the waste at the bottom of the pit. Raser will dispose of these wastes by meeting all local, state and federal regulations. Depending on the well at each location the Reserve Pit may be modified to meet the dimensions of the proposed Well Pits 100' x 80'. It may become necessary to cover the Reserve Pit because of site conditions and excavate a Well Pit for the site specific needs of the completed well. Please keep in mind Carl the the liner specifications are different for the Reserve and Well Pits. The liner in the Well Pits needs to have a life of 30 years. The final footprint of Well Pit at each location will be 100' x 80' for the life of the well.

On December 5, 2008 an email was forward to Mike Hayter about the OCD's request for a meeting with the geologist. I talked to Mike on Monday or Tuesday of this week, he said that he had called Wayne but did not make contact. He said he would follow-up on calling and talking to Wayne. I know that Mike considers this meeting extremely important. He will be getting a hold of Wayne in the next couple of days if his has not already.

Please, if there other concerns than the geology make a list and I will address them immediately.

Thanks,

Jay

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: Jay Hamilton <hamiltonenviro@yahoo.com>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Fesmire, Mark, EMNRD" <mark.fesmire@state.nm.us>; "VonGonten, Glenn, EMNRD" <Glenn.VonGonten@state.nm.us>
Cc: Steve Brown <steve.brown@rasertech.com>; Michael Hayter <Michael.Hayter@rasertech.com>; Brent Cook <Brent.Cook@rasertech.com>
Sent: Wednesday, December 10, 2008 4:40:43 PM
Subject: RE: Lightning Dock - Solid Wastes

Jay:

Thanks for the clarification on OCD waste concerns. This information was provided to Mr. Nelson (NMED- Solid Waste Bureau) to determine which facilities may accept waste from your facility.

Regarding the reserve pit vs. well pit. I was under the impression one reserve pit would be constructed and used for annual well testing, etc. too. If Raser thinks 2 pits at each well location are needed, this is ok; however, you would reduce your footprint by constructing only 1 pit. Of course, drill cuttings would likely need to be removed from the reserve pit within 6 months of well completion in order to be reused. Think about it.

I have drafted a list of items from the hearing that the OCD needs to discuss with Raser's and AmeriCulture's experts. Mr. Wayne Price sent out an e-mail requesting a meeting to discuss the facility with our Senior Hydrologist, Mr. Glenn von Gonten. Wayne will be back next week, but he was hoping to hear back from Raser and AmeriCulture to facilitate a meeting to discuss draft items in an agenda and any hydrologic details that Mr. von Gonten raises. Let me know if I need to resend Wayne's e-mail from last week requesting a meeting. If not, please respond to the e-mail with a proposed date and time for meeting where we can meet in person to discuss here in Santa Fe or perhaps and telephone conference call may suffice?

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [<mailto:hamiltonenviro@yahoo.com>]
Sent: Wednesday, December 10, 2008 2:15 PM
To: Chavez, Carl J, EMNRD; Price, Wayne, EMNRD; Fesmire, Mark, EMNRD
Cc: Steve Brown; Michael Hayter; Brent Cook
Subject: Fw: Lightning Dock - Solid Wastes

Carl

Thanks, for your input regarding OCD's concerns with the handling of solid wastes that may be generated at the Lightning Dock facility.

Please refer to the original submission of the Plan of Operations dated February 1, 2008, where Raser Technologies outlined "Methods of Waste Materials" and April 21, 2008 when the "Discharge Plan Application for Brine Extraction" was submitted to the OCD. Refer to the following sections in the Discharge Plan Application for details:

- Type and Quantities of Fluids Stored or Used at the Facility
- Transfer, Storage and Disposal of Fluids and Solids
- Solid Disposal
- Off-site Disposal

I believe this information should address your concerns.

A local waste contractor will provide a disposal container and serve the disposal needs for Lightning Dock. After construction of the facility, the plant will generate very limited amounts of solid waste in the form of paper, rubbish, etc. The plant will be in operation 24/7 but will be manned by only 2-4 employees.

We believe as does OCD the possibility exists that some some geothermal waste may need to be hauled off-site and disposed of according to local, state and federal regulations and with the approval of OCD (see "Discharge Plan Application for Brine Extraction"). Raser understands some solid wastes may need to be hauled to an

adjoining county or state. Raser will identify a landfill that will fulfill their disposal needs and meet local, state and federal regulations.

At each site where Raser Technologies has completed geothermal drilling, geothermal reservoirs have had varied fluid chemistry. At each location drill cuttings and geothermal fluids have been dried, tested and met local, state and federal regulation and were approved to be closed in place with no hauling required.

Raser understands at the Lightning Dock site geothermal fluids chemistry has not yet been determined at the proposed drilling depths.

As stated in the previous documents, Raser will collect geothermal fluids at the appropriate depths and have them analyzed for the chemical constituents of concern. Raser will then dispose of the drill cuttings and geothermal fluids in a manner that meets local, state and federal regulations and only with the approval of the OCD.

In the large site map presented to OCD the Lightning Dock site shows a Reserve Pit and Well Pit at each well location. The Reserve Pit (approx. 250' x 100') is used during the drilling and testing process and will be closed after the process is completed. The Well Pit (100' x 80') is used to supplement the operation of the well. If during maintenance, testing or replacement of well components the well needs to shut down it may be necessary to drain the piping into the Well Pit. The Well Pits will be monitored during the life of the well. The Reserve and Well Pits will be constructed and lined according to the pond construction detail and pond liner specifications as presented to OCD in the supplemental information dated August 1, 2008.

Carl, I talked to Mike and he mentioned that during the hearing OCD stated there were some concerns they would like to have addressed before the final permit approval. Would you gather those concerns in a list and forward them on to me. I will get the information to you in the next week.

Thanks,

Jay

Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message. -- This email has been scanned by the Sybari - Antigen Email System.

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AmeriCulture

RECEIVED
2008 DEC 8 PM 4 25

November 24, 2008

Holland & Hart
Attn: Michael Campbell
110 North Guadalupe Suite 1
Santa Fe, NM 87501
FAX: (505)983-6043

Dear Mr. Campbell:

We received your letter dated November 13, 2008 on November 17, 2008.

The Joint Facility Operating Agreement to which you refer relates only to AmeriCulture's 15 acre property (the "Property"). The discharge permit which is the subject of the December 1, 2008 hearing, which you appear to be trying to intimidate us from attending, is a proposed permit to discharge effluent on an adjoining property. As such, it is not subject to the JFOA to which you refer. We are in full compliance with our obligations under the JFOA and intend to remain so. Furthermore, the rights set forth in the Geothermal Lease are determined by the Federal Government, not AmeriCulture.

You mischaracterize our request for a public hearing as a "protest." Our right to participate in a governmental activity conducted by the State of New Mexico to insure that your client's proposed discharge is in compliance with applicable law and regulation is absolutely protected and in no way limited or abrogated by the JFOA. If your client is entitled to the discharge permit it seeks you have nothing to fear from AmeriCulture. If on the other hand, your client's application for a discharge permit is not in compliance with applicable law and regulation then your threats to us to try and prevent the State of New Mexico from properly making that determination by hearing what we have to say are, at the least, unseemly and troubling.

Sincerely Yours,

Damon E. Seawright
President

cc: Mark Fesmire, Director, Oil Conservation Division
Charles Jackson, District Supervisor, District 3 Office, NM Office of the State Engineer
Jeffrey Harris, Managing Partner, Rubin, Winston, Diercks, Harris & Cooke, LLP
Gary Seawright, Chairman, AmeriCulture, Inc.

Enclosure: Holland & Hart letter, dated November 13, 2008

25 Tilapia Trail, Animas, NM 88020 • Ph: 575.548-2328 Fax: 505.548.2631
e-mail: damon@americulture.com • www.americulture.com

November 13, 2008

VIA REGISTERED MAIL

Damon E. Seawright
Americulture, Inc.
25 Tilapia Trail
Animas, New Mexico 88020

Dear Mr. Seawright:

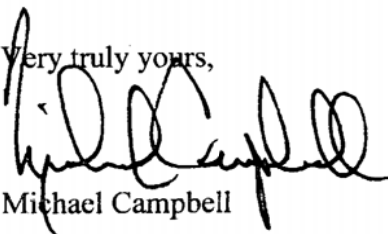
I refer to that certain Joint Facility Operating Agreement ("JFOA") dated September 6, 1995 by and between Americulture, Inc. ("Americulture") and Lightning Dock Geothermal, Inc. ("LDG") and that certain Federal Geothermal Lease NM 34790 ("the Geothermal Lease"), referenced therein.

Lightning Dock Geothermal HI-01 LLC ("Lightning Dock") received an assignment from LDG of the JFOA. As a result, the JFOA inures to the benefit of Lightning Dock. By its terms, the JFOA incorporates by reference the terms and conditions of the Geothermal Lease. In Section IV(A) of the JFOA, Americulture expressly agreed that Lightning Dock shall have all of the rights set forth in the Geothermal Lease. In addition, in Section IV(A)(1) of the JFOA, Americulture expressly agreed that with respect to a particular tract of property owned by Americulture ("the Property"), Lightning Dock shall have the right to conduct any and all activities and operations involving the utilization of geothermal resources from the Geothermal Lease to generate electricity.

Lightning Dock has filed an application before the New Mexico Oil Conservation Division ("OCD") for the permit to proceed with development of geothermal wells on the Geothermal Lease, including on the Property subject to the JFOA. Americulture has filed and is pursuing a protest of Lightning Dock's application. You are hereby notified that Americulture's protest is in direct violation and breach of Lightning Dock's express contractual rights under the JFOA. Demand is hereby made that Americulture (i) immediately withdraw its protest of Lightning Dock's pending OCD application, (ii) cease and desist from any further conduct affecting the exercise of Lightning Dock's rights under the JFOA and (iii) confirm in writing, delivered to Lightning Dock no later than seven (7) days after the date of this letter, that Americulture recognizes all of Lightning Dock's rights and will abide by all of Americulture's obligations under the JFOA and will take no further action adverse to any of Lightning Dock's rights pursuant to either the JFOA or the Geothermal Lease.



If Americulture does not respond as provided above, Lightning Dock will pursue all rights and remedies against Americulture. If you wish to discuss this matter in any way, please contact me.

Very truly yours,

Michael Campbell

MC:ras

Chavez, Carl J, EMNRD

From: Smith, Mark A, EMNRD
Sent: Friday, December 05, 2008 11:33 AM
To: Lucero, Stephen A., EMNRD; Slick, Katherine, DCA; Gilbert, Eliza, DGF; Chavez, Carl J, EMNRD; Olson, Bill, NMENV; Core, Andy B., OSE; Jankowitz, Rachel J., DGF
Subject: Review of Geothermal Leasing FPEIS
Attachments: Consistency Review.pdf

Attached is the final version of the Governor's review. Thank you all very much for working on this. I hope that you have a nice weekend.

Mark A. Smith
Assistant General Counsel
NM Energy, Minerals & Natural Resources Dept.
1220 South St. Francis Dr.
Santa Fe, NM 87505
(505) 476-3212 Direct
(505) 476-3220 Fax
marka.smith@state.nm.us



State of New Mexico
Office of the Governor

Bill Richardson
Governor

December 3, 2008

Jack G. Peterson
National Project Manager
United States Department of the Interior/BLM
1387 S. Vinnel Way, Suite 300
Boise, Idaho 83709

Re: The United States Department of the Interior, Bureau of Land Management's and The United States Department of Agriculture, United States Forest Service's Final Programmatic Environmental Impact Statement for Geothermal Leasing in the Western United States

Dear Mr. Peterson:

Under cover of this letter I am delivering to you my consistency review of and recommended changes to the above referenced document. Thank you for the opportunity to offer comments.

The primary contact for this document at the Energy, Minerals & Natural Resources Department is Assistant General Counsel Mark Smith at 505-476-3212. The primary contact in my office is Energy & Environmental Policy Advisor Sarah Cottrell at 505-476-2241.

Sincerely,

A handwritten signature in cursive script, reading "Bill Richardson".

Bill Richardson
Governor

BR/spk

**NEW MEXICO GOVERNOR BILL RICHARDSON'S CONSISTENCY REVIEW OF
AND RECOMMENDED CHANGES TO
THE UNITED STATES DEPARTMENT OF THE INTERIOR,
BUREAU OF LAND MANAGEMENT'S
AND THE UNITED STATES DEPARTMENT OF AGRICULTURE,
UNITED STATES FOREST SERVICE'S
FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT FOR
GEOTHERMAL LEASING IN THE WESTERN UNITED STATES**

I. Introduction

The stated purpose of the Final Programmatic Environmental Impact Statement For Geothermal Leasing In The Western United States ("FPEIS") is to complete pending geothermal lease applications and nominations; to amend Bureau of Land Management ("BLM") land use plans to denominate BLM-administered lands with geothermal resource potential as closed, open, or open with constraints; and to aid the United States Forest Service ("FS") in its consent decisions with respect to FS lands for which BLM has been delegated leasing responsibility.

Generally, New Mexico supports meeting the United States' energy needs with clean, environmentally responsible technology, including geothermal. In April 2004, for instance, I signed Executive Order 2004-19, which established the Clean Energy Development Council ("CEDC"). The CEDC is required to develop policy recommendations and work with my office to grow clean energy projects, including geothermal.

In March 2007, New Mexico passed and I signed SB 418, which directs investor-owned utilities to generate 20% of total retail sales to New Mexico customers from renewable energy resources by 2020, with interim standards of 10% by 2011 and 15% by 2015. The new law also establishes a renewable electricity standard for rural electric cooperatives of 10% by 2020. In 2008, I signed HB 305 which requires electric utilities to set a goal of at least 10% energy efficiency savings based on 2005 total retail sales to New Mexico customers by 2020. Renewable energy is defined as electric energy generated by low- or zero-emissions generation technology with substantial long-term production potential, including geothermal. This is just the most recent in a series of new laws designed to promote clean energy production, transmission and use.

Despite New Mexico's interest in developing geothermal capabilities, I have several concerns regarding the FPEIS. These concerns, discussed below, fall into five categories: (A) problems inherent in a programmatic approach to an environmental impact statement, (B) inconsistent or inaccurate characterizations of a closed area in New Mexico, (C) inadequate consideration of impact on surface water features, (D) a lack of detail with respect to management and protection of groundwater, and (E) jurisdictional clarification.

II. Comments

A. Problems Inherent in a Programmatic Approach to an Environmental Impact Statement

The FPEIS appears to contemplate the likelihood that a site-specific analysis of environmental impacts will not take place at the offering of a lease but, instead, at the subsequent permitting stage. In the Introduction of the Executive Summary (ES-1) BLM states: "Lease issuance alone does not authorize any ground-disturbing activities to explore for or develop geothermal resources without site specific approval for the intended operation. Such approval *could* include additional environmental reviews and permits." (Emphasis added.) In the Impact Analysis section of the Executive Summary, at ES-7), BLM states:

Designating land for geothermal leasing potential and amending land use plans, in and of itself, does not cause any direct impacts.... It is reasonable, however, to foresee that on-the-ground impacts would occur if the BLM issues geothermal leases but that the impacts would not occur until some point in the future. Therefore, the analysis in the PEIS addresses both direct and indirect impacts based on the foreseeable on-the-ground actions, including exploration, drilling, and utilization. These impacts cannot be analyzed site-specifically, but they are analyzed for the planning area based on the RFD scenario. *Additional site-specific analysis would be conducted during the permitting review process* for subsequent exploration, drilling and utilization applications.

(Emphasis added.)

The notion that the act of leasing for mineral development is not an action that requires environmental analysis is contrary to New Mexico ex rel. Richardson v. Bureau of Land Management, 459 F.Supp.2d 1102, 1117 (D.N.M. 2006), citing Pennaco Energy v. United States Dep't of the Interior, 377 F.3d 1147, 1160 (10th Cir.2004) (environmental impacts must be evaluated at the point of irreversible commitment of resources, which, for fluid minerals, occurs at the point of lease issuance).

Richardson also makes it clear that the option of not offering a particular parcel for lease must be considered after a site specific environmental analysis, and that it is not sufficient to rely on an earlier determination that a larger area made up of multiple lease parcels should be open to leasing. "As in Pennaco, in the case before the Court BLM has not considered the option of not offering this particular BRU lease parcel for leasing at all, due to environmental concerns (although the issue has been addressed in a general way in the RMPA/FEIS, which determined the area including the parcel should be open to leasing)." Richardson, 459 F. Supp. 2nd at 1117.

Moreover, not requiring individual lease applicants to perform an EIS for each project is inconsistent with New Mexico's commitment to full public participation in evaluating each site on a case-by-case basis. Individual review is particularly important for New Mexico because of

the State's varying hydrologic, geologic, and ecologic conditions, as well as its unique and varied cultural resources.

Additionally, the generalized approach to a Programmatic Environmental Impact Statement is inconsistent with the principles of government-to-government consultation observed among New Mexico and the many sovereign tribes and pueblos in the State, and inconsistent with the State's commitment to cultural resources and preservation. Many of the geothermal resources in New Mexico are located in areas that are likely to be held sacred by New Mexico's tribes and pueblos. This poses unique cultural issues, and presents challenges that the FPEIS does not adequately address in Sections 4.14, 4.15 or 4.16. Some thirty-five Native American tribes claim cultural affiliation with historic and cultural properties in New Mexico, including archaeological sites, landscapes, traditional cultural properties and sacred sites. In many cases, traditional Native American cultural properties consist of cultural landscapes and special landforms with spiritual relationships that could be adversely impacted by individual geothermal projects. Hydrologic features and ecologic conditions in certain areas may be considered sacred or be associated with traditional use patterns, changes in which should be evaluated prior to leasing. Both a cultural properties inventory and tribal consultation should be undertaken in advance of leasing an area. Abandoning such an inventory or the consultation process undertaken in a site specific environmental analysis undermines the tribes' and pueblos' ability to effectively comment on a projects' impact on their communities and culture.

B. Inconsistent/Inaccurate Characterizations of a Closed Area

Because of significant wildlife habitat and other resource values, New Mexico concurs with the designation of the Valles Caldera National Preserve ("Preserve") as closed to geothermal leasing. I have been assured that the Preserve will be administratively closed to geothermal leasing, and this is reflected in the FPEIS response to comments (Appendix L). The map presented as Figure 2-5 (page 2-12 of the FPEIS), however, still appears to show the Preserve as open to leasing. While it appears that this is a clerical error that occurred during preparation of the FPEIS, I nonetheless ask for additional assurance that the Preserve is, in fact, closed to leasing.

In this regard, I note that our efforts to site specific properties in New Mexico that are affected by the proposed leasing have been hampered by the scale of the maps in the FPEIS. I have requested from BLM GIS information that will allow us to locate the property with more precision. BLM has agreed to provide, but has not yet provided, that information. Once I receive it, I may supplement these comments.

C. Inadequate Consideration of Impact on Surface Water Features

I have several concerns about the monitoring of surface water features, as treated in the FPEIS.

This issue is important to New Mexico because development of geothermal reservoirs often results in subsidence and changes to surficial thermal features, including reduction of discharge in springs, and steam occurrences at or near land surface (Sorey, M.L., 2000, *Geothermal Development and Changes in Surficial Features: Examples from the Western United States*, Proceedings of the World Geothermal Congress). All surface waters are important to wildlife in

arid and semi-arid environments, which prevail throughout much of New Mexico. In particular, invertebrate species may be wholly dependent on specific springs or hydrothermal features. Due to geologic complexity, it may not be possible to predict subsidence or changes to thermal features in advance. Monitoring, then, becomes very important.

Best Management Practices ("BMP") described in Appendix D of the FPEIS (pages D-3 and D-5) address the operator's responsibility for hydrologic and geotechnical studies and general environmental monitoring. Operators also are required to identify "areas of groundwater discharge and recharge and their potential relationships with surface water bodies" and to "avoid creating hydrologic conduits between two aquifers during foundation excavation and other activities." Otherwise, the issue of hydrologic monitoring largely is deferred to site-specific project analysis and to state regulation of surface and ground water.

Given the size of and complexities inherent in BLM's management task, and varying protocols at individual field offices, implementation of the BMPs at the leasing and project permitting stages may lack a consistency that is critical to monitoring efforts. Moreover, the attention that monitoring does receive in the FPEIS is inadequate. For instance, in the Environmental Consequences section, under Water Resources, the FPEIS refers to surface water features in the "immediate area" of the project. Apart from the fact that "immediate area" is unmanageably vague, it does not clarify that all potentially affected features should be monitored regardless whether or not they are on public land. Additionally, the monitoring BMP states that results will be provided to BLM in an annual report. This will not allow timely expert review or timely response to impacts. Data should be reviewed, interpreted and reported at regular intervals, and, based on data taken from the relevant hydro-geologic area, regularly reviewed levels should be established that require reporting and other appropriate action.

A hydrologic monitoring program should be in place prior to operational development, since effects may occur in the testing phase, and should continue throughout the productive life of the project. The monitoring program should include observation of surface features and tracer studies in addition to groundwater monitoring wells. I recommend that each state or field office with one or more geothermal leases have a technical advisory group for the purpose of reviewing, interpreting, and reporting monitoring data.

D. Lack of Detail With Respect to Management and Protection of Groundwater

The FPEIS' lack of detail with respect to managing and protecting groundwater is not consistent with New Mexico's commitment to protecting its groundwater resources. The FPEIS describes, generally, the role federal programs and state agencies, such as ground water programs and the State Engineer's Office, will have during the permitting of exploration, development, and operation activities. More information should be provided, however, describing what types of protective measures would be appropriate and likely required by the state and federal agencies.

The FPEIS recognizes that ground water impacts are possible in most phases of development. During drilling, for instance, ground water could be contaminated by drilling fluids and incidental circulation of geothermal fluids and ground water between and within aquifers, and by

infiltration of contaminants from the surface. The FPEIS addresses these concerns with a three BMPs: 1) develop a storm water management plan; 2) gain a clear understanding of local hydrology; and 3) avoid creating hydrologic conduits between aquifers. These BMPs are insufficient in standards, requirements, detail and number. New Mexico sets a high standard with respect to the geothermal industry by requiring that "[a]ll geothermal operations, exploratory, drilling and producing, shall be conducted in a manner that will afford maximum reasonable protection to human life and health and to the environment." 19.14.1.10 NMAC (12/31/01).

More specific BMPs also should be evaluated and presented. The BMP that requires an avoidance of conduits between aquifers, for instance, speaks only to conduits, not migration. It offers no method of avoidance, and does not require participation of a governmental agency in addressing hydro-geologic peculiarities. In New Mexico, 19.14.26.8 NMAC (12/31/01) requires that salt and fresh water strata be sealed to prevent migration; that strata be confined and adequately protected by methods approved by the New Mexico Oil Conservation Division ("Division"); and that special precautions, approved by the Division, be taken to guard against contamination by objectionable geothermal fluids and against the loss of artesian water from its strata. The regulation further provides that, ordinarily, migration should be prevented by cementing casing.

BMPs should be provided for well constructions that would prevent circulation of geothermal fluids with ground water, and for underground injection systems that re-inject spent geothermal fluids into the producing formation. These fluids may contain dissolved water contaminants and toxic substances. BMPs also should be provided for managing the disposal of fluids that are not re-injected but that are disposed of in synthetically lined lagoons and land application, if appropriate.

Similarly, the analyses of potential effects to the environment, including water resources and water quality, and related BMPs are general and do not give detail. They are intended to be a guide or a starting point for post-lease permits required by BLM, FS, and other state and federal agencies. More detail, though, should be provided now, in order to evaluate the potential environmental effects.

E. Jurisdictional Clarification

The FPEIS describes New Mexico's administrative jurisdiction over geothermal resources (Vol. 3 at 34) based upon BLM's apparent inclusion in "geothermal resources" any water that is equal to or greater than 140 degrees Fahrenheit ("F°"). Based on that parameter, the FPEIS implies that geothermal resources in New Mexico are regulated by one of two agencies. To clarify, NMSA § 71-5-1 through -24 gives general authority, concurrently, to the New Mexico Oil Conservation Commission and the Division to regulate geothermal resources. NMSA § 72-5-2.1 (2003), however, provides that beneficial use of potable water with a temperature of 250 F° or less that involves the incidental loss or extraction of heat is regulated by the Office of the State Engineer of New Mexico ("OSE"). The Division's jurisdiction includes regulating the construction, repair and plugging of wells that are constructed under a permit issued by the Division. OSE's jurisdiction includes regulating the construction, repair and plugging of wells

that are constructed under an OSE permit. Because some test wells may be drilled in areas with unknown reservoir temperatures, or may reveal multiple zones having different temperatures, the BLM should be prepared to consult with both the Division and OSE when analyzing potential lease areas.

Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Monday, November 17, 2008 5:17 PM
To: Gum, Tim, EMNRD; Chavez, Carl J, EMNRD
Subject: Lightning Dock - Relocation of Injection Wells
Attachments: Form 102 Well 532.doc; Form 101 Well 532.doc

Tim,

See attachment. If you need additional information please call or email.

Thanks,

Jay

This inbound email has been scanned by the MessageLabs Email Security System.

11/18/2008

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-10
Nov. 11, 200

Submit to appropriate District Office

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,
PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address Los Lobos Renewable Power, LLC 5125 North Edgewood Drive Suite 375 Provo, Utah 84604		² OGRID Number 261071
³ Property Code		³ API Number 30 - 023-20019
⁵ Property Name Lightning Dock No 1, HI-01 LLC		⁴ Well No. 532
⁹ Proposed Pool 1		¹⁰ Proposed Pool 2

⁷ Surface Location

U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	12	23S	19W		1574.8	North	3350	West	Hidalgo

⁸ Proposed Bottom Hole Location If Different From Surface

U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Same									

Additional Well Information

¹¹ Work Type Code N	¹² Well Type Code (I) Injection Well	¹³ Cable/Rotary R	¹⁴ Lease Type Code P - Land BLM - Geothermal	¹⁵ Ground Level Elevation 4100
¹⁶ Multiple See Plan of Operation	¹⁷ Proposed Depth 3,400 feet	¹⁸ Formation Huequitas	¹⁹ Contractor Patterson Drilling Company	²⁰ Spud Date May 2008
Depth to Groundwater 40 feet		Distance from nearest fresh water well 4 miles		Distance from nearest surface water - None
Pit: Liner: Synthetic <input checked="" type="checkbox"/> 45 mils thick Clay <input type="checkbox"/>		Pit Volume: 45,000bbls		Drilling Method: Fresh Water <input type="checkbox"/> Brine <input checked="" type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	3/8" Wall	63'	150 Sacks	
17.7"	13.375"	54.5 lb/ft	1,500'	750 Sacks	
12.25"	9.625"	36.0 lb/ft	3,400'	980 Sacks	
	7" Liner (If)	23.0 lb/ft			

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

SEE PLAN OF OPERATION

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Signature: 
Printed name: Heaven Brown

Title: Member
E-mail Address:

Date: Nov 17, 2008

Phone: (505) 876-1200

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

Conditions of Approval Attached ☐

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1230 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code		3 Pool Name Horquilla	
4 Property Code		5 Property Name Lightning Dock No 1			6 Well Number 532
7 OGRID No.		8 Operator Name Los Lobos Renewable Power, LLC			9 Elevation 4103

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	12	25S	19W		1574.8'	North	3350'	West	Hidalgo

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Same									
12 Dedicated Acres 20		13 Joint or Infill		14 Consolidation Code		15 Order No.			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

16					17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this information either owns a working interest or sufficient mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a subsidiary pooling agreement or a completed pooling order heretofore entered by the division. Signature: <i>Steven Brown</i> Date: <i>Nov 7, 2008</i> Printed Name: <i>Steven Brown</i>	
					18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from current GIS data provided to me and does not reflect an actual field survey. November 17, 2008 Date of Survey Signature and Seal of Professional Surveyor: <i>Richard J. Treise</i> 11/17/08 NMRLS 7240 Certificate Number	



Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Monday, November 17, 2008 5:10 PM
To: Gum, Tim, EMNRD; Chavez, Carl J, EMNRD
Subject: Lightning Dock - Relocation of two injection wells
Attachments: Form 102 Well 517.doc; Form 101 Well 517.doc

Tim,

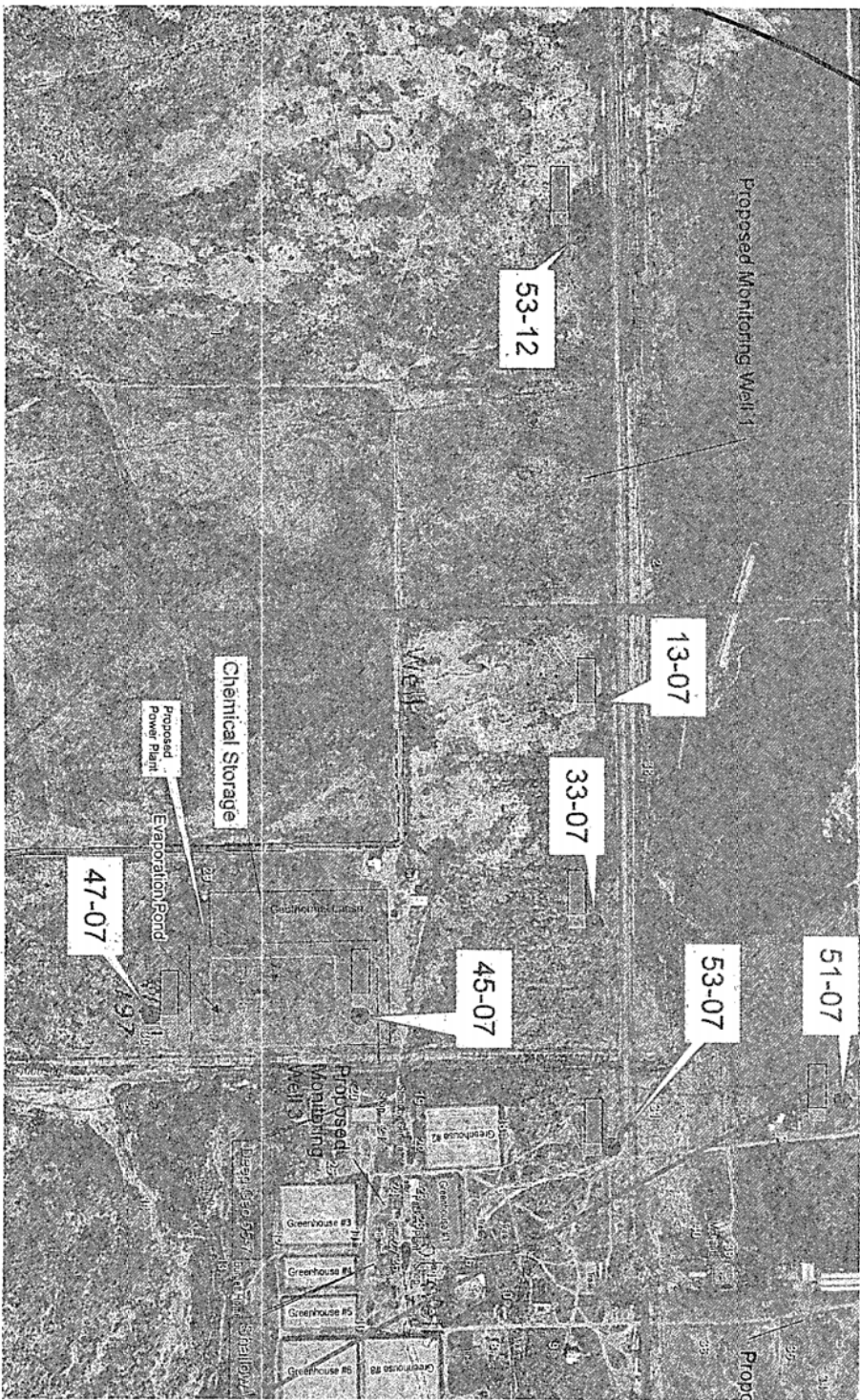
Please attachments. I will be sending these C101s and C102 in two emails.

Thanks,

Jay

This inbound email has been scanned by the MessageLabs Email Security System.

11/18/2008



District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-10
Nov. 11, 200

Submit to appropriate District Office

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,
PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address Los Lobos Renewable Power, LLC 5125 North Edgewood Drive Suite 375 Provo, Utah 84604		² OGRID Number 261071
		³ API Number 30 - 023-20020
⁴ Property Code	⁵ Property Name Lightning Dock No 1, HI-01 LLC	⁶ Well No. 517
⁷ Proposed Pool 1		⁸ Proposed Pool 2

⁹ Surface Location

UL or lot no.	Section 07	Township 25S	Range 19W	Lot Idn	Feet from the 169.2	North/South line North	Feet from the 2406.9	East/West line East	County Hidalgo
---------------	---------------	-----------------	--------------	---------	------------------------	---------------------------	-------------------------	------------------------	-------------------

¹⁰ Proposed Bottom Hole Location If Different From Surface

UL or lot no. Same	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
-----------------------	---------	----------	-------	---------	---------------	------------------	---------------	----------------	--------

Additional Well Information

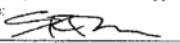
¹¹ Work Type Code N	¹² Well Type Code (I) Injection Well	¹³ Cable/Rotary R	¹⁴ Lease Type Code P - Land BLM - Geothermal	¹⁵ Ground Level Elevation 4108
¹⁶ Multiple See Plan of Operation	¹⁷ Proposed Depth 3,400 feet	¹⁸ Formation Horquilla	¹⁹ Contractor Patterson Drilling Company	²⁰ Spud Date May 2008
Depth to Groundwater 40 feet		Distance from nearest fresh water well .4 miles		Distance from nearest surface water - None
Pit: Liner: Synthetic <input checked="" type="checkbox"/> 45 mils thick Clay <input type="checkbox"/> Pit Volume: 45,000bbls Drilling Method: Fresh Water <input type="checkbox"/> Brine <input checked="" type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>				

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	3/8" Wall	63'	150 Sacks	
17.7"	13.375"	54.5 lb/ft	1,500'	750 Sacks	
12.25"	9.625"	36.0 lb/ft	3,400'	980 Sacks	
	7" Liner (If)	23.0 lb/ft			

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

SEE PLAN OF OPERATION

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOC guidelines <input type="checkbox"/> , a general permit <input type="checkbox"/> , or an (attached) alternative OCD-approved plan <input type="checkbox"/> .	OIL CONSERVATION DIVISION	
Signature: 	Approved by:	
Printed name: <u>KEVIN BROWN</u>	Title:	
Title: <u>MEMBER</u>	Approval Date:	Expiration Date:
E-mail Address:		
Date: <u>Nov 17, 2008</u>	Phone: <u>801 765-1200</u>	Conditions of Approval Attached <input type="checkbox"/>

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies
☐ AMENDED REPORT


WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code		3 Pool Name Hurquilla	
4 Property Code		5 Property Name Lightning Dock No 1			6 Well Number 532
7 OGRID No.		8 Operator Name Las Lobos Renewable Power, LLC			9 Elevation 4103

10 Surface Location									
11 or lot no.	Section 12	Township 25S	Range 19W	Lot 14n	Feet from the 1574.8'	North/South line North	Feet from the 3350'	East/West line West	County Hidalgo

11 Bottom Hole Location If Different From Surface									
11 or lot no. Name	Section	Township	Range	Lot 14n	Feet from the	North/South line	Feet from the	East/West line	County
12 Dedicated Acres 20		13 Joint or Infill		14 Consolidation Code		15 Order No.			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

16	• 532		17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this information either was a working interest or subsequent mineral interest in the land to which the proposed lease is to be located or has a right to drill this well as this location pursuant to a contract with an owner of such a mineral or working interest, or for a voluntary pooling agreement or a compulsory pooling order heretofore entered in the district. Signature: <i>Steven Brown</i> Date: <i>Nov 7, 2008</i> Printed Name: Steven Brown
			18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from current GIS data provided to me and does not reflect an actual field survey. November 17, 2008 Date of Survey Signature and Seal of Professional Surveyor: <i>Richard J. Tresise</i> 11/17/08 NMSRS 7240 Certificate Number

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1009 Rio Brazos Rd., Artec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code		3 Pool Name Horsquilla	
4 Property Code		5 Property Name Lightning Dock No 1			6 Well Number 517
7 OGRID No.		8 Operator Name Los Lobos Renewable Power, LLC			9 Elevation 4105

10 Surface Location									
UL or lot no.	Section	Township	Range	Lot 1dn	Feet from the	North/South line	Feet from the	East/West line	County
	07	2SS	19W		169.2'	North	2406.9'	East	Hidalgo

11 Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot 1dn	Feet from the	North/South line	Feet from the	East/West line	County
Same									
12 Dedicated Acres 20		13 Joint or Infill		14 Consolidation Code		15 Order No.			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

16				• 517		17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or indirect mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order hereby entered by the division. Signature: <i>[Signature]</i> Date: <i>Nov 17, 2008</i> Printed Name: <i>Steven Brown</i>	
						18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from current GIS data provided to me and does not reflect an actual field survey. November 17, 2008 Date of Survey Signature and Seal of Professional Surveyor: <i>[Signature]</i> <i>11/17/08</i> NMRLS 7243 Certificate Number	

Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Thursday, December 04, 2008 11:11 AM
To: Chavez, Carl J, EMNRD
Cc: Steve Brown; Michael Hayter; Jim Rosser
Subject: Lightning Dock - Arizona Solid Waste Facilities
Attachments: Map - Arizona Solid Waste Landfills.doc

Carl,

I am in the process of contacting the solid waste landfills in Arizona that can handle RCRA Subtitle "D" Solid Wastes.

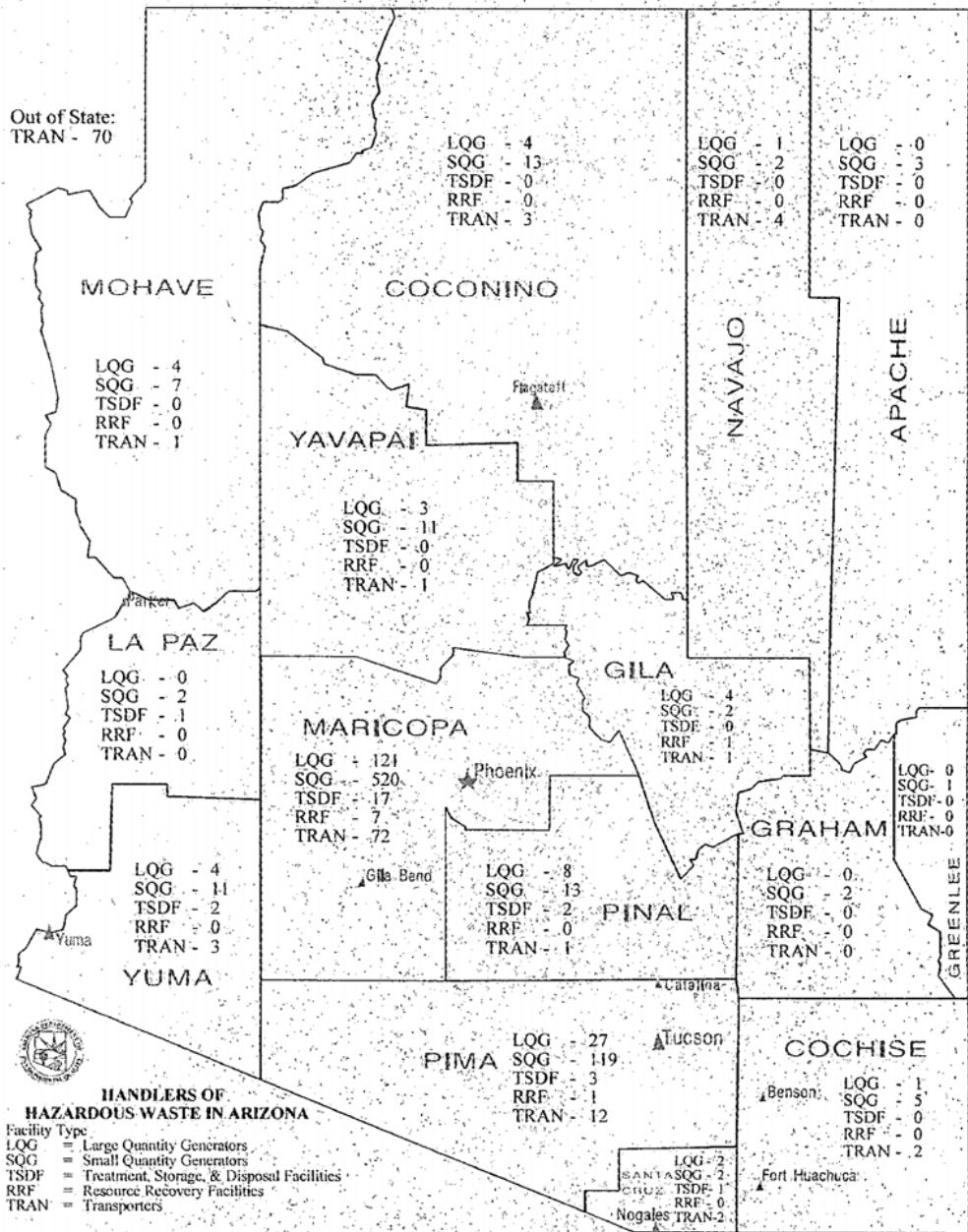
Please see attachment.

Thanks,

Jay

This inbound email has been scanned by the MessageLabs Email Security System.

Out of State:
TRAN - 70



Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Monday, November 17, 2008 9:49 AM
To: 'Jay Hamilton'
Cc: 'Steve Brown'
Subject: FW: Pre-hearing Statement Request Receipt by Nov. 21, 2008 5:00 p.m. (GTHT-1)

Jay:

Could you please share with the appropriate Raser personnel to ensure that power point presentations are Powerpoint 2003 compatible for the hearing? Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Monday, November 17, 2008 9:33 AM
To: 'Damon Seawright'
Cc: Price, Wayne, EMNRD
Subject: RE: Pre-hearing Statement Request Receipt by Nov. 21, 2008 5:00 p.m. (GTHT-1)

Damon:

I will be taking my computer laptop with USB port(s) that will facilitate Microsoft Office Powerpoint Version 2003.

You are welcome to bring your laptop in the event you wish to use your computer to hookup to the projector or a jumper drive with a copy of your power point that is compatible with the version of Powerpoint on my computer. Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Damon Seawright [<mailto:damon@vtc.net>]
Sent: Friday, November 14, 2008 7:10 PM
To: Chavez, Carl J, EMNRD
Subject: RE: Pre-hearing Statement Request Receipt by Nov. 21, 2008 5:00 p.m. (GTHT-1)

Dear Carl,

11/17/2008

Thank you. Will there be powerpoint/LCD projection capabilities provided? If not, what medium do you recommend?

Damon Seawright

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Friday, November 14, 2008 1:23 PM
To: Steve Brown; Damon Seawright
Cc: Jay Hamilton; Brooks, David K., EMNRD; Price, Wayne, EMNRD; Davidson, Florene, EMNRD
Subject: Pre-hearing Statement Request Receipt by Nov. 21, 2008 5:00 p.m. (GTHT-1)

Gentlemen:

Please submit your pre-hearing statements (see attachment) to the OCD on or before November 21, 2008 5:00 p.m.

Please contact Mr. Brooks if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

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11/17/2008

Chavez, Carl J, EMNRD

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Sent: Monday, November 17, 2008 9:33 AM
To: 'Damon Seawright'
Cc: Price, Wayne, EMNRD
Subject: RE: Pre-hearing Statement Request Receipt by Nov. 21, 2008 5:00 p.m. (GTHT-1)

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You are welcome to bring your laptop in the event you wish to use your computer to hookup to the projector or a jumper drive with a copy of your power point that is compatible with the version of Powerpoint on my computer. Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Damon Seawright [mailto:damon@vtc.net]
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Damon Seawright

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Friday, November 14, 2008 1:23 PM
To: Steve Brown; Damon Seawright
Cc: Jay Hamilton; Brooks, David K., EMNRD; Price, Wayne, EMNRD; Davidson, Florene, EMNRD
Subject: Pre-hearing Statement Request Receipt by Nov. 21, 2008 5:00 p.m. (GTHT-1)

Gentlemen:

Please submit your pre-hearing statements (see attachment) to the OCD on or before November 21, 2008 5:00 p.m.

Please contact Mr. Brooks if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau

11/17/2008

1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

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Chavez, Carl J, EMNRD

From: Nelson1, Terry, NMENV
Sent: Monday, November 24, 2008 12:53 PM
To: Chavez, Carl J, EMNRD
Subject: RE: Lightning Dock Geothermal Power Project (Hidalgo Co.) Waste Streams

I really do not have a list of AZ landfills but would recommend either contacting the Arizona Department of Environmental Quality (see web site) or contacting Dan Callahan with Waste Management @ 303-886-9694 for possible locations there.

Terry Nelson
Permit Section Manager
NMED-SWB
1190 St. Francis Dr.
PO Box 5469, Santa Fe, NM 87502-5469
Phone: 505-827-2328
Fax: 505-827-2902
terry.nelson1@state.nm.us
www.nmenv.state.nm.us



From: Chavez, Carl J, EMNRD
Sent: Friday, November 21, 2008 1:53 PM
To: Nelson1, Terry, NMENV
Subject: RE: Lightning Dock Geothermal Power Project (Hidalgo Co.) Waste Streams

Terry:

Can you identify any facilities in AZ that would accept the waste? Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Nelson1, Terry, NMENV
Sent: Friday, November 21, 2008 1:22 PM
To: Chavez, Carl J, EMNRD
Subject: RE: Lightning Dock Geothermal Power Project (Hidalgo Co.) Waste Streams

Carl: I reviewed the Solid Waste Rules on geothermal waste and it does come under the regulatory authority of OCD. As a result the waste must be taken to a solid waste facility permitted to accept OCD waste. Currently the only landfills permitted to accept OCD waste are the San Juan Regional Landfill near Aztec, NM, the Rio Rancho

12/3/2008

Landfill in Rio Rancho, NM and the Valencia Regional Landfill ~ 15 miles west of Los Lunas, NM all operated by Waste Management of New Mexico. It is possible that the Red Rocks Landfill near Thoreau, NM may have a permit for OCD by May of 2009. At this time those are the only facilities permitted to accept OCD waste.

Terry Nelson
Permit Section Manager
NMED-SWB
1190 St. Francis Dr.
PO Box 5469, Santa Fe, NM 87502-5469
Phone: 505-827-2328
Fax: 505-827-2902
terry.nelson1@state.nm.us
www.nmenv.state.nm.us



From: Chavez, Carl J, EMNRD
Sent: Friday, November 21, 2008 12:40 PM
To: Nelson1, Terry, NMENV
Subject: Lightning Dock Geothermal Power Project (Hidalgo Co.) Waste Streams

Terry:

Good afternoon. Subsequent to our recent telephone conversation the other day. Please find below the list of possible waste streams from the proposed power facility:

Solid waste in the form of paper products and some garbage will be collected and stored in a roll-off bin brought to the site by a waste contractor.

Solid wastes, i.e., drill cuttings, generated during geothermal drilling activities and tested before disposal.

Sanitary wastes are contained in portable toilets that are maintained during onsite activities, and removed from the site at the end of operations by a waste contractor.

During geothermal exploration activities, hazardous substances that may be used on-site could include: bulk quantities of diesel fuel, lesser amounts of oil, and other lubricants. No hazardous drilling mud additives are typically used during the drilling of geothermal wells.

During geothermal operations, unintended leaks, small spills, or releases of petroleum hydrocarbon, or other materials stored on-site could occur? Development operations typically require onsite containment in areas where petroleum hydrocarbons and hazardous materials are stored.

The disposal of highly mineralized waters produced from geothermal resource wells will be handled, stored and/or treated (evaporation ponds) properly.

As you may be aware, geothermal wastes have similar exemption from the RCRA Subtitle "C" Waste Classification as oil and gas exempt wastes. Your assistance in identifying permitted RCRA Subtitle "D" Solid Waste Disposal Facilities near the proposed facility is appreciated. A small map is provided below for your consideration.

12/3/2008

Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Wednesday, December 03, 2008 1:10 PM
To: Chavez, Carl J, EMNRD
Cc: Michael Hayter; Steve Brown
Subject: Re: Lightning Dock - Additional Information

Carl,

Thanks

Jay

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: Jay Hamilton <hamiltonenviro@yahoo.com>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Fesmire, Mark, EMNRD" <mark.fesmire@state.nm.us>
Cc: Michael Hayter <Michael.Hayter@rasertech.com>; Steve Brown <steve.brown@rasertech.com>
Sent: Wednesday, December 3, 2008 12:43:22 PM
Subject: RE: Lightning Dock - Additional Information

Jay:

I will putting together a list today of items that OCD needs to complete the WQCC permit process and should be sharing it with you very soon. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe , New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Wednesday, December 03, 2008 9:28 AM
To: Chavez, Carl J, EMNRD; Price, Wayne, EMNRD ; Fesmire, Mark, EMNRD
Cc: Michael Hayter; Steve Brown
Subject: Lightning Dock - Additional Information

Carl,

Raser has asked me to contact you concerning the additional information you need to complete the OCD's permitting. We are interested in having this process completed as soon as possible.

Thanks,

Jay

12/3/2008

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RECEIVED

November 19, 2008

2008 NOV 24 AM 11 53

Mr. Wayne Price
Environmental Bureau Chief
State of New Mexico
Energy, Minerals and Natural Resource Department
Oil Conservation Division

Re: Discharge Permit Filed by Raser Technologies

Dear Mr. Price,

As a surface owner and proprietor of mineral assets within the Lightning Dock Known Geothermal Area (KGRA), I am filing an official written protest to the permitting of the proposed discharge plan (cold water injection wells) sited in Section 18 of the KGRA. As identified in the public hearing notice, this location is in conflict with the present and future stability of the geothermal temperatures within Sections 1, 6 and 7 which are located north of the proposed injection wells and are within the Animas Valley River Basin, which flows from south to north, and the mountainous region which flows east to west, reference geological surveys of the KGRA.

It is my opinion, and feel that it is in the best interest of all parties who hold stake in the KGRA that the cold water should be released at the surface, thereby benefiting the agriculture industry, wildlife habitat, and the future expansion of desert vegetation.

For many years cooled geothermal water has been discharged from present greenhouse operations, and has created a wet lands and desert oasis for wildlife. As the landowner of the area in question, I would be happy to discuss this matter as a viable alternative.

A secondary resolve to this protest would be to re-locate the injection wells to the northern area of the KGRA where little to no cooling impact would occur to the productive geothermal temperatures.

This document does not convey a negative opinion for future economic growth in the area, or the future of alternative energy, however it is my belief that additional viewpoints need to be considered regarding the possible spoils (cooling effect) of this alternative energy resource thus significantly impacting current and future temperatures throughout the KGRA.

The McCants' Ranch consists of 1,129 acres of deeded property; with 320 acres patented mineral rights (Patents 6204067 and 835414) and 228 acres of surface water rights. All of which is directly located within the KGRA, and could incur irreversible damage if the discharge wells were to be utilized in Section 18.

Sincerely,

A handwritten signature in black ink, appearing to read 'Thomas McCants', written over a horizontal line.

Thomas McCants
4359 Oakgrove
San Angelo, Texas 76904
Ph: 325-949-2083

Cc: Dale Hall - Director / U.S. Fish and Wildlife / Department of Interior
Todd Stevenson - Interim Director / New Mexico Fish and Wildlife
Dallas Rippey - Assistant Commissioner / New Mexico State Land Office
Brent Cook - CEO / Raser Technologies

Tecumseh Professional Associates
5600 Wyoming Blvd. NE, Suite 150
Albuquerque, New Mexico 87109
Tele: (505) 293-1156
Fax: (505) 293-5913

facsimile transmittal

To: **Wayne Price** Fax: **(505) 476-3462**

From: **Frank Welker** Date: **11/25/2008**

Re: **Discharge Permit Lighting Dock GT-001** Pages: **1**

CC: **file**

☐ Urgent ☒ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

Hello Wayne,

My company Tecumseh Professional Associates, Inc. would like to be placed on the facility-specific mailing list for the Discharge Permit Lighting Dock Geothermal No. 1 Power Plant. Please call me if you need additional information. My telephone number is (505) 293-1156, or you can e-mail me if you would prefer.

Thank you for your assistance with this important matter.

Best Regards,
Frank Welker
Senior Engineer

Tecumseh Professional Associates, Inc.
5600 Wyoming Blvd. NE, Suite 150
Albuquerque, NM 87109

Telephone: (505) 293-1156
Fax: (505) 293-1971
E-mail: fwelker@tecumsehpa.com

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Monday, November 17, 2008 4:46 PM
To: 'Jay Hamilton'
Cc: Gum, Tim, EMNRD; Price, Wayne, EMNRD
Subject: RE: Lightning Dock - C101 and C102 for Wells 517 and 532 & Use of OCD Geothermal Forms

Jay:

Please send the C-101 and 102 forms to the attention of Tim Gum in the OCD Artesia District Office.

Then you will need to send me the bonds for approval before Tim's staff in Artesia can ultimately approve the APDs. Wayne Price will notify Artesia that the bonds are good and give the green light for the APD approvals. Once the APDs are approved by Artesia, OCD Santa Fe will send the final OCD discharge permit for Los Lobos signature and receipt of the signed discharge permit and final fee of \$1700 made payable to the "Water Quality Management Fund." The permit is good for 5-years under the WQCC Regulations. Once the signed permit and fee is received by OCD Santa Fe, OCD Santa Fe will send out the official approval letter for the bonds to Los Lobos. Receipt of the bond approval letters means Los Lobos may then begin drilling activities to determine the depth and location of the high-temperature geothermal reservoir(s), if there is one or more. Los Lobos will need to have properly designed and constructed reserve pits or closed-loop systems in place during drilling to prevent exceedences to the New Mexico WQCC Water Quality Standards (WQSS) during all activities. The OCD still has concerns about monitoring water table flow directions across the site, properly positioned MWs that demonstrate that WQSS are not exceeded from power plant operations. In addition, we will work to make sure waste streams from operations are properly treated, stored and/or disposed off-site. That is why Los Lobos should have already contacted the nearby Subtitle "D" Landfill to ensure that its waste streams will be allowed to be disposed properly.

The OCD believes that its regulatory authority exists at a depth greater than 2,500 feet and where reservoir temperature exceeds 250 °F. Note that there may be cooperative agreements or memos of understanding where the 2,500 foot depth is an issue and whether one or both agencies need to be involved in the project. While regulations may be clear, unique and/or complex circumstances may present such a situation for the agencies that regulate the geothermal resource(s) to resolve.

When drilling commences, OCD geothermal forms must then be completed going forward, i.e., well testing, etc. Before final production and injection may begin under the discharge permit, Los Lobos must submit signed geothermal forms (Forms G-104, G-112 and forms documenting that a high temperature reservoir is present through well testing with final depth settings of wells, etc.) for each high-temperature well it plans to use in the production of power to OCD Santa Fe for final signature approval or authorization to begin using the geothermal resource (development and injection). The geothermal forms serve to document final well type, well descriptor, location, hydrogeology, reservoir temperature, well depth setting, etc., documented for each well location for final production and injection.

It is important for Los Lobos to begin submitting the appropriate geothermal forms (see Geothermal "Forms" Section of OCD website).

These forms will ultimately need to be submitted for each production/development and injection well before Los Lobos will have authorization to begin production and injection at each well location.

While the above is somewhat redundant, I hope this helps you to visualize the process going forward if Los Lobos is ultimately permitted by the OCD. Please contact me if you have questions or to communicate on the above. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491

11/17/2008

Fax: (505) 476-3462

E-mail: CarlJ.Chavez@state.nm.us

Website: <http://www.emnrd.state.nm.us/ocd/index.htm>

(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Monday, November 17, 2008 3:17 PM
To: Chavez, Carl J, EMNRD
Subject: Lightning Dock - C101 and C102 for Wells 517 and 532

Carl,

I have attached the C101s and C102s for Wells 517(51-07) and 532 (53-12). I have attached a map with the new locations. We move injection Wells 82-12 and 62-18 to the new locations. Mark, the map guy, will be sending a new BIG MAP on a new disc.

I will be attaching the applications to the next email.

Thanks,

Jay

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Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Friday, October 10, 2008 6:15 PM
To: Chavez, Carl J, EMNRD
Subject: Re: Raser Technologies, LLC Lightning Dock Geothermal Project (GT-001) Hidalgo County

Carl,

I will call on Monday so we can discuss this.

Thanks for your help.

Jay

--- On Fri, 10/10/08, Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us> wrote:

> From: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
> Subject: Raser Technologies, LLC Lightning Dock Geothermal Project
> (GT-001) Hidalgo County
> To: "Jay Hamilton" <hamiltonenviro@yahoo.com>
> Cc: "Gum, Tim, EMNRD" <tim.gum@state.nm.us>, "Price, Wayne, EMNRD"
> <wayne.price@state.nm.us>
> Date: Friday, October 10, 2008, 2:39 PM
> Jay:
>
>
>
> Good afternoon. Please find below some items for clarification on the
> above geothermal project.
>
>
>
> Current conceptualization of project:
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>
>
> The New Mexico Oil Conservation Division (OCD) regulates high
> temperature (> 250 F) geothermal reservoirs for power generation in
> the State of New Mexico. The OCD has developed a draft discharge
> permit based primarily on the proposed Class V injection wells that
> are primarily regulated under the WQCC regulations, but also under OCD
> Geothermal Regulations, if a well can demonstrate that it is in a high
> temperature (>250 F) reservoir. The draft permit has been developed
> in advance of any well associated with the project that I am aware of
> being drilled and demonstrating that indeed a high temperature
> geothermal reservoir exists below the project area. Albeit there are
> most likely many projects or wells drilled in the past that have been
> completed to give Raser the incentive to propose the project. Raser
> will be required to demonstrate that each well drilled (must have an
> approved bond) is within a high temperature geothermal reservoir at
> which time a Form
> G-104 may be completed and submitted for OCD approval and signature
> for each well. The G-104 is a certificate of compliance and
> authorization to produce geothermal resources in the state of New
> Mexico.
> If a high
> temperature geothermal reservoir does not exist, then the OCD may not
> approve a G-104 at a particular well location.

>
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>
> APD for new well location:
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>
> If Raser would like to relocate one of the 3 Class V injection wells,
> it will need to submit a new C-101 and C-102 or equivalent geothermal
> form to the Artesia District Office for approval and a new API# may be
> issued for the new location. Wells to be drilled must be referenced
> in a bond (see "Bonding" below) and require a bond in place before it
> can be drilled. An updated site map with well description and
> location would need to be submitted to me. Since Class V geothermal
> injection wells are regulated primarily under WQCC regulations, but
> also under OCD geothermal regulations, you may want to query 20.6.2
> NMAC for any spacing requirements associated with Class V Wells (See
> Class V Well Requirements below). Also, you may want to examine the
> OCD Geothermal Regulations below.
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>
> Class V Well Requirements
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>
> WQCC Regulations
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>
> 20.6.2.5006 DISCHARGE PERMIT REQUIREMENTS FOR CLASS V
> INJECTION
> WELLS
>
> Class V injection wells must meet the requirements of Sections
> 20.6.2.3000 through 20.6.2.3999 NMAC and Sections 20.6.2.5000 through
> 20.6.2.5006 NMAC.
>
> [20.6.2.5006 NMAC - N, 12-1-01]
>
>
>
> OCD Geothermal Regulations
>
>
>
> Chapter 71, Article 5 NMSA 1978
>
> See relevant sections associated with spacing.
>
>
>
> Title 19, Chapter 14 NMAC (11-15-83- Recompiled 12-31-01)
>
> 19-14-23 Well Spacing
>
>
>
> Injection well location concerns:
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>
> Some concerns that I can think of based on this project would be
> injecting cold water upgradient from another correlative rights user

> in the high temperature geothermal reservoir (I don't think this is
> the case?), which could potentially decrease the temperature of
> another high temperature geothermal water user. Another concern may
> be recharging the aquifer(s) to ensure the aquifer(s) is not depleted
> or drawn down to the point flow rates are affected and heat is wasted.
> For example if water is produced and routed away from the area and
> results in aquifer depletion. I believe Raser is trying to inject
> upgradient in the vicinity of the heat source so injected water will
> flow back into the production zone. Also, too many injection well
> spaced too closely injecting at a significant rate could cause an
> adverse fracturing condition depending on the situation.

>

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>

> Public notice issue:

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> The facility has already been public noticed in accordance with WQCC
> regulations, unless the scenario would change significantly enough to
> warrant a new public notice (i.e., the injection zone is in a shallow
> aquifer and not in the proposed Horquilla Formation). An updated site
> map reflecting the actual locations of wells is required to update the
> administrative record in a timely manner to allow public comments by
> people viewing the file. Any well location that is being discarded
> must be identified in the updated site map.

>

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> Bonding:

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> Raser must identify the API#s and well names of any wells to be
> drilled in a bond(s) or financial instrument, which must be approved
> by the OCD in advance of drilling at each well location.

>

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>

> I hope this helps. Please contact me if you have
> questions. Thank you.

>

>

>

>

>

> Carl J. Chavez, CHMM

>

> New Mexico Energy, Minerals & Natural Resources Dept.

>

> Oil Conservation Division, Environmental Bureau

>

> 1220 South St. Francis Dr., Santa Fe, New Mexico 87505

>

> Office: (505) 476-3491

>

> Fax: (505) 476-3462

>

> E-mail: CarlJ.Chavez@state.nm.us

>

> Website: <http://www.emnrd.state.nm.us/ocd/index.htm>

>

> (Pollution Prevention Guidance is under
> "Publications")

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>
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Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Monday, October 06, 2008 9:14 AM
To: 'Jay Hamilton'
Cc: Price, Wayne, EMNRD
Subject: RE: Monitor Well Locations

Jay:

I am having technical difficulty printing John Shomaker's map w/ monitoring locations; however, from review of the most recent big map that was sent to me, I see the locations of the 2 monitor wells that appear to be used strictly for head elevation monitoring. I think at least 3 monitor wells are needed to monitor the ground flow direction across the facility at various depths within the aquifer(s).

Also, while this is ok to monitor the vertical gradients at the site, piezometer wells are generally constructed too small to sample. I presume that they would be constructed of at least 2 inch diameter pipe. The OCD had requested monitor wells to monitor for WQCC Standards especially near the evaporation pond where cooling tower blowdown may have the potential to leak into the water table and flow downgradient from the plant.

I recommend that you have Mr. Shomaker contact me to discuss the ground water monitoring plan verbally so I may have a better idea of the objective. Thank you.

Carl J. Chavez, CHMM
 New Mexico Energy, Minerals & Natural Resources Dept.
 Oil Conservation Division, Environmental Bureau
 1220 South St. Francis Dr., Santa Fe, New Mexico 87505
 Office: (505) 476-3491
 Fax: (505) 476-3462
 E-mail: CarlJ.Chavez@state.nm.us
 Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
 (Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [<mailto:hamiltonenviro@yahoo.com>]
Sent: Friday, September 19, 2008 4:54 PM
To: Chavez, Carl J, EMNRD
Subject: Fw: Monitor Well Locations

Carl,

Here is the information on the monitoring wells from John Showmaker. I will put this information on the BIG MAP.

Thanks,

Jay

----- Forwarded Message -----

From: John Shomaker <jshomaker@shomaker.com>
 To: Jim Rosser <Jim.Rosser@rasertech.com>
 Cc: Jay Hamilton <hamiltonenviro@yahoo.com>; Mike Hayter <mike.hayter@rasertech.com>;
 ksamuels@shomaker.com
 Sent: Friday, September 19, 2008 3:10:14 PM

10/6/2008

Subject: RE: Monitor Well Locations

Hi Jim—

Kim has marked two proposed monitor well locations on the attached map. Each would be a piezometer nest, with three completions: (1) near the water table, (2) somewhere between the bottom of the shallow aquifer and the top of the geothermal production interval, and (3) somewhere below the top of the production interval. They are located to lie on each side of the Western Fault, and to emphasize the monitoring of the aquifer of AmeriCulture's supply wells. I'm planning to include in the OSE application a provision to re-inject water, at a rate to be determined from monitoring results, into an intermediate zone below AmeriCulture's completions, but above the geothermal production interval, so as to maintain the heads in the former without introducing a water-quality problem (since the head-distribution will still result in downward flow, once the geothermal production is occurring).

I am also going to recommend that many existing wells also be monitored, as part of a formal program.

Please let me know if there are questions, or if any other information would be helpful.

Thanks,

John

John Shomaker

JOHN SHOMAKER & ASSOCIATES, INC.
Water-Resource and Environmental Consultants
2611 Broadbent Parkway NE
Albuquerque, New Mexico 87107
505-345-3407 phone
505-345-9920 FAX
www.shomaker.com

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

From: Jim Rosser [mailto:Jim.Rosser@rasertech.com]
Sent: Friday, September 19, 2008 12:49 PM
To: John Shomaker
Subject: Monitor Well Locations

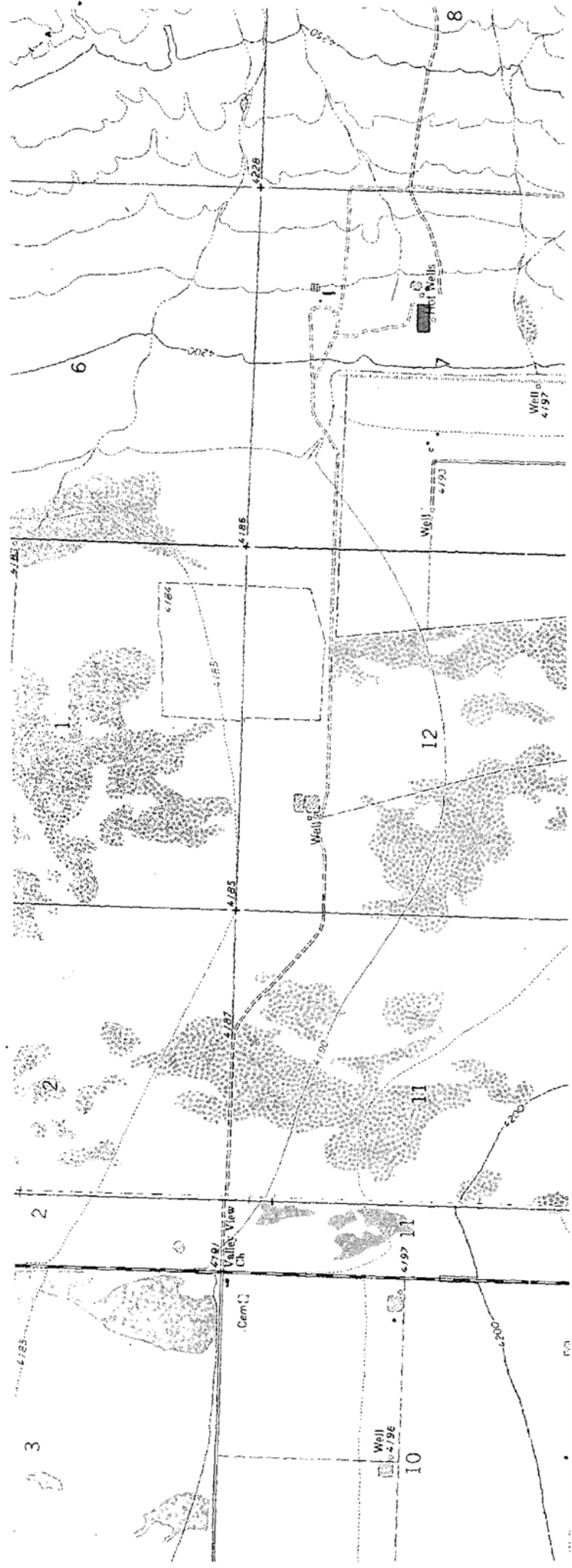
John,

Part of the recent work was that you would recommend a couple of monitoring well locations. Can you forward those to me as soon as you can.

Jim

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10/6/2008



Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Friday, September 19, 2008 4:54 PM
To: Chavez, Carl J, EMNRD
Subject: Fw: Monitor Well Locations
Attachments: proposed location for monitoring wells.pdf

Carl,

Here is the information on the monitoring wells from John Showmaker. I will put this information on the BIG MAP.

Thanks,

Jay

----- Forwarded Message -----

From: John Shomaker <jshomaker@shomaker.com>
To: Jim Rosser <Jim.Rosser@rasertech.com>
Cc: Jay Hamilton <hamiltonenviro@yahoo.com>; Mike Hayter <mike.hayter@rasertech.com>;
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John

John Shomaker

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Water-Resource and Environmental Consultants
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505-345-3407 phone
505-345-9920 FAX
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10/6/2008

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

From: Jim Rosser [mailto:Jim.Rosser@rasertech.com]

Sent: Friday, September 19, 2008 12:49 PM

To: John Shomaker

Subject: Monitor Well Locations

John,

Part of the recent work was that you would recommend a couple of monitoring well locations. Can you forward those to me as soon as you can.

Jim

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New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division



October 1, 2008

Mr. Steve Brown
Raser Power System, LLC
5152 North Edgewood Drive, Suite 375
Provo, Utah 84604

Re: Lightning Dock Geothermal HI-01 Discharge Permit Application (GT-1)
Public Hearing December 1, 2008 9:00 a.m.
Special Events Center
502 W 2nd Street
Lordsburg, NM 88045
(575) 542-8844 (call for directions)

Dear Mr. Brown:

The Oil Conservation Division (OCD) of the New Mexico Energy Minerals and Natural Resources Department (EMNRD) has determined that there is a substantial public interest in the geothermal discharge permit application filed on behalf of Raser Power System, LLC, which warrants a public hearing under 20.6.2 NMAC.

A letter from Americulture, Inc. letter (letter), dated July 11, 2008, included issues under the Water Quality Act. A copy of the letter is attached. The OCD was delegated authority by the Water Quality Control Commission for the protection of surface and ground water on July 21, 1989. The hearing will focus specifically on Water Quality Act issues. If it is determined that there are OCD-regulated high temperature (>250 °F) geothermal reservoir issues that fall under the authority of the OCD, a separate hearing may be required under OCD Geothermal Regulations.

Pursuant to Subsection K of 20.6.2.3108 NMAC, the OCD shall give notice of the hearing at least 30 days prior to the hearing in accordance with Subsection H of 20.6.2.3108 NMAC. A copy of the notice of public hearing is attached.

Please contact Carl Chavez of my staff at (505)-476-3491 or E-mail CarlJ.Chavez@state.nm.us if you have any questions.



October 1, 2008

Page 2

Sincerely:

Wayne Price
Environmental Bureau Chief

cc: Mr. Damon Seawright, Americulture, Inc., 25 Tilapia Trail, Animas, NM 88020
Persons on Facility-Specific Mailing List

Enclosures: Americulture, Inc. Letter
Notice of Public Hearing



July 11, 2008

New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
Attn: Carl Chavez
1220 S. Saint Francis Drive
Santa Fe, NM 87505

Subject: Request for Public Hearing, pursuant to Notice of Publication by Los Lobos Geothermal, LLC for application GT-001 Lightning Dock Geothermal No. 1

Dear Carl,

We have reviewed the information found on the OCD website pertaining to the above notice. Based on this review, and in response to the Notice of Publication, we hereby request a public hearing that will allow AmeriCulture and other concerned parties to discuss Los Lobos Geothermal, LLC's proposed geothermal power generation project in Animas, New Mexico before the Oil Conservation Commission. We do not believe that the proposed injection scheme and wells comply with the intent or requirements of the rules and statutes of the State of New Mexico that govern water rights, geothermal operations, and geothermal well construction practices:

1. Burgett Geothermal and AmeriCulture utilize a shallow geothermal reservoir contained within a highly silicified Gila Conglomerate host within the outflow plume of the Lightning Dock geothermal system. Isotope and geochemical studies on production water shows the shallow geothermal fluids are dominated by outflow of deep-seated geothermal fluids with hardly any mixing with shallow cold ground water. The deeper geothermal reservoir is the presumptive target of Los Lobos Geothermal (LLG). Overproduction of this reservoir will result in the rapid thermal depletion of the shallower reservoir that both longstanding businesses rely upon, threaten the State's water interest and impair existing water rights and geothermal users.
2. Over production of the shallow reservoir will create a pressure gradient between the shallow geothermal reservoir and cold groundwater aquifer and induce mixing. Because the small geothermal reservoir is confined, pressure or head changes are transmitted more quickly across the reservoir at all depth intervals and locations compared to unconfined or semi-confined groundwater aquifers. Injection south and southeast will force cold geothermal and ground water to flow in and mix in the current geothermal production area. Planned production and injection by LLG will "quench" the shallow outflow plume reservoir with cold injection at the bottom and induced cold ground water inflow at the top. Thermal break through of cold water

25 Tilapia Trail, Animas, NM 88020 • Ph: 505.548.2328 Fax: 505.548.2631
e-mail: damon@americulture.com • www.americulture.com

into the LLG production wells in the deep reservoir will occur also from over production and poorly cited injection wells.

3. A 48 hr pump test of the AmeriCulture State 1 well shows that the deeper reservoir (encountered in Steam Reserve 55-7) is in hydraulic connection with the shallow outflow reservoir. This is the only pump test ever conducted at Lightning Dock to assess reservoir transmissivity, reservoir boundaries, and storage. A total or aggregate continuous production on the reservoir approaching or exceeding 2,000 gpm may result in significant long-term drawdown and affect adjacent shallow ground water rights in the Animas basin. The reservoir is already produced in excess of 1,000 gpm for at least the colder months and days of a year. More reservoir tests and geochemistry are required to understand sustainability of the resource for power production in excess of 1 to 2 MWe.
4. Heat flow information indicates that the total natural heat output is less than 10 MWt (megawatt thermal). This is a very small geothermal system in terms of area and reservoir volume. The natural heat output is driven by a very intense (and almost point source) of thermal upflow. Injection and thermal sweep may be feasible with a larger system with the same thermal output. However, mining heat in this system is not sustainable for any reasonable period of time and will adversely affect current direct-use operations that are more important to the economy of the area than small-scale commercial electrical power generation.
5. The subsurface geology and hydrogeology relating to proposed injection wells 42-18, 62-18 and 82-18 are unknown. Furthermore, there is no mention of confining or cap rock and reservoir units and their depth ranges or thicknesses. As a result, the drilling program is grossly generic and not specific to the subsurface conditions at Lightning Dock. Accordingly, these wells should only be permitted as exploratory test holes until testing and the Class V injection well permitting process is complete within the Water Quality Control Commission (WQCC) procedures.
6. The thickness and depth of the freshwater zones stated in the permit are incorrect. Furthermore, the permit conductor casing (63 ft) does not agree with the casing program in the Drilling Plan (minimum 90 ft and a maximum 200 ft). It is uncertain whether 200 feet is long enough to protect shallow fresh ground water while drilling the surface 13 3/8 inch string to 1,500 ft. Justification for this important aspect of the well design should be included with the permit application.
7. All well applications have the same design even though the wells are located in different locations from a subsurface geology standpoint. A discussion of the formation or criteria used to select the casing points should be included in the permit application.
8. There has been no well testing in the area of the well permits and therefore reservoir properties are unknown. This is especially critical for the injection wells in order to avoid destruction of the resource and thermal breakthrough on existing production wells.
9. It is inappropriate to simultaneously permit the 3 injection wells with the 5 production wells because there is no requirement to consider geohydrologic data gathered during an initial drilling effort in the location and construction of the injection wells.

10. In the Notice of Publication, the Horquilla Formation is listed as having a TDS of 1,300 mg/L. To our knowledge, no one has determined the water chemistry of this interval. All geothermal chemistry reported or measured to date came from Tertiary volcanics or basin fill deposits.
11. With reference to 20.6.2.3106 NMAC, the following deficiencies exist: 1) there is no plan submitted for evaporative ponds, design, and location, 2) there is no monitoring plan with sampling protocol, monitor locations, or monitor well design, and 3) no geotechnical data is presented or referenced for evaluation of site subsurface conditions and hydrogeology.
12. The AmeriCulture shallow geothermal wells are in direct communication with deep-seated geothermal waters. AmeriCulture also has a geothermal well whose production zone lies between 1,400 feet and 2,100 feet below ground level. AmeriCulture's fish are grown in a mixture of cold ground water and geothermal water. Therefore, injected chemicals should be limited to those approved for potable water. The anti-scaling chemicals listed in the application do not meet this description.

Based on the foregoing, AmeriCulture requests a public hearing. If you have further comments or questions please feel free to contact me at (505)670-5220.

Sincerely Yours,

A handwritten signature in black ink, appearing to read 'Damon E. Seawright', with a long horizontal flourish extending to the right.

Damon E. Seawright, Ph.D.
Vice President

NOTICE OF PUBLIC HEARING

State of New Mexico
Energy, Minerals and Natural Resources Department,
Oil Conservation Division

Discharge permit for the Lightning Dock Geothermal No. 1 (GT-001)

The State of New Mexico, through its Oil Conservation Division, hereby gives notice that the division will conduct a public hearing on **Monday, December 1, 2008** beginning at 9:00 a.m. at the Special Events Center, 502 W. 2nd Street, in Lordsburg, New Mexico to consider the application for a discharge permit for the Lightning Dock Geothermal No. 1 geothermal power plant. The application was filed by Raser Power System, LLC, 5152 North Edgewood Drive, Suite 375, Provo, Utah 84604.

The Lightning Dock Geothermal No. 1 (HI-01) "Binary Cycle" 15 MWe geothermal power plant (5 production/development wells & 3 Class V geothermal injection wells) will be located in the NW/4, SW/4 of Section 7, Township 25 South, Range 19 West, NMPM, Hidalgo County, New Mexico. The plant will be within the Animas River Valley approximately 10 miles south of I-10 on CR 338 (east side of Geothermal Road). Development wells are located within the SW/4; NW/4; and NE/4 of Section 7. Class V injection wells will be located within the NE/4 and NW/4 of Section 18. Development wells will produce approximately 15,000 gpm of 250-300 °F geothermal water with a total dissolved solids (TDS) concentration of approximately 1,300 mg/L from the Horquilla Formation (geothermal carbonate reservoir) at a depth of about 3,400 feet below ground level. High temperature geothermal water from development wells will be routed in parallel into 50 portable self-contained (with heat exchanger, evaporator & condenser) binary cycle power generation units. Approximately 350 gpm of shallow low temperature geothermal reservoir water with a TDS concentration of approximately 300 mg/L will be mixed with cooling tower chemical additives and cycled through the cooling tower unit. All of the cooling tower blow-down effluent (180~225 °F) will be injected into the Class V injection wells with the exception of effluent that is routed back into a lined evaporation pond during operation or cessation of operation. Each Class V well will have a maximum injection rate of between 4,000 to 5,000 gpm at an average pressure of about 75 psig. The flow rate of each development or Class V well may be subject to the correlative rights of any future geothermal operators in the high temperature geothermal reservoir. Lined evaporation ponds at the surface will temporarily store any excess development or well test water for injection into the high temperature geothermal reservoir. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth of approximately 50 feet with a TDS of approximately 300 mg/L. The discharge plan addresses well construction, operation, monitoring, testing of the wells, associated



surface facilities, and provides a contingency plan in the event of accidental spills, leaks and other accidental discharges in order to protect fresh water.

The division will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in requesting further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact Wayne Price, Environmental Bureau Chief of the Oil Conservation Division, at 1220 S. St. Francis Drive, Santa Fe, NM 87505, (505) 476-3490. The discharge permit application and draft permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. The discharge permit application and draft permit are also posted on the division's web site: <http://www.emnrd.state.nm.us/ocd/ENV-DraftPublicEtc.htm>.

The rule governing public participation at the hearing is 20.6.2.3110 NMAC. Any person who wishes to present technical evidence at the hearing must, at least 10 days before the hearing, file with the division and serve on the applicant a statement of intent to present evidence. The filing may be mailed to the division at the above address, or faxed to the division at (505) 476-3462, attention Wayne Price. The statement must include the name of the person filing the statement; indicate whether the person supports or opposes the proposed discharge plan proposal; give the name of each witness; estimate of the length of the direct testimony of each witness; provide a list of exhibits, if any, to be offered into evidence at the hearing; and provide a summary or outline of the anticipated direct testimony of each witness. A person who does not file a statement of intent to present evidence may present a general non-technical statement in support of or in opposition to the proposed discharge plan. At the hearing, all persons shall be given a reasonable chance to submit data, views or arguments orally or in writing and to examine witnesses testifying at the hearing.

Unless otherwise allowed by the hearing officer, testimony shall be presented in the following order: testimony by and examination of the applicant supporting the facts relied upon to justify the proposed discharge plan and demonstrate that it meets the requirements of the regulations; testimony by and examination of technical witnesses supporting or opposing approval, or supporting or opposing conditional approval, in any reasonable order; testimony by the general public; and rebuttal testimony, if appropriate.

The hearing officer shall issue a report within thirty days after the close of the hearing record. The report shall be served on the applicant, the division, and all persons who

request copies in advance in writing. The report will also be available for public inspection at the division's office in Santa Fe and at the Artesia district office, 1301 West Grand Ave., Artesia, NM 88210. The director shall issue a decision in the matter no later than thirty days after receipt of the hearing report. The decision shall be served on the applicant, the division, and all persons who request copies in writing. The decision will also be available for public inspection at the division's office in Santa Fe and at the Artesia district office and on the division's website.

If you are a person with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing, please contact Mr. Wayne Price at (505) 476-3490 or through the New Mexico Relay Network (1-800-659-1779) at least ten days prior to the hearing, so the division can make reasonable accommodations.

Para obtener más información sobre esta solicitud en español, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservación Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México 87505 (Contacto: Dorothy Phillips, 505-476-3461).

GIVEN under the Seal of New Mexico Oil Conservation Division at Santa Fe, New Mexico, on this 1st Day of October 2008.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

SEAL

Mark Fesmire, Director

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, July 08, 2008 11:30 AM
To: 'dseawright@gmail.com'
Cc: Phillips, Dorothy, EMNRD
Subject: Lightning Dock Geothermal (GT-1) (Hidalgo County) Public Notice

Mr. Seawright:

Good morning. It has been brought to my attention from Ms. Phillips (OCD) today that Americulture would like to submit a public comment(s) regarding the above subject facility.

In order to officially process public comments, please send the information requesting a hearing as prescribed in the public notice (see link provided below).

<http://www.emnrd.state.nm.us/ocd/documents/GT001PN5-28-08.pdf>

The site file for GT-1 is also available on OCD Online at
<http://ocdimage.emnrd.state.nm.us/imaging/AEOrderFileView.aspx?appNo=pCJC0813635742>.

You may also reply to this e-mail message with your official comments for OCD consideration. The OCD will determine whether the information warrants a hearing.
Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

7/8/2008

Beguiling bocce

Albuquerque tournament attracts devotees for camaraderie, competition

G01 ■ D1

Judicial relief

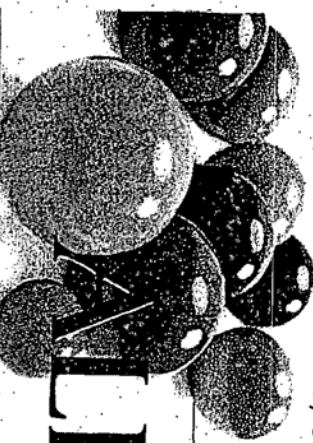
Sombra competitor ordered to stop producing analgesic gels from stolen formulas



Rays Rockin'

Once-lowly Tampa Bay sweeps the Red Sox and leads the AL East

SPORTS ■ B1



ALBUQUERQUE JOURNAL

HOME-OWNED AND HOME-OPERATED ■ MADE IN THE U.S.A.
127TH YEAR. No. 185 ■ 104 PAGES IN 10 SECTIONS



THURSDAY MORNING, July 3, 2008

RIO RANCHO/

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ENERGY C

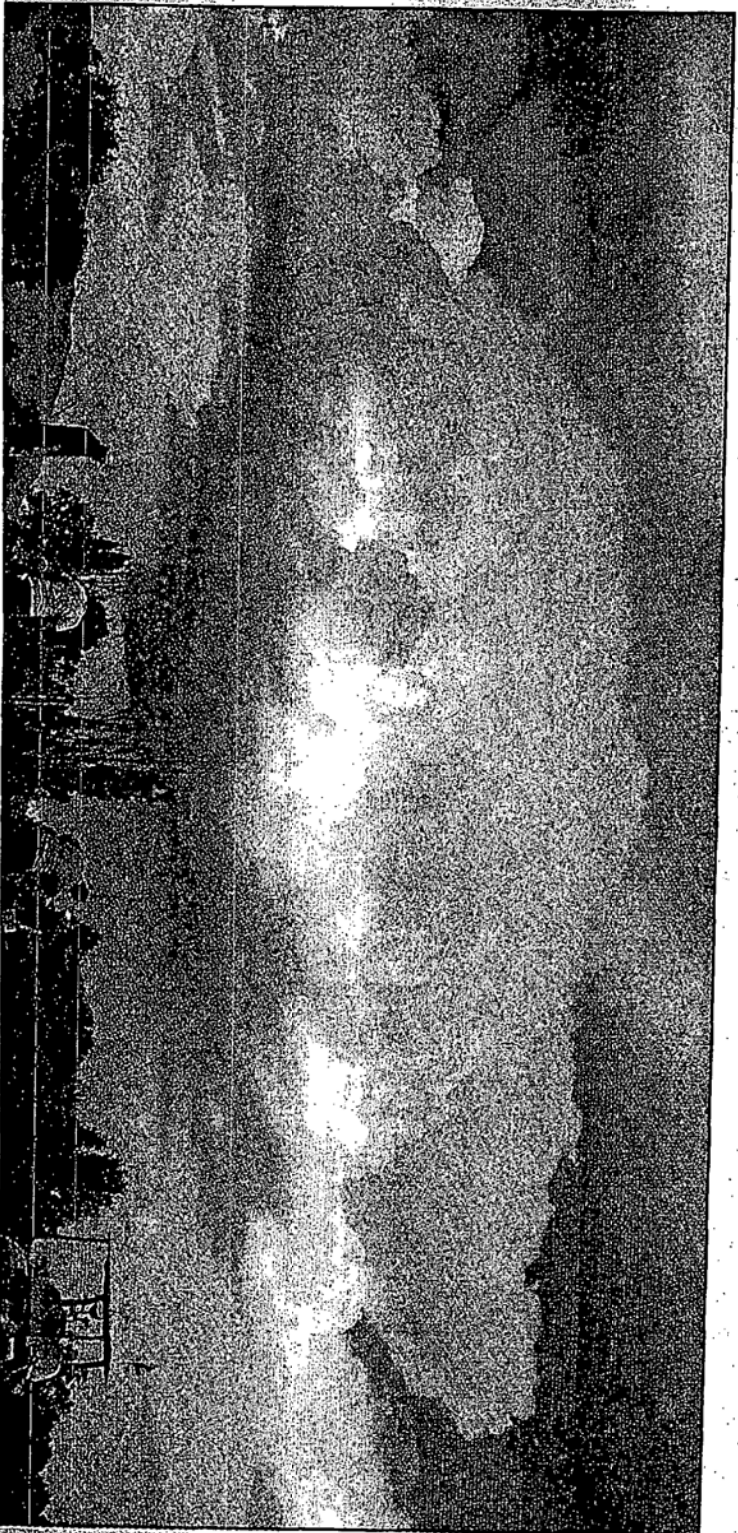
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Copyright © 2008 Albuquerque

BY JEFF JONES
Journal Politics Writer

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Geothermal Electric Plant Planned in N.M.

Facility Will Power
5,500 Ariz. Homes

Copyright © 2008
Albuquerque Journal

BY WINTHROP QUIGLEY
Journal Staff Writer

A Utah company is planning to build New Mexico's first commercial geothermal electric generation plant on 2,500 acres in Hidalgo County near Lordsburg that will produce enough power for about 5,500 homes.

Publicly traded Raser Technologies Inc. of Provo said

Wednesday that its plant should be generating electricity by the end of the year. It will produce 11 megawatts for the Phoenix market under a 20-year purchased power agreement with the Salt River Project, an Arizona utility. Terms of that deal were not be disclosed.

Raser said Wednesday that it has begun taking delivery of geothermal power generating units manufactured by United Technologies that will be used for the New Mexico project. Fifty units will be installed at the Hidalgo County site, known as Lightning Dock.

See **ENERGY** on **PAGE A2**

Energy Plant Coming To N.M.

from PAGE A1

The plant will be designed to generate enough electricity to power about 5,500 homes, but the geothermal resource is probably sufficient to allow production of about twice as much energy, said Richard Putnam of Raser's investor relations department.

About 100 jobs will be created during construction of the plant, Putnam said. Perhaps a dozen people will be needed to operate it.

The site, on leased Bureau of Land Management property in New Mexico's Bootheel, has long been known to contain geothermal resources. A commercial greenhouse there has used geothermal energy for years.

Putnam said that the hot water that occurs naturally underground is about 300 degrees and that most geothermal power plants need 400-degree water, so the resource was never used for electricity production. He said Raser looks for resources that have been passed over by other companies as unusable, then employs proprietary technology designed to tap lower-temperature geothermal energy.

Raser expects to begin operating a geothermal power plant in Utah this year and has resources in four other states.

The hot water is pumped out of the ground, and it turns to steam. The steam's kinetic energy powers turbines that generate electricity, Putnam said the electricity will enter transmission lines near Lightning Dock for delivery to Phoenix. The water is reinjected into the ground.

The plant uses no conventional fuels, emits no pollutants and has no effect on groundwater, Putnam said. He added that traditional coal-fired power plants are becoming more difficult to build because of greenhouse gas concerns, so utilities

Coming To N.M.

from PAGE A1

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The plant uses no conventional fuels, emits no pollutants and has no effect on groundwater, Putnam said. He added that traditional coal-fired power plants are becoming more difficult to build because of greenhouse gas concerns, so utilities are buying more alternative energy.

Raser is listed on the New York Stock Exchange. At the close of trading Wednesday, Raser sold for \$9.74, up 7 cents a share.

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RUBIN, WINSTON, DIERCKS, HARRIS & COOKE, L.L.P.

A REGISTERED LIMITED LIABILITY PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

ATTORNEYS AT LAW

SIXTH FLOOR

1155 CONNECTICUT AVENUE, NW

WASHINGTON, DC 20036

(202) 861-0870

FAX: (202) 429-0657

June 23, 2008

Mr. Wayne Price
Environmental Bureau Chief
New Mexico Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Dept.
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

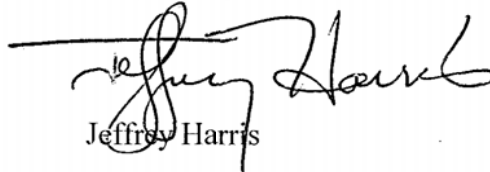
Re: Notice of Publication, Los Lobos Geothermal, LLC,
Lightning Dock Geothermal No.1, Animas, New Mexico

Dear Mr. Price:

Pursuant to the above referenced Notice of Publication, please put me on the facility-specific mailing list for future notices concerning the Los Lobos Geothermal, LLC application for a discharge permit. Since we are concerned that we receive timely notice, if your system permits, we would be pleased to receive future notices by email at jharris@rwdhc.com.

Your prompt attention to this request will be greatly appreciated.

Very truly yours,



Jeffrey Harris

cc: Steve Brown
Los Lobos Geothermal, LLC

Chavez, Carl J, EMNRD

From: Price, Wayne, EMNRD
Sent: Wednesday, June 04, 2008 12:53 PM
To: Jay Hamilton
Cc: Chavez, Carl J, EMNRD
Subject: RE: Lightning Dock Geothermal No. 1 (HI-01) LLC. Administratively Complete, Public Notice & Draft Permit

Jay, I have reviewed the public notice and it appears to have all of the elements as required by our regulations Subsection F of 20.6.2.3108 NMAC. In addition, you will be required to abide by 20.6.2.3108 B as follows:

B. Within 30 days of the department deeming an application for discharge permit or discharge permit modification administratively complete, the applicant shall provide notice, in accordance with the requirements of Subsection F of 20.6.2.3108 NMAC, to the general public in the locale of the proposed discharge in a form provided by the department by each of the methods listed below:

- (1) for each 640 contiguous acres or less of a discharge site, prominently posting a synopsis of the public notice at least 2 feet by 3 feet in size, in English and in Spanish, at a place conspicuous to the public, approved by the department, at or near the proposed facility for 30 days; one additional notice, in a form approved by and may be provided by the department, shall be posted at a place located off the discharge site, at a place conspicuous to the public and approved by the department; the department may require a second posting location for more than 640 contiguous acres or when the discharge site is not located on contiguous properties;
- (2) providing written notice of the discharge by mail, to owners of record of all properties within a 1/3 mile distance from the boundary of the property where the discharge site is located; if there are no properties other than properties owned by the discharger within a 1/3 mile distance from the boundary of property where the discharge site is located, the applicant shall provide notice to owners of record of the next nearest adjacent properties not owned by the discharger;
- (3) providing notice by certified mail, return receipt requested, to the owner of the discharge site if the applicant is not the owner; and
- (4) publishing a synopsis of the notice in English and in Spanish, in a display ad at least three inches by four inches not in the classified or legal advertisements section, in a newspaper of general circulation in the location of the proposed discharge.

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Tuesday, June 03, 2008 12:48 PM
To: Price, Wayne, EMNRD
Subject: Fwd: Lightning Dock Geothermal No. 1 (HI-01) LLC. Administratively Complete, Public Notice & Draft Permit

Wayne,

This is the information that Carl sent last week.

Thanks,

Jay

Note: forwarded message attached.

This inbound email has been scanned by the MessageLabs Email Security System.

6/10/2008

Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Monday, June 09, 2008 5:26 PM
To: Chavez, Carl J, EMNRD; Price, Wayne, EMNRD
Subject: Lightning Dock - Public Notice Information
Attachments: 3582628012-Ltr - Carl Chavez - Public Notice.doc; 3059685703-PUBLIC NOTICE - NEWSPAPER.wpd; 266558908-Map - PN Sign Locations.doc; 189485252-Newspaper Ad - Public Notice.doc; 426297851-Ltr - Carl - Public Notice - Signed.doc

Carl,

I have attached the information for your review on the Public Notice Information.

We plan on submitting the newspaper notice in on Tuesday.

thanks,

Jay

This inbound email has been scanned by the MessageLabs Email Security System.

6/10/2008



Compliance Specialist

Assessments : Remediation

June 9, 2008

Mr. Carl Chavez
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Re: Requesting Approval to proceed with the Public Notice for the Lightning Dock
Geothermal No.- 01 power plant located in Hidalgo County, New Mexico

Mr. Chavez:

Los Lobos Renewable Power (LLRP) is requesting approval to proceed with the public notice for the proposed Lightning Dock Geothermal No. 1 Discharge Permit in Hidalgo County, New Mexico.

LLRP is submitting the following information for the New Mexico Oil Conservation Division (OCD) review as outlined in 20.6.2.3108 NMAC:

Applicant will provide the following public notice on at least a 2 foot by 3 foot sign in two locations in English and in Spanish. See attachment for map of sign location and text.

Applicant will provide written notice by certified mail to the following owners of record of properties within a 1/3 mile distance from the boundary of the discharge property:

Thomas McCants
4359 Oak Grove Blvd.
San Angelo, TX 76904

Burgett Geothermal Greenhouses, Inc.
Attention: Dale Burgett
29 Rose Lane
Animas, New Mexico 88020

Americulture
Attention: Damon Seawright
HC 65 Box 260 C
Animas, New Mexico 88020

Applicant will publish a synopsis of the public notice in both English and in Spanish, in a display ad at least three inches by four inches in the general circulation section of the local paper, Lordsburg Liberal 211 Shakespeare, Lordsburg, NM.

If OCD needs additional information please contact Jay Hamilton at (801) 361-2102 or at hamiltonenviro@yahoo.com.

Sincerely,

Jay Hamilton
Project Manager

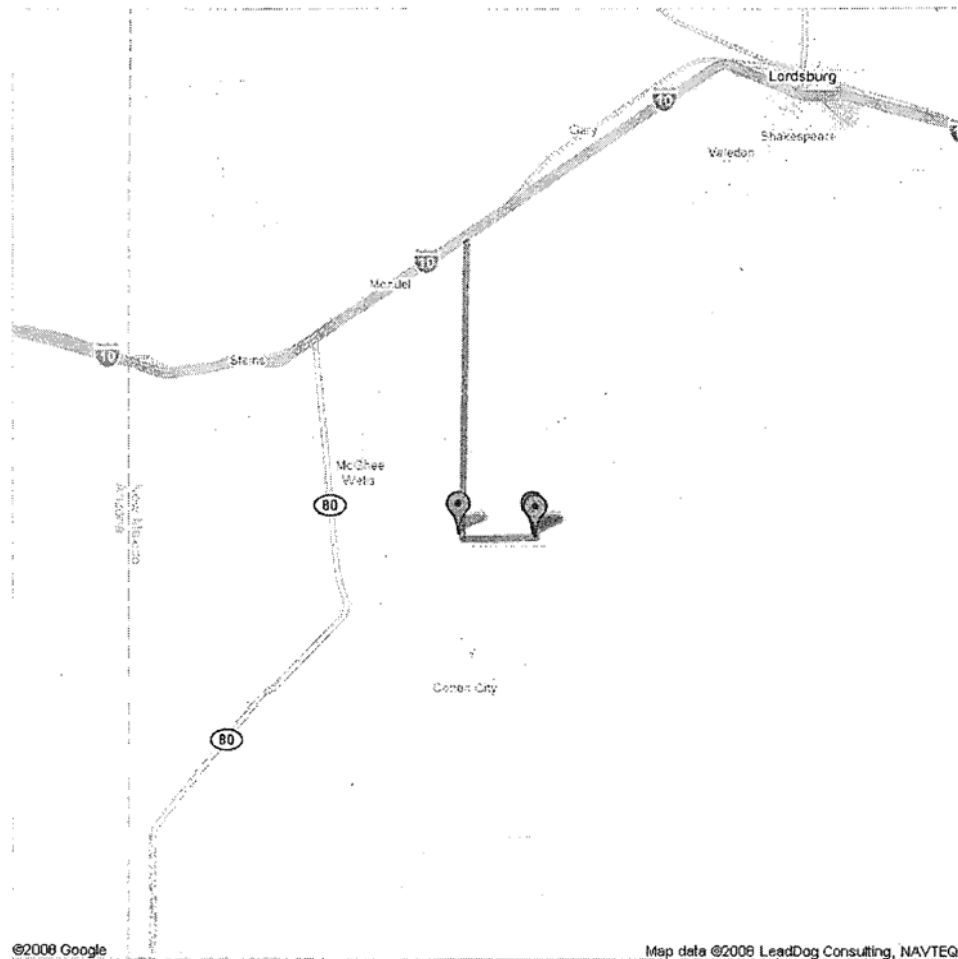
cc: Steve Brown

NOTICE OF PUBLICATION

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control commission Regulation (20.6.2.3106); the following discharge permit application (s) has been submitted to the Director of the New Mexico Oil Conservation Division (NMOCD'), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GT-001) Lightning Dock Geothermal No. 1, HI-01 LLC. Mr Steve Brown, 5152 North Edgewood Drive Suite 375, Provo, Utah 84604 has submitted an application for a new discharge permit for the Lightning dock Geothermal No. 1, HI-01 LLC LLC "Binary Cycle" 15 MWe Geothermal Power Plant (5 Production/Development Wells & 3 Class V) located in the NW/4, SW/4 of Section 7, Township 25 South, Range 19 West, NMPM, Hidalgo County, New Mexico. The plant is located approximately 10 miles south of I-10 on CR 338 (east side of Geothermal Road). The development wells are located within the SW/4; NW/4; and NE/4 of Section 7. The class V Wells are located within the NE/4 and NW/4 of Section 18. Development wells will produce approximately 15,000 gpm of 250-300 degree F geothermal water with a total dissolved solids (TDS) concentration of approximately 1,300 mg/L from the Horquilla Formation (geothermal carbonate reservoir) at a depth of 3,400 feet below ground level. Geothermal water will be routed in parallel to 50 portable self-contained (with heat exchanger, evaporator & condenser) binary cycle power generation units. Approximately 1,500 gpm of shallow ground water with a TDS concentration of approximately 300 mg/L will be cycled through the cooling tower unit. Of this, approximately 425 gpm of cooling tower blow-down effluent along with the remainder of produced water (180~225 degree F) will be injected into the geothermal reservoir at a maximum injection rate of between 4,000 to 5,000 gpm, and average pressure of about 75 psig per Class V Well. Lined evaporation ponds at the surface will temporarily store any excess produced or well test water for reinjection into the geothermal reservoir. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth of approximately 50 feet with a TDS of approximately 300 mg/L. The discharge plan addresses well construction, operation, monitoring, testing of the wells, associated surface facilities, and provides a contingency plan in the event of accidental spills, leaks and other accidental discharges in order to protect fresh water.

Google
MapsGet Google Maps on your phone
Text the word "GMAPS" to 466453**Lightning Dock Project**

6 views - Public

Created on Apr 14 - Updated 5 days ago

By Jim

Rate this map - Write a comment

<http://maps.google.com/maps/ms?ie=UTF8&hl=en&msa=0&msid=1029189775321179354...> 6/9/2008

NOTICE OF PUBLICATION
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

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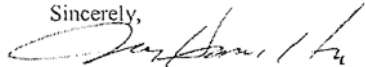
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Americulture
Attention: Damon Seawright
HC 65 Box 260 C
Animas, New Mexico 88020

Applicant will publish a synopsis of the public notice in both English and in Spanish, in a display ad at least three inches by four inches in the general circulation section of the local paper, Lordsburg Liberal 211 Shakespeare, Lordsburg, NM.

If OCD needs additional information please contact Jay Hamilton at (801) 361-2102 or at hamiltonenviro@yahoo.com.

Sincerely,



Jay Hamilton
Project Manager

cc: Steve Brown

Chavez, Carl J, EMNRD

From: Brooks, David K., EMNRD
Sent: Wednesday, May 21, 2008 8:57 AM
To: Chavez, Carl J, EMNRD
Subject: RE: forms for cash bond
Attachments: Cash Bond - Geothermal Injection.doc; Cash Bond - Asgmt Geothermal.doc

Carl

I modified the form as suggested, and I have left a call for Mr. Holt to get an email address so I can send him the forms.

David

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 20, 2008 1:44 PM
To: Brooks, David K., EMNRD; Price, Wayne, EMNRD
Subject: RE: forms for cash bond

David:

I made a couple of changes. One of the names of your files was spelled "cahs" instead of cash. The township was spelled "Twsp" in one of the documents. I made the change to "Twp." Please find attached the final documents with the changes.

Finally, shouldn't the Assignment of Cash Collateral Deposit have API#s to reference, which wells that the \$50K should be spent on?

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Brooks, David K., EMNRD
Sent: Tuesday, May 20, 2008 1:42 PM
To: Price, Wayne, EMNRD; Chavez, Carl J, EMNRD
Subject: forms for cash bond

Gentlemen

Attached are proposed forms to be used for a cash bond with assignment financial assurance for geothermal injections wells.

I prepared these by adapting our oil and gas well plugging cash bond and assignment forms.

Please review and indicate your approval, in which case I will send them to Mr. Holt, who called me on behalf of the operator.

David

5/21/2008

STATE OF NEW MEXICO
Energy, Minerals and Natural Resources Department
Oil Conservation Division

ASSIGNMENT OF CASH COLLATERAL DEPOSIT

_____ ("OPERATOR") of
_____,
_____ (address) has
deposited with _____
_____ (name of federally insured state or
national bank
or savings association in the State of New Mexico)
of _____,
_____ (address) (FINANCIAL INSTITUTION), the sum
of _____
dollars (\$ _____) in Certificate of Deposit or Savings Account No.
_____ (FUND), as financial assurance for the following wells:

<u>API Number</u>	<u>Footage N/S</u>	<u>Footage E/W</u>	<u>Section/Twp/Range</u>
30-0 - _____	_____ FNL/FSL _____	FEL/FWL _____	_____/_____(N/S)/_____(E/W)
30-0 - _____	_____ FNL/FSL _____	FEL/FWL _____	_____/_____(N/S)/_____(E/W)
30-0 - _____	_____ FNL/FSL _____	FEL/FWL _____	_____/_____(N/S)/_____(E/W)

OPERATOR hereby assigns all right, title and interest in the FUND, except as herein otherwise provided, to the Oil Conservation Division of the Energy, Minerals and Natural Resources Department (or successor agency) of the State of New Mexico (the DIVISION).

OPERATOR AND FINANCIAL INSTITUTION agree that as to the FUND:

- a. The DIVISION acquires by this assignment the entire beneficial interest in the FUND with the right to order the FINANCIAL INSTITUTION in writing to distribute the FUND to persons determined by the DIVISION to be entitled thereto, including the DIVISION itself, in amounts determined by the DIVISION, without further consent by the OPERATOR. FINANCIAL INSTITUTION hereby acknowledges that the DIVISION is FINANCIAL INSTITUTION'S customer with respect to the FUND.
- b. OPERATOR retains no legal or beneficial interest in the FUND except the right to interest, if any, thereon, and to return of the FUND upon written order of the DIVISION following full and final performance of all terms and conditions of Operator's financial assurance.
- c. FINANCIAL INSTITUTION agrees that the FUND may not be assigned, transferred, pledged or distributed except upon written order of the DIVISION or of a court order entered in a proceeding to which the DIVISION is a party. FINANCIAL INSTITUTION hereby waives all statutory or common law liens or rights of set-off or recoupment against the FUND by reason of any indebtedness or obligation of OPERATOR to FINANCIAL INSTITUTION now existing or hereafter incurred.

OPERATOR, any costs or attorney fees incurred by FINANCIAL INSTITUTION by reason of any claim or demand via writ, summons or other process made upon FINANCIAL INSTITUTION arising from OPERATOR'S business. FINANCIAL INSTITUTION agrees that no such costs or fees shall be deducted from the principal of the FUND prior to final release thereof to OPERATOR by the DIVISION.

This agreement shall be governed by the laws of the State of New Mexico.

Operator

Financial Institution

By: _____

By: _____

(Signature of Individual Operator)
Financial Institution)

(Signature of Authorized Officer of

Title

Title

NOTE: If the officer executing this instrument on behalf of the Financial Institution is not the President, a Vice President or a branch manager, attach a copy of certified resolution of the Board of Directors evidencing such officer's authority.

INDIVIDUAL ACKNOWLEDGMENT: (If individual is dba, must read – Example: John Doe dba ABC Services)

State of New Mexico

County of _____.

This instrument was acknowledged before me on this _____ day of ,

_____ 20____,

by _____

(Individual Operator)

(Notary Public)

SEAL

My Commission Expires:

ACKNOWLEDGMENT FOR PARTNERSHIP, CORPORATION OR LIMITED LIABILITY COMPANY:

State of New Mexico

County of _____

This instrument was acknowledged before me on this _____ day of _____ 20____,

by _____

(Name of Person(s) Signing)

as

_____ of _____

(Capacity, e.g., Partner, President, etc.)

(Name of Operator)

a _____
(Partnership, Corporation or Limited Liability Company)

(Notary Public)

SEAL

My Commission Expires:

FINANCIAL INSTITUTION ACKNOWLEDGMENT:

State of New Mexico

County of _____

This Instrument was acknowledged before me on this _____ day of _____ 20____,

by _____

(Name of Officer)

as _____ of _____

(Title)

(Name of Financial

Institution)

(Notary Public)

SEAL

My Commission Expires:

STATE OF NEW MEXICO
Energy, Minerals and Natural Resources Department
Oil Conservation Division

MULTI-WELL CASH FINANCIAL ASSURANCE BOND (GEOTHERMAL INJECTION)

_____, ("OPERATOR"), a(n)
(Name of Operator)
_____, organized in the State of
(Individual, Partnership, Corporation, Limited Liability Company, Etc.)

_____, and authorized to do business in the State of New Mexico, whose mailing address is
_____, _____, _____ is hereby firmly bound to the Oil
Conservation Division of the Energy, Minerals and Natural Resources Department (or successor agency) of the State
of New Mexico ("the DIVISION"), in the sum of **Fifty Thousand Dollars (\$50,000)** upon the following conditions:

OPERATOR desires to drill, acquire, or assume operation of, certain injection wells to be used in
connection with prospecting for and/or producing geothermal resources in the State of New Mexico; specifically
described as follows:

<u>API Number</u>	<u>Footage N/S</u>	<u>Footage E/W</u>	<u>Section/Twp/Range</u>
30-0 - _____	_____ FNL/FSL _____	_____ FEL/FWL _____	____/____(N/S)/____(E/W)
30-0 - _____	_____ FNL/FSL _____	_____ FEL/FWL _____	____/____(N/S)/____(E/W)
30-0 - _____	_____ FNL/FSL _____	_____ FEL/FWL _____	____/____(N/S)/____(E/W)

OPERATOR has deposited on behalf of the DIVISION the sum of **Fifty Thousand Dollars (\$50,000)**
with _____ ("FINANCIAL INSTITUTION") in the account indicated on, and
subject to the terms of, the Assignment attached to this bond. OPERATOR pledges this sum as financial assurance
that it or its successors or personal representatives will undertake all measures necessary to prevent contamination of
ground water having 10,000 mg/l or less TDS, after the cessation of operation of the above-described wells,
including, but not limited to, the proper closing, plugging and abandonment of the said wells, ground water
restoration if applicable, and any post-operational monitoring as may be needed, in accordance with applicable
Rules and orders of the Division, and of the New Mexico Water Quality Control Commission. If OPERATOR does
not so properly plug and abandon said wells, and otherwise comply with the requirements above set forth, upon
order of the DIVISION after notice and hearing, the total sum of this bond shall be forfeited to the DIVISION. If
the principal sum of this bond is less than the actual cost incurred by the DIVISION in plugging and abandoning
said wells and performing any remedial actions required to be performed and not performed by Operator,
OPERATOR, its successors, heirs or personal representatives, shall be liable for such deficiency, and the DIVISION
may initiate action to recover same.

If OPERATOR or its successors, heirs, personal representatives or assigns cause the above-described wells
to be properly plugged and abandoned in accordance with all applicable rules and orders of the DIVISION, as above
described, and shall otherwise comply the obligations described in the preceding paragraph, this obligation shall be
null and void, and the principal sum of the deposit securing this bond shall be released to OPERATOR or to its
successors, heirs, or personal representatives. Otherwise to remain in full force and effect.

PRINCIPAL
By _____
Signature

Title

Return to: **Oil Conservation Division**
1220 South Saint Francis
Santa Fe, NM 87505

INDIVIDUAL ACKNOWLEDGMENT:

State of New Mexico

County of _____

This instrument was acknowledged before me on _____, 20__, by

(Individual Operator)

Notary Public

SEAL

My Commission Expires:

ACKNOWLEDGMENT FOR PARTNERSHIP, CORPORATION OR LIMITED LIABILITY COMAPNY:

State of New Mexico

County of _____

This instrument was acknowledged before me on _____, 20__, by
_____ of

(Name of signing person)

(Title)

(Name of Operator)

SEAL

My Commission Expires:

APPROVED BY:

Oil Conservation Division of New Mexico

By _____

Date _____

Chavez, Carl J, EMNRD

From: Prouty, Jane, EMNRD
Sent: Tuesday, May 20, 2008 4:59 PM
To: Chavez, Carl J, EMNRD
Subject: RE: Forms G-107 & 109

Thanks. They are posted.

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 20, 2008 3:29 PM
To: Prouty, Jane, EMNRD
Cc: Price, Wayne, EMNRD; Gum, Tim, EMNRD; Hansen, Edward J., EMNRD
Subject: RE: Forms G-107 & 109

Jane:

Please find attached 2 more forms that need to be added to the OCD website. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Prouty, Jane, EMNRD
Sent: Monday, May 19, 2008 12:22 PM
To: Chavez, Carl J, EMNRD
Subject: Forms

Thanks again for getting those into individual .tifs. I have a few more meetings today, but I'll have them on the web before the end of the day.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 20, 2008 4:33 PM
To: 'hamiltonenviro@yahoo.com'
Cc: Price, Wayne, EMNRD
Subject: Lightning Dock Geothermal No. 1 HI-01 (GT-001) Geothermal Forms (G-101 through G-112) on OCD Website

Jay:

The OCD has placed the Geothermal Forms (G-101 – G-112) on its website at <http://www.emnrd.state.nm.us/oed/Forms.htm>. Note that G-107 and G-109 are not present yet, but will soon be placed with the rest of the geothermal forms at the aforementioned website address.

Please familiarize yourself with the forms that were developed by the OCD to satisfy 19.14 NMAC. Please note that the Well Summary and Well History Forms must be shared with the USGS and the New Mexico Bureau of Mines (now known as the "Bureau of Geology and Natural Resources"). I have calls into these agencies to identify key contacts for the geothermal programs and where the forms should go. I will forward the contact info. when I know more. Once they are identified, they will be directed to the OCD Online system at <http://oedimage.emnrd.state.nm.us/imaging/AEOOrderCriteria.aspx> where they can access application and correspondence information associated with GT-001. I plan to post the application on OCD Online tomorrow. I am working on the public notice, draft permit and Admin. Complete letter and plan to complete these by this Thursday COB.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

5/21/2008

Chavez, Carl J, EMNRD

From: Price, Wayne, EMNRD
Sent: Tuesday, May 20, 2008 2:42 PM
To: Brooks, David K., EMNRD; Chavez, Carl J, EMNRD
Subject: RE: forms for cash bond

Carl, please handle

From: Brooks, David K., EMNRD
Sent: Tuesday, May 20, 2008 1:42 PM
To: Price, Wayne, EMNRD; Chavez, Carl J, EMNRD
Subject: forms for cash bond

Gentlemen

Attached are proposed forms to be used for a cash bond with assignment financial assurance for geothermal injections wells.

I prepared these by adapting our oil and gas well plugging cash bond and assignment forms.

Please review and indicate your approval, in which case I will send them to Mr. Holt, who called me on behalf of the operator.

David

5/21/2008

Chavez, Carl J, EMNRD

From: Brooks, David K., EMNRD
Sent: Tuesday, May 20, 2008 1:42 PM
To: Price, Wayne, EMNRD; Chavez, Carl J, EMNRD
Subject: forms for cash bond
Attachments: Cash Bond - Geothermal Injection.doc; Cahs Bond - Asgmt Geothermal.doc

Gentlemen

Attached are proposed forms to be used for a cash bond with assignment financial assurance for geothermal injections wells.

I prepared these by adapting our oil and gas well plugging cash bond and assignment forms.

Please review and indicate your approval, in which case I will send them to Mr. Holt, who called me on behalf of the operator.

David

5/21/2008

Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Tuesday, May 20, 2008 11:54 AM
To: Chavez, Carl J, EMNRD
Subject: Re: Bond forms for Geothermal wells

Carl,

Thanks for the forms. Just waiting for the API numbers.

Jay

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Cc: "Brooks, David K., EMNRD" <david.brooks@state.nm.us>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Phillips, Dorothy, EMNRD" <dorothy.phillips@state.nm.us>; "Gum, Tim, EMNRD" <tim.gum@state.nm.us>; "Prouty, Jane, EMNRD" <jane.prouty@state.nm.us>
Sent: Tuesday, May 20, 2008 11:17:41 AM
Subject: FW: Bond forms for Geothermal wells

Jay:

Please find the bond forms attached for the production or development wells under (19.14.20 NMAC). As you aware, Tim Gum is in the process of assigning API#s for all production wells (5) and all injection wells (3).

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe , New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Brooks, David K., EMNRD
Sent: Tuesday, May 20, 2008 10:38 AM
To: Chavez, Carl J, EMNRD ; Phillips, Dorothy, EMNRD
Cc: Prouty, Jane, EMNRD
Subject: RE: Bond forms for Geothermal wells

5/21/2008

From: Prouty, Jane, EMNRD
Sent: Sunday, May 18, 2008 8:47 AM
To: Brooks, David K., EMNRD
Cc: Chavez, Carl J, EMNRD ; Phillips, Dorothy, EMNRD
Subject: Bond forms for Geothermal wells

Hi, David. Carl and I reviewed the bonding requirements for geothermal wells. Raser Technologies will be drilling five producing wells that will be approximately 3,400' deep. They will obtain one \$10,000 multi-well plugging bond to cover four of these "deep" wells and one \$5,000 One-well plugging bond to cover the fifth.

The rules say that these must be surety bonds.

Due to your great expertise in working with bonds, we need you to create bond forms for these two bonds. None of the current bond forms is a very close match due to the need to address surety bonds and the need to address multiple specific API numbers and information on the multi-well bond.

When you get the bond forms done and the operator supplies the bonds, I will work with Dorothy regarding how to record them in our system. Most likely, they will be recorded as four single well bonds at \$2,500 each and one single well bond at \$5,000. I will help Dorothy get past the system edits. For the small number of wells expected, I don't know that it's feasible to include geothermal plugging bonds in future financial assurance computer applications, but if I can I will. If you plan to change the geothermal rules to get the bonding more in line with oil and gas well bonding, please let me know.

Carl needs this **pretty darn quickly**. I'll let him work with you on his exact deadline. Thanks very much.

Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient (s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message. -- This email has been scanned by the Sybari - Antigen Email System.

This inbound email has been scanned by the MessageLabs Email Security System.

5/21/2008

Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Tuesday, May 20, 2008 10:55 AM
To: Chavez, Carl J, EMNRD
Subject: Re: Lightning Dock - Cold Water Analytical Report
Attachments: Cold Water analytical for wells 5-13-08.pdf

Carl,

Thanks,

Jay

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Sent: Tuesday, May 20, 2008 9:33:34 AM
Subject: RE: Lightning Dock - Cold Water Analytical Report

Jay:

I believe you wanted to send the attached analytical data. Please send the attachment. Thnx.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe , New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto: hamiltonenviro@yahoo.com]
Sent: Tuesday, May 20, 2008 9:05 AM
To: Chavez, Carl J, EMNRD
Subject: Lightning Dock - Cold Water Analytical Report

Carl,

Here are the analtical results form one of the wells at the Lightning Dock Site. I will provide a map of the location of the well.

This a possible source of the Cooling Tower water.

Thanks,

Jay

5/21/2008

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Chavez, Carl J, EMNRD

From: Prouty, Jane, EMNRD
Sent: Tuesday, May 20, 2008 10:53 AM
To: Brooks, David K., EMNRD; Chavez, Carl J, EMNRD; Phillips, Dorothy, EMNRD
Subject: RE: Bond forms for Geothermal wells

Thanks so much, David. Carl, can you please proceed with these? I will post them on the web when I have a moment.

From: Brooks, David K., EMNRD
Sent: Tuesday, May 20, 2008 10:38 AM
To: Chavez, Carl J, EMNRD; Phillips, Dorothy, EMNRD
Cc: Prouty, Jane, EMNRD
Subject: RE: Bond forms for Geothermal wells

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To: Brooks, David K., EMNRD
Cc: Chavez, Carl J, EMNRD; Phillips, Dorothy, EMNRD
Subject: Bond forms for Geothermal wells

Hi, David. Carl and I reviewed the bonding requirements for geothermal wells. Raser Technologies will be drilling five producing wells that will be approximately 3,400' deep. They will obtain one \$10,000 multi-well plugging bond to cover four of these "deep" wells and one \$5,000 One-well plugging bond to cover the fifth.

The rules say that these must be surety bonds.

Due to your great expertise in working with bonds, we need you to create bond forms for these two bonds. None of the current bond forms is a very close match due to the need to address surety bonds and the need to address multiple specific API numbers and information on the multi-well bond.

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Carl needs this **pretty darn quickly**. I'll let him work with you on his exact deadline. Thanks very much.

5/21/2008

Chavez, Carl J, EMNRD

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Sent: Tuesday, May 20, 2008 9:05 AM
To: Chavez, Carl J, EMNRD
Subject: Lightning Dock - Cold Water Analytical Report

Carl,

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This a possible source of the Cooling Tower water.

Thanks,

Jay

This inbound email has been scanned by the MessageLabs Email Security System.

5/21/2008

Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Tuesday, May 20, 2008 8:55 AM
To: Chavez, Carl J, EMNRD; Price, Wayne, EMNRD
Subject: Fw: Underground Piping Systems for Thermal & Lightning Dock Sites

Carl/Wayne,

This the status of the underground piping details.

I will call so we can discuss this.

Thanks,

Jay

----- Forwarded Message -----

From: "Shilander, Robert" <Robert.Shilander@hdrinc.com>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Cc: Steven Brown <steve.brown@rasertech.com>; Bob Nash <Bob.Nash@icpeinc.com>; Ross Hansen <Ross.Hansen@icpeinc.com>; jim.rosser@rasertech.com; FRANCOMR@comcast.net
Sent: Monday, May 19, 2008 12:13:26 PM
Subject: Underground Piping Systems for Thermal & Lightning Dock Sites

Jay,

The following are a summaries of the **Underground Piping Systems** at the Thermo, Utah and Lightning Dock/Lordsburg, New Mexico Sites:

- **Fire Protection System** ---- a combination of 6" through 10" diameter Ductile Cast Iron Piping, Fittings, & Fixtures ---- interconnected with PVC Piping.
- **Instrument Air System** ---- 2" diameter Welded Stainless Steel Piping
- **Cooling Water System** ---- 24" and 36" diameter Welded Carbon Steel Piping --- Wrapped and Coated for corrosion protection --- and as additionally Catholically Protected to prevent corrosion due to soil conditions
- **Equipment Drain System** ----- a combination of 3" and 4" diameter Cast Iron Piping
- **Geothermal Water System** ---- *although not yet designed*, the Geothermal Water Piping consisting of 14" to 22" diameter Welded Carbon Steel Piping will necessarily be required to pass under Site and County Roads. Those Road Crossings will be below grade; however, passing through Sleeves/Structures rather than any type of direct burial.

Design (Drawings BE01-UP-1060 through 1069) and related Specifications for the Thermo, Utah Site systems (*except for the Geothermal Pipe/Road Crossings*) will be completed and issued and available at ICPE and/or Raser's Provo Office on **May 20, 2008**.

Design (Drawings HI01-Up-1060 through 1069) for the Lightning Dock/Lordsburg, new Mexico Site systems (*except for the Geothermal Pipe/Road Crossings*) will be completed and issued and available at ICPE and/or Raser's Provo Office on **June 13, 2008**.

Bob & Ross,

Please provide a separate PDF File of the above (i.e., drawings & specifications) to Jay when it is Issued.

THANKX,

Robert Shilander

Program Manager - Raser Rower Systems - Geothermal Projects

HDR|C&B ONE COMPANY | *Many Solutions*

5405 Data Court | Ann Arbor, MI | 48108

Phone: 734.332.6486 | Fax: 734.761.9881 | Cell: 734.476.2551

Email: Robert.Shilander@hdrinc.com

www.hdrinc.com | www.cummins-barnard.com

This inbound email has been scanned by the MessageLabs Email Security System.

5/21/2008

Chavez, Carl J, EMNRD

From: Prouty, Jane, EMNRD

Sent: Monday, May 19, 2008 12:22 PM

To: Chavez, Carl J, EMNRD

Subject: Forms

Thanks again for getting those into individual .tifs. I have a few more meetings today, but I'll have them on the web before the end of the day.

5/21/2008

Chavez, Carl J, EMNRD

From: Prouty, Jane, EMNRD
Sent: Sunday, May 18, 2008 9:47 AM
To: Brooks, David K., EMNRD
Cc: Chavez, Carl J, EMNRD; Phillips, Dorothy, EMNRD
Subject: Bond forms for Geothermal wells

Hi, David. Carl and I reviewed the bonding requirements for geothermal wells. Raser Technologies will be drilling five producing wells that will be approximately 3,400' deep. They will obtain one \$10,000 multi-well plugging bond to cover four of these "deep" wells and one \$5,000 One-well plugging bond to cover the fifth.

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Subject: RE: Forms G-107 & 109
Attachments: G-107.pdf; G-109.pdf

Jane:

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Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
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Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

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Subject: Forms

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5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 20, 2008 2:44 PM
To: Brooks, David K., EMNRD; Price, Wayne, EMNRD
Subject: RE: forms for cash bond
Attachments: Cash Bond - Asgmt Geothermal.doc; Cash Bond - Geothermal Injection.doc

David:

I made a couple of changes. One of the names of your files was spelled "cahs" instead of cash. The township was spelled "Twsp" in one of the documents. I made the change to "Twp." Please find attached the final documents with the changes.

Finally, shouldn't the Assignment of Cash Collateral Deposit have API#s to reference, which wells that the \$50K should be spent on?

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
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(Pollution Prevention Guidance is under "Publications")

From: Brooks, David K., EMNRD
Sent: Tuesday, May 20, 2008 1:42 PM
To: Price, Wayne, EMNRD; Chavez, Carl J, EMNRD
Subject: forms for cash bond

Gentlemen

Attached are proposed forms to be used for a cash bond with assignment financial assurance for geothermal injections wells.

I prepared these by adapting our oil and gas well plugging cash bond and assignment forms.

Please review and indicate your approval, in which case I will send them to Mr. Holt, who called me on behalf of the operator.

David

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, May 21, 2008 9:07 AM
To: Brooks, David K., EMNRD
Cc: Price, Wayne, EMNRD; Gum, Tim, EMNRD; Gum, Tim, EMNRD; Brooks, David K., EMNRD; 'hamiltonenviro@yahoo.com'; Prouty, Jane, EMNRD
Subject: FW: forms for cash bond for Class V Injection Wells (WQCC: 20.6.2 NMAC)
Attachments: Cash Bond - Geothermal Injection.doc; Cash Bond - Asgmt Geothermal.doc

David:

Thanks for the quick turn around on the following bond forms:

19.14.20 NMAC (Geothermal Power) Production Wells

20.6.2 NMAC (WQCC) Injection Wells (attached bond files)

I believe OCD needs to determine whether the attached WQCC related bonds need to be placed on the OCD Forms page along with the Other geothermal power production well bonds that you developed.

Thanks again.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Brooks, David K., EMNRD
Sent: Wednesday, May 21, 2008 8:57 AM
To: Chavez, Carl J, EMNRD
Subject: RE: forms for cash bond

Carl

I modified the form as suggested, and I have left a call for Mr. Holt to get an email address so I can send him the forms.

David

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 20, 2008 1:44 PM
To: Brooks, David K., EMNRD; Price, Wayne, EMNRD
Subject: RE: forms for cash bond

David:

5/21/2008

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Carl J. Chavez, CHMM
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David

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 20, 2008 2:32 PM
To: Prouty, Jane, EMNRD
Subject: RE: Bond forms for Geothermal wells

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
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E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Prouty, Jane, EMNRD
Sent: Tuesday, May 20, 2008 10:53 AM
To: Brooks, David K., EMNRD; Chavez, Carl J, EMNRD; Phillips, Dorothy, EMNRD
Subject: RE: Bond forms for Geothermal wells

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Sent: Tuesday, May 20, 2008 10:38 AM
To: Chavez, Carl J, EMNRD; Phillips, Dorothy, EMNRD
Cc: Prouty, Jane, EMNRD
Subject: RE: Bond forms for Geothermal wells

From: Prouty, Jane, EMNRD
Sent: Sunday, May 18, 2008 8:47 AM
To: Brooks, David K., EMNRD
Cc: Chavez, Carl J, EMNRD; Phillips, Dorothy, EMNRD
Subject: Bond forms for Geothermal wells

Hi, David. Carl and I reviewed the bonding requirements for geothermal wells. Raser Technologies will be drilling five producing wells that will be approximately 3,400' deep. They will obtain one \$10,000 multi-well plugging bond to cover four of these "deep" wells and one \$5,000 One-well plugging bond to cover the fifth.

The rules say that these must be surety bonds.

Due to your great expertise in working with bonds, we need you to create bond forms for these two bonds. None of the current bond forms is a very close match due to the need to address surety bonds and the need to address multiple specific API numbers and information on the multi-well bond.

When you get the bond forms done and the operator supplies the bonds, I will work with Dorothy regarding how to

5/21/2008

record them in our system. Most likely, they will be recorded as four single well bonds at \$2,500 each and one single well bond at \$5,000. I will help Dorothy get past the system edits. For the small number of wells expected, I don't know that it's feasible to include geothermal plugging bonds in future financial assurance computer applications, but if I can I will. If you plan to change the geothermal rules to get the bonding more in line with oil and gas well bonding, please let me know.

Carl needs this **pretty darn quickly**. I'll let him work with you on his exact deadline. Thanks very much.

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Monday, May 19, 2008 10:09 AM
To: 'hamiltonenviro@yahoo.com'
Subject: FW: Bond forms for Geothermal wells

FYI.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Prouty, Jane, EMNRD
Sent: Sunday, May 18, 2008 9:47 AM
To: Brooks, David K., EMNRD
Cc: Chavez, Carl J, EMNRD; Phillips, Dorothy, EMNRD
Subject: Bond forms for Geothermal wells

Hi, David. Carl and I reviewed the bonding requirements for geothermal wells. Raser Technologies will be drilling five producing wells that will be approximately 3,400' deep. They will obtain one \$10,000 multi-well plugging bond to cover four of these "deep" wells and one \$5,000 One-well plugging bond to cover the fifth.

The rules say that these must be surety bonds.

Due to your great expertise in working with bonds, we need you to create bond forms for these two bonds. None of the current bond forms is a very close match due to the need to address surety bonds and the need to address multiple specific API numbers and information on the multi-well bond.

When you get the bond forms done and the operator supplies the bonds, I will work with Dorothy regarding how to record them in our system. Most likely, they will be recorded as four single well bonds at \$2,500 each and one single well bond at \$5,000. I will help Dorothy get past the system edits. For the small number of wells expected, I don't know that it's feasible to include geothermal plugging bonds in future financial assurance computer applications, but if I can I will. If you plan to change the geothermal rules to get the bonding more in line with oil and gas well bonding, please let me know.

Carl needs this **pretty darn quickly**. I'll let him work with you on his exact deadline. Thanks very much.

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 20, 2008 9:34 AM
To: 'Jay Hamilton'
Subject: RE: Lightning Dock - Cold Water Analytical Report

Jay:

I believe you wanted to send the attached analytical data. Please send the attachment. Thnx.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Tuesday, May 20, 2008 9:05 AM
To: Chavez, Carl J, EMNRD
Subject: Lightning Dock - Cold Water Analytical Report

Carl,

Here are the analytical results from one of the wells at the Lightning Dock Site. I will provide a map of the location of the well.

This is a possible source of the Cooling Tower water.

Thanks,

Jay

This inbound email has been scanned by the MessageLabs Email Security System.

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 20, 2008 11:18 AM
To: 'Jay Hamilton'
Cc: Brooks, David K., EMNRD; Price, Wayne, EMNRD; Phillips, Dorothy, EMNRD; Gum, Tim, EMNRD; Prouty, Jane, EMNRD
Subject: FW: Bond forms for Geothermal wells
Attachments: FORM GT-B1 Sample.doc; FORM GT-B2 Sample.doc

Jay:

Please find the bond forms attached for the production or development wells under (19.14.20 NMAC). As you aware, Tim Gum is in the process of assigning API#s for all production wells (5) and all injection wells (3).

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
 New Mexico Energy, Minerals & Natural Resources Dept.
 Oil Conservation Division, Environmental Bureau
 1220 South St. Francis Dr., Santa Fe, New Mexico 87505
 Office: (505) 476-3491
 Fax: (505) 476-3462
 E-mail: CarlJ.Chavez@state.nm.us
 Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
 (Pollution Prevention Guidance is under "Publications")

From: Brooks, David K., EMNRD
Sent: Tuesday, May 20, 2008 10:38 AM
To: Chavez, Carl J, EMNRD; Phillips, Dorothy, EMNRD
Cc: Prouty, Jane, EMNRD
Subject: RE: Bond forms for Geothermal wells

From: Prouty, Jane, EMNRD
Sent: Sunday, May 18, 2008 8:47 AM
To: Brooks, David K., EMNRD
Cc: Chavez, Carl J, EMNRD; Phillips, Dorothy, EMNRD
Subject: Bond forms for Geothermal wells

Hi, David. Carl and I reviewed the bonding requirements for geothermal wells. Raser Technologies will be drilling five producing wells that will be approximately 3,400' deep. They will obtain one \$10,000 multi-well plugging bond to cover four of these "deep" wells and one \$5,000 One-well plugging bond to cover the fifth.

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5/21/2008

record them in our system. Most likely, they will be recorded as four single well bonds at \$2,500 each and one single well bond at \$5,000. I will help Dorothy get past the system edits. For the small number of wells expected, I don't know that it's feasible to include geothermal plugging bonds in future financial assurance computer applications, but if I can I will. If you plan to change the geothermal rules to get the bonding more in line with oil and gas well bonding, please let me know.

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5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 20, 2008 2:01 PM
To: Gum, Tim, EMNRD
Subject: FW: Bond forms for Geothermal wells

FYI.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
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E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Tuesday, May 20, 2008 11:54 AM
To: Chavez, Carl J, EMNRD
Subject: Re: Bond forms for Geothermal wells

Carl,

Thanks for the forms. Just waiting for the API numbers.

Jay

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Cc: "Brooks, David K., EMNRD" <david.brooks@state.nm.us>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Phillips, Dorothy, EMNRD" <dorothy.phillips@state.nm.us>; "Gum, Tim, EMNRD" <tim.gum@state.nm.us>; "Prouty, Jane, EMNRD" <jane.prouty@state.nm.us>
Sent: Tuesday, May 20, 2008 11:17:41 AM
Subject: FW: Bond forms for Geothermal wells

Jay:

Please find the bond forms attached for the production or development wells under (19.14.20 NMAC). As you aware, Tim Gum is in the process of assigning API#s for all production wells (5) and all injection wells (3).

5/21/2008

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
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(Pollution Prevention Guidance is under "Publications")

From: Brooks, David K., EMNRD
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To: Chavez, Carl J, EMNRD ; Phillips, Dorothy, EMNRD
Cc: Prouty, Jane, EMNRD
Subject: RE: Bond forms for Geothermal wells

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Sent: Sunday, May 18, 2008 8:47 AM
To: Brooks, David K., EMNRD
Cc: Chavez, Carl J, EMNRD ; Phillips, Dorothy, EMNRD
Subject: Bond forms for Geothermal wells

Hi, David. Carl and I reviewed the bonding requirements for geothermal wells. Raser Technologies will be drilling five producing wells that will be approximately 3,400' deep. They will obtain one \$10,000 multi-well plugging bond to cover four of these "deep" wells and one \$5,000 One-well plugging bond to cover the fifth.

The rules say that these must be surety bonds.

Due to your great expertise in working with bonds, we need you to create bond forms for these two bonds. None of the current bond forms is a very close match due to the need to address surety bonds and the need to address multiple specific API numbers and information on the multi-well bond.

When you get the bond forms done and the operator supplies the bonds, I will work with Dorothy regarding how to record them in our system. Most likely, they will be recorded as four single well bonds at \$2,500 each and one single well bond at \$5,000. I will help Dorothy get past the system edits. For the small number of wells expected, I don't know that it's feasible to include geothermal plugging bonds in future financial assurance computer applications, but if I can I will. If you plan to change the geothermal rules to get the bonding more in line with oil and gas well bonding, please let me know.

Carl needs this **pretty darn quickly**. I'll let him work with you on his exact deadline. Thanks very much.

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5/21/2008

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5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Monday, May 19, 2008 10:08 AM
To: 'hamiltonenviro@yahoo.com'
Subject: FW: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)
Attachments: New and Mod WQCC Notice Regs.pdf; PN Flow Chart.20.6.2new and mods.pdf

Jay:

Admin. Complete approval coming soon. Please review the above for who does what (see attached flow chart). Basically, from the time OCD deems the application admin. Complete, the OCD and Lightning Dock will have to issue public notice in English and Spanish. There is some signage and noticing requirements for Lightning Dock to comply with. The OCD will post the admin complete letter, public notice and draft permit on its Internet at <http://www.emnrd.state.nm.us/ocd/ENV-DraftPublicEtc.htm> on the day it approves the admin. Completeness of your application. This starts the public notice process and the OCD hopes to complete the final draft for Lightning Dock signature within 60 days or less of admin. Completeness.

I will be sharing the OCD public notice with you to verify values and accuracy of the public notice. Also, I will try to have a draft permit to you too. Thanks.

Carl J. Chavez, CHMM
 New Mexico Energy, Minerals & Natural Resources Dept.
 Oil Conservation Division, Environmental Bureau
 1220 South St. Francis Dr., Santa Fe, New Mexico 87505
 Office: (505) 476-3491
 Fax: (505) 476-3462
 E-mail: CarlJ.Chavez@state.nm.us
 Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
 (Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Tuesday, April 29, 2008 9:44 AM
To: 'Jay Hamilton'
Subject: RE: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Jay:

Ok, I can work through you. However, I believe that the "Administrative Completeness" letter and other permit related documents should be addressed to Mr. Brown at the address provided in the application correct?

I think we will need to discuss public notice requirements, bonding, drilling methods, disposal, etc. on Thursday. Please see attached WQCC Public Notice requirements, once the application is deemed administratively complete. Please review for Thursday. Thanks.

Carl J. Chavez, CHMM
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 Oil Conservation Division, Environmental Bureau
 1220 South St. Francis Dr., Santa Fe, New Mexico 87505
 Office: (505) 476-3491
 Fax: (505) 476-3462
 E-mail: CarlJ.Chavez@state.nm.us
 Website: <http://www.emnrd.state.nm.us/ocd/index.htm>

5/21/2008

(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Friday, April 25, 2008 4:51 PM
To: Chavez, Carl J, EMNRD
Cc: Steve Brown
Subject: Re: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Carl,

Mr. Brown would appreciate if the correspondance could go through me. This site is extremely important to him but he has asked me to assist him on this project. He feels that you I working together will be able to move this project through to completion faster.

Thanks,

Jay

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: steve.brown@rasertech.com
Cc: Jay Hamilton <hamiltonenviro@yahoo.com>; "Sanchez, Daniel J., EMNRD" <daniel.sanchez@state.nm.us>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Brooks, David K., EMNRD" <david.brooks@state.nm.us>; "Gum, Tim, EMNRD" <tim.gum@state.nm.us>
Sent: Friday, April 25, 2008 4:34:32 PM
Subject: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Mr. Brown:

Good afternoon. I'm just getting into the

I just left a message informing you that the OCD will be processing and handling this injection application as a Class V (Geothermal) Wells. I am writing to inquire about the \$100 filing fee. Did you mail this in with the application? Also, did you know that there is a \$1700 discharge permit fee/ 5 years per 20.6.2.3114 NMAC?

Also be advised, if you haven't already, we need to get APDs for each well to the OCD District 2 (Artesia) Office (Attn: Mr. Tim Gum) to assign API#s to the 5 Production & 3 Injection Wells.

An API# is also needed before a single well cash bond can be completed and sent to the OCD. Class V Wells (similar to Class IIIs) fall under financial assurance of WQCC Regs. 20.6.2 NMAC and the OCD will need to assist you in determining the site restoration, plug and abandonment bond amounts for each well. The OCD had increased the bond amounts on Class III Brine Wells to \$50,000.

Not sure if the amounts would be similar for these types of wells based on their Class V Status, since OCD hasn't process any applications

under recent WQCC regulations, and the formation water quality that we're dealing with may be cleaner than brine? We will need to discuss.

Due to the multiple number of wells, the OCD MAY be able to approve a blanket bond?

I will be in the office next Tuesday morning at 7:30 a.m.

5/21/2008

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe , New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
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5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Monday, May 19, 2008 9:57 AM
To: 'hamiltonenviro@yahoo.com'
Cc: Price, Wayne, EMNRD; Gum, Tim, EMNRD; Prouty, Jane, EMNRD; Phillips, Dorothy, EMNRD; Brooks, David K., EMNRD
Subject: FW: OGRID for Raser Technologies (Lightning Dock Geothermal H-1 Project- Hidalgo County)

Jay:

Please find the information from Jane Prouty below related to the bonds and registering as an "Operator" in NM.

David Brooks (OCD) Attorney has been requested to develop a surety bond for the geothermal production wells (multi-well= 4 \$10K & single well= 1 \$5K) under 19.14.20.8 NMAC.

You don't have to wait for OCD on the Class V injection wells. You may proceed to obtain the \$50K Letter of Credit for the 3 Class V Geothermal Injection Wells, once the OCD forwards the API#s for the wells, and since the injection wells are handled under WQCC Regulations (20.6.2 NMAC) and not 19.14.20.8 NMAC. Tim Gum will be forwarding the API#s for the wells soon.

For assistance with online registration, you may contact Dorothy Phillips at (505) 476-3461.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Prouty, Jane, EMNRD
Sent: Sunday, May 18, 2008 9:47 AM
To: Chavez, Carl J, EMNRD
Subject: OGRID for Raser Technologies

We do have an OGRID for Raser Technologies of Provo, Utah. This is an OGRID issued last week by the State Land Office, so the operator still has to register with us although he can use that OGRID-- 260021.

Raser Technologies should not try to register with us until it has a bond because Dorothy would not approve it until then, so the next step is for David to design the two bond forms we discussed, and then for Raser to get the bonds. Once that is done, Raser Technologies should go to our web site and select OCD Online, then e-Permitting. On the main page he will see "Register your organization as a well operator." This step does not require a user id.

There will be a pull-down list of all of the oil and gas entities registered in NM. He should pick Raser Technologies, then fill in all remaining information and submit the registration request using the button on the screen. Dorothy will approve this when everything is in place.

This answers one of our issues from the meeting. Next I will send a note to David regarding the bond forms.

5/21/2008

Chavez, Carl J, EMNRD

From: Prouty, Jane, EMNRD
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To: Chavez, Carl J, EMNRD
Subject: OGRID for Raser Technologies

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This answers one of our issues from the meeting. Next I will send a note to David regarding the bond forms.

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, May 16, 2008 2:28 PM
To: 'hamiltonenviro@yahoo.com'
Cc: Brooks, David K., EMNRD; Price, Wayne, EMNRD; Gum, Tim, EMNRD
Subject: OCD Drilling Contact

Jay:

Hi. Wayne and I spoke to Tim Gum and he is going to review the APDs next week. He is going to provide the API#s (5 production/development wells & 3 injection wells) for the 8 wells, which will allow the bonds to reference the API#s. Remember, only the bond for the 3 injection wells (total \$50K) can be completed upon receipt of the API#s under 20.6.2 NMAC (WQCC). The OCD is working to develop a multi-well (\$10K) and single well (\$5K) surety bond for the 5 production or development wells under 19.14.20 (Bonding) NMAC. I will forward these bond to you upon completion by our Attorney.

Please have your driller contact Tim Gum next week to discuss the drilling program. I know that Layne was listed in the application with the reserve pit drilling plan, but you are looking into closed-loop drilling systems (CLDS), which would require a different driller if CLDS is used at the site. Thanks.

District 2 - ARTESIA

1301 W. Grand Avenue
Artesia, NM 88210

OFFICE: (575) 748-1283 FAX: (575) 748-9720

Business Hours:

7:00 AM-12:00 PM and 1:00 - 4:00 PM

Monday through Friday

This office is responsible for OCD permitting, well data, inspection, and enforcement actions in Chaves, De Baca, Dona Ana, Eddy, Grant, Hidalgo, Lincoln, Luna, Otero and Sierra Counties of New Mexico. Public access is available to OCD's computerized data.

Staff:

Tim Gum - District Supervisor

Phone extension: 102

Mobile: (575) 626-0824

APD processing, pool rules, pool mapping, geology

5/21/2008

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, May 16, 2008 4:49 PM
To: Prouty, Jane, EMNRD
Cc: Price, Wayne, EMNRD; Gum, Tim, EMNRD; Hansen, Edward J., EMNRD
Subject: RE: Addition of Geothermal G-001 through G-012 Forms on OCD Website "Forms" Section
Attachments: G-112.pdf; G-101.pdf; G-102.pdf; G-103.pdf; G-104.pdf; G-105.pdf; G-106.pdf; G-108.pdf; G-110.pdf; G-111.pdf

Jane:

Here they are. I QA/QC'd, but feel free to examine again. Thnx.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Prouty, Jane, EMNRD
Sent: Friday, May 16, 2008 12:27 PM
To: Chavez, Carl J, EMNRD
Cc: Price, Wayne, EMNRD; Sanchez, Daniel J., EMNRD; Jones, William V., EMNRD; Gum, Tim, EMNRD; Perrin, Charlie, EMNRD; Hansen, Edward J., EMNRD
Subject: RE: Addition of Geothermal G-001 through G-012 Forms on OCD Website "Forms" Section

Hi, Carl. You had mentioned that you were going to send PDFs--do you still have those? I need one PDF file per form, not one tif file for all forms. Thanks.

From: Chavez, Carl J, EMNRD
Sent: Friday, May 16, 2008 10:22 AM
To: Prouty, Jane, EMNRD
Cc: Price, Wayne, EMNRD; Sanchez, Daniel J., EMNRD; Jones, William V., EMNRD; Gum, Tim, EMNRD; Perrin, Charlie, EMNRD; Hansen, Edward J., EMNRD
Subject: Addition of Geothermal G-001 through G-012 Forms on OCD Website "Forms" Section

Jane:

Pursuant to our meeting this morning on OCD Geothermal Regulations (see referenced NMAC below), please find attached the Geothermal to be placed under the OCD "Forms" section.

OCD Geothermal Regulations

Chapter 71: Energy & Minerals
Article 5: Geothermal Resources Conservation Act

"Chapter 71, Article 5 NMSA 1978"

5/21/2008

Title 19: Natural Resources & Wildlife
Chapter 14: Geothermal Power

"Title 19, Chapter 14 NMAC 1983"
Recompiled 12/31/01

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
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Subject: RE: Addition of Geothermal G-001 through G-012 Forms on OCD Website "Forms" Section

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Cc: Price, Wayne, EMNRD; Sanchez, Daniel J., EMNRD; Jones, William V., EMNRD; Gum, Tim, EMNRD; Perrin, Charlie, EMNRD; Hansen, Edward J., EMNRD
Subject: Addition of Geothermal G-001 through G-012 Forms on OCD Website "Forms" Section

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OCD Geothermal Regulations

Chapter 71: Energy & Minerals
Article 5: Geothermal Resources Conservation Act

"Chapter 71, Article 5 NMSA 1978"

Title 19: Natural Resources & Wildlife
Chapter 14: Geothermal Power

"Title19, Chapter 14 NMAC 1983"
Recompiled 12/31/01

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, May 14, 2008 1:28 PM
To: Fesmire, Mark, EMNRD
Subject: RE: Lightening Dock Geothermal Project NM

Thank you Sir! Hope you're having fun.... :)

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau 1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

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

From: Fesmire, Mark, EMNRD
Sent: Wednesday, May 14, 2008 1:21 PM
To: Chavez, Carl J, EMNRD
Subject: Re: Lightening Dock Geothermal Project NM

Carl

I talked to Tony at BLM and we agreed to both of us holding bonds.

Mark

Sent from my BlackBerry Device

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

From: Chavez, Carl J, EMNRD
To: Fesmire, Mark, EMNRD
CC: Price, Wayne, EMNRD; hamiltonenviro@yahoo.com <hamiltonenviro@yahoo.com>
Sent: Wed May 14 13:20:33 2008
Subject: Lightening Dock Geothermal Project NM

Mark:

Hi. Question: Jay Hamilton says that after the OCD had determined a total of \$65,000.00 for the bonding, Mike Hayter talked to you about the BLM bond and its applicability to the OCD bonding.

Has anything changed based on this?

If not, the OCD is requiring 3 bonds (geothermal multi-well (4 production wells)) \$10K, 1 bond (single well bond (1 production well) \$5K, and Letter of Credit (3 injection wells) \$50K for a total amount of \$65K. Thank you.

Carl J. Chavez, CHMM

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E-mail: CarlJ.Chavez@state.nm.us

Website: <http://www.emnrd.state.nm.us/ocd/index.htm>

(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

Subject: Geothermal Well OGRID, tracking, etc. Meeting

Location: Jane's Office

Start: Fri 5/16/2008 9:30 AM

End: Fri 5/16/2008 10:30 AM

Recurrence: (none)

Meeting Status: Meeting organizer

Required Attendees: Chavez, Carl J, EMNRD; Prouty, Jane, EMNRD; Chavez, Carl J, EMNRD

Read NMSA and NMAC in advance of meeting.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, May 16, 2008 1:27 PM
To: Prouty, Jane, EMNRD
Subject: RE: Addition of Geothermal G-001 through G-012 Forms on OCD Website "Forms" Section

Ok. I will send you 12 pdf files (1/form). Thx.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Prouty, Jane, EMNRD
Sent: Friday, May 16, 2008 12:27 PM
To: Chavez, Carl J, EMNRD
Cc: Price, Wayne, EMNRD; Sanchez, Daniel J., EMNRD; Jones, William V., EMNRD; Gum, Tim, EMNRD; Perrin, Charlie, EMNRD; Hansen, Edward J., EMNRD
Subject: RE: Addition of Geothermal G-001 through G-012 Forms on OCD Website "Forms" Section

Hi, Carl. You had mentioned that you were going to send PDFs--do you still have those? I need one PDF file per form, not one tif file for all forms. Thanks.

From: Chavez, Carl J, EMNRD
Sent: Friday, May 16, 2008 10:22 AM
To: Prouty, Jane, EMNRD
Cc: Price, Wayne, EMNRD; Sanchez, Daniel J., EMNRD; Jones, William V., EMNRD; Gum, Tim, EMNRD; Perrin, Charlie, EMNRD; Hansen, Edward J., EMNRD
Subject: Addition of Geothermal G-001 through G-012 Forms on OCD Website "Forms" Section

Jane:

Pursuant to our meeting this morning on OCD Geothermal Regulations (see referenced NMAC below), please find attached the Geothermal to be placed under the OCD "Forms" section.

OCD Geothermal Regulations

Chapter 71: Energy & Minerals
Article 5: Geothermal Resources Conservation Act

"Chapter 71, Article 5 NMSA 1978"

Title 19: Natural Resources & Wildlife
Chapter 14: Geothermal Power

"Title19, Chapter 14 NMAC 1983"
Recompiled 12/31/01

5/21/2008

Thank you.

Carl J. Chavez, CHMM
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Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, May 16, 2008 10:24 AM
To: 'hamiltonenviro@yahoo.com'
Subject: FW: Addition of Geothermal G-001 through G-012 Forms on OCD Website "Forms" Section
Attachments: Geothermal Forms.tif

Jay:

The forms are being placed on the OCD website today. Note that we are working on the bond forms. Please disregard the ones sent to you yesterday. We are having our Attorney create a financial document to address the production wells. Note that the LOC for the injection wells can be addressed using the form sent to you for the injection wells. Please contact me if you have questions. Thanks.

Carl J. Chavez, CHMM
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(Pollution Prevention Guidance is under "Publications")

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Sent: Friday, May 16, 2008 10:22 AM
To: Prouty, Jane, EMNRD
Cc: Price, Wayne, EMNRD; Sanchez, Daniel J., EMNRD; Jones, William V., EMNRD; Gum, Tim, EMNRD; Perrin, Charlie, EMNRD; Hansen, Edward J., EMNRD
Subject: Addition of Geothermal G-001 through G-012 Forms on OCD Website "Forms" Section

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Pursuant to our meeting this morning on OCD Geothermal Regulations (see referenced NMAC below), please find attached the Geothermal to be placed under the OCD "Forms" section.

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"Chapter 71, Article 5 NMSA 1978"

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Chapter 14: Geothermal Power

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Recompiled 12/31/01

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau

5/21/2008

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Office: (505) 476-3491
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Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, May 16, 2008 10:22 AM
To: Prouty, Jane, EMNRD
Cc: Price, Wayne, EMNRD; Sanchez, Daniel J., EMNRD; Jones, William V., EMNRD; Gum, Tim, EMNRD; Perrin, Charlie, EMNRD; Hansen, Edward J., EMNRD
Subject: Addition of Geothermal G-001 through G-012 Forms on OCD Website "Forms" Section
Attachments: Geothermal Forms.tif

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Pursuant to our meeting this morning on OCD Geothermal Regulations (see referenced NMAC below), please find attached the Geothermal to be placed under the OCD "Forms" section.

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Article 5: Geothermal Resources Conservation Act

"Chapter 71, Article 5 NMSA 1978"

Title 19: Natural Resources & Wildlife
Chapter 14: Geothermal Power

"Title 19, Chapter 14 NMAC 1983"
Recompiled 12/31/01

Thank you.

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(Pollution Prevention Guidance is under "Publications")

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, May 15, 2008 4:14 PM
To: 'hamiltonenviro@yahoo.com'
Subject: FW: Blanket Cash Plugging Bond \$50K & Check No. 11939
Attachments: Letter of Credit.doc; multiple well.doc; Single Well Cash Bond.doc

Here are the files.

Carl J. Chavez, CHMM
 New Mexico Energy, Minerals & Natural Resources Dept.
 Oil Conservation Division, Environmental Bureau
 1220 South St. Francis Dr., Santa Fe, New Mexico 87505
 Office: (505) 476-3491
 Fax: (505) 476-3462
 E-mail: CarlJ.Chavez@state.nm.us
 Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
 (Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Thursday, May 15, 2008 4:13 PM
To: 'hamiltonenviro@yahoo.com'
Cc: Price, Wayne, EMNRD; Gum, Tim, EMNRD; Brooks, David K., EMNRD
Subject: FW: Blanket Cash Plugging Bond \$50K & Check No. 11939

Jay:

Please find attached the bond forms that your financial institution must complete once the API#s are issued by the OCD District Office.

I will call Tim Gum to let him know more about our work schedule. The bonds should reference the API#s similar to the following:

Multi Well Bond \$10K (4 API#s for Production Wells or Development Wells) 19.14 NMAC (Geothermal)
 Single Well Cash Bond \$5K (1 API# for Production Well or Development Well) 19.14 NMAC (Geothermal)
 Irrevocable Letter of Credit \$50K (3 API#s for Injection Wells) WQCC Based 20.6.2 NMAC (Class V)

Note that API# should correspond correctly on the bonds. Please contact me if you have questions. We'll talk tomorrow. Thank you.

Carl J. Chavez, CHMM
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 E-mail: CarlJ.Chavez@state.nm.us
 Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
 (Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Wednesday, May 14, 2008 3:59 PM
To: 'Steve Brown'
Cc: 'hamiltonenviro@yahoo.com'

5/21/2008

Subject: Blanket Cash Plugging Bond \$50K & Check No. 11939

Mr. Brown:

The Blanket Cash Plugging Bond for \$50K and check for \$50K is being mailed back to you certified mail.

Please contact Mr. Jay Hamilton or me for details. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
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(Pollution Prevention Guidance is under "Publications")

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, May 14, 2008 1:27 PM
To: 'hamiltonenviro@yahoo.com'
Cc: Price, Wayne, EMNRD
Subject: FW: Lightening Dock Geothermal Project NM

FYI, the bonds are as I specified. Please contact me if you have questions. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau 1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
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E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

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

From: Fesmire, Mark, EMNRD
Sent: Wednesday, May 14, 2008 1:21 PM
To: Chavez, Carl J, EMNRD
Subject: Re: Lightening Dock Geothermal Project NM

Carl

I talked to Tony at BLM and we agreed to both of us holding bonds.

Mark

Sent from my BlackBerry Device

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

From: Chavez, Carl J, EMNRD
To: Fesmire, Mark, EMNRD
CC: Price, Wayne, EMNRD; hamiltonenviro@yahoo.com <hamiltonenviro@yahoo.com>
Sent: Wed May 14 13:20:33 2008
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Mark:

Hi. Question: Jay Hamilton says that after the OCD had determined a total of \$65,000.00 for the bonding, Mike Hayter talked to you about the BLM bond and its applicability to the OCD bonding.

Has anything changed based on this?

If not, the OCD is requiring 3 bonds (geothermal multi-well (4 production wells)) \$10K, 1 bond (single well bond (1 production well)) \$5K, and Letter of Credit (3 injection wells) \$50K for a total amount of \$65K. Thank you.

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(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, May 14, 2008 1:21 PM
To: Fesmire, Mark, EMNRD
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Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

5/21/2008

Chavez, Carl J, EMNRD

From: Davidson, Florene, EMNRD
Sent: Wednesday, May 14, 2008 1:15 PM
To: Chavez, Carl J, EMNRD
Subject: FW: Geothermal Meeting

Carl, I'm not sure if Wayne got this request to you, but I would really appreciate your help. Thank you.

From: Price, Wayne, EMNRD
Sent: Wednesday, May 14, 2008 9:54 AM
To: Davidson, Florene, EMNRD
Subject: RE: Geothermal Meeting

Carl please do

From: Davidson, Florene, EMNRD
Sent: Wednesday, May 14, 2008 9:21 AM
To: Price, Wayne, EMNRD
Subject: Geothermal Meeting

Wayne, could you or Carl write a short paragraph on Carl's presentation at the ECMD geothermal meeting yesterday? This would be for our activity report. Thank you very much. I just need it by Friday morning.

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, May 14, 2008 12:19 PM
To: Sanchez, Daniel J., EMNRD; Price, Wayne, EMNRD; Jones, William V., EMNRD
Cc: Fesmire, Mark, EMNRD; VonGonten, Glenn, EMNRD; Jones, Brad A., EMNRD; Hansen, Edward J., EMNRD; Lowe, Leonard, EMNRD; Griswold, Jim, EMNRD
Subject: FW: Geothermal Work Group Meeting 5-13-08
Attachments: May 13 2008 NMGEWG Attendance List.xls

Gentlemen:

FYI, a link to presentations given yesterday. Thanks for your interest and support. FYI, Lightening Dock Geothermal is interested in 3 locations in NM for geothermal power production (10 MWe per Plant). Another company (Energy America Inc. in Albuquerque) is interested in a power plant in S. NM. Good clean renewable energy (Green Power)!

Carl J. Chavez, CHMM
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 E-mail: CarlJ.Chavez@state.nm.us
 Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
 (Pollution Prevention Guidance is under "Publications")

From: Lucero, Stephen A., EMNRD
Sent: Wednesday, May 14, 2008 11:37 AM
To: Abbott, Janet; Anaya, Fabian; Baum, Chris; Belone, Tammy; Bittner, Bob; Bunde, Hemant; Burns, Kerry; Chavez, Carl J, EMNRD; Crane, John; Daniel, Ken; Erdlac, Richard; Fleischmann, Dan; Flood, Dave; Foster, Robert; Gallagher, Christian; Glassley, Bill; Griscom, David; Gross, Peter; Hayter, Mike; Herman, Henry; Hill, Roger; Irwin, William; Johnson, Brian K., EMNRD; Kelley, Toni; LaCerva, Gina; Matranga, Joani; Maze, Jay; McDonald, Edward; McGowan, Jack; Normann, Randy; OHare, Craig, EMNRD; Ortiz, Joe; Palmer, Jim; Park, Jungho; Pena, Joanne; Sandwell, Paul; Shirian, Abbas; Spielman, Jay; Styer, Mike; Sweat, Randy; Swick, Don; Thiesse, Mary; Timlin, Mike; Warner, Dan and Dena; Weingrad, Darcie; Wiley, Stephen; Witcher, Jim; Wolf, Jeff
Subject:

Thank you all for attending yesterday's working group meeting. Also I wanted to express a big thank you to all of the people who gave presentations. All of your time is greatly appreciated.

Please find the attached list of all those who attended and contact information. Below is a link to the presentations from yesterday, available on the ECMD website. Let me know if you have questions or need further information.

<http://www.emnrd.state.nm.us/ecmd/Multimedia/Presentations.htm#Geothermal>

Stephen Lucero
 Clean Energy Specialist
 State of New Mexico
 Energy Conservation and Management Division

5/21/2008

(505) 476-3324
stephen.lucero@state.nm.us
www.cleanenergynm.org



Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Friday, May 09, 2008 9:56 AM
To: Chavez, Carl J, EMNRD
Subject: Fw: Lightning Dock - Brochure
Attachments: NM EMNRD Presentation Mar 4 2008.ppt

Carl,

See attachment

Thanks,

Jay

----- Forwarded Message -----

From: Michael Hayter <Michael.Hayter@rasertech.com>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Sent: Thursday, May 8, 2008 4:47:18 PM
Subject: RE: Lightning Dock - Brochure

Thanks for the reminder....

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Thursday, May 08, 2008 4:37 PM
To: Michael Hayter
Subject: Lightning Dock - Brochure

Mike,

Just a reminder about the brochure.

Thanks,

Jay

Be a better friend, newshound, and know-it-all with Yahoo! Mobile. [Try it now.](#)

Be a better friend, newshound, and know-it-all with Yahoo! Mobile. [Try it now.](#)

This inbound email has been scanned by the MessageLabs Email Security System.

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, May 07, 2008 4:36 PM
To: 'Jay Hamilton'
Cc: Price, Wayne, EMNRD; Gum, Tim, EMNRD
Subject: Sample Discharge Permit w/ Boiler Plate Language Used as Template for Class V Geothermal Discharge Permit & Noise Abatement
Attachments: BW-21 Adm Complete 2-28-08 Final2.doc; BW-21 PN 2-28-08 Final2.doc; BW-21 DP 2-28-08 Final2.doc

Jay:

FYI.

Noise abatement will probably be an issue voiced at the hearing by the fish operator, since fish are very sensitive to noise. New Mexico has not developed noise limits for the Geothermal NMAC, but there is a "Noise Abatement" section. The State of Colorado has established noise limits for oil and gas activities and have set an Residential/Agricultural/ Rural 55 db(A) between 7 am to 7 pm and 50 db(a) from 7 pm to 7 am.

Is Lightening Dock Facility going to be noisy? To see Colorado's noise limits and how they measure it (height & distance away) please go to:

Colorado Noise Abatement

http://64.233.167.104/search?q=cache:dlez_HjunL0J:www.oil-gas.state.co.us/RR_Docs/Policies/Noise%2520Rules1220.pdf+Colorado+Oil+and+Gas+Regulation+%22Decibel%22&hl=en&ct=clnk&cd=3&gl=us

I'm thinking the annual well pressure tests could be quite noisy over a 72 hour period. Could the test duration be reduced? Just wanted to give you a heads up on noise.

Lastly, see draft discharge permit I promised. Of course the geothermal permit content will be different, but you will identify some boiler plate sections to assist you in your planned activities. The permit for Lightening Dock Geothermal will likely be "GT-001." I'll be in on Friday. You may contact me tomorrow at 505-660-1067. Thank you.

Carl J. Chavez, CHMM

New Mexico Energy, Minerals & Natural Resources Dept.

Oil Conservation Division, Environmental Bureau

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E-mail: CarlJ.Chavez@state.nm.us

Website: <http://www.emnrd.state.nm.us/ocd/index.htm>

(Pollution Prevention Guidance is under "Publications")

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD

Sent: Friday, May 09, 2008 8:54 AM

To: 'Jay Hamilton'

Subject: FW: Lightening Dock Geothermal No. HI-01: Some Preliminary Info. based on information discussed on May 1, 2008

Jay:

Good morning. See links below. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD

Sent: Monday, May 05, 2008 12:46 PM

To: 'Jay Hamilton'

Cc: Price, Wayne, EMNRD; Gum, Tim, EMNRD

Subject: Lightening Dock Geothermal No. HI-01: Some Preliminary Info. based on information discussed on May 1, 2008

Jay:

Some links to assist you based on our meeting and some more immediate info. that we discussed at the facility location on 5/1/2008.

5/21/2008



I think the cooling tower blow-down (~425 gpm) upgradient from the Nursery and Talapia Fish Farm is the biggest concern right now. I think that
 It may be difficult to find a biodegradable chemical product that environmentally friendly. You may want to consider a disposal well into
 a deeper formation or treating the cooling tower blow down to WQCC Standards for infiltration into the upper water table (~40-60 ft. bgl).
 Depending on the chemical, you may be able to reinject it back into the geothermal reservoir. However, I read where the Animal Fault(s)
 transect N – S and control GW flow toward the N and N-NW and deeper seated formation water is upwelling to shallower depths across
 the area. Whatever you inject in the reservoir may migrate to shallower depths. The Talapia Fish Farm well is at about 400 ft. bgl and
 the Nursery well is at about 225 ft. bgl. The water quality TDS in the Horquilla Fm. (LS) at 3400 ft. was 1300 mg/L and the shallower well
 water had a TDS of about 300 mg/L.

Preferred Chemicals Lists:

http://www.michigan.gov/documents/deq/wb-swas-wtalist_185873_7.pdf

<http://www.deq.state.mi.us/documents/deq-ead-p2-epp-greencleaners.pdf>

Closed-Loop Systems

http://www.worldoil.com/magazine/MAGAZINE_DETAIL.asp?ART_ID=3053&MONTH_YEAR=Dec-2006

http://www.emnrd.state.nm.us/ocd/documents/2007_0110OGAP.pdf

<http://www.earthworksaction.org/newmexicopitwasteregulations07.cfm>

5/21/2008

Site Photos from 5/1/08 inspection (for OCD Staff to view):

L:\ENVIRONM\WORD\ENVR-CC\UIC\Discharge Plans\Class V\Geothermal\Lightening Dock Animas NM\Photos\Lightening Dock Inspection\5-1-08 Inspection

Please contact me if you have questions. One more e-mail to Tim Gum on well APDs (approval w/ conditions?), and geologic formation information near the facility to consider. Thank you.

Carl J. Chavez, CHMM

New Mexico Energy, Minerals & Natural Resources Dept.

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(Pollution Prevention Guidance is under "Publications")

5/21/2008

Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]

Sent: Thursday, May 08, 2008 3:57 PM

To: Chavez, Carl J, EMNRD

Subject: Lightning Dock

Carl,

Please forward the web link for the information on the approved environmental friendly chemicals in Michigan.

Thanks,

Jay

Be a better friend, newshound, and know-it-all with Yahoo! Mobile. [Try it now.](#)

This inbound email has been scanned by the MessageLabs Email Security System.

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, May 07, 2008 1:25 PM
To: Jones, William V., EMNRD
Subject: RE: OCD Geothermal Regulations for Geothermal Working Group Meeting 5/13/2008

Do you have a relative named John Wesley Hardin? You know he was an outlaw and was so mean he once shot a man for Snoring.

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From: Jones, William V., EMNRD
Sent: Wednesday, May 07, 2008 1:23 PM
To: Chavez, Carl J, EMNRD
Subject: RE: OCD Geothermal Regulations for Geothermal Working Group Meeting 5/13/2008

I just did.

From: Chavez, Carl J, EMNRD
Sent: Wednesday, May 07, 2008 1:17 PM
To: Jones, William V., EMNRD
Subject: RE: OCD Geothermal Regulations for Geothermal Working Group Meeting 5/13/2008

"Outlaw Willie Jones"

Yes, you need to call IT and have them install the upgrade to view more recent power point presentations. It takes them a minute. Thanks.

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From: Jones, William V., EMNRD
Sent: Wednesday, May 07, 2008 1:12 PM
To: Chavez, Carl J, EMNRD

5/21/2008

Subject: RE: OCD Geothermal Regulations for Geothermal Working Group Meeting 5/13/2008

Thanks Carl, but the last two files require an Office plugin that the IT department does NOT give me privileges to install.

The first file is nice - thank you.

William V. Jones PE
New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, NM 87505
505-476-3448

From: Chavez, Carl J, EMNRD
Sent: Wednesday, May 07, 2008 12:25 PM
To: Lucero, Stephen A., EMNRD
Cc: Price, Wayne, EMNRD; Sanchez, Daniel J., EMNRD; Jones, William V., EMNRD; Brooks, David K., EMNRD; Gum, Tim, EMNRD; Perrin, Charlie, EMNRD
Subject: OCD Geothermal Regulations for Geothermal Working Group Meeting 5/13/2008

Stephen:

Please find the link below containing the 3 power point presentations for next Tuesday morning from 9 to 9:15 a.m. I will use the main geothermal regulations presentation, and if you can open up the other 2 during my presentation to quickly brief through the provisions, they can be opened up simultaneously or alt tabbing into them out of the main presentation.

OCD Geothermal Presentations
<P:\OCD\Geothermal\Regulations>

Please contact me if you have questions. I am in the office until 5 p.m. today and will be in Artesia tomorrow, but will be back in on Friday. I am off Monday and will return on Tuesday morning. Thanks.

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5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, May 07, 2008 9:46 AM
To: Lucero, Stephen A., EMNRD
Subject: FW: Geothermal Regulations Presentation Power Points

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
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(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 06, 2008 4:38 PM
To: Price, Wayne, EMNRD
Cc: Sanchez, Daniel J., EMNRD
Subject: Geothermal Regulations Presentation Power Points

Wayne:

FYI, my presentations for your consideration and comments are available at

Note that I will print out the NMSA and NMAC and try to brief them from the main presentation "NM Geothermal Regulations" power point at [L:\SantaFe\UICPROG_Latest\Geothermal](#). I only have 15 minutes.

Thanks.

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5/21/2008

OCD Geothermal Presentations
P:\OCD\Geothermal\Regulations

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5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 06, 2008 5:27 PM
To: 'Jay Hamilton'
Cc: Price, Wayne, EMNRD; Gum, Tim, EMNRD
Subject: How to become an operator? Admin. Permit Request for Items for completeness

Jay:

Some issue have come up on the OGRID for geothermal wells. I will be meeting next Friday, May 16, 2008 in the morning to see how the OCD will track operators, bond, reporting, etc., etc.



I will send out an email by COB tomorrow on final "Admin. Complete" requirements. Off the top of my head, we need or you need to be aware of:

- 1) The completed geothermal form signed.
- 2) The page revisions we spoke about in the various reports need to be updated and sent for inclusion into the

5/21/2008

OCD

ring notebook. You already know what most of them are from our notes on 5/1/08.

Note: Lightening Dock shall stamp any confidential documents, so OCD may keep them separated from online scanning and public perview.

3) I would state that Figure 2 of the "Shallow Geothermal Fluid Effects" was missing from my binder.

4) Upgrade report to include "Binary Cycle Power Plant" and specifications (i.e., 15 MWe instead of 10, 50 portable self-contained binary cycle power plants instead of 45 w/ 300 KWe instead of 280?).

5) Provide official NOI to EPA for a stormwater construction permit. Geothermal Regulations allow for any applicable federal and state regulations. The owner/operator needs to prevent discharges to "waters of the state" (20.6.4 NMAC). Provide a signed Storm Water Pollution Prevention Plan (SW3P) for Construction Activities.

6) Seamless liners are preferred to seamed liners. Where seaming is performed, minimize thermal liner seams (hot wedge w/ double track weld) with orientation up and down slope. Overlap liners 4 – 6 in. before seaming. Qualified personnel must perform seaming.

7) Conductor pipe for geothermal wells should be a minimum of 90 and maximum of 200 feet below ground per 19.14.27.8(B)(1)

8) Provide list of cooling tower chemicals applicable to application w/ MSDSs.

9) Trenching along the old Lordsburg to Animas Highway (dirt road) for electricity tie in to Columbus Powerline Co. in Columbus, NM should use BMPs along the terrain to minimize impacts to the stormwater and waters of the state.

10) Still looking into depth of fresh water zones, which may be a moot point if the Animas fault(s) is allowing deeper geothermal reservoir water to upwell into the shallow water table and the water down into the Horquilla Fm. (3400 ft. bgl) is fresh water at 1300 mg/L TDS. What should the depth to the bottom of fresh water be? I think based on the lithologies and stability needed for blow-outs, all strings of casing will need to be grouted to surface with pressure testing of all drill strings for 30 minutes after completion to ensure well integrity and stability during any blowouts.

11) Clarify production well multiple injection zone diagrams above and below Horquilla Fm. at 3400 ft. bgl are correct. If so, the production wells are extracting fluids from above and below the geothermal reservoir listed at 3400 ft. bgl. This would mean there are multiple geothermal reservoirs and potential for fluid migration around the backside of the cement in highly fractured formations. The Geothermal Regulations are meant to protect fresh water and if deeper brine rich formation waters are moving into fresh water zones this may be a problem that would require well construction concerns?

12) Brochure on binary cycle power units.

13) Process area diagrams. Process area diagram w/ large pond for well tests is needed to update your process area. Also, the blow down pond may not be needed based on our discussion and e-mails.

Note: Numbers designated in red are "Admin.Complete" critical.

If I think of anything else, I'll let you know tomorrow. Thank you.

Carl J. Chavez, CHMM
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5/21/2008

Chavez, Carl J, EMNRD

From: Prouty, Jane, EMNRD
Sent: Tuesday, May 06, 2008 3:48 PM
To: Chavez, Carl J, EMNRD
Subject: Accepted: Geothermal Well OGRID, tracking, etc. Meeting

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 06, 2008 2:58 PM
To: Gum, Tim, EMNRD
Cc: Price, Wayne, EMNRD
Subject: RE: APDs & OCD Approval Lightening Dock Geothermal No. HI-01 (Hidalgo County)

Tim:

Hi. Yes, Geothermal Wells are new to the EB too. We have never permitted them, but there are indeed regulations for them, i.e., Chapter 71, Article 5 NMSA 1978 and Title 19, Chapter 14 NMAC 1983 (recompiled on 12/31/01). It is in the NMAC that the details of the well construction, cementing, etc. is stipulated along with reporting. NMSA just provides for not wasting the resource and correlative rights, the hearing process, etc.

I think what the EB would like on geothermal wells, since they are so similar to oil and gas wells, is a district review and approval conditions on the APDs w/ an API# to track them. Other issues associated with tracking bonds, etc., which are distinct and different from oil and gas regulations are being discussed with Jane to see how everything needs to be tracked. The OCD expects more applications in the near future for geothermal power plants now that the binary cycle power plant technology has come along. For example, this 15 MWe Plant will have 50 small binary cycle power plants self contained with evaporators, condensers, etc. that produce close to 300 Kwe each and can be dismantled and placed at other location or simply added to increase power generation at a facility.

I hope that the district can assist with the APD review? If not, the EB can work to conduct a more detailed review and issue approvals on the APDs if they meet our geothermal requirements and work with the district to get API#s assigned. Please let us know? Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
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From: Gum, Tim, EMNRD
Sent: Tuesday, May 06, 2008 2:28 PM
To: Chavez, Carl J, EMNRD
Cc: Price, Wayne, EMNRD; Gum, Tim, EMNRD
Subject: RE: APDs & OCD Approval Lightening Dock Geothermal No. HI-01 (Hidalgo County)

Carl,

We have not received any APD's as of this date.

Has there been a change in procedure ? District II has never approved Geothermal wells up to this point.

Please advise.

TWG

5/21/2008

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 06, 2008 9:11 AM
To: Gum, Tim, EMNRD
Cc: Price, Wayne, EMNRD; Jones, William V., EMNRD; Jay Hamilton; Phillips, Dorothy, EMNRD
Subject: APDs & OCD Approval Lightening Dock Geothermal No. HI-01 (Hidalgo County)

Tim:

Good morning. I inspected the power plant facility location on 5/1/08 w/ Jay Hamilton (Los Lobos) & Jim Rosser (Raser Geothermal Engineer). Jay informed me that the APDs for the wells were mailed to you at the facility. Lightening Dock needs to register very soon as an operator in NM at <http://www.emnrd.state.nm.us/oed/FAQs.htm#OpHow> to receive an OGRID number for bond tracking, etc. from Dorothy Phillips (Bond Coordinator) at (505) 476-3461 for the geothermal development or production wells. Dorothy please create note in file that geothermal wells can only be authorized to be plugged by the Environmental Bureau in Santa Fe. It is an online process. Once the APDs are approved and API#s are issued, the previously discussed bonds (WQCC) for the injection wells will need to be procured by the owner/operator and submitted to me in Santa Fe. The bonds (single & multi-well) for the development or production wells may also be sent to me and I will coordinate with Dorothy to file and track bonds for geothermal development/production wells. Remember that API# should be referenced on the bonds and the OCD should only receive the original or duplicate original of the bonds for our files.

OCD AOR & Well Info. for APDs for your consideration of the APDs below.

Development/Production Well (5) Flow Rates ~ 3000 gpm per well (estimated total ~15,000 gpm)
 Injection Well (3) Rates ~ Unknown at the time of the inspection (Raser contends that injection pressure regulation is a moot point for fractured reservoirs). OCD estimates ~ 5500 gpm per well (estimated 16,500 gpm)
 Fresh Water Demand ~ 1500 gpm
 Cooling Tower Blowdown ~ 425 gpm

The OCD's Area of Review of ½ mile radius from all proposed geothermal resource wells conducted by the OCD Engineering Bureau concluded that no wells exist that lack cement in the proposed geothermal reservoir. Based on the facility (20 acre x 20 acre) location and geologic information provided by Los Lobos (see attachment), the OCD Environmental Bureau is deferring to OCD District 2 (Artesia) approval with any conditions for the 3 injection wells and 5 development or production wells set in the Horquilla Formation (suspected fractured limestone between intrusive volcanics) to an estimated depth of 3400 ft. bgl. with reservoir temperatures at 250 – 300 F.

However, I am a little puzzled by page 5 of the attachment, which displays multiple production zones from 2500 – 3100 ft. and from 3600 – 4008 ft. bgl. During the inspection, I was under the impression that the geothermal reservoir was the Horquilla Formation? Jay could you please respond to this? Based on page 5, the production wells appear to open to formations above and below the Horquilla Formation.

Los Lobos and Raser were informed that cement would be required from top to bottom and they are planning to pressure up on all drilling strings during the course of drilling operations to test integrity during the well construction process. There may be an issue with the structural integrity of the formations based on structural integrity of lithologies, potential blow-outs and detection of H₂S during and after drilling, and Los Lobos is aware of this. The question of where to set the casing shoe came up? I think the casing shoe should be set above any fractured zones near the geothermal reservoir, but it is OCD District 2 decision on approval of APDs with conditions. Tim could you please send me the signed APDs for the online file when or if you approve the APDs?

Raser explained that regulation of injection pressure is a moot point for highly fractured reservoirs that are required for geothermal reservoirs. Consequently, the EPA 5 Yr. MIT at minimum 600 psig for 30 minutes and after workovers is planned for the OCD discharge permit.

Other Issues:

Large evaporation ponds for conducting geothermal well tests (liners with good thermal characteristics should be considered). A presentation on pits rule suggestions was e-mailed out to Los Lobos earlier this morning for consideration. Los Lobos had proposed a couple of ponds in the facility process area (one was for cooling tower blow down ~425 gpm), but since the cooling tower is not closed-loop and chemicals are needed to prevent scaling of the unit, Los Lobos is looking at options (i.e., biodegradable chemicals, treatment before injection, injection into the geothermal reservoir, and disposal into a deeper formation). If Los Lobos drills with reserve pits, the land disturbance will be much greater. Then they will still need a very large pit(s) (> 1 M gallons for well

5/21/2008

testing). They had not considered this in their process area diagram.

Onsite/Offsite Disposal of Drill Cuttings?

Los Lobos is working to procure water well drilling rights to consider installing a freshwater well within its facility process area. Although, there are several freshwater wells that are already drilled that could be upgraded to provide freshwater at the site; however, are located outside of its facility process area.

Tim, Los Lobos Contact Info. is provided below.

Jay Hamilton

Hamilton Environmental, L.L.C.

485 West 1400 North

Orem, Utah 84057

Office (801) 224-4585

Fax (801) 224-1893

Cell (801) 361-2102

e-mail hamiltonenviro@yahoo.com

I am working on a final e-mail with action items for the "Administrative Completeness" determination and other issues identified during the facility inspection. I hope to send this out Wednesday, but it appears that much of the info. discussed during the facility inspection was submitted by Los Lobos. There will need to be some revisions to the reports to include H2S for equipment, emergencies, etc., binary cycle power plant specs in the equipment list, etc. Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
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(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

From: Brooks, David K., EMNRD
Sent: Tuesday, May 06, 2008 1:55 PM
To: Prouty, Jane, EMNRD
Cc: Phillips, Dorothy, EMNRD; Chavez, Carl J, EMNRD
Subject: Geothermal Wells

A question has arisen concerning how we establish an OGRID in ONGARD for a geothermal operator, and how we should track geothermal well bonds. There will also be questions about how reports are handled if, as and when there are reports.

Has this issue ever been addressed before to your knowledge?. What do we need to do?

David

5/21/2008

Chavez, Carl J, EMNRD

From: Phillips, Dorothy, EMNRD
Sent: Tuesday, May 06, 2008 12:30 PM
To: Chavez, Carl J, EMNRD
Subject: RE: APDs & OCD Approval Lightening Dock Geothermal No. HI-01 (Hidalgo County)

Carl, I only issue OGRIDs for transporters and for Well Plugging Operators? Is this the type of bonding you will require? They will not go into ONGARD correct? Since I don't put them into the ONGARD system how will you know which wells are under the OGRID? Please check with David Brooks on these as he had some problem with me inputting anything but well operators into the ONGARD system.

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 06, 2008 9:11 AM
To: Gum, Tim, EMNRD
Cc: Price, Wayne, EMNRD; Jones, William V., EMNRD; Jay Hamilton; Phillips, Dorothy, EMNRD
Subject: APDs & OCD Approval Lightening Dock Geothermal No. HI-01 (Hidalgo County)

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5/21/2008

Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

From: Damon Seawright [dseawright@gmail.com]
Sent: Tuesday, May 06, 2008 12:27 PM
To: Chavez, Carl J, EMNRD
Subject: RE: APDs & OCD Approval Lightening Dock Geothermal No. HI-01 (Hidalgo County)

Dear Carl,

Thanks for the return phone call. I saved the file to disc and opened with Windows page viewer. I was able to see and read all 4 pages. We will probably have some comments on the document.

We deeply appreciate you keeping us apprised of important developments.

Sincerely,

Damon Seawright

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Tuesday, May 06, 2008 9:15 AM
To: dseawright@gmail.com
Subject: FW: APDs & OCD Approval Lightening Dock Geothermal No. HI-01 (Hidalgo County)

FYI.

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This inbound email has been scanned by the MessageLabs Email Security System.

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 06, 2008 11:34 AM
To: 'Jay Hamilton'
Cc: Gum, Tim, EMNRD
Subject: FW: AORs for Hidalgo County Wells and Plant
Attachments: qryAll.xls

Jay:

Please note the Area of Review (AOR) conducted by the OCD. The wells are miles away from the geothermal facility or there are no wells within ½ mile of the AOR for the geothermal facility.

Please contact me if you have questions. Thank you.

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From: Jones, William V., EMNRD
Sent: Tuesday, April 29, 2008 5:21 PM
To: Chavez, Carl J, EMNRD
Subject: AORs for Hidalgo County Wells and Plant

Hey
This is sorted by Tsp Rge Sec
Looks like the proposed wells are miles from any other wells.

5/21/2008

Chavez, Carl J, EMNRD

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Sent: Tuesday, May 06, 2008 9:15 AM
To: 'dseawright@gmail.com'
Subject: FW: APDs & OCD Approval Lightening Dock Geothermal No. HI-01 (Hidalgo County)
Attachments: Lightening Dock Schematics.tif

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Subject: FW: Power Point w/ some info. to consider for Lightening Dock
Attachments: 30 cjc Pit Rule Final.ppt

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Cc: Gum, Tim, EMNRD; Price, Wayne, EMNRD
Subject: Power Point w/ some info. to consider for Lightening Dock

Jay:

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FYI, liners with excellent thermal properties are: Chlorosulfonated Polyethylene- Reinforced (CSPE-R), Ethylene Propylene Diene Monomer (EPDM), and Flexible Polypropylene (FPP).

Thank you.

Tim Gum - District Supervisor
Phone extension: 102
Mobile: (575) 626-0824

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Attachments: Lightening Dock Schematics.tif

Tim:

Good morning. I inspected the power plant facility location on 5/1/08 w/ Jay Hamilton (Los Lobos) & Jim Rosser (Raser Geothermal Engineer). Jay informed me that the APDs for the wells were mailed to you at the facility. Lightening Dock needs to register very soon as an operator in NM at <http://www.emnrd.state.nm.us/ocd/FAQs.htm#OpHow> to receive an OGRID number for bond tracking, etc. from Dorothy Phillips (Bond Coordinator) at (505) 476-3461 for the geothermal development or production wells. Dorothy please create note in file that geothermal wells can only be authorized to be plugged by the Environmental Bureau in Santa Fe. It is an online process. Once the APDs are approved and API#s are issued, the previously discussed bonds (WQCC) for the injection wells will need to be procured by the owner/operator and submitted to me in Santa Fe. The bonds (single & multi-well) for the development or production wells may also be sent to me and I will coordinate with Dorothy to file and track bonds for geothermal development/production wells. Remember that API# should be referenced on the bonds and the OCD should only receive the original or duplicate original of the bonds for our files.

OCD AOR & Well Info. for APDs for your consideration of the APDs below.

Development/Production Well (5) Flow Rates ~ 3000 gpm per well (estimated total ~15,000 gpm)
 Injection Well (3) Rates ~ Unknown at the time of the inspection (Raser contends that injection pressure regulation is a moot point for fractured reservoirs). OCD estimates ~ 5500 gpm per well (estimated 16,500 gpm)
 Fresh Water Demand ~ 1500 gpm
 Cooling Tower Blowdown ~ 425 gpm

The OCD's Area of Review of ½ mile radius from all proposed geothermal resource wells conducted by the OCD Engineering Bureau concluded that no wells exist that lack cement in the proposed geothermal reservoir. Based on the facility (20 acre x 20 acre) location and geologic information provided by Los Lobos (see attachment), the OCD Environmental Bureau is deferring to OCD District 2 (Artesia) approval with any conditions for the 3 injection wells and 5 development or production wells set in the Horquilla Formation (suspected fractured limestone between intrusive volcanics) to an estimated depth of 3400 ft. bgl. with reservoir temperatures at 250 – 300 F.

However, I am a little puzzled by page 5 of the attachment, which displays multiple production zones from 2500 – 3100 ft. and from 3600 – 4008 ft. bgl. During the inspection, I was under the impression that the geothermal reservoir was the Horquilla Formation? Jay could you please respond to this? Based on page 5, the production wells appear to open to formations above and below the Horquilla Formation.

Los Lobos and Raser were informed that cement would be required from top to bottom and they are planning to pressure up on all drilling strings during the course of drilling operations to test integrity during the well construction process. There may be an issue with the structural integrity of the formations based on structural integrity of lithologies, potential blow-outs and detection of H2S during and after drilling, and Los Lobos is aware of this. The question of where to set the casing shoe came up? I think the casing shoe should be set above any fractured zones near the geothermal reservoir, but it is OCD District 2 decision on approval of APDs with conditions. Tim could you please send me the signed APDs for the online file when or if you approve the APDs? Raser explained that regulation of injection pressure is a moot point for highly fractured reservoirs that are required for geothermal reservoirs. Consequently, the EPA 5 Yr. MIT at minimum 600 psig for 30 minutes and after workovers is planned for the OCD discharge permit.

Other Issues:

Large evaporation ponds for conducting geothermal well tests (liners with good thermal characteristics should be

5/21/2008

considered). A presentation on pits rule suggestions was e-mailed out to Los Lobos earlier this morning for consideration. Los Lobos had proposed a couple of ponds in the facility process area (one was for cooling tower blow down ~425 gpm), but since the cooling tower is not closed-loop and chemicals are needed to prevent scaling of the unit, Los Lobos is looking at options (i.e., biodegradable chemicals, treatment before injection, injection into the geothermal reservoir, and disposal into a deeper formation). If Los Lobos drills with reserve pits, the land disturbance will be much greater. Then they will still need a very large pit(s) (> 1 M gallons for well testing). They had not considered this in their process area diagram.

Onsite/Offsite Disposal of Drill Cuttings?

Los Lobos is working to procure water well drilling rights to consider installing a freshwater well within its facility process area. Although, there are several freshwater wells that are already drilled that could be upgraded to provide freshwater at the site; however, are located outside of its facility process area.

Tim, Los Lobos Contact Info. is provided below.

Jay Hamilton

Hamilton Environmental, L.L.C.

485 West 1400 North

Orem, Utah 84057

Office (801) 224-4585

Fax (801) 224-1893

Cell (801) 361-2102

e-mail hamiltonenviro@yahoo.com

I am working on a final e-mail with action items for the "Administrative Completeness" determination and other issues identified during the facility inspection. I hope to send this out Wednesday, but it appears that much of the info. discussed during the facility inspection was submitted by Los Lobos. There will need to be some revisions to the reports to include H2S for equipment, emergencies, etc., binary cycle power plant specs in the equipment list, etc. Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

5/21/2008

Chavez, Carl J, EMNRD

From: Price, Wayne, EMNRD
Sent: Tuesday, May 06, 2008 8:22 AM
To: Chavez, Carl J, EMNRD
Subject: dseawright@gmail.com

Carl, please keep Mr. Seawright informed

Wayne Price-Environmental Bureau Chief
Oil Conservation Division
1220 S. Saint Francis
Santa Fe, NM 87505
E-mail wayne.price@state.nm.us
Tele: 505-476-3490
Fax: 505-476-3462

5/21/2008

Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Monday, May 05, 2008 5:32 PM
To: Chavez, Carl J, EMNRD
Subject: Re: Landfills w/ Special Waste Designations Near Lordsburg, NM

Thanks,

Jay

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: "Akeley, Chuck, NMENV" <chuck.akeley@state.nm.us>
Cc: "Jones, Brad A., EMNRD" <brad.a.jones@state.nm.us>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Gum, Tim, EMNRD" <tim.gum@state.nm.us>; Jay Hamilton <hamiltonenviro@yahoo.com>
Sent: Monday, May 5, 2008 8:04:09 AM
Subject: Landfills w/ Special Waste Designations Near Lordsburg, NM

Chuck:

Good morning. Brad Jones recommended that I check with you to see if there are any landfills near Lordsburg , NM (i.e., Deming) that may be able to accept special wastes (sediments/drill cuttings elevated in chlorides and hydrocarbons).

There is a geothermal project near Animas, NM that the OCD is considering various disposal options. If the owner/operator drills w/ closed-Loop drilling systems, they may dispose at a landfill if feasible, or on-site burial in accordance with OCD District requirements. If disposal is feasible off-site, the OCD needs to identify nearby RCRA Subtitle "D" Landfills with the "Special Waste" designation. Can you help?
Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe , New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

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5/21/2008

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Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Monday, May 05, 2008 3:15 PM
To: Chavez, Carl J, EMNRD
Subject: APDs & OCD Approval Lightening Dock Geothermal No. HI-01 (Hidalgo County)
Attachments: Lightening Dock Schematics.tif

Tim:

Good afternoon. I inspected the power plant facility location on 5/1/08 w/ Jay Hamilton (Los Lobos) & Jim Rosser (Raser).

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, May 06, 2008 9:14 AM
To: 'dseawright@gmail.com'
Subject: FW: Lightening Dock Geothermal No. HI-01: Some Preliminary Info. based on information discussed on May 1, 2008

Mr. Seawright:

Wayne Price requested that I keep you apprised of facility activities. Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Monday, May 05, 2008 12:46 PM
To: 'Jay Hamilton'
Cc: Price, Wayne, EMNRD; Gum, Tim, EMNRD
Subject: Lightening Dock Geothermal No. HI-01: Some Preliminary Info. based on information discussed on May 1, 2008

Jay:

Some links to assist you based on our meeting and some more immediate info. that we discussed at the facility location on 5/1/2008.

5/21/2008





I think the cooling tower blow-down (~425 gpm) upgradient from the Nursery and Talapia Fish Farm is the biggest concern right now. I think that
 It may be difficult to find a biodegradable chemical product that environmentally friendly. You may want to consider a disposal well into
 a deeper formation or treating the cooling tower blow down to WQCC Standards for infiltration into the upper water table (~40-60 ft. bgl).
 Depending on the chemical, you may be able to reinject it back into the geothermal reservoir. However, I read where the Animal Fault(s)
 transect N – S and control GW flow toward the N and N-NW and deeper seated formation water is upwelling to shallower depths across
 the area. Whatever you inject in the reservoir may migrate to shallower depths. The Talapia Fish Farm well is at about 400 ft. bgl and
 the Nursery well is at about 225 ft. bgl. The water quality TDS in the Horquilla Fm. (LS) at 3400 ft. was 1300 mg/L and the shallower well
 water had a TDS of about 300 mg/L.

Preferred Chemicals Lists:

http://www.michigan.gov/documents/deq/wb-sw-as-walist_185873_7.pdf

<http://www.deq.state.mi.us/documents/deq-ead-p2-epp-greencleaners.pdf>

Closed-Loop Systems

http://www.worldoil.com/magazine/MAGAZINE_DETAIL.asp?ART_ID=3053&MONTH_YEAR=Dec-2006

http://www.emnrd.state.nm.us/ocd/documents/2007_0110OGAP.pdf

<http://www.earthworksaction.org/newmexicopitwasteregulations07.cfm>

Site Photos from 5/1/08 inspection (for OCD Staff to view):

L:\ENVIRONM\WORD\ENVR-CC\UIC\Discharge Plans\Class V\Geothermal\Lightening Dock Animas NM\Photos\Lightening Dock Inspection\5-1-08 Inspection

Please contact me if you have questions. One more e-mail to Tim Gum on well APDs (approval w/ conditions?), and geologic formation information near the facility to consider. Thank you.

Carl J. Chavez, CHMM

New Mexico Energy, Minerals & Natural Resources Dept.

Oil Conservation Division, Environmental Bureau

1220 South St. Francis Dr., Santa Fe, New Mexico 87505

Office: (505) 476-3491

Fax: (505) 476-3462

E-mail: CarlJ.Chavez@state.nm.us

Website: <http://www.emnrd.state.nm.us/oed/index.htm>

(Pollution Prevention Guidance is under "Publications")

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD

Sent: Monday, May 05, 2008 12:46 PM

To: 'Jay Hamilton'

Cc: Price, Wayne, EMNRD; Gum, Tim, EMNRD

Subject: Lightening Dock Geothermal No. HI-01: Some Preliminary Info. based on information discussed on May 1, 2008

Jay:

Some links to assist you based on our meeting and some more immediate info. that we discussed at the facility location on 5/1/2008.



5/21/2008



I think the cooling tower blow-down (~425 gpm) upgradient from the Nursery and Talapia Fish Farm is the biggest concern right now. I think that
 It may be difficult to find a biodegradable chemical product that environmentally friendly. You may want to consider a disposal well into
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 Depending on the chemical, you may be able to reinject it back into the geothermal reservoir. However, I read where the Animal Fault(s)
 transect N – S and control GW flow toward the N and N-NW and deeper seated formation water is upwelling to shallower depths across
 the area. Whatever you inject in the reservoir may migrate to shallower depths. The Talapia Fish Farm well is at about 400 ft. bgl and
 the Nursery well is at about 225 ft. bgl. The water quality TDS in the Horquilla Fm. (LS) at 3400 ft. was 1300 mg/L and the shallower well
 water had a TDS of about 300 mg/L.

Preferred Chemicals Lists:

http://www.michigan.gov/documents/deq/wb-swaw-walist_185873_7.pdf

<http://www.deq.state.mi.us/documents/deq-ead-p2-epp-greencleaners.pdf>

Closed-Loop Systems

http://www.worldoil.com/magazine/MAGAZINE_DETAIL.asp?ART_ID=3053&MONTH_YEAR=Dec-2006

http://www.emnrd.state.nm.us/ocd/documents/2007_0110OGAP.pdf

<http://www.earthworksaction.org/newmexicopitwasteregulations07.cfm>

5/21/2008

Site Photos from 5/1/08 inspection (for OCD Staff to view):

L:\ENVIRONM\WORD\ENVR-CC\UIC\Discharge Plans\Class V\Geothermal\Lightening Dock Animas NM\Photos\Lightening Dock Inspection\5-1-08 Inspection

Please contact me if you have questions. One more e-mail to Tim Gum on well APDs (approval w/ conditions?), and geologic formation information near the facility to consider. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

5/21/2008

Chavez, Carl J, EMNRD

From: Lucero, Stephen A., EMNRD
Sent: Monday, May 05, 2008 11:19 AM
To: Price, Wayne, EMNRD; Fesmire, Mark, EMNRD
Cc: Chavez, Carl J, EMNRD; Johnson, Brian K., EMNRD
Subject: Request for Data - Energy Consumption by the Oil and Gas Sector in NM
Importance: High

Good morning

Here at ECMD, we are working on obtaining data to meet mandates set forth in Executive Order 2007-053; to achieve 20% reduction in per capita energy use, statewide from 2005 levels by 2020.

As part of this effort we are looking for the following data points:

1. NM Oil and Gas Sector - Electricity Consumption for Calendar Year 2005 (kilowatt hours)
2. NM Oil and Gas Sector - Natural Gas Consumption for Calendar Year 2005 (Btu's)
3. NM Oil and Gas Sector - Petroleum Products Consumption for Calendar Year 2005

We appreciate any information or direction that OCD may have towards achieving the above information.

Please let me know if you have any questions. Thank you

Stephen Lucero
Clean Energy Specialist
State of New Mexico
Energy Conservation and Management Division

(505) 476-3324
stephen.lucero@state.nm.us
www.cleanenergynm.org

5/21/2008

Chavez, Carl J, EMNRD

From: jay hamilton [hamiltonenviro@gmail.com]
Sent: Friday, May 02, 2008 11:42 AM
To: Chavez, Carl J, EMNRD
Subject: Fwd: Lightning Dock Well Numbers
Attachments: HI-01_ProposedActionMap_RevH_20080415_11x17.pdf

Carl,

This map is easier to read.

Thanks,

Jay

----- Forwarded message -----

From: Mark Winkelaar <winkerstick@gmail.com>
Date: Apr 15, 2008 7:54 AM
Subject: Re: Lightning Dock Well Numbers
To: Jim Rosser <Jim.Rosser@rasertech.com>
Cc: jay hamilton <hamiltonenviro@gmail.com>, Steve Brown <steve.brown@rasertech.com>

Here is the updated map. All of the Legal descriptions are up to date. Thank you for the legals.

Mark Winkelaar

On Mon, Apr 14, 2008 at 10:34 PM, Jim Rosser <Jim.Rosser@rasertech.com> wrote:

> These are the correct legal descriptions but the well numbers should be
 > 42-18, 62-18 and 82-18 respectively. We will get new signed well survey
 > and legal descriptions reflecting the new well numbers later this week.

>
 >

> -----Original Message-----

> From: Mark Winkelaar [mailto:winkerstick@gmail.com]

>
 >

> Sent: Monday, April 14, 2008 2:03 PM

> To: Jim Rosser

> Subject: Re: Lightning Dock Well Numbers

>
 >

> I do not have them for any of the Wells within Section 18.

> If you can refer me to a document, then I will check, but I only have

> descriptions for wells within Section 7. I am relying on information

> submitted to me by Jay Hamilton. There may be another update, that I

> haven't received.

>

> Mark Winkelaar

5/21/2008

>
> On Mon, Apr 14, 2008 at 11:26 AM, Jim Rosser <Jim.Rosser@rasertech.com>
> wrote:
> > The descriptions for the injections tests have not changed and you
> > should have them.
> >
> > Jim
> >
> >
> >
> > -----Original Message-----
> > From: Mark Winkelaar [<mailto:winkerstick@gmail.com>]
> > Sent: Sunday, April 13, 2008 11:59 PM
> > To: jay hamilton
> > Cc: Jim Rosser
> > Subject: Re: Lightning Dock Well Numbers
> >
> > I agree completely with the renamed Well Numbers for HI-01. These
> > are
> > the same numbers I had exactly. Here is the latest version of the
> > map.
> > I have placed the Well Number legal descriptions on the left. I
> > still
> > need legal descriptions for Wells 42-18, 62-18, and 82-18. I have
> > placed the text in such a way that if anyone has an Adobe .pdf editor
> > they could place the 11 point Arial text if needed for a quick
> > print.
> > Please forward the latest descriptions to me and I will update this
> > map.
> >
> > Thanks
> > Mark Winkelaar
> >
> > On Sun, Apr 13, 2008 at 9:39 AM, Jay Hamilton
> > <hamiltonenviro@yahoo.com>
> > wrote:
> > >
> > > Mark,
> > >
> > >
> > > The new well numbers are correct.
> > >
> > > I just have one questions about the NUMBERS on the left. Why the
> > 07
> > > from top to bottom. I think that last three should be 18.
> > >
> > >
> > > ----- Original Message -----
> > > From: Jim Rosser <Jim.Rosser@rasertech.com>
> > > To: Jay Hamilton <hamiltonenviro@yahoo.com>
> > > Cc: Bob Giguere <Bob.Giguere@rasertech.com>

5/21/2008

> > > Sent: Saturday, April 12, 2008 10:16:22 PM

> > > Subject: Lightning Dock Well Numbers

> > >

> > >

> > >

> > >

> > > Richard and I independently came up with the new well numbers

> > > according to the Kettleman format. As soon as you verify our

> numbers,

> >

> > > he will proceed to reissue the documentation. He does not have his

> > > stamp with him and he is at the site til Wed or Thursday. He can

> send

> >

> > > you electronically signed copies but not stamped until later this

> > week.

> > >

> > >

> > >

> > > The well numbers we came up with are as follows:

> > >

> > >

> > >

> > > Type Well

> > Old

> > > Number

New Number

> > >

> > >

> > >

> > >

> > > Production Well

> 23-07

> > > 13-07

> > >

> > >

> > >

> > >

> > > Production Well

> 43-07

> > > 33-07

> > >

> > >

> > >

> > >

> > > Production Well

> 63-07

> > > 53-07

> > >

> > >

> > >

> > >

> > > Production Well

> 45-07

> > > 45-07 No Change

> > >

5/21/2008

> > >

> > >

> > > Production Well

> 47-07

> > > 47-07 No Change

> > >

> > >

> > >

> > > Injection Well

> > 48-07

> > > 42-18

> > >

> > >

> > >

> > > Injection Well

> > 68-07

> > > 62-18

> > >

> > >

> > >

> > > Injection Well

> > 88-07

> > > 82-18

> > >

> > >

> > >

> > > Please let me know if these concur with your information.

> > >

> > >

> > >

> > > Jim

> > >

> > >

> > >

> > > Do You Yahoo!?

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> > > <http://mail.yahoo.com>

> >

>

>

>

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5/21/2008

Chavez, Carl J, EMNRD

From: Jones, William V., EMNRD
Sent: Tuesday, April 29, 2008 5:21 PM
To: Chavez, Carl J, EMNRD
Subject: AORs for Hidalgo County Wells and Plant
Attachments: qryAll.xls

Hey

This is sorted by Tsp Rge Sec

Looks like the proposed wells are miles from any other wells.

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, April 29, 2008 3:54 PM
To: 'Jay Hamilton'
Subject: RE: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Jay:

I recommend that you complete the application and refer to the brine well application if you wish where questions are similar. In order to cross our ts and dot our Is, the record will reflect that you completed the "Geothermal" form. I had a feeling they are similar, but lets make sure the Administrative Record is complete. Thanks:

Carl J. Chavez, CHMM
 New Mexico Energy, Minerals & Natural Resources Dept.
 Oil Conservation Division, Environmental Bureau
 1220 South St. Francis Dr., Santa Fe, New Mexico 87505
 Office: (505) 476-3491
 Fax: (505) 476-3462
 E-mail: CarlJ.Chavez@state.nm.us
 Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
 (Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Tuesday, April 29, 2008 3:44 PM
To: Chavez, Carl J, EMNRD
Cc: Steve Brown
Subject: Re: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Carl,

Just got through reading your message about the fees that we need to pay. Thanks, for all you an Mark did. \$65,000 is a lot but there a lot better than they could of been. Thanks.

In your e-mail you mentioned that we would need to to review and complete the "Discharge Plan Application for Service companies, Gas plants, Refineries, Compressor, Geothermal facilities and Crude Oil Pump Stations." As I reviewed this application it is very similar to the application that I just completed "Dischare Plan Application for Brine Extraction Facilities." This is the application that Wayne ask me to complete. Should I also complete this application. as I said these are very similar to each other?

Thanks,

Jay

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>; Jay Hamilton
 <hamiltonenviro@yahoo.com>

5/21/2008

Cc: Steve Brown <steve.brown@rasertech.com>; "Gum, Tim, EMNRD" <tim.gum@state.nm.us>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Fesmire, Mark, EMNRD" <mark.fesmire@state.nm.us>; "Brooks, David K., EMNRD" <david.brooks@state.nm.us>

Sent: Tuesday, April 29, 2008 1:26:25 PM

Subject: RE: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Jay:

Good afternoon. As I mentioned in our telephone call earlier today, the bond message below was sent out and we needed to await the fall-out from the bond msg. Well, there has been some fall-out. Specifically, the regulations (19.14 NMAC) for Geothermal Power may be viewed at http://www.nmcpr.state.nm.us/nmac/_title19/T19C014.htm. I recommend that we review 19.14 NMAC in its entirety, since it is germane to the production wells.

The section on plugging is 19.14.20.8 NMAC. The breakdown on bonding for the production wells at your Geothermal Power Plant is as follows

Los Lobos is proposing 5 production wells at a total bonding cost under 19.14.20.8(A2) & (A2c) NMAC of \$15,000.00. (\$10K multi-well bond (deep) + \$5K one-well bond (deep) for each well over 4 deep production wells)

Los Lobos may use the Blanket Cash Plugging Bond for \$10K at

<http://www.emnrd.state.nm.us/ocd/documents/formcbb-sample.pdf>

Los Lobos may use the Single Well Cash Bond for \$5K at

http://www.emnrd.state.nm.us/ocd/documents/formscbsample_000.pdf

Los Lobos is proposing 3 injection wells at a total financial assurance cost under WQCC regulations (20.6.2 NMAC) of \$50,000.00 at <http://www.nmcpr.state.nm.us/nmac/parts/title20/20.006.0002.htm>.

Los Lobos may use the Letter of Credit or Financial Assurance for a total of \$50K at

http://www.emnrd.state.nm.us/ocd/documents/FormLOCSample_000.pdf

Please note that the injection wells (EPA Class V Wells) are regulated by the OCD under the NM Water Quality Control Commission (WQCC) Regulations and the Water Quality Act for Class III or Geothermal Wells. Consequently, the bonding amount for site restoration, plugging and abandonment is discretionary on the part of the OCD.

The total bonding and financial assurance cost to Los Lobos based on the application is \$65,000.00.

Los Lobos needs to review and complete the "Discharge Plan Application For Service Companies, Gas Plants, Refineries, Compressor, Geothermal, Facilities and Crude Oil Pump Stations" at http://www.emnrd.state.nm.us/ocd/documents/dp_apps.pdf.

Also, remember that the OCD District Office will need to approve the APDs and issue an API# for each well in order for Los Lobos to issue a bond or financial assurance that references an API# for a well(s). I apologize for the complexity of the bond, I am just getting up to speed and this will be our first geothermal application for a power plant in New Mexico.

Please contact me if you have questions. Thank you for your cooperation in this matter.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>

5/21/2008

Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Tuesday, April 29, 2008 3:44 PM
To: Chavez, Carl J, EMNRD
Cc: Steve Brown
Subject: Re: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Carl,

Just got through reading your message about the fees that we need to pay. Thanks, for all you and Mark did. \$65,000 is a lot but there a lot better than they could of been. Thanks.

In your e-mail you mentioned that we would need to to review and complete the "Discharge Plan Application for Service companies, Gas plants, Refineries, Compressor, Geothermal facilities and Crude Oil Pump Stations." As I reviewed this application it is very similar to the application that I just completed "Dischare Plan Application for Brine Extraction Facilities." This is the application that Wayne ask me to complete. Should I also complete this application. as I said these are very similar to each other?

Thanks,

Jay

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>; Jay Hamilton <hamiltonenviro@yahoo.com>
Cc: Steve Brown <steve.brown@rasertech.com>; "Gum, Tim, EMNRD" <tim.gum@state.nm.us>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Fesmire, Mark, EMNRD" <mark.fesmire@state.nm.us>; "Brooks, David K., EMNRD" <david.brooks@state.nm.us>
Sent: Tuesday, April 29, 2008 1:26:25 PM
Subject: RE: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Jay:

Good afternoon. As I mentioned in our telephone call earlier today, the bond message below was sent out and we needed to await the fall-out from the bond msg Well, there has been some fall-out. Specifically, the regulations (19.14 NMAC) for Geothermal Power may be viewed at http://www.nmcpr.state.nm.us/nmac/_title19/T19C014.htm. I recommend that we review 19.14 NMAC in its entirety, since it is Germane to the the production wells.

The section on plugging is 19.14.20.8 NMAC. The breakdown on bonding for the production wells at your Geothermal Power Plant is as follows

Los Lobos is proposing 5 production wells at a total bonding cost under 19.14.20.8(A2) & (A2c) NMAC of \$15,000.00. (\$10K multi-well bond (deep) + \$5K one-well bond (deep) for each well over 4 deep production wells)

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Please contact me if you have questions. Thank you for your cooperation in this matter.

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(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Tuesday, April 29, 2008 10:20 AM
To: 'Jay Hamilton'
Cc: Steve Brown; Gum, Tim, EMNRD ; Price, Wayne, EMNRD ; Fesmire, Mark, EMNRD
Subject: RE: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Jay:

Mark Fesmire indicated that one blanket bond for all of the wells (injection and production) would be fine. Send the original or duplicate original to me for the file. You will need an API# for each well before a bond can be created by the financial institution. Please contact me if you have questions. Thank you.

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5/21/2008

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Friday, April 25, 2008 5:28 PM
To: Chavez, Carl J, EMNRD
Cc: Steve Brown
Subject: Re: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Carl,

I will be providing the following information:

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Thanks,

Jay

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From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>

To: steve.brown@rasertech.com

Cc: Jay Hamilton <hamiltonenviro@yahoo.com>; " Sanchez, Daniel J., EMNRD " <daniel.sanchez@state.nm.us>; " Price, Wayne, EMNRD " <wayne.price@state.nm.us>; " Brooks, David K., EMNRD " <david.brooks@state.nm.us>; " Gum, Tim, EMNRD " <tim.gum@state.nm.us>

Sent: Friday, April 25, 2008 4:34:32 PM

Subject: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)



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5/21/2008

Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Tuesday, April 29, 2008 1:49 PM
To: Chavez, Carl J, EMNRD
Cc: Steve Brown
Subject: Re: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Carl,

Thanks,

Jay

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Cc: Steve Brown <steve.brown@rasertech.com>; "Gum, Tim, EMNRD" <tim.gum@state.nm.us>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Fesmire, Mark, EMNRD" <mark.fesmire@state.nm.us>
Sent: Tuesday, April 29, 2008 10:19:39 AM
Subject: RE: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

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Sent: Friday, April 25, 2008 5:28 PM
To: Chavez, Carl J, EMNRD
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Subject: Re: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

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To: steve.brown@rasertech.com

Cc: Jay Hamilton <hamiltonenviro@yahoo.com>; " Sanchez, Daniel J., EMNRD " <daniel.sanchez@state.nm.us>; " Price, Wayne, EMNRD " <wayne.price@state.nm.us>; " Brooks, David K., EMNRD " <david.brooks@state.nm.us>; " Gum, Tim, EMNRD " <tim.gum@state.nm.us>

Sent: Friday, April 25, 2008 4:34:32 PM

Subject: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)



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Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, April 29, 2008 1:26 PM
To: Chavez, Carl J, EMNRD; 'Jay Hamilton'
Cc: 'Steve Brown'; Gum, Tim, EMNRD; Price, Wayne, EMNRD; Fesmire, Mark, EMNRD; Brooks, David K., EMNRD
Subject: RE: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

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5/21/2008

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(Pollution Prevention Guidance is under "Publications")

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Sent: Tuesday, April 29, 2008 10:20 AM
To: 'Jay Hamilton'
Cc: Steve Brown; Gum, Tim, EMNRD; Price, Wayne, EMNRD; Fesmire, Mark, EMNRD
Subject: RE: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

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Cc: Steve Brown
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From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>

To: steve.brown@rasertech.com

Cc: Jay Hamilton <hamiltonenviro@yahoo.com>; "Sanchez, Daniel J., EMNRD" <daniel.sanchez@state.nm.us>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Brooks, David K., EMNRD" <david.brooks@state.nm.us>; "Gum, Tim, EMNRD" <tim.gum@state.nm.us>

Sent: Friday, April 25, 2008 4:34:32 PM

Subject: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)



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Sent: Tuesday, April 29, 2008 10:20 AM
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New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Friday, April 25, 2008 5:28 PM
To: Chavez, Carl J, EMNRD
Cc: Steve Brown
Subject: Re: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Carl,

I will be providing the following information:

Check to OCD for \$100.00 - Filling fee

Check to OCD for \$1,700.00 - Discharge Permit

Check to OCD for \$50,000.00 - Injection Bond.
Carl is that for each well?

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I will forward the APDs for the 5 production wells and 3 injection wells to Tim Gum this evening.

If you have additional questions or need more information please call or e-mail.

5/21/2008

Thanks,

Jay

Thanks,

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>

To: steve.brown@rasertech.com

Cc: Jay Hamilton <hamiltonenviro@yahoo.com>; "Sanchez, Daniel J., EMNRD" <daniel.sanchez@state.nm.us>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Brooks, David K., EMNRD" <david.brooks@state.nm.us>; "Gum, Tim, EMNRD" <tim.gum@state.nm.us>

Sent: Friday, April 25, 2008 4:34:32 PM

Subject: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)



Mr. Brown:

Good afternoon. I'm just getting into the

I just left a message informing you that the OCD will be processing and handling this injection application as a Class V (Geothermal) Wells. I am writing to inquire about the \$100 filing fee. Did you mail this in with the application? Also, did you know that there is a \$1700 discharge permit fee/ 5 years per 20.6.2.3114 NMAC?

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Thank you.

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E-mail: CarlJ.Chavez@state.nm.us

Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
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5/21/2008

Chavez, Carl J, EMNRD

From: Hansen, Edward J., EMNRD
Sent: Tuesday, April 29, 2008 11:05 AM
To: Sanchez, Daniel J., EMNRD; Chavez, Carl J, EMNRD
Cc: Price, Wayne, EMNRD
Subject: RE: RBDMS Changes

done

From: Sanchez, Daniel J., EMNRD
Sent: Tuesday, April 29, 2008 10:10 AM
To: Chavez, Carl J, EMNRD
Cc: Price, Wayne, EMNRD; Hansen, Edward J., EMNRD
Subject: RE: RBDMS Changes

Ed,

Could you please move forward with the request by Mr. Chavez? If you have any questions, just let me know.
Thanks.

From: Chavez, Carl J, EMNRD
Sent: Tuesday, April 29, 2008 9:29 AM
To: Sanchez, Daniel J., EMNRD
Cc: Price, Wayne, EMNRD; Hansen, Edward J., EMNRD
Subject: FW: RBDMS Changes
Importance: High

Daniel:

Ed told me this morning that he needs your authorization to create 2 new Class V Well categories in RBDMS (i.e., GS= Geosequestration and GT= Geothermal). Could you please reply with authorization to make the changes and so that Ed can process them today and I can log in the Hidalgo County GT Wells into RBDMS today? Thank you.

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From: Chavez, Carl J, EMNRD
Sent: Friday, April 25, 2008 11:32 AM
To: Hansen, Edward J., EMNRD
Cc: Sanchez, Daniel J., EMNRD; Jones, William V., EMNRD; Price, Wayne, EMNRD
Subject: RBDMS Changes
Importance: High

5/21/2008

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Can we make a "Geothermo" and "Geosequest" designations in RBDMS to track geothermal wells and future geosequestration wells? If so, can this be done very quickly so I may create a new "Geothermo-1" entry in RBDMS? Thank you.

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5/21/2008

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From: Chavez, Carl J, EMNRD
Sent: Tuesday, April 29, 2008 10:20 AM
To: 'Jay Hamilton'
Cc: Steve Brown; Gum, Tim, EMNRD ; Price, Wayne, EMNRD ; Fesmire, Mark, EMNRD
Subject: RE: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Jay:

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5/21/2008

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>

To: steve.brown@rasertech.com

Cc: Jay Hamilton <hamiltonenviro@yahoo.com>; " Sanchez, Daniel J., EMNRD " <daniel.sanchez@state.nm.us>; " Price, Wayne, EMNRD " <wayne.price@state.nm.us>; " Brooks, David K., EMNRD " <david.brooks@state.nm.us>; " Gum, Tim, EMNRD " <tim.gum@state.nm.us>

Sent: Friday, April 25, 2008 4:34:32 PM

Subject: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)



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Cc: Steve Brown; Gum, Tim, EMNRD; Price, Wayne, EMNRD; Fesmire, Mark, EMNRD
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From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>

To: steve.brown@rasertech.com

Cc: Jay Hamilton <hamiltonenviro@yahoo.com>; "Sanchez, Daniel J., EMNRD" <daniel.sanchez@state.nm.us>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Brooks, David K., EMNRD" <david.brooks@state.nm.us>; "Gum, Tim, EMNRD" <tim.gum@state.nm.us>

Sent: Friday, April 25, 2008 4:34:32 PM

Subject: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)



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Chavez, Carl J, EMNRD

From: Sanchez, Daniel J., EMNRD
Sent: Tuesday, April 29, 2008 10:10 AM
To: Chavez, Carl J, EMNRD
Cc: Price, Wayne, EMNRD; Hansen, Edward J., EMNRD
Subject: RE: RBDMS Changes

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Cc: Price, Wayne, EMNRD; Hansen, Edward J., EMNRD
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Cc: Sanchez, Daniel J., EMNRD; Jones, William V., EMNRD; Price, Wayne, EMNRD
Subject: RBDMS Changes
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Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Tuesday, April 29, 2008 9:51 AM
To: Chavez, Carl J, EMNRD
Subject: Re: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Carl,

Yes, please forward all permit related documents to Steve Brown.

I will review all the information you sent and will be ready for the meeting on Thursday.

Thanks,

Jay

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Sent: Tuesday, April 29, 2008 9:44:08 AM
Subject: RE: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Jay:

Ok, I can work through you. However, I believe that the "Administrative Completeness" letter and other permit related documents should be addressed to Mr. Brown at the address provided in the application correct?

I think we will need to discuss public notice requirements, bonding, drilling methods, disposal, etc. on Thursday. Please see attached WQCC Public Notice requirements, once the application is deemed administratively complete. Please review for Thursday. Thanks.

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From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Friday, April 25, 2008 4:51 PM
To: Chavez, Carl J, EMNRD
Cc: Steve Brown
Subject: Re: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Carl,

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5/21/2008

together will be able to move this project through to completion faster.

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From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>

To: steve.brown@rasertech.com

Cc: Jay Hamilton <hamiltonenviro@yahoo.com>; " Sanchez, Daniel J., EMNRD " <daniel.sanchez@state.nm.us>; " Price, Wayne, EMNRD " <wayne.price@state.nm.us>; " Brooks, David K., EMNRD " <david.brooks@state.nm.us>; " Gum, Tim, EMNRD " <tim.gum@state.nm.us>

Sent: Friday, April 25, 2008 4:34:32 PM

Subject: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

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Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, April 29, 2008 9:44 AM
To: 'Jay Hamilton'
Subject: RE: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)
Follow Up Flag: Follow up
Flag Status: Red
Attachments: New and Mod WQCC Notice Regs.pdf; PN Flow Chart.20.6.2new and mods.pdf

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An API# is also needed before a single well cash bond can be completed and sent to the OCD. Class V Wells (similar to Class IIIs) fall under financial assurance of WQCC Regs. 20.6.2 NMAC and the OCD will need to assist you in determining the site restoration, plug and abandonment bond amounts for each well. The OCD had increased the bond amounts on Class III Brine Wells to \$50,000.

Not sure if the amounts would be similar for these types of wells based on their Class V Status, since OCD hasn't process any applications under recent WQCC regulations, and the formation water quality that we're dealing with may be cleaner than brine? We will need to discuss.

Due to the multiple number of wells, the OCD MAY be able to approve a blanket bond?

I will be in the office next Tuesday morning at 7:30 a.m.

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe , New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

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5/21/2008

Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Friday, April 25, 2008 5:28 PM
To: Chavez, Carl J, EMNRD
Cc: Steve Brown
Subject: Re: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Carl,

I will be providing the following information:

Check to OCD for \$100.00 - Filling fee

Check to OCD for \$1,700.00 - Discharge Permit

Check to OCD for \$50,000.00 - Injection Bond.

Carl is that for each well?

I will be sending the first two checks for \$100 and \$1,700 on Monday April 28, 2008.

After your confirmation on the Injection Bond I will forward the check the next day.

I will forward the APDs for the 5 production wells and 3 injection wells to Tim Gum this evening.

If you have additional questions or need more information please call or e-mail.

Thanks,

Jay

Thanks,

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: steve.brown@rasertech.com
Cc: Jay Hamilton <hamiltonenviro@yahoo.com>; "Sanchez, Daniel J., EMNRD" <daniel.sanchez@state.nm.us>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Brooks, David K., EMNRD" <david.brooks@state.nm.us>; "Gum, Tim, EMNRD" <tim.gum@state.nm.us>
Sent: Friday, April 25, 2008 4:34:32 PM
Subject: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Mr. Brown:

Good afternoon. I'm just getting into the

I just left a message informing you that the OCD will be processing and handling this injection application as a

5/21/2008

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Not sure if the amounts would be similar for these types of wells based on their Class V Status, since OCD hasn't process any applications under recent WQCC regulations, and the formation water quality that we're dealing with may be cleaner than brine? We will need to discuss.

Due to the multiple number of wells, the OCD MAY be able to approve a blanket bond?

I will be in the office next Tuesday morning at 7:30 a.m.

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Chavez, Carl J, EMNRD

From: Jay Hamilton [hamiltonenviro@yahoo.com]
Sent: Friday, April 25, 2008 4:51 PM
To: Chavez, Carl J, EMNRD
Cc: Steve Brown
Subject: Re: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Carl,

Mr. Brown would appreciate if the correspondance could go through me. This site is extremely important to him but he has asked me to assist him on this project. He feels that you I working together will be able to move this project through to completion faster.

Thanks,

Jay

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: steve.brown@rasertech.com
Cc: Jay Hamilton <hamiltonenviro@yahoo.com>; "Sanchez, Daniel J., EMNRD" <daniel.sanchez@state.nm.us>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Brooks, David K., EMNRD" <david.brooks@state.nm.us>; "Gum, Tim, EMNRD" <tim.gum@state.nm.us>
Sent: Friday, April 25, 2008 4:34:32 PM
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5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, April 25, 2008 4:35 PM
To: 'steve.brown@rasertech.com'
Cc: 'Jay Hamilton'; Sanchez, Daniel J., EMNRD; Price, Wayne, EMNRD; Brooks, David K., EMNRD; Gum, Tim, EMNRD
Subject: Geothermal Well Application (Class V) Hidalgo County (~4.5 Mi. NE of Animas, NM)

Mr. Brown:

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(Pollution Prevention Guidance is under "Publications")

5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, April 25, 2008 11:57 AM
To: 'Jay Hamilton'
Subject: RE: Contact Info.

Jay:

My Cell Ph. # will be (505) 560-1067 in case you need to contact me. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
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E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Friday, April 25, 2008 10:11 AM
To: Chavez, Carl J, EMNRD
Subject: Re: Contact Info.

Carl,

Our Project Manager suggested that we meet at the Comfort Inn Suites Lobby in Lordsbury at 9:00. Does that work for you?

Thanks

Jay

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Sent: Friday, April 25, 2008 7:48:58 AM
Subject: RE: Contact Info.

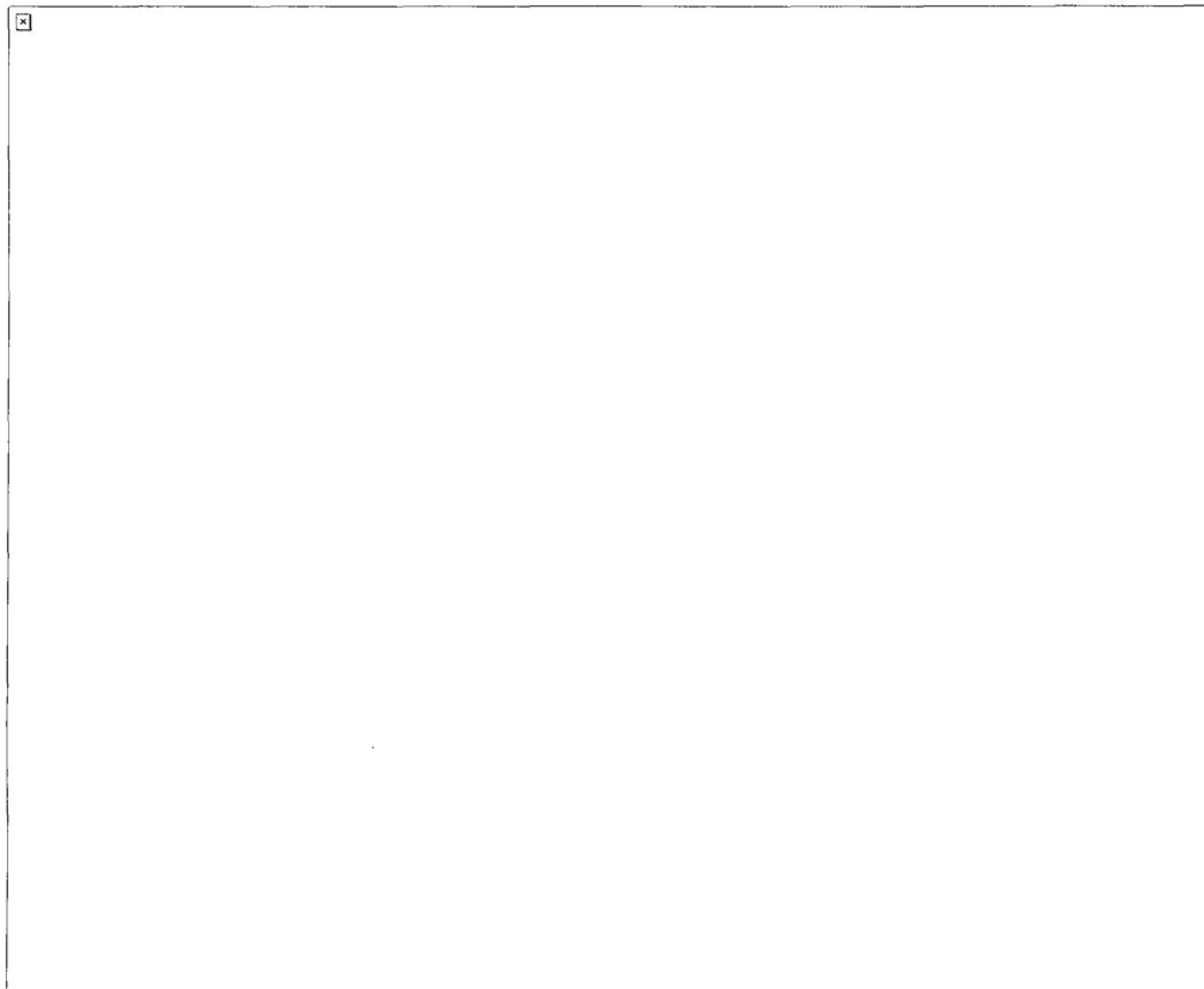
Jay:

I'm sorry. I was handed the application yesterday afternoon before having a chance to review anything. I believe the GPS Coordinates to the project area are: N 32° 0' 0.96" W 108° 45' 25.19" (see map below)? Is this correct?

We'll meet on Thursday, May 1, 2008 at 9:00 a.m. at the project area or another meeting point that you recommend. Will that work or do you have a suggested time? Thanks.

5/21/2008

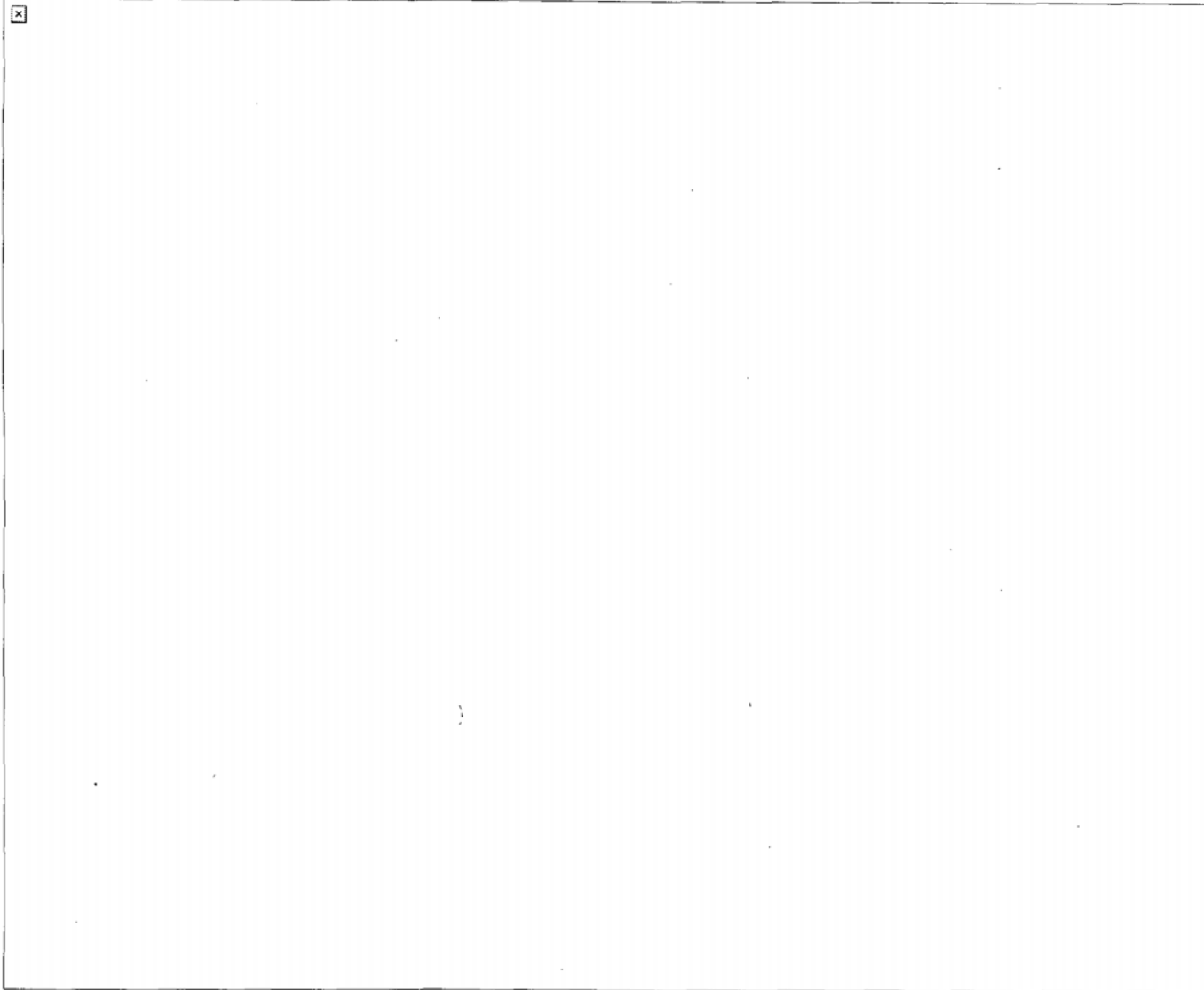




x

x

5/21/2008



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Sent: Thursday, April 24, 2008 5:28 PM
To: Chavez, Carl J, EMNRD
Subject: Re: Contact Info.

Carl,

I will sending you a map and directions on how to get to the site.

Thanks,

Jay

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Sent: Thursday, April 24, 2008 4:39:54 PM
Subject: RE: Contact Info.

Jay:

As I review the permit, I presume we will meet at the facility address unless told otherwise. See you on 5/1/08 around 8 a.m.

Thank you.

5/21/2008

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From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Thursday, April 24, 2008 3:54 PM
To: Chavez, Carl J, EMNRD
Subject: Re: Contact Info.

Jay Hamilton

Hamilton Environmental, L.L.C.

485 West 1400 North

Orem, Utah 84057

Office (801) 224-4585

Fax (801) 224-1893

Cell (801) 361-2102

e-mail hamiltonenviro@yahoo.com

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: hamiltonenviro@yahoo.com
Sent: Thursday, April 24, 2008 2:56:25 PM
Subject: Contact Info.



Carl J. Chavez, CHMM
 New Mexico Energy, Minerals & Natural Resources Dept.
 Oil Conservation Division, Environmental Bureau
 1220 South St. Francis Dr., Santa Fe, New Mexico 87505
 Office: (505) 476-3491
 Fax: (505) 476-3462
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5/21/2008

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, April 25, 2008 11:06 AM
To: 'Jay Hamilton'
Subject: RE: Contact Info.

Ok. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/pcd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Friday, April 25, 2008 10:11 AM
To: Chavez, Carl J, EMNRD
Subject: Re: Contact Info.

Carl,

Our Project Manager suggested that we meet at the Comfort Inn Suites Lobby in Lordsbury at 9:00. Does that work for you?

Thanks

Jay

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To: Jay Hamilton <hamiltonenviro@yahoo.com>
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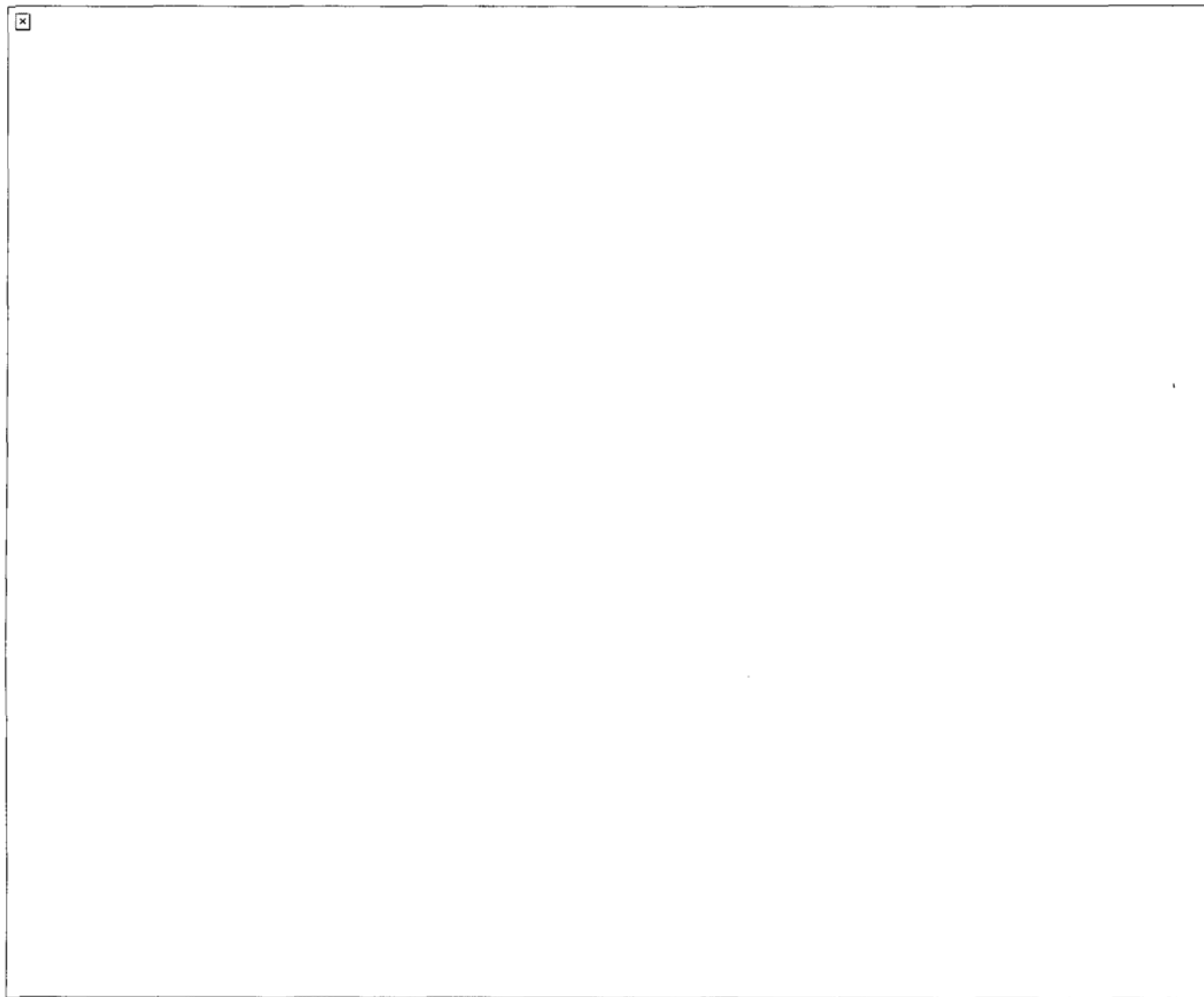
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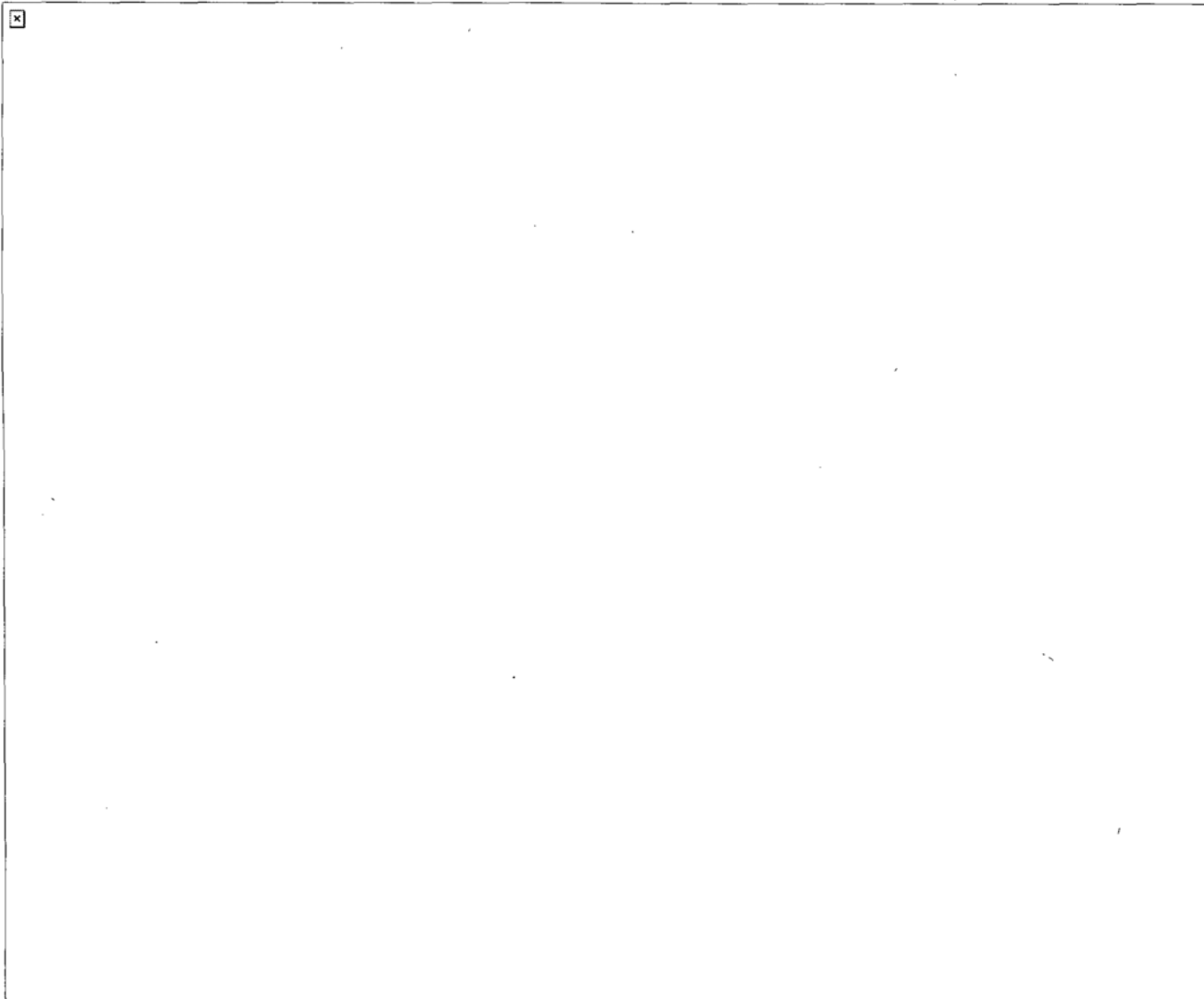
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5/21/2008

x





x

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Thank you.

5/21/2008

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Hamilton Environmental, L.L.C.

485 West 1400 North

Orem, Utah 84057

Office (801) 224-4585

Fax (801) 224-1893

Cell (801) 361-2102

e-mail hamiltonenviro@yahoo.com

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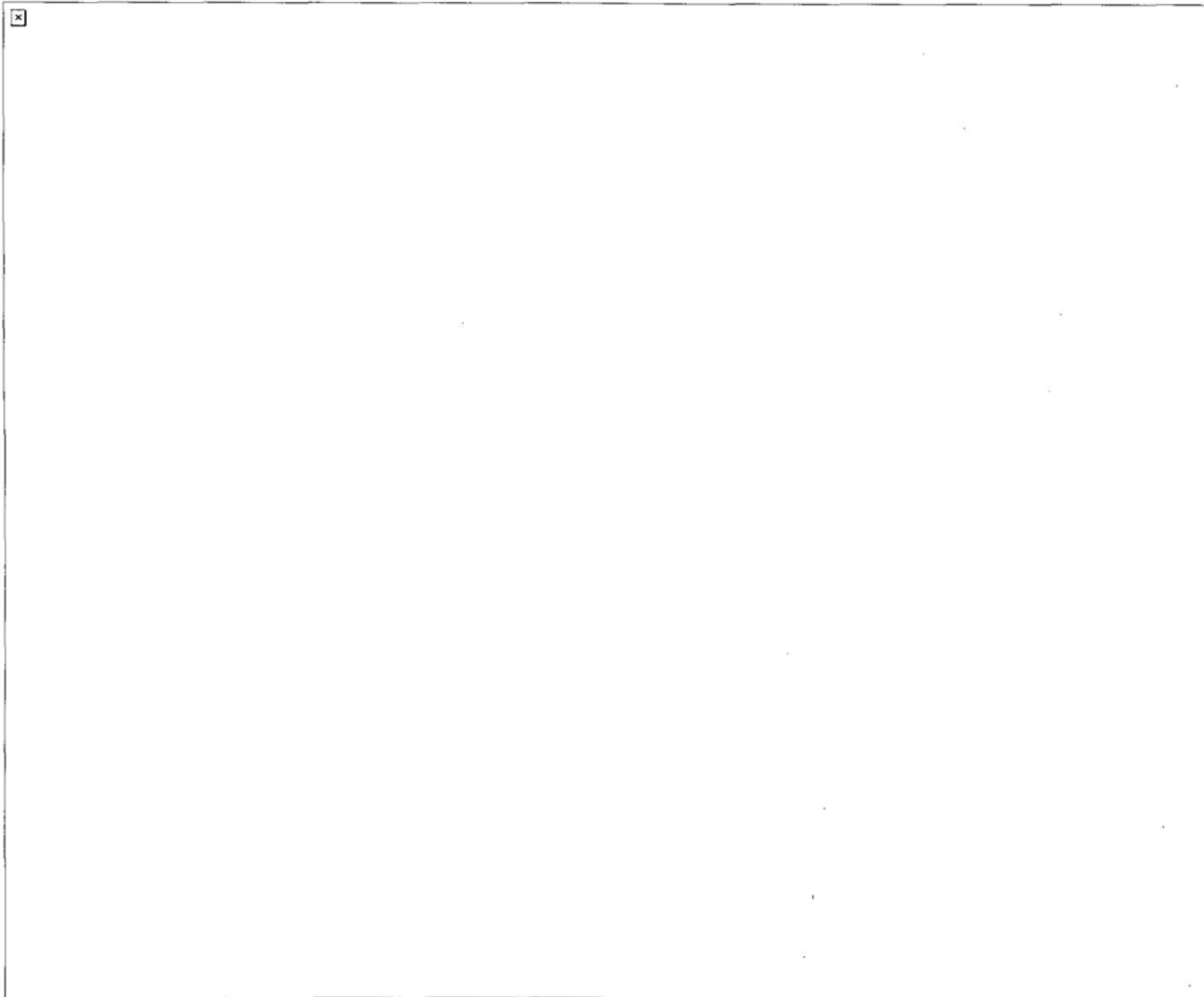
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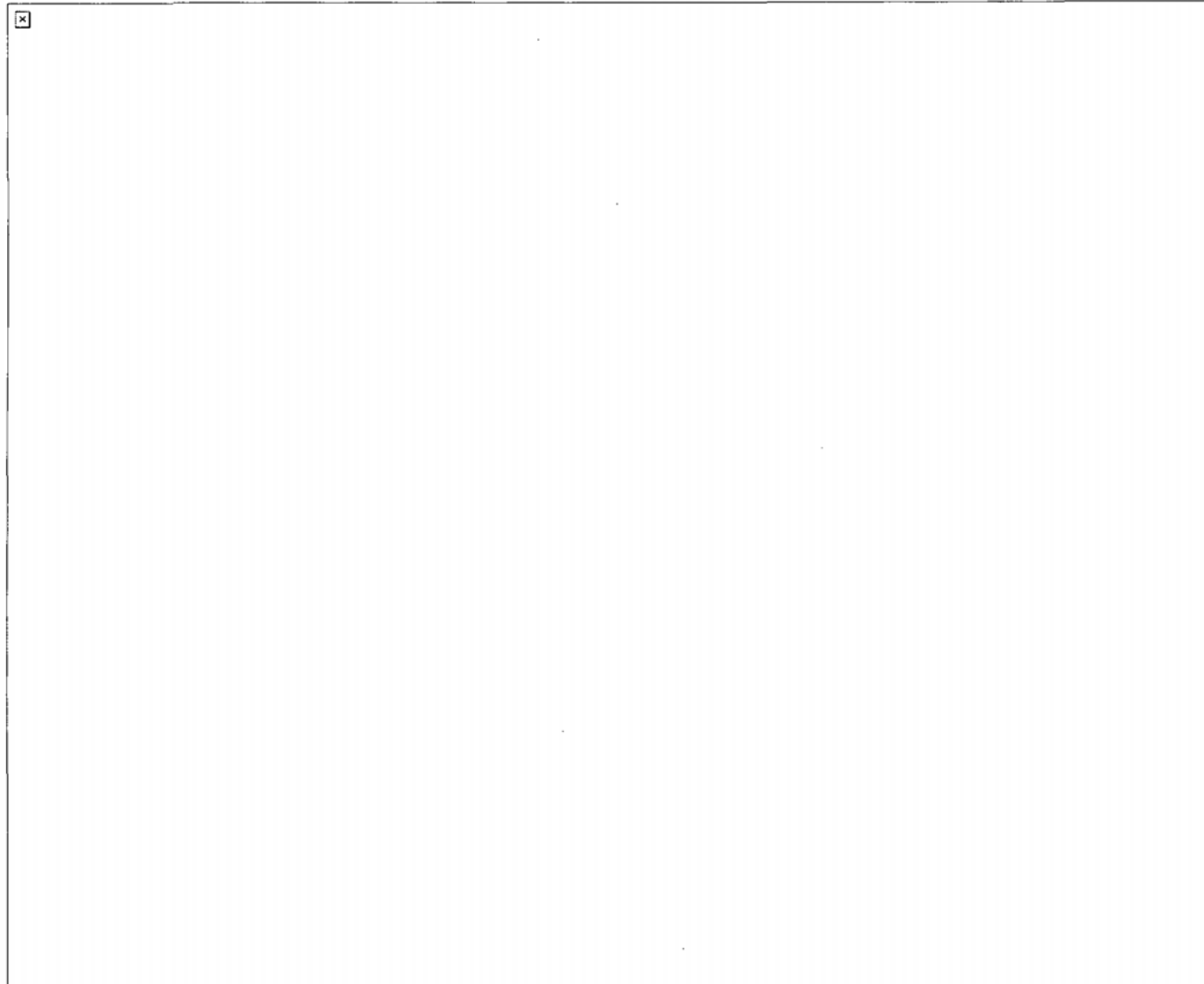
5/21/2008





x

5/21/2008



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From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: hamiltonenviro@yahoo.com
Sent: Thursday, April 24, 2008 2:56:25 PM
Subject: Contact Info.

Carl J. Chavez, CHMM
 New Mexico Energy, Minerals & Natural Resources Dept.
 Oil Conservation Division, Environmental Bureau
 1220 South St. Francis Dr., Santa Fe, New Mexico 87505
 Office: (505) 476-3491
 Fax: (505) 476-3462
 E-mail: CarlJ.Chavez@state.nm.us
 Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
 (Pollution Prevention Guidance is under "Publications")

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Chavez, Carl J, EMNRD

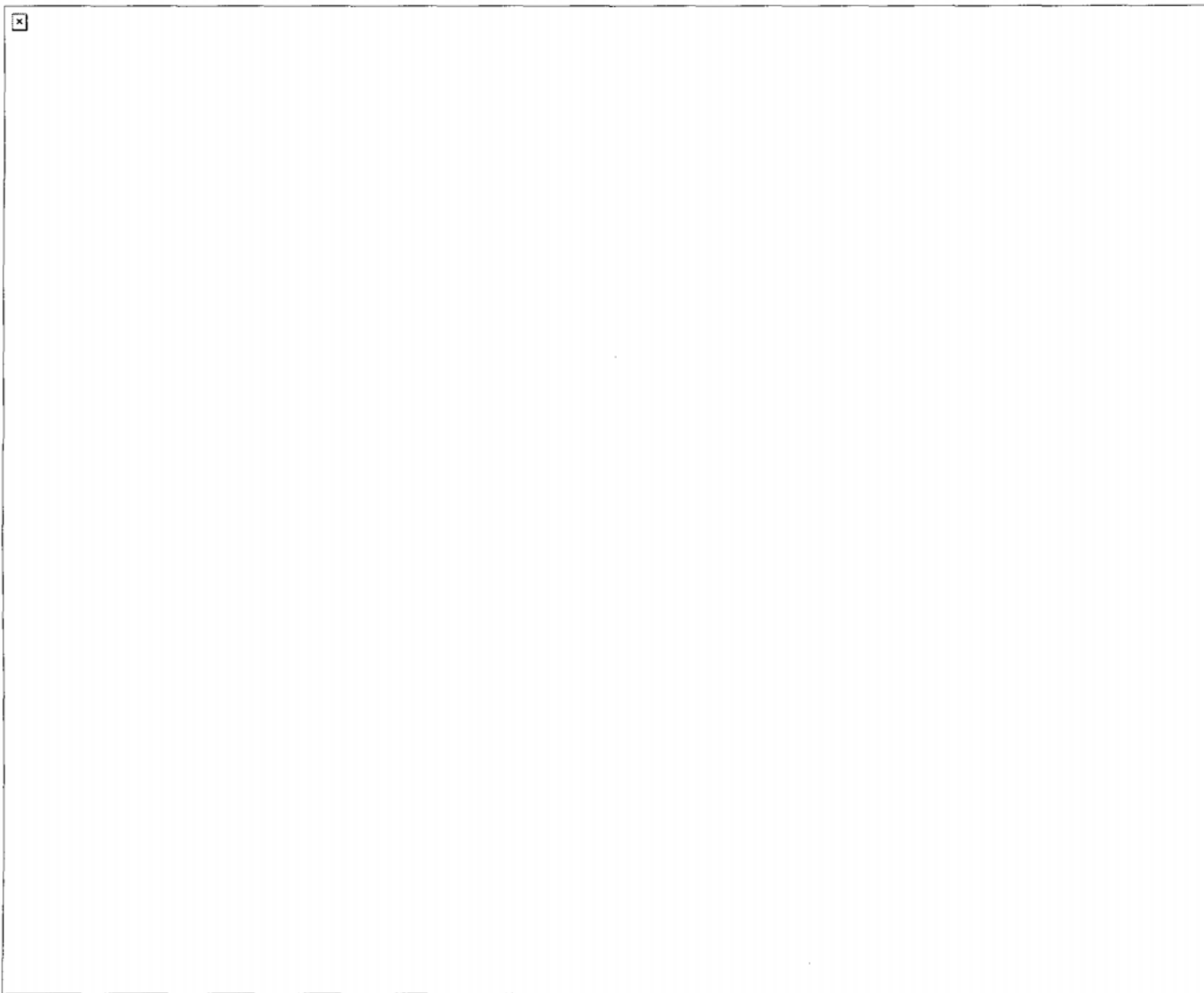
From: Chavez, Carl J, EMNRD
Sent: Friday, April 25, 2008 7:49 AM
To: 'Jay Hamilton'
Subject: RE: Contact Info.

Jay:

I'm sorry. I was handed the application yesterday afternoon before having a chance to review anything. I believe the GPS Coordinates to the project area are: N 32° 0' 0.96" W 108° 45' 25.19" (see map below)? Is this correct?

We'll meet on Thursday, May 1, 2008 at 9:00 a.m. at the project area or another meeting point that you recommend. Will that work or do you have a suggested time? Thanks.

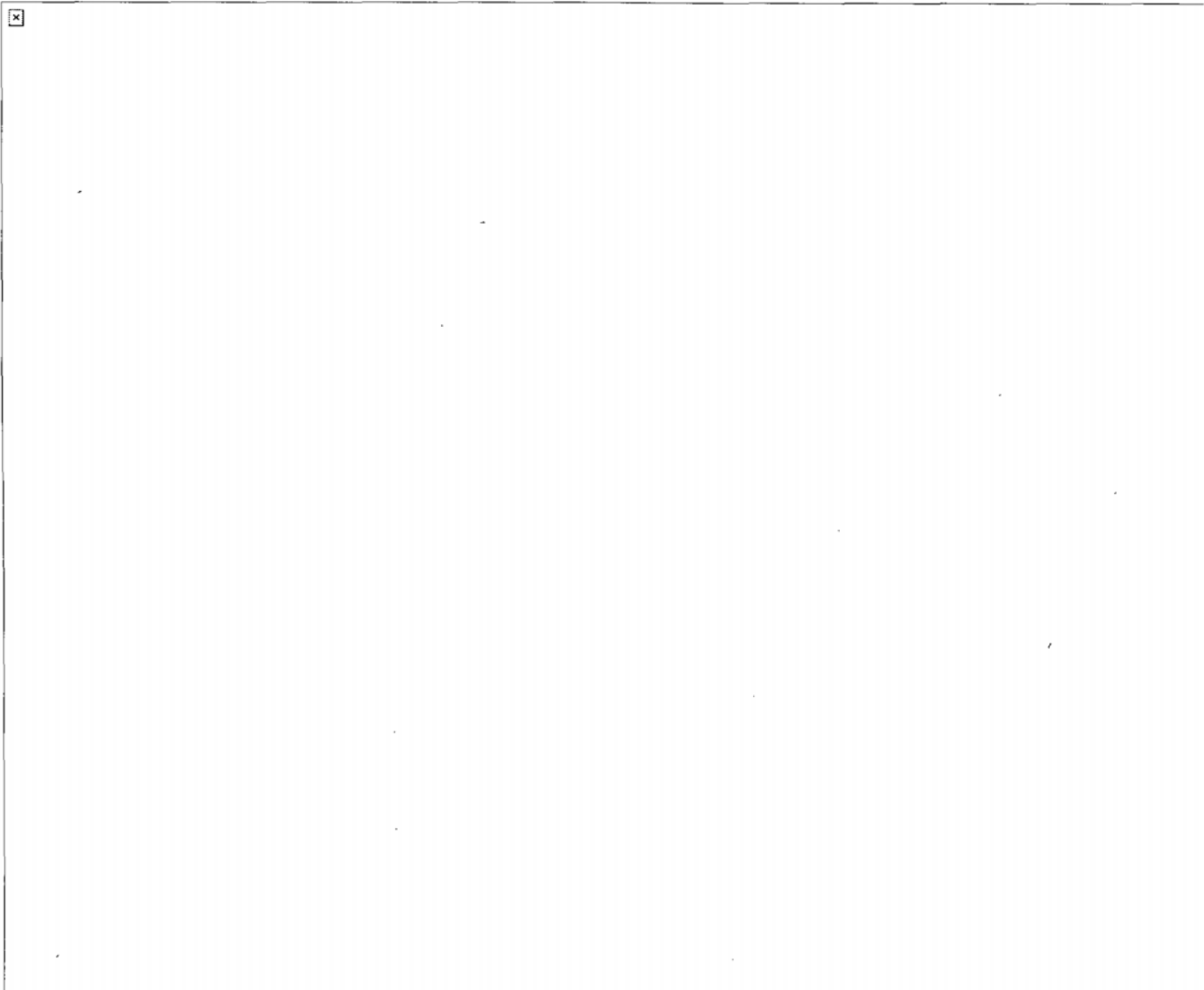
x



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(Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Thursday, April 24, 2008 5:28 PM
To: Chavez, Carl J, EMNRD
Subject: Re: Contact Info.

Carl,

I will sending you a map and directions on how to get to the site.

Thanks,

Jay

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

From: "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>
To: Jay Hamilton <hamiltonenviro@yahoo.com>
Sent: Thursday, April 24, 2008 4:39:54 PM
Subject: RE: Contact Info.

Jay:

As I review the permit, I presume we will meet at the facility address unless told otherwise. See you on 5/1/08 around 8 a.m.

Thank you.

5/21/2008

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 (Pollution Prevention Guidance is under "Publications")

From: Jay Hamilton [mailto:hamiltonenviro@yahoo.com]
Sent: Thursday, April 24, 2008 3:54 PM
To: Chavez, Carl J, EMNRD
Subject: Re: Contact Info.

Jay Hamilton

Hamilton Environmental, L.L.C.

485 West 1400 North

Orem, Utah 84057

Office (801) 224-4585

Fax (801) 224-1893

Cell (801) 361-2102

e-mail hamiltonenviro@yahoo.com

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Orem , Utah 84057

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e-mail hamiltonenviro@yahoo.com

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Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, April 24, 2008 4:40 PM
To: 'Jay Hamilton'
Subject: RE: Contact Info.

Jay:

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