

GTHT - _001_

LDG 13-7

June 16, 2015

Mr. Jim Griswold
Environmental Bureau Chief
NMOCD
1220 South St. Francis Drive
Santa Fe, NM 87505
505.476.3465
Jim.Griswold@state.nm.us

RE: Forms G-101, G-104, and G-112 for proposed injection well LDG 13-7 at Lightning Dock Geothermal HI-01, LLC, Hidalgo County, New Mexico

Dear Mr. Griswold:

On behalf of Lightning Dock Geothermal HI-01, LLC, Geo-Science Solutions, LLC hereby submits the attached G-101, G-104, and G-112 forms to drill new injection well LDG 13-7 as an integral part of the development of the Lightning Dock Geothermal project. Attached to the forms are a Drilling Handbook prepared by Capuano Engineering Company which includes a well schematic, a table of all wells within a one-mile radius, and a well location figure.

Mr. Randy Dade in your Artesia office will receive the third copy of these documents. Thank you very much for your assistance in the development of this important energy project. Should you have questions regarding this application package, please do not hesitate to contact me by email at dwjanney160@gmail.com or by phone at 505.508.9187. We ask that you treat the items marked "CONFIDENTIAL" as such as long as possible.

Respectfully submitted,



David W. Janney, PG
Agent for Lightning Dock Geothermal HI-01, LLC

Cc: Randy Dade - NMOCD Artesia
Kacie Peterson - Lightning Dock Geothermal HI-01, LLC
Michelle Henrie - Lightning Dock Geothermal HI-01, LLC

Attachments

Two (2) Forms G-101, G-104, and G-112 with appropriate attachments including a Drilling Handbook, a well schematic, list of wells within one mile, and a location figure

Geo-Science Solutions, LLC
PO Box 3100
Corrales, NM 87048

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. BOX 1888
SANTA FE, NEW MEXICO 87501

Form O-107
Adopted 12-1-13
Revised 12-1-13

NO. OF COPIES RECEIVED	
DISTRIBUTION	
File	
N.M.S.M.	
U.S.G.S.	
Operator	
Land Office	

APPLICATION FOR PERMIT TO DRILL DEEPEN
OR PLUG BACK - GEOTHERMAL RESOURCES WELL

1. INTEREST Type of Lease	
STATE ☒ Private ☐ P.E.C. ☐	
2. State Land No.	

1a. Type of Work	Drill ☒ Deepen ☐ Plug Back ☐	7. Lease Agreement Name	None
b. Type of Well	Geothermal Producer ☐ Temp. Observation ☐ Low-Temp. Thermal ☐ Injection/Disposal ☒	8. Name of Lease Name	Fed. NM-34790
2. Name of Operator	Lightning Dock Geothermal HI-01, LLC	9. Well No.	LDG 13-7
3. Address of Operator	Kearns Bldg. 136 S. Main Street, Ste. 600, Salt Lake City, UT 84104	10. Field and Prod. or Well No.	Lightning Dock KGRA
4. Location of Well	UNIT LETTER <u>E</u> LOCATED <u>504</u> FEET FROM THE <u>West</u> <u>1/4</u> <u>Sec. 7</u> <u>T. 25S</u> <u>R. 19W</u> <u>Range 19</u> <u>North</u> <u>1537</u> FEET FROM THE <u>North</u> <u>LINE OF SEC. 7</u> <u>T. 25S</u> <u>R. 19W</u> <u>Range 19</u> <u>North</u>	11. County	Hidalgo
19. Proposed Depth	1,500 feet	19A. Formation	Quaternary alluvium Tertiary volcanic
20. Rotary or C.I.		20. Rotary or C.I.	Mud Rotary
21. Location (Show corner of E.T. sec.)	4190 GR	21A. Kind & Status Plug Back	
21B. Drilling Contractor	TBD	22. Approx. Date Work will start	8/1/2015

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
12.25"	9.625"	36#	90'	6	GR
8.5"	7.5"	23#	500'	67	GR
6.125"	5"	11.5#	1,500'	None	1,400'

Drill a geothermal injection well on Federal lease NM-34790.

Please see attached location plat Form G-102.

Please see attached drilling handbook prepared by Capuano Engineering Company.

ON ABOVE SPACE DESCRIBE PROPOSED PROGRAM. IF OPERATOR IS TO DRILL OR PLUG BACK, GIVE DATE OF PROPOSED PRODUCTION PERMITS AND PROPOSED NEW PRODUCTION AND GIVE PROPOSED PRODUCTION PROGRAM, IF ANY.

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

and David W. Anaya, Jr. Title Agent for Lightning Dock Geothermal HI-01, LLC Date 6/15/2015
(This only for State Use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY, _____

GEOTHERMAL RESOURCES WELL LOCATION AND ACREAGE DEDICATION PLAT

All distances must be from the Outer boundaries of the Section.

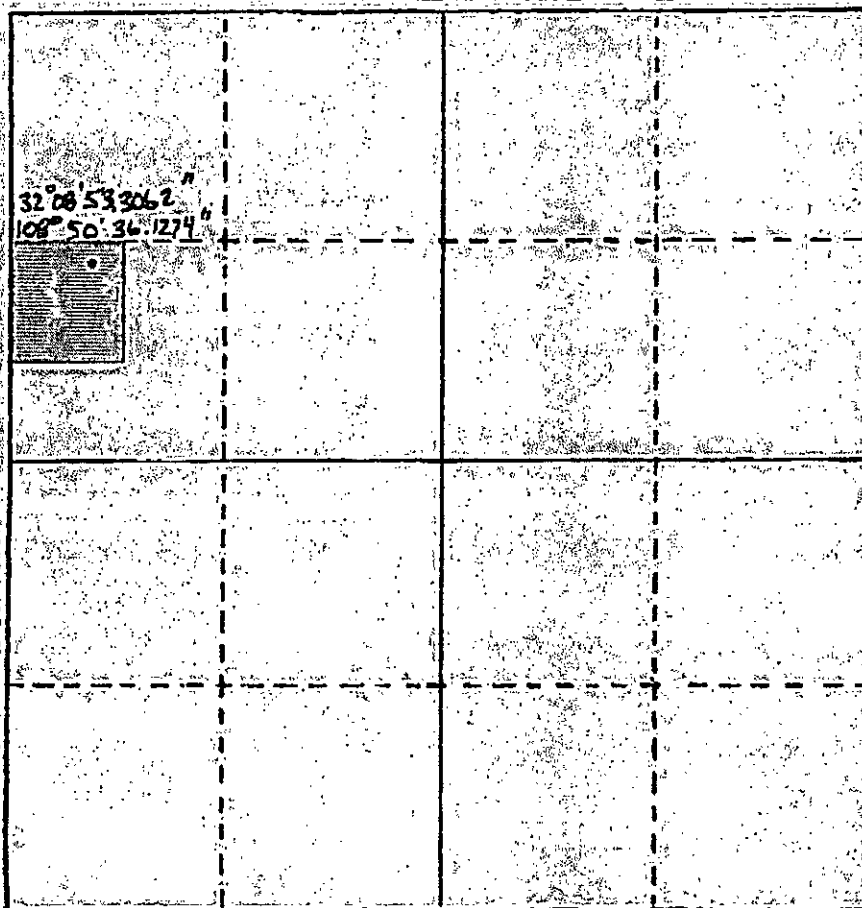
Operator Lightning Dock Geothermal HI-01, LLC			Lease Fed. Geothermal NM-34790		Well No. LDG 13-7
Unit Letter E	Section 7	Township 25 South	Range 19 West	County Hidalgo	
Actual Footage Location of Well: 504 feet from the West line and 1537 feet from the North line					
Ground Level Elev. 4190	Producing Formation NA		Pool NA	Dedicated Acreage 10 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation.

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Division.



CERTIFICATION

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

Name David Janney, PG

Position
Agent for Lightning Dock Geothermal HI-01, LLCCompany
Geo-Science Solutions, LLCDate
June 15, 2015

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 knowledge and belief.

Date of Survey
6/18/15
Signature
[Signature]
Registered Professional Engineer
and a Licensed Surveyor

Certificate No.

0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000 8500 9000 9500 10000

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-104
Adopted 10-1-74
Revised 10-1-78

CERTIFICATE OF COMPLIANCE
AND AUTHORIZATION TO PRODUCE
GEOTHERMAL RESOURCES

OWNER OR OPERATOR

Name Lightning Dock Geothermal HI-01, LLC

Address 136 S. Main Street, Ste. 600, Salt Lake City, UT 84101

TYPE OF WELL

Geothermal Producer ☐

Low-Temperature Thermal ☐

Injection/Disposal ☒

REASON FOR FILING

New Well ☒

Recompletion ☐

Change in Ownership ☐

Designation of Purchaser ☐

Other (Please Explain) ☐

DESCRIPTION OF WELL

Lease Name Not Applicable

Well No. LDG-13-7

Name of Reservoir Lightning Dock

Kind of Lease
(Fee, Fed. or State) Federal

Lease
Number NM-34790

LOCATION

Unit Letter E 1537 feet from the North line and
504 feet from the West line of

Section 7 Township 25S Range 19W

County Hildago

TYPE OF PRODUCT

Dry

Steam and
Water Water

Low Temp.
Thermal Water Thermal Water

DESIGNATION OF PURCHASER OF PRODUCT

Name of Purchaser Public Service Company of New Mexico

Address of Purchaser 414 Silver Ave. Suite 4 Albuquerque, NM 87102

Product Will
Be Used For Residential and commercial power

CERTIFICATE OF COMPLIANCE

I hereby certify that all rules and regulations concerning geothermal resources wells in the State of New Mexico, as promulgated by the Oil Conservation Division of New Mexico, have been complied with, with respect to the subject well, and that the information given above is true and complete to the best of my knowledge and belief.

Signed David W. Jannay, P.E. Position Agent for Lightning Dock Geothermal HI-01, LLC Date 6/15/2015

Approved _____ Position _____ Date _____

APPLICATION TO PLACE WELL ON INJECTION-GEOTHERMAL RESOURCES AREA

Operator Lightning Dock Geothermal HI-01, LLC		Address 136 S. Main Street, Suite 600 Salt Lake City, UT 84101	
Lease Name Federal NM-34790	Well No. 13-7	Field Lightning Dock	County Hidalgo
Location Unit Letter E Well is Located 1537 Feet From The North Line And 504 Feet From The West Line, Section 7 Township 25S Range 19W NMPM.			

CASING AND TUBING DATA

NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
Conductor Pipe	9.625"	90'	6 cy	GR	flow to surface
Surface Casing	7"	500'	67	GR	flow to surface
Long String	5" liner	1,500'	None	None	NA
Tubing			Name, Model and Depth of Tubing Packer NA		
Name of Proposed Injection Formation Quaternary alluvium/Tertiary volcanic rocks			Top of Formation 480'		Bottom of Formation 1,500'
Is Injection Through Tubing, Casing, or Annulus? 5" liner		Perforations or Open Hole? slotted liner		Proposed Interval(s) of Injection 500'-1,500'	
Is This a New Well Drilled For Injection? yes		If Answer is No, For What Purpose was Well Originally Drilled?		Has Well Ever Been Perforated in Any Zone Other Than the Proposed Injection Zone? NA	
List All Such Perforated Intervals and Sacks of Cement used to Seal Off or Squeeze Each Not Applicable					
Depth of Bottom of Deepest Fresh Water Zone in This Area Unknown		Is This Injection for Purpose of Pressure Maintenance or Water Disposal? (See Rules 501 and 502) No, for injection of spent geothermal water			
Anticipated Daily Injection Volume Gallons	Minimum 720,000	Maximum 1,000,000	Open or Closed Type System Open	Is Injection to be by Gravity or Pressure? Gravity	Approx. Pressure (psi) <100
Answer Yes or No Whether the Following Waters are Mineralized, Water to be Injected to such a Degree as to be Unfit for Domestic, Stock, Irrigation, or Other General Use— No			Natural Water in Injection Zone No		Are Water Analyses Attached? Summary on file with OCD
Name and Address of Surface Owner (or Lessee, if State or Federal Land) Rosette, Inc. P.O. Box 1618 Roswell, NM 88202-1618					
List Names and Addresses of all Operators Within One-Half (1/2) Mile of This Injection Well There are no other geothermal lease owners or operators within one-half mile of the proposed well.					
Have Copies of this Application Been Sent to Each Operator Within One-Half Mile of This Well? Yes ☐ No ☒ not applicable					
Are the Following Items Attached to this Application (see Rule 503)		Plat of Area Yes ☐ No ☒ See G-102		Electrical Log Yes ☐ No ☒	
				Diagrammatic Sketch of Well Yes ☐ No ☒ See drilling handbook	

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

David W. Lawrence, PG
(Signature)

Agent for Lightning Dock Geothermal HI-01, LLC
(Title)

June 15, 2015

(Date)

NOTE: Should waivers from all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Division will hold the application for a period of 30 days from the date of receipt by the Division's Santa Fe office. If at the end of the 30-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 503.