



Douglas A. Ducey
Governor

State of Arizona
Oil and Gas Conservation Commission

1110 W. Washington Street, Phoenix, AZ 85007
602-771-4501
www.azogcc.az.gov
Dennis L. Turner, Oil and Gas Administrator

Commissioners:
Frank Thorwald, Chair
J. Dale Nations, Ph.D., Vice Chair
Stephen R. Cooper
William C. Feyerabend

May 11, 2020

IN THE MATTER OF APPLICATION TO:
EXCEPTION TO SPACING RULE, FILED BY:

DESERT MOUNTAIN ENERGY CORP.

ON SECTION 16, TOWNSHIP 15 NORTH
RANGE 23 EAST, G&SRM (Desert Mountain 16-1 State)

ON SECTION 10, TOWNSHIP 15 NORTH
RANGE 23 EAST, G&SRM (Desert Mountain 10-1 State)

NOTICE OF HEARING

DESERT MOUNTAIN ENERGY CORP., having filed application and notice of intention to drill two (2) new wells on Section 16, Township 15 North, Range 23 East and Section 10, Township 15 North, Range 23 East, Gila and Salt River Base and Meridian, location being in Navajo County, Arizona, and having requested that an exception be made to Arizona Administrative Code R12-7-107(B) relative to the spacing of gas wells,

IT IS HEREBY ORDERED, under the provisions of Arizona Administrative Code R12-7-107(E) that a public hearing be held on the 15th of May 2020, at the hour of 10:00 a.m. at which time and place any and all interested parties may produce evidence as to why said application should or should not be granted. Note that this meeting will be under electronic means only. Call-in details are provided below.

GIVEN under my hand and the seal of the State of Arizona this 11th day of May, 2020.

A handwritten signature in black ink, appearing to read "Frank Thorwald", written over a horizontal line.

Frank Thorwald

Chairman, Oil Gas Conservation Commission

NOTE: THIS HEARING SHALL OCCUR UNDER ELECTRONIC MEANS ONLY

To participate telephonically, call: (US toll) +1 602-666-0783 (access code: 280296372), or (US toll) +1 415-655-0003 (access code: 280296372). To view the presentation materials during the Public Hearing, click on this link: <https://azgov.webex.com/meet/cook.tawnya> .

AGENDA FOR PUBLIC HEARING FOR DESERT MOUNTAIN ENERGY CORP.

May 15, 2020

NOTE: THIS HEARING SHALL OCCUR UNDER ELECTRONIC MEANS ONLY

- Presentation by Desert Mountain Energy Corp.: justification for well spacing exceptions, including all relevant subsurface data, for:
 - Desert Mountain 10-1 State
 - Desert Mountain 16-1 State
- The Commission shall discuss, consider and vote to grant or deny the well spacing exceptions.

Any comments provided by the public shall not exceed three (3) minutes per speaker. The overall comment period shall not exceed ten (10) minutes per side. The Commission shall have the authority to end any public discussion that exceeds ten (10) minutes per side or twenty (20) minutes in total.

NOTE: THE START TIME OF THIS HEARING IS APPROXIMATE AND WILL IMMEDIATELY FOLLOW THE CONCLUSION OF THE TRIOMPHE ENERGY HEARING FOR THE TRIOMPHE #1 WELL RECLASSIFICATION.

IMMEDIATELY FOLLOWING THE CONCLUSION OF THIS HEARING, THE COMMISSION WILL RECONVENE FOR A REGULAR PUBLIC MEETING. SEE SEPARATE AGENDA.

For additional information about this meeting, contact Dennis L. Turner, Oil and Gas Program Administrator, ogcc@azdeq.gov or (602) 771-4501. A copy of the agenda and background material provided to Commission members (with the exception of material relating to possible Executive Sessions) is available for public inspection at the Arizona Department of Environmental Quality (ADEQ), Records Management Center, 1110 W. Washington Street, Phoenix, AZ 85007, or online at <http://www.azogcc.az.gov/meetings>.

ADEQ will take reasonable measures to provide access to department services to individuals with limited ability to speak, write or understand English and/or to those with disabilities. Requests for language interpretation, ASL interpretation, CART captioning services or disability accommodations must be made at least 48 hours in advance by contacting Ian Bingham, Title VI Nondiscrimination Coordinator at 602-771-4322 or idb@azdeq.gov. Teleprinter services are available by calling 7-1-1 at least 48 hours in advance to make necessary arrangements.

ADEQ tomará las medidas razonables para proveer acceso a los servicios del departamento a personas con capacidad limitada para hablar, escribir o entender inglés y / o para personas con discapacidades. Las solicitudes de servicios de interpretación de idiomas, interpretación ASL, subtítulos de CART, o adaptaciones por discapacidad deben realizarse con al menos 48 horas de anticipación contactando a Ian Bingham, Coordinador de Anti-Discriminación del Título VI al 602-771-4322 o ibd@azdeq.gov. Los servicios de teleimpresores están disponibles llamando al 7-1-1 con al menos 48 horas de anticipación para hacer los arreglos necesarios.

To request an auxiliary aid or service for accessible communication, please contact Ian Bingham, (602) 771- 4322, idb@azdeq.gov



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**Public Meeting of the Arizona Oil & Gas Conservation Commission; and
Public Hearing for Desert Mountain Energy 40 Acre Well Spacing
10:00 a.m., May 15, 2020 WebEx Call**

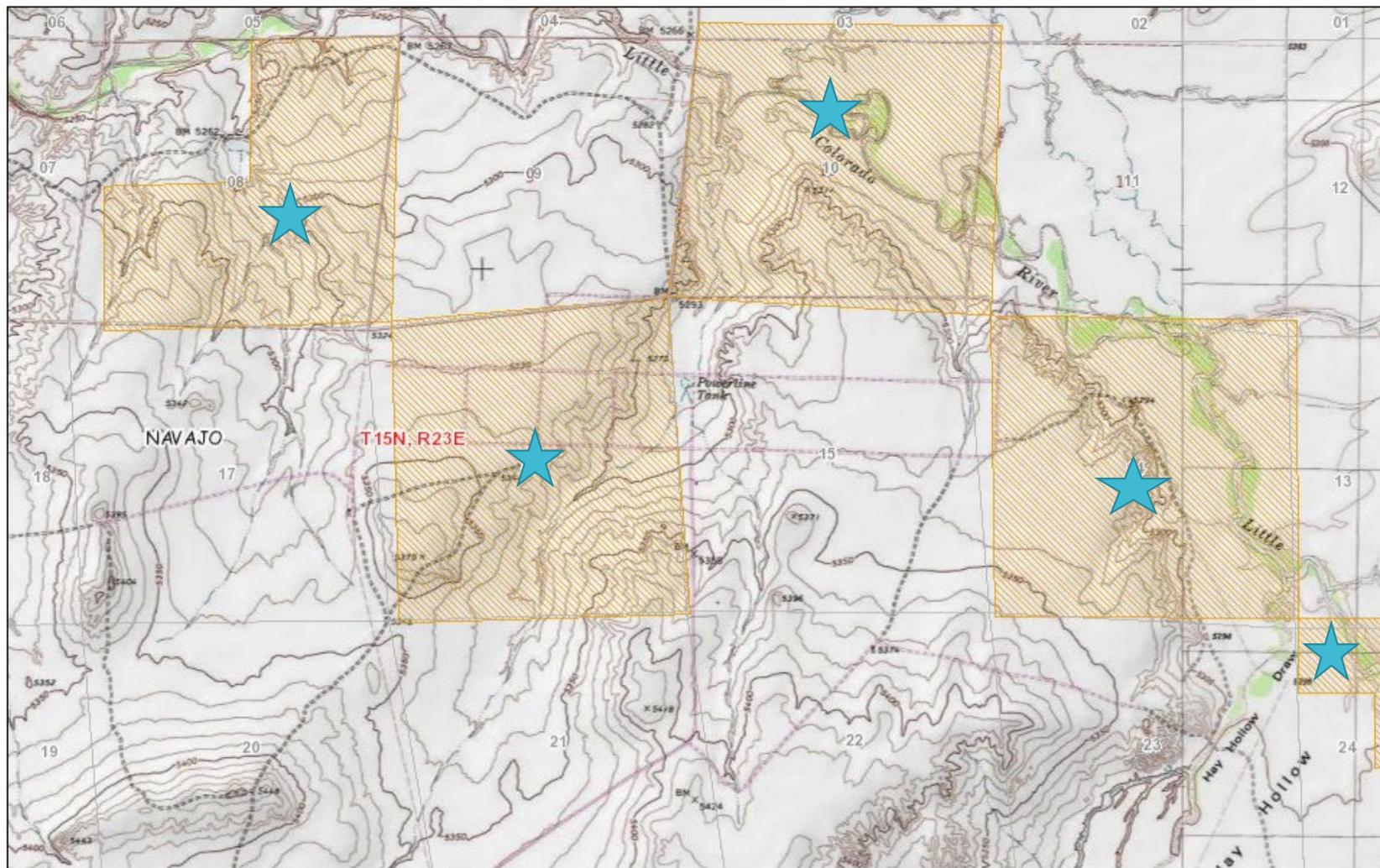
Name / Organization – please print	email	phone
Frank Thorwald, AOGCC Chair		
Stephen Cooper, AOGCC Member		
Bill Feyerabend, AOGCC Member		
Dr. Dale Nations, AOGCC Vice Chair		
Dennis Turner, AOGCC Administrator		
James Skardon, Office of the Attorney General		
Tawnya Cook, ADEQ		
Jim Ballard		
Latha Toopal, ADEQ		
Brian Wood, Permits West		
Mark Hanson, Prize Energy		
Noa Bruhis, ASU		
Thomas White, Kinder Morgan		
Mike Allison		

Name / Organization – please print	email	phone
Rob Stewart, ADEQ		
Khursheed Mallick, ADEQ		
Kirk Jalbert, ASU		
Bryan Cook, Navajo County		
Barry Albin		
Tony Hines, Ranger Development		
Robert Rohlfing, Desert Mountain Energy		
Ren Gardner		
Wesley Marshall, Pro Helium		
Ned Bliss		
Shannon Thune		
Chris McCarthy		
Dave Cherry, AZ State Land Dept.		
Pat		
Scott Bowles, Cobalt Gp.		
Iou Rozs		
David Haag, AZ State Land Dept.		

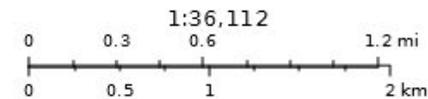
Arizona State Land Department

Orange Shaded Area & Blue Stars:
Desert Mountain Energy Corp

White Area:
HNZ Holdings/ Langley NZ



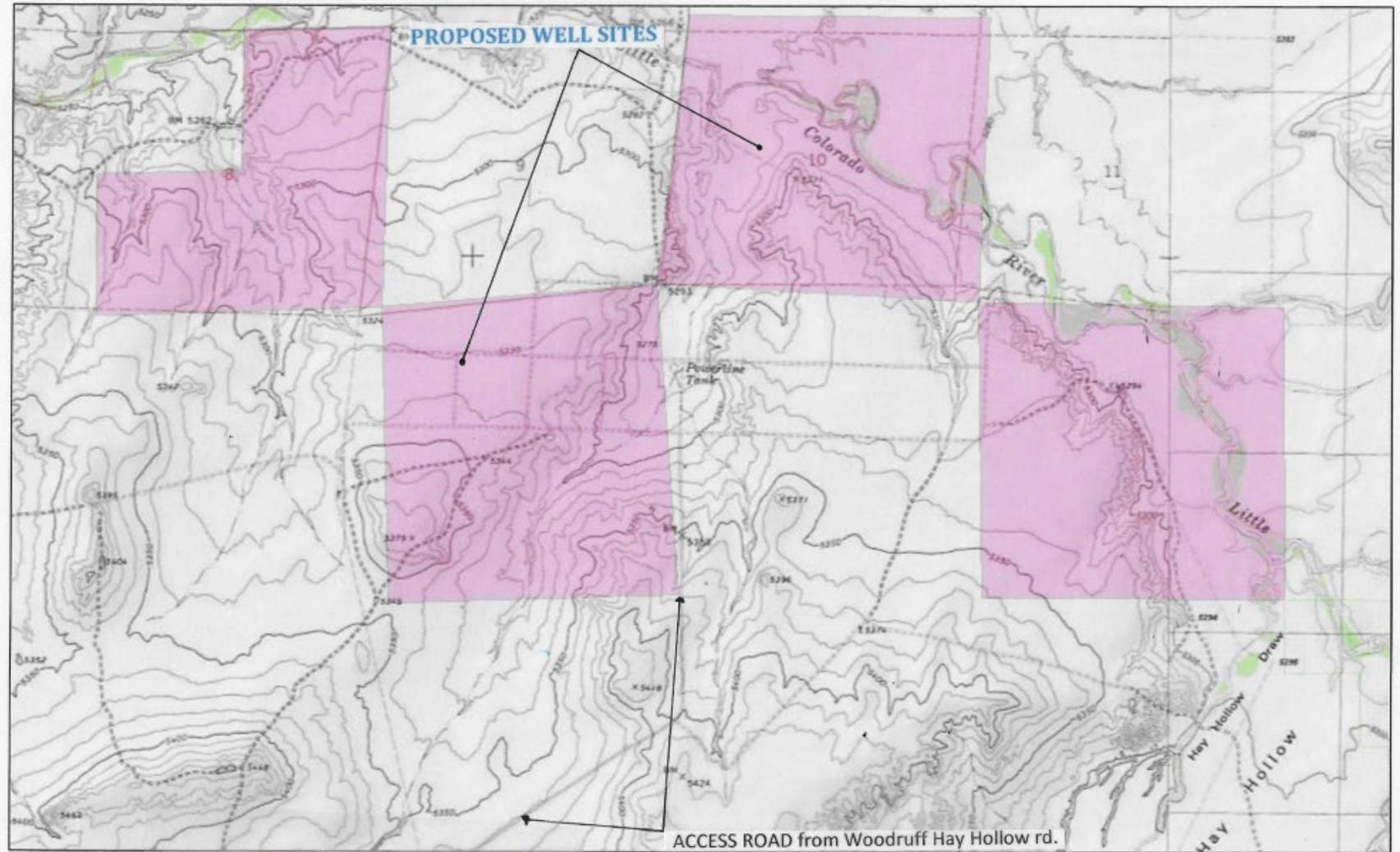
May 5, 20



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Pink Shaded Area:
DMEC Leases

Arizona State Land Department



April 25, 20 **DESERT MOUNTAIN ENERGY CORP.**
ASLD LEASE # 13-120075 GFOP # 41-120519

1:36,112
0 0.3 0.6 1.2 mi
0 0.5 1 2 km
Copyright: © 2013 National Geographic Society, i-cubed

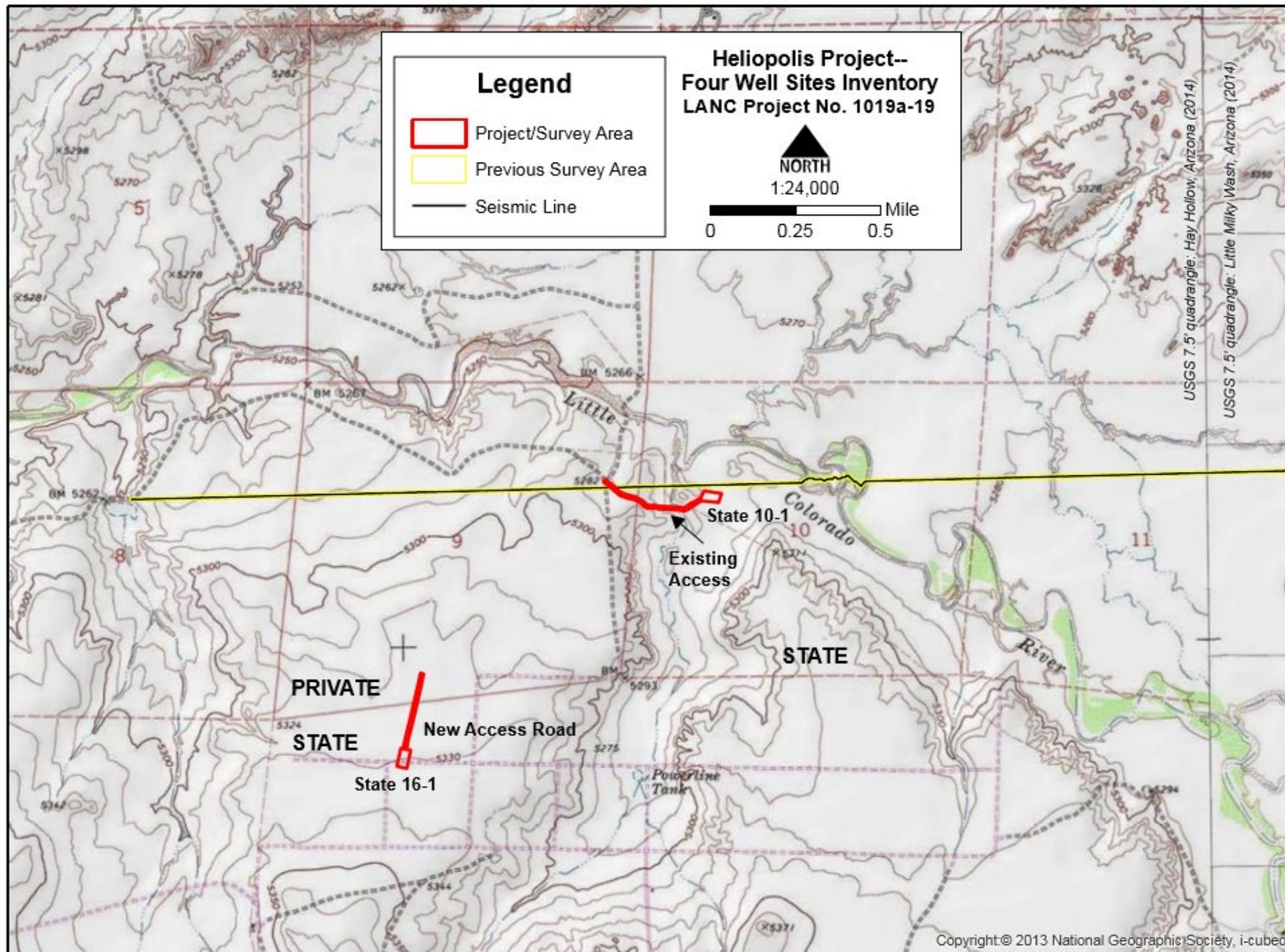


Figure 1. Holbrook East well sites State 10-1 and 16-1 lease/survey areas and surveyed access roads.

State 10-1
Looking NE
From Road
Towards Well
Site



State 10-1
Picture
Looking From
Well Location
NE





Photo 1. State 10-1 well site from near NE corner of lease area looking SW (taken 11/21/19).



Photo 2. State 16-1 well site from south boundary of lease area looking NNE; two-track access route is to right of vehicle parked just N of lease area (taken 4/10/20).

Limestone
Unconformity
Exposed nearby in
Little Colorado
wall.



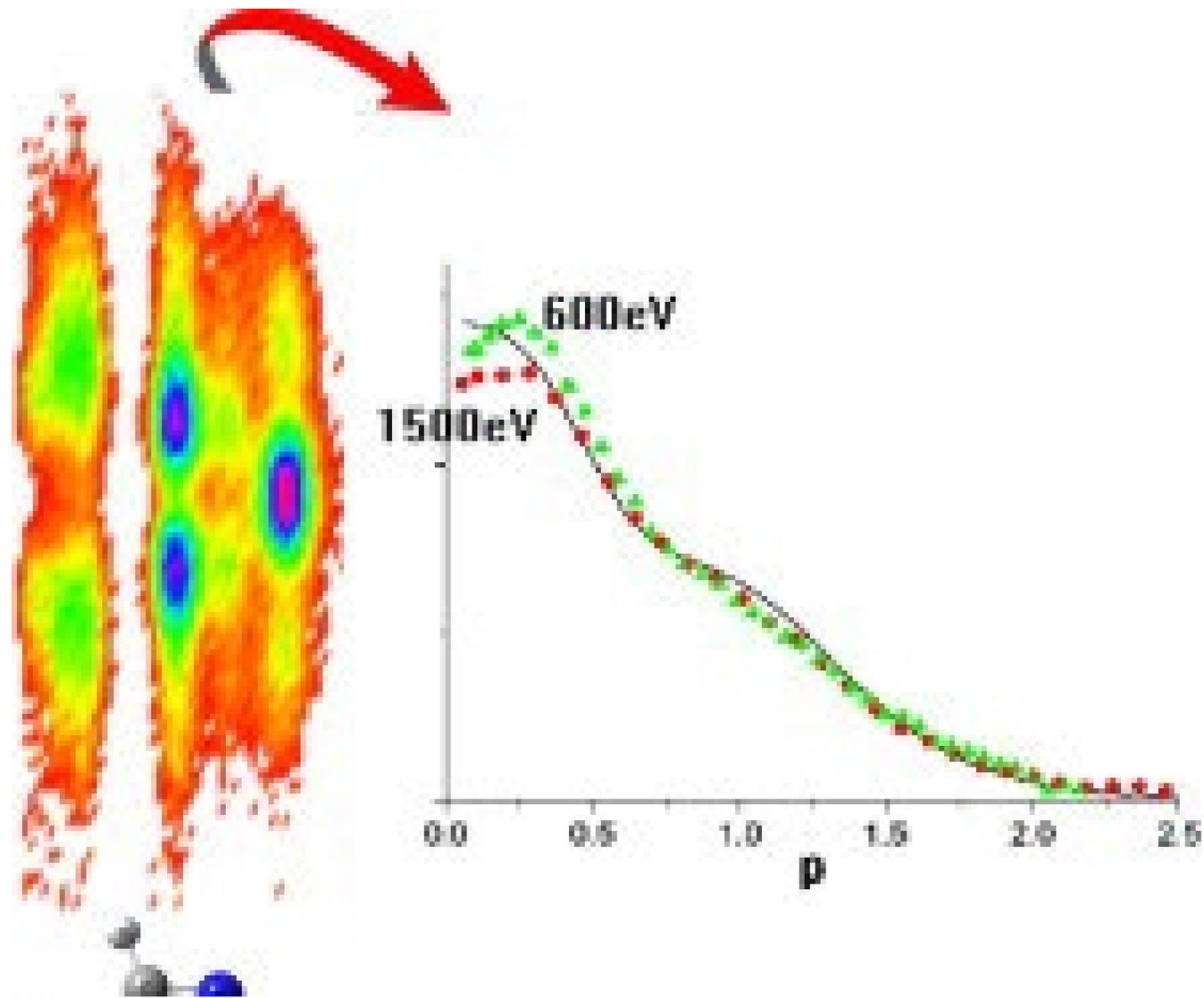
Fault Exposed In Old Borrow Pit



Edge Of Tank Prep
Area Sec 8 Striking
SSE Toward Sec 16
from west side of Sec.
8



Sattellite Spectral Analysis Example



Slide 1

Good Morning, for the record, I am Robert W. Rohlifing, Executive Vice President of Desert Mountain Energy Corp. and we are requesting an exception to Arizona Oil & Gas Conservation Commission Administrative rule (R12-7-107) which established a 1,660' setback rule for gas wells. This rule reduces the available surface area in a 640 acre section to approximately 90 acres centering it within the section, irrespective as to the best geological location. Desert Mountain Energy Corp is requesting an exception to this rule for it's State 10-1 and State 16-1 exploratory wells, both located in Navajo County AZ. In slide 1 you can see the shaded and stard leases which Desert Mountain Energy corp. has from the state of Arizona with the surrounding white areas on this map showing the mineral and surface ownership to basically one party, HNZ holdings and their ranching entity NZ Langley.

The location of the DME State 10-1 is 1,780' FNL and 1,230' FWL of section 10 15N 23E and the state 16-1 is 1,245' FWL & 1,425'FNL of section 16 15N 23E again both being in Navajo county AZ.

Slide 2

In this slide you can see in the upper middle portion of the map two black lines emanating under the notation "Proposed well sites," directing attention to those proposed general locations. The access to both sites is off the same road coming in from the South or bottom of the page off the Woodruff Hay Hollow rd. There are no producing oil & gas wells close to this location. The closest producing gas well is for helium apprx. 35 miles NE from this location in the Pinta Dome field. Prior wells drilled within this township and range were conducted primarily for delineation of possible potash reserve studies.

Helium was encountered on one of those stratigraphic test wells, specifically, in the Arkla NMA #7 well, P&A 9/16/65 and being located 2,725' E of the proposed location of the state 10-1, however, no additional efforts have been forthcoming to produce Helium within this section and township.

The most recent and closest test was the Rare Earth Exploration well drilled approx. 5 miles west in the adjoining township and as of most recent activity was Temp AB at 863' and clearly not testing deeper horizons which may have been well below the gas/water contact point.

Both the State 10-1 and state 16-1 are being drilled as wildcats to investigate any commercially viable deposits. These wells are located on State of Arizona Oil & Gas leases held by Desert Mountain Energy Corp. and as such any production would result in the State of Arizona (ie. State Schools the children of Arizona and other state entities) receiving a 12.5% royalty. Our primary goal is discover and cost effectively produce Helium. Current pricing of Helium is in excess of \$250 per mcf, compared with Methane which producers in other states are currently being offered only \$0.3014 per mcf.

The vast majority of the helium produced in the US, Algeria Qatar and Russia is as a by-product to oil and gas operations. Therefore, with a large portion of these operations having been shut-in the short-term helium supply/demand ratio has experienced a leveling effect caused by the overall downturn in the economy. However, with the main function of Helium being for the Medical field (ie MRI) followed with semiconductors, computer, Department of Defense, (again for computers, lasers, rail guns various weapon systems, space exploration launches etc... demand has not significantly dropped whilst supply has fallen in excess of 43%.

Slide 3

In slide 3, you can see the red lines attached to small rectangles, which are the proposed well site. The yellow highlighted horizontal black line, from left to right across the middle of the page is just a small portion of the seismic lines which Our seismic studies have helped to delineate a number of what we feel are highly prospective targets for helium production. We have reviewed and reprocessed seismic run by other companies in addition to running run our own proprietary seismic geophysical study. This proprietary seismic line covers the Arkla NMA #7 well, (which was located on the right hand side of the zig zag,) in addition to running directly across what is now the location of the State 10-1 well. This seismic has added greatly to the surface unconformities found by surface geological study. Which I will touch again upon shortly.

Slide 4

Photo shows Coming in off existing road towards the proposed 10-1 well site looking NE

Slide 5

Photo is Looking NE from the proposed 10-1 well site

Slide 6

Upper photo looking from the NE back across towards the proposed 10-1 well site. The lower photo is taken from the southern lease line looking back NNE across the section towards the site of the proposed 16-1 well location. Again, please note lack of any surface plants at the proposed wells sites. As you can see from all four photos of the first two proposed well locations, we have tried to select well locations which have the least impact upon the surface lease holder for grazing and wildlife. Both locations utilize the distinct lack of vegetation so that we are not adding to the unneeded removal of plant life in addition to being flat to decrease any runoff from the unpredictable weather in this area. The State 10-1 location is situated to provide additional set back from possible runoff into the surrounding low areas and well site ponding.

Slide 7

In slide 7 this picture shows a limestone unconformity found on the edge of the little Colorado. This unconformity within the surrounding sandstone which was found following out a fault line found in a borrow pit visible in the next slide.

Slide 8

In 2001 when I first saw the marked differences between these formations made me wonder why no one else had mapped this area out. Even though this area has had multiple studies for an assortment of possible mineral production conducted across it. On the left portion of this photo are two bands of Sandy limestone, each approximately 14" in thickness and separating them is a zone containing U3O8. Analysis of the intermediate U3O8 bedding plane, by use of a portable spectral analysis unit, tested for HE3. This is interesting from the aspect of while an exposed formation cannot possibly serve as a reservoir, it does clearly demonstrate that He3 is most likely being generated within the U3O8 zone. Wells drilled in other states which have Helium production associated with oil & gas operations, have demonstrated similar results when cutting bag samples from wells drilled back in the 1950's were tested. Many of those bag cutting samples were from "hot" zones which corresponded to well logs showing high gamma kicks.

Slide 9

I found this surface expression of a geological feature back in 2014 after work had been completed by the rancher to increase the size of a tank. Again, with the surface overburden cleared off. The faulting clearly stands out.

In addition to the surface geological and seismic studies, we also reviewed and worked with an agency to use aerial and satellite spectral analysis specifically looking for additional proprietary isotopic indicators.

Desert Mountain Energy corp has conducted numerous surface geological recon over many years covering a significant portion of the Holbrook basin. Those studies focused on locating the surface expressions of previously unrecognized or perhaps not fully appreciated, therefore unmapped trapping mechanisms suitable for containing commercial quantities of Helium were overlooked. On the State 10-1 location, seismic has helped to delineate a narrow N/S trending feature and on the State 16-1 it clarified the angle and strike of the previously discovered fault in section 8 as shown in slide 9. In addition to the previously aforementioned surface reasoning for location, this position should assist in providing the optimum downhole positioning for porosity and permeabilities on structure. Further adding to previous Desert Mountain Energy Corp. statements, that it will not frac for Helium. It is the companies position that we have an exciting opportunity to come in and select the areas with the highest He3 and He4 production potentials through the use of geology and geophysics.

It may be recognized by some that the wellbore diagram depicted the Devonian on top of part of the Penns sequencing. This is due to interpretation of the seismic that there is an over thrust in the area. Wells south of the proposed locations have seen lower formations totally absent. For example, SE of the proposed locations the Webb Resources NML 30-1 in section 30 15N 25E where both the Mississippian and Devonian were absent. Next closest to the proposed locations SSE and directly west of the Webb 30-1 well the Arkla Exp NML 2 in sec 23 15N 24E Did not penetrate sufficient depth to test for the presence of either Mississippian or Devonian formations. Well record notes call the td at 2,570' as being in the middle of the Penns sequencing. SW of the proposed locations the Webb Resources NML 6-1 in section 6 14N 22E encountered a thin section of the Mississippian (redwall) present with the Devonian being absent. Review by outside geophysicists agree with the indicators provided by the seismic runs that across a number of seismic lines there appears to be a overthrust. It also shows the depths increasing over in specific directions at distances in excess of 20 miles.

In relation to the State 10-1 proposed well location ,it is our opinion, when considering and applying the seismic data, moving the well to the east to a 1,660' foot spacing rule would greatly increase the chance of being either directly at or more likely, below the Gas/Water contact point. Thereby rendering the well immediately non-commercial for production and denying possible badly needed additional monies for the state schools and the education of the children in the state of Arizona. Nor would moving the well east provide for adequate setback from the direct drainage into the little Colorado river. Even though it is dry the majority of the time, we feel we must provide the extra measure of safety.

The Proposed location for the State 16-1 well location is in the NW /4 of section 16 15N 23E being 1,245' FWL and 1,425'FNL is approximately one mile SW from the proposed State 10-1.

On the State 16-1 proposed location most of the same geological and seismic features are applicable. The additional element is the seismic and surface geology showing a fault approximately 400' west from the proposed location in the NW/4 of section 16 NE in line with the fault as previously shown in slide #9 as indicated on our proprietary seismic runs. We feel this fault intersects a cross fault approximately 250' south of the proposed location. Utilizing the 1,660' spacing we unduly run the risk of placing the well in the middle of a fault, in addition to not having optimum porosities and permeabilities downhole in the target formations. Again, we respectfully request the commission grant Desert Mountain Energy Corp. an exception to the administrative rules covering the setback of gas wells.

These proposed wells provide for additional understanding not only for the trapping mechanisms required for helium but also opens the door for a new approach to opening up a new province in the US and Arizona for Helium production. It is obvious to most of the taxpayers in the State Arizona that the economic impact of the Corona virus will be felt for a long time. While no one can instantly turn the economy around, we have an opportunity to help, via Helium production, the education of the children in the State of Arizona.

Thank you for your time and attentiveness to these matters.