




Mitchell Grimm

05/01/2023

### Supplemental Thesis Permission files

- 1) **Permission from G. Dillewyn regarding the use of IRAD software to include and make subsurface maps and cross-sections included in Chapter 5 of my thesis.**



 Galen Dillewyn <gdillewyn@nutechenergy.com>   
To:  Mitchell Grimm

Mitchell has permission from Nutech Energy Ltd to use the IRAD geophysical software for his thesis research as long as credit is given to Nutech Energy Ltd.

Galen Dillewyn  
Vice President, Business Development



- 2) **Permission from Lloyd's Register (I. Rodriguez) to interpret the Critter Creek 17-5906B borehole image log using the Interactive Petrophysical software displayed throughout the entire thesis.**

 Ivan Rodriguez (Software Support Team) <ipsupport@lr.org>  
To:  Mitchell Grimm <mgrimm@mines.edu>

## In replies all text above this line is added to the ticket ##

**Ticket #97186: Re: [External] [LR Software Support] Re: Lisenc (#90430)**

Your request ([#97186](#)) has been updated.  
To review the status of the request and add additional comments, follow the link below:  
<http://softwaresupport.geoactive.com/hc/requests/97186>  
You can also add a comment by replying to this email.

Ivan Rodriguez, Feb 2, 2023, 6:15 PM GMT:

Hello Mitchell,

Apologies for the delay in dealing with your license extension. Your ID 8738929 has now been extended until 2nd May 2023.

To update your license from IP, please navigate to Tools > Licensing > Update License.

Please let us know if you encounter any issues.

Kind regards,  
Ivan

Software Support Team

Contact us  
+1 713 489 3995  
+44 203 608 8024

3) Permission from B. Richter (Civitas Resources) to use the Critter Creek 17-5906B image log displayed throughout this thesis. This agreement between Colorado School of Mines --- Mitchell Grimm and Civitas Resources.

Office of Research  
Administration



Colorado School of Mines  
1500 Illinois St,  
Golden, CO 80401

*CIVITAS RESOURCES*

**RESEARCH DATA USE AGREEMENT**

This Agreement is made effective as of 11/22/2021 ("Effective Date") between Dr. Lesli J. Wood, Mitchell Grimm and ~~Bonanza Creek Energy, Inc.~~, with an address at 410 17<sup>th</sup> Street, Suite 1400, Denver, CO, 80202 ("Provider"), and the Colorado School of Mines, a Colorado State educational corporation with an address at 1500 Illinois Street, Golden, Colorado 80401 ("Mines"), in anticipation of Provider's disclosure of the data identified in Attachment A (the "Data Set"), for the following purpose (the "Purpose"): analysis and interpretation of the data, alone or in combination with data from other sources, in connection with the Research Project identified in Attachment A.

Primary Technical Contact(s) for disclosure of Confidential Data on behalf of Provider:

1. Bryan Richter Email: brichter@viviresources.com *CIVITAS RESOURCES . COM*
2. \_\_\_\_\_ Email: \_\_\_\_\_

Primary Technical Contact(s) for receipt of Confidential Data on behalf of Mines:

1. Dr. Lesli J. Wood Email: lwood@mines.edu
2. Michael Grimm Email: Mgrimm@mines.edu

This Agreement applies to data disclosed between the Effective Date and [DATE] ("End Date"), unless earlier terminated or extended by mutual written agreement.

*HOW LONG DO YOU NEED? 3 YEARS TO BE SAFE? SEE SEL*

In consideration of Provider making the Data Set available to Mines, the parties hereby agree as follows:

1. **CONFIDENTIAL DATA.** When used in this Agreement, the term "Confidential Data" means confidential and proprietary data and/or information disclosed by Provider to Mines that (i) prior to disclosure, is marked with a legend indicating its confidential status or (ii) if disclosed orally or visually is identified by Provider as confidential at the time of disclosure and is summarized to Mines' Primary Technical Contact by Provider within 30 days following such disclosure. Notwithstanding the foregoing, in no event is data or information Confidential Data if it (a) was in Mines' possession before receipt from Provider; (b) is or becomes a matter of public knowledge through no fault of Mines; (c) is received by Mines, without restriction as to further disclosure, from a third party having an apparent bona fide right to disclose the data and/or information to Mines; or (d) is independently developed by Mines without use of Provider's Confidential Data. For purposes of this Section on Confidential Data, Mines students and fellows are not considered to be third parties vis á vis Mines.

*10  
YUP  
3-YEARS  
LEGEND  
REQD*

2. **NO PERSONALLY-IDENTIFIABLE INFORMATION.** Notwithstanding anything to the contrary in this Agreement, Provider shall not provide Mines with any Personally-Identifiable Information. For purposes of this Agreement, "Personally-Identifiable Information" is any information that, when used alone or combined with other data, may be used to identify individuals, including Provider employees, clients, suppliers, or other third parties and which includes, but is not limited to, an individual's name, mailing address, email address, phone number, account information, title, birth date, gender, occupation, or other information that is unique to or permits identification of that individual.

3. **LIMITATIONS ON USE.** Mines shall use Confidential Data solely for the Purpose. Disclosure by Provider of its Confidential Data does not constitute a grant to Mines of any right or license to such Confidential Data, except as set forth herein.

4. **CARE OF CONFIDENTIAL DATA.** Mines shall exert reasonable efforts, including but not limited to the Data Safeguards identified in Attachment A, to maintain Confidential Data in confidence, except that Mines may disclose or permit disclosure of any Confidential Data to Mines' officers, faculty, employees, graduate research assistants and postdoctorate fellows who need to know such Confidential Data to fulfill the Purpose and who have been advised of the confidential nature of the Confidential Data. Mines will not be deemed to have disclosed

**12. NOTICES.** Any notices to be given under this Agreement, other than those contemplated by Section 1, must be in writing and addressed to the parties at the addresses shown below or to such other address as a party may substitute by notice to the other. Notices must be sent by commercial courier, such as FedEx or DHL, via express, priority or similar service and will be deemed to have been given on the next business day following tender to the courier if the sender's and recipient's addresses are in same country or on the fourth business day following tender to the courier if the addresses are in different countries.

FOR:	MINES	FOR:	PROVIDER
Name:	Lesli J. Wood	Name:	Bryan Richter
Title:	Professor	Title:	Geologic Advisor
Organization:	Colorado School of Mines	Organization:	Bonanza Creek Energy, Inc.
Address:	1500 Illinois St.	Address:	410 17 <sup>th</sup> Street, Suite 1400
City, State, Zip:	Golden, CO 80401	City, State, Zip:	Denver, CO, 80202
Phone:	512-294-8705	Phone:	(303) 204-2314
Email:	lwood@mines.edu	Email:	brichter@civiresources.com

**13. MISCELLANEOUS PROVISIONS.**

- 13.1. Export Control. Provider will not knowingly disclose to Mines, and will use commercially reasonable efforts to prevent disclosure to Mines of, any information subject to ITAR controls or in the Commerce Control List (EAR Part 774 and Supplements) or 10 CFR Part 810 Restricted Data or Sensitive Nuclear Technology. If Provider intends to disclose export-controlled information to Mines in connection with this Agreement, Provider will not disclose such information to Mines unless and until a plan for transfer, use, dissemination, and control of the information has been approved by Mines' Export Control Officer.
- 13.2. CREATE Act. For the purposes of the Cooperative Research and Technology Enhancement Act of 2004, the parties agree that this Agreement is not considered a joint research agreement.
- 13.3. Assignment. Neither party may assign this Agreement nor any of its rights nor obligations hereunder to a third party, including, without limitation by merger with a third party, without the prior written consent of the other. Any attempted assignment in violation of this Section will be void.
- 13.4. Severability. In the event any provision of this Agreement or portion thereof is determined by a court of competent jurisdiction to be invalid or unenforceable, any enforceable portion of the provision and the remainder of this Agreement will remain in effect and the parties will request the court to reform the provision to a form that is valid and enforceable and reflects as closely as possible the intent of the original provision.
- 13.5. Waiver. A party may waive one or more of another party's obligations or its own rights under this Agreement, provided that it does so in writing. A party's waiver shall be read narrowly to apply only to the rights or obligations described in the waiver, and the waiver may not be construed to waive any future obligation or exercise of rights.
- 13.6. Governing Law. This Agreement will be governed by the laws of the State of Colorado and the federal laws of the United States of America, without regard to any applicable conflict of laws principles.
- 13.7. Counterparts. This Agreement may be executed in two or more counterparts, each of which will be deemed to be an original, and all of which together constitute one and the same instrument.
- 13.8. Entire Agreement/Amendment. This Agreement (1) represents the entire understanding between the parties with respect to its subject matter and (2) supersedes all contemporaneous and previous statements, representations, agreements, and understandings between the parties, however expressed, that relate to the subject matter of this Agreement. This Agreement may be amended only by a writing signed by all authorized parties to this Agreement.

ATTACHMENT A

DESCRIPTION OF CONFIDENTIAL DATA SET

DATA SET

The Data Set consists of the following:

- Hereford Field 3D-seismic data set
- Hereford Field Vertical and Horizontal Image logs
  - 0512330584\_Elmer\_8\_31\_H
  - 05123305560000\_Lamotta\_5\_01M
  - 05123305850000\_Bevo\_4\_36\_M
  - 05123305860000\_Longhorn\_B\_3\_36\_H
  - 05123305860000\_Longhorn\_G\_34\_36H
  - 05123307490000\_Red\_Poll\_10\_16H
  - 05123310470100\_Critter\_Creek\_2\_03H
  - 05123312110000\_Critter\_Creek\_1\_02H
  - 05123312210000\_Garden\_Creek\_6\_11H
  - 05123315320000\_Longhorn\_B5\_36H
  - 05123346360000\_Garden\_Creek\_32\_07M
  - 05123477590100\_Critter\_Creek\_17\_5807D
  - 05123477600000\_Critter\_Creek\_17\_5906B
  - 49021206840000\_Talmdge\_44\_17H
  - 49021207380000\_Johnson\_44\_12H
  - Fox Creek 504
  - Garden\_Creek\_24\_32H
  - HerDOT Image Log Analyses by 303 Petrolmag...
  - Johnson\_44\_18H

GETTING DETAILS FOR YOU

FINAL\_HerefordMerge\_PSTM\_11-18-11\_-120ph

[Insert here a detailed description of the Data Set, including (1) overall descriptive topic or field of the data set; (2) source(s) from which Data Set has been derived; (3) top-level list of data classes/types in the data set; and (4) as applicable, time and/or geographical limits of data set.]

RESEARCH PROJECT

The Research Project is as follows:  
To help better understand the "Total Permeability System" and best Reservoir Model the Cretaceous Niobrara Formation and Codell Sandstone by Calculating the "Collective Permeability" using Borehole Image-logs and 3D-Seismic Data from Hereford Field, Denver Basin.


DATA SAFEGUARDS

Mines shall deploy the following Data Safeguards: [Describe any agreed Data Safeguards.]

ANY STANDARD LANGUAGE FOR THIS?

- 4) **The permission to reproduce figures from the Sonnenberg publications throughout this project.**



Steve Sonnenberg 

To:  Mitchell Grimm (Student)

Mitchell has permission to use the figures in his thesis project from my publications.


**Stephen A. Sonnenberg, PhD**

Professor and Charles Boettcher  
Distinguished Chair in Petroleum Geology  
**Director/PI MUDTOC Consortium**  
**Interim Director, Potential Gas Agency**  
Department of Geology and Geological Engineering  
**COLORADOSCHOOLOFMINES**  
Golden, CO 80401  
[ssonnenb@mines.edu](mailto:ssonnenb@mines.edu)  
C: 303-895-7663

<https://geology.mines.edu/project/sonnenberg-stephen/>  
<https://mudtoc.mines.edu/>

- 5) **Permission granted to use reproduced material from Weatherford in this research project.**



McQuown, Scott <SCOTT.MCQUOWN@Weatherford.com> 

To:  Mitchell Grimm <mgrimm@mines.edu>

To whom this may concern,

Mitchell has permission to use Weatherford borehole images in his research project.

Kind regards,  
Scott

**M. Scott McQuown, CPG**

Geology Advisor  
Interpretation & Evaluation Services  
**Weatherford** | 410 17th Street, Suite 400 | Denver | CO | 80202  
Mobile: +1 720.202.4122  
[scott.mcquown@weatherford.com](mailto:scott.mcquown@weatherford.com) | [www.weatherford.com](http://www.weatherford.com)

- 6) **Permission to reproduce and use Borehole Image Specialist results from the fracture analysis performed on the Critter Creek 17-5906B well.**



roger@bhigeo.com 

To: Mitchell Grimm <mgrimm@mines.edu>

Mitchell has permission to reproduce and use figures from the Borehole Image Specialist fracture study performed on the Critter Creek 17-5906B well.

Roger R. Reinmiller  
Borehole Image Specialist, LLC  
[roger@bhigeo.com](mailto:roger@bhigeo.com) 303-557-8464

- 7) **Granted permission from the USGS for the material used from the USGS Core Research Center for the Burbach 20-3H well.**

### U.S. Geological Survey

For use of materials reproduced in Mitchell's research project from the U.S. Geological Survey's Core Research Center for the Burbach 20-3H well.

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- 8) **Permission from A. Downard to use and reproduce figures in this research.**



Ali Downard <adownard@mymail.mines.edu>

To: Mitchell Grimm <mgrimm@mymail.mines.edu>

Mitchell has the ability to use and reproduce figures from my research for his research project.

Best,

**Ali Downard**

M.S. Student, Department of Geophysics  
Reservoir Characterization Project  
(E): [adownard@mymail.mines.edu](mailto:adownard@mymail.mines.edu)