AFFIDAVIT OF NATHANIEL E FRANK-WHITE

1. I am a Records Request Processor at the Internet Archive. I make this declaration of my own personal knowledge.

2. The Internet Archive is a website that provides access to a digital library of Internet sites and other cultural artifacts in digital form. Like a paper library, we provide free access to researchers, historians, scholars, and the general public. The Internet Archive has partnered with and receives support from various institutions, including the Library of Congress.

3. The Internet Archive has created a service known as the Wayback Machine. The Wayback Machine makes it possible to browse more than 450 billion pages stored in the Internet Archive's web archive. Visitors to the Wayback Machine can search archives by URL (i.e., a website address). If archived records for a URL are available, the visitor will be presented with a display of available dates. The visitor may select one of those dates, and begin browsing an archived version of the Web. Links on archived files in the Wayback Machine point to other archived files (whether HTML pages or other file types), if any are found for the URL indicated by a given link. For instance, the Wayback Machine is designed such that when a visitor clicks on a hyperlink on an archived page that points to another URL, the visitor will be served the archived file found for the hyperlink's URL with the closest available date to the initial file containing the hyperlink.

4. The archived data made viewable and browsable by the Wayback Machine is obtained by use of web archiving software that automatically stores copies of files available via the Internet, each file preserved as it existed at a particular point in time.

5. The Internet Archive assigns a URL on its site to the archived files in the format http://web.archive.org/web/[Year in yyyy][Month in mm][Day in dd][Time code in hh:mm:ss]/[Archived URL] aka an "extended URL". Thus, the extended URL http://web.archive.org/web/19970126045828/http://www.archive.org/ would be the URL for the record of the Internet Archive home page HTML file (http://www.archive.org/) archived on January 26, 1997 at 4:58 a.m. and 28 seconds (1997/01/26 at 04:58:28). The date indicated by an extended URL applies to a preserved instance of a file for a given URL, but not necessarily to any other files linked therein. Thus, in the case of a page constituted by a primary HTML file and other separate files (e.g., files with images, audio, multimedia, design elements, or other embedded content) linked within that primary HTML file, the primary HTML file and the other files will each have their own respective extended URLs and may not have been archived on the same dates.

6. Attached hereto as Exhibit A are true and accurate copies of browser screenshots of the Internet Archive's records of the archived files for the URLs and the dates specified in the attached coversheet of each printout.

7. Attached hereto as Exhibit B are true and accurate copies of printouts of the Internet Archive's records of the archived files for the URLs and the dates specified in the attached coversheet of each printout.

8. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

DATE: 05/09/2024

Nathaniel Frank-White

Nathaniel E Frank-White

Please see attached
All Purpose
Jurat form
for additional
Notary Events

EXHIBIT A

https://web.archive.org/web/20170624232255/www.epa.gov/uic/region-8-step-rate-testing-guidelines

INTERNET ARCHIVE Wayback Machine http://www.epa.gov/uic/region-8-step-rate-testing-guidelines Go JAN JUN OCT 24 2015 2017 2020 10 captures 14 Oct 2015 - 10 Jan 2 About this capture

Underground Injection Control (UIC)

Underground Injection Control Home

Class I Industrial and Municipal Waste Disposal Wells

Class II Oil and Gas Related Injection Wells

Class III Injection Wells for Solution Mining

Class IV Shallow Hazardous and Radioactive Injection Wells

Class V Wells for Injection of Non-Hazardous Fluids into or Above Underground Sources of Drinking Water

Class VI Wells Used for Geologic Sequestration of CO2

Region 8 Step Rate Testing Guidelines

Region 8 Step Rate Testing Guidelines

You may need Adobe Reader to view files on this page. See EPA's About PDF page to learn more.

- Region 8 Step Rate Testing Guidlines (PDF) (6 pp, 248 K)

Contact Us to ask a question, provide feedback, or report a problem.

Document Id: 7390A000-0DB3-11EF-9A03-811D83C47788
OnlineNotary.net

EXHIBIT B

https://web.archive.org/web/20170217160211/https://www.epa.gov/sites/production/files/2015-08/documents/r8_guideline_-_step_rate_testing.pdf

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET- SUITE 200
DENVER, CO 80202-2466
Phone 800-227-8917
http://www.epa.gov/region08

STEP-RATE TEST PROCEDURE

Approved January 12, 1999

PURPOSE:

The purpose of this document is to provide a guideline for the acquisition of a Step Rate Test (SRT). Test results may be used by the Region 8 Underground Injection Control (UIC) offices to determine a Maximum Allowable Injection Pressure (MAIP) to provide for the protection of the underground sources of drinking water at an injection well having mechanical integrity. These procedures are consistent with acceptable oilfield practices.

Step rate test results must be documented with service company or other appropriate (acceptable) records and/or charts, and the test should be witnessed by an EPA inspector. Attached is a form that you may copy and use to record data from your test. Arrangements for witnessing the test may be made by contacting the Region 8 UIC offices using the EPA toll-free number 1-800-227-8917.

RECOMMENDED TEST PROCEDURES:

1) **Shut in long the well long enough prior to testing** such that the bottom hole pressures approximate shut-in formation pressures. If the shut-in well flows to the surface, the wellhead injection string should be equipped with a gauge, and the static surface pressure read and recorded.

2) **Read and record the elapsed time and pressure values for each time and rate-step. Each rate-step should last exactly as long as the preceding rate-step.** If stabilized pressure values are not obtained within the rate-steps suggested below, the test results may be considered as inconclusive. A series of successively higher injection rates should be determined using guidelines below

Formation Permeability (md)	*Total time per rate-step (min)*
# 5 md	60 min
∃ 10 md	30 min

3) Suggested injection rates:

5% B
10% E
20% E
40% X ...of the anticipated maximum injection rate.
60% E
80% E
100% Δ

4) **Control injection rates** with a constant flow regulator that has been tested prior to use. A throttling device is not considered sufficient.

Printed on Recycled Paper

Document Id: 7390A000-0DB3-11EF-9A03-811D83C47788
OnlineNotary.net

5) **Measure flow rates** with a calibrated turbine flowmeter.

6) **Record injection rates** using a chart recorder or a strip chart.

7) **Measure pressures** with a down hole pressure bomb. If a surface gauge is used, the test pressures must be corrected for the estimated friction loss at each particular flow rate.

8) Measure and record injection pressures with a gauge or recorder (for immediate test results). **Record each time step and corresponding pressure.**

9) If the formation fracture pressure has definitively been exceeded, as evidenced by at least two injection rate-pressure combinations greater than the breakdown pressure, the injection pump can be stopped, and the line valve closed and pressure allowed to bleed-off into the injection zone.

10) **Record the ISIP.** There will occur a significant instantaneous pressure drop (Instantaneous Shut-in Pressure or ISIP), after which the pressure values will level out. This ISIP value must be read and recorded. The ISIP obtained in this manner may be considered to be the minimum pressure required to hold open a fracture in this formation at this well. In the event that the breakdown pressure was not obtained at the maximum test injection pressure utilized, the test results may indicate that the formation is accepting fluids without fracturing.

11) Once the ISIP is obtained, the SRT is concluded.

12) **Plot the injection rates and the corresponding stabilized pressure values.** These are graphically represented as a constant slope straight line to a point at which the formation fracture, or breakdown pressure is exceeded. The slope of this subsequent straight line should be less than that of the before-fracture straight line (see example).

Document Id: 7390A000-0DB3-11EF-9A03-811D83C47788
OnlineNotary.net

STEP RATE TEST DATA

Well: _____ ***Date:*** _____ ***Operator:*** _____.

STEP #1 Test Rate (***5%*** *of maximum rate)* _____ *(bbl/min)*

| **Time** *(min)* : _____ _____ _____ _____ _____ _____ _____ |

| **Pressure** (psi): _____ _____ _____ _____ _____ _____ _____ |

STEP #2 Test Rate (***10%*** *of maximum rate)* _____ *(bbl/min)*

| **Time** *(min)* : _____ _____ _____ _____ _____ _____ _____ |

| **Pressure** (psi): _____ _____ _____ _____ _____ _____ _____ |

STEP #3 Test Rate (***20%*** *of maximum rate)* _____ *(bbl/min)*

| **Time** *(min)* : _____ _____ _____ _____ _____ _____ _____ |

| **Pressure** (psi): _____ _____ _____ _____ _____ _____ _____ |

STEP #4 Test Rate (***40%*** *of maximum rate)* _____ *(bbl/min)*

| **Time** *(min)* : _____ _____ _____ _____ _____ _____ _____ |

| **Pressure** (psi): _____ _____ _____ _____ _____ _____ _____ |

STEP #5 Test Rate (***60%*** *of maximum rate)* _____ *(bbl/min)*

| **Time** *(min)* : _____ _____ _____ _____ _____ _____ _____ |

| **Pressure** (psi): _____ _____ _____ _____ _____ _____ _____ |

STEP #6 Test Rate (***80%*** *of maximum rate)* _____ *(bbl/min)*

| **Time** *(min)* : _____ _____ _____ _____ _____ _____ _____ |

| **Pressure** (psi): _____ _____ _____ _____ _____ _____ _____ |

STEP #7 Test Rate (***100%*** *of maximum rate)* _____ *(bbl/min)*

| **Time** *(min)* : _____ _____ _____ _____ _____ _____ _____ |

| **Pressure** (psi): _____ _____ _____ _____ _____ _____ _____ |

ISIP : _____ (psi)

Notes:

Test Run / Witnessed By: _____.

Document Id: 7390A000-0DB3-11EF-9A03-811D83C47788
OnlineNotary.net

EXAMPLE

STEP RATE TEST

The following is an example of a Step-Rate Test with tabular and graphic results. The step-rate test data and graphic results of the test are on the following pages.

The operator of Anywell #1 set up a SRT for the following conditions:

A) Maximum anticipated injection rate was **4** bbl/min.

B) Following the recommended test procedures, the operator planned on using these rates for the test:

1) **5%** of 4 bbl/min = **0.2** bbl/min

2) **10%** of 4 bbl/min = **0.4** bbl/min

3) **20%** of 4 bbl/min = **0.8** bbl/min

4) **40%** of 4 bbl/min = **1.6** bbl/min

5) **60%** of 4 bbl/min = **2.4** bbl/min

6) **80%** of 4 bbl/min = **3.2** bbl/min

7) **100%** of 4 bbl/min = **4.0** bbl/min

C) The formation permeability is estimated as **100** md, therefore each step will last for 30 minutes.

For this test, the injection formation broke down at approximately 1200 psi, and the ISIP was listed as 1000 psi.

Because the injection formation will part at 1000 psi, the maximum injection pressure will be held to the ISIP. If the formation had not broken down at 1200 psi, the maximum allowable injection pressure would be the maximum pressure obtained during the test.

EXAMPLE

STEP RATE TEST DATA

Well: Anywell #1 Date: April 15, 2000 Operator: Lotsa Oil.

STEP #1 Test Rate (*5% of maximum rate*) .2 (bbl/min)

Time (min) :	0	5	10	15	20	25	30
Pressure (psi):	0	90	95	98	99	100	100

STEP #2 Test Rate (*10% of maximum rate*) .4 (bbl/min)

Time (min) :	0	5	10	15	20	25	30
Pressure (psi):	80	170	185	195	199	201	202

STEP #3 Test Rate (*20% of maximum rate*) .8 (bbl/min)

Time (min) :	0	5	10	15	20	25	30
Pressure (psi):	190	320	385	392	398	403	404

STEP #4 Test Rate (*40% of maximum rate*) 1.6 (bbl/min)

Time (min) :	0	5	10	15	20	25	30
Pressure (psi):	380	700	790	792	798	803	805

STEP #5 Test Rate (*60% of maximum rate*) 2.4 (bbl/min)

Time (min) :	0	5	10	15	20	25	30
Pressure (psi):	751	990	1032	1093	1155	1188	1202

STEP #6 Test Rate (*80% of maximum rate*) 3.2 (bbl/min)

Time (min) :	0	5	10	15	20	25	30
Pressure (psi):	1133	1250	1326	1370	1397	1399	1403

STEP #7 Test Rate (*100% of maximum rate*) 4.0 (bbl/min)

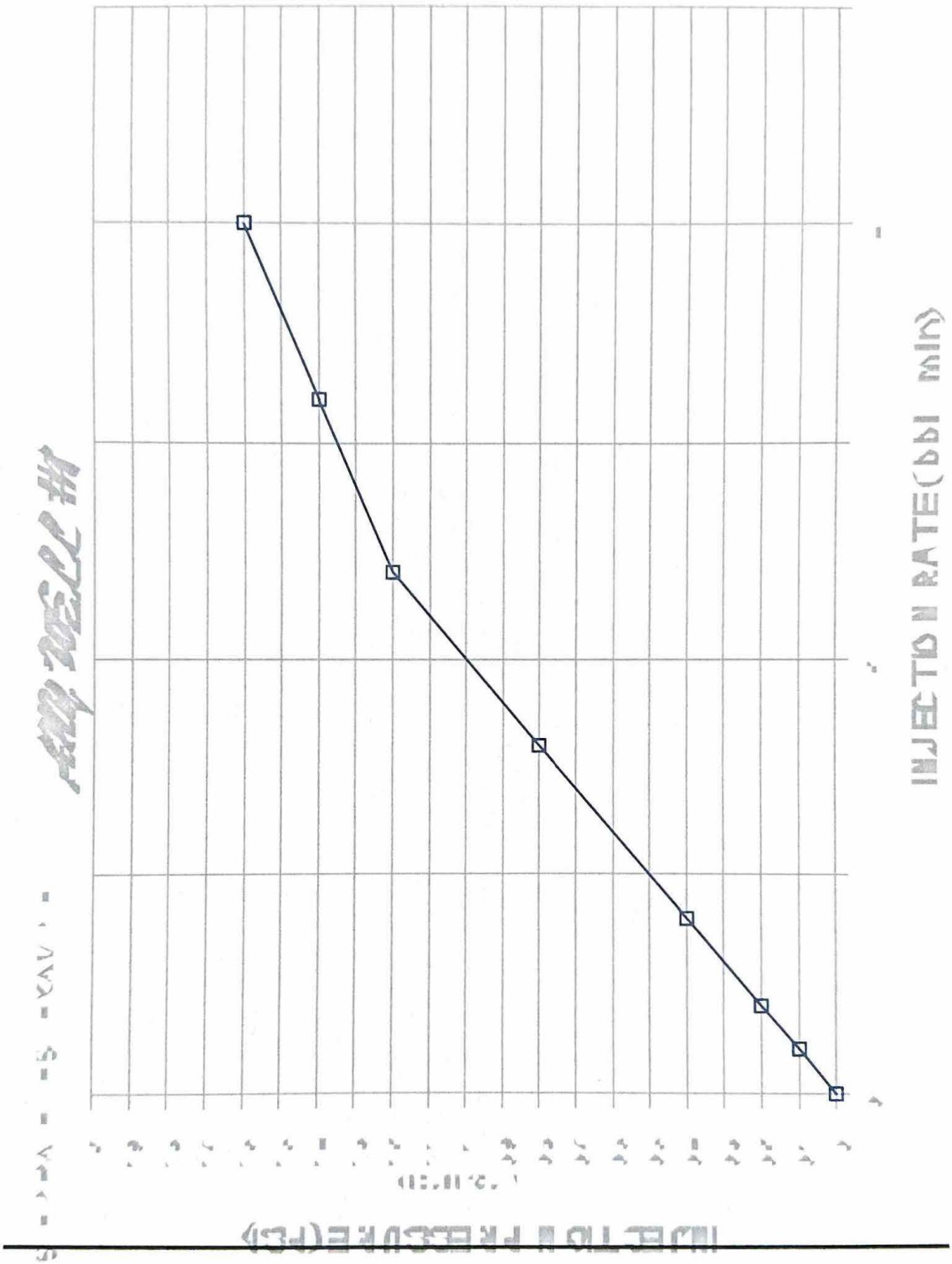
Time (min) :	0	5	10	15	20	25	30
Pressure (psi):	1350	1448	1503	1530	1571	1590	1600

ISIP : 1000 (psi)

Notes:

Test Run / Witnessed By: Alan Testor.

Document Id: 7390A000-0DB3-11EF-9A03-811D83C47788
OnlineNotary.net



JURAT ATTACHMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF Tennessee }

COUNTY OF Cheatham }

The foregoing instrument was subscribed and sworn before me this date of 05/09/2024, by Nathaniel Frank-White

This notarial act was an online notarization.

SAMANTHA B. DOMINGUEZ
STATE OF TENNESSEE
NOTARY PUBLIC
COUNTY OF CHEATHAM

ONLINE NOTARY PUBLIC
MY COMMISION EXPIRES: JULY 26 2025

(Notary Seal)

Notary's Signature Samantha B. D

Registration No.: 0

Commission Expiration Date: July 26, 2025