

STATE WELL REPORT

Part 1

Driller's Log

Mississippi Department of Environmental Quality
Office of Land and Water Resources
P.O. Box 2309
Jackson, MS 39225-2309
(601)961-5210
(601)360-0535 (fax)

For Office Use Only:

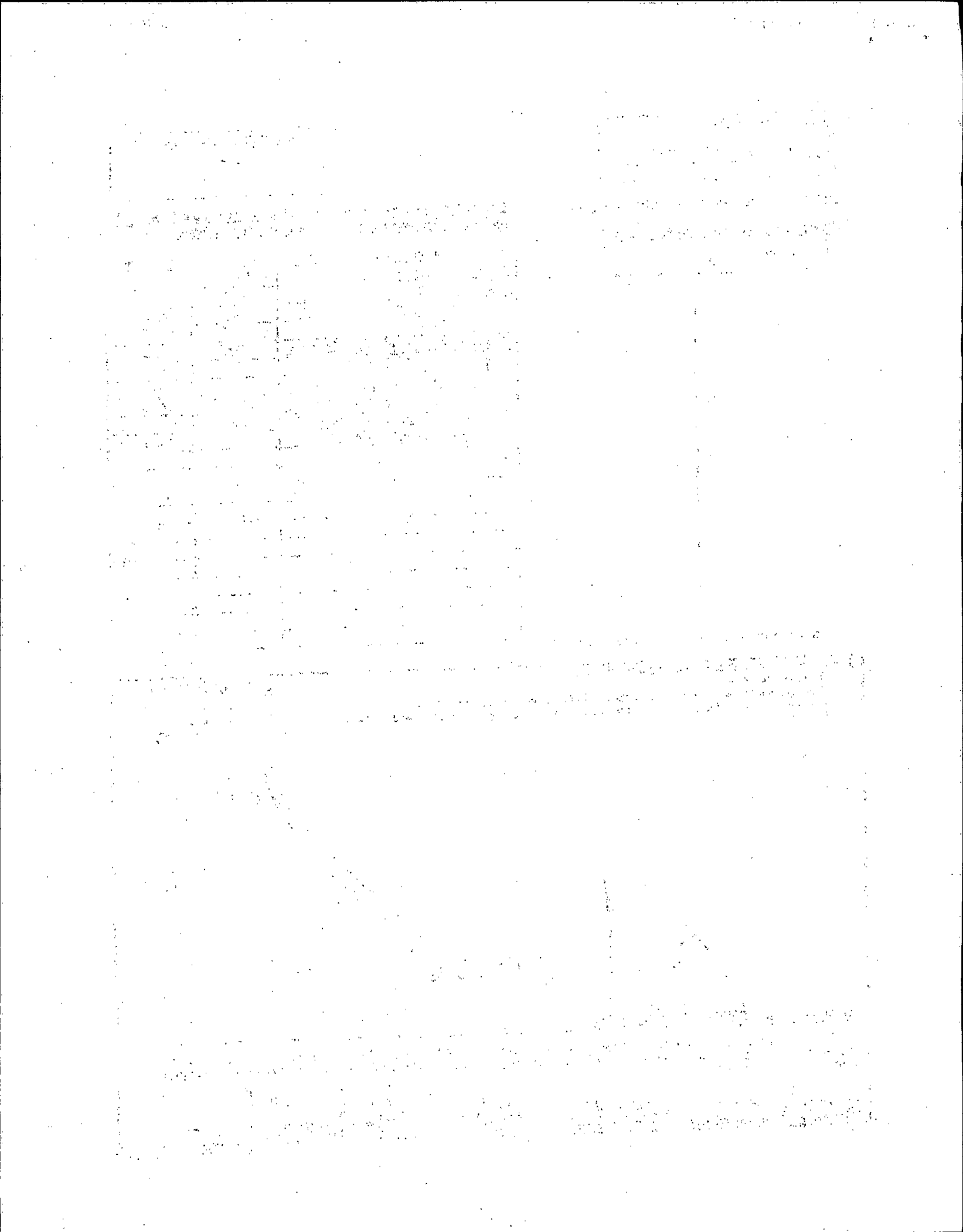
Well #: T 251
Aquifer: _____
E-Log #: _____

County: Bolivar
Permit #: GW-49934 ✓
Driller: Jonathan Gordon
Date drilling completed: 4-24-17

State Law requires that this report be prepared by the license holder responsible for the work and filed with the Department at the above address within 30 days of completion of drilling of the well or borehole.

Well Owner Information (Landowner if borehole is not for a water well)			Well or Borehole Location		
Owner Name: <u>Henry G. Masco</u>			Latitude: <u>33°34'47.54"</u> Longitude: <u>90°46'59.08"</u>		
Mailing Address: <u>488 Laughlin Rd.</u>			Method of Lat/Long (check one): Conventional Survey _____		
			USGS quad _____, Hand-held GPS <input checked="" type="checkbox"/> , Survey-grade GPS _____		
<u>Cleveland</u> City	<u>MS</u> State	<u>38732</u> Zip Code	<u>SE 1/4 NE 1/4, Sec 14 T 20N R 06W</u>		
Telephone No. <u>(662) 719-7167</u>			<u>1.60</u> Miles <u>South</u> of <u>Shaw</u> (Distance) (Direction) (Nearest Town)		

Well / Borehole Data	
Date drilling started: <u>4-24-17</u>	Date drilling completed: <u>4-24-17</u> Hole depth: <u>125'</u> Hole diameter: <u>26"</u>
Location of the source of any surface water used for drilling: <u>Hauled 300 feet away</u>	
Method of dosing and volume of Chlorine used in drilling and development: _____	
Logs run (circle all applicable): <input checked="" type="checkbox"/> No log run <input type="checkbox"/> Electric <input type="checkbox"/> Gamma Ray <input type="checkbox"/> Density <input type="checkbox"/> Sonic <input type="checkbox"/> Neutron <input type="checkbox"/> Other: _____	
Name of organization running log(s): _____	
Purpose of borehole (circle one): <input checked="" type="checkbox"/> Water Well <input type="checkbox"/> Geotechnical/Geological Investigation <input type="checkbox"/> Ground Source Heat Pump <input type="checkbox"/> Seismic Survey <input type="checkbox"/> Other (describe) _____	
<i>If drilling is not related to water well construction, skip the remainder of this block</i>	
Purpose of Well (circle all applicable): Home <input type="checkbox"/> Industrial <input type="checkbox"/> Public Supply <input type="checkbox"/> <input checked="" type="checkbox"/> Irrigation <input type="checkbox"/> Fish Culture	
Other (describe): _____	
If a flowing well, method of flow regulation: Valve _____ Other (describe) _____	
Static Water Level: <u>43</u> feet (above or below) land surface Date measured: <u>4-28-17</u> (circle one)	
Method of measurement (circle one): Steel tape <input checked="" type="checkbox"/> <input type="checkbox"/> Electric tape <input type="checkbox"/> Air line <input type="checkbox"/> Other (describe): _____	
Well depth: <u>125'</u> Well grouted to a depth of: <u>10</u> feet Type of grout (circle one): <input checked="" type="checkbox"/> Neat Cement <input type="checkbox"/> Bentonite <input type="checkbox"/> Mix	
Casing length: <u>75</u> feet	Casing diameter: <u>16</u> inches Type of casing: <u>PVC</u>
Screen length: <u>50</u> feet	Screen diameter: <u>16</u> inches Type of screen: <u>PVC</u>
Screen slot size: <u>0.050</u> inches Setting depth: From <u>75</u> feet to <u>125</u> feet	
Type of completion (circle all applicable): <input checked="" type="checkbox"/> Gravel packed <input type="checkbox"/> Underreamed <input type="checkbox"/> Open hole <input type="checkbox"/> Natural Development	
Other (describe): _____	
Top of lap pipe or reduction in casing: <u>N/A</u> feet	
<i>If telescoped or more than one screen, describe on next page</i>	



STATE WELL REPORT

Part 2

Pump Installer's Completion Report
 Mississippi Department of Environmental Quality
 Office of Land and Water Resources
 P.O. Box 2309
 Jackson, MS 39225-2309
 (601)961-5210
 (601) 360-0535 (fax)

For Office Use Only:

Well #: T251
 Aquifer: _____

County: Bolivar
 Permit #: SW-49934
 Driller: Jonathan Gordon
 Date completed: 4-28-17
 Copy information from block on Part 1

This part of the report must be completed by a licensed water well contractor, or a licensed pump installer. A copy of Part 1 of the report must be attached and both parts filed with the Department at the above address within 30 days of well completion.

Well Owner Information			Well Location		
Owner Name: <u>Henry G. Mosco</u>	Latitude: <u>33° 34' 47.54"</u> Longitude: <u>90° 46' 59.08"</u>		Method of Lat/Long (check one): Conventional Survey _____		
Mailing Address: <u>488 Laughlin Rd</u>	USGS quad _____, Hand-held GPS <u>✓</u> , Survey-grade GPS _____		SE 1/4 11E 1/4, Sec 14 T 20N R 06W		
<u>Cleveland</u> <u>MS</u> <u>38732</u>	City State Zip Code		<u>1.60</u> Miles <u>South</u> of <u>Shaw</u>		
Telephone No. <u>(662) 219-2167</u>			(Distance) (Direction) (Nearest Town)		

Pump Type (circle one)
 Submersible Turbine Air Lift Centrifugal Flowing Well Jet Piston Rotary Other (describe): _____
 Date Pump Installed: 4-28-17 Rated Pump Capacity: _____ Gallons Per Minute
 Is This Pump (circle one): New Repaired Replacement

Power Type (circle one)
 Electric Diesel Gasoline Natural Gas Tractor PTO Windmill Other (describe): _____
 Horse Power Rating of Motor: 40 Setting Depth: 80 feet Number of Stages: 1

Pump Test Data for Non Flowing Well
 Date Well Tested: NOT TEST Duration of Pump Test (minimum 4 hours): N/A hours
 Static Water Level (A): 43 Feet Below Land Surface Pumping Water Level (B): N/A Feet Below Land Surface
 Drawdown [(B) - (A)]: N/A Feet Below Land Surface Test Pumping Rate: N/A Gallons Per Minute
 Method of measurement (circle one): Steel tape Air line Other (describe): _____

Pump Test Data for Flowing Well
 Measured shut in head: _____ feet.
 Well yielded _____ GPM with a drawdown of _____ feet after _____ hours of pumping

Meter Installation
 Meter Manufacturer: _____ Meter Serial Number: _____
 Meter Model Number/Name: _____ Type of Meter: _____
 Totalizer Register Unit and Multiplier Factor (AF x .001, gal x 1000, etc): _____
 Installation Date: _____ Meter installed by: _____
 Is This Meter (circle one): New Repaired Replacement

Important: By submitting the above information you are certifying that this meter was installed to manufacturer standards. For agricultural wells, a list of approved meters is on the MDEQ website.

I HEREBY CERTIFY that the above statements are true to the best of my knowledge.
Peyton Overstreet 00008026 5/2/17 Peyton Overstreet
 Print/Name of Pump Installer and License No. (if applicable) Date Signature of Pump Installer

T251

STATE OF MISSISSIPPI
Department of Environmental Quality
Office of Land and Water Resources
P. O. Box 2309
Jackson, Mississippi 39225

PERMIT

TO DIVERT OR WITHDRAW FOR BENEFICIAL USE THE PUBLIC WATERS

This permit is issued to the landowner named below in accordance with the provisions of the Mississippi Water Laws, Mississippi Code Sections 51-3-1, et seq. (1972, as amended), and the regulations and standards as promulgated thereunder. Whether or not specifically named in this permit or in the applications for this permit, anyone using water from the diversion/withdrawal point described below shall do so in compliance with the provisions of this permit. Neither this permit, nor any authority conferred hereby, may be sold, conveyed, encumbered, assigned, or otherwise aliened, for any period of time or under any conditions whatsoever. This permit may not be modified, transferred or revoked without prior action by the Permit Board. Any attempts to modify, transfer or revoke this permit, or to take any other action on this permit, shall be invalid and unenforceable and may result in immediate revocation or suspension of this permit. The holder of this permit shall at all times be responsible for adherence to the terms and conditions of this permit. No agreement between the permit holder and any other party shall affect the obligations and liabilities of the permit holder. Water use under this permit is allowed only when the streamflow, lake level elevation, or static groundwater level (whichever, if any, is applicable) is above the established minimum, pursuant to Mississippi Code Section 51-3-7. Authorization is hereby granted to divert/withdraw water for the beneficial use designated herein, and for no other purpose, subject to the following terms, conditions, and limitations:

Permit Number: MS-GW-49934

Landowner Name: MOSCO, HENRY G

Landowner Address: 488 LAUGHLIN ROAD
 CLEVELAND MS 38732

Source Of Water: MISSISSIPPI RIVER VALLEY ALLUVIAL AQUIFER

Beneficial Use: IRRIGATION

Diversion/Withdrawal Location: SE 1/4 of the NE 1/4 **Section:** 14 **Township:** 20N **Range:** 06W

County: BOLIVAR

Quad: SHAW

Maximum Volume: 234 Acre-Feet/Year *equivalent to* .2089 Million Gallons/Day

Maximum Rate: 1400 Gallons/Minute

Applicant Name: MOSCO, HENRY G

Applicant Address: 488 LAUGHLIN ROAD
 CLEVELAND MS 38732

Date Permit Issued: 04/14/2017

Date Permit Expires: 04/14/2022

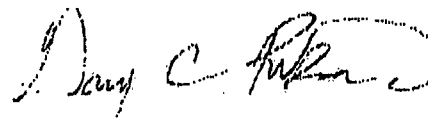
Date Permit Modified:

Date Permit Re-issued:

This permit shall be deemed null and void if construction has not begun within one (1) year of permit issue date

SPECIAL TERMS AND CONDITIONS: WATER VOLUME MUST BE REDUCED BY AMOUNT OF WATER APPLIED TO THE SAME ACREAGE FROM OTHER PERMITTED POINTS.

SPECIAL TERMS AND CONDITIONS 2: SEE ATTACHMENT 1, WHICH IS HEREBY DECLARED TO BE PART OF THIS PERMIT.



Gary C. Rikard, Executive Director
 Mississippi Department of Environmental Quality

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
RESEARCH REPORT
NO. 1000

1. Introduction
2. Experimental
3. Results
4. Discussion
5. Conclusions

The present study was undertaken to investigate the effect of temperature on the rate of reaction between hydrogen peroxide and potassium iodide in the presence of ceric sulfate as a catalyst. The reaction is known to be first order with respect to hydrogen peroxide and second order with respect to ceric sulfate. The rate constant was determined at various temperatures and the activation energy was calculated from the Arrhenius plot. The results show that the rate of reaction increases with increasing temperature and the activation energy is found to be 15.2 kJ/mol.

The experimental conditions were maintained constant throughout the study. The concentration of hydrogen peroxide was 0.01 M, the concentration of ceric sulfate was 0.001 M, and the concentration of potassium iodide was 0.01 M. The reaction was carried out in a 100 ml solution at various temperatures ranging from 25°C to 45°C. The time taken for the appearance of a blue color was measured and used to calculate the rate of reaction. The results are shown in Table I.