The developments in this department, of our mineral wealth alone, abundantly corroborates the wisdom of the act of the Legislature, by which the survey was instituted, and is accompanied by an earnest hope of the State Board of Agriculture and enlightened citizens everywhere, that the work so auspiciously commenced may be carried forward to a successful termination.

On behalf of the State Board of Agriculture, I have the honor to be respectfully, &c.,

W. T. DENNIS, Secretary.

CONDENSED REPORT
OF THE
GEOLOGICAL AND AGRICULTURAL SURVEY OF THE STATE OF INDIANA, FOR 1859 AND 1860.

STATE BOARD OF AGRICULTURE,
Indianapolis.

Gentlemen:—In accordance with your request that I should furnish an outline, or condensed statement, of the detailed report to be prepared in full, giving the results of the geological and agricultural survey of Indiana, as far as conducted, I herewith transmit the following:

In the general statements, prepared by myself, will be found some practical suggestions on agriculture, deduced from the examination and comparison, during many years, of the soil obtained in different geological formations, as well as of virgin soils, compared with those from fields long subjected to cropping.

The agricultural portion will be followed by a comparison of our coal measures with those of Kentucky, and some other places, besides additional remarks regarding that useful mineral coal.

The result of my observations and reasoning regarding milk-sickness, which, since the early settlement of the country, has proved so prejudicial to some sections, will form also part of my report.

In the tabular exposition of soil-analyses, as well as the accompanying remarks, embodied by the chemical assistant, Dr. Peter, of Lexington, Ky., much valuable information will be found conveyed. It is to be regretted that means did not suffice for more fully carrying out this analytical department, as many more soils had been collected by my brother Dr. Richard Owen, in his capacity as principal assistant. But, under the most favorable circumstances, the analysis of every soil would average collectively five or six dollars each, and, submitted singly to most analytical chemists, would cost probably three times that amount. The long experience of the chemical assistant in this department of analysis, and the moderate per diem he charges, enable him to accomplish a large amount at a comparatively small cost, when a quantity of soils are submitted to him at one time. The above facts furnish forcible arguments why such analyses should be undertaken by States, on a large scale, rather than by each
individual farmer. Yet we must reflect that, in order to render this analysis practically useful, it is necessary to submit the virgin soil, the worn surface soil, and the subsoil of the cultivated field, to minute quantitative analysis, thus incurring, for every such set of soils, (or, in other words, for any and every farm thus examined in a country,) an expenditure of from fifteen to twenty dollars. Already at our last census, 1850, we had in Indiana nearly 100,000 farms under cultivation, so that, to have collected and analyzed the soils only of one farm in every five hundred would probably have consumed the whole of the present appropriation. But, in view of the vast proportion of our population engaged in farming, and in consideration of the immense practical advantages to be derived from a full examination and exposition of this subject, before cropping has to far exhausted our western lands, it is thought not unreasonable to hope that at least such an amount may be devoted by our legislatures, (who, looking to the future prosperity of the State, consider farther appropriations for the prosecution of this work commendable,) as would suffice for the analytical examination of one set of soils on one farm in every hundred, even if such analysis should cost ten thousand dollars. According to this ratio, the soils, upon an average, of three to four farms in each county would be analyzed, giving, if judiciously selected, a fair approximate estimate of the main characteristics of soils on the other farms in the county. This would enable experienced chemists and agriculturists at once to point out the best method of preserving the soils of each geological formation, and indeed of each county, in the best possible condition, or of restoring, at the least expense, the lost ingredients.

The principal assistant was directed to give his first and chief attention to the examination of the coal-field, as developing a mineral useful to the whole State, and in the cheap and abundant diffusion of which our entire population must necessarily take a lively interest.

Abundance of cheap coal would enable our manufacturers and mechanics to compete favorably with those of other States, in all articles of utility or luxury which we consume, and, without this cheap fuel, much of our capital and annual expenditure must be forced out of this State into others, which have developed their mineral resources. This applies especially to the manufacture of iron and cotton, two articles of staple use or consumption. Cheap coal, for domestic purposes, would also enable the agriculturist, when necessary or desirable, to economize his timber for farm purposes of building, fencing, &c., and would diminish the expense of transportation and travel, by railroad and steamboat. By Dr. R. Owen's report, it will be seen that in at least twenty counties of Indiana coal is worked, some counties having as high as ten or twelve banks or openings. Coal was found in three or four other counties, although as yet less important, as well in the thickness as in the quality of the deposit.

In order to assign each of the seams, furnishing these hundred and fifty to two hundred coal openings, to the relative beds of superposition according to the numerical scale employed in the Kentucky survey, the valuable services of Mr. Lesqueneux were secured, who, from his long experience in the Pennsylvania, Kentucky and Arkansas surveys, as well as his intimate acquaintance with the fossil plants which characterize the different roof-shales of most coal seams, was eminently qualified for the task.

This is a problem of great practical importance in its solution, because, by this identification, the owner of coal banks is informed whether two or more openings on his land belong to one and the same, or to two separate seams; in the latter case doubling the probable amount of his coal property; or again, whether, if a vein he is working is not satisfactory, there is reasonable hope of reaching a better by sinking a shaft, and, if so, the probable depth at which the deposit may be looked for, as well as its probable thickness and quality, judging from analogy. By these means Prof. Lesqueneux was enabled to point out to an old settler of Owen county, in a bluff of White River, the exact position, on his land, of a seam of coal, which he had long sought in vain, finding only detached portions of coal in the bottom, and confining his search to that region. It proved to be a four foot vein of coal, highly impregnated with the oily products now so generally extracted for illuminating and lubricating purposes.

The analysis, on a large scale, was performed by the principal assistant, for a coal of this character from Perry county, which resulted in its furnishing at the rate of sixty gallons of oil to the ton of coal, the Breckinridge variety usually producing about seventy-five.

The analysis, on a small scale, has also been made by him of twenty-five different coals, chiefly to ascertain the relative amount of fixed carbon and ashes, and volatile products; and, if time permits, others will be submitted to the same process before finally closing the report. The results of these will be found distributed through Dr. R. Owen's report, as they occur in connection with their appropriate counties.

The next subject to which the attention of this assistant was directed is second only to coal in importance: it is the development of any facts calculated to promote the production of cheap and good iron. Most of the furnaces in the State were visited and other localities examined, which indicated favorable prospects, (in regions additional to those already worked,) particularly along the eastern margin of our coal-field, such as Harrison, Perry, Crawford, Orange, Martin, as well as abundantly in the swamp lands of our northern counties. Additional attention to this important branch is very much to be desired, and would undoubtedly amply repay any necessary outlay on the part of our State.

Indiana is replete with valuable stone quarries, having material well adapted for the purposes of construction. Many of these quarries were visited by the principal assistant, and other localities noted for future examination, should the survey be continued. Several of the building rocks were submitted by him to analysis, and the results
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The gold region of Brown, Bartholomew, &c., was also examined by direction of his late Excellency, Gov. Willard, on the memorial of certain citizens. The result, indicating the presence of notable quantities in the drift, there and in other counties, will be found in the detailed report.

Several hydraulic limestones, potters' clays, marls and mineral waters, the latter especially in connection with regions troubled by milk-sickness, were also analyzed by the principal assistant, and the results given in his report.

In addition to the above, the limits of other geological formations were also approximately determined, and many miscellaneous facts collected by him, (while traversing eighty-five of our ninety-two counties,) regarding other metals, besides the iron already mentioned, the timber and agricultural products, some facts bearing on the probable formation of prairies and their successful drainage, the approximate relative heights of different parts of our State, the probabilities regarding artesian wells at various localities, and the like. The site of the new State Prison at Michigan City was also visited, and the progress of the work, as well as the harbor facilities, examined and reported upon by request of the late Governor.

It was thought useful, also, for this assistant to prepare his detailed report with some brief preliminary remarks, explanatory of the means by which geologists arrive at the facts and inferences in their surveys. The object sought was to render the perusal of the report more intelligible, by the explanation of a few important principles; to inspire additional confidence in the reliability of the results, by enumerating the means of verification; consequently to increase its usefulness to the farmer, miner, mechanic or general reader, not supposed to be conversant with the technicalities of geology, or with the instruments brought to aid.

The most interesting and important specimens collected during the survey were labeled and arranged by the principal assistant, and deposited, as you directed, in your room at the Capitol. It is hoped that citizens of Indiana, as well as strangers passing through Indianapolis, will find themselves repaid for a visit to this collection at the State House, by an inspection even of the minerals and fossils already deposited there. But it is exceedingly desirable that additional rooms, more glass cases and other adjuncts should be provided, in order to make this department as useful and interesting as we confidently believe it might be. On this head some suggestions will be found also in the assistant's report.

*Newton county, having lately been formed from Jasper, adds one county to the ninety-one usually given on maps even of late date.

The services of a most accomplished topographer, Mr. Joseph Clay, of Philadelphia, were secured, in order that he might execute, for part of one township, such topographical work as might serve to show you and the Legislature the manner in which it would be highly desirable to have topographical examinations executed, in connection with the most important portions of geological explorations, such as the coal regions, making the results much more definite and reliable. The topography is admirably laid down by Mr. Clay on a map, in which concentric, parallel lines record, with precision which appeals at once to the eye, equal altitudes even in a ground plan. To render the report as useful as it should be, and as creditable to the State as her standing demands, it is all important that this and other illustrative maps and diagrams should be executed by good engravers on wood, stone or metal, and accompany each printed copy, either bound with it or in a small, separate, cheap portfolio, on the plan adopted by Kentucky for her illustrations.

An estimate of the probable cost of such topographical work, as the above, is given in the detailed report, which is now nearly completed and can be furnished for the press early in December.

Although so much detailed work yet remains to be done, for the development of our agricultural and mineral resources, yet the amount of work already executed could only have been accomplished by adopting, in accordance with your wishes, the plan of commencing the preliminary reconnaissance in the fall of 1839, thus anticipating the legislative appropriation for the succeeding March.

Should it be deemed best by the Legislature, to prosecute this survey rigorously, so as to attract capital and enterprise to our State, as well as to collect all useful facts, and diffuse the important information designed to aid the farmer in preserving unimpaired that wealth of soil, which is the foundation of all other wealth, it may be proper here to remark, that the rapidity of the work, and consequent speedy arrival at important results, will necessarily be dependent, to a considerable extent, upon the amount of annual appropriation. Kentucky and Missouri each expended yearly twelve thousand dollars in their geological surveys, and Arkansas six thousand dollars per annum, for a reconnaissance.

Perhaps it may not be inappropriate for me to add, in conclusion, that having nearly fulfilled the other engagements I had made for the prosecution of similar work, I could, if desired, devote most of my time to the Indiana State Geological and Agricultural survey; and that, having just completed the erection of a new laboratory, supplied with all the appointments and latest improvements adopted in the best analytical establishments of America and Europe, I am fully prepared to carry it advantageously, and with additional facilities, the chemical department of any surveys entrusted to my charge.

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<td>May 10</td>
<td>To assist. R. Owen, for office work to date, etc.</td>
<td>5</td>
<td>29.60</td>
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</tr>
<tr>
<td>May 21</td>
<td>To chemical assistant, Dr. Peter, for laboratory work to date</td>
<td>6</td>
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<td>200.00</td>
</tr>
<tr>
<td>July 2</td>
<td>To scientific assistant, W. P. Owen, for field work to date, etc.</td>
<td>7</td>
<td>60.00</td>
<td>60.00</td>
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<tr>
<td>October 10</td>
<td>To assist. W. P. Owen, for field work to date</td>
<td>13</td>
<td>72.00</td>
<td>72.00</td>
</tr>
<tr>
<td>June 2</td>
<td>To R. T. Miller, for field work to date</td>
<td>8</td>
<td>61.65</td>
<td>61.65</td>
</tr>
<tr>
<td>July 2</td>
<td>To C. C. Roper, for field work to date</td>
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<td>62.60</td>
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<tr>
<td>July 2</td>
<td>To assist. R. Owen, for field work to date</td>
<td>10</td>
<td>250.60</td>
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<tr>
<td>July 2</td>
<td>To rent of laboratory, chemicals, etc., to date</td>
<td>11</td>
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<tr>
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<td>To rent of meals, wash, etc., etc., to date</td>
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<tr>
<td>July 4</td>
<td>To travel expenses of State Geologist and assistant</td>
<td>13</td>
<td>132.50</td>
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<tr>
<td>July 4</td>
<td>To travel expenses of State Geologist and assistant, etc.</td>
<td>14</td>
<td>312.60</td>
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<tr>
<td>July 4</td>
<td>To travel expenses of State Geologist and assistant, etc.</td>
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<td>21.40</td>
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<tr>
<td>July 4</td>
<td>To travel expenses of State Geologist and assistant, etc.</td>
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<td>10.60</td>
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<tr>
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<td>To travel expenses of State Geologist and assistant, etc.</td>
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<td>18</td>
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<tr>
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<td>To keep of survey books</td>
<td>19</td>
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**CREDIT**

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<tr>
<th>Date</th>
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<th>Amount</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td>October 7</td>
<td>By each from State Board of Agriculture</td>
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<td>$30.60</td>
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<tr>
<td>October 14</td>
<td>By warrant on State Treasury</td>
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<tr>
<td>October 14</td>
<td>By warrant on State Board of Agriculture</td>
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<td>$10.60</td>
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<tr>
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<td>By order from President Wagner on Treasurer of State</td>
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<tr>
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<td>By order from President Wagner on Treasurer of State</td>
<td></td>
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</table>

July 5, To balance due D. D. Owen, at above $92.40

---


<table>
<thead>
<tr>
<th>Date</th>
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<th>Amount</th>
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</thead>
<tbody>
<tr>
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<tr>
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<td>22.60</td>
<td>22.60</td>
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<td>To Dr. Peter, for 35 days service at $1.50 each</td>
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<td>33.50</td>
<td>33.50</td>
</tr>
<tr>
<td>May 16</td>
<td>To Dr. Peter, for 35 days service at $1.50 each</td>
<td>2</td>
<td>33.50</td>
<td>33.50</td>
</tr>
<tr>
<td>May 16</td>
<td>To Dr. Peter, for 35 days service at $1.50 each</td>
<td>3</td>
<td>33.50</td>
<td>33.50</td>
</tr>
<tr>
<td>May 16</td>
<td>To Dr. Peter, for 35 days service at $1.50 each</td>
<td>4</td>
<td>33.50</td>
<td>33.50</td>
</tr>
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<td>May 16</td>
<td>To Dr. Peter, for 35 days service at $1.50 each</td>
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</tr>
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<td>To Dr. Peter, for 35 days service at $1.50 each</td>
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</tr>
<tr>
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<td>To Dr. Peter, for 35 days service at $1.50 each</td>
<td>7</td>
<td>33.50</td>
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</tr>
<tr>
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<td>8</td>
<td>33.50</td>
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</tr>
<tr>
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<td>33.50</td>
</tr>
<tr>
<td>June 5</td>
<td>To Dr. Peter, for 35 days service at $1.50 each</td>
<td>10</td>
<td>33.50</td>
<td>33.50</td>
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<tr>
<td>June 5</td>
<td>To Dr. Peter, for 35 days service at $1.50 each</td>
<td>11</td>
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<tr>
<td>June 5</td>
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</tr>
<tr>
<td>June 5</td>
<td>To Dr. Peter, for 35 days service at $1.50 each</td>
<td>13</td>
<td>33.50</td>
<td>33.50</td>
</tr>
<tr>
<td>June 5</td>
<td>To Dr. Peter, for 35 days service at $1.50 each</td>
<td>14</td>
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<td>33.50</td>
</tr>
<tr>
<td>June 5</td>
<td>To Dr. Peter, for 35 days service at $1.50 each</td>
<td>15</td>
<td>33.50</td>
<td>33.50</td>
</tr>
<tr>
<td>June 5</td>
<td>To Dr. Peter, for 35 days service at $1.50 each</td>
<td>16</td>
<td>33.50</td>
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</tr>
<tr>
<td>June 5</td>
<td>To Dr. Peter, for 35 days service at $1.50 each</td>
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<td>33.50</td>
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</tr>
<tr>
<td>June 5</td>
<td>To Dr. Peter, for 35 days service at $1.50 each</td>
<td>18</td>
<td>33.50</td>
<td>33.50</td>
</tr>
<tr>
<td>June 5</td>
<td>To Dr. Peter, for 35 days service at $1.50 each</td>
<td>19</td>
<td>33.50</td>
<td>33.50</td>
</tr>
<tr>
<td>June 5</td>
<td>To Dr. Peter, for 35 days service at $1.50 each</td>
<td>20</td>
<td>33.50</td>
<td>33.50</td>
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</tbody>
</table>

**CREDIT**

<table>
<thead>
<tr>
<th>Date</th>
<th>DEBIT</th>
<th>No. of Voucher</th>
<th>Amount</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1</td>
<td>By warrant on Treasury</td>
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<td>$200.00</td>
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</tr>
<tr>
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<td>$200.00</td>
</tr>
<tr>
<td>June 23</td>
<td>By warrant on Treasury</td>
<td></td>
<td>$200.00</td>
<td>$200.00</td>
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</tbody>
</table>

July 5, To balance due D. D. Owen, at above $92.40
<table>
<thead>
<tr>
<th>Date</th>
<th>No. of Voucher</th>
<th>Amount</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1860, Aug 5</td>
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</tr>
<tr>
<td>1860, Aug 10</td>
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<td></td>
</tr>
<tr>
<td>1860, Aug 15</td>
<td></td>
<td>$250.00</td>
<td></td>
</tr>
<tr>
<td>1860, Aug 20</td>
<td></td>
<td>$250.00</td>
<td></td>
</tr>
<tr>
<td>1860, Aug 25</td>
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</tr>
<tr>
<td>1860, Aug 30</td>
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<tr>
<td>1860, Sep 5</td>
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<tr>
<td>1860, Sep 10</td>
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<td>1860, Sep 15</td>
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<td>1860, Sep 20</td>
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<td>1860, Sep 25</td>
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<td>1860, Sep 30</td>
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<tr>
<td>1860, Oct 5</td>
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<tr>
<td>1860, Oct 10</td>
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<td>1860, Oct 15</td>
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<td>1860, Oct 20</td>
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<td>1860, Oct 25</td>
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<td>$250.00</td>
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</tr>
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<td>1860, Oct 30</td>
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</tr>
<tr>
<td>1860, Nov 5</td>
<td></td>
<td>$250.00</td>
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<td>1860, Nov 10</td>
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</tr>
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<td>1860, Nov 15</td>
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<tr>
<td>1860, Nov 20</td>
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<td>1860, Nov 25</td>
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<td>1860, Nov 30</td>
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<tr>
<td>1860, Dec 5</td>
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<tr>
<td>1860, Dec 30</td>
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<td>$250.00</td>
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</tbody>
</table>

**CRedit**

- By draft on New York, including premium: $1,500.00
- By amount received through Adams Express Office, Evansville: $3,000.00

**Expenditures for Indiana Geological Survey, arranged under their appropriate, separate heads, irrespective of date.**

<table>
<thead>
<tr>
<th>Items</th>
<th>Amount</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Amount</td>
<td>Total</td>
</tr>
<tr>
<td>Re-employment, payment for services in field, camp, etc.:</td>
<td>$3,054.00</td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Amount</td>
<td>Total</td>
</tr>
<tr>
<td>Item</td>
<td>Amount</td>
<td>Total</td>
</tr>
</tbody>
</table>

**Date** | **Debit** | **Credit** | **Amount** | **Total**
--- | --- | --- | --- | ---
1860, July 5 | To balance due as per account rendered at this date | | $904.00 | $904.00
August 16 | To per diem of Assistant Geologist, for forty days' office work, at $14.00 | 21 | 100.00 | 100.00
August 18 | To keep of two horses seven days, $2.00 each, $28.00; two miles four weeks, at $1.25 each, $29.25; oil 50 cents, powder 25 cents | 20 | 40.75 | 40.75
August 18 | To keep of two horses four weeks, from July 20 to August 19, inclusive, at $1.50 | 25 | 37.50 | 37.50
August 19 | To outfit accorded for repairs and provisions, as per receipted bills | 24 | 45.22 | 45.22
Sept. 17 | To traveling expenses of corps in Fall survey—items specified in document 'B' | 25 | 70.50 | 70.50
Sept. 27 | To fossils purchased in Crawfordsville Mr. Cory | 50 | 7.45 | 7.45
Nov. 8 | To services of J. J. Miller, in camp thirty-four days, at $1.25 | 37 | 46.25 | 46.25
Nov. 8 | To services of E. P. Owen, as assistant, in office ten days, at $1.50 | 29 | 43.50 | 43.50
Nov. 8 | To per diem of principal assistant for thirty-four days of field work, at $1.75 | 18 | 31.50 | 31.50
Nov. 10 | To horse kept to date $13.00, two bottles sulfuric oil $1.00 | 22 | 14.00 | 14.00
Nov. 10 | To hire of wagon, mules, and camp equipage, thirty-four days at $1.50 | 32 | 48.00 | 48.00
October 27 | To outfit, traveling, &c., in Perry county, topography local survey, as per document 'B' | 47 | 67.50 | 67.50
October 27 | To per diem of topographer, J. Leslie, two days at $5.00 | 13 | 65.00 | 65.00
October 27 | To keep of wagon, mules, and camp equipage, in Perry county, eighteen days at $1.50 | 36 | 54.00 | 54.00
October 27 | To services of sub-assistant, Alfred J. Owen, in Perry county, eighteen days at $1.50 | 37 | 55.50 | 55.50
Dec. 27 | To services of camp laborer, J. Matthew, seventeen days at $1.50 | 48 | 72.00 | 72.00
December | To rent of laboratory, use of chemicals and instruments, two quarters, from July 1 to December 31, 1860 | 33 | 505.00 | 505.00
December | To keep of stationery | 40 | 34.00 | 34.00
December | To postage and stationery | 41 | 35.50 | 35.50
December | To express charges | 42 | 21.00 | 21.00
December | To balance on hand | | $2,260.60 | $2,260.60

**Credit**

1860, November 7 | By draft on New York, including premium | $1,200.00 | $1,200.00

---

### EXPENDITURES for Indiana Geological Survey, arranged under their appropriate, separate heads, irrespective of date.

**Items** | **Amount** | **Total**
--- | --- | ---
For field account, (payment for services in field, camp, &c.) | | $609.00
B. Owen, full of 1859 $354, spring of 1859 $352, fall of 1859 $256 | | $962.00
L. Lewis, geologist of 1860 | | 392.50
L. P. Owen, full of 1860 $257, spring of 1860 $256, full of 1860 $311 | | 625.50
E. J. Miller, spring of 1859 $153, fall of 1860 $42.50 | | 196.00
Charles B. Flood, spring of 1859 | | 60.00
J. Fuller, fall of 1859 | | 34.00
J. Lackey, jan., in Perry county, topography | | 31.00
A. D. Owen, in Perry county, topography | | 27.00
J. Mathews, in Perry county, camp duty | | 21.25
Field traveling expenses, food for man, horse, railroad expenses, lawyer's bills, &c. | | $1,200.00
L. Lewis, travelings and the before | | 25.00
Expenses of fall of 1859 and spring of 1860, as per document 'B' | | 238.50
Expenses of fall of 1860, as per a current 'C' | | 76.50
Cost for traveling, including hire of wagon, equipage, provi | | 47.45
Cost for traveling, including hire of wagon, equipage, provi | | 282.85
Hire of wagon, &c., up to July 1, 1860, $100.50, hire at full of 1860, $51, hire do. in Perry county, $77 | | 138.50
Necessary inconspicuous expenses, (winter and summer feed of horses, mules, &c.) | | 187.50
House keep to July 1, $41, horses and mules, $10.50, horse | | 104.75

**Total expenses of field work to December 1860** | | $2,034.24

Analysis accounts (analyzing soils, coals, ores, &c.) | | 350.00
B. Owen for laboratory work | | 400.00
B. Owen for laboratory work in wet $150, in summer $100 | | 250.00
Office account (making and selling maps, drawings, &c., also all accounts kept) | | 500.00
E. Owen, in winter 1859 and 1860, $90, in full of 1860 | | 90.00
H. P. Owen, in fall of 1860 | | 30.00
Stationary and postage account $31.40 | | 61.40
Taxes, laboratory and other expenses to Nov. 19, 1860 | | 1,307.00
State collection and incidentals | | 258.25
State collection and incidentals | | 1,325.25
Aggregate total expended in survey to November 1860 | | 4,339.00
Amount in hands of State Geologist | | 276.00

**Extended or on hand to balance amount received** | | $1,200.00
RECEIPTS.

<table>
<thead>
<tr>
<th>Date</th>
<th>Items</th>
<th>Amount</th>
<th>Total</th>
</tr>
</thead>
<tbody>
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<td>1860.</td>
<td>From State Board of Agriculture</td>
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</tr>
<tr>
<td></td>
<td>From State Treasurer</td>
<td>$500</td>
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</tr>
<tr>
<td>January 10</td>
<td>From State Treasurer</td>
<td>$500</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>From Indianapolis by letter</td>
<td>$500</td>
<td></td>
</tr>
<tr>
<td>June</td>
<td>From Indianapolis, in the form of a M. Y. draft.</td>
<td>$1,300</td>
<td></td>
</tr>
<tr>
<td>August 13</td>
<td>From express office of Adams &amp; Co., at Evansville.</td>
<td>$1,000</td>
<td>$2,900</td>
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</table>

REMAINING RESOURCES AND LIABILITIES.

<table>
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<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remaining resources of Indiana Geological Survey—</td>
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</tr>
<tr>
<td>In hands of State Geologist, as per account rendered</td>
<td>$370</td>
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</tr>
<tr>
<td>Horse and buggy, worth in cash</td>
<td>$235</td>
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<tr>
<td>Buffalo robe, raw, hammer, etc.</td>
<td>$5</td>
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</tr>
<tr>
<td>Liabilities of Indiana Geological Survey, (approximate estimate)—</td>
<td>$5,000</td>
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</tr>
<tr>
<td>R. Owen for completing report, analysis, arranging remaining specimens when sent to Indianapolis, reading and correcting proof, etc.</td>
<td>$25</td>
<td></td>
</tr>
<tr>
<td>L. Lemans for completing his report, etc.</td>
<td>$25</td>
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<tr>
<td>Traveling expenses and hotel bill of assistant to arrange collection and examine maps, engravings etc.</td>
<td>$100</td>
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</tr>
<tr>
<td>Freight and transportation on remaining specimens to Indianapolis.</td>
<td>$37</td>
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<tr>
<td>Leaving for future work, each $370, property $250.</td>
<td>$1,000</td>
<td></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Date</th>
<th>On what account</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 1</td>
<td>To corn and oats, $1 00; bread and cheese, $1 00.</td>
<td>$2 00</td>
</tr>
<tr>
<td>May 2</td>
<td>To corn, $1 00; milk, $1 00; tobacco, $1 00.</td>
<td>$2 00</td>
</tr>
<tr>
<td>May 3</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 4</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 5</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 6</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 7</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 8</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 9</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 10</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 11</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 12</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 13</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 14</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 15</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 16</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 17</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 18</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 19</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 20</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 21</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 22</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 23</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 24</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 25</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 26</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 27</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 28</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 29</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 30</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
<tr>
<td>May 31</td>
<td>To corn, $1 00; milk, $1 00; bread, $1 00.</td>
<td>$3 00</td>
</tr>
</tbody>
</table>

Total: $136 91

2 D. J.—13.
### RECEIPTS.

<table>
<thead>
<tr>
<th>Date</th>
<th>Items</th>
<th>Amount</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1839</td>
<td>From State Board of Agriculture</td>
<td>$100</td>
<td></td>
</tr>
<tr>
<td>October 7</td>
<td>From State Treasury</td>
<td>$50</td>
<td></td>
</tr>
<tr>
<td>October 14</td>
<td>From Treasury, drawn by assistant geologist on warrant</td>
<td>$50</td>
<td></td>
</tr>
<tr>
<td>January 10</td>
<td>From Indianapolis by letter</td>
<td>$50</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>From Indianapolis, in the form of a N.Y. draft</td>
<td>$800</td>
<td></td>
</tr>
<tr>
<td>August 13</td>
<td>From express office of Adams &amp; Co., at Evansville</td>
<td>$1,000</td>
<td></td>
</tr>
<tr>
<td>November 7</td>
<td></td>
<td>$1,000</td>
<td></td>
</tr>
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</table>

### REMAINING RESOURCES AND LIABILITIES.

<table>
<thead>
<tr>
<th>Items</th>
<th>Amount</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remaining resources of Indiana Geological Survey—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In hands of State Geologist, as per account rendered</td>
<td>$770</td>
<td></td>
</tr>
<tr>
<td>In hand of State Treasurer as appropriation of State Legislature</td>
<td>$900</td>
<td></td>
</tr>
<tr>
<td>Horse and baggage, worth in cash</td>
<td>$950</td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>$25</td>
<td>$1,000</td>
</tr>
</tbody>
</table>

### Detailed Statement of Expenses in Spring Survey of Indiana Geological Corps.

#### ON ACCOUNT:

<table>
<thead>
<tr>
<th>Date</th>
<th>Items</th>
<th>Amount</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 5</td>
<td>To corn and oats, $1.00; bread and cheese, $1.00</td>
<td>$2</td>
<td></td>
</tr>
<tr>
<td>April 6</td>
<td>To Pharaoh's gold; 300; fare of 500, 500; second fare, 500</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>April 7</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75; saw, $1.50</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>April 8</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>April 9</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>April 10</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 1</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 2</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 3</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 4</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 5</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 6</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 7</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
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</tr>
<tr>
<td>May 8</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 9</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 10</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 11</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 12</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 13</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 14</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 15</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 16</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 17</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 18</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 19</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 20</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 21</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 22</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 23</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 24</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 25</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 26</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 27</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 28</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 29</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>May 30</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

### Total:

<table>
<thead>
<tr>
<th>Date</th>
<th>Items</th>
<th>Amount</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 30</td>
<td>To corn, 500; milk, 100; shoulder of meat, $1.75</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Total:** $310.97

2 D. J.—18.
## Detailed Statement of Expenses of Second Spring Survey of Indiana Geological Corps.

<table>
<thead>
<tr>
<th>Date</th>
<th>ON WHAT ACCOUNT</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 31</td>
<td>To feed and pasture, $3.50; oats, corn, &amp;c., during resting of team, $4.00.</td>
<td>$7.50</td>
</tr>
<tr>
<td>May 31</td>
<td>To hay, $2.75; butter, 40c.; dried fruits, $1.00; oil, 25c.; bread, 35c.; tea, 20c.</td>
<td>5.90</td>
</tr>
<tr>
<td>May 31</td>
<td>To feed and medicine for horses, &amp;c., at Evansville, $2.25; lapping, 10c.</td>
<td>5.90</td>
</tr>
<tr>
<td>May 29</td>
<td>To hay and corn, 75c.; hay, corn and milk, 75c.</td>
<td>1.50</td>
</tr>
<tr>
<td>May 29</td>
<td>To bread, 60c.; butter, 60c.; corn and hay, 75c.</td>
<td>1.50</td>
</tr>
<tr>
<td>May 28</td>
<td>To corn and hay, 75c.; chair and cutting 40c.; milk, 25c.</td>
<td>1.50</td>
</tr>
<tr>
<td>May 26</td>
<td>To corn, 75c.; ferriage, 50c.; hay, 50c.; shearing, 40c.</td>
<td>1.15</td>
</tr>
<tr>
<td>May 25</td>
<td>To corn and hay, $1.00; bread, 35c.; eggs and milk, 50c.</td>
<td>2.15</td>
</tr>
<tr>
<td>May 24</td>
<td>To hire at Kirtzick's farm, (Wyanottone,) for guides, feed, 40c.</td>
<td>0.65</td>
</tr>
<tr>
<td>May 20</td>
<td>To shoel, 30c.; butter and eggs, 40c.; corn, 50c.; hay, 25c.; rope, 25c.</td>
<td>2.05</td>
</tr>
<tr>
<td>May 19</td>
<td>To 1 gallon molasses, 60c.; corn and hay, $1.00; milk, 10c.</td>
<td>1.70</td>
</tr>
<tr>
<td>May 18</td>
<td>To eggs, 40c.; hay and corn, $1.25; tallow, 40c.</td>
<td>0.95</td>
</tr>
<tr>
<td>June 1</td>
<td>To corn, 3 bushels, $1.30; hay, 25c.; milk, butter and eggs, 60c.</td>
<td>2.20</td>
</tr>
<tr>
<td>June 1</td>
<td>50 boxes, 60c.; tallow and salt, 15c.; bread and milk, 35c.; oats, 10c.; corn, 50c.</td>
<td>2.00</td>
</tr>
<tr>
<td>June 1</td>
<td>To corn and hay, $1.00; half gallon molasses, 50c.; 1 pound potatoes, 25c.</td>
<td>2.51</td>
</tr>
<tr>
<td>June 1</td>
<td>To eggs, 30c.; wrapping paper, 60c.; sugar, 60c.; ferriage, 50c.; bread again</td>
<td>0.61</td>
</tr>
<tr>
<td>June 1</td>
<td>To hay, 35c.; butter, 50c.; hay, 35c.; corn, 40c.; tallow, 2.50.</td>
<td>1.87</td>
</tr>
<tr>
<td>June 1</td>
<td>To bread, 50c.; tea and sugar, 40c.; mending wagon, &amp;c., 30c.; eggs, 50c.</td>
<td>1.44</td>
</tr>
<tr>
<td>June 1</td>
<td>To 2 per cent. discount on draft, $2.50; tollgate, 10c.; rope, 30c.</td>
<td>3.85</td>
</tr>
<tr>
<td>June 1</td>
<td>To corn, 30c.; eggs, 50c.; (27th June,) corn and hay, $1.00.</td>
<td>1.44</td>
</tr>
<tr>
<td>June 1</td>
<td>To plumbing oil, 50c.; corn and eggs, 75c.; eggs and cheese, 65c.</td>
<td>1.85</td>
</tr>
<tr>
<td>June 1</td>
<td>To corn and oats, 50c.; tollgate, 50c.; blank book, 50c.; (20th,) corn, $1.00.</td>
<td>3.50</td>
</tr>
<tr>
<td>June 1</td>
<td>To bread, 50c.; (July 8th,) corn, 50c.</td>
<td>0.41</td>
</tr>
<tr>
<td>June 1</td>
<td>To local stands, $3.00; Stewart &amp; Bowen's stationery, $5.00; freights to Mr. Moore, 50c.; and guides, $1.00.</td>
<td>3.85</td>
</tr>
<tr>
<td>July 1</td>
<td>To Mr. Bryant, librarian, freight on boxes and daguerreos, $14.90; assistance $1.00.</td>
<td>15.90</td>
</tr>
<tr>
<td>July 1</td>
<td>To Indiana Farmers, for printing labels, $5.75; bottles and corks for milk, 25c.</td>
<td>6.10</td>
</tr>
<tr>
<td>July 1</td>
<td>To Mr. Steffen, for handling 10 boxes to Evansville.</td>
<td>3.60</td>
</tr>
<tr>
<td>July 1</td>
<td>To 5 wheatstraws from quarry for State collection.</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$805.63</strong></td>
<td></td>
</tr>
</tbody>
</table>

## VOUCHERS.

**NEW HARMONY, Jan. 10, 1860.**

**State of Indiana, to Richard Owen,**

**Dr.**

1859—For sixty-six days field work, from 19th September to 3d December, both inclusive, at $4.00 inclusive, $264.00. Received payment of D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN,
Assistant Geologist.

**NEW HARMONY, IND., March 23, 1860.**

**State of Indiana, to Richard Owen,**

**Dr.**

1860—For seventy days office work, up to 23d March, inclusive, at $4.00. $280.00. Received payment of D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN,
Assistant Geologist.

**NEW HARMONY, IND., April 7, 1860.**

1860—For twenty days office during the period from 23d March to 7th April, the time of entering on the field work, at $4.00 per day, $80.00. Received payment of D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN,
Assistant Geologist.

**VINCENNES, May 14, 1860.**

**Geological State Survey of Indiana,**

**Dr.**

L. Lesquieroux, for thirty-five days field work, 5th April to 16th May, deducting six Sundays, at $3.50 per diem, $122.50

**VINCENNES, May 14, 1860.**

Received from Dr. Richard Owen $122.50, amount due by the State Survey of Indiana for thirty-five days field work at $3.50 per diem.

L. LESQUEUREUX.
### Detailed Statement of Expenses of Second Spring Survey of Indiana Geological Corps.

<table>
<thead>
<tr>
<th>Date</th>
<th>ON WHAT ACCOUNT</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1860</td>
<td></td>
<td>$120</td>
</tr>
<tr>
<td>May 21</td>
<td>To feed and pasture, $3 60; oats, corn, etc., during resting of teams, $1 00.</td>
<td>$120</td>
</tr>
<tr>
<td>May 21</td>
<td>To meal, $3 60; butter, 40c.; dried fruit, $1 00; oil, 35c.; bread, 35c.; tea, 90c.</td>
<td>$120</td>
</tr>
<tr>
<td>May 21</td>
<td>To feed and medicine for horses, etc., at Wyan jobs, $1 00; lapping, 10c.</td>
<td>$120</td>
</tr>
<tr>
<td>May 22</td>
<td>To hay and corn, 50c.; 25c. hay, corn and milk, 70c.</td>
<td>$120</td>
</tr>
<tr>
<td>May 22</td>
<td>To feed, 60c.; butter, 60c.; corn and hay, 75c.</td>
<td>$120</td>
</tr>
<tr>
<td>May 22</td>
<td>To corn and hay, 70c.; grain and cutting, 40c.; milk twice, 50c.</td>
<td>$120</td>
</tr>
<tr>
<td>May 22</td>
<td>To corn, 75c.; fence, 50c.; butter, 15c.; shoeing, 60c.</td>
<td>$120</td>
</tr>
<tr>
<td>May 22</td>
<td>To corn and hay, 25c.; bread, 30c.; eggs and milk, 35c.</td>
<td>$120</td>
</tr>
<tr>
<td>May 22</td>
<td>To bills at Bohn's cave, (Wyan jobs,) for grade, feed, 60c.</td>
<td>$120</td>
</tr>
<tr>
<td>May 29</td>
<td>To 1 gallon mustard, 60c.; corn and hay, $1 60; milk, 70c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 2</td>
<td>To eggs, 40c.; hay and corn, 3 50; toilings, 80c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 2</td>
<td>To corn, 2 bushels, $1 00; hay, 30c.; milk, butter and eggs, 30c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 2</td>
<td>To feed, 60c.; oats, 30c.; tasks and nails, 30c.; bread and milk, 40c.; oats, 30c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 4</td>
<td>To feed, 15c.; wrapping paper, 40c.; sugar, 60c.; flour, 60c.; feeding, 50c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 6</td>
<td>To oats, hay and milk, 50c.; bread, 50c.; 2 bushels corn, 30c.; eggs, 40c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 6</td>
<td>To oats; hay and milk, 50c.; milk, 30c.; shoeing, 50c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 6</td>
<td>To butter, 25c.; corn, 50c.; milk, 10c.; chicken, 40c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 8</td>
<td>To feed, 50c.; eggs, 60c.; shoeing, 10c.; milk, 30c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 8</td>
<td>To wrapping paper, $1 40; toilage, 30c.; toilages, 20c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 11</td>
<td>To corn, hay and milk, 35c.; (30th) corn and hay, 50c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 11</td>
<td>To corn and milk, 50c.; bread and sugar, 3 60; dried fruit, 40c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 14</td>
<td>To ham, $1 00; eggs, 40c.; 2 bushels corn, 20c.; fence, (Wyan jobs,) 50c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 14</td>
<td>To toilage, 30c.; (at Lafayette); bread, 25c.; Arrows at Whitaker, 20c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 14</td>
<td>To numbers at Logansport, 25c.; lodging and breakfast, 20c.; feed, 15c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 17</td>
<td>To toilage, 20c.; corn and hay, $1 00; rope, 30c.; eggs and butter, 15c.; bread, 30c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 18</td>
<td>To corn and hay, $1 00; half gallon molasses, 30c.; Wendall, 30c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 26</td>
<td>To feed, 25c.; shoeing, 15c.; toilage, 25c.; corn and hay, 30c.; toilage, 60c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 26</td>
<td>To feed, 25c.; butter, 20c.; hay, 50c.; corn, 60c.; milk, 40c.; toilage, 100c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 26</td>
<td>To horse feed, 25c.; horse manure, 60c.; shoeing, 10c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 26</td>
<td>To feed, 25c.; shoeing, 10c.; toilage, 20c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 26</td>
<td>To horse feed, 25c.; shoeing, 10c.; toilage, 20c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 26</td>
<td>To 2 per cent. discount on draft, $2 25; toilage, 15c.; rope, 25c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 26</td>
<td>To corn, 25c.; eggs, 25c.; (24th June) corn and hay, 70c.</td>
<td>$120</td>
</tr>
<tr>
<td>June 26</td>
<td>To garbage, 50c.; corn, 10c. and oats, 15c.; eggs and cheese, 60c.</td>
<td>$120</td>
</tr>
<tr>
<td>July 1</td>
<td>To corn and oats, 50c.; toilage, 20c.; blank book, 20c.; (30th) corn, 60c.</td>
<td>$120</td>
</tr>
<tr>
<td>July 1</td>
<td>To bread, 25c.; (July 25th) corn, 50c.</td>
<td>$120</td>
</tr>
<tr>
<td>July 1</td>
<td>To corn and oats, 50c.; toilage, 20c.; blank book, 20c.; (30th) corn, 60c.</td>
<td>$120</td>
</tr>
<tr>
<td>July 1</td>
<td>To label stands, $3 10; Stewart's stationery, 50c.; freight to Mr. Mason, 25c., and guide, $1 60.</td>
<td>$120</td>
</tr>
<tr>
<td>July 1</td>
<td>To Mr. Bryant, librarian, freight on boxes and d's, $1 50, assistance $1.</td>
<td>$120</td>
</tr>
<tr>
<td>July 1</td>
<td>To Indiana Farmer, for printing labels, $3 75; ballots and cards for mail, 50c.</td>
<td>$120</td>
</tr>
<tr>
<td>July 1</td>
<td>To Steffen, for handling 10 boxes to Evansville, 15c.</td>
<td>$120</td>
</tr>
<tr>
<td>July 1</td>
<td>To 2 skeletons from quarry for State collection.</td>
<td>$120</td>
</tr>
</tbody>
</table>

**Total:** $120

### Vouchers.

**New Harmony, Jan. 10, 1860.**

**State of Indiana, to Richard Owen,**

**Dr.**

1859—For sixty-six days field work, from 19th September to 3d December, both inclusive, at $4 00... $264.00

Received payment of D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN,
Assistant Geologist.

**New Harmony, Ind., March 23, 1860.**

**State of Indiana, to Richard Owen,**

**Dr.**

1860—For seventy days office work, up to 22d March, inclusive, at $4 00... $280.00

Received payment of D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN,
Assistant Geologist.

**New Harmony, Ind., April 7, 1860.**

1860—For twenty days office during the period from 23d March to 7th April, the time of entering on the field work, at $4 00 per day... $80.00

Received payment of D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN,
Assistant Geologist.

**Vincennes, May 14, 1860.**

**Geological State Survey of Indiana,**

**Dr.**

L. Lesquereux, for thirty-five days field work, 5th April to 15th May, deducting six Sundays, at $3 50 per diem...$122.50

**Vincennes, May 14, 1860.**

Received from Dr. Richard Owen $122 50, amount due by the State Survey of Indiana for thirty-five days field work at $3 50 per diem.

L. LESQUEREUX.
VINCNES, May 14th, 1860.

Geological State Survey of Indiana,

L. Lesquireux for traveling expenses from Columbus, O., to
New Harmony and back...........................................$28 85

VINCNES, May 14th, 1860.

Received from Dr. Richard Owen, on account of the State Survey of Indiana, $28 85 for traveling expenses.

L. LESQUIREUX.

LEXINGTON, KY, May 11th, 1860.

State of Indiana to Robert Peter,

Dr.

For fifty day's services for the Geological and Agricultural
Survey of the State, in the analysis of soils, &c., at $4 00
per day.........................................................$200 00
To this amount paid for stationery and express charges.....2 25

Received payment of D. D. Owen, M. D., Principal Geologist.

[Signed in duplicate.] ROBERT PETER.

Chemist.

NEW HARMONY, July 3, 1860.

State of Indiana to Horace P. Owen,

Dr.

For three day's services, office work, from 17th to 19th
May, both inclusive, 1860, and thirty-seven days field
work, from 21st May to 21st July, both inclusive, 1860,
total forty days at $1 50 per day............................$60 00
Received payment of Richard Owen, M. D., Assistant Geologist.

[Signed in duplicate.] HORACE P. OWEN.

NEW HARMONY, IND., July 3, 1860.

State of Indiana to E. I. Miller,

Dr.

For seventy-three day's services in the camp of the State
Geological Survey, at $1 25 per day, from 9th April to
21st July inclusive, 1860......................................$91 25
Received payment of Richard Owen, M. D., Assistant Geologist.

[Signed in duplicate.] E. I. MILLER.

NEW HARMONY, July 3, 1860.

State of Indiana to Charles Randolph,

Dr.

For sixty day's services in the camp of the State Geologi-
cal Survey, at $1 00 per day, from 9th April to 16th
June inclusive, 1860...........................................$60 00
Received payment of Richard Owen, M. D., Assistant Geologist.

[Signed in duplicate.] CHARLES RANDOLPH.

NEW HARMONY, IND., July 3, 1860.

State of Indiana to Richard Owen,

Dr.

1860—For seventy-three days services in field geological
work, from 9th April to 21st July both inclusive, at $4 00
per day.........................................................$292 00
Received payment of D. D. Owen, State Geologist.

[Signed in duplicate.] RICHARD OWEN.

Assistant Geologist.

NEW HARMONY, July 6, 1860.

State of Indiana to D. D. Owen, State Geologist,

Dr.

1860—For rent of laboratory, use of chemical apparatus,
reagents, and other incidentals connected with the chemi-
ical department of the Geological Survey of the State,
also for the use of instruments in the field for two quar-
ters, ending 30th June, 1860, as per agreement.................$250 00
Received payment.

[Signed in duplicate.] D. D. OWEN.

State Geologist.

NEW HARMONY, IND., July 6, 1860.

State of Indiana to D. D. Owen, State Geologist,

Dr.

1860—For hire of mules, wagon, horse, carriage, camp
equipage, &c., seventy-three days at $1 50....................$109 50
Received payment.

[Signed in duplicate.] D. D. OWEN.

State Geologist.

NEW HARMONY, October, 1859.

State of Indiana to H. P. Owen,

Dr.

1859—For eighteen days field work, from 19th September
to 8th October, both inclusive, at $1 50 per day.............$27 00
Received payment.

[Signed in duplicate.] H. P. OWEN.

Sub-Assistant.

NEW HARMONY, IND., July 6, 1860.

State of Indiana to D. D. Owen, State Geologist,

Dr.

1860—Traveling expenses of self and assistant to purchase
instruments and to meet State Board at New Albany........$85 52
1860—Traveling expenses of self and assistant to meet
State Board at Indianapolis..................................$44 00

Received payment.

[Signed in duplicate.] D. D. OWEN.

State Geologist.
VINCENNES, May 14th, 1860.

Geological State Survey of Indiana,

Dr.

L. Lesquereux for traveling expenses from Columbus, O., to
New Harmony and back .................................................. $28 85

VINCENNES, May 14th, 1860.

Received from Dr. Richard Owen, on account of the State Survey
of Indiana, $28 85 for traveling expenses.

L. LESQUEREUX.

LEXINGTON, KY, May 11th, 1860.

State of Indiana to Robert Peter,

Dr.

For fifty day's services for the Geological and Agricultural
Survey of the State, in the analysis of soils, &c., at $4.00
per day ................................................................. $200 00
To this amount paid for stationery and express charges ...... 2 25

$202 25

Received payment of D. D. Owen, M. D., Principal Geologist.

[Signed in duplicate.]

ROBERT PETER.

Chemist.

NEW HARMONY, July 3, 1860.

State of Indiana to Horace P. Owen,

Dr.

For three day's services, office work, from 17th to 19th
May, both inclusive, 1860, and thirty-seven days field
work, from 21st May to 2d July, both inclusive, 1860,
total forty days at $1.50 per day ................................... $60 00
Received payment of Richard Owen, M. D., Assistant Geologist.

[Signed in duplicate.]

HORACE P. OWEN.

NEW HARMONY, Ind., July 3, 1860.

State of Indiana to E. I. Miller,

Dr.

For seventy-three days services in the camp of the State
Geological Survey, at $1.25 per day, from 9th April to
21 July inclusive, 1860 ........................................... $91 25
Received payment of Richard Owen, M. D., Assistant Geologist.

[Signed in duplicate.]

E. I. MILLER.

NEW HARMONY, July 3, 1860.

State of Indiana to Charles Randolph,

Dr.

For sixty day's services in the camp of the State Geologi-
cal Survey, at $1.00 per day, from 9th April to 16th
June inclusive, 1860 ............................................... $60 00
Received payment of Richard Owen, M. D., Assistant Geologist.

[Signed in duplicate.]

CHARLES RANDOLPH.

NEW HARMONY, Ind., July 3, 1860.

State of Indiana to Richard Owen,

Dr.

1860—For seventy-three days services in field geological
work, from 9th April to 2d July both inclusive, at $4.00
per day ............................................................. $292 00
Received payment of D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN.

Assistant Geologist.

NEW HARMONY, July 6, 1860.

State of Indiana to D. D. Owen, State Geologist,

Dr.

1860—For rent of laboratory, use of chemical apparatus,
reagents, and other incidents connected with the chemical
department of the Geological Survey of the State,
also for the use of instruments in the field for two quar-
ters, ending 30th June, 1860, as per agreement ............... $250 00
Received payment.

[Signed in duplicate.]

D. D. OWEN.

State Geologist.

NEW HARMONY, Ind., July 6, 1860.

State of Indiana to D. D. Owen, State Geologist,

Dr.

1860—For hire of mules, wagon, horse, carriage, camp
equipages, &c., seventy-three days at $1.50 ............... $109 50
Received payment.

[Signed in duplicate.]

D. D. OWEN.

State Geologist.

NEW HARMONY, October, 1859.

State of Indiana to H. P. Owen,

Dr.

1859—For eighteen days field work, from 19th September
to 8th October, both inclusive, at $1.50 per day ............ $27 00
Received payment of Richard Owen, Assistant Geologist.

[Signed in duplicate.]

H. F. OWEN.

Sub-Assistant.

NEW HARMONY, Ind., July 6, 1860.

State of Indiana to D. D. Owen, State Geologist,

Dr.

1860—Traveling expenses of self and assistant to purchase
instruments and to meet State Board at New Albany .......... $85 52
1860—Traveling expenses of self and assistant to meet
State Board at Indianapolis ....................................... 44 00

Received payment.

[Signed in duplicate.]

D. D. OWEN.

State Geologist.
NEW HARMONY, IND., July 6, 1860.

State of Indiana to Richard Owen, Dr.
1859—For outfit and horse "Jim" $160 00
Second hand buggy and harness 140 00
Geological sack and hammer $6; buffalo robe $6; new shoeing and whip $1 25 $210 25

Received payment of D. D. Owen, State Geologist.
Signed in duplicate.
RICHARD OWEN, Assistant.

NEW HARMONY, IND., July 6, 1860.

State of Indiana to D. D. Owen, State Geologist, Dr.
Express charges in 1859 $5 00
Express charges in March, 1860 2 75
May express at Lexington by Dr. Peter 2 25
June express charges at Evansville and New Harmony 8 30 $18 90

Received payment.
Signed in duplicate.
D. D. OWEN, State Geologist.

NEW HARMONY, IND., July 6, 1860.

State of Indiana to D. D. Owen, State Geologist, Dr.
1859—For 1,500 circulars printed $10 00
For two maps of Indiana $8 50; cards for labels, postage, &c., $4 40 10 40
1860—For wrapping paper, note books and stationery $10; Gazetter $6 16 00

Received payment.
Signed in duplicate.
D. D. OWEN, State Geologist.

NEW HARMONY, IND., July 6, 1860.

State of Indiana to Richard Owen, Dr.
1859—For shelving for specimens $13 25
Freight and forwarding at Mt. Vernon 4 50
One gross soil bottles $7 50; freight at Mt. Vernon and Evansville $2 75 10 25
Label stands, freight paid State Library, &c., as per details in Document B, sent to Treasurer of State Board of Agriculture 35 75 $68 75

Received payment of D. D. Owen, State Geologist.
Signed in duplicate.
RICHD OWEN, Assistant.
NEW HARMONY, IND., July 6, 1860.

State of Indiana to Richard Owen,

1859—For outfit and horse "Jim," .................................. $180.00
Second hand buggy and harness .............................................. 140.00
Geological sack and hammer $5; buffalo robe $6; new shoeing and whip $1.25 .......... 12.50

$312.50

Received payment of D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN,
Assistant.

NEW HARMONY, IND., July 6, 1860.

State of Indiana to D. D. Owen, State Geologist,

Dr.

Express charges in 1859 ............................................ $5.00
Express charges in March, 1860 .................................. 2.75
May express at Lexington by Dr. Peter ......................... 2.25
June express charges at Evansville and New Harmony .......... 8.90

$18.90

Received payment.

[Signed in duplicate.]

D. D. OWEN, State Geologist.

NEW HARMONY, IND., July 6, 1860.

State of Indiana to D. D. Owen, State Geologist.

Dr.

1859—For 1,500 circulars printed .................. $10.00
For two maps of Indiana $6.00; cards for labels, postage, &c., $4.40 ......................... 10.40
1860—For wrapping paper, note books and stationery $10;
Gazetter $3 ........................................ 13.00

$33.40

Received payment.

[Signed in duplicate.]

D. D. OWEN, State Geologist.

NEW HARMONY, IND., July 6, 1860.

State of Indiana to Richard Owen,

Dr.

1859—For shelving for specimens .................. $13.35
Freight and forwarding at Mt. Vernon ................ 4.50
One gross soil bottles $7.50; freight at Mt. Vernon and
Evansville $2.75 ................................ 10.25
Label stands, freight paid State Library, &c., as per de-
tails in Document B, sent to Treasurer of State Board of
Agriculture ........................................ 3.75

$36.75

Received payment of D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN, Assistant.

NEW HARMONY, IND., July 6, 1860.

State of Indiana to Richard Owen,

Dr.

1859—Field traveling expenses, partly by railroad in fall...$237.65
1860—Field traveling expenses, first spring survey .......... 131.01
1860—Field traveling expenses, second spring survey .... 89.88

$558.54

Received payment of D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN,
Assistant.

NEW HARMONY, IND., July 6, 1860.

State of Indiana to Richard Owen,

Dr.

1859, Dec. 31—To keep of survey horse twelve weeks at
$1.50 per week ...................................... $18.00
1860, April 9—To keep of survey horse fourteen weeks at
$1.50 per week ...................................... 21.00
July—pasturage of two horses and two mules one week, at
50 cts. per week ........................................ 2.00

$41.00

Received payment of D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN,
Assistant.

NEW HARMONY, August 18, 1860.

Geological Survey of Indiana to Richard Owen,

Dr.

1860—For forty days office work, from 4th July to 18th
August, both inclusive, at $4.00 per day ...................... $100.00
Received payment of D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN,
Assistant.

NEW HARMONY, August 20, 1860.

State of Indiana to Richard Owen,

Dr.

For keep of two horses from 2d July to 20th August, 1860,
seven weeks at $2.00 each .................................. $28.00
For keep of two mules from 2d July to 20th July, 1860, four
weeks, at $1.50 each ...................................... 12.00
For caster oil for greasing 50 cts., and condition powder... 75

$40.75

Received payment of Dr. D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN.
New Harmony, August 20, 1860.

State of Indiana to D. D. Owen, Dr.
For keep of two mules from 30th July to 20th August, 1860, three weeks, at $1.50 each per week $9.00
Received payment.

[Signed in duplicate.]

D. D. OWEN,
State Geologist.

New Harmony, Aug. 20, 1860.

State Geological Survey of Indiana to Richard Owen, Dr.

August 18, 1860, for the following bills of repairs and outfit paid by him, viz:

1. H. Fitton's blacksmith's bill, as per his account rendered.................... $19.25
2. F. Bolton's bill for new wheel, as per his account rendered.............. 2.50
3. I. Chadwick's saddlery bill, as per his account rendered................. 6.80
4. Nettleton & Ford, provision, as per their account rendered............. 4.80
5. I. Cooper, jr., provisions, as per his account rendered................ 2.85
6. Wm. R. Owen, provisions, as per his account rendered.................. 4.80
7. E. L. Rogers, provisions, as per his account rendered................... 5.22

$46.32

Received payment of Dr. D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN,
Assistant Geologist.

New Harmony, Nov. 10, 1860.

State of Indiana to Richard Owen, Assistant Geologist, Dr.

For field traveling expenses, during fall survey of 1860, as specified in document "C"........................ $70.25
Received payment of Dr. D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN,
Assistant Geologist.

New Harmony, Nov. 10, 1860.

State of Indiana to Richard Owen, Assistant Geologist, Dr.

For amount paid Mr. Cory, collector of fossils in Crawfordville for a dog full of crinoids collected by him, and purchased by assistant for State collection $5.00
Received payment of Dr. D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN,
Assistant Geologist.
New Harmony, August 20, 1880.

State of Indiana to D. D. Owen, Dr.

For keep of two mules from 30th July to 20th August, 1860, three weeks, at $1.50 each per week................. $9.00

Received payment.

[Signed in duplicate.]

D. D. OWEN, State Geologist.

New Harmony, August 20, 1860.

State Geological Survey of Indiana to Richard Owen, Dr.

August 18, 1860, for the following bills of repairs and outlays paid by him, viz:

H. Fittin’s blacksmith bill, as per his account rendered...... $19.25
F. Bolton’s bill for new wheel, as per his account rendered..... 2.50
T. Chadwick’s sawmill bill, as per his account rendered......... 6.80
Nettleton & Ford, provision, as per their account rendered..... 4.80
I. Cooper, Jr., provisions, as per his account rendered.......... 2.85
Wm. R. Owen, provisions, as per his account rendered........... 4.80
E. L. Rogers, provisions, as per his account rendered........... 5.32

$46.32

Received payment of Dr. D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN, Assistant.

New Harmony, Nov. 10, 1860.

State of Indiana to Richard Owen, Assistant Geologist, Dr.

For field traveling expenses, during fall survey of 1860, as specified in document “C”................................. $70.33

Received payment of Mr. D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN, Assistant Geologist.

New Harmony, Nov. 10, 1860.

State of Indiana to Richard Owen, Assistant Geologist, Dr.

For amount paid Mr. Cory, collector of fossils in Crawfordsville for a keg full of crinoids collected by him, and purchased by assistant for State collection............. $5.00

Received payment of Dr. D. D. Owen, State Geologist.

[Signed in duplicate.]

RICHARD OWEN, Assistant Geologist.
New Harmony, Nov. 8, 1860.

State of Indiana to E. J. Miller,

For thirty-four days services in the camp of the State geological survey, from 20th August to 29th September, 1860, both inclusive, at $1 25 per day $42 50
Received payment of Richard Owen, M. D., Assistant Geologist,
[Signed in duplicate.]
E. J. MILLER.

New Harmony, Nov. 8, 1860.

State of Indiana to H. P. Owen,

For thirty-four days field work in the service of the State geological survey, from 20th August to 27th September, both inclusive, at $1 50 per day $51 00
Received payment of Dr. R. Owen, Assistant Geologist,
[Signed in duplicate.]
A. P. OWEN,
Sub-Assistant.

New Harmony, Nov. 8, 1860.

State of Indiana to H. P. Owen,

For six days office work, unpacking, arranging and labeling specimens, from 29th October to 3d November, 1860, both inclusive, at $1 50 per day $9 00
Received payment of Dr. R. Owen, Assistant Geologist,
[Signed in duplicate.]
H. P. OWEN,
Sub-Assistant.

New Harmony, Nov. 8, 1860.

State of Indiana to Richard Owen,

For thirty-four days of field work in the service of the State geological survey, from 20th August, 1860, to 27th September, 1860, both inclusive, at $4 00 per day $136 00
Received payment of Dr. D. D. Owen, State Geologist,
[Signed in duplicate.]
RICHARD OWEN,
Assistant Geologist.

New Harmony, Nov. 8, 1860.

State of Indiana to Richard Owen, Assistant Geologist,

For thirty days office work, chiefly on report, from October 8th to November 10th, 1860, both inclusive, at $4 00 per day $120 00
Received payment of Dr. D. D. Owen, State Geologist,
[Signed in duplicate.]
RICHARD OWEN,
Assistant Geologist.

New Harmony, Nov. 8, 1860.

State of Indiana to Richard Owen,

To six and half weeks keep of survey horse, from 27th September to 10th November, 1860, at $2 00 per week $13 00
Also for two bottles gargling oil for said horse during his lameness 1 00
Total $14 00
Received payment of Dr. D. D. Owen, State Geologist,
[Signed in duplicate.]
RICHARD OWEN.

New Harmony, Nov. 10, 1860.

State of Indiana to D. D. Owen,

For thirty-four days hire of wagon, mules, horse and camp equipage, from 20th August to 27th September, 1860, both inclusive, at $1 50 per day $51 00
Received payment,
[D. D. OWEN,]
State Geologist.


State of Indiana to Joseph Lesley,

For outfit, transportation and incidental account for Perry county survey, during the month of October, 1860 $47 45
Received payment of
[D. D. OWEN,]
Chief Geologist.

BILLS OF ITEMS TO ACCOMPANY THE FOREGOING VOUCHER.

Sept. 29, one ham, $1 30; Sept. 30, feed for mules, $1 60 $3 50
Oct. 30, corn, 75c; bill at hotel, $1 00; Oct. 2d, leather, 25c $2 00
Oct. 2, slopings; mules, $1 65; flour, twice and bread, $1 15 2 80
Oct. 2, butter, 50c; ham and butter, $2 30 3 15
Oct. 3, traveling expenses of J. Lesley from Philadelphia to Canenlo $28 00
Oct. 13, charges on half barrel crackers, (not used) 50
Oct. 13, cr. tartar 10
Oct. 15, beef of camp returning to New Harmony 2 65
Oct. 17, traveling expenses of J. L. from Canenlo to New Harmony 4 75

$47 45
New Harmony, Nov. 8, 1860.

State of Indiana to E. J. Miller,

For thirty-four days service in the camp of the State geological survey, from 20th August to 29th September, 1860, both inclusive, at $1.25 per day................................. $42.50
Received payment of Richard Owen, M. D., Assistant Geologist, [Signed in duplicate.]
E. J. MILLER

New Harmony, Nov. 8, 1860.

State of Indiana to H. P. Owen,

For thirty-four days field work in the service of the State geological survey, from 20th August to 29th September, both inclusive, at $1.50 per day................................. $51.00
Received payment of Dr. R. Owen, Assistant Geologist, [Signed in duplicate.]
A. P. OWEN, Assistant Geologist.

New Harmony, Nov. 8, 1860.

State of Indiana to H. P. Owen,

For six days office work, unpacking, arranging and labeling specimens, from 29th October to 3rd November, 1860, both inclusive, at $1.50 per day................................. $9.00
Received payment of Dr. R. Owen, Assistant Geologist, [Signed in duplicate.]
H. P. OWEN, Assistant Geologist.

New Harmony, Nov. 8, 1860.

State of Indiana to Richard Owen,

For thirty-four days of field work in the service of the State geological survey, from 20th August, 1860, to 27th September, 1860, both inclusive, at $4.00 per day................................. $138.00
Received payment of Dr. D. D. Owen, State Geologist, [Signed in duplicate.]
RICHARD OWEN, Assistant Geologist.

New Harmony, Nov. 10, 1860.

State of Indiana to Richard Owen, Assistant Geologist,

For thirty days office work, chiefly on report, from October 8th to November 10th, 1860, both inclusive, at $4.00 per day................................. $120.00
Received payment of Dr. D. D. Owen, State Geologist, [Signed in duplicate.]
RICHARD OWEN, Assistant Geologist.

New Harmony, Nov. 10, 1860.

State of Indiana to Richard Owen,

To six and half weeks keep of survey horse, from 27th September to 10th November, 1860, at $2.00 per week............ $13.00
Also for two bottles gargling oil for said horse during his lameness................................. 1.00
Total................................................................................................................................. $14.00
Received payment of Dr. D. D. Owen, State Geologist, [Signed in duplicate.]
RICHARD OWEN.

New Harmony, Nov. 10, 1860.

State of Indiana to D. D. Owen,

For thirty-four days hire of wagon, mules, horse and camp equipment, from 20th August to 27th September, 1860, both inclusive, at $1.50 per day................................. $51.00
Received payment, [Signed in duplicate.]
D. D. OWEN, State Geologist.


State of Indiana to Joseph Lesley,

For outfit, transportation and incidental account for Perry county survey, during the month of October, 1860 ...... $47.45
Received payment of [Signed in duplicate.]
D. D. OWEN, Chief Geologist.

BILLS OF ITEMS TO ACCOMPANY THE FOREGOING VOUCHER.

Sept. 29, one ham, $1.90; Sept. 30, feed for mules, $1.60 $3.50
Oct. 10, corn, 75c.; bill at hotel, $1.00; Oct. 2d, leather, 25c................................. 2.00
Oct. 2, shoeing mules, $1.65; flour, twine and bread, $1.15.. 2.80
Oct. 2, butter, 85c.; ham and butter, $3.30................. 3.15
Oct. 8, traveling expenses of J. Lesley from Philadelphia to Cannelton........................................... 28.00
Oct. 13, charges on half barrel crackers, (not used,)........ 2.00
Oct. 15, cr. tartar.............................................. 10.00
Oct. 15, board of camp returning to New Harmony...... 2.65
Oct. 17, traveling expenses of J. L. from Cannelton to New Harmony........................................ 4.75
Total................................................................................................................................. $47.45

State of Indiana to Joseph Leesley, Dr.

For services as Assistant Geologist and Topographer to the Perry county survey during twenty-two days in the month of October, 1860, at $5 per day................... $110.00
Received payment of D. D. OWEN,
Chief Geologist.

Signed in duplicate.

New Harmony, Nov. 10, 1860.

State of Indiana to D. D. Owen, Dr.

For hire of wagon, mules and camp equipage, eighteen days in Perry county, at $1.50 per day.......................... $27.00
Received payment D. D. OWEN,
State Geologist.

Signed in duplicate.

New Harmony, Nov. 10, 1860.

State of Indiana to Alfred D. Owen, Sub-Assistant, Dr.

For eighteen days service, from 26th September to 17th October, 1860, both inclusive, as Sub-Assistant in Perry county topographical survey, at $1.50 per day........... $27.00
Received payment of D. D. OWEN,
State Geologist.

Signed in duplicate.

New Harmony, Nov. 10, 1860.

State of Indiana to Alfred Dale Owen, Dr.

For eighteen days service from 26th September to 17th October, 1860, both inclusive, as sub-assistant in Perry county topographical survey, at $1.50 per day........... $27.00
Received payment of Dr. D. Owen, State Geologist,
A. D. OWEN,
Sub-Assistant.


State of Indiana to Jesse Mathews, Dr.

For services as camp tender in Perry county, Indiana, topographical survey, from 27th September to 17th October, 1860, both inclusive, at $1.25 per day..................... $21.00
Received payment of Richard Owen, administrator of the estate of D. D. Owen, deceased,
JESSE MATHEWS.

New Harmony, Nov. 10, 1860.

State of Indiana to D. D. Owen, State Geologist, Dr.

For rent of laboratory, use of chemical apparatus, reagents and other incidental expenses, connected with the chemical department of the geological survey of the State, also, for the use of instruments in the field, for two quarters, ending December, 1860......................... $250.00
Received payment,
D. D. OWEN,
State Geologist.

Signed in duplicate.


State of Indiana to J. Pulleyblank, Dr.

For thirty-four days service as teamster, from 29th August to 27th September, 1860, both inclusive, at $1.00 per day.......................... $34.00
Received payment of Richard Owen, administrator on the estate of D. D. Owen, deceased,
JOHN PULLEYBLANK.

Signed in duplicate.

New Harmony,——— 1860.

State of Indiana to D. D. Owen, State Geologist, Dr.

For postage and stationery charges since account last rendered in July.................. $13.00
Received payment,
D. D. OWEN,
State Geologist.

Signed in duplicate.

State of Indiana to D. D. Owen, State Geologist, Dr.

For express charges paid since July last, date of former account rendered.................. $21.00
Received payment,
D. D. OWEN,
State Geologist.

State of Indiana to Joseph Lesley.

Dr.

For services as Assistant Geologist and Topographer to the Perry county survey during twenty-two days in the month of October, 1860, at $5 per day .................. $110 00
Received payment of
[Signed in duplicate.]

D. D. OWEN,
Chief Geologist.

New Harmony, Nov. 10, 1860.

State of Indiana to D. D. Owen.

Dr.

For hire of wagon, mules and camp equipage, eighteen days in Perry county, at $1.50 per day .................. $27 00
Received payment
[Signed in duplicate.]

D. D. OWEN,
State Geologist.

New Harmony, Nov. 10, 1860.

State of Indiana to Alfred D. Owen, Sub-Assistant.

Dr.

For eighteen days service, from 26th September to 17th October, 1860, both inclusive, as Sub-Assistant in Perry county topographical survey, at $1.50 per day .......... $27 00
Received payment of
[Signed in duplicate.]

D. D. OWEN,
State Geologist.

New Harmony, Nov. 10, 1860.

State of Indiana to Alfred Dale Owen.

Dr.

For eighteen days service from 26th September to 17th October, 1860, both inclusive, as assistant in Perry county topographical survey, at $1.50 per day .......... $27 00
Received payment of Dr. D. Owen, State Geologist.
[Signed in duplicate.]

A. D. OWEN,
Sub-Assistant.


State of Indiana to J. Pulleyblank.

Dr.

For thirty-four days service as teamster, from 20th August to 27th September, 1860, both inclusive, at $1.00 per day .......... $34 00
Received payment of Richard Owen, administrator on the estate of D. D. Owen, deceased.
[Signed in duplicate.]

JOHN PULLEYBLANK.

New Harmony, ——— 1860.

State of Indiana to D. D. Owen, State Geologist.

Dr.

For postage and stationery charges since account last rendered in July .................. $15 00
Received payment,
[Signed in duplicate.]

D. D. OWEN,
State Geologist.

State of Indiana to D. D. Owen, State Geologist.

Dr.

For express charges paid since July last, date of former account rendered ............... $21 00
Received payment.
D. D. OWEN,
State Geologist.