



Contract # AMR007960

AMR/007/960/E

# STATE OF UTAH CONTRACT

1. CONTRACTING PARTIES: This contract is between the following agency of the State of Utah:  
 Department Name: Natural Resources Agency Code: 560 Division Name: Oil, Gas and Mining, referred to as the State Entity, and the following Contractor:

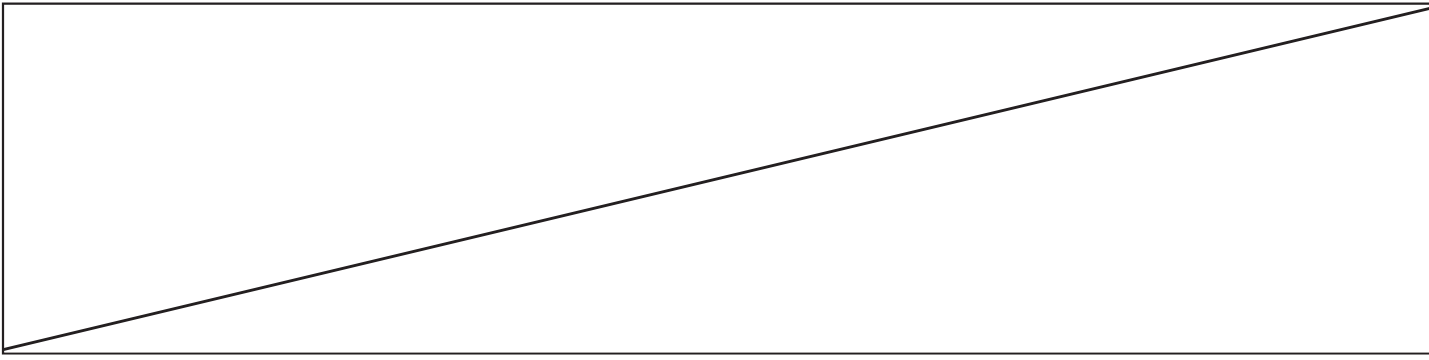
Brierley Associates Corporation  
 \_\_\_\_\_  
 Name  
2000 S. Colorado Blvd. STE-A 400  
 \_\_\_\_\_  
 Address  
Denver CO 80222  
 \_\_\_\_\_  
 City State Zip

LEGAL STATUS OF CONTRACTOR  
 Sole Proprietor  
 Non-Profit Corporation  
 For-Profit Corporation  
 Partnership  
 Government Agency


Contact Person: David Hibbard Phone # 303-915-9269 Email: dhibbard@brierleyassociates.com  
 Vendor # VC0000276721 Commodity Code # 96273

2. GENERAL PURPOSE OF CONTRACT: The general purpose of this contract is to provide: Kenilworth Coal Mine Fire Investigation and Abatement Design
3. PROCUREMENT: This contract is entered into as an Emergency Procurement authorized under Utah Statute 63G-6a-803 and Rule R33-8-401, authorized on September 9, 2024.
4. CONTRACT PERIOD: Effective Date: 09/18/2024 Termination Date: 03/18/2025 unless terminated early or extended in accordance with the terms and conditions of this contract. Renewal options (if any): none.
5. CONTRACT COSTS: CONTRACTOR will be paid a maximum of \$ 81,123.97 for costs authorized by this contract. Prompt Payment Discount (if any): n/a. Price Guarantee Period (if any): Term of the contract. Additional information regarding costs: Attachment C.
6. ATTACHMENT A: State of Utah Standard Terms and Conditions for  Goods or  Services  
 ATTACHMENT B: Scope of Work  
 ATTACHMENT C: Cost  
 ATTACHMENT D: N/A  
**Any conflicts between Attachment A and the other Attachments will be resolved in favor of Attachment A.**
7. DOCUMENTS INCORPORATED INTO THIS CONTRACT BY REFERENCE BUT NOT ATTACHED:
  - a. All other governmental laws, regulations, or actions applicable to the goods and/or services authorized by this contract.
  - b. Utah State Procurement Code, Procurement Rules.
8. Each person signing this Agreement represents and warrants that he/she is duly authorized and has legal capacity to execute and deliver this Agreement and bind the parties hereto. Each signatory represents and warrants to the other that the execution and delivery of the Agreement and the performance of each party's obligations hereunder have been duly authorized and that the Agreement is a valid and legal agreement binding on the parties and enforceable in accordance with its terms. Further, that Contractor is registered with the Utah Department of Commerce and is in good standing.  
 The parties sign and cause this contract to be executed. This contract is not fully executed until the State of Utah Approving Authorities have signed this contract.

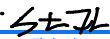
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**CONTRACTOR**


  
Dave Hibbard (Sep 17, 2024 16:01 MDT) 09/17/2024  
Date  
David Hibbard  
Sector Leader/Associate

**STATE**  
APPROVED FOR AVAILABILITY OF FUNDS:  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS & MINING

  
Steven Fluke (Sep 17, 2024 21:04 MDT) 09/17/2024  
Date  
Steve Fluke  
AMRP Administrator

  
09/18/2024  
Date  
Dana Dean  
Deputy Director, Mining

  
Eric Hyatt (Sep 18, 2024 07:53 MDT) 09/18/2024  
Date  
Eric Hyatt  
DOGM Budget Officer

  
Mick Thomas (Sep 17, 2024 19:42 MDT) 09/17/2024  
Date  
Mick Thomas  
DOGM Director

<u>David Jones</u> Agency Contact Person	<u>385-566-5112</u> Telephone Number	<u>davidhjones@utah.gov</u> Email
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**ATTACHMENT A: STATE OF UTAH STANDARD TERMS AND CONDITIONS FOR GOODS AND SERVICES**

1. **DEFINITIONS:** The following terms shall have the meanings set forth below:
  - a) "**Confidential Information**" means information that is deemed as confidential under applicable state and federal laws, including personal information. The State Entity reserves the right to identify, during and after this Contract, additional reasonable types of categories of information that must be kept confidential under federal and state laws.
  - b) "**Contract**" means the Contract Signature Page(s), including all referenced attachments and documents incorporated by reference. The term "Contract" shall include any purchase orders that result from this Contract.
  - c) "**Contract Signature Page(s)**" means the State of Utah cover page(s) that the State Entity and Contractor signed.
  - d) "**Contractor**" means the individual or entity delivering the Procurement Item identified in this Contract. The term "Contractor" shall include Contractor's agents, officers, employees, and partners.
  - e) "**Custom Deliverable**" means the Work Product that Contractor is required to deliver to the State Entity under this Contract.
  - f) "**Procurement Item**" means a supply, a service, Custom Deliverable, construction, or technology that Contractor is required to deliver to the State Entity under this Contract.
  - g) "**Response**" means the Contractor's bid, proposals, quote, or any other document used by the Contractor to respond to the State Entity's Solicitation.
  - h) "**Solicitation**" means an invitation for bids, request for proposals, notice of a sole source procurement, request for statement of qualifications, request for information, or any document used to obtain bids, proposals, pricing, qualifications, or information for the purpose of entering into this Contract.
  - i) "**State Entity**" means the department, division, office, bureau, agency, or other organization identified on the Contract Signature Page(s).
  - j) "**State of Utah**" means the State of Utah, in its entirety, including its institutions, agencies, departments, divisions, authorities, instrumentalities, boards, commissions, elected or appointed officers, employees, agents, and authorized volunteers.
  - k) "**Subcontractors**" means a person under contract with a contractor or another subcontractor to provide services or labor for design or construction, including a trade contractor or specialty contractor.
  - l) "**Work Product**" means every invention, modification, discovery, design, development, customization, configuration, improvement, process, software program, work of authorship, documentation, formula, datum, technique, know how, secret, or intellectual property right whatsoever or any interest therein (whether patentable or not patentable or registerable under copyright or similar statutes or subject to analogous protection) that is specifically made, conceived, discovered, or reduced to practice by Contractor or Contractor's Subcontractors (either alone or with others) pursuant to this Contract. Work Product shall be considered a work made for hire under federal, state, and local laws; and all interest and title shall be transferred to and owned by the State Entity. Notwithstanding anything in the immediately preceding sentence to the contrary, Work Product does not include any State Entity intellectual property, Contractor's intellectual property (that it owned or licensed prior to this Contract) or Third Party intellectual property
2. **GOVERNING LAW AND VENUE:** This Contract shall be governed by the laws, rules, and regulations of the State of Utah. Any action or proceeding arising from this Contract shall be brought in a court of competent jurisdiction in the State of Utah. Venue shall be in Salt Lake City, in the Third Judicial District Court for Salt Lake County.
3. **LAWS AND REGULATIONS:** At all times during this Contract, Contractor and all Procurement Items delivered and/or performed under this Contract will comply with all applicable federal and state constitutions, laws, rules, codes, orders, and regulations, including applicable licensure and certification requirements. If this Contract is funded by federal funds, either in whole or in part, then any federal regulation related to the federal funding, including CFR Appendix II to Part 200, will supersede this Attachment A.
4. **RECORDS ADMINISTRATION:** Contractor shall maintain or supervise the maintenance of all records necessary to properly account for Contractor's performance and the payments made by the State Entity to Contractor under this Contract. These records shall be retained by Contractor for at least six (6) years after final payment, or until all audits initiated within the six (6) years have been completed, whichever is later. Contractor agrees to allow, at no additional cost, the State of Utah, federal auditors, State Entity staff, or their designees, access to all such records during normal business hours and to allow interviews of any employees or others who might reasonably have information related to such records. Further, Contractor agrees to include a similar right of the State to audit records and interview staff in any subcontract related to performance of this Contract.
5. **PERMITS:** If necessary Contractor shall procure and pay for all permits, licenses, and approvals necessary for the execution of this Contract.
6. **CERTIFY REGISTRATION AND USE OF EMPLOYMENT "STATUS VERIFICATION SYSTEM":** The Status Verification System, also referred to as "E-verify", only applies to contracts issued through a Request for Proposal process, to sole sources that are included within a Request for Proposal, and when Contractor employs any personnel in Utah.
  - a. Contractor certifies as to its own entity, under penalty of perjury, that Contractor has registered and is participating in the Status Verification System to verify the work eligibility status of Contractor's new employees that are employed in the State of Utah in accordance with applicable immigration laws.
  - b. Contractor shall require that each of its Subcontractors certify by affidavit, as to their own entity, under penalty of perjury, that each Subcontractor has registered and is participating in the Status Verification System to verify the work eligibility

status of Subcontractor's new employees that are employed in the State of Utah in accordance with applicable immigration laws.

c. Contractor's failure to comply with this section will be considered a material breach of this Contract.

7. **CONFLICT OF INTEREST:** Contractor represents that none of its officers or employees are officers or employees of the State Entity or the State of Utah, unless disclosure has been made to the State Entity.
8. **INDEPENDENT CONTRACTOR:** Contractor and Subcontractors, in the performance of this Contract, shall act in an independent capacity and not as officers or employees or agents of the State Entity or the State of Utah.
9. **CONTRACTOR RESPONSIBILITY:** Contractor is solely responsible for fulfilling the contract, with responsibility for all Procurement Items delivered and/or performed as stated in this Contract. Contractor shall be the sole point of contact regarding all contractual matters. Contractor must incorporate Contractor's responsibilities under this Contract into every subcontract with its Subcontractors that will provide the Procurement Item(s) to the State Entity under this Contract. Moreover, Contractor is responsible for its Subcontractors compliance under this Contract.
10. **INDEMNITY:** Contractor shall be fully liable for the actions of its agents, employees, officers, partners, and Subcontractors, and shall fully indemnify, defend, and save harmless the State Entity and the State of Utah from all claims, losses, suits, actions, damages, and costs of every name and description arising out of Contractor's performance of this Contract to the extent caused by any intentional wrongful act or negligence of Contractor, its agents, employees, officers, partners, or Subcontractors, without limitation; provided, however, that the Contractor shall not indemnify for that portion of any claim, loss, or damage arising hereunder due to the fault of the State Entity. The parties agree that if there are any limitations of the Contractor's liability, including a limitation of liability clause for anyone for whom the Contractor is responsible, such limitations of liability will not apply to injuries to persons, including death, or to damages to property.
11. **EMPLOYMENT PRACTICES:** Contractor agrees to abide by the following federal and state employment laws, including: (i) Title VI and VII of the Civil Rights Act of 1964 (42 U.S.C. 2000e), which prohibits discrimination against any employee or applicant for employment or any applicant or recipient of services on the basis of race, religion, color, or national origin; (ii) Executive Order No. 11246, as amended, which prohibits discrimination on the basis of sex; (iii) 45 CFR 90, which prohibits discrimination on the basis of age; (iv) Section 504 of the Rehabilitation Act of 1973, or the Americans with Disabilities Act of 1990, which prohibits discrimination on the basis of disabilities; and (v) Utah's Executive Order 2019-1, dated February 5, 2019, which prohibits unlawful harassment in the workplace. Contractor further agrees to abide by any other laws, regulations, or orders that prohibit the discrimination of any kind by any of Contractor's employees.
12. **AMENDMENTS:** This Contract may only be amended by the mutual written agreement of the parties, provided that the amendment is within the Scope of Work of this Contract and is within the scope/purpose of the original solicitation for which this Contract was derived. The amendment will be attached and made part of this Contract. Automatic renewals will not apply to this Contract, even if listed elsewhere in this Contract.
13. **DEBARMENT:** Contractor certifies that it is not presently nor has ever been debarred, suspended, proposed for debarment, or declared ineligible by any governmental department or agency, whether international, national, state, or local. Contractor must notify the State Entity within thirty (30) days if debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in any contract by any governmental entity during this Contract.
14. **TERMINATION:** This Contract may be terminated, with cause by either party, in advance of the specified expiration date, upon written notice given by the other party. The party in violation will be given ten (10) days after written notification to correct and cease the violations, after which this Contract may be terminated for cause immediately and subject to the remedies below. This Contract may also be terminated without cause (for convenience), in advance of the specified expiration date, by the State Entity, upon thirty (30) days written termination notice being given to the Contractor. The State Entity and the Contractor may terminate this Contract, in whole or in part, at any time, by mutual agreement in writing.

On termination of this Contract, all accounts and payments will be processed according to the financial arrangements set forth herein for approved and conforming Procurement Items ordered prior to date of termination. In no event shall the State Entity be liable to the Contractor for compensation for any Good neither requested nor accepted by the State Entity. In no event shall the State Entity's exercise of its right to terminate this Contract for convenience relieve the Contractor of any liability to the State Entity for any damages or claims arising under this Contract.

15. **NONAPPROPRIATION OF FUNDS, REDUCTION OF FUNDS, OR CHANGES IN LAW:** Upon thirty (30) days written notice delivered to the Contractor, this Contract may be terminated in whole or in part at the sole discretion of the State Entity, if the State Entity reasonably determines that: (i) a change in Federal or State legislation or applicable laws materially affects the ability of either party to perform under the terms of this Contract; or (ii) that a change in available funds affects the State Entity's ability to pay under this Contract. A change of available funds as used in this paragraph includes, but is not limited to a change in Federal or State funding, whether as a result of a legislative act or by order of the President or the Governor.  
If a written notice is delivered under this section, the State Entity will reimburse Contractor for the Procurement Item(s) properly ordered and/or Services properly performed until the effective date of said notice. The State Entity will not be liable for any performance, commitments, penalties, or liquidated damages that accrue after the effective date of said written notice.
16. **SALES TAX EXEMPTION:** The Procurement Item(s) under this Contract will be paid for from the State Entity's funds and used in the exercise of the State Entity's essential functions as a State of Utah entity. Upon request, the State Entity will provide Contractor with its sales tax exemption number. It is Contractor's responsibility to request the State Entity's sales tax exemption number. It also is Contractor's sole responsibility to ascertain whether any tax deduction or benefits apply to any aspect of this Contract.
17. **WARRANTY OF PROCUREMENT ITEM(S):** Contractor warrants, represents and conveys full ownership and clear title, free of all liens and encumbrances, to the Procurement Item(s) delivered to the State Entity under this Contract. Contractor

warrants for a period of one (1) year that: (i) the Procurement Item(s) perform according to all specific claims that Contractor made in its Response; (ii) the Procurement Item(s) are suitable for the ordinary purposes for which such Procurement Item(s) are used; (iii) the Procurement Item(s) are suitable for any special purposes identified in the Contractor's Response; (iv) the Procurement Item(s) are designed and manufactured in a commercially reasonable manner; (v) the Procurement Item(s) are manufactured and in all other respects create no harm to persons or property; and (vi) the Procurement Item(s) are free of defects. Unless otherwise specified, all Procurement Item(s) provided shall be new and unused of the latest model or design.

Remedies available to the State Entity under this section include, but are not limited to, the following: Contractor will repair or replace Procurement Item(s) at no charge to the State Entity within ten (10) days of any written notification informing Contractor of the Goods not performing as required under this Contract. If the repaired and/or replaced Procurement Item(s) prove to be inadequate, or fail its essential purpose, Contractor will refund the full amount of any payments that have been made. Nothing in this warranty will be construed to limit any rights or remedies the State Entity may otherwise have under this Contract.

18. **CONTRACTOR'S INSURANCE RESPONSIBILITY.** The Contractor shall maintain the following insurance coverage:
- a. Workers' compensation insurance during the term of this Contract for all its employees and any Subcontractor employees related to this Contract. Workers' compensation insurance shall cover full liability under the workers' compensation laws of the jurisdiction in which the work is performed at the statutory limits required by said jurisdiction.
  - b. Commercial general liability [CGL] insurance from an insurance company authorized to do business in the State of Utah. The limits of the CGL insurance policy will be no less than one million dollars (\$1,000,000.00) per person per occurrence and three million dollars (\$3,000,000.00) aggregate.
  - c. Commercial automobile liability [CAL] insurance from an insurance company authorized to do business in the State of Utah. The CAL insurance policy must cover bodily injury and property damage liability and be applicable to all vehicles used in your performance of Services under this Agreement whether owned, non-owned, leased, or hired. The minimum liability limit must be \$1 million per occurrence, combined single limit. The CAL insurance policy is required if Contractor will use a vehicle in the performance of this Contract.
  - d. Other insurance policies required in the Solicitation.

Certificate of Insurance, showing up-to-date coverage, shall be on file with the State Entity before the Contract may commence.

The State reserves the right to require higher or lower insurance limits where warranted. Failure to provide proof of insurance as required will be deemed a material breach of this Contract. Contractor's failure to maintain this insurance requirement for the term of this Contract will be grounds for immediate termination of this Contract.

**19. RESERVED.**

20. **PUBLIC INFORMATION:** Contractor agrees that this Contract, related purchase orders, related pricing documents, and invoices will be public documents and may be available for public and private distribution in accordance with the State of Utah's Government Records Access and Management Act (GRAMA). Contractor gives the State Entity and the State of Utah express permission to make copies of this Contract, related sales orders, related pricing documents, and invoices in accordance with GRAMA. Except for sections identified in writing by Contractor and expressly approved by the State of Utah Division of Purchasing and General Services, Contractor also agrees that the Contractor's Response will be a public document, and copies may be given to the public as permitted under GRAMA. The State Entity and the State of Utah are not obligated to inform Contractor of any GRAMA requests for disclosure of this Contract, related purchase orders, related pricing documents, or invoices.
21. **DELIVERY:** All deliveries under this Contract will be F.O.B. destination with all transportation and handling charges paid for by Contractor. Responsibility and liability for loss or damage will remain with Contractor until final inspection and acceptance when responsibility will pass to the State Entity, except as to latent defects or fraud. Contractor shall strictly adhere to the delivery and completion schedules specified in this Contract.
22. **ACCEPTANCE AND REJECTION:** The State Entity shall have thirty (30) days after delivery of the Procurement Item(s) to perform an inspection of the Procurement Item(s) to determine whether the Procurement Item(s) conform to the standards specified in the Solicitation and this Contract prior to acceptance of the Procurement Item(s) by the State Entity.
- If Contractor delivers nonconforming Procurement Item(s), the State Entity may, at its option and at Contractor's expense: (i) return the Procurement Item(s) for a full refund; (ii) require Contractor to promptly correct or replace the nonconforming Procurement Item(s); or (iii) obtain replacement Procurement Item(s) from another source, subject to Contractor being responsible for any cover costs. Contractor shall not redeliver corrected or rejected Procurement Item(s) without: first, disclosing the former rejection or requirement for correction; and second, obtaining written consent of the State Entity to redeliver the corrected Procurement Item(s). Repair, replacement, and other correction and redelivery shall be subject to the terms of this Contract.
23. **INVOICING:** Contractor will submit invoices within thirty (30) days of the delivery date of the Procurement Item(s) to the State Entity. The contract number shall be listed on all invoices, freight tickets, and correspondence relating to this Contract. The prices paid by the State Entity will be those prices listed in this Contract, unless Contractor offers a prompt payment discount within its Response or on its invoice. The State Entity has the right to adjust or return any invoice reflecting incorrect pricing.

24. **PAYMENT:** Payments are to be made within thirty (30) days after a correct invoice is received. All payments to Contractor will be remitted by mail, electronic funds transfer, or the State of Utah's Purchasing Card (major credit card). If payment has not been made after sixty (60) days from the date a correct invoice is received by the State Entity, then interest may be added by Contractor as prescribed in the Utah Prompt Payment Act. The acceptance by Contractor of final payment, without a written protest filed with the State Entity within ten (10) business days of receipt of final payment, shall release the State Entity and the State of Utah from all claims and all liability to the Contractor. The State Entity's payment for the Procurement Item(s) and/or Services shall not be deemed an acceptance of the Procurement Item(s) and is without prejudice to any and all claims that the State Entity or the State of Utah may have against Contractor. The State of Utah and the State Entity will not allow the Contractor to charge end users electronic payment fees of any kind.
25. **INDEMNIFICATION RELATING TO INTELLECTUAL PROPERTY:** Contractor will indemnify and hold the State Entity and the State of Utah harmless from and against any and all damages, expenses (including reasonable attorneys' fees), claims, judgments, liabilities, and costs in any action or claim brought against the State Entity or the State of Utah for infringement of a third party's copyright, trademark, trade secret, or other proprietary right. The parties agree that if there are any limitations of Contractor's liability, such limitations of liability will not apply to this section.
26. **OWNERSHIP IN INTELLECTUAL PROPERTY:** The State Entity and Contractor each recognizes that each has no right, title, or interest, proprietary or otherwise, in the intellectual property owned or licensed by the other, unless otherwise agreed upon by the parties in writing. All Procurement Item(s), documents, records, programs, data, articles, memoranda, and other materials not developed or licensed by Contractor prior to the execution of this Contract, but specifically manufactured under this Contract shall be considered work made for hire, and Contractor shall transfer any ownership claim to the State Entity.
27. **OWNERSHIP IN CUSTOM DELIVERABLES:** In the event that Contractor provides Custom Deliverables to the State Entity, pursuant to this Contract, Contractor grants the ownership in Custom Deliverables, which have been developed and delivered by Contractor exclusively for the State Entity and are specifically within the framework of fulfilling Contractor's contractual obligations under this contract. Custom Deliverables shall be deemed work made for hire, such that all intellectual property rights, title and interest in the Custom Deliverables shall pass to the State Entity, to the extent that the Custom Deliverables are not recognized as work made for hire, Contractor hereby assigns to the State Entity any and all copyrights in and to the Custom Deliverables, subject to the following:
1. Contractor has received payment for the Custom Deliverables,
  2. Each party will retain all rights to patents, utility models, mask works, copyrights, trademarks, trade secrets, and any other form of protection afforded by law to inventions, models, designs, technical information, and applications ("Intellectual Property Rights") that it owned or controlled prior to the effective date of this contract or that it develops or acquires from activities independent of the services performed under this contract ("Background IP"), and
  3. Contractor will retain all right, title, and interest in and to all Intellectual Property Rights in or related to the services, or tangible components thereof, including but not limited to (a) all know-how, intellectual property, methodologies, processes, technologies, algorithms, software, or development tools used in performing the Services (collectively, the "Utilities"), and (b) such ideas, concepts, know-how, processes and reusable reports, designs, charts, plans, specifications, documentation, forms, templates, or output which are supplied or otherwise used by or on behalf of Contractor in the course of performing the Services or creating the Custom Deliverables, other than portions that specifically incorporate proprietary or Confidential Information or Custom Deliverables of the State Entity (collectively, the "Residual IP"), even if embedded in the Custom Deliverables.
  4. Custom Deliverables, not including Contractor's Intellectual Property Rights, Background IP, and Residual IP, may not be marketed or distributed without written approval by the State Entity.
- Contractor agrees to grant to the State Entity a perpetual, irrevocable, royalty-free license to use Contractor's Background IP, Utilities, and Residual IP, as defined above, solely for the State Entity and the State of Utah to use the Custom Deliverables. The State Entity reserves a royalty-free, nonexclusive, and irrevocable license to reproduce, publish, or otherwise use and to authorize others to use, for the State Entity's and the State of Utah's internal purposes, such Custom Deliverables. For the Goods delivered that consist of Contractor's scripts and code and are not considered Custom Deliverables or Work Product, for any reason whatsoever, Contractor grants the State Entity a non-exclusive, non-transferable, irrevocable, perpetual right to use, copy, and create derivative works from such, without the right to sublicense, for the State Entity's and the State of Utah's internal business operation under this Contract. The State Entity and the State of Utah may not participate in the transfer or sale of, create derivative works from, or in any way exploit Contractor's Intellectual Property Rights, in whole or in part.
28. **ASSIGNMENT:** Contractor may not assign, sell, transfer, subcontract or sublet rights, or delegate any right or obligation under this Contract, in whole or in part, without the prior written approval of the State Entity.
29. **REMEDIES:** Any of the following events will constitute cause for the State Entity to declare Contractor in default of this Contract: (i) Contractor's non-performance of its contractual requirements and obligations under this Contract; or (ii) Contractor's material breach of any term or condition of this Contract. The State Entity may issue a written notice of default providing a ten (10) day period in which Contractor will have an opportunity to cure. Time allowed for cure will not diminish or eliminate Contractor's liability for damages. If the default remains after Contractor has been provided the opportunity to cure, the State Entity may do one or more of the following: (i) exercise any remedy provided by law or equity; (ii) terminate this

Contract; (iii) impose liquidated damages, if liquidated damages are listed in this Contract; (iv) debar/suspend Contractor from receiving future contracts from the State Entity or the State of Utah; or (v) demand a full refund of any payment that the State Entity has made to Contractor under this Contract for Procurement Item(s) that do not conform to this Contract.

30. **FORCE MAJEURE:** Neither party to this Contract will be held responsible for delay or default caused by fire, riot, act of God, and/or war which is beyond that party's reasonable control. The State Entity may terminate this Contract after determining such delay will prevent successful performance of this Contract.
31. **CONFIDENTIALITY:** If Confidential Information is disclosed to Contractor, Contractor shall: (i) advise its agents, officers, employees, partners, and Subcontractors of the obligations set forth in this Contract; (ii) keep all Confidential Information strictly confidential; and (iii) not disclose any Confidential Information received by it to any third parties. Contractor will promptly notify the State Entity of any potential or actual misuse or misappropriation of Confidential Information.

Contractor shall be responsible for any breach of this duty of confidentiality, including any required remedies and/or notifications under applicable law. Contractor shall indemnify, hold harmless, and defend the State Entity and the State of Utah, including anyone for whom the State Entity or the State of Utah is liable, from claims related to a breach of this duty of confidentiality, including any notification requirements, by Contractor or anyone for whom the Contractor is liable.

Upon termination or expiration of this Contract, Contractor will return all copies of Confidential Information to the State Entity or certify, in writing, that the Confidential Information has been destroyed. This duty of confidentiality shall be ongoing and survive the termination or expiration of this Contract.
32. **PUBLICITY:** Contractor shall submit to the State Entity for written approval all advertising and publicity matters relating to this Contract. It is within the State Entity's sole discretion whether to provide approval, which approval must be in writing.
33. **WORK ON STATE OF UTAH OR ELIGIBLE USER PREMISES:** Contractor shall ensure that personnel working on State of Utah premises shall: (i) abide by all of the rules, regulations, and policies of the premises; (ii) remain in authorized areas; (iii) follow all instructions; and (iv) be subject to a background check, prior to entering the premises. The State of Utah or Eligible User may remove any individual for a violation hereunder.
34. **CONTRACT INFORMATION:** During the duration of this Contract the State of Utah Division of Purchasing is required to make available contact information of Contractor to the State of Utah Department of Workforce Services. The State of Utah Department of Workforce Services may contact Contractor during the duration of this Contract to inquire about Contractor's job vacancies within the State of Utah.
35. **WAIVER:** A waiver of any right, power, or privilege shall not be construed as a waiver of any subsequent right, power, or privilege.
36. **SUSPENSION OF WORK:** Should circumstances arise which would cause the State Entity to suspend Contractor's responsibilities under this Contract, but not terminate this Contract, this will be done by formal written notice pursuant to the terms of this Contract. Contractor's responsibilities may be reinstated upon advance formal written notice from the State Entity.
37. **CHANGES IN SCOPE:** Any changes in the scope of the services to be performed under this Contract shall be in the form of a written amendment to this Contract, mutually agreed to and signed by both parties, specifying any such changes, fee adjustments, any adjustment in time of performance, or any other significant factors arising from the changes in the scope of services.
38. **PROCUREMENT ETHICS:** Contractor understands that a person who is interested in any way in the sale of any supplies, services, construction, or insurance to the State of Utah is violating the law if the person gives or offers to give any compensation, gratuity, contribution, loan, reward, or any promise thereof to any person acting as a procurement officer on behalf of the State of Utah, or to any person in any official capacity who participates in the procurement of such supplies, services, construction, or insurance, whether it is given for their own use or for the use or benefit of any other person or organization.
39. **ATTORNEY'S FEES:** In the event of any judicial action to enforce rights under this Contract, the prevailing party shall be entitled its costs and expenses, including reasonable attorney's fees incurred in connection with such action.
40. **TRAVEL COSTS:** If travel expenses are permitted by the Solicitation, then all travel costs associated with the delivery of Services under this Contract will be paid according to the rules and per diem rates found in the Utah Administrative Code R25-7. Invoices containing travel costs outside of these rates will be returned to Contractor for correction.
41. **DISPUTE RESOLUTION:** Prior to either party filing a judicial proceeding, the parties agree to participate in the mediation of any dispute. The State Entity, after consultation with Contractor, may appoint an expert or panel of experts to assist in the resolution of a dispute. If the State Entity appoints such an expert or panel, State Entity and Contractor agree to cooperate in good faith in providing information and documents to the expert or panel in an effort to resolve the dispute.
42. **ORDER OF PRECEDENCE:** In the event of any conflict in the terms and conditions in this Contract, the order of precedence shall be: (i) this Attachment A; (ii) Contract Signature Page(s); (iii) the State of Utah's additional terms and conditions, if any; (iv) any other attachment listed on the Contract Signature Page(s); and (v) Contractor's terms and conditions that are attached to this Contract, if any. Any provision attempting to limit the liability of Contractor or limit the rights of the State Entity or the State of Utah must be in writing and attached to this Contract or it is rendered null and void.
43. **SURVIVAL OF TERMS:** Termination or expiration of this Contract shall not extinguish or prejudice the State Entity's right to enforce this Contract with respect to any default of this Contract or defect in the Procurement Item(s) that has not been cured, or of any of the following clauses, including: Governing Law and Venue, Laws and Regulations, Records Administration, Remedies, Dispute Resolution, Indemnity, Newly Manufactured, Indemnification Relating to Intellectual Property, Warranty of Procurement Item(s), Insurance.

44. **SEVERABILITY:** The invalidity or unenforceability of any provision, term, or condition of this Contract shall not affect the validity or enforceability of any other provision, term, or condition of this Contract, which shall remain in full force and effect.
45. **ERRORS AND OMISSIONS:** Contractor shall not take advantage of any errors and/or omissions in this Contract. The Contractor must promptly notify the State of any errors and/or omissions that are discovered.
46. **ENTIRE AGREEMENT:** This Contract constitutes the entire agreement between the parties and supersedes any and all other prior and contemporaneous agreements and understandings between the parties, whether oral or written.
47. **ANTI-BOYCOTT ACTIONS:** In accordance with Utah Code 63G-27 et seq., Contractor certifies that it is not currently engaged in any "economic boycott" nor a "boycott of the State of Israel" as those terms are defined in Section 102. Contractor further certifies that it has read and understands 63G-27 et. seq., that it will not engage in any such boycott action during the term of this Contract, and that if it does, it shall promptly notify the State in writing.

(Revision Date: 7/20/2023)



## Scope of Work:

### Task 1: Phase I Investigation

#### **Phase I, Subtask 1 - Project Management and Scheduling (9/17/24 - 12/31/24)**

Brierley's Project Manager, Dave Hibbard, will assign Subtasks 2-6 to the project team's staff and provide Quality Assurance of produced data. This will require coordination of desktop tasks (Subtasks 2-5) as well as planning and coordination of the initial field investigation tasks (Subtasks 6-11).

*Deliverable: 1) To meet indicated Sub-Tasks 1-6 milestones on schedule with items within Brierley's control.*

#### **Phase I, Subtask 2 - Literature and Other Research (9/17/24 - 12/31/24)**

The first stage of the Phase I investigation will be a search for historical background information. A cursory search in preparation of the SOQ resulted in a number of historical documents with valuable information on the mine and local geology; including mine maps of the Kenilworth Mine and relevant adjacent mines. Some common data sources that have proven useful in the past and will be checked under this task include:

- DOGM AML records of previous investigations and work at the site; reports, maps, photographs, etc.
- DOGM AML records of work at other mine fire sites; geophysics, radon, mitigation efforts, etc.
- DOGM mine inspection summaries
- National Mine Map Repository in Pittsburgh, PA
- Utah Geological Survey
- USGS Reports and Maps
- Utah Core Research Center
- Utah State Inspectors of Mines Annual Reports
- Utah Inspector of Coal and Hydrocarbon Mines Biennial reports
- US Bureau of Mines reports or records
- Former mine employees or their descendants
- Historical air photos
- Google Earth timeline images

This review will inform the investigation and design tasks and will be used to generate a systematic field investigation approach. This pre-planning phase is critical for safety and efficiency in this large, rugged project area. A summary of findings, including preliminary delineation of any prior Area of Potential Affect (APE), cultural survey areas/features, or high hazard areas, will be distributed to field inventory personnel prior to any site work.

*Deliverable: 1) Identify all relevant literature and records pertaining to the Kenilworth Mine Fire Project to incorporate and document within the Report of Investigation.*

#### **Phase I, Subtask 3 - Remote Sensing (Thermal IR, Orthomosaic) (9/18/24 – 9/20/24)**

The Brierley team will rely heavily on both land-based and UAV photography with thermal infrared (IR), to identify areas on the surface being affected by heat from the fire. Both hand-held and UAV-mounted IR will be utilized throughout the course of the project. Areas exhibiting thermal

anomalies will be investigated during field mapping to see if a cause can be determined, record surface temperatures, sample any exhaust vent gases present, obtain GPS data, etc. Programmable logic chips will be used in some cases to automatically obtain hourly temperature readings to monitor variations in fire activity over a period of time. This data can then be collected periodically during site visits, or even remotely depending on the installation.

***Deliverable:** 1) Develop a series of remote sensing mapping tools to assist with identifying mine fire features, mine fire extents, deformation associated with historic mining, engineering design, site access planning and logistics. Will be incorporated into produced reports, maps, figures, future design, and incorporated to ArcOnline for regular viewing.*

#### **Phase I, Subtask 4 - Field Mapping and Mine Fire Delineation (10/02/24 – 10/04/24)**

Upon authorization from DOGM, and verification that landowner permissions are secured, the Brierley team will commence field mapping at the site. This work includes mobilizing a team of 2-3 Brierley field staff to the site and will include mapping the surficial geology, other openings indicated on mine maps at the east and west fork of Well Road, signs or indications of underlying fire (high surface temperature, venting smoke, dying vegetation, smell, etc.), and subsidence or other features that could be providing air to the fire. This work will be conducted under the supervision of Mr. Dave Hallman (Applied Geologic) and Mr. Dave Hibbard (Brierley).

The Brierley team will map the stratigraphy above the burning coal seam to estimate the thickness, strength and position of overlying sandstone units to assess their ability to span the mine openings and prevent spread of the fire to the overlying coal seams. Hard sandstone layers in the overburden that remain intact also prevent caving and collapse that might otherwise choke off the fire. Relatively intact mine workings allow the circulation of fresh air and hot combustion gases over large distances, thereby sustaining and spreading the fire. The team will also map joint patterns (orientation, spacing, and continuity) as these can influence subsidence when aligned with the underground workings.

The team's fire characterization and mapping approach includes:

- Mapping intake and exhaust vents
- Profiling temperature
- Measuring heat flux
- Mapping fissures, sink holes, subsidence features, coal outcrops, adits, shafts, springs, and mine workings from existing maps
- Mapping of soil features for signs of venting
- Placement of plastic sheeting on the ground to detect outflow/inflow of cracks.

Additional means to characterize the fire include:

- Infrared or drone photography
- Collecting vent gas samples for laboratory analysis
- Smoke tracer studies
- Placement of plastic sheeting on the ground to detect outflow/inflow of cracks.
- Observation of the fire's response to meteorological variations (wind direction and velocity, barometric pressure and ambient temperature)
- Testing of open subsidence features with smoke or dusting equipment to determine whether an inflow of fresh air is occurring

- Temperature measurements of venting features

Field mapping will also include an evaluation of existing and proposed equipment access routes and potential construction material borrow sources.

The Field Mapping data will be used to prepare 2D and 3D models using ArcGIS and AutoCAD software to understand the complex geometric relationships that may exist between various fire-related features, particularly when multiple coal seams or openings are present. All mapping deliverables will be in standard formats prescribed by DOGM.

### Gas Sampling

The status of an underground coal fire can be inferred from the composition of gases that are collected from exhaust vents or boreholes. The ratios of various combustion gases to one another or 'fire ratios' derived from gas composition data are useful for assessing the fire status and even approximating the source locations. These ratios include the Hydrocarbon Index, Graham's ratio, CO – CO<sub>2</sub> ratio, Trickett's Ratio, and Relative Intensity derived from the mine atmosphere analysis data. However, the strengths and weaknesses and applicability of each of these ratios under the specific conditions present must be carefully evaluated. Changes in the concentration of gases may be related to combustion, but they may also result from processes other than changes in combustion. The following factors will be analyzed.

- Hydrocarbon Index or 'Fire Ladder'
- Graham's ratio
- CO – CO<sub>2</sub> ratio
- Jone's and Trickett ratio
- Young's ratio
- Relative Intensity

Brierley Associates will sample suspected exhaust vents using portable handheld equipment to verify the presence of combustion products at that location. In some cases, sealed vacuum cannister samples will be collected from exhaust vents and sent to a lab for gas chromatography-mass spectrometry testing to determine the hydrocarbon gases present and their concentration. Sampling of exhaust vent gases will be conducted during periods of an advancing low-pressure front when possible such that combustion gases are more likely to be expelled.

The Brierley team will also have access, but has not included provisions for continuous gas sampling equipment that was developed at Johns Hopkins University specifically for monitoring emissions from coal seam fires. The equipment can be deployed to collect data at specified time intervals that would otherwise not be possible. This data can be used to assess fire activity trends with time and weather patterns. The portable equipment is solar powered and transmits data wirelessly.

### Thermal Scans

Thermal scans will be conducted via handheld tools will also be utilized to characterize the ground and mine opening conditions and temperatures across the site.

### Health and Safety

Brierley staff are committed to safety, and to a corporate culture in which all employees are knowledgeable of potential workplace hazards and empowered to participate actively in accident prevention and risk reduction. Work at each project site will be conducted according to a site-specific and project-specific safety plan prepared by a Project Safety Officer under the direction of the Project Manager (PM).

The Project Safety Officer (PSO) will develop the Safety Plan for the proposed project. This plan will be reviewed by the DOGM prior to implementation. The PM will designate a site Safety Officer (SO), typically the PSO, responsible for implementing the safety procedures developed for the proposed project. The SO will hold safety meetings at a prescribed frequency (at least daily at field projects) to ensure safe work.

Brierley will establish and maintain an effective accident prevention program and provide a safe environment for all personnel and visitors, by ensuring that:

- A “Buddy System” will be implemented for all work on this project; No one goes alone.
- The site will not be accessed when there is snow cover on the ground.
- All employees will be familiar with hazards associated with working in and around abandoned mines and in accordance with guidance and training provided by MSHA.
- Personnel Protective Equipment (PPE): Field staff will use PPE that meets requirements of applicable ANSI standards and will inspect their PPE daily and maintain it in a safe and serviceable condition.
- Safety Meetings: At a minimum, field staff will attend a safety meeting at the start of field work. These meetings will be conducted by the team leader and attended by all field personnel. This meeting will detail standard safety practices and any unique issues that are anticipated at the investigation site.
- Daily Meetings: A daily ‘tailgate’ safety briefing will be held onsite at the start of each workday. This briefing will involve all field staff or onsite personnel. The briefing review any safety concerns or issues that may have arisen the previous day or may be anticipated for that day.

Deliverable: 1) Mapping intake and exhaust vents, Profiling temperature, Measuring heat flux, Mapping fissures, sink holes, subsidence features, coal outcrops, adits, shafts, springs, and mine workings from existing maps, mapping of soil features for signs of venting, etc. Collected data will be incorporated into Brierley’s Report of Investigation.

### **Phase I, Subtask 5 - Post Field Mapping Data Compilation and Analysis**

**(10/05/24 – 11/22/24)**

Post-production of Remote Sensing and Laboratory Data, Surveying Data, Thermal and LiDAR data, orthomosaic mapping will all be evaluated along with all physical features (ground and mine) documented will be analyzed in the Brierley team’s post field mapping data compilation and analysis.

Brierley Associates will use the geologic data collected during field mapping in conjunction with details provided on the historic mine maps (e.g. areas of roof falls, faults, pillar robbing, and small irregular pillars), to assess the subsidence potential over the Kenilworth Mine area. The ability for the overlying hard sandstone layers present to span the burn cavities and mine openings, and the associated risk for caving that could allow the fire to propagate to other coal seams, will be addressed. The areas where subsidence risk is greater can then be examined in more detail for possible air intakes, monitored for vent emissions or temperature anomalies, targeted for geophysics or drilling, et cetera as appropriate.

*Deliverable:* 1) To compile and analyze collected field data and incorporate into Brierley's Report of Investigation.

### **Phase I, Subtask 6 – Feasibility Study for Short Term Remediation (09/23/24 – 10/18/24)**

Immediately after Brierley's Phase 1, Subtasks 2 through 5, Brierley will conduct a Feasibility Study for short term abate options that can provide temporary remediation with existing conditions. These options will include a cost analysis with accessibility considerations, materials, equipment, and contractor quotes.

*Deliverable:* 1) To compile and analyze collected field data and incorporate it into Brierley's Feasibility Study for delivery no later than 10/18/24.

### **Phase I, Subtask 7 - Phase I Report of Investigation (ROI) (11/01/24 – 12/31/24)**

Each of the Phase I investigative efforts will be described and the findings summarized in a Phase I Report of Investigations (ROI).

*Deliverable:*

#### **The Phase I ROI will include:**

- A summary of the various investigations conducted and their results.
- Mine fire risk assessment
- Recommendations for Phase II investigations including abatement options, excavation, infilling, gas and temperature data collection, and future monitoring.
- An assessment of potential equipment access alternatives and issues, including possible road construction.
- ESRI GIS Feature Classes will be delivered in ArcGIS Pro format with the following Feature Classes; Project Boundary, Project Mines, Project Roads, et cetera.
- ArcGIS Map Packages will be saved with relative file paths and standard naming conventions delivered to the Owner with the filename "ProjInvReport-Ph1.pdf" and will be in Adobe Acrobat PDF format.
- Digital photographs of each fire feature will be provided in JPEG format with saved with the following filename format: "Tag Number + "I" + sequential number".

## **Cost Proposal Summary**

The table below provides a summary of the cost estimate for the 7 above-listed tasks.



**UTAH DIVISION OF OIL, GAS, AND MINING AMRP**  
**Project Name: Kenilworth Mine Fire**

Task	Description	Total
Phase 1	DIRECT LABOR	\$47,464.93
	OFFICE COSTS, TRAVEL, EQUIPMENT	\$6,589.29
	SUBCONTRACTED LABOR AND DIRECT COSTS	\$27,069.75
<b>TOTAL ALL:</b>		<b>\$81,123.97</b>

### Assumptions













The above Tasks (and associated subtasks) are predicated on the following assumptions:

No.	Assumptions
1	Assuming all preliminary rates and direct costs for Phase 1 investigations
2	34 Acre Area of Coverage for Phase 1 investigations (as assessed in 3 reports provided by UDNR). Field mapping area consists of ~4 acres as observed from reports and Google Earth. Remaining area for investigation consist of Remote Sensing.
3	Assume 1 rounds of gas sampling and testing from as many as 2 exhaust vents.
4	Field Site access may be restricted or limited. State helicopter support may be provided by the client if deemed inaccessible or unsafe by Brierley.
5	Estimates do not take into account any weather delays or standby time due to accessibility

## **Appendix A: Project Schedule (Phase 1)**

ID	Task Name	Duration	Start	Finish	August 18, 2024	August 25, 2024	September 1, 2024	September 8, 2024	September 15, 2024	September 22, 2024	September 29, 2024	October 6, 2024	October 13, 2024	October 20, 2024	October 27, 2024	November 3, 2024	November 10, 2024	November 17, 2024	November 24, 2024	December 1, 2024	December 8, 2024	December 15, 2024	December 22, 2024	December 29, 2024	January 5, 2025
0	<b>Kenilworth Mine Fire Project Schedule</b>	<b>77 days</b>	<b>Tue 9/17/24</b>	<b>Tue 12/31/24</b>	Sun 8/18/24	Sun 8/25/24	Sun 9/1/24	Sun 9/8/24	Sun 9/15/24	Sun 9/22/24	Sun 9/29/24	Sun 10/6/24	Sun 10/13/24	Sun 10/20/24	Sun 10/27/24	Sun 11/3/24	Sun 11/10/24	Sun 11/17/24	Sun 11/24/24	Sun 12/1/24	Sun 12/8/24	Sun 12/15/24	Sun 12/22/24	Sun 12/29/24	Sun 1/5/25
1	<b>1 Task 1 - Phase 1</b>	<b>77 days</b>	<b>Tue 9/17/24</b>	<b>Tue 12/31/24</b>																					
2	1.1 Project Management and Scheduling	77 days	Tue 9/17/24	Tue 12/31/24																					
3	1.2 Literature and Other Research	77 days	Tue 9/17/24	Tue 12/31/24																					
4	1.3 Remote Sensing and Mapping	3 days	Wed 9/18/24	Fri 9/20/24																					
5	1.4 Field Mapping and Mine Fire Delineation	3 days	Wed 10/2/24	Fri 10/4/24																					
6	1.5 Post Field Mapping Data Compilation and Analysis	36 days	Sat 10/5/24	Fri 11/22/24																					
7	1.6 Feasibility Study for Short Term Remediation	21 days	Mon 9/23/24	Fri 10/18/24																					
8	1.7 Report of Investigation and Recommendations	43 days	Fri 11/1/24	Tue 12/31/24																					

**Kenilworth Mine Fire Project Schedule**  
  
 Tue 9/17/24  
*Creating Space Underground*


Task Milestone		Summary Project Summary		Manual Task		Manual Summary		Manual Summary Rollup		Start-only		Finish-only		External Tasks		External Milestone		Deadline		Progress		Manual Progress	
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**UTAH DIVISION OF OIL, GAS, AND MINING AMRP**  
**Project Name: Kenilworth Mine Fire**

Task	Description	Total
Phase 1	DIRECT LABOR	\$47,464.93
	OFFICE COSTS, TRAVEL, EQUIPMENT	\$6,589.29
	SUBCONTRACTED LABOR AND DIRECT COSTS	\$27,069.75
<b>TOTAL ALL:</b>		<b>\$81,123.97</b>

 <b>BRIERLEY ASSOCIATES</b> <small>1999</small> <small>2024</small> <small>Creating Space Underground</small>		UTAH DIVISION OF OIL, GAS, AND MINING AMRP								
PROJECT: Kenilworth Mine Fire										
PHASE 1										
PHASE	1	Phase 1: Subtask 1	Phase 1: Subtask 2	Phase 1: Subtask 3	Phase 1: Subtask 4	Phase 1: Subtask 5	Phase 1: Subtask 6	Phase 1: Subtask 7	Hours	Sum Total
A. Brierley Labor Category	Rate	Project Management	Literature and other research	Remote Sensing/Mapping	Field Mapping and Mine Fire Delineation	Post-Field Mapping Data Compilation and Analysis	Feasibility Study for Short Term Remediation	Report of Investigation & Recommendations		
Principal/Senior Consultant II	\$267.70								0	\$0.00
Senior Associate/Senior Consultant I	\$253.09								0	\$0.00
Associate/Sr. Project Manager	\$223.89	15	10	21	28	15	15	30	134	\$30,001.42
Senior Professional II	\$214.16								0	\$0.00
Senior Professional I	\$189.82								0	\$0.00
Professional II	\$170.35				28				28	\$4,769.86
Professional I	\$160.62								0	\$0.00
Staff Professional II	\$150.88					8			8	\$1,207.07
Staff Professional I	\$136.28								0	\$0.00
Field Technician	\$113.57								0	\$0.00
VDC Director	\$165.48								0	\$0.00
Sr. BIM-CADD Pro	\$146.02								0	\$0.00
BIM-CADD Pro	\$126.55								0	\$0.00
BIM-CAD Technician	\$111.95								0	\$0.00
GIS Analyst III	\$155.75		20	21		16	4	6	67	\$10,435.28
GIS Analyst II	\$131.41					8			8	\$1,051.32
GIS Analyst I	\$111.95								0	\$0.00
Administrative Assistant	\$88.40								0	\$0.00
<b>Total Subtask Hours</b>		<b>15</b>	<b>30</b>	<b>42</b>	<b>56</b>	<b>47</b>	<b>19</b>	<b>36</b>	<b>245</b>	<b>\$47,464.93</b>
<b>B. Brierley Direct Costs</b>										
<b>1. Equipment &amp; Material Costs</b>	<b>Rate</b>	<b>PHASE 1</b>							<b>Quantity</b>	<b>Cost</b>
Radon Testing Equipment	\$200.00								0	\$0.00
Thermocouples (K-Type Online Cost)/Boring	\$750.00								0	\$0.00
Geokon Data Loggers (x8) /Day	\$56.00								0	\$0.00
Geokon Data Supervisor (x1)	\$10.00								0	\$0.00
Sensemetrics Thread w/4g LTE (per month)	\$280.00								0	\$0.00
BA Drone UAV (M300 Matrice, Ortho, Per Day)	\$300.00			2					2	\$600.00
BA LiDAR Unit (Per Day)	\$200.00			2					2	\$400.00
BA Thermal Unit	\$50.00			2					2	\$100.00
Handheld Thermal Unit (Flir, /day)	\$20.00			2					2	\$40.00
Trimble DA2 (/day)	\$155.00			2	2				4	\$620.00
InSAR (TRE) (Lump Sum)	\$17,000.00								0	\$0.00
<b>Total Equipment &amp; Material Costs</b>									<b>12</b>	<b>\$1,760.00</b>
<b>2. Travel &amp; Per Diem</b>	<b>Rate</b>	<b>PHASE 1</b>							<b>Quantity</b>	<b>Cost</b>
Mileage (GSA Rates/miles)	\$0.670			1246	841				2087	\$1,398.29
Rental Vehicle (days)	\$100.00								0	\$0.00
Food (GSA Rate/Day)	\$59.00			8	6				14	\$826.00
Lodging (GSA or at cost)	\$107.00			7	8				15	\$1,605.00
<b>Total Equipment &amp; Material Costs</b>									<b>2116</b>	<b>\$3,829.29</b>
<b>1. Laboratory (UC Irvine)</b>	<b>Rate</b>	<b>PHASE 1</b>							<b>Quantity</b>	<b>Cost</b>
Laboratory (Gas Chromatography/Mass Spec)	\$500.00	0	0	0	2	0	0	0	2	\$1,000.00
<b>Total Equipment &amp; Material Costs</b>									<b>2</b>	<b>\$1,000.00</b>
<b>C. Sub-Contractors Labor &amp; Direct Costs</b>										
<b>1. Applied Geologic Labor &amp; Direct Cost</b>	<b>Rate</b>	<b>PHASE 1</b>							<b>Hours/Qty</b>	<b>Cost</b>
P5 - Principal Professional	\$220.00		15		28	20	15	40	118	\$25,960.00
P4 - Senior Professional	\$0.00								0	\$0.00
P3 - Project Manager / Professional	\$0.00								0	\$0.00
P2 - Mid-Level Professional	\$0.00								0	\$0.00
T4 - Senior Technical	\$0.00								0	\$0.00
T3 - Mid-Level Technical	\$0.00								0	\$0.00
Lodging (GSA) / Day	\$107.00				3				3	\$321.00
Per Diem (GSA) / Day	\$59.00				4				4	\$236.00
Mileage (GSA) / Mileage	\$0.67				825				825	\$552.75
<b>Total Subcontractor Labor and Direct Costs</b>									<b>950</b>	<b>\$27,069.75</b>
									<b>TOTAL BA DIRECT LABOR:</b>	<b>\$47,464.93</b>
									<b>TOTAL BA OFFICE COSTS, TRAVEL, EQUIPMENT:</b>	<b>\$6,589.29</b>
									<b>TOTAL SUBCONTRACTED LABOR AND DIRECT COSTS:</b>	<b>\$27,069.75</b>
									<b>TOTAL TASK 1</b>	<b>\$81,123.97</b>

		UTAH DIVISION OF OIL, GAS, AND MINING AMRP									
		Task Title: Phase 1 Desktop and Non-Destructive Investigation									
		Subtask 1	Subtask 2	Subtask 3	Subtask 4	Subtask 5	Subtask 6	Subtask 7			
TASK	Phase 1	Project Management	Literature and other research	Remote Sensing/Mapping	Field Mapping and Mine Fire Delineation	Post-Field Mapping Data Compilation and Analysis	Feasibility Study for Short Term Remediation	Report of Investigation & Recommendations	Hours	Cost	
<b>A. Brierley Labor Category</b>											
Principal/Senior Consultant II	\$267.70								0.0	\$0.00	
Senior Associate/Senior Consultant I	\$253.09								0.0	\$0.00	
Associate/Sr. Project Manager	\$223.89	15	10	21	28	15	15	30	134.0	\$30,001.42	
Senior Professional II	\$214.16								0.0	\$0.00	
Senior Professional I	\$189.82								0.0	\$0.00	
Professional II	\$170.35				28				28.0	\$4,769.86	
Professional I	\$160.62								0.0	\$0.00	
Staff Professional II	\$150.88					8			8.0	\$1,207.07	
Staff Professional I	\$136.28								0.0	\$0.00	
Field Technician	\$113.57								0.0	\$0.00	
VDC Director	\$165.48								0.0	\$0.00	
Sr. BIM-CADD Pro	\$146.02								0.0	\$0.00	
BIM-CADD Pro	\$126.55								0.0	\$0.00	
BIM-CAD Technician	\$111.95								0.0	\$0.00	
GIS Analyst III	\$155.75		20	21		16	4	6	67.0	\$10,435.28	
GIS Analyst II	\$131.41					8			8.0	\$1,051.32	
GIS Analyst I	\$111.95								0.0	\$0.00	
Administrative Assistant	\$88.40								0.0	\$0.00	
<b>Total Direct Labor</b>									<b>245</b>	<b>\$47,464.93</b>	
<b>B. Brierley Direct Costs</b>											
<b>1. Brierley Equipment &amp; Material Costs</b>		<b>Rate</b>	<b>PHASE 1</b>						<b>Quantity</b>	<b>Cost</b>	
Radon Testing Equipment	\$200.00							0	\$0.00		
Thermocouples (K-Type Online Cost)/Boring	\$750.00							0	\$0.00		
Geokon Data Loggers (x8) /Day	\$56.00							0	\$0.00		
Geokon Data Supervisor (x1)	\$10.00							0	\$0.00		
Sensemetrics Thread w/4g LTE (per month)	\$280.00							0	\$0.00		
BA Drone UAV (M300 Matrice, Ortho, Per Day)	\$300.00			2				2	\$600.00		
BA LIDAR Unit (Per Day)	\$200.00			2				2	\$400.00		
BA Thermal Unit	\$50.00			2				2	\$100.00		
Handheld Thermal Unit (Flir, /day)	\$20.00			2				2	\$40.00		
Trimble DA2/R12 (/day)	\$155.00			2	2			4	\$620.00		
InSAR (TRE) (Lump Sum)	\$0.00							0	\$0.00		
<b>Total Equipment &amp; Material Costs</b>									<b>12</b>	<b>\$1,760.00</b>	
<b>2. Brierley Travel &amp; Per Diem</b>		<b>Rate</b>	<b>PHASE 1</b>						<b>Quantity</b>	<b>Cost</b>	
Mileage (GSA) / Mile	\$0.670			1246	841			2087	\$1,398.29		
Rental Vehicle (days)								0	\$0.00		
Per Diem (GSA) / Day	\$59.00			8	6			14	\$826.00		
Lodging (GSA or at cost) / Day	\$107.00			7	8			15	\$1,605.00		
<b>Total Travel Costs</b>									<b>2116</b>	<b>\$3,829.29</b>	
<b>1. Laboratory (UC Irvine)</b>		<b>Rate</b>	<b>PHASE 1</b>						<b>Quantity</b>	<b>Cost</b>	
Laboratory (Gas Chromatography/Mass Spec)	\$500.00	0	0	0	2	0	0	0	2	\$1,000.00	
<b>Total Equipment &amp; Material Costs</b>									<b>2</b>	<b>\$1,000.00</b>	
<b>C. Sub-Contractors Labor &amp; Direct Costs</b>											
<b>1. Applied Geologic Labor</b>		<b>Rate</b>	<b>PHASE 1</b>						<b>Hours/Qty</b>	<b>Cost</b>	
P5 - Principal Professional	\$220.00		15		28	20	15	40	118	\$25,960.00	
P4 - Senior Professional	\$0.00								0	\$0.00	
P3 - Project Manager / Professional	\$0.00								0	\$0.00	
P2 - Mid-Level Professional	\$0.00								0	\$0.00	
T4 - Senior Technical	\$0.00								0	\$0.00	
T3 - Mid-Level Technical	\$0.00								0	\$0.00	
Lodging (GSA) / Day	\$107.00				3				3	\$321.00	
Per Diem (GSA) / Day	\$59.00				4				4	\$236.00	
Mileage (GSA) / Mileage	\$0.67				825				825	\$552.75	
<b>Total Subcontractor Labor and Direct Costs</b>									<b>950</b>	<b>\$27,069.75</b>	
										<b>DIRECT LABOR</b>	<b>\$47,464.93</b>
										<b>OFFICE COSTS, TRAVEL, EQUIPMENT</b>	<b>\$6,589.29</b>
										<b>CONTRACTED LABOR AND DIRECT COSTS</b>	<b>\$27,069.75</b>
										<b>TOTAL TASK 1 COST</b>	<b>\$81,123.97</b>



No.	Assumptions
1	Assuming all preliminary rates and direct costs for Phase 1 investigations
2	34 Acre Area of Coverage for Phase 1 investigations (as assessed in 3 reports provided by UDNR). Field mapping area consists of ~4 acres as observed from reports and Google Earth. Remaining area for investigation consist of Remote Sensing.
3	Assume 1 rounds of gas sampling and testing from as many as 2 exhaust vents.
4	Field Site access may be restricted or limited. State helicopter support may be provided by the client if deemed inaccessible or unsafe by Brierley.
5	Estimates do not take into account any weather delays or standby time due to accessibility

Signature: David Jones  
David Jones (Sep 18, 2024 07:28 MDT)

Email: davidhones@utah.gov

Signature: *Gordon Brown*

Email: gordonbrown@utah.gov