ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY CLASS II SYNTHETIC MINOR PERMIT

PERMITTEE: **Energy Fuels Resources (USA) Inc.**
FACILITY: *EZ Mine*
PERMIT #: **62878**
DATE ISSUED:
EXPIRY DATE:

SUMMARY

This Class II Air Quality Control permit is issued to Energy Fuels Resources (USA) Inc. (EFRI) for the operation of the EZ Mine facility.

The facility will be an underground uranium mine with a proposed maximum production rate of 146,000 tons per year of uranium ore. No ore processing will be conducted on-site. The ore will be shipped to the White Mesa Mill near Blanding, Utah. If the ore cannot be shipped immediately to the mill, it will be placed on-site in stockpiles within the Ore Stockpile Area (OSA). Ore stockpiled in the OSA will have an approximate average uranium content of 0.7 percent. The OSA will encompass approximately 1.0 acre and is authorized to contain no more than 13,100 tons of ore. The company also proposes to operate a 500 kilowatt (kW) standby diesel-powered generator.

Development rock from the mining operations with less than approximately 0.03 percent uranium will be stored on the surface in the Development Rock Area (DRA) and in mined-out areas of the underground workings. The DRA will encompass approximately 6 acres.

Potential air emissions for this facility are below applicable major source thresholds. This permit is issued in accordance with Arizona Revised Statutes (A.R.S.) 49-426. It contains requirements from A.A.C. Title 18, Chapter 2 and the Code of Federal Regulations (CFR).

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ATTACHMENT "A": GENERAL PROVISIONS

Air Quality Control Permit No. 62878
For
Energy Fuels Resources (USA) Inc. - EZ Mine

I. PERMIT EXPIRATION AND RENEWAL

[ARS § 49-426.F, A.A.C. R18-2-304.C.2, and -306.A.1]

A. This permit is valid for a period of five years from the date of issuance.

B. The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months, prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS

[A.A.C. R18-2-306.A.8.a and b]

A. The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona Revised Statutes (A.R.S.) Title 49, Chapter 3, and the and air quality rules under Title 18, Chapter 2 of the Arizona Administrative Code. Any noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.

B. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE

[A.A.C. R18-2-306.A.8.c, -321.A.1, and -321.A.2]

A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

B. The permit shall be reopened and revised under any of the following circumstances

1. The Director or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

2. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.

C. Proceedings to reopen and reissue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Such reopenings shall be made as expeditiously as practicable. Permit reopenings shall not result in a resetting of the five-year permit term.

IV. POSTING OF PERMIT

[A.A.C. R18-2-315]

A. The Permittee shall post this permit or a certificate of permit issuance where the facility is located in such a manner as to be clearly visible and accessible. All equipment covered by this permit shall be clearly marked with one of the following:

1. Current permit number; or

2. Serial number or other equipment ID number that is also listed in the permit to identify that piece of equipment.

B. A copy of the complete permit shall be kept on site.

V. FEE PAYMENT

[A.A.C. R18-2-306.A.9 and -326]

The Permittee shall pay fees to the Director pursuant to ARS § 49-426(E) and A.A.C. R18-2-326.

VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE

[A.A.C. R18-2-327.A and B]

A. The Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31st or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year.

B. The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VII. COMPLIANCE CERTIFICATION

[A.A.C. R18-2-309.2.a, -309.2.c-d, and -309.5.d]

A. The Permittee shall submit a compliance certification to the Director semiannually which describes the compliance status of the source with respect to each permit condition. The certifications shall be submitted no later than May 15th and November 15th. The May 15th compliance certification shall report the compliance status of the source during the period between October 1st of the previous year and March 31st of the current year. The November 15th compliance certification shall report the compliance status of the source during the period between April 1st and September 30th of the current year.

The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;

2. The identification of the methods or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period;

3. The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the methods or means designated in Condition VII.A.2 above. The certifications

shall identify each deviation and take it into account for consideration in the compliance certification;

4. All instances of deviations from permit requirements reported pursuant to Condition XII.B of this Attachment; and

5. Other facts the Director may require determining the compliance status of the source.

B. A progress report on all outstanding compliance schedules shall be submitted every six months beginning with six months after permit issuance.

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

[A.A.C. R18-2-304.H]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IX. INSPECTION AND ENTRY

[A.A.C. R18-2-309.4]

Upon presentation of proper credentials, the Permittee shall allow the Director or the authorized representative of the Director to:

A. Enter upon the Permittee's premises where a source is located, emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;

B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;

C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;

D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and

E. Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

[A.A.C. R18-2-304.C]

If this source becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

XI. ACCIDENTAL RELEASE PROGRAM

[40 CFR Part 68]

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall

comply with these provisions according to the time line specified in 40 CFR Part 68.

XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

A. Excess Emissions Reporting

[A.A.C. R18-2-310.01.A and -310.01.B]

1. Excess emissions shall be reported as follows:

   a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:

      (1) Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from Condition XII.A.1.b below.

      (2) Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XII.A.1.a.(1) above.

   b. The report shall contain the following information:

      (1) Identity of each stack or other emission point where the excess emissions occurred;

      (2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;

      (3) Date, time and duration, or expected duration, of the excess emissions;

      (4) Identity of the equipment from which the excess emissions emanated;

      (5) Nature and cause of such emissions;

      (6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions; and

      (7) Steps taken to limit the excess emissions. If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.

2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess

emissions occurring after the estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition XII.A.1 above.

[A.A.C. R18-2-310.01.C]

B. Permit Deviations Reporting

[A.A.C. R18-2-306.A.5.b]

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to an emergency or within two working days of the time when the owner or operator first learned of the occurrence of a deviation from a permit requirement.

C. Emergency Provision

[A.A.C. R18-2-306.E]

1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, that require immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if Condition XII.C.3 is met.

3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

    a. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;

    b. The permitted facility was being properly operated at the time;

    c. During the period of the emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and

    d. The Permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

5. This provision is in addition to any emergency or upset provision contained in

any applicable requirement.

D. Compliance Schedule

[ARS § 49-426.I.5]

For any excess emission or permit deviation that cannot be corrected within 72 hours, the Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated.

E. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown

[A.A.C. R18-2-310]

1. Applicability

This rule establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

a. Promulgated pursuant to Sections 111 or 112 of the Act;

b. Promulgated pursuant to Titles IV or VI of the Clean Air Act;

c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. EPA;

d. Contained in A.A.C. R18-2-715.F; or

e. Included in a permit to meet the requirements of A.A.C. R18-2-406.A.5.

2. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. When emissions in excess of an applicable emission limitation are due to a malfunction, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the Permittee;

b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the Permittee satisfactorily demonstrated that

the measures were impracticable;

d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

g. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

h. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;

i. All emissions monitoring systems were kept in operation if at all practicable; and

j. The Permittee's actions in response to the excess emissions were documented by contemporaneous records

3. Affirmative Defense for Startup and Shutdown

a. Except as provided in Condition XII.E.3.b below, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. When emissions in excess of an applicable emission limitation are due to startup and shutdown, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

(1) The excess emissions could not have been prevented through careful and prudent planning and design;

(2) If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;

(3) The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

(4) The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent

practicable during periods of such emissions;

(5) All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

(6) During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

(7) All emissions monitoring systems were kept in operation if at all practicable; and

(8) Contemporaneous records documented the Permittee's actions in response to the excess emissions.

b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to Condition XII.E.2 above.

4. Affirmative Defense for Malfunctions During Scheduled Maintenance

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XII.E.2 above.

5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under Condition XII.E.2 or XII.E.3 above, the Permittee shall demonstrate, through submission of the data and information required by Condition XII.E and A.A.C. R18-2-310.01, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

XIII. RECORD KEEPING REQUIREMENTS

[A.A.C. R18-2-306.A.4]

A. The Permittee shall keep records of all required monitoring information including, but not limited to, the following:

1. The date, place as defined in the permit, and time of sampling or measurements;

2. The date(s) analyses were performed;

3. The name of the company or entity that performed the analyses;

4. A description of the analytical techniques or methods used;

5. The results of such analyses; and

6. The operating conditions as existing at the time of sampling or measurement.

B. The Permittee shall retain records of all required monitoring data and support information

for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

C. All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

XIV. REPORTING REQUIREMENTS

[A.A.C. R18-2-306.A.5.a]

The Permittee shall submit the following reports:

A. Compliance certifications in accordance with Section VII of Attachment "A".

B. Excess emission; permit deviation, and emergency reports in accordance with Section XII of Attachment "A".

C. Other reports required by any condition of Attachment "B".

XV. DUTY TO PROVIDE INFORMATION

[A.A.C. R18-2-304.G and -306.A.8.e]

A. The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.

B. If the Permittee has failed to submit any relevant facts or has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

XVI. PERMIT AMENDMENT OR REVISION

[A.A.C. R18-2-317.01, -318, -319, and -320]

The Permittee shall apply for a permit amendment or revision for changes to the facility which does not qualify for a facility change without revision under Section XVII, as follows:

A. Facility Changes that Require a Permit Revision - Class II (A.A.C. R18-2-317.01);

B. Administrative Permit Amendment (A.A.C. R18-2-318);

C. Minor Permit Revision (A.A.C. R18-2-319); and

D. Significant Permit Revision (A.A.C. R18-2-320).

The applicability and requirements for such action are defined in the above referenced regulations.

XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION

[A.A.C. R18-2-306.A.4 and -317.02]

A. Except for a physical change or change in the method of operation at a Class II source requiring a permit revision under A.A.C. R18-2-317.01, or a change subject to logging or notice requirements in Conditions XVII.B and XVII.C below, a change at a Class II source shall not be subject to revision, notice, or logging requirements under this Section.

B. Except as otherwise provided in the conditions applicable to an emissions cap created under A.A.C. R18-2-306.02, the following changes may be made if the source keeps on site records of the changes according to Appendix 3 of the Arizona Administrative Code:

1. Implementing an alternative operating scenario, including raw materials changes;

2. Changing process equipment, operating procedures, or making any other physical change if the permit requires the change to be logged;

3. Engaging in any new insignificant activity listed in A.A.C. R18-2-101.57.a through A.A.C. R18-2-101.57.i but not listed in the permit;

4. Replacing an item of air pollution control equipment listed in the permit with an identical (same model, different serial number) item. The Director may require verification of efficiency of the new equipment by performance tests; and

5. A change that results in a decrease in actual emissions if the source wants to claim credit for the decrease in determining whether the source has a net emissions increase for any purpose. The logged information shall include a description of the change that will produce the decrease in actual emissions. A decrease that has not been logged is creditable only if the decrease is quantifiable, enforceable, and otherwise qualifies as a creditable decrease.

C. Except as provided in the conditions applicable to an emissions cap created under A.A.C. R18-2-306.02, the following changes may be made if the source provides written notice to the Department in advance of the change as provided below:

1. Replacing an item of air pollution control equipment listed in the permit with one that is not identical but that is substantially similar and has the same or better pollutant removal efficiency: 7 days. The Director may require verification of efficiency of the new equipment by performance tests;

2. A physical change or change in the method of operation that increases actual emissions more than 10% of the major source threshold for any conventional pollutant but does not require a permit revision: 7 days;

3. Replacing an item of air pollution control equipment listed in the permit with one that is not substantially similar but that has the same or better efficiency: 30 days. The Director may require verification of efficiency of the new equipment by performance tests;

4. A change that would trigger an applicable requirement that already exists in the permit: 30 days unless otherwise required by the applicable requirement;

5. A change that amounts to reconstruction of the source or an affected facility: 7 days. For the purposes of this subsection, reconstruction of a source or an affected facility shall be presumed if the fixed capital cost of the new components exceeds 50% of the fixed capital cost of a comparable entirely new source or affected facility and the changes to the components have occurred over the 12 consecutive months beginning with commencement of construction; and

6. A change that will result in the emissions of a new regulated air pollutant above an applicable regulatory threshold but that does not trigger a new applicable requirement for that source category: 30 days. For purposes of this requirement, an applicable regulatory threshold for a conventional air pollutant shall be 10% of the applicable major source threshold for that pollutant.

D. For each change under Condition XVII.C above, the written notice shall be by certified mail or hand delivery and shall be received by the Director the minimum amount of time in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided with less than required notice, but must be provided as far in advance of the change, or if advance notification is not practicable, as soon after the change as possible. The written notice shall include:

1. When the proposed change will occur;

2. A description of the change;

3. Any change in emissions of regulated air pollutants; and

4. Any permit term or condition that is no longer applicable as a result of the change.

E. A source may implement any change in Condition XVII.C above without the required notice by applying for a minor permit revision under A.A.C. R18-2-319 and complying with subsection A.A.C. R18-2-319.D.2 and A.A.C. R18-2-319.G.

F. The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section, other than implementation of an alternate operating scenario under Condition XVII.B.1.

G. Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the same source under this Section over the term of the permit, constitutes a change under subsection A.A.C. R18-2-317.01.A.

H. If a source change is described under both Conditions XVII.B and XVII.C above, the source shall comply with Condition XVII.C above. If a source change is described under both Condition XVII.C above and A.A.C. R18-2-317.01.B, the source shall comply with A.A.C. R18-2-317.01.B.

I. A copy of all logs required under Condition XVII.B shall be filed with the Director within 30 days after each anniversary of the permit issuance date. If no changes were

made at the source requiring logging, a statement to that effect shall be filed instead.

J. Logging Requirements

[A.A.C. R18-2-306.A.4]

1. Each log entry required by a change under Condition XVII.B shall include at least the following information:

   a. A description of the change, including:

      i. A description of any process change;

      ii. A description of any equipment change, including both old and new equipment descriptions, model numbers, and serial numbers, or any other unique equipment ID number; and

      iii. A description of any process material change.

   b. The date and time that the change occurred.

   c. The provision of A.A.C. R18-2-317.02.B that authorizes the change to be made with logging.

   d. The date the entry was made and the first and last name of the person making the entry.

2. Logs shall be kept for 5 years from the date created. Logging shall be performed in indelible ink in a bound log book with sequentially number pages, or in any other form, including electronic format, approved by the Director.

XVIII. TESTING REQUIREMENTS

[A.A.C. R18-2-312]

A. The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.

B. Operational Conditions During Testing

Tests shall be conducted during operation at the maximum possible capacity of each unit under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during periods of start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative operational conditions unless otherwise specified in the applicable standard.

C. Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.

D. Test Plan

At least 14 calendar days prior to performing a test, the Permittee shall submit a test plan to the Director in accordance with A.A.C. R18-2-312.B and the Arizona Testing Manual.

This test plan must include the following:

1. Test duration;

2. Test location(s);

3. Test method(s); and

4. Source operation and other parameters that may affect test results.

E. Stack Sampling Facilities

The Permittee shall provide, or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;

2. Safe sampling platform(s);

3. Safe access to sampling platform(s); and

4. Utilities for sampling and testing equipment.

F. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

G. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XIX. PROPERTY RIGHTS

[A.A.C. R18-2-306.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XX. SEVERABILITY CLAUSE

[A.A.C. R18-2-306.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

XXI. PERMIT SHIELD

[A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements identified in the portions of this permit subtitled "Permit Shield". The permit shield shall not apply to minor revisions pursuant to Condition XVI.B of this Attachment and any facility changes without a permit revision pursuant to Section XVII of this Attachment.

XXII. PROTECTION OF STRATOSPHERIC OZONE

[40 CFR Part 82]

If this source becomes subject to the provisions of 40 CFR Part 82, then the Permittee shall comply with these provisions accordingly.

XXIII. APPLICABILITY OF NSPS/NESHAP GENERAL PROVISIONS

[40 CFR Part 60, Part 63]

For all equipment subject to a New Source Performance Standard or a National Emission Standard for Hazardous Air Pollutants, the Permittee shall comply with all applicable requirements contained in Subpart A of Title 40, Chapter 60 and Chapter 63 of the Code of Federal Regulations.

ATTACHMENT "B": SPECIFIC CONDITIONS

Air Quality Control Permit No. 62878
For
Energy Fuels Resources (USA) Inc. – EZ Mine

I. FACILITY WIDE REQUIREMENTS

A. Operating Limitations

1. The Permittee shall not conduct active mining at the EZ Mine while the AZ I or the Pinenut mines are being actively mined. For the purposes of this permit active mining is defined to mean the extraction, removal, or recovery of uranium ore from its natural deposits.

[A.A.C. R18-2-306.A.2]

2. The Permittee shall have on site or on call a person certified in EPA Reference Method 9 unless all Method 9 observations and instantaneous visual surveys required by this permit are conducted as Alternative Method-082 (Digital Camera Operating Technique). The Permittee shall certify the camera and the associated software in accordance with ALT-082 procedures. Any Method 9 observation or instantaneous visual survey required by this permit can be conducted as ALT-082. The results of a Method 9 observation or any instantaneous visual survey conducted as ALT-082 shall be obtained within 30 minutes of completing the Method 9 observation or instantaneous visual survey.

[A.A.C. R18-2-306.A.3.c]

B. Reporting Requirements

The Permittee shall submit reports of all monitoring activities required in Attachment "B" along with the compliance certifications required by Section VII of Attachment "A."

[A.A.C. R18-2-306.A.5]

II. MINE VENTS

This Section applies to the mine vents.

A. Radon Emissions

1. Emission Limitations/Standards

The Permittee shall not cause, allow or permit emissions of radon-222 from the underground uranium mine in excess of those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/yr.

[40 CFR 61.22]

2. Monitoring, Recordkeeping and Reporting Requirements

a. Compliance with the emission standard in Condition II.A.1 shall be determined and the effective equivalent dose calculated by the U.S. Environmental Protection Agency (EPA) computer code (i.e. mathematical model) COMPLY-R. The source terms to be used for

input into COMPLY-R shall be calculated by conducting testing in accordance with the procedures described in 40 CFR Part 61 appendix B, Method 115, or the Permittee may demonstrate compliance with the emission standard in Condition III.A.1 through use of computer models that are equivalent to COMPLY-R provided that the model has received prior approval from EPA headquarters. EPA may approve a model in whole or in part and may limit its use to specific circumstances.

[40 CFR 61.23]

b. The Permittee shall annually calculate and report the results of the compliance calculations required in Condition II.A.2.a and the input parameters used in making the calculations. This annual report shall include the emissions for the entire calendar year and shall be sent to the Administrator and the Director by March 31st of the following year. Each report shall also include the following information:

[40 CFR 61.24(a)]

(1) The name and location of the mine.

(2) The name of the person responsible for the operation of the facility and the name of the person preparing the report (if different).

(3) The results of the emissions testing conducted and the dose calculated using the procedures described in Condition II.A.2.a.

(4) A list of the stacks or vents or other points where radioactive materials are released to the atmosphere, including their location, diameter, flow rate, effluent temperature and release height.

(5) A description of the effluent controls that are used on each stack, vent, or other release point and the effluent controls used inside the mine, and an estimate of the efficiency of each control method or device.

(6) Distances from the points of release to the nearest residence, school, business or office and the nearest farms producing vegetables, milk, and meat.

(7) The values used for all other user-supplied input parameters for the computer models (e.g., meteorological data) and the source of these data.

(8) Each report shall be signed and dated by a corporate officer in charge of the facility and contain the following declaration immediately above the signature line: "I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. See, 18 U.S.C. 1001."

c. If the facility is not in compliance with the emission standard of Condition II.A.1 in the calendar year covered by the report, the Permittee shall then commence reporting to the Director and Administrator on a monthly basis the information listed in Condition II.A.2.a of this Section for the preceding month. These reports will start the month immediately following the submittal of the annual report for the year in noncompliance and will be due 30 days following the end of each month. This increased level of reporting will continue until the Administrator has determined that the monthly reports are no longer necessary. In addition to all the information required in Condition II.A.2.a of this Section, monthly reports shall also include the following information:

[40 CFR 61.24(b)]

(1) All controls or other changes in operation of the facility that will be or are being installed to bring the facility into compliance.

(2) If the facility is under a judicial or administrative enforcement action the report shall describe the facilities performance under the terms of the action.

(3) The first report shall cover the emissions of the first calendar year in which operations occur.

d. The Permittee shall maintain records documenting the source of input parameters including the results of all measurements upon which they are based, the calculations and/or analytical methods used to derive values for input parameters, and the procedure used to determine compliance. In addition, the documentation should be sufficient to allow an independent auditor to verify the accuracy of the determination made concerning the facility's compliance with the standard in Condition II.A.1. These records must be kept at the mine or by the Permittee for at least five years and upon request be made available for inspection by the Director and Administrator, or his authorized representative.

[40 CFR 61.25]

3. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with 40 CFR 61 Subpart B.

[A.A.C. R18-2-325]

B. Particulate Matter (PM/PM_{10})

1. Emission Limitations/Standards

a. The Permittee shall not cause, allow or permit the discharge of particulate matter, into the atmosphere in any one hour from any process source in total quantities in excess of the amounts calculated by one of the following equations:

(1) For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following

equation:

$E = 55.0\ P^{0.11} - 40$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour

[A.A.C. R18-2-730.A.1.a]

(2) For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

$E = 4.10\ P^{0.67}$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour

[A.A.C. R18-2-730.A.1.b]

2. Permit Shield

Compliance with this Part shall be deemed compliance with A.A.C. R18-2-730.A.

[A.A.C. R18-2-325]

C. Opacity

1. Emission Limitation

The Permittee shall not cause to be discharged into the atmosphere from the mine ventilation stacks, when operating, any plume which exhibits greater than 20% opacity. If the presence of uncombined water is the only reason for an exceedance of this standard, the exceedance shall not be considered a violation.

[A.A.C.R18-2-702.B.3 and C]

2. Monitoring, Reporting, and Record keeping

a. A certified EPA Reference Method 9 observer shall conduct a bi-weekly (once every two weeks) survey of visible emissions emanating from the mine ventilation stack, when operating.

(1) If the opacity of the emissions observed appears to exceed the standard, the observer shall conduct a certified EPA Reference Method 9 observation.

(a) The Permittee shall keep records of the initial survey and

any EPA Reference Method 9 observations performed.

(b) These records shall include the emission point observed, location of observer, name of observer, date and time of observation, and the results of the observation.

(2) If the observation shows a Method 9 opacity reading in excess of 20%,

(a) The Permittee shall report this to ADEQ as excess emission and initiate appropriate corrective action to reduce the opacity below 20%.

(b) The Permittee shall keep a record of the corrective action performed.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with this Part shall be deemed compliance with A.A.C. R18-2-702.B and -702.C.

[A.A.C. R18-2-325]

D. Gaseous Pollutants

1. Operational Limitations

Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the owner or operator thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property.

[A.A.C. R18-2-730.G]

2. Emissions Limitations and Standards

The Permittee shall not emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

[A.A.C. R18-2-730.D]

3. Permit Shield

Compliance with this Part shall be deemed compliance with A.A.C. R18-2-730.D, and -730.G.

[A.A.C. R18-2-325]

III. INTERNAL COMBUSTION ENGINES

This Section applies to the Emergency CI engine identified in Attachment "C".

A. Operating Requirements

The Permittee shall operate and maintain all equipment identified in Attachment "C" in accordance with manufacturer's specifications, or operating practices which conform with good air pollution control practices.

[A.A.C. R18-2-306.A.2]

B. Recordkeeping Requirements

The Permittee shall maintain, on-site, records of the manufacturer's specifications or industry standard practices for minimizing emissions for the compression ignition (CI) engine listed in Attachment "C".

[A.A.C. R18-2-306.A.4]

C. Fuel Limits

The Permittee shall only burn diesel fuel in the internal combustion engine identified in Attachment "C".

[A.A.C. R18-2-306.A.2]

D. Recordkeeping

The Permittee shall keep monthly records of the rolling 12-month total hours of operation for the internal combustion engine. These records shall be made available to ADEQ upon request.

[A.A.C. R18-2-306.A.3.c]

E. Opacity

1. Emission Limitation/Standard

The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any internal combustion engine, smoke for any period greater than ten consecutive seconds, which exceeds 40 percent opacity. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C.R18-2-719.E]

2. Monitoring, Reporting, and Record Keeping

[A.A.C. R18-2-306.A.3.c]

a. A certified EPA Reference Method 9 observer shall conduct a quarterly survey of visible emissions emanating from the stack of the internal combustion engine if the engine is in operation.

b. If the opacity of the emissions observed appears to exceed the standard, the observer shall conduct a certified EPA Reference Method 9 observation.

(1) The Permittee shall keep records of the initial survey and any EPA Reference Method 9 observations performed.

(2) These records shall include the emission point observed, location of observer, name of observer, date and time of observation, and the results of the observation.

c. If the observation shows a Method 9 opacity reading in excess of 40%,

(1) The Permittee shall report this to ADEQ as excess emission and initiate appropriate corrective action to reduce the opacity below 40%.

(2) The Permittee shall keep a record of the corrective action performed.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-719.E.

[A.A.C. R18-2-325]

F. Particulate Matter

1. Emission Limitations/Standards

a. For the purpose of this Section, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. The total heat input of all operating internal combustion engines on a plant or premises shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

[A.A.C. R18-2-719.B]

b. The Permittee shall not cause, allow, or permit the emission of particulate matter, caused by combustion of fuel, from any internal combustion engine in excess of the amount calculated by the following equation:

$E = 1.02\ Q^{0.769}$

Where:

E = the maximum allowable particulate emissions rate in pounds mass per hour

Q = the heat input in million Btu per hour

[A.A.C. R18-2-719.C.1]

2. Monitoring, Reporting, and Recordkeeping

The Permittee shall keep records of fuel supplier certifications. The certification shall contain information regarding the heating value of the fuel.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-719.C.1, and B.

[A.A.C. R18-2-325]

G. Sulfur Dioxide

1. Emission Limitations/Standards

a. The Permittee shall not emit or cause to emit more than 1.0 pound of sulfur dioxide per million Btu heat input when low sulfur fuel is fired.

[A.A.C. R18-2-719.F]

b. The Permittee shall not fire high sulfur fuel (greater than 0.9 percent sulfur in fuel) in the internal combustion engines.

[A.A.C. R18-2-719.H]

2. Monitoring, Reporting, and Recordkeeping

a. The Permittee shall keep records of fuel supplier certifications to demonstrate compliance with the sulfur content limit specified in Condition III.G.1.b above.

[A.A.C. R18-2-306.A.3.c]

b. The Permittee shall report to the Director any daily period during which the sulfur content of the fuel being fired in the internal combustion engines exceeds 0.8%.

[A.A.C. R18-2-719.J]

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-719.F, H, & J.

[A.A.C. R18-2-325]

H. Hazardous Air Pollutants

1. General Requirements

a. Operating Requirements

(1) At all times the Permittee shall operate and maintain the CI (compression ignition) engine, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[40 CFR 63.6605(b)]

(2) The Permittee shall change the oil and filter every 500 hours of operation or annually, whichever comes first.

[40 CFR 63.6603(a)(Table 2d)(Item 4)]

(3) The Permittee shall inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first.

[40 CFR 63.6603(a)(Table 2d)(Item 4)]

(4) The Permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

[40 CFR 63.6603(a)(Table 2d)(Item 4)]

(5) If the emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements required in Conditions III.H.1.a(2) through III.H.1.a(4) above, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice shall be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. The Permittee shall report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[40 CFR § 63.6603(a)(Table 2d)(Item 4)(footnote 2)]

(6) *The Permittee shall install a non-resettable hour meter on the CI engine if one is not already installed.*

[40 CFR § 63.6625(f), A.A.C. R-18-331.A.3.c]
[Material Permit Condition is indicated by underline and italics]

(7) The Permittee shall minimize the engine's time at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

[40 CFR 63.6625(h)]

(8) The Permittee shall not operate the CI engine for more than 50 hours per year except during emergency situations or for maintenance and testing purposes.

[40 CFR 63.6640(f)(1)]

(9) There is no time limit on the use of the CI engine during emergency situations.

[40 CFR 63.6640(f)(2)]

(10) The Permittee may operate the CI engine for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The Permittee may petition the Director for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that

Federal, State, or local standards require maintenance and testing of the CI engine beyond 100 hours per year.

[40 CFR 63.6640(f)(3)]

(11) The Permittee may operate the CI engine up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing.

[40 CFR 63.6640(f)(4)]

b. Monitoring Requirements

The Permittee shall operate and maintain the CI engine according to the manufacturer's emission-related written instructions or shall develop and follow an operation and maintenance plan which shall provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

[40 CFR 63.6625(e), Table 6, Item #9]

c. Reporting and Recordkeeping Requirements

(1) The Permittee shall submit a semiannual compliance certification in accordance with Condition VII.A of Attachment "A" for the reporting requirements of this Section.

[40 CFR 63.6650(b)(5)]

(2) The Permittee shall report each instance in which the facility did not meet the requirements in Table of 40 CFR 63 Subpart ZZZZ Table 8.

[40 CFR § 63.6640(e)]

(3) The Permittee shall keep records in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1).

[40 CFR 63.6660(a)]

(4) The Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[40 CFR 63.6660(b)]

(5) The Permittee shall keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[40 CFR 63.6660(c)]

(6) The compliance certification shall include the following:

(a) Company name and address

[40 CFR 63.6650(c)(1)]

(b) A statement by the responsible official, with that official's name, title, and signature, certifying the

accuracy of the content of the report.

[40 CFR 63.6650(c)(2)]

(c) Date of report and beginning and ending dates of the reporting period.

[40 CFR 63.6650(c)(3)]

(d) If there are no deviations from any operating limitations that apply, a statement that there were no deviations from the operating limitations during the reporting period.

[40 CFR 63.6650(c)(5)]

(e) If a deviation from an operating limitation occurs during the reporting period, the following additional information shall be provided:

[40 CFR 63.6650(d)]

(i) The total operating time of the CI engine at which the deviation occurred during the reporting period.

(ii) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(7) The Permittee shall keep records of the following:

[40 CFR 63.6655(a), (e), and (f)]

(a) A copy of each notification and report that was submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that was submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv).

(b) Records of the occurrence and duration of each malfunction of operation (i.e.,process equipment) or the air pollution control and monitoring equipment.

(c) Records of actions taken during periods of malfunction to minimize emissions in accordance with Condition III.H.1.a(1), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(d) The Permittee shall keep records of the maintenance conducted on the CI in order to demonstrate that the facility operated and maintained the CI engine and after-treatment control device (if any) according to the Permittee's own maintenance plan.

(e) The Permittee shall keep records of the hours of operation of the engine that is recorded through the non-resettable hours meter. The Permittee shall document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

(8) Permit Shield

Compliance with the conditions in this Part shall be deemed compliance with 40 CFR 63.6595, 63.6603(a), 63.6605(b), 63.6625(f), 63.6625(h), 63.6625(e), 63.6640(f), 63.6640(e), 63.6650(b), 63.6650(c), 63.6655(a), 63.6655(e), 63.6655(f), 63.6660(a), 63.6660(b), and 63.6660(c).

[A.A.C. R18-2-325]

IV. FUGITIVE DUST REQUIREMENTS

A. Applicability

This Section applies to any source of fugitive dust in the facility.

B. Particulate Matter and Opacity

Open Areas, Roadways & Streets, Storage Piles, and Material Handling

1. Emission Limitations/Standards

a. In addition to the requirements of this Section, the Permittee shall also comply with the "Dust Control and Soil Sampling Implementation Plan" in Attachment "D".

[A.A.C. R18-2-306.A.2]

b. Opacity of emissions from any fugitive dust non-point source shall not be greater than 40% measured in accordance with the Arizona Testing Manual, Reference Method 9.

[A.A.C. R18-2-614]

c. The Permittee shall not cause, allow or permit visible emissions from any fugitive dust point source, in excess of 20% opacity.

[A.A.C. R18-2-702.B]

d. The Permittee shall employ the following reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne:

(1) Keep dust and other types of air contaminants to a minimum in an open area where construction operations, repair operations, demolition activities, clearing operations, leveling operations, or any earth moving or excavating activities are taking place, by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means;

[A.A.C. R18-2-604.A]

(2) Keep dust to a minimum from driveways, parking areas, and vacant lots where motor vehicular activity occurs by using an approved dust suppressant, or adhesive soil stabilizer, or by paving, or by barring access to the property, or by other acceptable means;

[A.A.C. R18-2-604.B]

(3) Keep dust and other particulates to a minimum by employing dust suppressants, temporary paving, detouring, wetting down or by other reasonable means when a roadway is repaired, constructed, or reconstructed;

[A.A.C. R18-2-605.A]

(4) Take reasonable precautions, such as wetting, applying dust suppressants, or covering the load when transporting material likely to give rise to airborne dust;

[A.A.C. R18-2-605.B]

(5) Take reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods when crushing, handling, or conveying material likely to give rise to airborne dust;

[A.A.C. R18-2-606]

(6) Take reasonable precautions such as chemical stabilization, wetting, or covering when organic or inorganic dust producing material is being stacked, piled, or otherwise stored;

[A.A.C. R18-2-607.A]

(7) Operate stacking and reclaiming machinery utilized at storage piles at all times with a minimum fall of material, or with the use of spray bars and wetting agents;

[A.A.C. R18-2-607.B]

(8) Any other method as proposed by the Permittee and approved by the Director.

[A.A.C. R18-2-306.A.3.c]

e. Haul trucks shall not travel in excess of 25 miles per hour on any unpaved roadways.

[A.A.C. R18-2-306.A.2]

2. Air Pollution Control Requirements

[A.A.C. R-18-2-306.A.2 and -331.A.3.d]
[Material Permit Condition is indicated by underline and italics]

a. *The Permittee shall maintain water in the evaporation pond, stabilize the soil, or remove the soil to prevent particulate matter from becoming airborne.*

b. *The Permittee shall operate and maintain the haul trucks in such a way that ore cannot escape through any slits or openings in the bed of the truck.*

c. *Haul truck loads must be covered with a tarpaulin, that is secured*

around the entire perimeter of the truck bed.

3. Monitoring and Recordkeeping Requirements

a. The Permittee shall maintain records of the dates on which any of the activities listed in Conditions IV.B.1.d(1) through IV.B.1.d(8) above were performed and the control measures that were adopted.

[A.A.C. R18-2-306.A.3.c]

b. *The Permittee shall install and operate an electronic speed tracking device on each haul truck and use this device to continuously record haul truck speed as practicable.*

[A.A.C. R-18-2-306.A.2 and -331.A.3.c]
[Material Permit Condition is indicated by underline and italics]

c. The Permittee shall record the odometer mileage and the time each haul truck arrives or leaves the mine site.

[A.A.C. R18-2-306.A.3.c]

d. The Permittee shall keep haul truck speed and location data on file and readily available for review by the Department.

[A.A.C. R18-2-306.A.3]

e. Opacity Monitoring Requirements

(1) A certified Method 9 observer shall conduct a weekly visual survey of visible emissions from the fugitive dust sources, when operating. The Permittee shall keep a record of the name of the observer, the date and location on which the observation was made, and the results of the observation.

(2) If the observer sees a visible emission from a fugitive dust source that on an instantaneous basis appears to exceed applicable opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the visible emission.

(a) If the six-minute opacity of the visible emission is less than or equal to applicable opacity standard, the observer shall make a record of the following:

(i) Location, date, and time of the observation; and

(ii) The results of the Method 9 observation.

(b) If the six-minute opacity of the visible emission exceeds applicable opacity standard, then the Permittee shall do the following:

(i) Adjust or repair the controls or equipment to reduce opacity to below the applicable standard; and

(ii) Report it as an excess emission under Section

XII.A of Attachment "A".

[A.A.C. R18-2-306.A.3.c]

4. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with A.A.C. R18-2-604.A, A.A.C. R18-2-604.B, A.A.C. R18-2-605, A.A.C. R18-2-606, A.A.C. R18-2-607, and A.A.C. R18-2-612.

V. MOBILE SOURCE REQUIREMENTS

A. Applicability

The requirements of this Section are applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles, agricultural vehicles, or agricultural equipment used in normal farm operations. Mobile sources shall not include portable sources as defined in A.A.C. R18-2-101.90.

[A.A.C. R18-2-801.A]

B. Particulate Matter and Opacity

1. Emission Limitations/Standards

a. Off-Road Machinery

The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any off-road machinery, smoke for any period greater than ten consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. Off-road machinery shall include trucks, graders, scrapers, rollers, and other construction and mining machinery not normally driven on a completed public roadway.

[A.A.C. R18-2-802.A and -802.B]

b. Roadway and Site Cleaning Machinery

(1) The Permittee shall not cause, allow or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than ten consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C. R18-2-804.A]

(2) The Permittee shall take reasonable precautions, such as the use of dust suppressants, before the cleaning of a site, roadway, or alley. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means.

[A.A.C. R18-2-804.B]

c. Unless otherwise specified, no mobile source shall emit smoke or dust

the opacity of which exceeds 40%.

[A.A.C. R18-2-801.B]

2. Recordkeeping Requirement

The Permittee shall keep a record of all emissions related maintenance activities performed on the Permittee's mobile sources stationed at the facility as per manufacturer's specifications.

[A.A.C. R18-2-306.A.5.a]

3. Permit Shield

Compliance with this Section shall be deemed compliance with A.A.C. R18-2-801, A.A.C. R18-2-802.A, A.A.C. R18-2-804.A and A.A.C. R18-2-804.B.

[A.A.C. R18-2-325]

VI. OTHER PERIODIC ACTIVITIES

A. Abrasive Blasting

1. Particulate Matter and Opacity

a. Emission Limitations/Standards

The Permittee shall not cause or allow sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Good modern practices include:

(1) wet blasting;

(2) effective enclosures with necessary dust collecting equipment; or

(3) any other method approved by the Director.

[A.A.C. R18-2-726]

b. Opacity

The Permittee shall not cause, allow or permit visible emissions from sandblasting or other abrasive blasting operations in excess of 20% opacity, as measured by EPA Reference Method 9.

[A.A.C. R18-2-702.B]

2. Monitoring and Recordkeeping Requirement

Each time an abrasive blasting project is conducted, the Permittee make a record of the following:

a. The date the project was conducted;

b. The duration of the project; and

c. Type of control measures employed.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with this Part shall be deemed compliance with A.A.C. R18-2-726 and A.A.C. R18-2-702.B.

[A.A.C.R18-2-325]

B. Use of Paints

1. Volatile Organic Compounds

a. Emission Limitations/Standards

While performing spray painting operations, the Permittee shall comply with the following requirements:

(1) The Permittee shall not conduct or cause to be conducted any spray painting operation without minimizing organic solvent emissions. Such operations, other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96 percent of the overspray.

[A.A.C.R18-2-727.A]

(2) The Permittee or their designated contractor shall not either:

(a) Employ, apply, evaporate, or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes; or

(b) Thin or dilute any architectural coating with a photochemically reactive solvent.

[A.A.C.R18-2-727.B]

(3) For the purposes of Condition VI.B.1.a(2) above, a photochemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in Conditions VI.B.1.a(3)(a) through VI.B.1.a(3)(c) below, or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:

(a) A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation-hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: 5 percent.

(b) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent.

(c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.

[A.A.C.R18-2-727.C]

(4) Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more

than one of the groups of organic compounds described in Conditions VI.B.1.a(3)(a) through VI.B.1.a(3)(c) above, it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

[A.A.C.R18-2-727.D]

b. Monitoring and Recordkeeping Requirements

(1) Each time a spray painting project is conducted, the Permittee shall make a record of the following:

(a) The date the project was conducted;

(b) The duration of the project;

(c) Type of control measures employed;

(d) Material Safety Data Sheets for all paints and solvents used in the project; and

(e) The amount of paint consumed during the project.

(2) Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of Condition VI.B.1.b(1)) above.

[A.A.C. R18-2-306.A.3.c]

c. Permit Shield

Compliance with this Part shall be deemed compliance with A.A.C.R18-2-727.

[A.A.C.R18-2-325]

2. Opacity

a. Emission Limitation/Standard

The Permittee shall not cause, allow or permit visible emissions from painting operations in excess of 20% opacity, as measured by EPA Reference Method 9.

[A.A.C. R18-2-702.B]

b. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C.R18-2-702.B.

[A.A.C. R18-2-325]

C. Demolition/Renovation - Hazardous Air Pollutants

1. Emission Limitation/Standard

The Permittee shall comply with all of the requirements of 40 CFR 61 Subpart M (National Emissions Standards for Hazardous Air Pollutants - Asbestos).

[A.A.C. R18-2-1101.A.8]

2. Monitoring and Recordkeeping Requirement

The Permittee shall keep all required records in a file. The required records shall include the "NESHAP Notification for Renovation and Demolition Activities" form and all supporting documents.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-1101.A.8.

[A.A.C. R18-2-325]

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ATTACHMENT "C": EQUIPMENT LIST

Air Quality Control Permit No. 62878
For
Energy Fuels Resources (USA) Inc. – EZ Mine

EQUIPMENT TYPE	FUEL TYPE	MAXIMUM CAPACITY	MAKE	MODEL	SERIAL NUMBER	EQUIPMENT ID	DATE OF MFG.
Emergency Generator	Diesel	500 kW	TBD	TBD	TBD	TBD	TBD

DRAFT

ATTACHMENT "D": DUST CONTROL AND SOIL SAMPLING IMPLEMENTATION PLAN

Air Quality Control Permit No. 62878
For
Energy Fuels Resources (USA) Inc- EZ Mine

I. INTRODUCTION

This Dust Control and Soil Sampling Implementation Plan describes the procedures the facility will employ to minimize fugitive dust emissions and mitigate the transport of dust from ore stockpiles, haul truck loading activities, and other dust producing activities. Additionally, this plan requires the facility to conduct periodic sampling of soil around the mine site to determine if any elevated readings of uranium and radium are detected. This will indicate if dust control strategies are working or if additional dust mitigation strategies need to be implemented.

II. SOIL SAMPLING AND MONITORING

A. Monitoring and Sampling Locations

Appendix 1 to this Attachment shows the locations where the soil sampling and environmental gamma monitoring will be conducted. The locations were chosen at 100 feet outside the property fenceline at four locations approximately North, South, East, and West of the mine site.

B. Soil Sampling and Environmental Gamma Monitoring Requirements

[A.A.C. R18-2-306.A.2]

1. Environmental Gamma Monitoring Procedures

   a. The Permittee shall follow the "Standard Operating Procedure for Environmental Gamma Monitoring" in Appendix 2 to this Attachment.

   b. OSL monitors for gamma radiation will be collected on a calendar quarter basis, at least 90 days prior to active mine operations that involve the placement of ore in storage piles or transfer or ore to haul trucks, at the four locations identified in Appendix 1 to this Attachment.

2. Soil Sampling Procedures

   a. Soil Sampling shall be conducted in accordance with the facility's Standard Operating Procedure for Soil Sampling in Appendix 3 to this Attachment.

   b. Soil sampling shall commence at least 90 days prior to active mine operations that involve the placement of ore in storage piles or transfer or ore to haul trucks, at the four sampling locations identified in Appendix 1 to this Attachment. Subsequent samples shall be taken annually thereafter, or quarterly if required by Condition II.B.3.e

   c. The Permittee shall use the following test methods for soil sampling conducted under this section:

(1) EPA Method SW6010 or SW6020 for Uranium

(2) EPA Method E903.1 or E901.1for Radium-226

3. Reporting of Environmental Gamma and Soil Sampling Data

a. The Permittee shall submit all OSL monitors and soil samples for analysis within 7 calendar days of collection.

b. Results from the OSL monitors and soil samples shall be provided to ADEQ within 30 calendar days of the Permittee receiving the respective lab results.

c. If the results of the OSL monitors or soil samples exceed the initial action trigger levels identified in Table 1 below, or a revised trigger level established at a specific sampling point per Condition II.B.3.f, the Permittee shall notify ADEQ within two business days of discovery of the exceedance.

Table 1: Initial Action Trigger Level

Parameter	Action Trigger Values
Uranium	40 pCi/g (60 mg/kg)
Radium 226	20 pCi/g
Gamma	50 µR/hr (7.8 mrem/week)

d. Within 3 business days of the notification required by Condition II.B.3.c above, the Permittee shall submit a follow-up report containing the following:

(1) The results of any quality assurance and quality control data analysis.

(2) If the exceedance cannot be attributed to laboratory error, the report shall also contain the following:

(a) A description of the suspected cause of the increased levels.

(b) A corrective action plan describing the additional control measures to be implemented in accordance with Condition III.E and a timeframe for implementing the controls. To the extent practicable, the additional control measure should be designed to control the cause identified in Condition II.B.3.d(2)(a) above, and should be implemented as expeditiously as practically possible.

e. Following an exceedance reported per Condition II.B.3.d(2), the frequency of subsequent soil samples at all sampling locations identified in Appendix 1 to this Attachment shall be increased to once per calendar quarter. If the results from all sampling locations for four consecutive quarters are equal to or less than the respective trigger level at each sampling location, the Permittee may reduce the soil sampling frequency

to annual.

f. Following an exceedance reported per Condition II.B.3.d(2), the action trigger level for individual sampling points shall be adjusted as follows:

(1) For any sampling location that has exceeded the respective action trigger level, the action trigger level will be reset to the value of the most recent exceedance.

(2) For sampling locations that have not exceeded the respective action trigger levels, the action trigger level will remain the same as in Table 1.

III. DUST CONTROL PLAN

A. This Section covers the following sources of fugitive dust:

1. Unpaved on-site haul roads;

2. Transfer of ore from storage piles to haul trucks;

3. Disturbed areas within the property boundaries.

B. Wind Speed Monitoring

1. The Permittee shall submit to the Director for approval a siting plan for the installation of the anemometer. The siting plan shall be submitted at least 30 days prior to active mine operations that involve the placement of ore in storage piles or transfer of ore to haul trucks.

[A.A.C. R-18-2-306.A.2]

2. *Upon the Director's approval of the siting plan in III.B.1, and prior to active mine operations that involve the placement of ore in storage piles or transfer of ore to haul trucks, the Permittee shall install,* calibrate, maintain, and operate *an anemometer to measure the wind speed at the facility.....*.

[A.A.C. R-18-2-306.A.2 and -331.A.3.d and e]
[Material Permit Condition is indicated by underline and italics]

a. The anemometer shall operate during periods of active mine operations and shall not be required if no ore is stored at the facility and no transfer of ore to haul trucks is taking place.

[A.A.C. R-18-2-306.A.2]

3. If the onsite measured wind speeds exceed 20 miles per hour over a 2-minute average, the Permittee shall evaluate water usage and/or application frequency at the facility and make adjustments as needed.

[A.A.C. R-18-2-306.A.2]

4. If the onsite measured wind speeds exceed 25 miles per hour over a 2-minute average, the Permittee shall stop haul truck loading activities for two hours and shall not resume haul truck loading activities until onsite measured wind speeds are below 25 miles per hour on a 2-minute average.

[A.A.C. R-18-2-306.A.2]

C. Ore Storage Piles and Haul Truck Loading

[A.A.C. R-18-2-306.A.2]

1. Ore Storage Piles

   a. The ore storage pile will not exceed 13,100 tons.

   b. The ore storage pile height shall not exceed 20 feet.

   c. The Permittee shall spray the ore stockpile with water, as necessary, to control fugitive dust.

2. Haul Truck Loading

   a. Prior to haul truck loading operations, the Permittee shall spray the ore stockpile with water, as necessary, to control fugitive dust.

   b. On a calendar quarter basis, the Permittee shall train haul truck personnel on dust control measures to minimize dust emissions.

D. Disturbed Surface Areas and On-Site Haul Roads

[A.A.C. R-18-2-306.A.2]

Water shall be applied as needed to control visible emissions from disturbed surface areas and on-site haul roads.

E. Trigger Based Additional Dust Control Strategy

[A.A.C. R-18-2-306.A.2]

a. Following the first exceedance reported per Condition II.B.3.d(2), the Permittee shall reduce the ore stockpile to 6,600 tons within 60 days of submittal of the corrective action plan to ADEQ. As specified in Condition II.B.3.d(2)(b), the Permittee shall also implement one additional dust control strategy from Condition III.E.b(1) through (4).

b. Following each subsequent exceedance reported per Condition II.B.3.d(2), the Permittee shall implement one or more of the following additional dust control strategies as described in the corrective action plan submitted in accordance with Condition II.B.3.d(2)(b). Control strategies already in place shall continue to be utilized if practicable. :

   (1) Reduce the stockpile further to 4,400 tons within 45 days of submittal of the corrective action plan.

   (2) Construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%.

   (3) Cover open storage piles with tarps, plastic, or other material to prevent wind from removing the coverings.

(4) Additional dust control strategies not included in the above list may be included in the corrective action plan for approval by the Director.

IV. RECORD KEEPING AND MONITORING REQUIREMENTS

A. The Permittee shall maintain the following records onsite, and readily available for review by ADEQ personnel upon request.

1. The Permittee shall maintain a current record of the action trigger levels for all sampling points.

2. The Permittee shall maintain records of wind speeds from the facility anemometer.

3. The Permittee shall maintain records of the date, time, and quantity that water is applied to the ore storage pile, on-site haul roads, and disturbed surface areas.

4. The Permittee shall maintain daily records of the tons of ore contained in the ore stockpile.

5. The Permittee shall maintain daily records of the approximate height of the ore stockpile.

6. The Permittee shall maintain records of all haul truck operator trainings.

7. The Permittee shall maintain records of all soil sampling and environmental gamma monitoring results.

8. The Permittee shall maintain copies of all corrective action plans if applicable.

APPENDIX 1 TO ATTACHMENT "D": SAMPLING AND MONITORING LOCATION MAP

Air Quality Control Permit No. 62878
For
Energy Fuels Resources (USA) Inc. - EZ Mine

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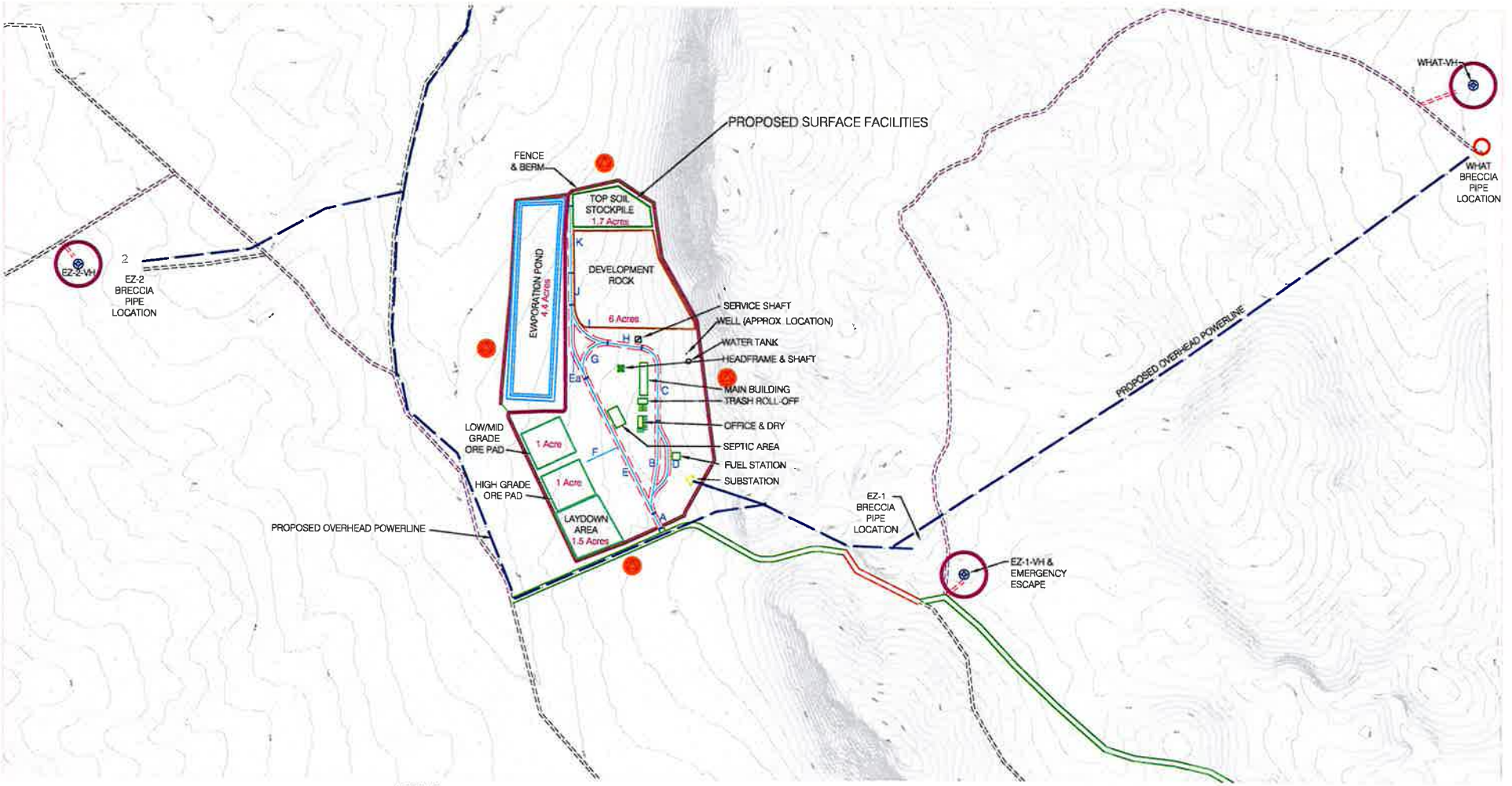

LEGEND

- Vent Hole
- Breccia Pipe Location
- Gamma Monitoring Locations
- Soil Sample Locations
- Fence
- Overhead Power Line
- Berm / Disturbed Area

Access Road (14-ft. Wide)

- Existing Road - No modification
- Proposed Access Upgrade
- Proposed New Access Road

Proposed Haul Road (28-ft. Wide)

- Proposed New Haul Road
- Existing Road to be Upgraded

Contour Interval = 1 foot
State Planes Coordinate System
Arizona West Zone, NAD 83

N

250' 0 250' 500'
SCALE: 1" = 500'

A283-WF

Energy Fuels Resources (USA) Inc.

REVISIONS		Project: EZ Breccia Pipes	
Date	By	County: Mohave	State: AZ
6-11	GM	Location: T 37 N, R 8 W	
3-16	RE		

EZ MINE
PROJECTED SAMPLING AND MONITORING LOCATION MAP

Author: CW | Date: 04-2011 | Drafted By: JMB

APPENDIX 2 TO ATTACHMENT "D": STANDARD OPERATING PROCEDURE FOR ENVIRONMENTAL GAMMA MONITORING

Air Quality Control Permit No. 62878
For
Energy Fuels Resources (USA) Inc. – EZ Mine

DRAFT

Energy Fuels Resources (USA) Inc.

Standard Operating Procedure for Environmental Gamma Monitoring

July 2016

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2.1 Health and Safety Considerations 3
2.2 Equipment and Supplies 4
2.3 Monitoring Procedures 4
3.0 Laboratory Analysis and Analytical Quality Assurance 4

STANDARD OPERATING PROCEDURE FOR ENVIRONMENTAL GAMMA MONITORING

1.0 Purpose

The purpose of this Standard Operating Procedure ("SOP") is to describe the field procedures, required documentation, and equipment to be used during environmental gamma monitoring at Energy Fuels Resources (USA) Inc.'s ("EFRI's") Arizona mine sites (the "Mines")

The procedures discussed in this SOP will be used for routine and non-routine environmental gamma monitoring at the Mines as required by Arizona Department of Environmental Quality ("ADEQ") operating permits. For site-specific details regarding gamma monitoring, please see the site-specific operating permits and/or plans which are housed on-site, in the Fredonia office, and in the EFRI Corporate office in Lakewood, CO.

2.0 Radiation (Gamma) Monitoring

2.1 Health and Safety Considerations

General site conditions shall always be observed prior to the commencement of field activities. Any unsafe conditions shall be documented and reported to the Mine Superintendent as soon as possible. If safety concerns warrant, field activities will be delayed until such time as the concerns are adequately addressed and the safety of field personnel is assured.

A safety assessment will be completed at each site prior to the commencement of any field activities. A safety assessment includes but is not limited to:

- A review of weather conditions (for severe weather conditions which may pose a hazard such as lightning, snow, and ice),
- A review of any biological hazards present (bees, wasps, snakes, and animals),
- A review of slip, trip, and fall hazards (ice, snow, mud, and uneven ground),
- A review of ground conditions around the sampling locations for any signs of instability, and
- A review of electrical hazards (frayed cords).

As in all mine areas, appropriate Personal Protective Equipment ("PPE") and safety precautions will be followed when working at the Mines:

- Steel toed shoes will be worn at all times in the field;
- Safety glasses will be worn at all times in the field; and
- Ear protection will be worn around operating surface fans and wherever posted.

2.2 Equipment and Supplies

Environmental gamma radiation is measured using optically stimulated luminescence (OSL) detectors from Landauer, Inc., or the equivalent. The following is a list of supplies needed to collect and exchange OSL detectors:

- Monitoring paperwork and tags/labels
- Sample cooler or suitable shipping container
- Global Positioning System ("GPS") instrument
- Field notebook
- Camera

2.3 Monitoring Procedures

Environmental gamma measurements are collected for twelve months of the year with OSL detectors being exchanged on a quarterly basis. Detectors are mounted approximately one meter above the ground surface at each monitoring location. Packages containing new OSL detectors are received the first of each quarter from Landauer and exchanged with detectors in the field. A background OSL detector is stored in the Administration Vault at the White Mesa Mill as a transportation control. Once exchanged, the OSL detectors collected from the field are returned to Landauer for processing.

Record Keeping: During monitoring activities, traceability of the sample measurement must be maintained upon exchange of the OSL detectors until they are delivered to Landauer. The sampler will be responsible for recording data using the appropriate form. Data maintained in record form for gamma includes:

- Sample period;
- Sample location; and
- Gamma levels for total radiation.

Records will be retained in appropriate files with EFRI.

3.0 Laboratory Analysis and Analytical Quality Assurance

Values reported are in millirems per week average for the monitor period (supplied by Landauer) along with a counting error term. The counting error term is calculated by:

[(sample 2 sigma) – (control mrem/week)] / (#weeks)

Quality assurance for external gamma measurements consists of:

- Monitoring the container locations to ensure the OSL detectors have not been lost;
- Ensuring that all OSL detectors are present during shipments to/from Landauer; and
- Reviewing Landauer data for consistency and data transportation.

APPENDIX 3 TO ATTACHMENT "D": STANDARD OPERATING PROCEDURE FOR SOIL SAMPLING

Air Quality Control Permit No. 62878
For
Energy Fuels Resources (USA) Inc. - EZ Mine

DRAFT

Energy Fuels Resources (USA) Inc.

Standard Operating Procedure for Soil Sampling

July 2016

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2.0 Soil and Sediment Sample Collection 3

2.1 Health and Safety Considerations 3

2.2 Equipment and Supplies 4

2.3 Composite Sampling Procedures 4

3.0 Laboratory Analysis and Analytical Quality Assurance 5

STANDARD OPERATING PROCEDURE FOR SOIL SAMPLING

1.0 Purpose

The purpose of this Standard Operating Procedure ("SOP") is to describe the field procedures, required documentation, and equipment to be used during soil sampling at Energy Fuels Resources (USA) Inc.'s ("EFRI's") Arizona mine sites (the "Mines")

The procedures discussed in this SOP will be used for routine and non-routine soil sampling at the Mines as required by Arizona Department of Environmental Quality ("ADEQ") operating permits. For site-specific details regarding soil sampling, please see the site-specific operating permits and/or plans which are housed on-site, in the Fredonia office, and in the EFRI Corporate office in Lakewood, CO.

2.0 Soil and Sediment Sample Collection

2.1 Health and Safety Considerations

General site conditions shall always be observed prior to the commencement of field activities. Any unsafe conditions shall be documented and reported to the Mine Superintendent as soon as possible. If safety concerns warrant, field activities will be delayed until such time as the concerns are adequately addressed and the safety of field personnel is assured.

A safety assessment will be completed at each site prior to the commencement of any field activities. A safety assessment includes but is not limited to:

- A review of weather conditions (for severe weather conditions which may pose a hazard such as lightning, snow, and ice),
- A review of any biological hazards present (bees, wasps, snakes, and animals),
- A review of slip, trip, and fall hazards (ice, snow, mud, and uneven ground),
- A review of ground conditions around the sampling locations for any signs of instability, and
- A review of electrical hazards (frayed cords).

As in all mine areas, appropriate Personal Protective Equipment ("PPE") and safety precautions will be followed when working at the Mines:

- Steel toed shoes will be worn at all times in the field;
- Safety glasses will be worn at all times in the field;
- Nitrile gloves will be worn at all times during sample collection; and
- Ear protection will be worn around operating surface fans and wherever posted.

2.2 Equipment and Supplies

Clean, single-use, disposable sampling equipment will be used to collect and composite soil samples and decontamination of sampling equipment will not be necessary.

The following is a list of supplies needed to collect soil and sediment samples:

- Hand trowels
- Nitrile gloves
- Clean, disposable 5-gallon buckets for compositing samples
- 2-gallon Ziploc® bags
- Sample paperwork and sample tags/labels
- Sample cooler or suitable shipping container
- Global Positioning System ("GPS") instrument
- Field notebook
- Camera

2.3 Composite Sampling Procedures

Composite samples are collected by homogenizing or mixing a subset of individual grab sample aliquots into a single sample submitted for analysis. The individual grab samples will be collected from a 1 ft x 1 ft x 5 cm area at the 4 corners and center of a one square meter area. The individual grab sample points will be field located using a GPS instrument and coordinates which will be provided to the Field Staff prior to the sampling event. Relocation of individual grab sampling points will be done by the Field Staff as necessary to address obstructions or safety hazards encountered during the field effort. If sample points are relocated, the Field Staff will take new GPS coordinates at the time of sampling. The coordinates for any relocated sample points will be recorded in the field notebook.

Upon arrival at each individual location, a photograph will be taken and a description of the material to be sampled (e.g., color, size) will be entered into the field notebook. Vegetation will be removed from the sample locations.

A 1 ft x 1 ft template will be placed on the individual sample location. The excavation depth will be maintained by using a tape measure or other suitable calibrated measuring stick. This method will assure that approximately the same volume of soil is collected at each individual grab sample location.

Individual grab soil samples will be collected using a clean trowel to sample the 1 ft x 1 ft x 5 cm area within the template. The soil will be placed directly into a Ziploc bag. The Ziploc bag will be sealed and labeled with the individual grab location ID. Ensure the Ziploc bag is sealed. The soil in each Ziploc bag is shaken and mixed as vigorously as possible without breaching the Ziploc bag.

After the five individual grab location samples have been mixed in its Ziploc bag, one half of the volume from each individual grab location will be placed into a clean, 5-gallon bucket. When an aliquot from each of the five individual grab locations has been added to the 5-gallon bucket, place the lid on the bucket. Vigorously roll and shake the bucket to homogenize the soil and generate the composite sample.

Place an aliquot of soil from the 5-gallon bucket in a 2-gallon Ziploc bag. Fill the 2-gallon Ziploc bag approximately half full (i.e. use approximately 1 gallon of the composite). Label the Ziploc bag with the composite ID. When all of the composite samples have been collected pack the samples for shipment to the analytical laboratory using the COC procedures below.

Sample Identification: Each sample will be labeled and all sample labels will be filled out in indelible ink and numbered. The following information will be contained on the label:

1. Project and facility
2. Company name
3. Date and time of sample collection
4. Sampler's initials
5. Sample location
6. Requested Analytical Parameters

Sample Chain-of-Custody ("COC"): During sampling activities, traceability of the sample must be maintained upon sample collection until the samples are delivered to the laboratory. Information on custody, handling, transfer, and shipment of the samples will be recorded on a COC form. The sampler will be responsible for filling out the COC form. The COC form will be signed by the sampler when the sampler relinquishes the samples to anyone else. A COC form is to be completed for each set of samples placed in a sample shipping container and is to include the following:

1. Sampler's name
2. Sample ID/number
3. Date and time of sample collection
4. Sample type
5. Analyses requested
6. Signature(s) of person(s) releasing custody and date(s)
7. Signature(s) of person(s) accepting custody, date(s), and time(s) (at the time of receipt)

Copies of the COC forms and all custody documentation will be retained in appropriate files with EFRI.

3.0 Laboratory Analysis and Analytical Quality Assurance

The soil samples collected will be analyzed for the parameters listed in **Table 1** using the specified EPA methods. The samples will be analyzed by an Arizona state certified laboratory. Laboratory analyses will be reviewed by the technical staff and any identifiable anomalies in

results noted and investigated. Appropriate measures to confirm or disaffirm results will be pursued, such as laboratory conversation, analytical sample re-analysis, or trend analysis.

Table 1 Soil Sampling Parameters

Analyses	Reporting Limit	Units	EPA Method
Uranium (U-Nat)	0.05	mg/kg-dry	SW6020 or SW6010
Radium 226 (Ra-226)	0.5	pCi/g-dry	E903.1 or E901.1

The laboratory will prepare and retain a copy of all analytical and quality control documentation. The laboratory will provide the following information in each data package submitted: COC forms, cover sheets with comments, narratives, samples analyzed, reporting limits or lower limit of detection values for parameters, and analytical results of quality control samples. The data reduction and laboratory review will be documented, signed, and dated by the laboratory personnel.

If necessary, corrective action will be taken for any deficiencies or deviations noted in the procedures or anomalous results, such as but not limited to, additional sample collection, sample re-analysis laboratory inquires, or other actions as appropriate.