**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 8**
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
www.epa.gov/region08

DEC 11 2014

Ref: 8ENF-RC

**CERTIFIED MAIL**
**RETURN RECEIPT REQUESTED**

Mr. Barclay Cuthbert
Vice President, Operations
U.S. Oil Sands, Inc.
Suite #1600, 521-3rd Avenue SW
Calgary, Alberta T2P 3T3
CANADA

Re: U.S. EPA Region 8 Request for Information for U.S. Oil Sands Inc. PR Spring Mine Project in Uintah County, Utah, a Portion of Which is Located in Indian Country.

Dear Mr. Cuthbert:

The U.S. Environmental Protection Agency (EPA) met with you, members of your company, and your counsel on September 24, 2014, at our Regional headquarters in Denver, Colorado. As discussed at that meeting, the EPA has determined that additional information regarding your proposed tar sands project is needed to evaluate whether the requirements of the Resource Conservation and Recovery Act, 42 U.S.C. § 6901, *et seq.* (RCRA) are applicable to your operations, whether you as the owner and/or operator of the PR Spring Southwest #1 mine facility (facility) are presently in compliance with all applicable federal environmental requirements, and to assist you in understanding certain environmental requirements that may apply to your operation as it grows. The following information is requested pursuant to section 3007 of RCRA, 42 U.S.C. § 6907.

Precede each answer with the question number to which you are responding (for example, A.1, C.3). If a specific information request is not applicable, please provide the question number and indicate N/A. If responsive information has been provided in a prior response, the response to the subsequent question may refer to the prior answer. If you have previously provided information responsive to any question to the EPA Region 8, and the response was voluminous, your response to the specific request made by this letter may reference the previous submittal but must include the date and method of submittal and the name of the intended recipient at the EPA. You may submit this information in electronic format (disks) if preferable to paper copies.

The EPA requests that you submit the following information within forty-five (45) calendar days after your receipt of this letter:

1. Provide the name and street address of the facility, defined as including the P.R. Spring mine and the processing area; city; township, range, quarter-sections and fractions; latitude and longitude, if known; county (counties) and state in which your operations are located and are expected to be

located. Please also identify the portions of your operations you have determined are, or may be within Indian Country. Provide available locational, geospatial, and surveying data, including geographic positioning system (GPS) coordinates of the facility, including meridian and other geospatial information.

2. State the date the facility began construction at its current location, the date operations began and a short history of site ownership and usage. Please include a construction schedule for planned units and processes.

3. Provide a description of the facility, including a description of the surrounding area and its uses (i.e., agriculture, ranching, recreation, commerce, residential, etc.), and proximity to water, wetlands and marshes or environmentally sensitive areas. This description must provide detail on sensitive environments, wildlife habitats or refuges, endangered species, water wells, or drinking water intakes in the area, including their location and distance from the facility.

4. Please include a facility layout map, showing all ponds, ditches, drainage basins and other physical features for the P.R. Spring mine and the processing area.

5. Identify the name of the manager or the person(s) responsible for compliance with environmental requirements at the facility. Please include the titles, addresses, and telephone numbers for each person identified and a copy of the organization chart(s) for this plant and mine.

6. Identify the name and street address of the current owner(s) of the facility, including Dun and Bradstreet number. Also, provide names and current addresses of parent and other related entities and all owners of the business for the last two years.

7. State whether the facility or business is incorporated, and if so, the state under whose laws it is organized. Please provide the name and address of the president or CEO.

8. Provide copies of the most current notifications, licenses, and permits for the facility. This includes any permit applications, permits, approval orders, plans, leases, agreements, exploration notices, water rights, licenses, etc., issued by state, Tribal, federal or local authority, for air, water, solid waste, etc. at the plant and mine. If any such authorizations are readily available on line, a working link may be provided in lieu of a paper copy. If you believe any such documents or other relevant documents are in the EPA's possession, you may submit information that will allow the recipient of your response to easily locate such document(s) in lieu of a paper copy.

9. Provide copies of past and existing lease documents or contracts with any Tribal party, the Bureau of Land Management or other federal entity, State of Utah, or private party. Please specifically note all references and provisions regarding past, current or future environmental responsibility or liability.

10. Provide a complete description of the operations conducted, or to be conducted, at the facility including, but not limited to, the following:

    a. How will the ore be mined?

b. After top soils and overburden have been removed, will the ore be blasted and removed using a truck and shovel method? Explain the basic approach to mining the ore.

c. If blasting will be used, what type of explosive will be used? If ammonium nitrate/fuel oil (ANFO) is used, what is the nitrate/nitrite portion of the mix?

d. How will the ore be crushed and ground, including the types and locations of equipment?

e. What grain size will ore be ground into?

f. After ore is ground, explain how the ore is managed and if it will be mixed into a slurry.

g. What is the solid/liquid ratio of the slurry?

h. What chemicals are being mixed in the ore/water slurry? What is the ratio of the chemicals in the mixture?

i. Please name the source of the water for the slurry, and indicate whether the water is tested and/or treated prior to use.

j. Does the addition of these chemicals cause any physical/chemical reaction(s) to the ore?

k. Is the slurry heated? If so, what is the purpose of applying heat to the slurry? What reaction does heat cause?

l. How are the extracted tar sand oils separated from unwanted residual solids (tailings)? Are chemicals used in this separation step? If so, identify the chemicals and volumes used.

m. When and where, exactly, is the proposed solvent added into the process?

n. What is the assumed oil removal efficiency factor with this technology? What is the basis for this assumed efficiency (including any calculations, inputs, and stoichiometric or other equations)?

o. Once oil is removed from solids, does the oil undergo any physical/chemical change?

p. Do you add any chemicals to the separated oil? If so, identify each chemical added, at what proportion, and in what concentration?

q. Identify the residual solvent removed from solids. What is the process efficiency factor of this step?

r. What is the parts per million concentration of residual solvent in the "cleaned" tailings?

s. What are the Toxicity Characteristic Leaching Procedure results on the tails after the oil and solvents have been removed?

t. Based on information provided to date, the oil appears to undergo a heating step so that residual solvent is vaporized and collected. What is the solvent concentration in the finished oil? What is the solvent recovery efficiency of this heating step?

u. The heating of the oil and solvent apparently results in a "clean" oil which your flow diagram showed as the "bottom" of this step. What would be in the "clean" oil?

v. Does the heating and distillation of the solvent generate any wastes? If so identify each waste, whether or not a hazardous waste determination has been performed and how it is managed.

w. Does the solvent recovery step generate air emissions? If so, provide the estimated tons per year of each pollutant emitted. How are the emissions controlled?

x. Does the solvent recovery step generate any solids? If so, what is the quantity (rate), chemistry, and how would such solids be managed? How is the residual solvent removed from the solids?

y. Are characteristic or listed hazardous wastes presently being generated at the facility? If so, identify each waste, its source(s), volumes and how such wastes are stored and disposed of. Also identify each additional characteristic or listed hazardous waste expected to be generated as the facility operations grow, and to the extent possible, provide the information requested immediately above.

z. How will tailings be disposed of at the facility?

aa. What is the water balance for the facility?

ab. Provide a schematic showing the sources of water, storage of water and any conveyances of water and wastewater, including points where chemicals are added and separated. What is the waste water volume generated at the facility at this time? What is the expected waste water volume generated at full production? What is the chemical composition of the waste water?

ac. Please provide any existing sampling plans related to residuals and/or waste streams from the pilot scale project and process streams.

ad. Please provide any analytical results or information used in making waste determinations on residuals from the pilot scale project and process streams.

11. Please provide any other process information not already provided in response to questions above, which may include a schematic process diagram(s), flow balance(s), written procedures, and detailed process descriptions for the plant units, points of discharge of any process-generated wastewaters during planned operation conditions, including an identification of all waste

streams, sampling points, and points of discharge of any process generated wastewaters to any stream, storm drain, ditch, etc. This must include identification of major chemical additives, such as compounds for pH adjustment, acids, solvents, cleaners, flocculants, etc., used in the production processes. Please identify the volumes and/or flow rate for the products, process streams, and waste streams from this processing and include all analytical data for these waste streams.

12. Copies of all site groundwater data, soils, sediment, and surface water data, leachate data, and all analytical data for precipitation run-on or runoff. Also provide copies of any studies of groundwater/surface water interaction and determination of site precipitation and runoff.

13. Provide a description of the general groundwater quality/quantity in the immediate area of the facility, including the major aquifers in the area, a geologic cross section which includes the depth and quality and confining formations.

14. For all major production units and pollution control equipment, provide the manufacturer specifications, the influent and effluent concentrations, the tons per year by pollutant, a description of the chemical reactions occurring, the temperature, pressures in the units, and the products produced (including intermediates and secondary materials) and the wastes generated for all water, solid, air, dusts, sludges, etc., formed. If the concentrations are unknown, provide estimates of the constituent levels present in the influent and effluent streams.

15. Provide any and all information pertaining to the generation of particles, dust and aerosols including, but not limited to, filtration systems used and filter or dust waste produced. Please include characterization data and quantities produced.

16. Provide a description of any treatment/disposal of wastewaters, solid wastes and hazardous wastes at the facility. This description must account for, for example: a) all waste streams from air pollution control equipment and water conditioning units, b) other manufacturing processes, c) non-contact cooling water, d) restrooms and lunchrooms, and e) regenerating de-ionized water units.

17. Provide a description of all wastewater treatment system(s) at the facility including, but not limited to, pH adjustment and monitoring systems. Please describe the date the system will be or was installed, the capital cost of such equipment, the annual operation and maintenance costs of the equipment, and annual cost of chemicals used in the treatment of wastewater. Also describe all chemicals utilized in or added to the treatment system(s) and the quantity of solids generated by the treatment system(s) over a given unit of time (e.g., daily, weekly, etc.). Also please provide a piping diagram of the discharges connected to the wastewater system, indicating the source and flowrate (or approximate flowrates) of the discharges into the wastewater treatment system.

18. Provide a description of the facility ditches, which includes a discussion of how the drains discharge to the ditches, the quality (all sampling results available) of the wastes discharged into the open ditches, the construction of the ditches (length, depth, width, lining), and the sources of wastes that are discharged to the waste pond (a description/drawing of the sources, method of discharge and volumes would be helpful).

19. With regard to the EPA meeting handout dated September 24, 2014, page 8, please clarify the following:

    a. It appears that the separation towers are operated in series. How many towers will there be? What are the dimensions of each? Are there plates or packing in these towers? Is the flow co-current or counter-current? At what temperature and pressures will they operate? If emissions controls are necessary, what type will be employed? It appears that there is one stream out of the tower containing bitumen, fines, and water. What is the composition of each in the exit stream?

    b. Is the biosolvent used in both the separation unit and the distillation units? What role does it play in each unit? How much is used daily?

    c. State the number of product tanks and how often these tanks will be cleaned. What materials are expected to be removed from the tanks and how would these be managed?

20. With regard to the EPA meeting handout dated September 24, 2014, page 9, please clarify the following: How are "lumps" defined? What percentage of the feed would be expected to be rejects, and how would they be managed?

21. With regard to the EPA meeting handout dated September 24, 2014, page 10, please clarify the following:

    a. Please provide the material safety data sheet and/or the safety data sheet(s) for the biodegradable solvent(s) to be used in the process.

    b. Where are the solvent(s) manufactured?

    c. Is the biodegradable solvent the sole solvent used in the process train?

22. We have the following RCRA-related questions based on our review of your 2009 Storm Water Pollution Prevention Plan:

    a. Section 2.1, please state how and where the produced sand/fines with 10 to 20 percent entrained water and up to 4000 ppm residual hydrocarbons will be stored prior to placement back into the mine.

    b. Section 4.2.2, please identify the other oils, lubricants and miscellaneous chemicals and the approximate quantity of each stored in the enclosed warehouse or maintenance building.

    c. Section 5.1, please indicate whether the maintenance building where major repairs to and servicing of vehicles is conducted has floor drains and sumps and where the contents of these sumps and drains collects and how it is or will be managed.

    d. Section 5.1, please state which practice is followed regarding management of leaking fluids and contaminated soil: Are they processed with the ore or disposed of offsite?

e. Section 5.13, the text states that all wash water from equipment cleaning goes to the storm water retention pond and is used on site (e.g. dust control). Please clarify whether this includes process equipment washing and maintenance.

f. Section 5.15, the plan indicates that there is a testing laboratory. Please state what analytical procedures are performed there and provide an estimate of the wastes from all lab procedures including cleaning of glassware and equipment calibration. Please describe how the testing lab wastes will be managed; if there are lab sinks, where do they discharge?

23. The May 29, 2009, letter to the EPA regarding 40 CFR Part 60 Subpart Ja Applicability Determination Request for the Oil Sand Mining and Processing at PR Spring Mine, page 3, states, "Earth Energy performed an assay on a sample of bitumen from the PR Spring mine site." The results of these tests were submitted as confidential business information (CBI) to the EPA and have been managed as such. Please verify whether the process temperatures and conditions have changed for the proposed process since the assay was performed and please submit any more recent assay or testing results reflecting the changed process parameters.

Please submit the requested information to:

| | |
|---|---|
| Ms. Linda Jacobson | Mr. Scott T. Anderson, Director |
| U.S. EPA Region 8 | Division of Solid and Hazardous Waste |
| 8ENF-RC | Utah Division of Environmental Quality (UDEQ) |
| 1595 Wynkoop Street | P.O. Box 1444880 |
| Denver, CO 80202-1129 | Salt Lake City, UT 84114-4880 |

Your response to this letter must include a signed copy of the Statement of Certification enclosed with this letter. The Statement of Certification must be signed and dated by a duly authorized officer or representative of your company.

Failure to provide the requested information or submittal of incomplete and/or false information may subject you or any other person authorized by you to respond to this request to liability including, but not limited to, the imposition of monetary penalties under the Statutes. Please be further advised that the knowing omission of material information or the making of false material statements or representations may subject the responder to criminal penalties under the Statutes and 18 U.S.C. § 1001.

The information requested by this letter must be provided notwithstanding its possible characterization as confidential business information or trade secret. However, you may request, in accordance with and subject to the limitations of 40 C.F.R. Part 2, treatment of certain information as CBI. CBI requests must be made at the time of submission or such information may not be protected as CBI by the EPA. You may assert such claim by placing on the information at the time submitted, a cover sheet, stamped or typed notice employing language so indicating, such as "Proprietary," "Company Confidential," "Trade Secret," etc. If the EPA determines the information so designated meets the criteria in 40 C.F.R. § 2.208, the information will be disclosed only to the extent and by means of the procedures specified in 40 C.F.R. Part 2, Subpart B.

This Request for Information is exempt from the approval requirements of the Paperwork Reduction Act, 44 U.S.C. § 3501 *et seq.*

If you require clarification of this request, please contact Linda Jacobson of my staff at (303) 312-6503 for technical questions. For any legal questions you may have, please contact Chuck Figur at (303) 312-6915.

Sincerely,

Kelcey Land, Director
RCRA/CERCLA Technical Enforcement Program
Office of Enforcement, Compliance
and Environmental Justice

James H. Eppers, Supervisory Attorney
Regulatory Enforcement Unit
Office of Enforcement, Compliance
and Environmental Justice

Enclosure: Statement of Certification

cc: Mr. A. John Davis, Holland and Hart
Mr. Scott Anderson, UDEQ

# REQUEST FOR INFORMATION
# STATEMENT OF CERTIFICATION

I certify, under the penalty of law, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

| | |
|---|---|
| Signature | Date |
| Printed Name | Title |