BEFORE THE BOARD OF WATER QUALITY

In the Matter of:
Living Rivers' Request for Agency Action
re: PR Spring Tar Sands Project, Ground Water Discharge Permit-by-Rule, No. WQ PR-11-001

I. JOINT PREHEARING STATEMENT AND ORDER

II. USOS's OBJECTIONS

III. INITIAL RECORD (see attached IR Index)

A. IR-000001 - Letter from Mark Novak of DWQ to Mr. Page Van Loben Sels of Earth Energy Resources, Inc. Regarding Oil Extraction from Oil Sands – Spent Tar Sands

B. IR-000002 – Letter from Mark Novak of DWQ to Mr. Page Van Loben Sels of Earth Energy Resources, Inc regarding Tar Sands Pilot Project Tailings December 5, 2005

C. IR-000003-35 – PR Spring Mine, Request for Permit-by-Rule Determination submitted by Bob Bayer of JBR Environmental

D. IR-000036-37 – Letter from Rob Herbert of DWQ to Barclay Cuthbert, EER regarding PR Spring Tar Sands Project, Uintah and Grand Counties, Utah, Ground Water Discharge Permit-by-Rule

E. IR-000038-42 – Utah State Department of Health Division of Laboratory Services Environmental Chemistry Analysis Report of PR Spring water sample

F. IR-000043-372 – Notice of Intention to Commence Large Mining Operations, Earth Energy Resources, Inc. PR Spring Mine, M0470090

G. IR-000373-000385 – Letter from Barclay Cuthbert of Earth Energy Resources, Inc. to Rob Herbert of DWQ informing DWQ of four operational changes to the PR Spring Tar Sands Project, Uintah and Grand Counties, Utah with attachments: March 4, 2008, Letter to EER from DWQ regarding PR Spring groundwater discharge permit-by-rule; Material Safety Data Sheets of the reagent used in the extraction process

H. IR-000386-403 – Email correspondence between EER and DWQ, various dates

I. IR-000404-405 – Letter from Rob Herbert of DWQ to Barclay Cuthbert, EER re PR Spring Tar Sands Project, Uintah/Grand Counties, Utah, Revised Ground Water Discharge Permit by Rule

J. IR-000406-482 – Hydrologic Reconnaissance of the Southern Uintah Basin, and Colorado, Technical Publication No. 49, State of Utah Department of Natural Resources, Don Price & Louise L. Miller, U.S. Geological Survey

K. IR-000483-502 – Characteristics of the PR Spring Tar Sand Deposit, Uintah Basin, Utah, USA, George F. Dana & Donna J. Sinks, Laramie Energy Technology Center, U.S. Department of Energy

L. IR000503-630 – Tar Sand Resources of the Uintah Basin, Utah, A Catalog of Deposits compiled by Robert E. Blackett, Utah Geological Survey, Open File Report 335

IV. TRANSCRIPTS OF RECORDED TESTIMONY[1]

William Johnson, April 20, 2012

Exhibit 1 - Prepared Direct Testimony of William P. Johnson, Ph.D, dated January 20, 2012; Prepared Supplemental Testimony of William Johnson, March 16, 2012

Exhibit 2 - Duplicate of Exhibit 1

Exhibit 3 - Environmental Organic Chemistry excerpt

Exhibit 4 - Environmental Research Brief

Exhibit 5 - Environmental Organic Chemistry Second Edition excerpt

Edward L. Handl, P.E., April 27, 2012

Exhibit 6 - Resume of Edward Handl, P.E.

Exhibit 7 - Ternary Diagram

Exhibit 8 - Perry's Chemical Engineering Handbook, Pages 15-2 to 15-6

Exhibit 9 - Ternary Phase Diagram

Exhibit 10-Reference 1 – EPA On-line Tools for Site Assessment Calculation

[1] Items listed in red indicate that a party has objected to the item, or portions thereof. Such objections are explained in Section II of this packet.

Exhibit 11-Reference 10 – KIC Chemicals, Inc., Brazilian D-Limonene

Exhibit 12-Reference 9 – www.inchem.org Limonene (CICADS)

Exhibit 13–Reference 5 – www.inchem.org Polycyclic aromatic hydrocarbons Section 2.2

Exhibit 14–Reference 6 – www.sciencemag.org Solubility in Water of Normal C9 and C10, Alkane Hydrocarbons 36-37

Exhibit 15–Journal of Physical Chemistry equilibrium data

Exhibit 16–Fig. 3 – Bitumen Equilibrium Between Oil & Water Phases

Exhibit 17–Reference 11 – www.inches.org Polycyclic aromatic hydrocarbons Section 3.1

Exhibit 18–Handl calculations: Different approach to Dr. Johnson's Results using the same Schwarzenbach text

Exhibit 19–Flowchart: The Ophus Process

Exhibit 20 –MacKay and Gschwend, Enhanced Concentrations of PAHs in Groundwater at Coal Tar Site

William Johnson, May 4, 2012

V. HEARING EXHIBITS

A. Executive Secretary

100 Prefiled Direct Testimony of Rob Herbert

101 Utah Administrative Code R317-6

102 Prefiled Direct Testimony of Mark Novak (Exhibits A-E)

103 Excerpt from Freeze, R.A. and Cherry, J.A., Groundwater (1979)

104 Water Well Driller's Report, Utah Division of Water Rights

B. Living Rivers

200 Prepared Direct Testimony of William P. Johnson, Ph.D, dated January 20, 2012 (*see* Exhibit 1 above)

201 Prepared Supplemental Testimony of William Johnson, March 16, 2012 (*see* Exhibit 1 above)

202 Lips Direct Pre-Filed Testimony (Attachment A-B)

203 Lips Supplemental Pre-Filed Testimony (Exhibits A-D)

204 USEPA, Office of Pesticide Programs, Exposure and Risk Assessment on Lower Risk Pesticide Chemicals – D-Limonene

205 International Programme on Chemical Safety

206 Schwarzenbach excerpts

207 Third NOI excerpt (pages 21 and 22)

208 MacKay & Gschwend, Enhanced Concentrations of PAHs in Groundwater at Coal Tar Site (*see* Exhibit 20 above)

209 Red Leaf Application

C. U S Oil Sands Inc.[2]

300 Google Earth image of Project Area.

301 Google Earth image of the Project Area with detailed mine configuration overlay

302 Resume of Gerald Park

303 Memo to Layne Christiansen Regarding Spring/Summer 2011 Core Drilling Program – Request for Quotation

304 2011 Coring Program Maps

305 Summary of 2011 Drilling and Coring Program

306 U.S. Oil Sands Water Well #5 Sonic Drill Log

307 Resume of Robert Bayer

308 USGS Map

309 W005 Wet Hole Report

310 Order of State Engineer, Application to Appropriate Water No. 49-1567

[2] USOS's witnesses may prepare drawing, diagrams of other demonstrative Exhibits in the course of their testimony which USOS may move to enter as Exhibits.

311 USGS Webpage, *The Water Cycle Groundwater Storage*; http://ga.water.usgs.gov/edu/watercyclegwstorage.html (last modified March 9, 2012)

312 USGS Webpage, *Science in Your Watershed: General Introduction and Hydrologic Definitions*; http://water.usgs.gov/wsc/glossary.html#Z (last modified Feb. 10, 2011)

313 American West Analytical Laboratories Cursory Data Review of Analytical Results for Sample Sets for Earth Energy Resources and email correspondence transmitting the document