

Joint Intervenor, Docket No. 40-9091-MLA
September-October Evidentiary Hearing on Environmental Issues

Joint Intervenor Hearing Exhibits

Party Exh. No.	ADAMS Access. No.	Witness/Panel	Description
JTI001 ¹		All Contentions	Testimony of Richard Abitz (Aug. 25, 2014)
JTI002		All Contentions	Statement of Professional Qualifications of Richard Abitz (Aug. 25, 2014)
JTI003 ²		All Contentions	Testimony of Lance Larson (Aug. 25, 2014)
JTI004		All Contentions	Statement of Professional Qualifications of Lance Larson (Aug. 25, 2014)
JTI005 ³		All Contentions	ISR Storymap Application: http://isl-uranium-recovery-impacts-nrdc.org/Willow-Creek/ ; http://isl-uranium-recovery-impacts-nrdc.org/Smith-Highland/ ; http://www.nrc.gov/info-finder/materials/uranium/licensed-facilities/willow-creek/isr-wellfield-ground-water-quality-data.html ; http://www.nrc.gov/info-finder/materials/uranium/licensed-facilities/smith-ranch/isr-wellfield-ground-water-quality-data.html
JTI006		Contention 1	EPA, 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, EPA530/R-09-007, EPA Office of Resource Conservation and Recovery.
JTI007			REMOVED – Duplicate of SEI007
JTI008			REMOVED – Duplicate of SEI008

¹ Joint Intervenor will file a revised JTI001 with the exhibit labeling on Tuesday, September 16, per the Board's Order.

² Joint Intervenor will file a new version of JTI003 with exhibit labeling and revised exhibit references on Tuesday, September 16, per the Board's Order.

³ Joint Intervenor will file revised exhibits on Tuesday, September 16, per the Board's Order.

Party Exh. No.	ADAMS Access. No.	Witness/Panel	Description
JTI009		Contention 1	Abitz, R. J. and B. Darling, 2010. Anthropogenic Induced Redox Disequilibrium in Uranium Ore Zones, Geological Society of America Abstracts w/Programs, Vol. 42. (FULL-TEXT COPYRIGHTED MATERIAL)
JTI010		Contention 1	Laaksoharju, M., J. Smellie, E. Tullborg, M. Gimeno, J. Molinero, I. Gurban, and L. Hallbeck, 2008, Hydrogeochemical evaluation and modeling performed within the Swedish site investigation programme, Applied Geochemistry, v. 23, no. 7. (FULL-TEXT COPYRIGHTED MATERIAL)
JTI011		Contention 1	Lapham, Wayne W., and Franceska D. Wilde, and Michael T. Koterba, U.S. Geological Survey (USGS), Water-Resources Investigations Report 96-4233, "Guidelines and Standard Procedures for Studies of Ground-Water Quality: Selection and Installation of Wells, and Supporting Documentation," Reston, Virginia (1997).
JTI012		Contention 1	Brookins, D.G., 1988, Eh-pH Diagrams for Geochemistry, Springer-Verlag, New York. (FULL-TEXT COPYRIGHTED MATERIAL)
JTI013		Contention 1	Matzke, B.D., J.E. Wilson, L.L. Nuffer, S.T. Dowson, R.O. Gilbert, N.L. Hassig, J.E. Hathaway, C.J. Murray, L.H. Sego, B.A. Pulsipher, B. Roberts, and S. McKenna, 2007, Visual Sample Plan, Version 5.0, User's Guide, PNNL-16939, Pacific Northwest National Laboratory, Richland, Washington.
JTI014		Contention 1	U.S. Department of Energy (DOE), Fernald Field Office, Characterization of Background Water Quality for Streams and Groundwater, Fernald Environmental Management Project, Remedial Investigation and Feasibility Study, May 1994.
JTI015		Contention 1	Uranium Energy Corp (UEC), Goliad Project Production Area Authorization Application for: Production Area-1 (PA-1), August 27, 2008.

Party Exh. No.	ADAMS Access. No.	Witness/Panel	Description
JTI016 ⁴		Contention 1	Uranium Energy Corp (UEC), Goliad Project Production Area Authorization Application for: Production Area-1 (PA-1), Update, March 27, 2009.
JTI017		Contention 1	Texas Water Commission (TWC), 1988, Production Area Authorization for Kingsville Dome Mining Project, Permit UR02827-001, Production Area UR02827-011, April 12, 1988.
JTI018		Contention 1	Texas Water Commission (TWC), 1990, Production Area Authorization 3 for Kingsville Dome Mining Project, Permit UR02827-001, Production Area UR02827-021, June 28, 1990.
JTI019		Contention 1	Table 2.7-4 from URI 1983c
JTI020		Contention 1	Texas Commission on Environmental Quality, 2006, Kingsville Dome Mine, Production Area 3.
JTI021		Contention 1	Garcia Data Sheets
JTI022		Contention 3	Curtis, G. P., J. A. Davis, and D. L. Naftz 2006. Simulation of reactive transport of uranium (VI) in groundwater with variable chemical conditions, Water Resour. Res., 42, W04404 (FULL-TEXT COPYRIGHTED MATERIAL)
JTI023	ML102170327	Contention 3	ExxonMobile, "Highland Uranium Mill Site, Final Site Closure Proposal, " Casper, Wyoming, August 3, 2010.
JTI024		Contention 3	Zhou, Ping, and Baohua Gu. "Extraction of oxidized and reduced forms of uranium from contaminated soils: Effects of carbonate concentration and pH." Environmental science & technology 39.12

⁴ Joint Intervenors will refile this exhibit on Tuesday, September 16, per the Board's Order.

Party Exh. No.	ADAMS Access. No.	Witness/Panel	Description
			(2005): 4435-4440. (FULL-TEXT COPYRIGHTED MATERIAL)
JTI025-R	ML070600405	Contention 3	Davis, J. A., and Gary Page Curtis. Consideration of Geochemical Issues in Groundwater Restoration at Uranium In-Situ Leach Mining Facilities. Division of Fuel, Engineering, and Radiological Research, Office of Nuclear Regulatory Research, US Nuclear Regulatory Commission, 2007.
JTI026		Contention 3	Railroad Commission of Texas, Surface Mining and Reclamation Division, "Uranium Energy Corporation (UEC), Weesatchie Project, Goliad County, Uranium Exploration Permit No. 123, Inspection Report," March 27, 2007.
JTI027		All Contentions	USGS, 2013, Groundwater Depletion in the United States (1900 – 2008), Scientific Investigation Report 2013-5079, U.S. Department of the Interior, U.S. Geological Survey, Reston, Virginia.
JTI028		All Contentions	USGS, 1998, Strategic Directions for the U.S. Geological Survey Ground-Water Resources Program, Report to Congress, November 30, 1998, U.S. Department of the Interior, U.S. Geological Survey, Reston, Virginia.
JTI029		Contention 2	Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels, U.S. Department of Energy (DOE). "Decommissioning of U.S. Uranium Production Facilities." DOE/EIA-0592 (February 1995).
JTI030	ML082540171	Contention 2	NRC, Technical Basis for Assessing Uranium Bioremediation Performance, Office of Nuclear Regulatory Research, NUREC/CR-6973, August 2008.
JTI031	ML13274A178	Contention 2	Western Water Consultants, Inc. "Assessment Restoration Activities: Sundance Project." Jan. 22, 1982.

Party Exh. No.	ADAMS Access. No.	Witness/Panel	Description
JTI032	ML14014A081	Contention 2	Nubeth Joint Venture. "Environmental Report Supportive Information to Application for Source Material License, In Situ Solution Mining Test Site, Sundance Project, Crook County, Wyoming. 1976.
JTI033	ML14104B677	Contention 2	NRC. NRC Staff Response to Natural Resources Defense Council's and Powder River Basin Resource Council's Joint Motion to Migrate or Amend Contentions, and to Admit New Contentions in Response to Staff's Final Supplemental Draft Environmental Impact Statement. April 14, 2014.
JTI034	ML091120676	Contention 2	NRC, Final Environmental Statement Related to Operation of Irigary Uranium Solution Mining Project, NUREG-0481, September, 1978.
JTI035	ML12174A048	Contentions 2, 3	TECHNICAL EVALUATION REPORT, CHRISTENSEN RANCH MINE UNITS 2 THROUGH 6 RESTORATION REPORT, URANIUM ONE USA, INC., WILLOW CREEK ISR FACILITY, October 23, 2012.
JTI036	ML13109A315	Contention 3	Wright Environmental Services Inc. and Telesto Solutions, Inc. "2012 Status Update Casing Leak Investigation C, E and F Wellfields Smith Ranch-Highland Operations." February 20, 2013.
JTI037	ML12170A890	Contention 2	W. F. Kearney, Director SHE, Uranium One Americas. "Permit to Mine No. 478; Christensen Ranch Project Mine Unit 5 – Non-Significant Revision; Revised Monitoring Plan for Mine Unit 5-2 Area." May 10, 2012.
JTI038	ML14162A112	Contention 2	Tim McCullough, Manager Site SHE, Uranium One USA Inc. "Willow Creek ISR Project – Permit to Mine No. 478, 2013 Annual Report – Response to WDEQ-LQD Comments." April 15, 2014.
JTI039	ML13168A522	Contention 2	INTERA. "Application for Alternate Concentration Limits for the Smith Ranch-Highland Mine Unit-B In-Situ Uranium Recovery Facility, Converse County, Wyoming." May 22, 2013.

Party Exh. No.	ADAMS Access. No.	Witness/Panel	Description
JTI040		Contention 3	Anastasi, Frank S., and Roy E. Williams. "Aquifer restoration at uranium in situ leach sites." International journal of mine water 3.4 (1984): 29-37. (FULL-TEXT COPYRIGHTED MATERIAL)
JTI041		Contention 3	Johnson, Raymond H. "Reactive Transport Modeling for the Proposed Dewey Burdock Uranium In-Situ Recovery Mine, Edgemont, South Dakota, USA." (2011).
JTI042		Contention 3	Johnson, Raymond H., and Hlanganani Tutu. "Reactive transport modeling at uranium in situ recovery sites: uncertainties in uranium sorption on iron hydroxides." Reliabe Mine Water Technology (2013): 377-382. (FULL-TEXT COPYRIGHTED MATERIAL)
JTI043		Contention 3	Stewart, Brandy D., et al. "Influence of uranyl speciation and iron oxides on uranium biogeochemical redox reactions." Geomicrobiology Journal 28.5-6 (2011): 444-456. (FULL-TEXT COPYRIGHTED MATERIAL)
JTI044	ML090300532	Contention 3	Gary R. Konwinski, Project Manager, Licensing Branch 1, Uranium Recovery Field Office, Region IV, NRC. "Environmental Assessment (EA) for Malapai Resources, Christensen Ranch In Situ Leach Satellite Operation." May 4, 1988.
JTI045	ML102710343	Contention 3	Jon F. Winter, Manager Environmental & Regulatory Affairs, Wyoming, Uranium One. "Monitor well 5MW66 and Christensen Ranch." September 21, 2010.
JTI046	ML070960170	Contention 3	John McCarthy, Manager, Safety, Health and Environmental Affairs, Power Resources, Smith Ranch-Highland Uranium Project. "Southwest Area Hydrologic Test: NRC License SUA-1548, DOCKET NO. 40-8964." February 21, 2007.
JTI047		All Contentions	USGS. "What is Groundwater?" Open-File Report 93-643. Reprinted April 2001.
JTI048		All Contentions	Blanc, Elodie, et al. "Modeling US water resources under climate change." Earth's Future 2.4 (2014): 197-224. (FULL-TEXT

Party Exh. No.	ADAMS Access. No.	Witness/Panel	Description
			COPYRIGHTED MATERIAL)
JTI049		All Contentions	Drought-Stricken Texas Town Turns To Toilets For Water by Shelley Kofler, May 06, 2014, National Public Radio, http://www.npr.org/2014/05/06/309101579/drought-stricken-texas-town-turns-to-toilets-for-water .
JTI050		All Contentions	Gillette Regional Water Supply Project, website accessed August 25, 2014, http://www.gillettewy.gov/index.aspx?page=902 .
JTI051		All Contentions	Pre-filed Rebuttal Testimony of Dr. Richard Abitz
JTI052		All Contentions	Pre-filed Rebuttal Testimony of Dr. Lance Larson
JTI053	ML14199A775	Contention 2	Crow Butte Resources, Mine Unit 1 Restoration Report, Jan. 10, 2000 (Violation History)
JTI054	ML12212A371	Contention 2	License SUA-1341, Docket No. 40-8502, Willow Creek Project Quarterly Progress Report of Monitor Wells on Excursion Status - 2 nd Qtr. 2012
JTI055	ML14162A117	Contention 2	Irigaray and Christensen Ranch Environmental Monitoring Station Locations
JTI056	ML13211A354	Contention 2	License SUA-1341, Docket No. 40-8502, Willow Creek Project, Mine Unit 2-6 Groundwater Restoration
JTI057		Contention 3	Gary Curtis Biography from USGS website, copied from https://profile.usgs.gov/gpcurtis
JTI058		Contention 3	Fox et al. 2006, The effect of calcium on aqueous uranium(VI) speciation and adsorption to ferrihydrite and quartz (FULL-TEXT COPYRIGHTED MATERIAL)
JTI059		Contention 3	Kelly et al. 2006, X-ray absorption spectroscopy identifies calcium-uranyl-carbonate complexes at environmental concentrations (FULL-TEXT COPYRIGHTED MATERIAL)
JTI060	ML14184B139	Contention 3	Yabusaki et al., Assessing the Potential for Bioremediation of Uranium In Situ Recovery Sites
JTI061		Contention 3	Hua et al. 2006, Kinetics of Uranium(VI) Reduction by Hydrogen

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			Sulfide in Anoxic Aqueous Systems (FULL-TEXT COPYRIGHTED MATERIAL)
JTI062-R		Contention 3	Ground water quality samples obtained from Christensen Ranch Mine Unit 5 excursion well 5MW-66

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NRC Staff Hearing Exhibits

Party Exh. No.	ADAMS Access. No.	Witness/Panel	Description
NRC006A/B	ML13078A036	All Contentions	NUREG-1910, Supplement 5, Draft Report for Comment, Environmental Impact Statement for the Ross ISR Project in Crook County, Wyoming: Supplement to the Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities: Final Report (March 2013)
NRC013	ML032450279	Contention 1	NUREG-1748, Final Report, Environmental Review Guidance for Licensing Actions Associated with NMSS Programs (August 2003)
NRC017	ML12135A358	Contentions 1, 2	Nuclear Dynamics. Quarterly Report, Summary of Water Quality Program. Source Material License No. SUA-1331, Docket No. 40-8663. 1978.
NRC020	ML14224A351	All Contentions	Staub et al. NUREG/CR-3967, An Analysis of Excursions at Selected In Situ Uranium Mines in Wyoming and Texas. 1986.
NRC040	ML102710342	Contention 3	Uranium One. Mine Unit 5 Response, Irigaray-Christensen Ranch In-Situ Operations, Permit No. 478. Casper, WY. August 2010.
NRC039	ML11152A093	Contention 3	WDEQ. Letter of Conference and Conciliation, Excursion at C-32, Permit 603, Cameco Resources. Cheyenne, WY May, 2011.
NRC018	ML13274A287	Contention 2	Nuclear Dynamics. Restoration Report. Source Material License No.

Party Exh. No.	ADAMS Access. No.	Witness/Panel	Description
			SUA-1331, Sundance Docket No. 40-8663. 1980.
NRC023	ML012710072	Contention 2	Crow Butte Resources, Inc. Response to the U.S. Nuclear Regulatory Commission Request for Additional Information/Mine Unit 1 Groundwater Restoration Completion/Crow Butte Uranium Project. Crawford, NE: Crow Butte Resources. August 2001.
NRC036	ML14104B678	Contention 2	Affidavit of Kathryn Johnson Concerning Drafting Error Identified by Joint Intervenors in the Strata Ross FSEIS (Apr. 10, 2014)
NRC030	ML053270037	Contention 2	Cogema. Response to LQD/DEQ January 10, 2005 Comments/Irigaray Wellfield Restoration Report TFN 4 1/170 (includes Wellfield Restoration Report, Irigaray Mine, July 2004), May, 2005.
NRC037	ML13092A278	Contention 2	Borch, Thomas, Nicholas Roche, and Thomas E. Johnson. "Determination of Contaminant Levels and Remediation Efficacy in Groundwater at a Former In-situ Recovery Uranium Mine." Journal of Environmental Monitoring, Volume 14, pp 1814-1823. 2012. (FULL-TEXT COPYRIGHTED MATERIAL)
NRC032	ML062400363	Contention 2	Cogema. "Summary Table." Irigaray Mine Unit Restoration Request for Additional Information Responses. Mills, WY: Cogema. 2006b.
NRC035	ML060830597	Contention 2	WDEQ. Postmining Groundwater Restoration Demonstration for the Irigaray Mine, Permit No. 478, TFN 4 1/170, Change No. 34. November 2005.

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NRC034	ML062570175	Contention 2	NRC. "Review of Cogema Mining Inc., Irigaray Mine Restoration Report, Production Units 1 through 9, Source Material License SUA-1341 (TAC LU0137)." Washington, DC: USNRC. 2006b.

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Strata Hearing Exhibits

Party Exh. No.	ADAMS Access. No.	Witness/Panel	Description
SEI007	ML032250177	Contention 1	U.S. Nuclear Regulatory Commission (NRC), 2003, Standard Review Plan for In Situ Leach Uranium Extraction License Applications, NUREG-1569, Office of Nuclear Material Safety and Safeguards, Washington DC.
SEI008	ML003739941	Contention 1	NRC, April 1980, Regulatory Guide 4.14: Radiological Effluent and Environmental Monitoring at Uranium Mills, Revision 1, Office of Standards Development, Washington, DC.
SEI009A/B		All Contentions	FSEIS Vol 1, Cover thru App B/FSEIS Vol 2, App C to End
SEI016A-E		All Contentions	ROSS ER
SEI014A-P		All Contentions	ROSS TR