



Daybreak's Environmental History



Introduction

Daybreak Communities was founded in July 2016 and is the current landowner & developer of Daybreak. Originally formed as Kennecott Land by Rio Tinto, the development company was established to manage land holdings in ways that would ensure future generations have an opportunity to enjoy a great neighborhood, beautiful land, adequate water and clean air. Daybreak Communities continues to adhere to these original goals of sustainability to create the most enduring neighborhood in Utah.

Because Daybreak Communities was originally part of Rio Tinto, a global mining company, our team is well-versed in the reclamation of mining operations and is sensitive to the public's questions and concerns about past mining activities. We hope the information contained in this report will help you understand our significant work and commitment to ensure clean and safe soil and water in Daybreak. Daybreak Communities continues to work closely with Rio Tinto to ensure that all relevant environmental questions related to historic legacy mining impacts are answered.



History

Utah's first mining district was born in the early 1860s when reports of significant mineral deposits in the Oquirrh Mountains were confirmed. Over the next 157 years, the industry went through enormous changes in prosperity and modernization. In 1989, one of the world's largest mining companies, Rio Tinto, purchased Kennecott Utah Copper (KUC). In 2001, Rio Tinto Kennecott began planning the Daybreak community as a sustainable use of post mining land and as a tangible demonstration of smart growth development practices.

In July of 2016, Värde Partners purchased the approximately 2,500 acres of remaining undeveloped land from Rio Tinto Kennecott and at that time Daybreak Communities was established.

Soil Conditions at Daybreak

As the previous land owners of Daybreak, Rio Tinto Kennecott worked closely with the U.S. Environmental Protection Agency (EPA) and the Utah Department of Environmental Quality (UDEQ) to develop site specific clean-up standards for unrestricted residential development. Rio Tinto Kennecott met, and in some cases, exceeded the EPA & UDEQ standards for soil conditions for development at Daybreak. A small part (around 13%) of the community sits on the former site of evaporation ponds used in conjunction with mining operations in Bingham Canyon. The following chronicles the development and removal of soil beneath those evaporation ponds.

- In 1936, Kennecott Utah Copper constructed evaporation ponds to store and evaporate mine water originating from the Bingham Canyon watershed.
- Over time, additional ponds were constructed to increase capacity, and the area became known as the South Jordan Evaporation Ponds (SJEP).
- The ponds were used for mine water until 1965 and for periodic storage of runoff water until 1987. SJEP use was discontinued in 1987.
- Rio Tinto purchased Kennecott Utah Copper, creating Rio Tinto Kennecott.
- Studies in the early 1990s concluded that there were elevated levels of heavy metals in the soil where the evaporation ponds had been located. Rio Tinto Kennecott agreed to reclaim and remediate the SJEP area. The removal work was undertaken pursuant to an EPA Administrative Order on Consent (AOC).
- A massive clean-up operation began in 1994 involving the removal of pond sediment and six additional inches of underlying native soil. The material removed was permanently relocated to the Kennecott Bluewater Repository as part of

the cleanup conducted consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). At this time, some sediments, containing low concentrations of lead and arsenic but elevated sulfate concentrations, were consolidated onsite and capped with topsoil and re-vegetated.

In 2001, the EPA issued a Record of Decision stating that the removal action adequately satisfied the remedial objectives and EPA determined that no further action was required. An Operation and Maintenance Plan (O&M Plan) was established to address further management of the consolidation site.

- In 2003, Rio Tinto Kennecott began removing the remaining sediments at the consolidation site under the guideline of the O&M Plan.

- In 2006, Rio Tinto Kennecott, the EPA and the UDEQ entered into an agreement solidifying the unrestricted residential and commercial use clean-up standards for the entire site.

- In early 2007, Rio Tinto Kennecott completed the consolidated pond sediment removal project. Then in December 2007, the project was endorsed by the EPA and UDEQ.

Growing Conditions at Daybreak



Daybreak integrates sustainable landscape practices into the community in a number of ways. We are committed to planting over 100,000 trees along all the streets and in parks, which will reduce urban heat island effect. Storm water runoff is collected in a variety of ways and filters down to recharge the aquifer beneath Daybreak. Residents are encouraged to plant a water wise landscape, limit turf areas that require a lot of supplemental water and improve soil to better absorb water and encourage deeper roots. Residents are also able to plant vegetable gardens at their homes. A list of plants that grow well at Daybreak is available through the Daybreak Community Association.

Additional gardening opportunities are available to Daybreak residents at one of the “Community Gardens,” which have been constructed throughout Daybreak.

Water at Daybreak

Daybreak and other southwest valley residents get their culinary water from the Jordan Valley Water Conservancy District (JVWCD). Parks and open spaces at Daybreak are irrigated through the use of an innovative secondary water collection and distribution system. Secondary water (originating from Utah Lake) is piped in through existing pipelines and treated at a holding pond on the northern edge of the property. The water is then distributed for irrigation to parks and open spaces.

Southwest Valley Groundwater

Groundwater in the southwest valley (including portions of South Jordan, West Jordan, Riverton and Herriman), has been impacted by historical mining operations in the Oquirrh Mountains. This water was found to contain higher than normal levels of sulfate. Sulfate (SO_4) occurs naturally in most groundwater, with higher levels associated with historic mining districts. As water moves through soil and rock formations that contain sulfate or sulfide bearing minerals, some of the sulfate dissolves into the groundwater. At high levels, sulfate can give water a bitter taste and can have a laxative effect. The presence of the groundwater plume, which is approximately 250 to 450 feet beneath Daybreak, does not constitute a health or safety risk, or concern to individuals who live, work, or recreate at Daybreak due to its depth below the surface. Rio Tinto Kennecott is working with the UDEQ and the JWCD and have implemented a clean-up plan that will have long-term environmental benefits.

Here are the facts:

- The groundwater plume is approximately 250 to 450 feet beneath the surface of Daybreak.
- No groundwater containing sulfate in quantities greater than the drinking water standards is extracted and directly supplied as drinking water to Daybreak or any other community in the southwest valley.
- In August 2004, Rio Tinto Kennecott signed an agreement to perform a groundwater clean-up in conjunction with the UDEQ and the JWCD. The agreement outlines a plan to pump and treat groundwater.
- Two Reverse Osmosis (RO) plants have been built and treat the sulfate contaminated water and provide drinking water to the JWCD. The western RO plant operated by Rio Tinto Kennecott, also known as Bingham Canyon Water Treatment Plant located southeast of Copperton, began providing drinking water in June 2006. The eastern RO plant operated by JWCD, located along 1300 West and 8200 South, has been in full operation since in the second quarter of 2012. The plant will treat groundwater extracted from wells located in the South Jordan area.
- The groundwater treatment project has a 40-year timeline that RioTinto Kennecott will be financing. At the end of this period, the size of the plumes will have decreased substantially.
- The two RO plants will provide at least 7,000-acre feet of clean water per year to the JWCD.



Air Quality

Due to its unique topography and quickly growing population, Utah experiences a number of challenges in maintaining healthy air quality for its citizens, particularly in the more densely populated areas along the Wasatch Front. Daybreak Communities is aware of these issues and impacts and has planned Daybreak to reduce carbon monoxide emissions from buildings and vehicles in the following ways:

- Because Daybreak is designed as a “traditional neighborhood development” there is a reduction of vehicle miles traveled for daily needs because of a network of connected sidewalks, streets, and bike trails.
- According to a University of Utah study, 72% of students walk to Daybreak Elementary.
- Daybreak played a pivotal role in the development of the Utah Transit Authority’s TRAX red line, which connects Daybreak to the University of Utah.
- Three high performing LEED-certified buildings have been built in Daybreak. The Rio Tinto Regional Center was the first LEED Platinum-rated core and shell building in Utah.
- Every home in Daybreak is energy star rated and comes with a Home Energy Rating Score (HERS), which provides an index rating of each home’s energy efficiency.
- Balancing the jobs to housing ratio by bringing more employment centers close to where people live is a key tenet of the Daybreak master plan. Over the next several years, we’ll be focused on bringing more jobs to Downtown Daybreak. This provides more people the opportunity to work closer to home, and combined with convenient access to light rail is poised to have a long term impact to our valley’s air quality by taking thousands of cars off the road every day.



Environmental Commitment for Today and the Future

Daybreak has been carefully planned to incorporate key social and environmental features in its design. To us, sustainability is the ability to work proactively, find common ground among different interests and create something that uplifts the entire community. Sustainability goes beyond environmental considerations and takes into account the economic and social implications of the decisions we make. It's the lens that lets us see farther down the road, bringing greater foresight to our planning and greater insight to our decision-making. It's the spark that ignites big ideas and solves problems at a whole new level. And in the end, it's just plain common sense.

- All Daybreak homes are Energy Star®-certified, making it the largest single Energy Star community in Utah and one of the largest in the country.
- Beginning in 2011, Daybreak introduced the new Energy Star 3.0 Standard, which makes each home 20% to 30% more energy efficient than a home built to the standard code. All homes in Daybreak are inspected by a third party to ensure compliance to the higher Energy Star 3.0 Standards.
- More than 1,000 acres of Daybreak have been planned as open space. This open space will be irrigated with secondary water and landscaped with a combination of sod and water-wise native plants.
- Three-quarters of all home construction waste is being recycled in a unique program with on-site builders and contractors.
- Our storm water management system has been designed to retain 100% of storm water onsite from a 100 year rain event, in an effort to preserve precious groundwater resources.
- Daybreak has a vigorous dust control program for construction activities far exceeding standard industry practice.
- Daybreak conducts noise and vibration monitoring to ensure that impacts from its construction activities are well-controlled.
- Daybreak is a member of the UDEQ's Clean Air Utah Program.



Envision Utah awarded Daybreak with six Governor's Awards for Quality Growth for sustainable development achievements at Daybreak. Daybreak has also received a number of other awards for innovative smart growth planning over the years:

- 2002 – Grand Achievement Award for Design and Planning.
- 2003 – Award of Merit for ecosystem approach to planting design, plant procurement and landscape maintenance.
- 2006 – Award for the West Bench Planning Summits in the Public Involvement category for the 2005 Council of Government Summits.
- 2010 – Award for Daybreak Elementary and Community Center for innovative public/private partnership. Daybreak Elementary has LEED Silver certification and uses geo-thermal heating, making it one of the Jordan Districts most energy-efficient schools.
- 2010 – Award for Daybreak Corporate Center/Rio Tinto Regional Center for earning the first LEED Platinum designation in Utah
- 2010 – Salt Lake County/ Daybreak: Crosswalk Collaboration Portal/Active Street Maps.
- 2011 – 2010 Community of the Year – Best in American Living
- 2011- Platinum Award for Suburban Smart Growth Award- Best in American Living
- 2015- ASLA Honor Award for Design- Brookside Park
- 2017- Top Selling Master-Planned Community
- 2018- Top Selling Master-Planned Community
- 2019- Top Selling Master-Planned Community

Combined, these efforts and others will help ensure our natural resources will be available to future generations, and Utah will remain a healthy and desirable place to live.

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Additional information can be found online:

U.S. Environmental Protection Agency
www.epa.gov

Utah Department of Environmental Quality
www.deq.utah.gov

Jordan Valley Water Conservancy District
www.jvwcd.org

Rio Tinto
www.riotinto.com

ISO Environmental Certification
www.iso.org

Daybreak Utah
www.daybreakutah.com

Kennecott Utah Copper
www.kennecott.com

Daybreak Communities
www.daybreakcommunities.com