



City/Borough of Juneau – Last Chance Basin Wells

PWS ID#s 110342.002 to 110342.006, WL001 to WL005

Table 1: Public Water System Source Information

PWS Name	City/Borough of Juneau
PWS ID Number	110342.002 to 110342.006
State Asgn ID No.	WL001 to WL005
Facility Name	Last Chance Basin Well #s 1 to 5
Source Type	Groundwater
Federal Classification	Community Water System
Total Depth of Well (ft bls*)	95 - 133
Static Water Level (ft bls*)	10
Aquifer Type	Confined
Aquifer Formation	Sandy Gravel

*"ft bls" = feet below land surface

Executive Summary

The public water system for the City/Borough of Juneau is a Community Water System (CWS) consisting of five wells located in the Last Chance Basin near Gold Creek and one intake on Salmon Creek Reservoir. The primary source is the Last Chance Basin Wellfield on Gold Creek and the secondary source is the Salmon Creek Reservoir. This Executive Summary is for the Last Chance Basin Wells.

An assessment of the susceptibility of the wellhead and aquifer to contamination, and the vulnerability of the public water system to potential and existing contamination were evaluated as of April, 2012. The wellhead received a susceptibility rating of **Low** and the aquifer received a susceptibility rating of **High**. Combining these two ratings produces a **Medium** rating for the natural susceptibility of the well. Identified potential and existing sources of contamination for the Last Chance Basin wells include landslides, a toilet incinerator, inactive placer mining sites, a DEC-recognized contaminated site, a leaking underground fuel storage (LUST) tank site, and foot trails. These are considered sources of bacteria and viruses, nitrates and/or nitrites, volatile organic chemicals (VOCs), heavy metals, cyanide, and other inorganic chemicals, synthetic organic chemicals (SOCs), and other organic chemicals (OOCs).

Combining the natural susceptibility of the well with the six (6) contaminant risk categories, the public water system for City/Borough of Juneau – Last Chance Basin Wells received an overall vulnerability rating of **Low** for bacteria and viruses, nitrates and/or nitrites, SOCs and OOCs; and a **Medium** for VOCs and heavy metals, cyanide, and other inorganic chemicals.

Table 2

*Contaminant Source Inventory and Risk Ranking for
City of Juneau-Last Chance Basin Well #2 (WL002)
Sources of Bacteria and Viruses*

PWSID 110342.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Incinerators (municipal wastes)	D21	D21-01	A	Low	2	Last Chance Mining Museum Toilet Incinerator (Residential Scale)
Highways and roads, dirt/gravel	X24	X24-01	A	Low	2	Basin Rd
Dog walking areas/foot trails	X46	X46-01-03	A	Low	2	Mount Juneau Trl, Perseverance Trl, Mount Roberts Trl

Table 3

*Contaminant Source Inventory and Risk Ranking for
City of Juneau-Last Chance Basin Well #2 (WL002)
Sources of Nitrates/Nitrites*

PWSID 110342.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Incinerators (municipal wastes)	D21	D21-01	A	Low	2	Last Chance Mining Museum Toilet Incinerator (Residential Scale)
Highways and roads, dirt/gravel	X24	X24-01	A	Low	2	Basin Rd
Dog walking areas/foot trails	X46	X46-01-03	A	Low	2	Mount Juneau Trl, Perseverance Trl, Mount Roberts Trl

Table 4

*Contaminant Source Inventory and Risk Ranking for
City of Juneau-Last Chance Basin Well #2 (WL002)
Sources of Volatile Organic Chemicals*

PWSID 110342.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Tanks, diesel (underground)	T08	T08 - 1	A	High	2	ADEC UST Site 2160
Highways and roads, dirt/gravel	X24	X24-01	A	Low	2	Basin Rd

Table 5

*Contaminant Source Inventory and Risk Ranking for
City of Juneau-Last Chance Basin Well #2 (WL002)
Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals*

PWSID 110342.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Landslides or other hillside areas subject to significant erosion	B06	B06 - 1	A	Low	2	From 2001 Sanitary Survey
Metals mining, placer (inactive)	E04	E04 - 1	A	Low	2	From DNR mines data - Abandoned mine is currently the Last Chance Mining Museum.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	A	Medium	2	Jualapa Tunnel (Hazard ID # 406); Contaminants: Total Mercury, Dissolved Lead; ETM Rating for Groundwater Ingestion: Low Potential Exposure as of 02/27/2008.
Highways and roads, dirt/gravel	X24	X24-01	A	Low	2	Basin Rd
Metals mining, placer (inactive)	E04	E04 - 2	B	Low	2	From DNR mines data - Silver Bow Basin - Perseverance Mill (Past Producer)
Metals mining, placer (inactive)	E04	E04 - 3	B	Low	2	From DNR mines data - Lurvey (Past Producer)
Metals mining, placer (inactive)	E04	E04-04	B	Low	2	Alaska Juneau Mine (AJ Mine) - from History of the Juneau Gold Belt 1869-1965 (Mine re-opening being considered by CBJ)
Metals mining, placer (inactive?)	E04	E04-05	B	Low	2	Ebner Mine - from History of the Juneau Gold Belt 1869-1965 OFR 97-86 (Past Producer)
Metals mining, placer (inactive?)	E04	E04-06	B	Low	2	Ground Hog Mine - from History of the Juneau Gold Belt 1869-1965 OFR 97-86 (Past Producer)
Metals mining, placer (inactive?)	E04	E04-07	B	Low	2	Hallam Prospect - from History of the Juneau Gold Belt 1869-1965 OFR 97-86 (Expired Prospect)
Metals mining, placer (inactive?)	E04	E04-08	B	Low	2	Humboldt Mine - from History of the Juneau Gold Belt 1869-1965 OFR 97-86 (Past Producer)
Metals mining, placer (inactive?)	E04	E04-09	B	Low	2	Jeff & Russell Prospect - from History of the Juneau Gold Belt 1869-1965 OFR 97-86 (Expired Prospect)
Metals mining, placer (inactive?)	E04	E04-10	B	Low	2	Little Basin Placer - from History of the Juneau Gold Belt 1869-1965 OFR 97-86 (Past Producer)
Metals mining, placer (inactive?)	E04	E04-11	B	Low	2	Marty Prospect - from History of the Juneau Gold Belt 1869-1965 OFR 97-86 (Expired Prospect)
Metals mining, placer (inactive?)	E04	E04-12	B	Low	2	Rubicon Minerals - from Juneau Gold Belt Area OFR 85-86 (Expired Prospect)
Metals mining, placer (inactive?)	E04	E04-13	B	Low	2	Reilly Prospect - from Juneau Gold Belt Area OFR 85-86 (Expired Prospect)

Table 5 (continued)

*Contaminant Source Inventory and Risk Ranking for
City of Juneau-Last Chance Basin Well #2 (WL002)
Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals*

PWSID 110342.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Metals mining, placer (inactive?)	E04	E04-14	B	Low	2	Republican
Metals mining, placer (inactive?)	E04	E04-15	B	Low	2	Upper Gold Creek Workings - from Juneau Gold Belt Area OFR 85-86 (Expired Prospect)

Table 6

*Contaminant Source Inventory and Risk Ranking for
City of Juneau-Last Chance Basin Well #2 (WL002)
Sources of Other Organic Chemicals*

PWSID 110342.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Highways and roads, dirt/gravel	X24	X24-01	A	Low	2	Basin Rd

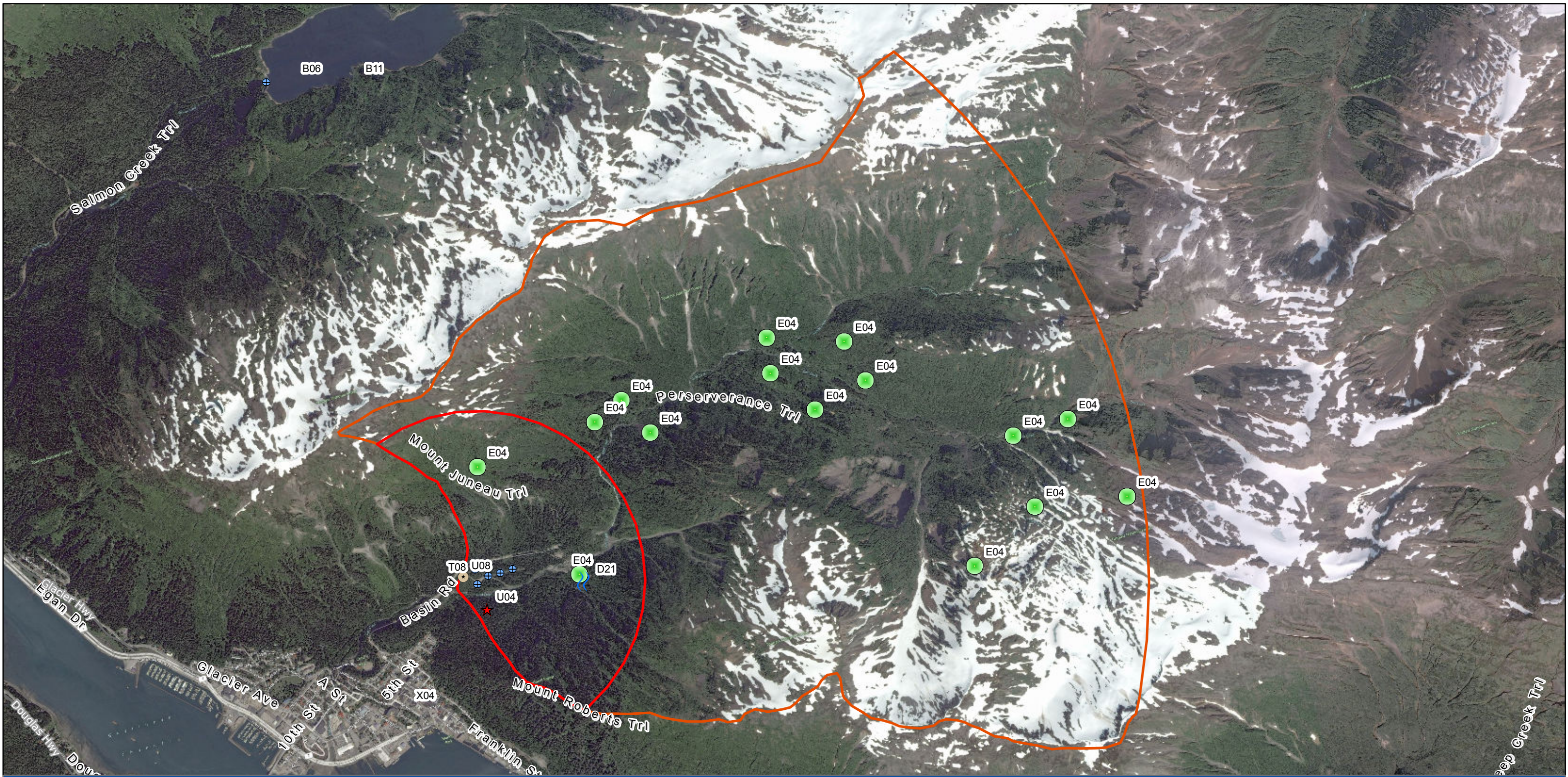
Table 1

**Contaminant Source Inventory for
City of Juneau-Last Chance Basin Well #2 (WL002)**

PWSID 110342.002

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Map Number	Comments
Landslides or other hillside areas subject to significant erosion	B06	B06 - 1	A	2	From 2001 Sanitary Survey
Incinerators (municipal wastes)	D21	D21-01	A	2	Last Chance Mining Museum Toilet Incinerator (Residential Scale)
Metals mining, placer (inactive)	E04	E04 - 1	A	2	From DNR mines data - Abandoned mine is currently the Last Chance Mining Museum.
Tanks, diesel (underground)	T08	T08 - 1	A	2	ADEC UST Site 2160
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	A	2	Jualapa Tunnel (Hazard ID # 406); Contaminants: Total Mercury, Dissolved Lead; ETM Rating for Groundwater Ingestion: Low Potential Exposure as of 02/27/2008.
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	2	CBJ Well Field in Last Chance Basin (Hazard ID# 24550); Status: Cleanup Complete; no ETM Ranking
Highways and roads, dirt/gravel	X24	X24-01	A	2	Basin Rd
Dog walking areas/foot trails	X46	X46-01-03	A	2	Mount Juneau Trl, Perseverance Trl, Mount Roberts Trl
Metals mining, placer (inactive)	E04	E04 - 2	B	2	From DNR mines data - Silver Bow Basin - Perseverance Mill (Past Producer)
Metals mining, placer (inactive)	E04	E04 - 3	B	2	From DNR mines data - Lurvey (Past Producer)
Metals mining, placer (inactive)	E04	E04-04	B	2	Alaska Juneau Mine (AJ Mine) - from History of the Juneau Gold Belt 1869-1965 (Mine re-opening being considered by CBJ)
Metals mining, placer (inactive?)	E04	E04-05	B	2	Ebner Mine - from History of the Juneau Gold Belt 1869-1965 OFR 97-86 (Past Producer)
Metals mining, placer (inactive?)	E04	E04-06	B	2	Ground Hog Mine - from History of the Juneau Gold Belt 1869-1965 OFR 97-86 (Past Producer)
Metals mining, placer (inactive?)	E04	E04-07	B	2	Hallam Prospect - from History of the Juneau Gold Belt 1869-1965 OFR 97-86 (Expired Prospect)
Metals mining, placer (inactive?)	E04	E04-08	B	2	Humboldt Mine - from History of the Juneau Gold Belt 1869-1965 OFR 97-86 (Past Producer)
Metals mining, placer (inactive?)	E04	E04-09	B	2	Jeff & Russell Prospect - from History of the Juneau Gold Belt 1869-1965 OFR 97-86 (Expired Prospect)
Metals mining, placer (inactive?)	E04	E04-10	B	2	Little Basin Placer - from History of the Juneau Gold Belt 1869-1965 OFR 97-86 (Past Producer)
Metals mining, placer (inactive?)	E04	E04-11	B	2	Marty Prospect - from History of the Juneau Gold Belt 1869-1965 OFR 97-86 (Expired Prospect)
Metals mining, placer (inactive?)	E04	E04-12	B	2	Rubicon Minerals - from Juneau Gold Belt Area OFR 85-86 (Expired Prospect)

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Map Number</i>	<i>Comments</i>
Metals mining, placer (inactive?)	E04	E04-13	B	2	Reilly Prospect - from Juneau Gold Belt Area OFR 85-86 (Expired Prospect)
Metals mining, placer (inactive?)	E04	E04-14	B	2	Republican
Metals mining, placer (inactive?)	E04	E04-15	B	2	Upper Gold Creek Workings - from Juneau Gold Belt Area OFR 85-86 (Expired Prospect)



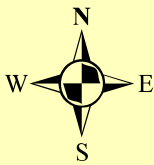
Map 2 - City and Borough of Juneau - Last Chance Basin Wells #1 to #5 (PWS ID# 110342.002 to 110342.006)



- Public Drinking Water Systems**
- Class A Water Systems (C/NTNC)
 - Class B Water Systems (TNC)
 - Class C Water Systems (State Regulated)
- Drinking Water Protection Areas**
- Zone A (1000-foot Buffer)
 - Zone B (1-mile Buffer)

- Potential/Existing Sources of Contamination**
- Tanks, diesel (underground) (T08)
 - Quarries (sand, gravel, rock, other) (E10)
 - Metals mining, placer (active/inactive) (E04)

- Incinerators (municipal wastes) (D21)
- Closed Leaking Underground Fuel Storage Tank (LUST) Sites (U08)
- Contaminated sites, DEC recognized, non-Superfund, non-RCRA (U04)



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DATA SOURCES:

Aerial Imagery: Virtual Earth, Microsoft Live Search Maps
Public Drinking Water Sources, Drinking Water Protection Areas and Potential/Existing Sources of Contamination: Alaska Department of Environmental Conservation

