



A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.

Memorandum

Date: November 5, 2015
To: Buckman Direct Diversion Board
From: Randy Sugrue, Interim Operations Superintendent
Subject: Update on BDD Operations for the Month of October 2015

ITEM:

1. This memorandum is to update the Buckman Direct Diversion (BDD) Board on BDD operations during the month of October 2015. The BDD diversions and deliveries have averaged, in Million Gallons Daily (MGD) as follows:
 - a. Raw water diversions: 7.67 MGD Average
 - b. Finished Drinking water deliveries through Booster Station 4A: 5.34 MGD Average
 - c. Finished Drinking water deliveries through Booster Station 5A: 1.64 MGD Average
 - d. Raw water delivery to Las Campanas at BS2A: 19.09 MG Total.
2. The BDD is providing approximately 82 percent of the water supply to the City and County for the month.
3. Please see the following pages from the Monthly report to the Office of the State Engineer (OSE) for accurate information up to October 15, 2015.
4. Please note all prior years are also included for reference.
5. The current Drought Update Summary is attached.



BACKGROUND AND SUMMARY:

Buckman Direct Diversion Monthly SJC and Native Diversions

Oct-15

In Acre-Feet

Month	Total SJC + Native Rights	SP-4842 RG Native COUNTY	SD-03638 RG Native LAS CAMPANAS	SJC Call Total	SP-2847-E SJC Call CITY	SP-2847-N-A SJC Call LAS CAMPANAS	All Partners Conveyance Losses
JAN	312.687	66.122	0.000	246.565	246.565	0.000	2.400
FEB	328.880	49.882	6.848	272.150	272.150	0.000	2.358
MAR	358.212	169.870	8.149	180.193	180.193	0.000	1.602
APR	40.134	40.134	0.000	0.000	0.000	0.000	0.000
MAY	465.403	238.729	0.000	226.674	226.674	0.000	2.145
JUN	692.301	128.535	0.000	563.767	452.430	111.336	5.043
JUL	448.317	148.671	0.000	299.646	237.063	62.583	2.701
AUG	493.158	213.727	0.000	279.430	279.430	0.000	2.538
SEP	683.013	130.850	0.000	552.163	552.163	0.000	4.983
OCT	430.343	64.123	0.000	366.220	366.220	0.000	3.566
NOV	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DEC	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	4,252.449	1,250.642	14.997	2,986.810	2,812.891	173.919	27.336

In Acre-Feet

Month	Native COUNTY	Native Las Campanas	SJC CITY	SJC Las Campanas	All Partners Diversions BDD
JAN	66.122	0.000	244.165	0.000	310.287
FEB	49.882	6.848	269.792	0.000	326.521
MAR	169.870	8.149	178.592	0.000	356.610
APR	40.134	0.000	0.000	0.000	40.134
MAY	238.729	0.000	224.529	0.000	463.258
JUN	128.535	0.000	448.383	110.341	687.259
JUL	148.671	0.000	234.927	62.019	445.616
AUG	213.727	0.000	276.893	0.000	490.620
SEP	130.850	0.000	547.180	0.000	678.030
OCT	64.123	0.000	362.654	0.000	426.777
NOV	0.000	0.000	0.000	0.000	0.000
DEC	0.000	0.000	0.000	0.000	0.000
TOTAL	1,250.642	14.997	2,787.115	172.359	4,225.113

Buckman Direct Diversion Monthly SJC and Native Diversions

Dec-14

Month	Total SJC Release (AF)	SJC Conveyance Losses (AF)	Total SJC Available at BDD (AF)	SJC Diversion, SP-2847-E (AF)	SJC Diversion, SP-2847-N-A (AF)	Total Native Rio Grande Diversion SP-4842 (AF)	Release of SJC in Elephant Butte (AF)	Total BDD Surface Diversion (all permits)	SJC from SP-2847-E used to offset Buckman Wells RG-20516 (AF)	SJC from SP-2847-N used to offset Buckman Wells RG-20516 (AF)
JAN	383.35	3.74	390.34	390.34	0.00	12.68	0	403.01	0	0
FEB	349.51	3.28	341.55	341.55	0.00	11.38	0	352.93	0	0
MAR	373.88	3.66	381.69	357.07	34.09	148.83	0	530.52	0	0
APR	178.75	1.70	176.78	92.46	84.47	227.22	0	404.00	0	0
MAY	491.46	4.61	480.35	389.13	91.22	374.86	0	855.21	0	0
JUN	427.50	3.96	412.65	295.07	117.58	292.84	0	705.49	0	0
JUL	425.22	4.14	431.96	399.51	32.46	72.32	0	504.28	0	0
AUG	496.68	4.60	479.66	479.66	0.00	96.07	0	575.74	0	0
SEP	552.71	5.40	562.83	562.83	0.00	84.85	0	647.68	0	0
OCT	381.93	3.63	378.30	378.30	0.00	142.46	0	520.76	0	0
NOV	441.14	4.09	426.17	426.17	0.00	11.59	0	437.76	0	0
DEC	423.99	4.13	430.74	430.74	0.00	19.56	0	450.30	0	0
TOTAL	4,926.12	46.93	4,893.03	4,542.84	359.82	1,494.66	0.00	6,387.69	0.00	0.00

Source of SJC releases in reporting month. Includes conveyance losses.

Month	Total Release (AF)	ABIQUIU		
		City of Santa Fe (AF)	Santa Fe County (AF)	Club at Las Campanas (AF)
JAN	383.35	383.35	0.00	0.00
FEB	349.51	349.51	0.00	0.00
MAR	373.88	346.37	0.00	27.37
APR	178.75	93.42	0.00	85.41
MAY	491.46	399.41	0.00	92.41
JUN	427.50	307.54	0.00	120.28
JUL	425.22	397.13	0.00	28.09
AUG	496.68	496.68	0.00	0.00
SEP	552.71	552.71	0.00	0.00
OCT	381.93	381.93	0.00	0.00
NOV	441.14	441.14	0.00	0.00
DEC	423.99	423.99	0.00	0.00
TOTAL	4,926.12	4,573.19	0.00	353.55

Buckman Direct Diversion Monthly SJC and Native Diversions

December 2013

Month	Total SJC Release (AF)	SJC Conveyance Losses (AF)	Total SJC Available at BDD (AF)	SJC Diversion, SP-2847-E (AF)	SJC Diversion, SP-2847-N-A (AF)	Total Native Rio Grande Diversion SP-4842 (AF)	Release of SJC in Elephant Butte (AF)	Total BDD Surface Diversion (all permits)	SJC from SP-2847-E used to offset Buckman Wells RG-20516 (AF)	SJC from SP-2847-N used to offset Buckman Wells RG-20516 (AF)
JAN	439.04	4.24	441.79	441.79	0	44.09	0	485.88	0	0
FEB	261.03	2.47	257.94	257.94	0	10.49	0	268.42	0	0
MAR	353.69	3.30	343.57	343.57	0	75.66	0	419.23	0	0
APR	680.73	6.34	661.33	661.33	0	89.47	0	750.80	0	0
MAY	1045.27	9.88	1030.46	1030.46	0	22.86	0	1053.32	0	0
JUN	817.91	7.85	818.00	734.56	83.44	260.03	0	1078.03	0	0
JUL	606.85	5.90	614.73	397.47	78.83	0.00	0	476.30	83.70	54.73
AUG	108.68	0.91	95.34	41.68	36.91	0.00	0	78.59	5.58	11.18
SEP	136.77	1.43	149.29	63.86	53.76	0.00	0	117.61	25.36	6.32
OCT	255.24	2.46	256.53	213.87	42.66	72.92	0	329.45	0	0
NOV	196.45	1.88	195.50	187.02	8.48	117.33	0	312.83	0	0
DEC	293.76	2.63	274.19	274.19	0.00	12.25	0	286.44	0	0
TOTAL	5195.42	49.29	5138.67	4647.73	304.07	705.09	0.00	5656.89	114.64	72.23

Source of SJC releases in reporting month. Includes conveyance losses.

Month	Total Release (AF)	ABIQUIU		
		City of Santa Fe (AF)	Santa Fe County (AF)	Club at Las Campanas (AF)
JAN	439.04	439.04	0	0
FEB	261.03	261.03	0	0
MAR	353.69	353.69	0	0
APR	680.73	680.73	0	0
MAY	1045.27	1045.27	0	0
JUN	817.91	729.30	0	88.60
JUL	606.85	473.27	0	133.58
AUG	108.68	65.21	0	43.47
SEP	136.77	83.87	0	52.90
OCT	255.24	211.15	0	44.09
NOV	196.45	186.31	0	10.15
DEC	293.76	293.76	0	0.00
TOTAL	5195.42	4822.62	0.00	372.79

Buckman Direct Diversion Monthly SJC and Native Diversions

December 2012

Month	Total SJC Release SP-2847-E (AF)	Conveyance Losses (AF)	Total SJC Available at BDD Diversion (AF)	Total SJC Diversion SP-2847-E (AF)	Total Native Rio Grande Diversion SP-4842 (AF)	Release of SJC in Elephant Butte (AF)	Total BDD Surface Diversion SP-2847-E plus SP-4842 (AF)	SJC used to offset Buckman Wells RG-20516 (AF)
JAN	448.09	4.06	447.00	411.56	5.02	0	416.59	35.44
FEB	210.29	1.97	216.94	208.13	32.21	0	240.34	8.81
MAR	335.75	2.94	323.61	312.85	59.21	0	372.06	10.76
APR	528.63	4.72	519.90	519.90	108.61	0	628.51	0.00
MAY	660.18	6.24	651.05	651.05	145.51	0	796.55	0.00
JUN	722.36	6.79	692.21	692.21	120.92	0	813.12	0.00
JUL	152.03	2.23	191.75	157.16	0.00	0	157.16	34.60
AUG	86.08	0.58	60.90	60.90	239.96	0	300.87	0.00
SEP	637.17	6.05	630.92	630.92	110.07	0	740.99	0.00
OCT	747.21	7.14	744.87	744.87	50.82	0	795.69	0.00
NOV	479.19	4.63	482.65	482.65	120.91	0	603.56	0.00
DEC	442.67	4.17	434.71	434.71	119.44	0	554.15	0.00
TOTALS	5449.67	51.53	5396.51	5306.90	1112.67	0.00	6419.57	89.61

Source of SJC Releases in reporting month. Includes conveyance losses.

Month	Total Release (AF)	HERON		EL VADO		ABIQUIU	
		CITY	COUNTY	CITY	COUNTY	CITY	COUNTY
JAN	448.09	0.00	0.00	0.00	0.00	448.09	0.00
FEB	210.29	0.00	0.00	0.00	0.00	210.29	0.00
MAR	335.75	0.00	0.00	0.00	0.00	335.75	0.00
APR	528.63	0.00	0.00	0.00	0.00	528.63	0.00
MAY	660.18	0.00	0.00	0.00	0.00	660.18	0.00
JUN	722.36	0.00	27.21	0.00	0.00	695.15	0.00
JUL	152.03	0.00	21.42	0.00	0.00	130.61	0.00
AUG	86.08	0.00	0.00	0.00	0.00	86.08	0.00
SEP	637.17	0.00	0.00	0.00	0.00	637.17	0.00
OCT	747.21	0.00	0.00	0.00	0.00	747.21	0.00
NOV	479.19	0.00	0.00	0.00	0.00	479.19	0.00
DEC	442.67	0.00	0.00	0.00	0.00	442.67	0.00
TOTALS	5449.67	0.00	48.63	0.00	0.00	5401.04	0.00

Note: Grey fields indicate revisions to previous monthly report

Drought, Monsoon/El Nino, and ESA Update

As the Committee/Board is aware, our region has suffered through a prolonged drought, lasting over four consecutive years of record drought, heat, and wildfires – albeit drought conditions have eased lately due to the reappearance of a strong El Nino. Recent model runs indicate the probability of a much wetter and cooler than normal fall and winter (95% chance of strong El Nino peaking in winter and lasting through early spring 2016). However, the models also indicate the probable return of drier conditions (El Nino neutral) by summer 2016, which could present significant challenges to all water purveyors, water utilities, and irrigators going forward into the summer if there is not significant carry-over storage in regional reservoirs. Regional reservoir levels on the Rio Grande and Chama Rivers are still low but rising. The City has received about 93% of normal firm yield through November 1st of this year; however, there were no deliveries in August through October. There are no water-related Endangered Species Act (ESA) updates. Updates on endangered species issues will be made as needed.

City of Santa Fe SJCP Reservoir Storage as of October 15, 2015:

Heron:

4,855 AF (2015 SJCP must be vacated by December 31, 2015 unless BoR waiver is approved to extend the deadline into 2016.

El Vado:

4,604 AF (Temporary storage, will be moved to Abiquiu as part of environmental winter flow releases)

Abiquiu:

7,000 AF SJCP carry-over from previous years, no time limit to vacate due to storage agreement with ABCWUA (includes LA County pool)

TOTAL:

16,459 AF



The Los Alamos National Laboratory WATER campaigns

Addressing Chromium in Groundwater

Background

From 1956 to 1972, a non-nuclear power plant at Los Alamos National Laboratory periodically flushed water out of its cooling towers into Sandia Canyon. The water contained chromium, which was commonly used throughout the industry as a corrosion inhibitor in cooling tower systems.

The chromium-contaminated water flowed down Sandia Canyon as surface water and penetrated the underlying rock layers. The contaminated water ultimately infiltrated into the regional aquifer beneath Sandia and Mortandad Canyons, the present location of the plume.

The Laboratory discovered chromium in the regional aquifer during the installation of a groundwater monitoring well in late 2005. Since then, detailed scientific characterization of the nature and extent of the plume has been conducted. This characterization provides the foundation for the next phase of work.

One of the Laboratory's highest environmental priorities is addressing the chromium plume in the regional aquifer beneath Mortandad Canyon and Sandia Canyon.

Interim Measure

Because of evidence of downgradient plume expansion The Laboratory installed a pilot pumping well, CrEX-1, in 2014 and conducted short-term pilot-scale pumping in late 2014. The purpose of pumping was to evaluate the feasibility of hydraulically controlling migration of the plume. The well pumped water at approximately 80 gallons per minute from late October through mid-December 2014.



A crew drilled CrEx-1, the project's first extraction well for hydraulic control.



Chromium-contaminated groundwater was stored in tanks prior to treatment.



Crews drilled sonic coreholes, using high-frequency vibration to collect subsurface material for testing in support of potential Chromium remediation strategies.

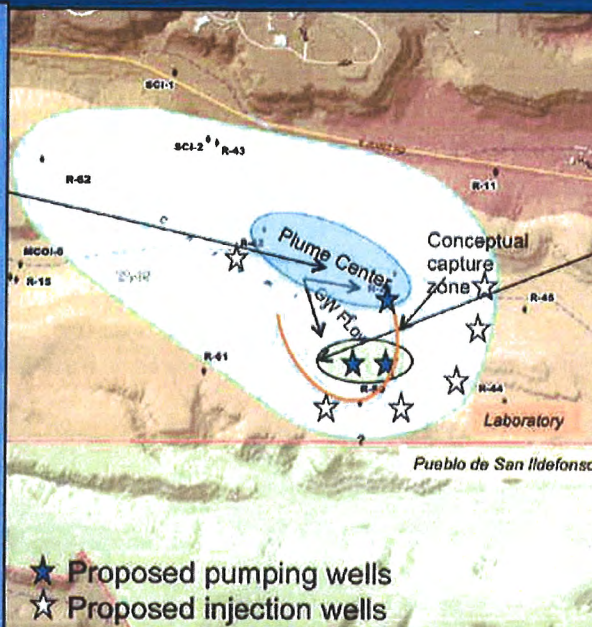


Chromium Plume

Center Characterization

The goal is to evaluate potential for targeted mass removal as a component of a final remediation strategy.

- Evaluate removal of chromium-contaminated groundwater by pumping groundwater in the area with highest chromium concentrations.
- Two-year test phase pumping is expected to involve pumping at varying rates to evaluate chromium trends.
- Environmental Protection Agency guidance is to locate extraction wells just down-gradient of the source and establish a capture zone in the center of the plume.
- Contaminated groundwater will be treated at the surface and largely returned to the aquifer through injection wells.
- In situ remediation approaches are also being evaluated.



Interim Measures

- The goal is to achieve and maintain a regulatory-compliant plume edge of less than 50 parts per billion within the Laboratory boundary.
- The strategy is to hydraulically control chromium migration toward boundary.
- Pumping is proposed at one or two wells to capture contaminated groundwater and control the plume migration.
 - Pumping for one year will provide extensive new input for hydrology and model updates and inform a need for a second well.
- The existing well, CrEX-1, pumps up to about 100 gallons per minute.
- Contaminated groundwater will be treated at the surface and returned to the aquifer through injection wells.
- Some portion of treated water may be land applied.

Plume-Control Interim Measure

Work for the next few years, under an Interim Measure proposed to the NMED, is intended to hydraulically control plume expansion while a final remediation strategy is identified. The proposed Interim Measure will include installation and operation of up to 2 extraction wells and 6 injection wells.

Plume Center Characterization

The Laboratory also plans to continue exploring additional technologies for application toward a final remediation approach. This work includes installation and operation of an extraction well near the center of the plume to test feasibility and operational efficiency for source removal, as well as bench-scale and field-scale studies to identify additional technologies that may be applied to remediation. The Laboratory is also actively engaging external subject matter experts on the studies.

The NEPA Process

An assessment of the impacts of the proposed actions are being evaluated in an environmental assessment pursuant to the National Environmental Policy Act Process. Any final remedy must first be proposed by the Laboratory and be approved by the New Mexico Environment Department.

For More Information

All of the reports, investigations and data on the chromium contamination are publicly available on the LANL Electronic Public Reading Room website located at <http://epr.lanl.gov/oppie/service>.

About Los Alamos National Laboratory

(www.lanl.gov)

Los Alamos National Laboratory, a multidisciplinary research institution engaged in strategic science on behalf of national security, is operated by Los Alamos National Security, LLC, a team composed of Bechtel National, the University of California, the Babcock & Wilcox Company, and URS Corporation for the Department of Energy's National Nuclear Security Administration.



Buckman Direct Diversion

A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.

Memo

DATE: December 3, 2015
TO: Buckman Direct Diversion Board
FROM: Mackie Romero, BDD Financial Manager *MR*
SUBJECT: Budget Adjustment Request

ITEM AND ISSUE:

Request approval of a Budget Adjustment to the adopted FY15/16 Operating Budget.

BACKGROUND AND SUMMARY:

The Buckman Direct Diversion prepares monthly budget projections which are used to evaluate current and future spending. These projections assist in determining our financial needs by budgeted line item. Our current projections indicate a shortfall in the following category.

Solids Disposal

- 514150 & 514170 – Landfill Tip Fees & Solid Waste Disposal –

Staff is currently working on cleaning out the pre-sediment basin and pops ponds, which were delayed last fall due to weather, resulting in an additional 500 tons of solids disposal. Also, in previous years our monthly disposals were being limited by a sampling permit weight limitation. This restriction is no longer in place enabling us to dispose of solids more frequently. Based on our monthly projections we are expected to spend about \$121,800 in solids disposal, we currently have \$86,800 budgeted in this category.

We request to utilize funds from our Materials & Supplies category which does have funds available to support this adjustment request. Any unexpended amounts will remain in the fund as uncommitted budget. The following request will not cause an increase to our current operating budget and is in accordance with our BDD Working Capital and Billing Policy.



ACTION REQUESTED:

Staff recommends approval of the attached Budget Adjustment Request Form to move a total of \$35,000 from Materials & Supplies to Solids Disposal line items for FY15/16.

<u>Category</u>	<u>Business Unit/Line Item/Description</u>	<u>Amount</u>
Materials & Supplies	7280000.520150 Repair & Maint- System Equip	(\$35,000)
Solids	7280000.514150 Landfill Tip Fees	\$10,000
	7280000.514170 Solid Waste Disposal	\$25,000
FY 2015/2016 Total Budget Net Effect		\$0

Approved by BDDDB December 3, 2015

Commissioner Liz Stefanics, BDDDB Chair

City of Santa Fe, New Mexico

BUDGET ADJUSTMENT REQUEST (BAR)

DEPARTMENT / DIVISION / SECTION / UNIT NAME PUBLIC UTILITIES/BUCKMAN DIRECT DIVERSION PROJECT				DATE 12/03/2015	
ITEM DESCRIPTION	BU / LINE ITEM	<--(Finance Dept Use Only)-->		INCREASE	DECREASE
		SUBLEDGER / SUBSIDIARY	DR / (CR)		
Solid Waste Disposal	7280000.514170.750510			25,000	
Landfill Tip Fees	7280000.514150.756610			10,000	
Rep & Maint System Equip	7280000.520150.991325				35,000
JUSTIFICATION: (use additional page if needed) --Attach supporting documentation/memo				TOTAL	\$ 35,000
					\$ 35,000

To re-allocate funding to cover projected landfill tip fees and solid waste disposal.

CITY COUNCIL APPROVAL			
Mackie Romero Prepared By	12/03/2015 Date	City Council Approval Required <input type="checkbox"/>	Budget Officer _____ Date
Division Director _____ Date	City Council Approval Date <input type="text"/>		Finance Director _____ Date
Department Director _____ Date	Agenda Item #: <input type="text"/>		City Manager _____ Date