TABLES

TABLE 1-1
OTTER CREEK MINE BASELINE REPORT 325A
SONNETTE 2 WNW, MONTANA (NCDC Station, NWS Cooperative Network 247740): Monthly and Annual Total Precipitation in inches
(Calculation Period: 1972-01-01 to 2014-01-09)

Year	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual
1972	0.99		0.16	a	0.64		0.12		2.3		1.84		2.01		1.9		0.95		0.67		0		0.39		11.97
1973	0.18		0.36		1.41		2.81		1.67		4.39		0.25		1.25		2.91		0.2		0.35		0.74		16.52
1974	0.37	b	0.56		0.87		2.97		2.77		1.04		3.23		0.81		1.52		2.28		0.63		0.32		17.37
1975	1.93		0.59		0.57		2.42		3.06		4.99		0.75		0.45		0.05		1.32		0.64		0.96		17.73
1976	1.12		0.16		0		2.92		2.8		3.41		0.23		0.99		0	z	0.43	b	0.98		0.04		13.08
1977	1.15		0.35		1.55		0.26		1.4		2.1		0.69		0.57		1.57		1.14		0.69		0.4	f	11.47
1978	0.1		0.62	q	0.14		1.23		10.53		1.67		1.38		0.98		2.4		0		2.14		0.38	z	20.57
1979	0	z	0	z	0.16		0.77		1.83		1.02		3.5		0.44		0.15		1.15		0.63		0	z	9.65
1980	0.1		0.1	d	0.63		0.17		1.02		1.86		0.02		3.55		0.71		1.26		0.12	b	0.61		10.15
1981	0.43		0.4		0.6		0.2		3.86		2.94		2.59		0.38		1.04		1.08		0		0.26		13.78
1982	0.52	a	0.05		1.68		0.89		2.52		4.49		1.5		2.91		2.23		2.08		0.15	a	1.25	a	20.27
1983	0.77		0		0.61		0.29		1.75		2.08		1.13		0.66		0.95		1.19		0.93	b	0.55		10.91
1984	0.1		0.07		1.22		4.48		0.99		3.41		1.19		1.64		1.26		0.27		0.96		1.01	v	15.59
1985	0.11		0		1.3		1.17		1.71		2.81		0.9		0.45		2.22		0.79		0.49		1.28		13.23
1986	0.58		1.02		0.65		1.08		3.08		2.49		0.63		1.5		6.4		1.23		1.69		0		20.35
1987	0.12		0.28		0.98		0.32		3.38		1.71		3.22		2.13		0.94		0.04		0.82		0.25		14.19
1988	0.21		0.55		0.49		0.37		1.46		0.47		0.32		0.65		2.28		0.52		0.11		0.42		7.85
1989	0.18		0	z	1.95		2.51		2.42		2.41		1.85		0.84		0.14		1.73		1.02		1.28		16.33
1990	0.27		0.14		0.77		3.43		2.15		3.23		0.67		0.18		0.79		0.77		0.27		0		12.67
1991	0.3		0.31		0.43		3.38		4.06		4.26		0.48		0.52		1.89		0.83		1.14		0		17.6
1992	0		0.03		1.09		1.71		0.78		2.1		1.71		0.33		0.63		0.99		1.41		0.56		11.34
1993	0.19	d	0.19		0.43		0.91		2.35		4.8		7.26	b	0.83		0.29		1		0.17		0.64		19.06
1994	1.13		0.31	z	0.51		2.27	a	0.31		1.01		0.86		0	z	0.72		2.33		0.58		0		9.72
1995	0.61		0.16	a	1.5		1.87		4.49		3.74		3.78		0.94		1.06		0.57		1.04		0.19		19.95
1996	0.9		0.49		1.08	w	0.78		4.31		0	z	1.62		0.75		1.16		2.5		0.91	d	0.68	z	13.42
1997	0.67		0	z	0.98	z	1.51		2.27		2.08		3.03		0.56		0		1.16		0		1		12.28
1998	0		0.42		0.52		0.21		0.28		2.31		1.51		1.17		0.31		4.11		0.46		0.39		11.69
1999	0	b	1.4		0.21		4.2		1.64		2.32		0.27		1.79		1.19		0	z	0.57		0		13.59
2000	0		0.49		0.43		0	z	1.27		2.15	f	2.85		0.98		0.74		0.45		0.36		0		7.57
2001	0.29		0.51		0.63		0.85		0.62		4.9		2.03		0.11		0.31		0.81		0		0		11.06
2002	0.13		0.58		0.7		0.55		0.68		1.33		0.87		1.79		1.39		1.09		0		0.09		9.2
2003	0.87		1.01	a	2.13		1.63		2.6		4.34		0.09		0.57		1.03		0.95		0.17		0.59		15.98
2004	0.01	c	1.12		0.4		0.4		1.21		0.48	a	1.47		2.08		0.98		1.28	a	0.04		0.29		9.76
2005	0	z	0.3		0.78		3.54		3.86		4.45		1.33		0.82		1.14		3.3		0.5		0.73		20.75
2006	0		0.36		0.6		4.23		2.35		0.5		0.31		0.46		2.61		1.69		0.5		0.1		13.71
2007	0.05		1.52		2.38		1.22		7.35		4.1		0.53		0.51		0.87		0.73		0.01		0.52		19.79
2008	0.63		0.31		0.24		1.47		6.78		3.46		1.38		1.16		0.91		2.25		1.2		0.61		20.4
2009	0.51		0.28		2.41		1.07		1.77		1.81		2.56		1.03		0		2.34		0		0	z	13.78
2010	0.81		0.44		0.31		2.61		5.77		3.79		1.17		1.7		0.38		0.28		0.52		0.59		18.37
2011	1.46		1.22		1.29		2.02		10.76	o	3.36		0.34		1.48		0.17		1.05	y	0.32		0.85	z	11.66
2012	0.45		0.94		0.05		2.05		1.43		1.51		0.68		0.15		0.12		0.38		0.72		0.06		8.54
2013	0.42		0	z	0.5		1.81		7.13		0	z	0.45		1.45		2.61		3.28		0.37		1.86	z	19.88
2014	0.7		1.16		2.02		0.71		2.21		2.63		0.32		4.28										
Mean of Monthly/Annual Precipitation	0.45		0.44		0.88		1.61		2.95		2.55		1.46		1.11		1.17		1.23		0.56		0.47		14.35

a = 1 day missing, b = 2 days missing, c = 3 days, ..etc..,
z = 26 or more days missing, A = Accumulations present
Long-term means based on columns; thus, the monthly row may not sum (or average) to the long-term annual value.

TABLE 2-1A
OTTER CREEK MINE BASELINE REPORT 325A
OTTER CREEK AVERAGE DAILY DISCHARGE AT THE ASHLAND GAUGING STATION

Rosebud County, Montana
Hydrologic Unit Code 10090102
Latitude 45°35'18.20", Longitude 106°15'18.20" NAD83
Drainage area 707 square miles
Contributing drainage area 707.00 square miles
Gage datum 2,916.5 feet above NGVD29

00060, Discharge, cubic feet per second,													
Day of month	Mean of daily mean values for each day for 31 - 32 years of record in, ft3/s (Calculation Period 1972-10-01 -> 2013-09-30)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	2.3	3.8	9.1	6.8	5.8	13	3.9	1.9	0.96	1.1	2.2	2.7	
2	2.3	3.7	10	6.9	5.8	12	3.9	1.9	0.94	1.1	2.2	2.6	
3	2.3	3.5	12	6.6	5.4	9.5	4.2	2.1	0.93	1.1	2.3	2.6	
4	2.2	3.4	14	6.4	5.4	7.8	3.7	1.8	0.93	1.1	2.3	2.6	
5	2.2	3.3	18	6.4	5.6	7	3.6	2.1	0.98	1.1	2.4	2.4	
6	2.3	3.1	26	6.6	5.9	6.3	3.4	2.1	0.92	1.2	2.5	2.4	
7	2.8	3	23	7.4	6.4	9	3.1	2.1	0.87	1.3	2.5	2.4	
8	2.4	3	14	7.1	6.2	12	2.8	2	0.99	1.3	2.5	2.3	
9	2.3	3	14	6.7	6.1	8.9	2.9	2.3	0.94	1.3	2.5	2.4	
10	2.3	4.8	13	6.6	6.1	7.4	2.8	2.3	0.92	1.4	2.6	2.4	
11	2.3	6.2	12	6.4	6.2	6.7	2.6	1.8	0.93	1.4	2.5	2.4	
12	2.4	6.6	14	6.3	6.5	6.3	2.5	1.5	1.1	1.5	2.4	2.4	
13	2.6	6.4	13	6.4	6.1	6	2.9	1.5	1.6	1.5	2.5	2.4	
14	2.8	6.6	13	6.1	5.9	6	2.4	1.7	1.2	1.5	2.5	2.3	
15	2.8	7.3	14	6.1	6	5.9	2.1	1.5	1.2	1.5	2.6	2.3	
16	2.7	6.9	14	7	5.5	5.6	2	1.4	1.2	1.6	2.6	2.4	
17	2.8	6	14	6.6	5.5	5.7	2.5	1.4	1.2	1.7	2.7	2.4	
18	3	9.7	13	6.3	7	5.9	3.5	1.3	1.2	1.6	2.6	2.4	
19	4	9.2	14	6.4	12	5.8	2.8	1.2	1.2	1.6	2.5	2.4	
20	6.4	8.1	22	6.5	14	6	2.3	1.2	1.2	1.6	2.5	2.4	
21	10	7.7	22	6.1	17	5.6	2.2	1.2	1.1	1.7	2.5	2.4	
22	8.7	6.6	16	6	13	6.1	2.1	1.1	1.1	1.7	2.6	2.4	
23	7.6	6.9	13	5.9	12	6	1.9	1.2	1.1	1.8	2.6	2.4	
24	7.4	7.4	13	6	15	5.5	2.1	1.4	1.1	1.8	2.6	2.4	
25	6.9	8	10	5.8	16	4.8	2.4	1.2	1.1	1.8	2.5	2.5	
26	6.2	8.1	8.7	5.7	12	4.6	2.1	1.2	1.1	1.8	2.5	2.5	
27	5.7	9.1	7.7	5.7	9.5	4.3	1.8	1.1	1.2	1.9	2.5	2.4	
28	5.3	9	7.3	5.6	8.2	4.2	2.4	1.1	1.1	1.9	2.5	2.4	
29	5	7.1	6.9	5.4	7.5	4.1	1.8	1	1.3	1.9	2.5	2.3	
30	4.4		7.1	5.6	11	4	2	1	1.2	2	2.6	2.3	
31	4		6.9		12		2.2	1		2.1		2.3	
AVERAGE	4.1	6.1	13.4	6.3	8.6	6.7	2.7	1.5	1.1	1.5	2.5	2.4	
											MIN	0.87	
											MAX	26	
											MEAN	4.7	
											MEDIAN	2.7	

TABLE 2-1B
OTTER CREEK MINE BASELINE REPORT 325A
OTTER CREEK AVERAGE MONTHLY DISCHARGE AT THE ASHLAND GAUGING STATION

Rosebud County, Montana
Hydrologic Unit Code 10090102
Latitude 45°35'18.20", Longitude 106°15'18.20" NAD83
Drainage area 707 square miles
Contributing drainage area 707.00 square miles
Gage datum 2,916.5 feet above NGVD29

00060, Discharge, cubic feet per second,												
YEAR	Monthly mean in ft3/s (Calculation Period: 1972-10-01 -> 2013-09-30)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1972										4.43	5.48	3.2
1973	4.05	10.7	9.98	8.73	7.82	5	2.22	1.19	1.83	2.35	3.41	3.65
1974	24.4	34.9	8.55	7.05	5.48	3.84	1.66	0.435	0.256	0.842	2.72	2.82
1975	30.2	12.4	106.5	28.1	19.6	12.7	5.95	2.69	1.25	2.95	4.14	7.03
1976	6.22	9.1	8.71	7.4	5.87	6.18	2.54	0.431	0.137	0.4	2.03	3.76
1977	3.96	7.52	6.71	7.68	4.28	2.32	0.284	0.081	0.803	1.18	2.33	2.68
1978	2.63	2.76	28.5	4.53	53.1	15.7	8.93	3.66	4.08	3.4	4.7	3.85
1979	3.34	4.95	42	20	10.9	7.92	5.18	4.22	2.25	3.16	6.12	6.17
1980	5.34	10.8	12.4	8.88	5.09	3.56	0.766	0.574	0.733	1.99	3.18	3.86
1981	4.48	5.52	3.01	1.59	2.61	2.07	1.68	0.665	0.41	0.965	1.63	2.16
1982	1.67	15.6	3.45	4.24	3.42	5	2.69	5.53	0.858	3.28	3.39	3.24
1983	6.52	19.3	8.88	5.78	4.27	2.14	0.645	0.364	0.344	0.795	1.94	2.05
1984	3.11	2.67	2.65	1.87	3.19	2.68	1.26	0.096	0.131	0.546	1.92	1.6
1985	1.16	1.11	7.45	4.75	4.21	7.14	1.01	2.03	0.364	0.503	1.61	
1987										0.355	1.58	1.13
1988	0.815	1.15	4.17	2.62	2.45	0.608	0.348	0.2	0.232	0.608	0.778	0.781
1989	0.847	0.756	2.09	1.8	1.59	0.929	0.555	0.035	0.006	0.261	1.16	0.855
1990	1.18	3.46	1.8	1.67	1.95	1.99	0.828	0.3	0.29	0.24	1.8	0.678
1991	0.097	1.91	1.3	1.43	1.22	3.93	1.07	0.134	0.097	0.641	0.707	0.635
1992	0.609	0.958	1.26	0.986	0.712	0.429	0.318	0	0	0.177	2.55	0.57
1993	0.49	0.355	12	2.64	1.26	0.36	4.01	1.53	1.95	1.08	1	1.12
1994	1.1	1.05	44.4	8.9	6.15	3.12	1.5	0.483	0.536	1.17	1.18	0.947
1995	0.987	1.61	7.48	5.03	7.39	4.92	4.55	3.97	2.05			
2003										0.703	0.976	0.997
2004	0.913	0.995	6.29	3.94	0.939	1.05	0.968	0.439	0.489	0.535	1.82	1.83
2005	1.94	1.59	1.8	2.31	4.83	2.91	1.39	1.03	0.686	1.3	1.46	1.19
2006	1.64	1.68	1.98	2.92	1.72	0.862	0.375	0.306	0.814	1.08	0.947	0.44
2007	0.513	0.873	2.98	3.78	8.46	29.2	3.09	1.13	0.942	1.16	1.53	1.03
2008	0.927	1.24	2.46	1.86	2.99	2.58	2.22	0.736	0.989	1.43	2.23	1.45
2009	1.62	2.73	7.67	7.95	4.92	2.9	2.41	3.14	1.35	1.62	2.09	1.62
2010	1.47	2.05	7.55	5.75	7.62	10.4	4.15	1.79	1.35	1.69	2.59	1.9
2011	2	7.43	21.3	12.8	60.2	44.5	14	5.97	4.52	5.89	6.37	6.95
2012	8.1	15.4	29.7	10.9	7.82	5.38	3.27	2.07	1.33	2.96	4.64	4.93
2013	4.15	6.3	9.07	7.79	14.4	17.1	3.15	2.56	2.63			
Mean of monthly Discharge	4.1	6.1	13	6.3	8.6	6.8	2.7	1.5	1.1	1.6	2.5	2.4

** No Incomplete data have been used for statistical calculation

MIN	0.00
MAX	106.50
MEAN	4.73
MEDIAN	2.15

TABLE 2-2
OTTER CREEK MINE BASELINE REPORT 325A
OTTER CREEK ANNUAL PEAK DISCHARGE AT THE ASHLAND GAUGING STATIC

Rosebud County, Montana
Hydrologic Unit Code 10090102
Latitude 45°35'18.20", Longitude 106°15'18.20" NAD83
Drainage area 707 square miles
Contributing drainage area 707.00 square miles
Gage datum 2,916.5 feet above NGVD29

WATER YEAR	DATE	GAUGE HEIGHT	FLOW CFS	FREQUENCY			
				>100 CFS	>200 CFS	>300 CFS	>500 CFS
2014*	10-Mar-14		650	X	X	X	X
2013	31-May-13	3.9	138	X			
2012	Mar. 10, 2012	3.64	115	X			
2011	25-May-11	5.51	347	X	X	X	
2010	Jun. 22, 2010	2.46	38				
2009	Aug. 09, 2009	2.33	30				
2008	Jul. 09, 2008	2.15	16				
2007	Jun. 08, 2007	5.01	300	X	X	X	
2006	Apr. 08, 2006	1.51	4.8				
2005	14-May-05	1.89	14				
2004	Mar. 14, 2004	2	14				
1995	Aug. 07, 1995		27				
1994	Mar. 06, 1994	9.08	350	X	X	X	
1993	Jul. 17, 1993	6.01	141	X			
1992	Mar. 05, 1992	3.80	2				
1991	Jun. 24, 1991	4.10	35				
1990	Feb. 28, 1990	4.32	26				
1989	Mar. 12, 1989	4.09	6.3				
1988	Feb. 20, 1988	3.87	17				
1985	30-May-85	3.51	36				
1984	Jan. 07, 1984	4.06	33				
1983	Feb. 21, 1983	5.24	75				
1982	Jul. 28, 1982	4.41	60				
1981	Feb. 20, 1981	2.93	12				
1980	Mar. 18, 1980		50				
1979	Mar. 16, 1979	6.03	110	X			
1978	Mar. 21, 1978	8.65	425	X	X	X	
1977	Feb. 16, 1977	3.9	23				
1976	Jul. 03, 1976	3.21	40				
1975	Mar. 06, 1975	7.05	341	X	X	X	
1974	Feb. 12, 1974	5.14	140	X			
1973	Feb. 25, 1973	3.82	60				
NUMBER OF EVENTS EXCEEDING:			32	11	6	6	1

MEAN ANNUAL PEAK FLOW 115
MEDIAN ANNUAL PEAK FLOW 39

TABLE 2-3A
OTTER CREEK MINE BASELINE REPORT 325A
OTTER CREEK AVERAGE DAILY SPECIFIC CONDUCTIVITY AT THE ASHLAND GAUGING STATION

Rosebud County, Montana
Hydrologic Unit Code 10090102
Latitude 45°35'18.20", Longitude 106°15'18.20" NAD83
Drainage area 707 square miles
Contributing drainage area 707.00 square miles
Gage datum 2,916.5 feet above NGVD29

00095, Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius												
Day of	Mean of daily mean values for each day for 1 - 6 years of record in, uS/cm @25C (Calculation Period 2003-10-01 -> 2014-09-30)											
month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				2,770	3,050	2,740	2,900	2,760	2,590	2,360	2,770	
2				2,780	3,020	2,800	2,960	2,760	2,580	2,380	2,780	
3				2,820	3,010	2,870	2,960	2,730	2,580	2,390	2,870	
4				2,820	2,940	2,990	2,910	2,710	2,570	2,320	2,890	
5				2,950	2,890	2,990	2,840	2,730	2,570	2,280	2,890	
6				2,930	2,860	2,990	2,780	2,730	2,590	2,290		
7				2,920	2,870	2,820	2,840	2,770	2,580	2,330		
8				2,950	2,870	2,600	2,750	2,790	2,470	2,400		
9				2,930	2,780	2,660	2,870	2,790	2,420	2,400		
10				2,980	2,850	2,790	2,970	2,810	2,420	2,370		
11				3,050	3,000	2,840	2,790	2,820	2,360	2,350		
12				3,080	3,100	2,920	2,680	2,840	2,320	2,350		
13				2,990	3,200	2,900	2,560	2,860	2,360	2,380		
14			1,930	2,970	3,180	2,940	2,610	2,780	2,410	2,400		
15			1,750	3,060	3,150	2,970	2,510	2,710	2,360	2,400		
16			1,580	3,130	3,160	2,900	2,530	2,690	2,380	2,400		
17			1,490	3,190	3,130	2,870	2,550	2,670	2,430	2,420		
18			1,090	3,190	3,080	2,900	2,660	2,620	2,410	2,440		
19			1,920	3,120	2,820	2,980	2,670	2,540	2,400	2,470		
20			1,920	3,090	2,750	3,050	2,660	2,530	2,390	2,490		
21			2,680	3,010	2,950	3,070	2,680	2,530	2,390	2,510		
22			2,750	2,960	2,980	2,990	2,730	2,600	2,380	2,580		
23			2,300	2,940	2,960	2,990	2,720	2,620	2,350	2,590		
24			2,440	3,010	2,890	2,990	2,730	2,590	2,340	2,600		
25			2,490	3,030	2,810	3,020	2,690	2,590	2,380	2,600		
26			2,590	3,040	2,900	3,010	2,670	2,570	2,380	2,600		
27			2,550	3,050	2,980	3,000	2,730	2,580	2,400	2,590		
28			2,520	3,040	2,920	3,000	2,740	2,550	2,380	2,580		
29			2,580	3,060	2,840	2,980	2,750	2,560	2,360	2,580		
30			2,660	3,060	2,780	2,960	2,750	2,570	2,350	2,580		
31			2,610		2,730		2,750	2,590		2,600		
AVERAGE			2,214	2,997	2,950	2,918	2,740	2,677	2,430	2,453	2,840	

MIN	1090
MAX	3200
MEAN	2700
MEDIAN	2740

TABLE 2-3B
OTTER CREEK MINE BASELINE REPORT 325A
OTTER CREEK AVERAGE DAILY SODIUM ADSORPTION RATIO AT THE ASHLAND GAUGING STATION

Rosebud County, Montana
Hydrologic Unit Code 10090102
Latitude 45°35'18.20", Longitude 106°15'18.20" NAD83
Drainage area 707 square miles
Contributing drainage area 707.00 square miles
Gage datum 2,916.5 feet above NGVD29

90856, Sodium adsorption ratio, water, estimated by regression equation, number,												
Day of	Mean of daily mean values for each day for 1 - 6 years of record in, nu (Calculation Period 2003-10-01 -> 2014-09-30)											
month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1				6.11	6.51	5.98	6.29	6.09	5.84	5.52	6.09	
2				6.13	6.47	6.11	6.36	6.08	5.83	5.55	6.1	
3				6.21	6.45	6.26	6.39	5.99	5.83	5.56		
4				6.2	6.35	6.42	6.31	6.03	5.82	5.46		
5				6.38	6.28	6.44	6.2	6.05	5.83	5.4		
6				6.35	6.24	6.43	6.26	6.06	5.85	5.41		
7				6.33	6.25	6.19	6.03	6.12	5.83	5.47		
8				6.37	6.25	5.87	6.09	6.14	5.68	5.57		
9				6.23	6.12	5.94	6.09	6.16	5.61	5.57		
10				6.41	6.21	6.14	6.39	6.18	5.59	5.53		
11				6.5	6.43	6.21	6.14	6.19	5.52	5.5		
12				6.42	6.57	6.33	5.95	6.22	5.42	5.51		
13				6.43	6.71	6.3	5.82	6.24	5.51	5.54		
14			4.89	6.4	6.68	6.36	5.69	6.13	5.58	5.58		
15			4.64	6.43	6.64	6.4	5.75	6.02	5.52	5.58		
16			4.4	6.62	6.65	6.29	5.79	5.99	5.53	5.62		
17			4.27	6.71	6.62	6.26	5.81	5.96	5.61	5.62		
18			3.7	6.7	6.55	6.31	5.83	5.83	5.59	5.65		
19			4.88	6.61	6.18	6.43	5.98	5.78	5.58	5.68		
20			5.93	6.55	6.08	6.53	5.96	5.76	5.56	5.71		
21			5.97	6.45	6.37	6.55	5.98	5.77	5.56	5.75		
22			6.06	6.37	6.4	6.43	6.05	5.86	5.55	5.79		
23			5.44	6.34	6.38	6.43	6.03	5.88	5.51	5.87		
24			5.64	6.44	6.28	6.43	5.91	5.85	5.5	5.87		
25			5.72	6.48	6.17	6.47	5.87	5.85	5.54	5.88		
26			5.85	6.49	6.3	6.46	5.97	5.82	5.55	5.87		
27			5.78	6.5	6.42	6.45	6.05	5.83	5.57	5.86		
28			5.73	6.5	6.33	6.45	6.06	5.79	5.54	5.85		
29			5.83	6.52	6.21	6.41	6.07	5.81	5.53	5.84		
30			5.95	6.53	6.13	6.38	6.07	5.82	5.51	5.84		
31			6.08		6.07		6.06	5.85		5.88		
AVERAGE			5.38	6.42	6.36	6.32	6.04	5.97	5.62	5.66	6.10	

MIN	3.70
MAX	6.71
MEAN	6.00
MEDIAN	6.06

TABLE 2-4
OTTER CREEK MINE BASELINE REPORT 325A
OTTER CREEK AND TRIBUTARIES SURFACE WATER BASELINE RESULTS AND STATISTICS THROUGH Q2 2014

OTTER CREEK SW-25

		sys_loc_code									SW-25	SW-25	SW-25	SW-25	SW-25			
		sample_date									6/13/2013	8/1/2013	1/9/2014	3/20/2014	5/21/2014			
		sys_sample_code									OCC-1306-150	OCC-1308-500	OCC-1401-204	OCC-1403-800	OCC-1405-151			
		lab_sample_id									H13060241-001	H13080043-001	H14010145-012	H14030296-016	H14050407-002	**MINIMUM**	**MAXIMUM**	**MEAN**
chemical_name	result_unit	fraction									report_result_text	report_result_text	report_result_text	report_result_text	report_result_text			
SC (UMHOS/CM AT 25 C)	umhos/cm	NO MEAS									3660	4990	4370	3630	3990	**3630**	**4990**	**4128**
SODIUM ADSORPTION RATIO	unitless	NO MEAS									5.76	7.88	6.04	5.58	5.96	**5.58**	**7.88**	**6.244**

OTTER CREEK SW-2

		sys_loc_code	SW-2		SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2			
		sample_date	6/15/2011		10/26/2011	3/14/2012	5/3/2012	9/6/2012	12/6/2012	3/7/2013	6/13/2013	7/30/2013	1/9/2014	3/20/2014	5/21/2014			
		sys_sample_code	OTRCR-1106-113		OTRCR-1110-762	OCC-1203-109	OCC-1205-709	OCC-1209-714	OCC-1212-402	OCC-1303-331	OCC-1306-151	OCC-1307-510	OCC-1401-205	OCC-1403-802	OCC-1405-152			
		lab_sample_id	H11060332-005		H11100409-009	H12030214-010	H12050095-028	H12090092-015	H12120120-003	H13030136-002	H13060241-002	H13070565-010	H14010145-013	H14030296-018	H14050407-003	**MINIMUM**	**MAXIMUM**	**MEAN**
chemical_name	result_unit	fraction	report_result_text		report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text			
SC (UMHOS/CM AT 25 C)	umhos/cm	NO MEAS	3640		3410	3290	3970	4730	3720	3310	3640	4570	4250	3720	4010	**3290**	**4730**	**3855**
SODIUM ADSORPTION RATIO	unitless	NO MEAS	5.58		6.24	4.82	5.9	8.54	5.19	5	5.6	7.67	5.81	5.69	5.83	**4.82**	**8.54**	**5.989166667**

OTTER CREEK SW-16

		sys_loc_code	SW-16		SW-16	SW-16	SW-16	SW-16	SW-16	SW-16	SW-16	SW-16	SW-16	SW-16	SW-16			
		sample_date	6/15/2011		10/26/2011	3/15/2012	5/3/2012	9/6/2012	12/6/2012	3/7/2013	6/14/2013	8/1/2013	1/9/2014	3/20/2014	5/21/2014			
		sys_sample_code	OTRCR-1106-114		OTRCR-1110-765	OCC-1203-111	OCC-1205-707	OCC-1209-718	OCC-1212-406	OCC-1303-332	OCC-1306-152	OCC-1308-502	OCC-1401-206	OCC-1403-801	OCC-1405-153			
		lab_sample_id	H11060332-006		H11100409-012	H12030214-012	H12050095-026	H12090092-019	H12120120-007	H13030136-003	H13060241-003	H13080043-003	H14010145-014	H14030296-017	H14050407-004	**MINIMUM**	**MAXIMUM**	**MEAN**
chemical_name	result_unit	fraction	report_result_text		report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text			
SC (UMHOS/CM AT 25 C)	umhos/cm	NO MEAS	3560		3410	3380	3960	4320	3690	3350	3690	4580	4150	3640	3960	**3350**	**4580**	**3807.5**
SODIUM ADSORPTION RATIO	unitless	NO MEAS	5.37		6.08	4.9	5.72	8.18	5.37	5.16	5.65	7.12	5.72	5.41	6.05	**4.9**	**8.18**	**5.894166667**

OTTER CREEK SW-22

		sys_loc_code	SW-22		SW-22	SW-22	SW-22	SW-22	SW-22	SW-22	SW-22	SW-22	SW-22	SW-22	SW-22			
		sample_date	6/15/2011		10/26/2011	3/15/2012	5/3/2012	9/6/2012	12/6/2012	3/7/2013	6/14/2013	8/1/2013	1/9/2014	3/20/2014	5/21/2014			
		sys_sample_code	OTRCR-1106-115		OTRCR-1110-766	OCC-1203-114	OCC-1205-706	OCC-1209-719	OCC-1212-407	OCC-1303-333	OCC-1306-154	OCC-1308-503	OCC-1401-209	OCC-1403-803	OCC-1405-154			
		lab_sample_id	H11060332-007		H11100409-013	H12030214-015	H12050095-025	H12090092-020	H12120120-008	H13030136-004	H13060241-005	H13080043-004	H14010145-017	H14030296-019	H14050407-005	**MINIMUM**	**MAXIMUM**	**MEAN**
chemical_name	result_unit	fraction	report_result_text		report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text			
SC (UMHOS/CM AT 25 C)	umhos/cm	NO MEAS	3430		3330	3520	3850	3790	3590	3400	3490	3780	3960	3260	3820	**3260**	**3960**	**3601.666667**
SODIUM ADSORPTION RATIO	unitless	NO MEAS	5.07		5.81	5	5.57	6.56	5.16	4.98	5.22	5.95	5.35	4.81	5.64	**4.81**	**6.56**	**5.426666667**

TENMILE SURFACE WATER SW-23

		sys_loc_code	SW-23			SW-23	SW-23				SW-23			SW-23	SW-23			
		sample_date	6/15/2011			3/15/2012	4/19/2012				6/14/2013			3/20/2014	5/21/2014			
		sys_sample_code	OTRCR-1106-109			OCC-1203-113	OCC-1204-100				OCC-1306-153			OCC-1403-804	OCC-1405-155			
		lab_sample_id	H11060332-001			H12030214-014	H12040346-001				H13060241-004			H14030296-020	H14050407-006	**MINIMUM**	**MAXIMUM**	**MEAN**
chemical_name	result_unit	fraction	report_result_text			report_result_text	report_result_text				report_result_text			report_result_text	report_result_text			
SC (UMHOS/CM AT 25 C)	umhos/cm	NO MEAS	3580			3090	4520				3750			2970	3870	**2970**	**4520**	**3630**
SODIUM ADSORPTION RATIO	unitless	NO MEAS	5.96			4.98	6.81				5.73			5.14	6.08	**4.98**	**6.81**	**5.783333333**

THREEMILE CREEK SURFACE WATER SW-11

		sys_loc_code		SW-11	SW-11	SW-11	SW-11	SW-11			SW-11	SW-11		SW-11	SW-11			
		sample_date		8/25/2011	10/20/2011	3/14/2012	4/19/2012	8/28/2012			4/25/2013	7/30/2013		3/21/2014	5/15/2014			
		sys_sample_code		OTRCR-1108-900	OTRCR-1110-707	OCC-1203-101	OCC-1204-103	OCC-1208-206			OCC-1304-205	OCC-1307-503		OCC-1403-701	OCC-1405-250			
		lab_sample_id		H11080473-001	H11100333-003	H12030214-002	H12040346-004	H12080485-007			H13040428-006	H13070565-004		H14030299-023	H14050292-028	**MINIMUM**	**MAXIMUM**	**MEAN**
chemical_name	result_unit	fraction		report_result_text	report_result_text	report_result_text	report_result_text	report_result_text			report_result_text	report_result_text		report_result_text	report_result_text			
SC (UMHOS/CM AT 25 C)	umhos/cm	NO MEAS		3430	3720	3250	3450	3990			3450	3400		3150	3250	**3150**	**3990**	**3454.444444**
SODIUM ADSORPTION RATIO	unitless	NO MEAS		6.88	6.27	5.33	5.47	6.72			5.62	5.23		4.85	5.22	**4.85**	**6.88**	**5.732222222**

THREEMILE CREEK SURFACE WATER SW-3

		sys_loc_code				SW-3		SW-3			SW-3	SW-3		SW-3				
		sample_date				3/14/2012		8/28/2012			4/25/2013	6/13/2013		3/24/2014				
		sys_sample_code				OCC-1203-108		OCC-1208-202			OCC-1304-201	OCC-1306-103		OCC-1403-709				
		lab_sample_id				H12030214-009		H12080485-003			H13040428-002	H13060240-004		H14030353-005		**MINIMUM**	**MAXIMUM**	**MEAN**
chemical_name	result_unit	fraction				report_result_text		report_result_text			report_result_text	report_result_text		report_result_text				
SC (UMHOS/CM AT 25 C)	umhos/cm	NO MEAS				1070		291			388	281		333		**281**	**1070**	**472.6**
SODIUM ADSORPTION RATIO	unitless	NO MEAS				2.09		0.29			0.28	0.56		0.72		**0.28**	**2.09**	**0.788**

TABLE 2-4
OTTER CREEK MINE BASELINE REPORT 325A
OTTER CREEK AND TRIBUTARIES SURFACE WATER BASELINE RESULTS AND STATISTICS THROUGH Q2 2014

HOME CREEK SURFACE WATER SW-1

		sys_loc_code	SW-1			SW-1					SW-1	SW-1						
		sample_date	6/14/2011			3/23/2012					4/25/2013	6/13/2013						
		sys_sample_code	OTRCR-1106-101			OCC-1203-121					OCC-1304-200	OCC-1306-100						
		lab_sample_id	H11060328-001			H12030308-006					H13040428-001	H13060240-001				**MINIMUM**	**MAXIMUM**	**MEAN**
chemical_name	result_unit	fraction	report_result_text			report_result_text					report_result_text	report_result_text						
SC (UMHOS/CM AT 25 C)	umhos/cm	NO MEAS	40			580					157	171				**40**	**580**	**237**
SODIUM ADSORPTION RATIO	unitless	NO MEAS	0.05			0.36					0.15	0.05				**0.05**	**0.36**	**0.1525**

HOME CREEK SURFACE WATER SW-1A

		sys_loc_code			SW-1A	SW-1A	SW-1A	SW-1A	SW-1A	SW-1A	SW-1A	SW-1A		SW-1A	SW-1A			
		sample_date			10/26/2011	3/14/2012	5/3/2012	8/29/2012	12/6/2012	3/7/2013	6/13/2013	7/30/2013		3/20/2014	5/21/2014			
		sys_sample_code			OTRCR-1110-759	OCC-1203-100	OCC-1205-711	OCC-1208-211	OCC-1212-410	OCC-1303-335	OCC-1306-101	OCC-1307-515		OCC-1403-806	OCC-1405-159			
		lab_sample_id			H11100409-006	H12030214-001	H12050095-030	H12080485-012	H12120120-011	H13030136-006	H13060240-002	H13070565-012		H14030296-022	H14050407-010	**MINIMUM**	**MAXIMUM**	**MEAN**
chemical_name	result_unit	fraction			report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text	report_result_text		report_result_text	report_result_text			
SC (UMHOS/CM AT 25 C)	umhos/cm	NO MEAS			4010	3580	4080	4100	3800	5240	5380	4020		4680	3580	**3580**	**5380**	**4247**
SODIUM ADSORPTION RATIO	unitless	NO MEAS			8.3	7.31	7.72	7.83	7.17	9.66	8.54	7.56		8.63	7.08	**7.08**	**9.66**	**7.98**

FORTUNE COULEE SW-18

		sys_loc_code	SW-18			SW-18				SW-18	SW-18	SW-18						
		sample_date	6/15/2011			3/22/2012				2/7/2013	4/26/2013	6/20/2013						
		sys_sample_code	OTRCR-1106-112			OCC-1203-116				OCC-1302-700	OCC-1304-211	OCC-1306-114						
		lab_sample_id	H11060332-004			H12030308-001				H13020128-001	H13040428-012	H13060353-005				**MINIMUM**	**MAXIMUM**	**MEAN**
chemical_name	result_unit	fraction	report_result_text			report_result_text				report_result_text	report_result_text	report_result_text						
SC (UMHOS/CM AT 25 C)	umhos/cm	NO MEAS	536			517				173	182	338				**173**	**536**	**349.2**
SODIUM ADSORPTION RATIO	unitless	NO MEAS	1.65			0.42				0.29	0.3	0.89				**0.29**	**1.65**	**0.71**

TABLE 2-5
OTTER CREEK MINE BASELINE REPORT 325A
ALLUVIAL MONITOR WELL SUMMARY

WELL NO.	DRAINAGE	DEPTH TO BEDROCK	BEDROCK TYPE	DEPTH TO GW (DBS)	AVERAGE SC	AVERAGE SAR
A9	OTTER CREEK	50+	UNK	13	3560	5.29
AVF1	OTTER CREEK	32	SILTSTONE/ CLAYSTONE	6 TO 8	1709	5.27
AVF2	OTTER CREEK	30	SILTSTONE/ CLAYSTONE	2 TO 7	3317	6.04
A8	OTTER CREEK	55	SILTSTONE/ CLAYSTONE	1 TO 2	3610	7.11
A1	OTTER CREEK	15	CLINKER	7 TO 8	2474	8.83
AVF3	OTTER CREEK	59	COAL(K)	6 TO 11	4776	6.46
A6	OTTER CREEK	23	SANDSTONE	5 TO 7	5598	9.31
AVF4	OTTER CREEK	33	COAL (UK)	4 TO 5	5520	7.98
A7	OTTER CREEK	43.5	SANDSTONE	6 TO 7	3762	6.69
A3	OTTER CREEK	57	SILTSTONE	3 TO 5	3273	5.41
AVERAGE	**OTTER CREEK**				**3760**	**6.84**
AVF5	LOWER HOME	33.5	SILTSTONE/ CLAYSTONE	16 TO 17	1547	3.06
A2	UPPER HOME	75	SANDSTONE	47 TO 52	3053	7.17
AVF6	LOWER THREEMILE	30	SILTSTONE/ CLAYSTONE	13 TO 15	2941	6.55
A5	UPPER THREEMILE	26	SILTSTONE	1 TO 4	3546	5.8
A4	UPPER TENMILE	68.5	CLAYSTONE	2 TO 8	3028	4.79

Table 2-6A. Soil Types and Acreages Within the Otter Creek AVF Study Area Boundary

NRCS Map Unit Symbol	NRCS Map Unit Name	Acres
Rt	Ringling-Cabba association, 15 to 50 percent slopes	747.68
Md	McRae silt loam, 2 to 4 percent slopes	597.75
Ru	Ringling-Relan association, 6 to 25 percent slopes	452.31
Hc	Haverson silt loam	384.20
Te	Terrace escarpments	375.87
Fa	Farland silt loam, 0 to 2 percent slopes	251.71
Nh	Nihill-Elso association, 8 to 15 percent slopes	232.09
Hh	Heldt silty clay loam, 0 to 2 percent slopes	209.64
Mc	McRae silt loam, 0 to 2 percent slopes	201.02
Mg	Midway-Elso association, 8 to 35 percent slopes	194.15
Fd	Farland silt loam, 2 to 4 percent slopes	158.02
Ec	Elso silt loam, 8 to 15 percent slopes	153.51
Hs	Hopley and Relan loams, 4 to 8 percent slopes	143.32
Rk	Relan gravelly loam, gravelly variant, 4 to 8 percent slopes	141.32
Hd	Haverson silty clay loam	138.11
Hm	Heldt silty clay loam, 4 to 8 percent slopes	115.29
Fn	Fergus-Relan association, 2 to 8 percent slopes	105.96
100	Havre loam, 0 to 2 percent slopes, occasionally flooded	99.53
9	Armells-Kirby complex, 25 to 70 percent slopes	93.07
Hf	Haverson soils, channeled	75.90
99	Havre loam, 0 to 2 percent slopes	67.54
18	Birney-Cooers-Kirby complex, 2 to 15 percent slopes	64.53
Mw	Midway and Elso rocky soils, 35 to 75 percent slopes	55.66
El	Elso silt loam, 15 to 45 percent slopes	52.63
132	Lonna-Cabbart-Yawdim complex, 8 to 25 percent slopes	51.74
Me	McRae silt loam, 4 to 8 percent slopes	49.10
198	Yamac loam, 2 to 8 percent slopes	45.58
110	Kobar silty clay loam, 2 to 8 percent slopes	44.73
16	Birney channery loam, 15 to 25 percent slopes	42.17
Ce	Cushman-Elso silt loams, 4 to 8 percent slopes	42.06
Ha	Haverson loam	39.43
Ke	Keiser silty clay loam, 2 to 4 percent slopes	36.40
7	Armells-Cabbart complex, 25 to 70 percent slopes	34.94
169	Spang-Birney complex, 8 to 15 percent slopes	28.29

NRCS Map Unit Symbol	NRCS Map Unit Name	Acres
209	Yamac-Redcreek loams, 2 to 15 percent slopes	27.40
Hg	Haverson soils, saline	27.26
Hk	Heldt silty clay loam, 2 to 4 percent slopes	26.29
Va	Vananda clay	20.57
Ho	Hesper silty clay loam, 2 to 4 percent slopes	19.54
He	Haverson silty clay	18.80
Fm	Farland and Havrelon soils, 4 to 8 percent slopes	18.12
Rm	Remmit fine sandy loam, 2 to 4 percent slopes	17.10
124	Lonna silt loam, 2 to 8 percent slopes	15.36
Hp	Hesper silty clay loam, 4 to 8 percent slopes	13.72
Tm	Thurlow silty clay loam, 2 to 4 percent slopes	12.95
10	Armells-Kirby-Cabbart complex, 25 to 70 percent slopes	10.12
Ab	Arvada-Bone complex, 0 to 4 percent slopes	10.06
22	Birney, moist-Birney-Kirby channery loams, 15 to 25 percent slopes	8.18
Fr	Fort Collins silt loam, 2 to 4 percent slopes	7.79
202	Yamac-Birney complex, 8 to 15 percent slopes	7.59
Vo	Vona fine sandy loam, 2 to 4 percent slopes	7.47
Ge	Gilt Edge silt loam, 2 to 6 percent slopes	6.84
Fo	Fort Collins silt loam, 0 to 2 percent slopes	5.91
201	Yamac-Birney complex, 2 to 8 percent slopes	5.54
19	Birney-Kirby channery loams, 4 to 25 percent slopes	5.22
Rf	Relan association, 5 to 30 percent slopes	4.99
Ca	Cabba association, 15 to 50 percent slopes	4.53
21	Birney, moist-Armells-Cabbart complex, 25 to 70 percent slopes	2.82
Hn	Hesper silty clay loam, 0 to 2 percent slopes	2.73
Gf	Glenberg fine sandy loam, 0 to 2 percent slopes	2.26
To	Thurlow silty clay loam, 4 to 8 percent slopes	1.87
183	Ustic Torriorthents, 15 to 35 percent slopes	1.41
Rs	Ringling slaty loam, 20 to 50 percent slopes	0.83
Ro	Remmit-Ocean lake fine sandy loam, 8 to 25 percent slopes	0.23
66	Cooers-Yamac loams, 2 to 8 percent slopes	0.14
W	Water	0.13
101	Havre silty clay loam, 0 to 2 percent slopes, occasionally flooded	0.04
	TOTAL	**5839.08**

Table 2-6B. Soil Types and Acreages Within the Otter Creek AVF Floodplain Boundary

NRCS Map Unit Symbol	NRCS Map Unit Name	Acres
Hc	Haverson silt loam	1037.34
Hd	Haverson silty clay loam	911.55
100	Havre loam, 0 to 2 percent slopes, occasionally flooded	507.59
He	Haverson silty clay	334.20
Hf	Haverson soils, channeled	166.72
Hg	Haverson soils, saline	137.55
Hh	Heldt silty clay loam, 0 to 2 percent slopes	122.91
Hn	Hesper silty clay loam, 0 to 2 percent slopes	52.76
101	Havre silty clay loam, 0 to 2 percent slopes, occasionally flooded	51.37
Te	Terrace escarpments	30.69
W	Water	30.05
Fd	Farland silt loam, 2 to 4 percent slopes	20.33
Vo	Vona fine sandy loam, 2 to 4 percent slopes	20.05
Md	McRae silt loam, 2 to 4 percent slopes	13.36
Mc	McRae silt loam, 0 to 2 percent slopes	12.92
Fm	Farland and Havrelon soils, 4 to 8 percent slopes	9.98
Hk	Heldt silty clay loam, 2 to 4 percent slopes	9.48
Hs	Hopley and Relan loams, 4 to 8 percent slopes	8.77
Gf	Glenberg fine sandy loam, 0 to 2 percent slopes	3.20
Tm	Thurlow silty clay loam, 2 to 4 percent slopes	3.19
Rk	Relan gravelly loam, gravelly variant, 4 to 8 percent slopes	2.99

NRCS Map Unit Symbol	NRCS Map Unit Name	Acres
99	Havre loam, 0 to 2 percent slopes	2.96
Fa	Farland silt loam, 0 to 2 percent slopes	2.56
Hm	Heldt silty clay loam, 4 to 8 percent slopes	2.09
169	Spang-Birney complex, 8 to 15 percent slopes	1.94
Ec	Elso silt loam, 8 to 15 percent slopes	1.65
Ru	Ringling-Relan association, 6 to 25 percent slopes	1.54
124	Lonna silt loam, 2 to 8 percent slopes	1.23
Nh	Nihill-Elso association, 8 to 15 percent slopes	1.14
Rt	Ringling-Cabba association, 15 to 50 percent slopes	1.00
El	Elso silt loam, 15 to 45 percent slopes	0.99
132	Lonna-Cabbart-Yawdim complex, 8 to 25 percent slopes	0.83
18	Birney-Cooers-Kirby complex, 2 to 15 percent slopes	0.81
110	Kobar silty clay loam, 2 to 8 percent slopes	0.77
Me	McRae silt loam, 4 to 8 percent slopes	0.71
Fo	Fort Collins silt loam, 0 to 2 percent slopes	0.63
Mg	Midway-Elso association, 8 to 35 percent slopes	0.57
Ha	Haverson loam	0.52
Fn	Fergus-Relan association, 2 to 8 percent slopes	0.44
Mw	Midway and Elso rocky soils, 35 to 75 percent slopes	0.33
Fr	Fort Collins silt loam, 2 to 4 percent slopes	0.01
	TOTAL	**3509.72**

Table 2-6C. Soil Types and Acreages for Agricultural Land Within the Otter Creek AVF Floodplain

NRCS Map Unit Symbol	NRCS Map Unit Name	Acres
Hc	Haverson silt loam	632.61
Hd	Haverson silty clay loam	503.61
100	Havre loam, 0 to 2 percent slopes, occasionally flooded	302.75
He	Haverson silty clay	239.21
Hh	Heldt silty clay loam, 0 to 2 percent slopes	94.37
Hg	Haverson soils, saline	77.49
101	Havre silty clay loam, 0 to 2 percent slopes, occasionally flooded	41.00
Hn	Hesper silty clay loam, 0 to 2 percent slopes	40.91
Hf	Haverson soils, channeled	26.88
Vo	Vona fine sandy loam, 2 to 4 percent slopes	20.05
Mc	McRae silt loam, 0 to 2 percent slopes	10.51
Te	Terrace escarpments	10.03
Md	McRae silt loam, 2 to 4 percent slopes	7.56
Hs	Hopley and Relan loams, 4 to 8 percent slopes	6.93
Hk	Heldt silty clay loam, 2 to 4 percent slopes	6.54
Fd	Farland silt loam, 2 to 4 percent slopes	3.74
Gf	Glenberg fine sandy loam, 0 to 2 percent slopes	1.83
Fm	Farland and Havrelon soils, 4 to 8 percent slopes	1.67
W	Water	1.58
99	Havre loam, 0 to 2 percent slopes	1.23

NRCS Map Unit Symbol	NRCS Map Unit Name	Acres
Fa	Farland silt loam, 0 to 2 percent slopes	1.09
Rk	Relan gravelly loam, gravelly variant, 4 to 8 percent slopes	1.08
124	Lonna silt loam, 2 to 8 percent slopes	0.84
Nh	Nihill-Elso association, 8 to 15 percent slopes	0.73
Ec	Elso silt loam, 8 to 15 percent slopes	0.66
Ha	Haverson loam	0.52
Fo	Fort Collins silt loam, 0 to 2 percent slopes	0.43
Mg	Midway-Elso association, 8 to 35 percent slopes	0.41
El	Elso silt loam, 15 to 45 percent slopes	0.32
Hm	Heldt silty clay loam, 4 to 8 percent slopes	0.26
169	Spang-Birney complex, 8 to 15 percent slopes	0.26
Me	McRae silt loam, 4 to 8 percent slopes	0.25
Ru	Ringling-Relan association, 6 to 25 percent slopes	0.25
18	Birney-Cooers-Kirby complex, 2 to 15 percent slopes	0.17
110	Kobar silty clay loam, 2 to 8 percent slopes	0.17
Fn	Fergus-Relan association, 2 to 8 percent slopes	0.16
132	Lonna-Cabbart-Yawdim complex, 8 to 25 percent slopes	0.09
Mw	Midway and Elso rocky soils, 35 to 75 percent slopes	0.06
Fr	Fort Collins silt loam, 2 to 4 percent slopes	0.01
	TOTAL	**2038.24**

TABLE 2-7
OTTER CREEK MINE BASELINE REPORT 325A
COMPARISON OF OTTER CREEK FLOODPLAIN AND NON-FLOODPLAIN CROPLAND SOIL SAMPLES

Soil Series	Map Unit Symbol	Sample Site (SS)	Soil Horizon	Depth (inches)	Thickness (inches)	Texture [1]	Coarse Fragment % Volumes CFs	Gravel	Cobbles	Roots [2]	Water noted:	Laboratory Data: Texture, unitless	Percent Sat %	OM-WB %	pH-SatPst, s_u_	COND, mmhos/cm	SAR, unitless
WITHIN FLOODPLAIN																	
			Field Data:														
Haverson	H-S	CB-123	Ap	0-5	5	SiL	<2	0	0	mf, fm		SiL	52.3	6.3	7.2	2.7	3.5
			Bt	5-13	8	L	<2	0	0	cf		L	37.1	3.1	7.5	2.1	3.1
			Bk	13-24	11	SiCL	<2	0	0	ff	Moist at 22"	SiCL	50.1	4.2	7.6	5.3	3
			C	24-46	22	L	<2	0	0	ff		L	35.8	2.3	8	8.1	7.1
			C	46-63	17	SiCL	<2	0	0	ff		SiCL	53.9	1.8	8.2	9	13.9
			C	63-90	27	SiC	<2	0	0	ff	saturated soil below 63"	SiC	59.3	2.1	8.2	8.1	11.8
		Average			90								49.0	2.7	8.0	7.1	8.7
		Maximum														9.0	13.9
Haverson	H-S	SS12-24	A	0-6	6	SiCL		0	0	mf, mm		SiCL	58.2	6.5	7.4	1.3	1.4
			Btk	6-20	14	SiC		0	0	mf, cm		SiC	58	5	7.4	4.6	4.6
			BC	20-36	16	SL		0	0	mf, fm		SL	31.2	1.5	8.3	11.7	14.4
			C1	36-50	14	L		0	0	cf		L	39.8	2.3	8.4	15	17.3
			C2	50-74	24	L		5	0	cf		L	40.5	2.3	8.4	19	20.1
			C3	74-96	22	CL		0	0	ff	Water at 90 "	CL	50.8	3.2	8	9.2	11.4
		Average			96								44.9	3.0	8.1	11.7	13.3
		Maximum														19.0	20.1
Saline Overflow	SO	SS12-31	Ap	0-4	4	SiCL		0	0	mf, mm		SiCL	69.6	7.1	8.4	31.5	33.8
			Bk	4-16	12	SiCL		0	0	mf, fm		SiCL	64.1	3.5	8.5	27	35.8
			BC	16-31	15	SL		0	0	ff		SL	34.3	1.7	8.6	26.9	38.9
			C1	31-55	24	SiC		0	0	ff		SiC	89.9	4.2	8	11.4	17.3
			C2	55-73	18	SiC		0	0	_		SiC	98.9	3.8	8.1	4.8	14.9
			C3	73-93	20	C		0	0	_	Water at 73"	C	60.3	2.6	8.2	2.7	13
		Average			93								72.1	3.4	8.2	13.6	22.5
		Maximum														31.5	38.9
Saline Overflow	SO	SS12-32	Ap	0-6	6	SiC		0	0	mf, mm		SiC	93.8	5.8	8	18	28.2
			Bt	6-16	10	SiC		0	0	mf, mm		SiC	73.6	3.4	8.2	14.7	19.7
			BC	16-24	8	SiC		0	0	mf, mm		SiC	72.9	2.4	8.1	7	16.2
			C1	24-44	20	SiC		0	0	_		SiC	66.6	2.5	8.1	4.8	14
			C2	44-66	22	SiC		0	0	_	Water at 64"	SiC	83.7	3	8	2.1	8.4
			C3	66-90	24	SiCL		0	0	_		SiCL	53.1	2.4	8.2	2.1	11.5
		Average			90								70.3	2.9	8.1	5.6	13.7
		Maximum														18.0	28.2

TABLE 2-7
OTTER CREEK MINE BASELINE REPORT 325A
COMPARISON OF OTTER CREEK FLOODPLAIN AND NON-FLOODPLAIN CROPLAND SOIL SAMPLES

Soil Series	Map Unit Symbol	Sample Site (SS)	Soil Horizon	Depth (inches)	Thickness (inches)	Texture [1]	Coarse Fragment % Volumes CFs	Gravel	Cobbles	Roots [2]	Water noted:	Laboratory Data: Texture, unitless	Percent Sat %	OM-WB %	pH-SatPst, s_u_	COND, mmhos/cm	SAR, unitless
WITHIN FLOODPLAIN (continued)																	
			Ap	0-6	6	L		0	0	mf, mm		L	51.1	4.7	7.6	8	7.8
			Btk	6-14	8	SiCL		0	0	mf, cm		SiCL	57.5	3.4	8.4	16.6	17.5
Haverson	H-S	SS12-35	C1	14-30	16	SiCL		0	0	mf, fm		SiCL	58.9	3.1	8.5	11.7	19.7
			C2	30-54	24	L		0	0	mf		L	41.5	2	8.3	7.9	15
			C3	54-78	24	SL		0	0	ff	Saturated at 60"	SL	32.3	1.4	8	7.6	10.1
		Average			78								44.6	2.4	8.2	9.5	14.2
		Maximum														16.6	19.7
			Ap	0-6	6	SiCL	44	0	0	mf, fm		SiCL	52.2	4.5	7.3	0.7	0.2
			B	6-14	8	SiCL	<2	0	0	mf, fm		SiCL	48.6	3.2	7.6	0.9	0.9
			C1	14-27	13	SiC	<2	0	0	cf		SiC	58.8	3	8	13.2	19.8
Heldt	He-S	CB-120	C2	27-54	27	SiCL	<2	0	0	ff		SiCL	51.6	2.4	8.3	17.7	28.9
			C3	54-76	22	SL	<2	0	0	ff		SL	30	0.8	8.6	8.8	18.6
			C4	76-90	14	L	<2	0	0	-	Saturated at 80", no standing water	L	37.3	1.2	8.4	13.4	17.3
		Average			90								44.9	2.1	8.2	11.6	18.9
		Maximum														17.7	28.9
			A	0-7	7	L	<2	0	0	mf, fc		L	48.3	6.7	7.3	3	1
			B	7-18	11	SiCL	<2	0	0	mf		SiCL	53.8	4.2	8.3	15.5	17.5
Haverson	H-S	CB-121	C1	18-36	18	SL	<2	0	0	cf		SL	28.8	1.9	8.3	13.5	16.7
			C2	36-60	24	L	<2	0	0	ff	Saturated below 36", gleying	L	34.5	1.8	8.4	18.2	22.1
			C3	60-81	21	SL	<2	0	0	-	flowing water	SL	28.4	1.2	8.1	7	10.6
		Average			81								35.5	2.4	8.2	12.6	15.5
		Maximum														18.2	22.1
			A	0-6	6	C		0	0	mf, mm		C	81.6	5.8	7.3	6.4	5.9
			ABk	6-12	6	SiCL		0	0	mf, cm		SiCL	55.6	3.5	7.3	4.9	4.6
			BC	12-23	11	SiCL		0	0	ff		SiCL	55.7	3.5	7.4	3.3	4.2
Haverson	SO	SS12-37	C1	23-36	13	SiL		0	0	ff		SiL	46	2.9	7.5	3.1	3.4
			C2	36-55	19	SiCL		0	0	_		SiCL	58.4	3.6	7.6	2.3	2.8
			C3	55-76	21	SiC		0	0	_		SiC	62.5	3.6	7.6	2.4	3.2
			C4	76-90	14	SL		0	0	_	Water at 76"; Saturated Sands	SL	29.7	1.6	7.6	3.5	3.4
		Average			90								54.1	2.9	7.0	2.8	3.2
		Maximum														6.4	5.9
Average Floodplain Overall													**51.9**	**2.7**	**8.0**	**9.3**	**13.7**
Average Floodplain Maximum																**17.1**	**22.2**

TABLE 2-7
OTTER CREEK MINE BASELINE REPORT 325A
COMPARISON OF OTTER CREEK FLOODPLAIN AND NON-FLOODPLAIN CROPLAND SOIL SAMPLES

Soil Series	Map Unit Symbol	Sample Site (SS)	Soil Horizon	Depth (inches)	Thickness (inches)	Texture [1]	Coarse Fragment % Volumes			Roots [2]	Water noted:	Laboratory Data:					
							CFs	Gravel	Cobbles			Texture, unitless	Percent Sat %	OM-WB %	pH-SatPst, s_u_	COND, mmhos/cm	SAR, unitless
ABOVE FLOODPLAIN																	
			Ap	0-6	6	SiL		0	0	mf, cm		SiL	44.4	3.5	7.4	0.8	0.1
			Bk	6-18	12	SiL		0	0	cf, fm		SiL	39.7	2.3	7.6	0.4	0.2
Heldt	He	SS12-25	B	18-33	15	SiCL		0	0	ff		SiCL	53.7	3.2	8.2	0.6	3
			C1	33-58	25	L		0	0	ff		L	46.6	2	8.7	10.2	19
			C2	58-80	22	SiCL		5	0	_	Moist below 59"	SiCL	57.3	2	8.7	11.3	21.9
		Average			80								49.7	2.4	8.3	6.5	12.6
		Maximum														11.3	21.9
			Ap	0-6	6	SiCL	<2	0	0	mf, fc		SiCL	50	4.5	7.3	0.8	0.2
			Bk1	6-12	6	SiC	<2	0	0	cf, fc		SiC	61.5	5.6	7.7	0.6	0.2
Haverson	H	CB-83	Bk2	12-28	16	SiCL	<2	0	0	ff		SiCL	55.7	4.9	7.9	0.4	0.3
			C1	28-50	22	L	<2	0	0	ff		L	33.1	3.1	8	0.6	1.7
			C2	50-68	18	SL	<2	0	0	ff		SL	32.2	2	7.8	1.1	1.3
			C3	68-92	24	LS	<2	0	0	-		LS	32.8	1.8	7.9	0.8	1.2
		Average			92								39.7	3.1	7.9	0.7	1.1
		Maximum														1.1	1.7
			Ap	0-4	4	CL	<2	0	0	mf, fm		CL	45.9	4.4	7.5	0.7	0.1
			B	4-12	8	SiCL	<2	0	0	cf, fm		SiCL	42.4	4.5	7.7	0.5	0.2
McRae	McR	CB-111	B/C	12-22	10	SiCL	<2	0	0	ff		SiCL	42.9	4.3	7.9	1.5	3
			C1	22-32	10	L	<2	0	0	ff		L	35.6	2.9	7.8	5	5.6
			C2	32-50	18	L	<2	0	0	ff		L	37.7	3.1	8	1.8	4.5
			C3	50-92	42	L	<2	0	0	ff	Moist	L	40.5	3.6	7.7	13.6	9.9
		Average			92								40.1	3.6	7.8	7.3	6.4
		Maximum														13.6	9.9
			A1	0-3	3	SiCL	<2	0	0	mf, cm, fc		SiCL	71.8	8.5	6.8	2	<0.1
			A2	3-7	4	SiCL	<2	0	0	mf, fm, fc		SiCL	74.9	9	7	1.3	<0.1
			Bk	7-19	12	SiL	<2	0	0	cf, fm		SiL	44	3.1	7.2	0.7	0.2
Farland	Fa	CB-119	C1	19-27	8	L	<2	0	0	ff		L	38	2.2	7.5	0.5	0.2
			C2	27-43	16	L	<2	0	0	ff		L	33.2	1.8	7.8	0.6	0.2
			C3	43-64	21	L	<2	0	0	-		L	34	1.8	7.5	0.6	0.2
			C4	64-90	26	L	56	60	2	-		L	30.6	2.2	7.8	0.9	0.5
		Average			90								37.6	2.4	7.3	0.7	
		Maximum														2.0	0.5

TABLE 2-7
OTTER CREEK MINE BASELINE REPORT 325A
COMPARISON OF OTTER CREEK FLOODPLAIN AND NON-FLOODPLAIN CROPLAND SOIL SAMPLES

Soil Series	Map Unit Symbol	Sample Site (SS)	Soil Horizon	Depth (inches)	Thickness (inches)	Texture [1]	Coarse Fragment % Volumes CFs	Gravel	Cobbles	Roots [2]	Water noted:	Laboratory Data: Texture, unitless	Percent Sat %	OM-WB %	pH-SatPst, s_u_	COND, mmhos/cm	SAR, unitless
ABOVE FLOODPLAIN (continued)																	
			A	0-2	2	SiCL		0	0	mf, cm		SiCL	68.4	7.5	7.3	2.1	2.6
			C1	2-14	12	SiCL		0	0	mf, cm		SiCL	61	4.2	7.6	0.7	2.3
Farland	Fa	SS12-21	C2	14-28	14	SiCL		0	0	cf		SiCL	53.1	3.5	7.7	0.8	2.7
			C3	28-46	18	L		0	0	ff		L	41.2	2.6	7.9	0.9	4.3
			C4	46-60	14	L		0	0	ff		L	40.6	3	7.8	1.3	5.1
		Average			60								48.7	3.4	7.8	1.0	3.7
		Maximum														2.1	5.1
			Ap	0-6	6	SiL		0	0	mf, mm, fc		SiL	41.7	3.8	7	1.1	0.20
			Bk	6-16	10	L		0	0	cf, fm, fc		L	36.6	2.6	7.6	1.2	0.30
McRae	He	SS12-22	BC	16-38	12	SiL		0	0	ff		SiL	40.6	3.3	8.1	0.6	1.10
			C1	38-60	22	L		0	0	_		L	85.7	2.8	8.4	16	12.60
			C2	60-84	24	SL		0	0	_		SL	10.1	1.5	8.9	2	13.60
		Average			74								43.7	2.5	8.3	5.8	8.4
		Maximum														16.0	13.6
Average Above Floodplain Overall													**43.2**	**2.9**	**7.9**	**3.7**	**5.3**
Average Above Floodplain Maximum																**4.0**	**8.8**

Properties exceed DEQ unsuitability criteria
Significant root mass
Roots few and fine
Groundwater present

[1]Texture: C = clay, CL = clay loam, L = loam, LS = loamy sand, LFS = loamy fine sand, SiL =silty loam, SiCL = silty clay loam, SiC = silty clay, S = sand, SL = sandy loam, SCL = sandy clay loam, SC = sandy clay, g = gravelly, vg = very gravelly, eg = extremely gravelly, c = cobbly, vc = very cobbly, b = bouldery. cn = channery vcn = very channery xcn = extremely channery

[2] Roots: Abundance: f = few, c = common, m = many.
Size: vf = very fine, f = fine, m = medium, co = coarse.

TABLE 2-8
OTTER CREEK MINE BASELINE REPORT 325A
PREDICTED AVERAGE YIELDS OF PRINCIPAL CROPS[1]
OTTER CREEK ALLUVIALS VALLEY FLOOR STUDY

		Acreage		(Tons per Acre)				Land Capability[2]		
				Alfalfa Hay		Grass Hay				
Map Unit[1]	Potentially Irrigable Soil Type	Total Study Area	Percent	Non-Irrigated	Irrigated	Non-Irrigated	Irrigated	Non-Irrigated	Irrigated	Texture
Fa, Fd	Farland	432.57	7.7	2.0	5.5	1.8	5.0	3e	3e	Si
Fo, Fr	Fort Collins	14.35	0.3	-	-	1.0	-	3e	3e	Si
Gf	Glenberg	5.46	0.1	1.4	4.0	-	-	4e	4e	Si
Ha-He	Haverson	2864.06	51.2	1.8	7.0	1.5	3.0	3e	3e	SiC
99-101	Havre	963.94	17.2	-	-	1.0	-	4e	4e	Si
Hh, Hk	Heldt	368.37	6.6	1.0	5.0	1.2	3.0	3e	3e	SiC
Hn, Ho	Hesper	74.98	1.3	0.9	5.0	-	-	3e	2e	SiC
Mc, Md	McRae	825.10	14.8	1.5	5.5	-	-	3e	2e	Si
Rm	Remmit	17.11	0.3	1.2	-	-	-	4e	4e	Sy
Vo	Vona	27.52	0.5	-	4.0	-	-	4e	4e	Sy
	Total Acres	**5593.46**	**100.0**							

[1]**Source:** Powder River and Rosebud County Soil Surveys (NRCS 2012), where "absence of a yield figure indicates that the soil is not suitable for the crop or the crop is not generally grown on the soil".

[2]**Land capability** classification shows, in a general way, the suitability of soils for most kinds of field crops. Soils are generally grouped at three levels - capability class, subclass, and unit.

Capability classes , the broadest groups, are designated by the numbers 1 through 8, indicating progressively greater limitations and narrower choices for practical use. If properly managed, soils in classes 1, 2, 3, and 4 are suitable for the mechanized production of commonly grown field crops and for pasture.

Capability subclasses indicate the dominant limitations in the class by adding a letter, e, w, s, or c, to the class numeral. The letter *e* shows that the main hazard is the risk of erosion; *w* shows that water in or on the soil interferes with plant growth; *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c* shows that the chief limitation is climate that is very cold or very dry.

TABLE 4-1
OTTER CREEK MINE BASELINE REPORT 325A
THANE THOMAS HAY PRODUCTION BY FIELD

SECTION	FSA FIELD NO	ACRES	TYPE	AVF	INFLOW	BALES 2008	LBS/BALE	TONS/AC	BALES 2010	LBS/BALE	TONS/AC	BALES 2011	LBS/BALE	TONS/AC	AVERAGE
17	3	6.44	IGS	YES			1100		35	1000	2.72	25	1100	2.14	
17	4	18.09	IGS	YES			1100		25	1000	0.69	30	1100	0.91	
17	9	6.5	IGS	YES			1100		20	1000	1.54	20	1100	1.69	
17	5	10.78	IGS	YES			1100		20	1000	0.93	15	1100	0.77	
17	6	4.94	RRW	YES			1100			1000		10	1100	1.11	
17	7	19.97	WCR	NO			1100			1000		40	1100	1.10	
22	17	8.11	WCR	YES			1100		35	1000	2.16	40	1100	2.71	
22	16	30.11	AGM	Y/N			1100		109	1000	1.81	100	1100	1.83	
22	7	27.95	AGM	YES	X		1100		75	1000	1.34	96	1100	1.89	
22	4	7.11	AGM	YES			1100		25	1000	1.76	20	1100	1.55	
22	5	8.86	AGM	YES			1100			1000		30	1100	1.86	
22	3	17.79	AGM	YES			1100		60	1000	1.69	40	1100	1.24	
22	2	9.41	AGM	YES			1100		27	1000	1.43	14	1100	0.82	
22	4	16.7	AGM	YES			1100		45	1000	1.35	35	1100	1.15	
22	6	4.58	AGM	YES	X		1100		18	1000	1.97	20	1100	2.40	
22	1	36.65	AGM	YES			1100		100	1000	1.36	70	1100	1.05	
22	1	10.31	ALF	YES			1100		42	1000	2.04	50	1100	2.67	
27	1	10.58	AGM	Y/N			1100		30	1000	1.42	27	1100	1.40	
27	2&11	10.29	AGM	YES			1100		24	1000	1.17	36	1100	1.92	
27	15&9	11.03	AGM	YES	X		1100		43	1000	1.95	55	1100	2.74	
27	7&13	5.2	IGS	YES			1100		10	1000	0.96	12	1100	1.27	
27	6	7.14	AGM	YES			1100		25	1000	1.75	18	1100	1.39	
27	14	40.07	AGM	YES			1100		138	1000	1.72	128	1100	1.76	
AVERAGE								1.55			1.59			1.62	1.59
										MAX	2.72		MAX	2.74	
										MIN	0.69		MIN	0.77	

NOTES: THANE THOMAS DID NOT REPORT BY FIELD IN 2008
YES - FIELD IN THE AVF AS DEFINED BY THE FLOODPLAIN
NO - FIELD NOT IN THE AVF AS DEFINED BY THE FLOODPLAIN
Y/N - FIELD EXTENDS IN AND OUT OF THE AVF AS DEFINED BY THE FLOODPLAIN
ONLY DISCREET FIELDS DISCERNABLE FROM THE REPORT MAPS ARE UTILIZED

TABLE 4-2
OTTER CREEK MINE BASELINE REPORT 325A
THOMAS AVF VS. NON-AVF HAY PRODUCTION

SECTION	FSA FIELD NO	ACRES	TYPE	AVF	SIDE INFLOW	BALES 2008	LBS/BALE	TONS/AC	BALES 2010	LBS/BALE	TONS/AC	BALES 2011	LBS/BALE	TONS/AC	
17	3	6.44	IGS	YES					35	1000	2.72	25	1100	2.14	
17	4	18.09	IGS	YES					25	1000	0.69	30	1100	0.91	
17	9	6.5	IGS	YES					20	1000	1.54	20	1100	1.69	
17	5	10.78	IGS	YES					20	1000	0.93	15	1100	0.77	
17	6	4.94	RRW	YES						1000		10	1100	1.11	
22	17	8.11	WCR	YES					35	1000	2.16	40	1100	2.71	
22	7	27.95	AGM	YES	X				75	1000	1.34	96	1100	1.89	
22	4	7.11	AGM	YES					25	1000	1.76	20	1100	1.55	
22	5	8.86	AGM	YES						1000		30	1100	1.86	
22	3	17.79	AGM	YES					60	1000	1.69	40	1100	1.24	
22	2	9.41	AGM	YES					27	1000	1.43	14	1100	0.82	
22	4	16.7	AGM	YES					45	1000	1.35	35	1100	1.15	
22	6	4.58	AGM	YES	X				18	1000	1.97	20	1100	2.40	
22	1	36.65	AGM	YES					100	1000	1.36	70	1100	1.05	
22	1	10.31	ALF	YES					42	1000	2.04	50	1100	2.67	
27	2&11	10.29	AGM	YES					24	1000	1.17	36	1100	1.92	
27	15&9	11.03	AGM	YES	X				43	1000	1.95	55	1100	2.74	
27	7&13	5.2	IGS	YES					10	1000	0.96	12	1100	1.27	
27	6	7.14	AGM	YES					25	1000	1.75	18	1100	1.39	
27	14	40.07	AGM	YES					138	1000	1.72	128	1100	1.76	
AVERAGE ALL FLOODPLAIN											**1.58**			**1.65**	**1.62**
17	**7**	**19.97**	**WCR**	**NO**						**1000**		**40**	**1100**	**1.10**	**1.1**
22	16	30.11	AGM	Y/N					109	1000	1.81	100	1100	1.83	
27	1	10.58	AGM	Y/N					30	1000	1.42	27	1100	1.40	
INFLOW											1.61			1.62	1.61

NOTES: THANE THOMAS DID NOT REPORT BY FIELD IN 2008
YES - FIELD IN THE AVF AS DEFINED BY THE FLOODPLAIN
NO - FIELD NOT IN THE AVF AS DEFINED BY THE FLOODPLAIN
Y/N - FIELD EXTENDS IN AND OUT OF THE AVF AS DEFINED BY THE FLOODPLAIN
ONLY DISCREET FIELDS DISCERNABLE FROM THE REPORT MAPS ARE UTILIZED

TABLE 4-3
OTTER CREEK MINE BASELINE REPORT 325A
DENSON HAY PRODUCTION BY FIELD

SECTION	FSA NO	ACRES	TYPE	AVF	INFLOW	BALES 2006	LBS/BALE	TONS/AC	BALES 2007	LBS/BALE	TONS/AC	BALES 2008	LBS/BALE	TONS/AC	BALES 2010	LBS/BALE	TONS/AC	AVERAGE
27	1	23.1	ALF	YES		52	1200	1.35	93	1200	2.42	71	1200	1.84	95	1200	2.47	
27	2&3	28.9	WCR	YES		39	1200	0.81	72	1200	1.49	47	1200	0.98	36	1200	0.75	
34	3	8.3	WCR	YES		12	1200	0.87	21	1200	1.52	14	1200	1.01	22	1200	1.59	
34	17&18	27.5	ALF	YES		41	1200	0.89	77	1200	1.68	46	1200	1.00	55	1200	1.20	
34	4	20.3	GMA	YES		22	1200	0.65	33	1200	0.98	37	1200	1.09	42	1200	1.24	
34	7	12.2	GMA	NO	X	31	1200	1.52	49	1200	2.41	29	1200	1.43	45	1200	2.21	
34	6&8	31.3	ALF	YES	X	49	1200	0.94	114	1200	2.19	52	1200	1.00	108	1200	2.07	
34	5&10	27.9	WCR	NO			1200		33	1200	0.71	49	1200	1.05	37	1200	0.80	
34	11	3.5	WCR	YES		8	1200	1.37	9	1200	1.54	8	1200	1.37	9	1200	1.54	
34	12	7.5	WCR	YES			1200		8	1200	0.64	15	1200	1.20	10	1200	0.80	
34	13	33	ALF	YES	X	34	1200	0.62	129	1200	2.35	105	1200	1.91	112	1200	2.04	
34	16	4.6	ALF	YES	X	7	1200	0.91	16	1200	2.09	14	1200	1.83	15	1200	1.96	
34	19	8.9	ALF	YES	X		1200		40	1200	2.70	33	1200	2.22	34	1200	2.29	
35	3&1	47.3	ALF	NO	X	111	1200	1.41	155	1200	1.97	141	1200	1.79	214	1200	2.71	
35	2	4.2	WCR	NO			1200			1200		17	1200	2.43	9	1200	1.29	
1	11	3.4	GMA	Y/N			1200		5	1200	0.88	9	1200	1.59	12	1200	2.12	
1	10	10.2	GMA	Y/N			1200		24	1200	1.41	25	1200	1.47	31	1200	1.82	
1	7	6.9	GMA	Y/N			1200		10	1200	0.87	21	1200	1.83	29	1200	2.52	
1	6	4.5	ALF	YES		6	1200	0.80	15	1200	2.00	13	1200	1.73	15	1200	2.00	
1	8,1,14&2	36.8	ALF	Y/N		58	1200	0.95	81	1200	1.32	90	1200	1.47		1200		
2	2	14.1	ALF	YES		26	1200	1.11	26	1200	1.11	29	1200	1.23		1200		
2	3	9.1	ALF	YES		22	1200	1.45	65	1200	4.29		1200		41	1200	2.70	
2	11	12	WCR	YES			1200		28	1200	1.40	22	1200	1.10	32	1200	1.60	
2	10	11.1	AGM	YES		13	1200	0.70	20	1200	1.08	23	1200	1.24	32	1200	1.73	
2	5	4.9	AGM	YES		5	1200	0.61	14	1200	1.71		1200			1200		
2	7,8&2S	11.7	AGM	YES		14	1200	0.72	14	1200	0.72	21	1200	1.08	27	1200	1.38	
2	6	4.2	AGM	YES		5	1200	0.71	12	1200	1.71	10	1200	1.43	13	1200	1.86	
2	9&3S	23.9	ALF	YES		25	1200	0.63	35	1200	0.88	50	1200	1.26	48	1200	1.21	
2	*15	8.45	ALF	YES			1200			1200			1200		12	1200	0.85	
2	*14	6.26	ALF	YES			1200			1200			1200		20	1200	1.92	
3	4&5	30.4	ALF	YES	X	69	1200	1.36	131	1200	2.59	83	1200	1.64	98	1200	1.93	
3	3&9	17.9	WCR	NO		28	1200	0.94	56	1200	1.88	63	1200	2.11	71	1200	2.38	
3	2	97.6	WCR	UPLAND		26	1200	0.16	43	1200	0.26	165	1200	1.01	146	1200	0.90	
3&4	1	40.7	WCR	UPLAND			1200			1200		55	1200	0.81	57	1200	0.84	
							AVG	0.93		AVG	1.63		AVG	1.44		AVG	1.70	1.42
							MAX	1.52		MAX	4.29		MAX	2.43		MAX	2.71	
							MIN	0.16		MIN	0.26		MIN	0.98		MIN	0.75	
							STDEV	0.343			0.813			0.417			0.599	

NOTES: ROSS AND DENNIS DENSON DID NOT REPORT BY FIELD IN 2011
YES - FIELD IN THE AVF AS DEFINED BY THE FLOODPLAIN
NO - FIELD NOT IN THE AVF AS DEFINED BY THE FLOODPLAIN
Y/N - FIELD EXTENDS IN AND OUT OF THE AVF AS DEFINED BY THE FLOODPLAIN
ONLY DISCREET FIELDS DISCERNABLE FROM THE REPORT MAPS ARE UTILIZED

TABLE 4-4
OTTER CREEK MINE BASELINE REPORT 325A
DENSON AVF VS. NON-AVF HAY PRODUCTION

SECTION	FSA NO	ACRES	TYPE	AVF	SIDE INFLOW	BALES 2006	LBS/BALE	TONS/AC	BALES 2007	LBS/BALE	TONS/AC	BALES 2008	LBS/BALE	TONS/AC	BALES 2010	LBS/BALE	TONS/AC	AVG T/AC
27	1	23.1	ALF	YES		52	1200	1.35	93	1200	2.42	71	1200	1.84	95	1200	2.47	
27	2&3	28.9	WCR	YES		39	1200	0.81	72	1200	1.49	47	1200	0.98	36	1200	0.75	
34	3	8.3	WCR	YES		12	1200	0.87	21	1200	1.52	14	1200	1.01	22	1200	1.59	
34	17&18	27.5	ALF	YES		41	1200	0.89	77	1200	1.68	46	1200	1.00	55	1200	1.20	
34	4	20.3	GMA	YES		22	1200	0.65	33	1200	0.98	37	1200	1.09	42	1200	1.24	
34	6&8	31.3	ALF	YES	X	49	1200	0.94	114	1200	2.19	52	1200	1.00	108	1200	2.07	
34	11	3.5	WCR	YES		8	1200	1.37	9	1200	1.54	8	1200	1.37	9	1200	1.54	
34	12	7.5	WCR	YES			1200	0.00	8	1200	0.64	15	1200	1.20	10	1200	0.80	
34	13	33	ALF	YES	X	34	1200	0.62	129	1200	2.35	105	1200	1.91	112	1200	2.04	
34	16	4.6	ALF	YES	X	7	1200	0.91	16	1200	2.09	14	1200	1.83	15	1200	1.96	
34	19	8.9	ALF	YES	X		1200		40	1200	2.70	33	1200	2.22	34	1200	2.29	
1	6	4.5	ALF	YES		6	1200	0.80	15	1200	2.00	13	1200	1.73	15	1200	2.00	
2	2	14.1	ALF	YES		26	1200	1.11	26	1200	1.11	29	1200	1.23		1200		
2	3	9.1	ALF	YES		22	1200	1.45	65	1200	4.29		1200		41	1200	2.70	
2	11	12	WCR	YES			1200		28	1200	1.40	22	1200	1.10	32	1200	1.60	
2	10	11.1	AGM	YES		13	1200	0.70	20	1200	1.08	23	1200	1.24	32	1200	1.73	
2	5	4.9	AGM	YES		5	1200	0.61	14	1200	1.71		1200			1200		
2	7,8&2S	11.7	AGM	YES		14	1200	0.72	14	1200	0.72	21	1200	1.08	27	1200	1.38	
2	6	4.2	AGM	YES		5	1200	0.71	12	1200	1.71	10	1200	1.43	13	1200	1.86	
2	9&3S	23.9	ALF	YES		25	1200	0.63	35	1200	0.88	50	1200	1.26	48	1200	1.21	
2	*15	8.45	ALF	YES			1200			1200			1200		12	1200	0.85	
2	*14	6.26	ALF	YES			1200			1200			1200		20	1200	1.92	
3	4&5	30.4	ALF	YES	X	69	1200	1.36	131	1200	2.59	83	1200	1.64	98	1200	1.93	
AVERAGE OTTER CREEK AVF								0.87			1.76			1.38			1.67	1.42
34	7	12.2	GMA	NO	X	31	1200	1.52	49	1200	2.41	29	1200	1.43	45	1200	2.21	
34	5&10	27.9	WCR	NO			1200		33	1200	0.71	49	1200	1.05	37	1200	0.80	
35	3&1	47.3	ALF	NO	X	111	1200	1.41	155	1200	1.97	141	1200	1.79	214	1200	2.71	
35	2	4.2	WCR	NO			1200			1200		17	1200	2.43	9	1200	1.29	
3	3&9	17.9	WCR	NO		28	1200	0.94	56	1200	1.88	63	1200	2.11	71	1200	2.38	
AVERAGE OTTER CREEK NON-AVF								1.29			1.74			1.76			1.88	1.67
1	11	3.4	GMA	12			1200		5	1200	0.88	9	1200	1.59	12	1200	2.12	
1	10	10.2	GMA	12			1200		24	1200	1.41	25	1200	1.47	31	1200	1.82	
1	7	6.9	GMA	12			1200		10	1200	0.87	21	1200	1.83	29	1200	2.52	
1	8,1,14&2	36.8	ALF	12		58	1200	0.95	81	1200	1.32	90	1200	1.47		1200		
AVERAGE THREEMILE CREEK								0.95			1.12			1.59			2.15	1.45
3	2	97.6	WCR	UPLAND		26	1200	0.16	43	1200	0.26	165	1200	1.01	146	1200	0.90	
3&4	1	40.7	WCR	UPLAND			1200			1200		55	1200	0.81	57	1200	0.84	
AVERAGE UPLAND								0.16			0.26			0.91			0.87	0.55

NOTES: AVF-YES: IN FLOODPLAIN
AVF-NO: OUT OF FLOODPLAIN
AVF YES/NO - COMBINATION OF 1 AND 2
ONLY DISCREET FIELDS DISCERNABLE FROM THE REPORT MAPS ARE UTILIZED

TABLE 4-5
OTTER CREEK MINE BASELINE REPORT 325A
2006 - 2012 TOTAL COMBINED HAY PRODUCTION - THOMAS AND DENSON RANCHES

THANE THOMAS HAY PRODUCTION DATA BY SECTION

SECTION	ACRES									BALES 2008	LBS/BALE	TONS	TONS/AC	BALES 2010	LBS/BALE	TONS	TONS/AC	BALES 2011	LBS/BALE	TONS	TONS/AC	BALES 2012	LBS/BALE	TONS	TONS/AC
17	85.35										1100			100	1000	50	0.59	180	1100	99	1.16				
22	181.46									400	1100	220	1.21	570	1000	285	1.57	530	1100	291.5	1.61				
27	95.64									620	1100	341	3.57	287	1000	143.5	1.50	288	1100	158.4	1.66				
THOMAS OC	**362.45**									**1020**	**1100**	**561**	**1.55**	**957**	**1100**	**526.35**	**1.45**	**998**	**1100**	**548.9**	**1.51**	**180**	**1100**	**99**	**0.27**

NOTE: IT APPEARS SECTION 17 PRODUCTION WAS LUMPED WITH SECTION 27 IN 2008.

DENSON HAY PRODUCTION BY SECTION

SECTION	ACRES	BALES 2006	LBS/BALE	TONS	TONS/AC	BALES 2007	LBS/BALE	TONS	TONS/AC	BALES 2008	LBS/BALE	TONS	TONS/AC	BALES 2010	LBS/BALE	TONS	TONS/AC	BALES 2011	LBS/BALE	TONS	TONS/AC	BALES 2012	LBS/BALE	TONS	TONS/AC
27	49.8	91	1200	54.6	1.10	165	1200	99	1.99	118	1200	70.8	1.42	118	1200	70.8	1.42								
34	191.9	212	1200	127.2	0.66	547	1200	328.2	1.71	401	1200	240.6	1.25	502	1200	301.2	1.57								
35	53.6	111	1200	66.6	1.24	155	1200	93	1.74	158	1200	94.8	1.77	223	1200	133.8	2.50								
2	93.4	84	1200	50.4	0.54	214	1200	128.4	1.37	170	1200	102	1.09	254	1200	152.4	1.63								
3-OC	32.7	69	1200	41.4	1.27	131	1200	78.6	2.40	126	1200	75.6	2.31	98	1200	58.8	1.80								
DENSON OC	**421.4**	**567**	**1200**	**340.2**	**0.81**	**1212**	**1200**	**727.2**	**1.73**	**973**	**1200**	**583.8**	**1.39**	**1195**	**1200**	**717**	**1.70**								
3&4-UPLND	138.3	26	1200	43	0.31	99	1200	59.4	0.43	165	1200	99	0.72	206	1200	123.6	0.89								
1-TENMILE	67.8	128	1200	76.8	1.13	166	1200	99.6	1.47	158	1200	94.8	1.40	236	1200	141.6	2.09								
31	81.5																	290 1800	1500 1200	217.5 1080					
DENSON TOTAL	627.5	721		460	0.73	1477		886.2	1.41	1296		777.6	1.24	1637		982.2	1.57			1297.5	1.83	500	1200	300	0.42

NOTES: DENSON REPORTED TOTALS ONLY IN 2011
HAY FIELDS IN SECTIONS 3 AND 4 OUTSIDE OF THE OTTER CREEK VALLEY BOTTOM ARE ON UPLAND SOILS AND TOPOGRAPHY, AND ARE LARGELY OUTSIDE OF THE AVF STUDY AREA
SECTION 1 IS WITHIN THE AVF STUDY AREA ON TENMILE CREEK
SECTION 31 IS ON TENMILE CREEK UPSTREAM OF THE AVF STUDY AREA

YEAR:	2006	2007	2008	2010	2011	2012
TOTAL TONS	**460**	**886**	**1339**	**1509**	**1846**	**399**
THOMAS ACRES	0	0	362	362	362	362
DENSON ACRES	628	628	628	628	709	709
TOTAL ACRES HARVESTED	**628**	**628**	**990**	**990**	**1071**	**1071**
TONS/ACRE	**0.73**	**1.41**	**1.35**	**1.52**	**1.72**	**0.37**

TABLE 4-6A
OTTER CREEK MINE BASELINE REPORT 325A
DENSON RANCH 2014 OTTER CREEK HAY PRODUCTION

PARCEL	BALES	NOTES		AVF IN	ACRES OUT	TOTAL ACRES	BALES/ ACRE	BALE WEIGHT	PERCENT AVF	TONS/ ACRE	TOTAL TONS	TOTAL TONS/AC
O 5	37		DENSON	19.35	1	20.35	1.82	1200	95%	1.09		
O 6	12		DENSON	0	4.28	4.28	2.80	1200	0%	1.68		
O 7		not harvested	DENSON									
O 8E	13	NE of fence only	DENSON	12.58	0	12.58	1.03	1200	100%	0.62		
O 8W	18	partial count only (exclude)	DENSON									
O 9	5		DENSON	5.19	0	5.19	0.96	1200	100%	0.58		
O 10	4		DENSON	4.95	0	4.95	0.81	1200	100%	0.48		
O 11	0	not harvested, weedy	DENSON									
O 12	0	not harvested, may not be accessible	DENSON									
O 13	10		DENSON	0	7.35	7.35	1.36	1200	0%	0.82		
O 14	134		DENSON	0	42.34	42.34	3.16	1200	0%	1.90		
O 15	191		DENSON	54.36	18.4	72.76	2.63	1200	75%	1.58		
O 16 W	74	Split field	DENSON	17.34	2.01	19.35	3.82	1200	90%	2.29		
O 16 E	33	33 barley hay, higher yield	DENSON	9.99	0.66	10.65	3.10	1200	94%	1.86		
O 17	5		DENSON	0	6.54	6.54	0.76	1200	0%	0.46		
O 18	6		DENSON	3.23	2.87	6.1	0.98	1200	53%	0.59		
O 19	9		DENSON	5.47	0	5.47	1.65	1200	100%	0.99		
O 20	10		DENSON	6.71	0	6.71	1.49	1200	100%	0.89		
O 21	46		DENSON	27.86	0.01	27.87	1.65	1200	100%	0.99		
O 22	31		DENSON	0	22.5	22.5	1.38	1200	0%	0.83		
O 23	303		DENSON	99.62	25.69	125.31	2.42	1200	79%	1.45		
TOTAL	941		DENSON	266.65	133.65	400.3	2.35	1200	67%	1.12	564.6	1.41

COUNT										17		
MINIMUM						4.28				0.46		
MAXIMUM						125.31				2.29		
INFLOW FIELDS AVERAGE										1.72		

DENOTES 80% OR MORE IN AVF
DENOTES 80% OR MORE OUT OF AVF
DENOTES SIDE DRAINAGE INFLOW FIELDS

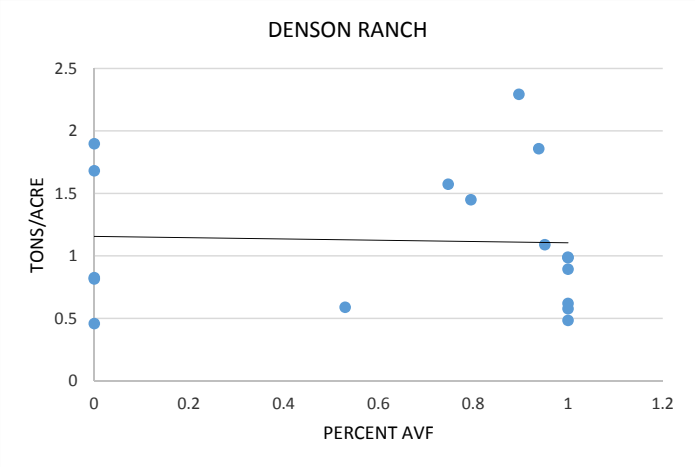


TABLE 4-6B
OTTER CREEK MINE BASELINE REPORT 325A
THOMAS RANCH 2014 OTTER CREEK HAY PRODUCTION

PARCEL	BALES	NOTES		AVF IN	ACRES OUT	TOTAL ACRES	BALES/ ACRE	BALE WEIGHT	PERCENT AVF	TONS/ ACRE	TOTAL TONS	TOTAL TONS/AC
O 24	17	DS	THOMAS	11.05	1.07	12.12	1.40	1400	91%	0.98		
O 25	61		THOMAS	27.34	0	27.34	2.23	1400	100%	1.56		
O 26	22	DS	THOMAS	6.51	0	6.51	3.38	1400	100%	2.37		
O 27	5		THOMAS	0	3.51	3.51	1.42	1400	0%	1.00		
O 28	5		THOMAS	1.32	0	1.32	3.79	1400	100%	2.65		
O 29	10		THOMAS	2.17	0	2.17	4.61	1400	100%	3.23		
O 30	3		THOMAS	0.75	0	0.75	4.00	1400	100%	2.80		
O 31		not harvested	THOMAS					1400				
O 32	37		THOMAS	7.16	3.42	10.58	3.50	1400	68%	2.45		
O 33	20	DS	THOMAS	10.21	0	10.21	1.96	1400	100%	1.37		
O 34	34	DS	THOMAS	28.45	3.25	31.7	1.07	1400	90%	0.75		
O 35	4		THOMAS	0	3.79	3.79	1.06	1400	0%	0.74		
O 36	5		THOMAS	4.97	0	4.97	1.01	1400	100%	0.70		
O 37	31		THOMAS	15.57	2.1	17.67	1.75	1400	88%	1.23		
O 38	13		THOMAS	3.37	1.24	4.61	2.82	1400	73%	1.97		
O 39	13		THOMAS	0	7.82	7.82	1.66	1400	0%	1.16		
O 40	0	not harvested, not cultivated	THOMAS					1400				
O 41	33		THOMAS	6.03	2.25	8.28	3.99	1400	73%	2.79		
O 42	36		THOMAS	35.63	0.01	35.64	1.01	1400	100%	0.71		
O 43	7		THOMAS	0	2.18	2.18	3.21	1400	0%	2.25		
O 44	2		THOMAS	0	0.79	0.79	2.53	1400	0%	1.77		
O 45	56		THOMAS	25.71	0.05	25.76	2.17	1400	100%	1.52		
O 46	8		THOMAS	4.03	1.74	5.77	1.39	1400	70%	0.97		
O 47	12		THOMAS	4.77	0.43	5.2	2.31	1400	92%	1.62		
O 48	6		THOMAS	0.04	3.02	3.06	1.96	1400	1%	1.37		
O 49	77		THOMAS	24.92	5	29.92	2.57	1400	83%	1.80		
O 50	11		THOMAS	0	5.68	5.68	1.94	1400	0%	1.36		
O 51	26		THOMAS	9.52	1.11	10.63	2.45	1400	90%	1.71		
O 52	2		THOMAS	0	1.3	1.3	1.54	1400	0%	1.08		
O 53	25	adjust map to harvest	THOMAS	15.5	0	15.5	1.61	1400	100%	1.13		
O 54		not harvested	THOMAS									
O 55		not harvested	THOMAS									
O 56	2		THOMAS	0	0.53	0.53	3.77	1400	0%	2.64		
O 57	1		THOMAS	0	0.64	0.64	1.56	1400	0%	1.09		
O 58W	30	only portion west of fence line harvested	THOMAS	9.68	0.03	9.71	3.09	1400	100%	2.16		
O 58E		not harvested	THOMAS									
O 61	31		THOMAS	11.45	0	11.45	2.71	1400	100%	1.90		
O 62	7		THOMAS	2.05	0	2.05	3.41	1400	100%	2.39		
O 63	15		THOMAS	4.98	2.4	7.38	2.03	1400	67%	1.42		
TOTAL	667			273.18	53.36	326.54	2.04	1400	84%	1.67	466.9	1.43

COUNT										34		
MINIMUM						0.53				0.70		
MAXIMUM						35.64				3.23		
INFLOW FIELDS AVERAGE										1.71		

DENOTES 80% OR MORE IN AVF
DENOTES 80% OR MORE OUT OF AVF
DENOTES SIDE DRAINAGE INFLOW FIELDS

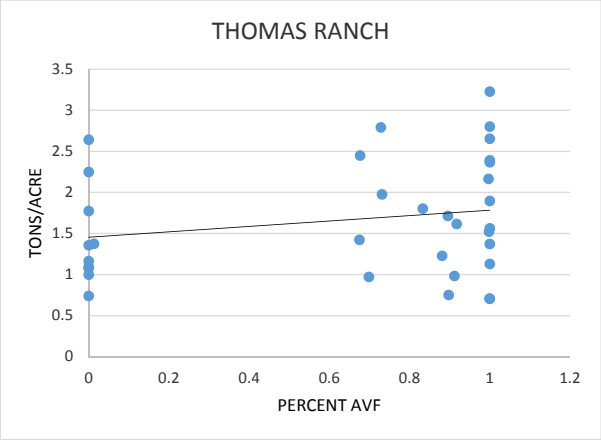


TABLE 4-6C
OTTER CREEK MINE BASELINE REPORT 325A
STEVENS RANCH 2014 OTTER CREEK HAY PRODUCTION

PARCEL	BALES	NOTES		AVF IN	ACRES OUT	TOTAL ACRES	BALES/ ACRE	BALE WEIGHT	PERCENT AVF	TONS/ ACRE	TOTAL TONS	TOTAL TONS/AC
O 64	67		STEVENS	18.7	0	18.7	3.58	1200	100%	2.15		
O 65	8		STEVENS	2.11	0	2.11	3.79	1200	100%	2.27		
O 66	2		STEVENS	0	3.81	3.81	0.52	1200	0%	0.31		
O 67	33		STEVENS	14.99	0	14.99	2.20	1200	100%	1.32		
O 68	22		STEVENS	9.69	0.19	9.88	2.23	1200	98%	1.34		
O 69	18		STEVENS	8.62	0.56	9.18	1.96	1200	94%	1.18		
O 70	0	not harvested, may not be accessible	STEVENS									
O 71	49		STEVENS	15.58	16.3	31.88	1.54	1200	49%	0.92		
O 72	17		STEVENS	7.67	0.07	7.74	2.20	1200	99%	1.32		
O 73	7	adjust map to harvest	STEVENS	0	2.34	2.34	2.99	1200	0%	1.79		
O 74N	91		STEVENS	31.1	3.67	34.77	2.62	1200	89%	1.57		
O 74S		not harvested										
O 75	48	46 AVF, 2 upland	STEVENS	14.27	2.06	16.33	2.94	1200	87%	1.76		
O 76	1		STEVENS	0	0.96	0.96	1.04	1200	0%	0.63		
O 77	1		STEVENS	0	1.2	1.2	0.83	1200	0%	0.50		
O 78	40	adjust map to harvest	STEVENS	0.01	31.01	31.02	1.29	1200	0%	0.77		
O 79	16		STEVENS	6.66	1.09	7.75	2.06	1200	86%	1.24		
O 80	54		STEVENS	22.7	1.01	23.71	2.28	1200	96%	1.37		
O 81		No Count	STEVENS									
O 82	77		STEVENS	0	28.33	28.33	2.72	1200	0%	1.63		
O 83	20		STEVENS	26.36	9.28	35.64	0.56	1200	74%	0.34		
O 84	12		STEVENS	7.12	0.43	7.55	1.59	1200	94%	0.95		
O 85		not harvested	STEVENS									
O 86		not harvested	STEVENS									
O 87	6		STEVENS	0	5.55	5.55	1.08	1200	0%	0.65		
O 89	28		STEVENS	9.94	0.01	9.95	2.81	1200	100%	1.69		
O 90	137	split by fence	STEVENS	42.69	4.25	46.94	2.92	1200	91%	1.75		
O 91	2		STEVENS	0	1.76	1.76	1.14	1200	0%	0.68		
O 92	65		STEVENS	20.83	1.64	22.47	2.89	1200	93%	1.74		
TOTAL	821			259.04	115.52	374.56	2.19	1200	69%	1.24	492.6	1.32

COUNT			24
MINIMUM		0.96	0.31
MAXIMUM		46.94	2.27
INFLOW FIELDS AVERAGE			1.17

DENOTES 80% OR MORE IN AVF
DENOTES 80% OR MORE OUT OF AVF
DENOTES SIDE DRAINAGE INFLOW FIELDS

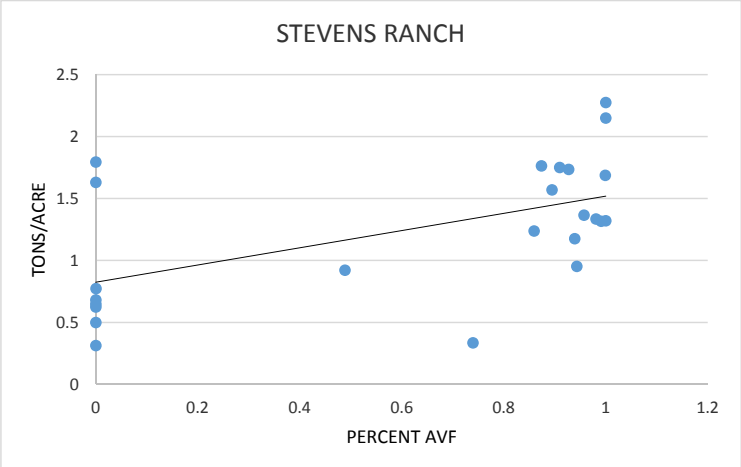


TABLE 4-6D
OTTER CREEK MINE BASELINE REPORT 325A
WOODS RANCH 2014 OTTER CREEK HAY PRODUCTION

PARCEL	BALES	NOTES		AVF IN	ACRES OUT	TOTAL ACRES	BALES/ ACRE	BALE WEIGHT	PERCENT AVF	TONS/ ACRE	TOTAL TONS	TOTAL TONS/AC
O 99 N	218	separated by section line fence	WOODS	28.61	62.73	91.34	2.39	1450	31%	1.73		
O 100	89	76 AVF, 13 upland	WOODS	39.48	2.14	41.62	2.14	1450	95%	1.55		
O 101	54		WOODS	27.82	0	27.82	1.94	1450	100%	1.41		
O 102	264		WOODS	63.46	87.09	150.55	1.75	1450	42%	1.27		
O 103E	11	11 Woods, 61 Trusler	WOODS	3.09	0.38	3.47	3.17	1450	89%	2.30		
TOTAL	636			162.46	152.34	314.8	2.02	1450	52%	1.65	461.1	1.46

COUNT		5
MINIMUM	3.47	1.27
MAXIMUM	150.55	2.30

DENOTES 80% OR MORE IN AVF
DENOTES 80% OR MORE OUT OF AVF
DENOTES SIDE DRAINAGE INFLOW FIELDS

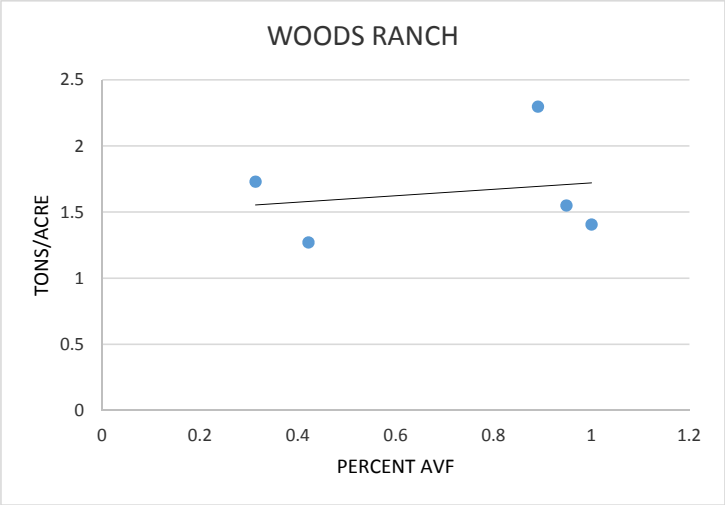


TABLE 4-6E
OTTER CREEK MINE BASELINE REPORT 325A
TRUSLER RANCH 2014 OTTER CREEK HAY PRODUCTION

PARCEL	BALES	NOTES		AVF IN	ACRES OUT	TOTAL ACRES	BALES/ ACRE	BALE WEIGHT	PERCENT AVF	TONS/ ACRE	TOTAL TONS	TOTAL TONS/AC
O 97	11		TRUSLER	3.71	3.13	6.84	1.61	1400	54%	1.13		
O 98	82	adjust map, includes adjacent area of similar acreage	TRUSLER	60.31	0	60.31	1.36	1400	100%	0.95		
O 99 S	79	102 AVF, 195 upland, 218 Woods, 79 Trusler	TRUSLER	24.41	37.44	61.85	1.28	1400	39%	0.89		
O 103W	61		TRUSLER	69.95	3.77	73.72	0.83	1400	95%	0.58		
O 104	25	adjust map to harvest	TRUSLER	15.25	0.15	15.4	1.62	1400	99%	1.14		
O 105		not harvested	TRUSLER									
O 106	64	check harvest boundary, may be larger than mapped	TRUSLER	5.32	14.04	19.36	3.31	1400	27%	2.31		
O 107	77	uneven production N to S due to dikes	TRUSLER	2.08	39.4	41.48	1.86	1400	5%	1.30		
O 108	94		TRUSLER	58.12	0.95	59.07	1.59	1400	98%	1.11		
O 109	20		TRUSLER	19.21	0	19.21	1.04	1400	100%	0.73		
O 110		not harvested	TRUSLER									
O 111		not harvested	TRUSLER									
O 112	31		TRUSLER	11.27	0	11.27	2.75	1400	100%	1.93		
O 113	187		TRUSLER	55.72	1.8	57.52	3.25	1400	97%	2.28		
0 114	78	need entire field acreage; not all in AVF study area	TRUSLER	0	40.25	40.25	1.94	1400	0%	1.36		
O 115S	201	retention dike area	TRUSLER	82.45	6.13	88.58	2.27	1400	93%	1.59		
O 115N	364	split field at dike at narrow neck	TRUSLER	133.29	0.75	134.04	2.72	1400	99%	1.90		
O 116	88	from J Trusler; confirmed by stack count	TRUSLER	23.63	5.67	29.3	3.00	1400	81%	2.10		
O 117	31		TRUSLER	8.69	7	15.69	1.98	1400	55%	1.38		
O 118	14		TRUSLER	5.7	0.33	6.03	2.32	1400	95%	1.63		
O 119	22		TRUSLER	14.65	0	14.65	1.50	1400	100%	1.05		
O 120	31		TRUSLER	14.18	1.17	15.35	2.02	1400	92%	1.41		
O 121	45		TRUSLER	19.27	0.36	19.63	2.29	1400	98%	1.60		
O 122	25		TRUSLER	14.16	0	14.16	1.77	1400	100%	1.24		
O 123	23		TRUSLER	12.81	2.63	15.44	1.49	1400	83%	1.04		
TOTAL	1653			654.18	164.97	819.15	2.02	1400	80%	1.39	1157.1	1.41

COUNT			22
MINIMUM		6.03	0.58
MAXIMUM		134.04	2.31
INFLOW FIELDS AVERAGE			1.81
IRRIGATED FIELDS AVERAGE			1.74

DENOTES 80% OR MORE IN AVF
DENOTES 80% OR MORE OUT OF AVF
DENOTES SIDE DRAINAGE INFLOW FIELDS
DENOTED FLOOD IRRIGATION

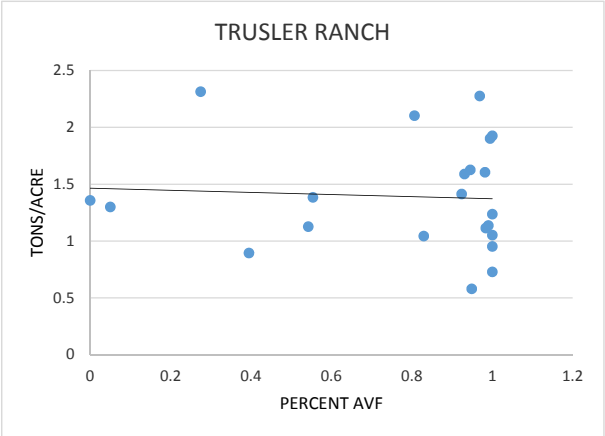


TABLE 4-6F
OTTER CREEK MINE BASELINE REPORT 325A
SNODGRASS RANCH 2014 OTTER CREEK HAY PRODUCTION

PARCEL	BALES	NOTES		AVF IN	ACRES OUT	TOTAL ACRES	BALES/ ACRE	BALE WEIGHT	PERCENT AVF	TONS/ ACRE	TOTAL TONS	TOTAL TONS/AC
O 124	0	not harvested, not cultivated	SNODGRASS									
O 125	18		SNODGRASS	10.05	1.49	11.54	1.56	1400	87%	1.09		
O 126		short due to limited visibility (exclude)	SNODGRASS									
O 127	0	not havested, may not be accessible	SNODGRASS									
O 128	85		SNODGRASS	6.68	48.76	55.44	1.53	1400	12%	1.07		
TOTAL	103			16.73	50.25	66.98	1.54	1400	25%	1.08	59.5	1.07

DENOTES 80% OR MORE IN AVF
DENOTES 80% OR MORE OUT OF AVF

TABLE 4-7
OTTER CREEK MINE BASELINE REPORT 325A
COMPILATION OF OTTER CREEK HAY FIELDS

PARCEL	BALES	NOTES		AVF IN	ACRES OUT	TOTAL ACRES	BALES/ ACRE	BALE WEIGHT	PERCENT AVF	TONS/ ACRE	TOTAL TONS	TOTAL TONS/AC
O 5	37		DENSON	19.35	1	20.35	1.82	1200	95%	1.09	22.2	
O 6	12		DENSON	0	4.28	4.28	2.80	1200	0%	1.68	7.2	
O-7		not harvested	DENSON									
O 8E	13	NE of fence only	DENSON	12.58	0	12.58	1.03	1200	100%	0.62	7.8	
O 8W	18	partial count only (exclude)	DENSON									
O 9	5		DENSON	5.19	0	5.19	0.96	1200	100%	0.58	3	
O 10	4		DENSON	4.95	0	4.95	0.81	1200	100%	0.48	2.4	
O 11	0	not harvested, weedy	DENSON									
O 12	0	not harvested, may not be accessible	DENSON									
O 13	10		DENSON	0	7.35	7.35	1.36	1200	0%	0.82	6	
O-14	134		DENSON	0	42.34	42.34	3.16	1200	0%	1.90	80.4	
O 15	191		DENSON	54.36	18.4	72.76	2.63	1200	75%	1.58	114.6	
O 16 W	74	Split field	DENSON	17.34	2.01	19.35	3.82	1200	90%	2.29	44.4	
O 16 E	33	33 barley hay, higher yield	DENSON	9.99	0.66	10.65	3.10	1200	94%	1.86	19.8	
O 17	5		DENSON	0	6.54	6.54	0.76	1200	0%	0.46	3	
O 18	6		DENSON	3.23	2.87	6.1	0.98	1200	53%	0.59	3.6	
O 19	9		DENSON	5.47	0	5.47	1.65	1200	100%	0.99	5.4	
O 20	10		DENSON	6.71	0	6.71	1.49	1200	100%	0.89	6	
O 21	46		DENSON	27.86	0.01	27.87	1.65	1200	100%	0.99	27.6	
O 22	31		DENSON	0	22.5	22.5	1.38	1200	0%	0.83	18.6	
O 23	303		DENSON	99.62	25.69	125.31	2.42	1200	79%	1.45	181.8	
O 24	17		THOMAS	11.05	1.07	12.12	1.40	1400	91%	0.98	11.9	
O 25	61		THOMAS	27.34	0	27.34	2.23	1400	100%	1.56	42.7	
O 26	22		THOMAS	6.51	0	6.51	3.38	1400	100%	2.37	15.4	
O 27	5		THOMAS	0	3.51	3.51	1.42	1400	0%	1.00	3.5	
O 28	5		THOMAS	1.32	0	1.32	3.79	1400	100%	2.65	3.5	
O 29	10		THOMAS	2.17	0	2.17	4.61	1400	100%	3.23	7	
O 30	3		THOMAS	0.75	0	0.75	4.00	1400	100%	2.80	2.1	
O 31		not harvested	THOMAS					1400				
O 32	37		THOMAS	7.16	3.42	10.58	3.50	1400	68%	2.45	25.9	
O 33	20		THOMAS	10.21	0	10.21	1.96	1400	100%	1.37	14	
O 34	34		THOMAS	28.45	3.25	31.7	1.07	1400	90%	0.75	23.8	
O 35	4		THOMAS	0	3.79	3.79	1.06	1400	0%	0.74	2.8	
O 36	5		THOMAS	4.97	0	4.97	1.01	1400	100%	0.70	3.5	
O 37	31		THOMAS	15.57	2.1	17.67	1.75	1400	88%	1.23	21.7	
O 38	13		THOMAS	3.37	1.24	4.61	2.82	1400	73%	1.97	9.1	
O 39	13		THOMAS	0	7.82	7.82	1.66	1400	0%	1.16	9.1	
O 40	0	not harvested, not cultivated	THOMAS					1400				
O 41	33		THOMAS	6.03	2.25	8.28	3.99	1400	73%	2.79	23.1	
O 42	36		THOMAS	35.63	0.01	35.64	1.01	1400	100%	0.71	25.2	
O 43	7		THOMAS	0	2.18	2.18	3.21	1400	0%	2.25	4.9	
O 44	2		THOMAS	0	0.79	0.79	2.53	1400	0%	1.77	1.4	
O 45	56		THOMAS	25.71	0.05	25.76	2.17	1400	100%	1.52	39.2	
O 46	8		THOMAS	4.03	1.74	5.77	1.39	1400	70%	0.97	5.6	
O 47	12		THOMAS	4.77	0.43	5.2	2.31	1400	92%	1.62	8.4	
O 48	6		THOMAS	0.04	3.02	3.06	1.96	1400	1%	1.37	4.2	
O 49	77		THOMAS	24.92	5	29.92	2.57	1400	83%	1.80	53.9	
O 50	11		THOMAS	0	5.68	5.68	1.94	1400	0%	1.36	7.7	
O 51	26		THOMAS	9.52	1.11	10.63	2.45	1400	90%	1.71	18.2	
O 52	2		THOMAS	0	1.3	1.3	1.54	1400	0%	1.08	1.4	
O 53	25	adjust map to harvest	THOMAS	15.5	0	15.5	1.61	1400	100%	1.13	17.5	
O 54		not harvested	THOMAS									
O 55		not harvested	THOMAS									
O 56	2		THOMAS	0	0.53	0.53	3.77	1400	0%	2.64	1.4	
O 57	1		THOMAS	0	0.64	0.64	1.56	1400	0%	1.09	0.7	
O 58W	30	only portion west of fence line harveste	THOMAS	9.68	0.03	9.71	3.09	1400	100%	2.16	21	
O 58E		not harvested	THOMAS									
O 61	31		THOMAS	11.45	0	11.45	2.71	1400	100%	1.90	21.7	
O 62	7		THOMAS	2.05	0	2.05	3.41	1400	100%	2.39	4.9	
O 63	15		THOMAS	4.98	2.4	7.38	2.03	1400	67%	1.42	10.5	
O 64	67		STEVENS	18.7	0	18.7	3.58	1200	100%	2.15	40.2	
O 65	8		STEVENS	2.11	0	2.11	3.79	1200	100%	2.27	4.8	
O 66	2		STEVENS	0	3.81	3.81	0.52	1200	0%	0.31	1.2	

TABLE 4-7
OTTER CREEK MINE BASELINE REPORT 325A
COMPILATION OF OTTER CREEK HAY FIELDS

PARCEL	BALES	NOTES		AVF IN	ACRES OUT	TOTAL ACRES	BALES/ ACRE	BALE WEIGHT	PERCENT AVF	TONS/ ACRE	TOTAL TONS	TOTAL TONS/AC
O 67	33		STEVENS	14.99	0	14.99	2.20	1200	100%	1.32	19.8	
O 68	22		STEVENS	9.69	0.19	9.88	2.23	1200	98%	1.34	13.2	
O 69	18		STEVENS	8.62	0.56	9.18	1.96	1200	94%	1.18	10.8	
O 70	0	not harvested, may not be accessible	STEVENS									
O 71	49		STEVENS	15.58	16.3	31.88	1.54	1200	49%	0.92	29.4	
O 72	17		STEVENS	7.67	0.07	7.74	2.20	1200	99%	1.32	10.2	
O 73	7	adjust map to harvest	STEVENS	0	2.34	2.34	2.99	1200	0%	1.79	4.2	
O 74N	91		STEVENS	31.1	3.67	34.77	2.62	1200	89%	1.57	54.6	
o 74S		not harvested										
O 75	48	46 AVF, 2 upland	STEVENS	14.27	2.06	16.33	2.94	1200	87%	1.76	28.8	
O 76	1		STEVENS	0	0.96	0.96	1.04	1200	0%	0.63	0.6	
O 77	1		STEVENS	0	1.2	1.2	0.83	1200	0%	0.50	0.6	
O 78	40	adjust map to harvest	STEVENS	0.01	31.01	31.02	1.29	1200	0%	0.77	24	
O 79	16		STEVENS	6.66	1.09	7.75	2.06	1200	86%	1.24	9.6	
O 80	54		STEVENS	22.7	1.01	23.71	2.28	1200	96%	1.37	32.4	
O 81		No Count	STEVENS									
O 82	77		STEVENS	0	28.33	28.33	2.72	1200	0%	1.63	46.2	
O 83	20		STEVENS	26.36	9.28	35.64	0.56	1200	74%	0.34	12	
O 84	12		STEVENS	7.12	0.43	7.55	1.59	1200	94%	0.95	7.2	
O 85		not harvested	STEVENS									
O 86		not harvested	STEVENS									
O 87	6		STEVENS	0	5.55	5.55	1.08	1200	0%	0.65	3.6	
O 89	28		STEVENS	9.94	0.01	9.95	2.81	1200	100%	1.69	16.8	
O 90	137	split by fence	STEVENS	42.69	4.25	46.94	2.92	1200	91%	1.75	82.2	
O 91	2		STEVENS	0	1.76	1.76	1.14	1200	0%	0.68	1.2	
O 92	65		STEVENS	20.83	1.64	22.47	2.89	1200	93%	1.74	39	
O 93		Not Harvested	GATSKILL									
O 94		Not Harvested	GATSKILL									
O 95		Not Harvested	GATSKILL									
O 96		Not Harvested	GATSKILL									
O 99 N	218	separated by section line fence	WOOD	28.61	62.73	91.34	2.39	1450	31%	1.73	158.05	
O 100	89	76 AVF, 13 upland	WOOD	39.48	2.14	41.62	2.14	1450	95%	1.55	64.525	
O 101	54		WOOD	27.82	0	27.82	1.94	1450	100%	1.41	39.15	
O 102	264		WOOD	63.46	87.09	150.55	1.75	1450	42%	1.27	191.4	
O 103E	11	11 Woods, 61 Trusler	WOOD	3.09	0.38	3.47	3.17	1450	89%	2.30	7.975	
O 97	11		TRUSLER	3.71	3.13	6.84	1.61	1400	54%	1.13	7.7	
O 98	82	adjust map, includes adjacent area of si	TRUSLER	60.31	0	60.31	1.36	1400	100%	0.95	57.4	
O 99 S	79	102 AVF, 195 upland, 218 Woods, 79 Tr	TRUSLER	24.41	37.44	61.85	1.28	1400	39%	0.89	55.3	
O 103W	61		TRUSLER	69.95	3.77	73.72	0.83	1400	95%	0.58	42.7	
O 104	25	adjust map to harvest	TRUSLER	15.25	0.15	15.4	1.62	1400	99%	1.14	17.5	
O 105		not harvested	TRUSLER									
O 106	64	check harvest boundary, may be larger t	TRUSLER	5.32	14.04	19.36	3.31	1400	27%	2.31	44.8	
O 107	77	uneven production N to S due to dikes	TRUSLER	2.08	39.4	41.48	1.86	1400	5%	1.30	53.9	
O 108	94		TRUSLER	58.12	0.95	59.07	1.59	1400	98%	1.11	65.8	
O 109	20		TRUSLER	19.21	0	19.21	1.04	1400	100%	0.73	14	
O 110		not harvested	TRUSLER									
O 111		not harvested										
O 112	31		TRUSLER	11.27	0	11.27	2.75	1400	100%	1.93	21.7	
O 113	187		TRUSLER	55.72	1.8	57.52	3.25	1400	97%	2.28	130.9	
0 114	78	need entire field acreage; not all in AVF	TRUSLER	0	40.25	40.25	1.94	1400	0%	1.36	54.6	
O 115S	201	retention dike area	TRUSLER	82.45	6.13	88.58	2.27	1400	93%	1.59	140.7	
O 115N	364	split field at dike at narrow neck	TRUSLER	133.29	0.75	134.04	2.72	1400	99%	1.90	254.8	
O 116	88	from J Trusler; confirmed by stack count	TRUSLER	23.63	5.67	29.3	3.00	1400	81%	2.10	61.6	
O 117	31		TRUSLER	8.69	7	15.69	1.98	1400	55%	1.38	21.7	
O 118	14		TRUSLER	5.7	0.33	6.03	2.32	1400	95%	1.63	9.8	
O 119	22		TRUSLER	14.65	0	14.65	1.50	1400	100%	1.05	15.4	
O 120	31		TRUSLER	14.18	1.17	15.35	2.02	1400	92%	1.41	21.7	
O 121	45		TRUSLER	19.27	0.36	19.63	2.29	1400	98%	1.60	31.5	
O 122	25		TRUSLER	14.16	0	14.16	1.77	1400	100%	1.24	17.5	
O 123	23		TRUSLER	12.81	2.63	15.44	1.49	1400	83%	1.04	16.1	
O 124	0	not harvested, not cultivated										
O 125	18		SNODGRAS	10.05	1.49	11.54	1.56	1400	87%	1.09	12.6	
O 126	25	short due to limited visibility (exclude)	SNODGRASS									

TABLE 4-7
OTTER CREEK MINE BASELINE REPORT 325A
COMPILATION OF OTTER CREEK HAY FIELDS

PARCEL	BALES	NOTES		AVF IN	ACRES OUT	TOTAL ACRES	BALES/ ACRE	BALE WEIGHT	PERCENT AVF	TONS/ ACRE	TOTAL TONS	TOTAL TONS/AC
O 127	0	not havested, may not be accessible	SNODGRASS									
O 128	85		SNODGRAS	6.68	48.76	55.44	1.53	1400	12%	1.07	59.5	
TOTAL				1632.24	670.09	2302.33			71%	1.41	3203.6	1.39

COUNT		103
MINIMUM	0.53	0.31
MAXIMUM	150.55	3.23
INFLOW FIELDS AVERAGE		1.58
IRRIGATED FIELDS AVERAGE		1.74

DENOTES 80% OR MORE IN AVF
DENOTES 80% OR MORE OUT OF AVF
DENOTES SIDE DRAINAGE INFLOW FIELDS
DENOTED FLOOD IRRIGATION

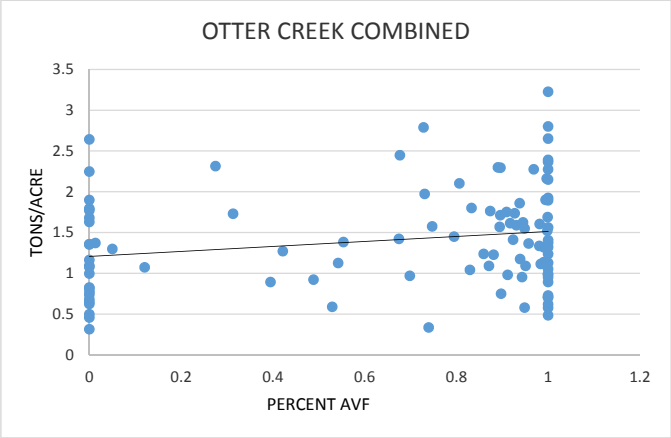
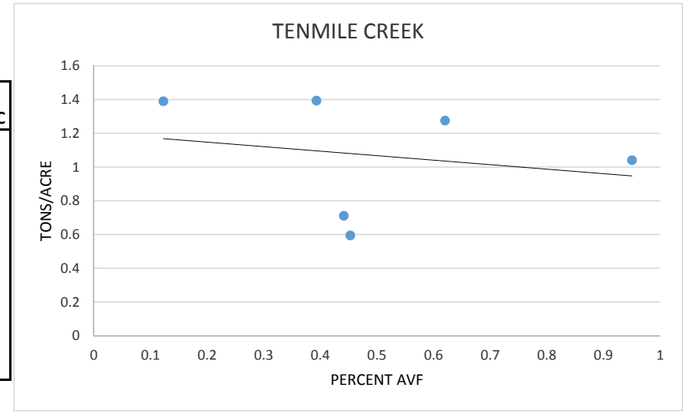


TABLE 4-8
OTTER CREEK MINE BASELINE REPORT 325A
HAY PRODUCTION ON OTTER CREEK TRIBUTARIES

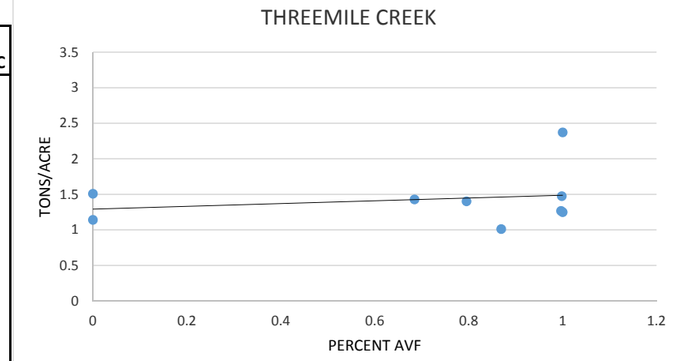
TENMILE CREEK

PARCEL	BALES	NOTES		AVF IN	ACRES OUT	TOTAL ACRES	BALES/ ACRE	BALE WEIGHT	PERCENT AVF	TONS/ ACRE	TOTAL TONS	TOTAL TONS/AC
Te 1	0	not harvested, sedges and rushes	DENSON									
Te 2	0	not harvested, weedy	DENSON									
Te 3	7		DENSON	2.04	1.25	3.29	2.13	1200	62%	1.28		
Te 4	11		DENSON	4.09	5.18	9.27	1.19	1200	44%	0.71		
Te 5	7		DENSON	3.19	3.86	7.05	0.99	1200	45%	0.60		
Te 6	8		DENSON	4.38	0.23	4.61	1.74	1200	95%	1.04		
Te 7	73		DENSON	12.34	19.07	31.41	2.32	1200	39%	1.39		
Te 8	67		DENSON	3.54	25.36	28.9	2.32	1200	12%	1.39		
Total Tenmile	173			29.58	54.95	84.53	2.05	1200	35%	1.07	103.8	1.23



THREEMILE CREEK

PARCEL	BALES	NOTES		AVF IN	ACRES OUT	TOTAL ACRES	BALES/ ACRE	BALE WEIGHT	PERCENT AVF	TONS/ ACRE	TOTAL TONS	TOTAL TONS/AC
Th 1	0	not harvested, currently grazed	(Prospect)									
Th 2	36		TARTER	0	14.31	14.31	2.52	1200	0%	1.51		
Th 3	12		TARTER	4.87	0.01	4.88	2.46	1200	100%	1.48		
Th 4	6		TARTER	2.83	0.01	2.84	2.11	1200	100%	1.27		
Th 5	4		TARTER	2.06	0.31	2.37	1.69	1200	87%	1.01		
Th 6	3		TARTER	1.44	0	1.44	2.08	1200	100%	1.25		
Th 7	0	not harvested, looks wet	TARTER					1200				
Th 8	1	(exclude from graphic; small acreage)	TARTER	0	0.19	0.19	5.26	1200		3.16		
Th 9	4		TARTER	1.15	0.53	1.68	2.38	1200	68%	1.43		
Th 10	7		TARTER	1.77	0	1.77	3.95	1200	100%	2.37		
Th 11	23		TARTER	0	12.09	12.09	1.90	1200	0%	1.14		
Th 12	4	adjust map to harvest	TARTER	1.36	0.35	1.71	2.34	1200	80%	1.40		
TOTAL	100			15.48	27.8	43.28	2.31	1200	36%	1.60	60	1.39



HOME CREEK

PARCEL	BALES	NOTES		AVF IN	ACRES OUT	TOTAL ACRES	BALES/ ACRE	BALE WEIGHT	PERCENT AVF	TONS/ ACRE	TOTAL TONS	TOTAL TONS/AC
H 1	101	adjust map to harvest (AVF portion not harvested)	TRUSLER	0	58.03	58.03	1.74	1400	0%	1.22	70.7	
H 2, H 3, H 4	204		STEVENS	8.72	164.39	173.11	1.18	1200	5%	0.71	122.4	

DENOTES 80% OR MORE IN AVF
DENOTES 80% OR MORE OUT OF AVF
DENOTES SIDE DRAINAGE INFLOW FIELDS

TABLE 4-9
OTTER CREEK MINE BASELINE REPORT 325A
HAY CROPLAND ACREAGE AND PROJECTED PRODUCTION CAPACITY BY OPERATOR

ACREAGE:

RANCH OPERATOR*	DRAINAGE																
	OTTER CREEK			TENMILE CREEK			THREEMILE CREEK			HOME CREEK			OTHER		TOTAL		
	Inside AVF	Outside AVF	Total	Inside AVF	Outside AVF	Total	Inside AVF	Outside AVF	Total	Inside AVF	Outside AVF	Total	SEC 31	SEC 3&4	Inside AVF	Outside AVF	Total
Denson	320.6	133.9	**454.4**	40.0	58.9	**98.9**							**81.5**	**138.3**	**360.5**	**192.8**	**773.1**
Gaskill	103.4	7.6	**111.0**				0.1	0.9							**103.5**	**8.5**	**111.0**
Snodgrass	53.5	50.2	**103.8**												**53.5**	**50.2**	**103.8**
Stevens	286.0	138.2	**424.2**							8.7	164.6	**173.3**			**294.7**	**302.7**	**597.5**
Tarter							17.0	27.8	**44.8**						**17.0**	**27.8**	**44.8**
Thomas	298.4	66.3	**364.7**												**298.4**	**66.3**	**364.7**
Trusler	670.7	172.6	**843.3**							10.0	101.5	**111.4**			**680.7**	**274.1**	**954.8**
Woods	162.5	152.3	**314.8**												**162.5**	**152.3**	**314.8**
TOTAL	1895.1	721.0	**2616.1**	40.0	58.9	**98.9**	17.2	28.7	**44.8**	18.7	266.0	**284.7**			**1970.9**	**1074.7**	**3264.3**

TONS PER ACRE:

	2014 OTTER CREEK AVERAGES			2014 TENMILE CREEK AVERAGE			2014 THREEMILE CREEK AVERAGE			INDIVIDUAL VALUES STEVENS & TRUSLER			TENMILE AND UPLAND AVG	
Denson	1.45	1.22		1.23	1.23								**1.23**	**0.55**
Gaskill	1.45	1.22					1.39	1.39						
Snodgrass	1.45	1.22												
Stevens	1.45	1.22								0.71	0.71			
Tarter							1.39	1.39						
Thomas	1.45	1.22												
Trusler	1.45	1.22								1.22	1.22			
Woods	1.45	1.22												

TOTAL PROJECTED PRODUCTION POTENTIAL - TONS:

RANCH OPERATOR*	OTTER CREEK			TENMILE CREEK			THREEMILE CREEK			HOME CREEK			OTHER		TOTAL		
	Inside AVF	Outside AVF	Total	Inside AVF	Outside AVF	Total	Inside AVF	Outside AVF	Total	Inside AVF	Outside AVF	Total	SEC 31	SEC 3&4	Inside AVF	Outside AVF	Total
Denson	465	163	**628**	49	72	**122**							**100**	**76**	**514**	**236**	**926**
Gaskill	150	9	**159**				0	1	**1**						**150**	**10**	**161**
Snodgrass	78	61	**139**												**78**	**61**	**139**
Stevens	415	169	**583**							6	117	**123**			**421**	**285**	**706**
Tarter							24	39	**62**						**24**	**39**	**62**
Thomas	433	81	**513**												**433**	**81**	**513**
Trusler	973	211	**1183**							12	124	**136**			**985**	**334**	**1319**
Woods	236	186	**421**												**236**	**186**	**421**
TOTAL	2748	880	**3627**	49	72	**122**	24	40	**64**	18	241	**259**	**100**	**76**	**2839**	**1233**	**4248**

*The party managing hay harvest in 2014, not necessarily the surface owner.

TABLE 5-1
OTTER CREEK MINE BASELINE REPORT 325A
OTTER CREEK PIEZOMETER SITE DATA SUMMARY - AUGUST, 2013

Hydro Piezo No.	Westech Veg/Soil No.	TOTAL DEPTH (FT)	GW DEPTH BGS (FT)	GW DEPTH BGS (IN)	CLIPPING TONS/AC	GW FIELD SC	GW LAB SC	ROOT FF (IN)	ROOT FF (FT)
AVF-7P4	T5S1	9	4.65	56	1.69	10420	10900	30	2.50
AVF-7P3	T5S2	11	4.46	54	1.81	8250	8580	30	2.50
AVF-7P1	T5S3	14	10.13	122	1.81	4450	4550	84	7.00
AVF-7P2	T5S4	16	10.97	132	1.12	4060		115	9.58
AVF-3P1	T6S1	14	9.33	113	2.68	5820		44	3.67
AVF-3P2	T6S2	12	5.06	61	1.99	9560	9920	38	3.17
AVF-3P3	T6S3	8	5.94	71	1.78	5720	6030	62	5.17
(NONE)	T6S4				1.91				
AVF-8P5	T7S1	14			1.61			62	5.17
AVF-8P4	T7S2	11	7.8	94	1.71	6600	6750	75	6.25
AVF-8P3	T7S3	11	7.04	84	3.06	5510	5680	82	6.83
AVF-8P1	T7S4	16			2.43			112	9.33
AVF-8P2	T7S5	16			2.41			64	5.33
AVF-4P3	T8S1	13	12.1	145	2.72			50	4.17
AVF-4P2	T8S2	9	5.72	69	2.55	6650	6980	54	4.50
AVF-4P1	T8S3	16	9.88	119	2.09	6070	6260	46	3.83

TABLE 5-2
OTTER CREEK MINE BASELINE REPORT 325A
OTTER CREEK ALLUVIUM MARCH-JUNE WATER BALANCE INPUTS AND OUTPUTS

INPUTS:

GROUNDWATER: (FROM BR 304E)	ALLUVIUM:	GPM	CFS	SW AC FT	WATER BALANCE AC FT
	OTTER CREEK (1)	207			
	TENMILE CREEK	92			
	THREEMILE CREEK	135			
	HOME CREEK	113			
	EAST FORK (2)	113			
	TOTAL ALLUVIUM	660	1.47		350
	OVERBURDEN (3)	0.2			
	KNOBLOCH COAL	130	0.29		69
TOTAL GROUNDWATER:					**419**

SURFACE WATER: (FROM BR 304E)	BASE FLOW:				
	OTTER CREEK		7		
	TENMILE CREEK		2		
	THREEMILE CREEK		0		
	HOME CREEK		0		
	EAST FORK (4)		0		
TOTAL SURFACE WATER			**9**	**2142**	

RAINFALL		INCHES (5)		ACRES			
		8		**3019**			**2013**
TOTAL INPUTS							**2432**

OUTOUTS:

GROUNDWATER:		OTTER CREEK (6)	414		0.92		220
SURFACE WATER:		**OTTER CREEK (7)**			**8.7**	**2071**	
POTENTIAL EVAPORATION:		**INCHES (8)**					
		12.4		**3019**			**3120**
TOTAL OUTPUTS							**3339**

WATER BALANCE	-908

NOTES: (1) RANGE IS 83-207 GPM. USE MAXIMUM.
(2) ESTIMATE; AVERAGE OF TENMILE, THREEMILE AND HOME CREEKS
(3) NOT MATERIAL
(4) UNKNOWN; ASSUME EPHEMERAL AS THREEMILE AND HOME CREEKS
(5) LONG-TERM FOUR MONTH AVERAGE AT SONNETTE
(6) ASSUME TWICE UPSTREAM VALUE DUE TO WIDER ALLUVIAL CROSS-SECTION
(7) FROM ASHLAND STATION MONTHLY AVERAGES
(8) ASSUME ONE THIRD OF WRI LONG TERM MAY-SEP AVERAGE OF 37.2 IN