



Sierrita Operations
Environment, Land & Water Department
6200 W Duval Mine Road
PO Box 527
Green Valley, AZ 85622-0527

March 21, 2017

Via Certified Mail # 7015 1520 0002 5365 8116
Return Receipt Requested

Nirupma Bhatia
Arizona Department of Environmental Quality
Water Quality Compliance Section
1110 West Washington Street
Phoenix, Arizona 85007-2935

Re: Mitigation Order on Consent Docket No. P-50-06
Reporting Year 2016 Mitigation Facilities Monitoring Report

Dear Ms. Bhatia:

In accordance with Section 5.1.1 of the Mitigation Plan¹, Freeport-McMoRan Sierrita Inc. (Sierrita) submits the enclosed *Mitigation Facilities Monitoring Report* for reporting year 2016.

Prior to March 2015, Sierrita has submitted this report annually under the title of *Well Field Operations Monitoring Report*, which Sierrita agreed to submit in the Mitigation Plan approval deferral letter sent to ADEQ on March 18, 2009².

Please do not hesitate to contact me at (520) 393-2347 if you have any questions regarding this submittal.

Sincerely,

Deborah Chismar
Sr. Environmental Specialist

DLC:dc
20170321_001

xc: Stuart Brown, Freeport-McMoRan Inc.
 Jim Norris, Clear Creek Associates

¹ Clear Creek Associates. 2013. Mitigation Plan for Sulfate with Respect to Drinking Water Supplies in the Vicinity of the Freeport-McMoRan Sierrita Inc. Tailing Impoundment, Mitigation Order on Consent Docket No. P-50-06. December 18, 2013.
² Correspondence from Chad D. Fretz, Sierrita, to Cynthia S. Campbell, ADEQ Water Quality Compliance Section, Re: Mitigation Order on Consent Docket No. P-50-06 - Mitigation Plan. March 18, 2010.

TECHNICAL MEMORANDUM REPORT



TO: Ms. Deborah Chismar
Senior Environmental Specialist
Freeport--McMoRan Sierrita Inc.
6200 West Duval Mine Road
Post Office Box 527
Green Valley, AZ 85622-0527

FROM: BasinWells Associates, PLLC

PREPARED BY: Buck Schmidt, Principal Hydrologist
BasinWells Associates, PLLC

REVIEWED BY: Martin J. Rex, R.G.,
BasinWells Associates, PLLC

DATE: March 20, 2017

PROJECT NO.: 16-007

SUBJECT: 2016 Freeport – McMoran-Sierrita Inc. - Mitigation Facilities Monitoring Report.

1.0 INTRODUCTION

This Mitigation Facilities Monitoring Report documents groundwater pumping for the Freeport-McMoRan Sierrita Inc. (Sierrita) Sulfate Mitigation Action Well Field (Well Field) under the *Mitigation Plan for Sulfate with Respect to Drinking Water Supplies in the Vicinity of the Freeport-McMoran Sierrita Inc. Tailing Impoundment, Mitigation Order on Consent, Docket No. P-50-06* (Clear Creek Associates PLC, 2013). This report describes wellfield and conveyance operational conditions for calendar year 2016 and consists of data for pumping system availability, well pumping rates, and total system pumping. The actual system pumping is compared to design specifications to assess the mitigation facilities with respect to their mechanical capacity to pump and convey the required volumes of water.

The Well Field consists of two major parts: the Interceptor Well Field and the Mitigation Well Field. The Interceptor Well Field currently consists of 26 active interceptor wells (IWs). The Mitigation Well Field consists of four plume stabilization (PS) wells, four mass capture (MC) wells, and six focused feasibility study (FFS) wells. The PS, MC, and FFS wells were installed between 2011 and 2013 with full operation occurring in early 2014. The locations of the wells of the Well Field are shown on Figure 1. Table 1

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[illegible]

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TABLE 1. SIERRITA SULFATE MITIGATION ACTION WELL FIELD CONSTRUCTION INFORMATION																
Well	Cadastral Location	ADWR Reg. No. (55-)	2014-2020 Performance Goal Pumping Rates (gpm)	Target Pumping Rates (gpm)	Well Depth (ft)	Well Dia. (in.)	Borehole Diameter (in.)	Casing Material	Upper Screen Depth (ft bls)	Lower Screen Depth (ft bls)	Pump Gallery?/Interval (ft bls)	Current Pump Setting (ft bls)	Filter Pack Material	Basinfill Alluvium Base Depth (ft bls)	Drill Year	Well Age
IW-1	D-18-13 29DCD	623129	250	250	855	14		STEEL	234	843	No	480	GRAVEL	760	1978	38.6
IW-2A	D-18-13 28CCC	216464	300	300	1051	14	20	STEEL	350	1031	600-640	620	GRAVEL	1020	2008	9.0
IW-3A	D-18-13 28CBC	201732	500	500	1052	14	20	STEEL	400	1030	No	540	GRAVEL	820	2004	13.1
IW-8	D-18-13 28BCC	508236	350	350	783	14	20	STEEL	382	783	No	540	GRAVEL	759	1984	32.6
IW-9	D-18-13 28BCC	508238	200	200	853	14	20	STEEL	412	853	No	605	GRAVEL	740	1984	32.6
IW-4	D-18-13 28BCB	623132	40	40	946	14		STEEL	312	946	No	600	GRAVEL	490	1978	38.6
IW-24	D-18-13 28BBB	200556	50	50	884	14	20	STEEL	348	860	No	602	GRAVEL	410	2004	13.1
IW-5A	D-18-13 28BBB	219131	40	40	900	14.5	20	STAINLESS STEEL	382	890	620-640	630	TACNA	436	2010	6.8
IW-23	D-18-13 21CCB	200555	120	120	964	14	20	STEEL	375	935	No	550	TACNA	420	2004	13.1
IW-10	D-18-13 21CBC	508237	250	250	831	14	20	STEEL	420	831	No	600	GRAVEL	730	1984	32.5
IW-22	D-18-13 21CBC	200554	300	300	590	14	20	STEEL	359	560	No	550	GRAVEL	550	2004	13.1
IW-11	D-18-13 21CBC	508235	325	325	605	14	20	STEEL	371	605	No	500	GRAVEL	563	1984	32.5
IW-6A	D-18-13 21BCC	545565	80	80	497	12	20	STEEL	356	456	No	460	GRAVEL	456	1994	22.2
IW-12	D-18-13 21BCB	545555	125	125	600	12	20	STEEL	358	560	No	560	GRAVEL	498	1994	22.2
IW-13	D-18-13 21BBC	545556	0	0	497	12	20	STEEL	355	456	No	460	GRAVEL	452	1994	22.2
IW-14	D-18-13 21BBB	545557	60	60	549	12	20	STEEL	357	508	No	520	GRAVEL	509	1994	22.2
IW-15	D-18-13 16CCC	545558	40	40	547	12	20	STEEL	357	506	No	505	GRAVEL	507	1995	22.1
IW-19	D-18-13 16BCC	545562	150	150	540	12	20	STEEL	379	499	No	522	GRAVEL	498	1995	22.1
IW-20	D-18-13 16BCB	545563	0	0	502	12	20	STEEL	380	460	No	460	GRAVEL	470	1995	22.1
IW-21	D-18-13 16BBC	545564	100	100	601	12	20	STEEL	400	560	No	520	GRAVEL	520	1995	22.1
IW-25	D-18-13 28CBD	219596	400	400	782	16	24	STAINLESS STEEL	359	720	No	732	SILICA SAND	475	2010	6.3
IW-26	D-18-13 28BCD	219143	350	350	780	16	24	STAINLESS STEEL	340	720	No	732	SILICA SAND	475	2010	6.3
IW-27	D-18-13 28BBD	219136	100	100	720	14	22	STAINLESS STEEL	380	660	No	672	SILICA SAND	465	2010	6.3
IW-28	D-18-13 21CCA	219137	400	400	760	16	24	STAINLESS STEEL	380	700	No	712	SILICA SAND	680	2010	6.3
IW-29	D-18-13 21CDA	222865	-	-	770	16.62	24	STAINLESS STEEL	440	730	No		SILICA SAND	730	2014	2.9
PS-1	D-18-13 03BBA	220861	700	700	1020	16.62	24	HSLA	560	980	640-680	890	SILICA SAND	914	2011	5.2
PS-2	D-17-13 34CDC	220862	800	800	1130	16.62	24	HSLA	560	1090	640-680	870	SILICA SAND	1090	2012	4.8
PS-3	D-17-13 34CDD	220863	800	800	1200	16.62	24	HSLA	520	1160	600-640		SILICA SAND	1160	2012	4.8
PS-4	D-18-13 03BCA	220864	1000	1000	1060	16.62	24	HSLA	560	1020	640-680	893	SILICA SAND	1020	2012	4.7
MC-1	D-18-13 16DAA	221660	0	900	915	16.62	24	HSLA	479	875	599-639	824	SILICA SAND	875	2013	3.8
MC-2	D-18-13 10CCB	221761	0	700	980	16.62	24	HSLA	479	940	600-640	855	SILICA SAND	940	2013	4.0
MC-3	D-18-13 09AAA	221661	750	600	870	16.62	24	HSLA	530	810	No	830	SILICA SAND	810	2012	4.3
MC-4	D-18-13 04DDC	220842	600	600	830	16.62	24	HSLA	560	770	No	810	SILICA SAND	770	2012	4.6
FFS-1	D-18-13 21ABC	221662	338	800	790	16.62	24	HSLA	448	729	No	753	SILICA SAND	730	2013	4.0
FFS-2	D-18-13 16DCA	221663	300	700	750	16.62	24	HSLA	470	690	No	703	SILICA SAND	680	2013	3.9
FFS-3	D-18-13 16ACD	221664	225	400	800	16.62	24	HSLA	510	740	No	762	SILICA SAND	736	2013	4.1
FFS-4	D-18-13 16ABA	221665	150	200	871	16.62	24	HSLA	540	830	640-680	788	SILICA SAND	830	2012	4.2
FFS-5	D-18-13 09DBA	221666	225	1000	800	16.62	24	HSLA	569	739	No	775	SILICA SAND	740	2012	4.2
FFS-6	D-18-13 09ACA	221667	225	600	830	16.62	24	HSLA	528	769	No	750	SILICA SAND	770	2012	4.3

Notes: ft bls = feet below land surface; in. = inches; HSLA = High Strength Low Alloy Steel

2.0 WELL FIELD OPERATIONS

Total groundwater withdrawals in 2016 of the Well Field are tabulated on Table 2. The well field withdrew approximately 17,095 acre-feet (AF) of groundwater in 2016 (average pumping rate of 10,599 gpm).

TABLE 2. 2016 SIERRITA SULFATE MITIGATION ACTION WELL FIELD TOTAL GROUNDWATER WITHDRAWAL	
Total Gallons Pumped:	5,570,912,954
Total Acre-Feet Pumped:	17,095

The Well Field, in total, produced approximately 99.6 percent of the performance goals with respect to potential total groundwater withdrawal considering the 2014-2020 performance goal rates (Table 1) at a 100% duty cycle (total pumping rate of 10,643 gpm or 17,166 AF).

The Well Field, in total, produced approximately 74 percent of the target goals with respect to potential total groundwater withdrawal considering the target goal rates (Table 1) at a 100% duty cycle (total pumping rate of 14,330 gpm or 23,113 AF).

Well performance in 2016 on a well by well basis is tabulated in Attachment A. Run time percentages of the Interceptor Well Field wells ranged from 7.1 to 71.4 percent when active. Run time percentages of the Mitigation Well Field wells ranged from 83.3 to 96.7 percent. IW-5A, IW-13 and IW-20 have zero to limited runtime percentage in 2016 due to low flow conditions and considered for inactivation. (See Table 1. Both IW-13 and IW-20 have target and performance goals of 0 gpm.) IW-6A, IW-9 and IW-23 have zero runtime percentages in 2016 due to pump equipment issues.

Shutdown of wells was required due the following:

- As needed well and transmission line maintenance activities,
- Perform non-pumping monitoring activities,
- Exceedance of storage capacity of the Mill Reservoir.

Well field data plots including a well construction diagram; static and pumping water levels; yield rates; calculated specific capacity; sulfate concentrations; static saturated thickness of basin fill alluvium; and annotated descriptions of maintenance activities from 2007 to 2017 are included in Attachment B.

3.0 SUMMARY OF WELL MAINTENANCE ACTIVITIES

Summary of well and pump maintenance activities performed in 2016 are tabulated on Table 3 below. All maintenance activities were performed following collection and evaluation of maintenance monitoring parameters as described in the *Sulfate Mitigation Action Well Field (Well Field) Operation and Maintenance Plan* (BasinWells, 2013).

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TABLE 3. 2016 SIERRITA MITIGATION ACTION WELL FIELD SUMMARY OF WELL AND PUMP MAINTENANCE ACTIVITIES

Well	Approx. Dates Off Line for Maintenance	Maintenance Activities
IW-3A	10/2016-12/2016	Pump failure/ pending replacement
IW-28	-	Replaced motor 8/2016/down 1 day
IW-29	1/2016-2/2016; 2/2016-5/2016; 6/2016-8/2016	Repeated pump failures/rebuilt & replaced
PS-3	11/2016-12/2016	Replaced motor 5/2016/down 1 day; Upgrade pump
PS-4	-	Replaced motor 3/2016/down 1 day
MC-3	-	Replaced motor 8/2016/down 1 day
FFS-1	4/2016	Check valve stuck/down for 7 days
FFS-5	-	Replaced motor 6/2016/down 1 day

4.0 FUTURE MAINTENANCE ACTIVITIES

Future maintenance activities will continue to adhere to activities and frequencies as described in *Sulfate Mitigation Action Well Field (Well Field) Operation and Maintenance Plan* (BasinWells, 2013). All maintenance activities to be performed following collection and evaluation of maintenance monitoring parameters.

Pump equipment in IW-6A and IW-9 have downhole pump issues and will be evaluated and refurbished in 2017. IW-23 shut down at low flow and will be evaluated in 2017.

5.0 REFERENCES

BasinWells Associates, PLLC, *Freeport-McMoran Sierrita Inc., Sulfate Mitigation Action Well Field (Well Field) Operation and Maintenance Plan*, December 31, 2013.

Clear Creek Associates, PLC, *Mitigation Plan For Sulfate With Respect to Drinking Water Supplies in the Vicinity of the Freeport-McMoran Sierrita Inc. Tailing Impoundment, Mitigation Order on Consent, Docket No. P-50-06*, December 18, 2013.

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ATTACHMENT A

SIERRITA SULFATE MITIGATION ACTION WELL FIELD PERFORMANCE SUMMARY

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**ATTACHMENT A.
SUMMARY OF 2016 INTERCEPTOR WELL PERFORMANCE
FREEPORT MCMORAN SIERRITA, INC.**

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-1	Jan	9,584,063	507	29.4	315
	Feb	3,853,875	204	11.8	315
	Mar	6,558,125	347	20.1	315
	Apr	10,389,000	550	31.9	315
	May	9,274,813	491	28.5	315
	Jun	12,115,188	641	37.2	315
	Jul	10,367,000	549	31.8	315
	Aug	10,588,000	560	32.5	315
	Sep	5,658,000	299	17.4	315
	Oct	10,424,313	552	32.0	315
	Nov	6,677,875	353	20.5	315
	Dec	11,516,813	609	35.3	315

IW-1 Total Gallons Pumped:	107,007,063
IW-1 Total Acre-Feet Pumped:	328
IW-1 Average Yield Rate (gpm):	315
IW-1 % Run Time:	64.5%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-2A	Jan	8,096,438	577	24.8	234
	Feb	3,233,688	230	9.9	234
	Mar	5,527,313	394	17.0	234
	Apr	8,611,000	613	26.4	234
	May	7,496,750	534	23.0	234
	Jun	9,345,000	666	28.7	234
	Jul	7,892,250	562	24.2	234
	Aug	7,886,000	562	24.2	234
	Sep	4,273,000	304	13.1	234
	Oct	7,692,688	548	23.6	234
	Nov	6,427,625	458	19.7	234
	Dec	1,186,688	85	3.6	234

IW-2A Total Gallons Pumped:	77,668,438
IW-2A Total Acre-Feet Pumped:	238
IW-2A Average Yield Rate (gpm):	234
IW-2A % Run Time:	63.0%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-3A	Jan	14,181,625	559	43.5	423
	Feb	1,663,000	66	5.1	423
	Mar	2,000	0	0.0	423
	Apr	3,000	0	0.0	423
	May	1,000	0	0.0	423
	Jun	0	0	0.0	0
	Jul	0	0	0.0	0
	Aug	0	0	0.0	0
	Sep	0	0	0.0	0
	Oct	0	0	0.0	0
	Nov	0	0	0.0	0
	Dec	0	0	0.0	0

IW-3A Total Gallons Pumped:	15,850,625
IW-3A Total Acre-Feet Pumped:	49
IW-3A Average Yield Rate (gpm):	423
IW-3A % Run Time:	7.1%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-8	Jan	10,241,969	485	31.4	352
	Feb	4,304,844	204	13.2	352
	Mar	7,351,156	348	22.6	352
	Apr	11,825,000	560	36.3	352
	May	10,688,813	506	32.8	352
	Jun	13,898,969	658	42.7	352
	Jul	11,799,219	559	36.2	352
	Aug	11,942,000	565	36.6	352
	Sep	6,267,000	297	19.2	352
	Oct	11,581,250	548	35.5	352
	Nov	1,263,750	60	3.9	352
	Dec	0	0	0.0	0

IW-8 Total Gallons Pumped:	101,163,969
IW-8 Total Acre-Feet Pumped:	310
IW-8 Average Yield Rate (gpm):	352
IW-8 % Run Time:	54.5%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-9	Jan	0	0	0.0	0
	Feb	0	0	0.0	0
	Mar	0	0	0.0	0
	Apr	0	0	0.0	0
	May	0	0	0.0	0
	Jun	0	0	0.0	0
	Jul	0	0	0.0	0
	Aug	0	0	0.0	0
	Sep	0	0	0.0	0
	Oct	0	0	0.0	0
	Nov	0	0	0.0	0
	Dec	0	0	0.0	0

IW-9 Total Gallons Pumped:	0
IW-9 Total Acre-Feet Pumped:	0
IW-9 Average Yield Rate (gpm):	0
IW-9 % Run Time:	0.0%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-4	Jan	4,248,867	558	13.0	127
	Feb	1,676,969	220	5.1	127
	Mar	2,890,031	379	8.9	127
	Apr	1,651,000	217	5.1	127
	May	1,387,000	182	4.3	127
	Jun	682,641	90	2.1	127
	Jul	728,359	96	2.2	127
	Aug	1,033,000	136	3.2	127
	Sep	217,000	28	0.7	127
	Oct	1,619,000	212	5.0	127
	Nov	1,196,000	157	3.7	127
	Dec	0	0	0.0	0

IW-4 Total Gallons Pumped:	17,329,867
IW-4 Total Acre-Feet Pumped:	53
IW-4 Average Yield Rate (gpm):	127
IW-4 % Run Time:	25.9%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-24	Jan	3,779,629	481	11.6	131
	Feb	2,667,859	339	8.2	131
	Mar	2,520,066	321	7.7	131
	Apr	4,078,000	519	12.5	131
	May	4,058,770	516	12.5	131
	Jun	5,150,723	655	15.8	131
	Jul	3,956,508	503	12.1	131
	Aug	4,630,266	589	14.2	131
	Sep	2,571,734	327	7.9	131
	Oct	4,480,984	570	13.8	131
	Nov	4,087,023	520	12.5	131
	Dec	5,229,992	665	16.0	131

IW-24 Total Gallons Pumped:	47,211,555
IW-24 Total Acre-Feet Pumped:	145
IW-24 Average Yield Rate (gpm):	131
IW-24 % Run Time:	68.4%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-5A	Jan	0	0	0.0	0
	Feb	0	0	0.0	0
	Mar	0	0	0.0	0
	Apr	0	0	0.0	0
	May	0	0	0.0	0
	Jun	0	0	0.0	0
	Jul	0	0	0.0	0
	Aug	0	0	0.0	0
	Sep	0	0	0.0	0
	Oct	0	0	0.0	0
	Nov	0	0	0.0	0
	Dec	0	0	0.0	0

IW-5A Total Gallons Pumped:	0
IW-5A Total Acre-Feet Pumped:	0
IW-5A Average Yield Rate (gpm):	0
IW-5A % Run Time:	0.0%

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**ATTACHMENT A.
SUMMARY OF 2016 INTERCEPTOR WELL PERFORMANCE
FREEPORT MCMORAN SIERRITA, INC.**

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-23	Jan	0	0	0.0	0
	Feb	0	0	0.0	0
	Mar	0	0	0.0	0
	Apr	0	0	0.0	0
	May	0	0	0.0	0
	Jun	0	0	0.0	0
	Jul	0	0	0.0	0
	Aug	0	0	0.0	0
	Sep	0	0	0.0	0
	Oct	0	0	0.0	0
	Nov	0	0	0.0	0
	Dec	0	0	0.0	0

IW-23 Total Gallons Pumped:	0
IW-23 Total Acre-Feet Pumped:	0
IW-23 Average Yield Rate (gpm):	0
IW-23 % Run Time:	0.0%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-10	Jan	3,465,656	199	10.6	290
	Feb	3,558,750	205	10.9	290
	Mar	1,990,250	114	6.1	290
	Apr	0	0	0.0	0
	May	0	0	0.0	0
	Jun	0	0	0.0	0
	Jul	0	0	0.0	0
	Aug	1,788,500	103	5.5	290
	Sep	2,304,500	132	7.1	290
	Oct	4,859,047	279	14.9	290
	Nov	4,972,859	286	15.3	290
	Dec	8,016,156	461	24.6	290

IW-10 Total Gallons Pumped:	30,955,719
IW-10 Total Acre-Feet Pumped:	95
IW-10 Average Yield Rate (gpm):	290
IW-10 % Run Time:	20.3%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-22	Jan	11,073,188	533	34.0	346
	Feb	7,559,188	364	23.2	346
	Mar	7,030,188	339	21.6	346
	Apr	10,817,000	521	33.2	346
	May	10,840,063	522	33.3	346
	Jun	13,802,500	665	42.4	346
	Jul	10,651,438	513	32.7	346
	Aug	6,972,875	336	21.4	346
	Sep	6,261,125	302	19.2	346
	Oct	9,774,000	471	30.0	346
	Nov	8,503,750	410	26.1	346
	Dec	11,812,250	569	36.2	346

IW-22 Total Gallons Pumped:	115,097,563
IW-22 Total Acre-Feet Pumped:	353
IW-22 Average Yield Rate (gpm):	346
IW-22 % Run Time:	63.1%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-11	Jan	8,286,531	424	25.4	326
	Feb	4,689,406	240	14.4	326
	Mar	6,073,594	311	18.6	326
	Apr	8,715,000	446	26.7	326
	May	0	0	0.0	0
	Jun	0	0	0.0	0
	Jul	0	0	0.0	0
	Aug	4,384,813	224	13.5	326
	Sep	5,857,188	299	18.0	326
	Oct	9,846,875	503	30.2	326
	Nov	8,462,875	433	26.0	326
	Dec	10,348,250	529	31.8	326

IW-11 Total Gallons Pumped:	66,664,531
IW-11 Total Acre-Feet Pumped:	205
IW-11 Average Yield Rate (gpm):	326
IW-11 % Run Time:	38.8%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-6A	Jan	0	0	0.0	0
	Feb	0	0	0.0	0
	Mar	0	0	0.0	0
	Apr	0	0	0.0	0
	May	0	0	0.0	0
	Jun	0	0	0.0	0
	Jul	0	0	0.0	0
	Aug	0	0	0.0	0
	Sep	0	0	0.0	0
	Oct	0	0	0.0	0
	Nov	0	0	0.0	0
	Dec	0	0	0.0	0

IW-6A Total Gallons Pumped:	0
IW-6A Total Acre-Feet Pumped:	0
IW-6A Average Yield Rate (gpm):	0
IW-6A % Run Time:	0.0%

Well	Month	Gallons Pumped*	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-12	Jan	3,758,514	467	11.5	134
	Feb	2,049,034	255	6.3	134
	Mar	2,569,147	320	7.9	134
	Apr	4,215,691	524	12.9	134
	May	3,811,203	474	11.7	134
	Jun	5,035,046	626	15.5	134
	Jul	4,307,254	536	13.2	134
	Aug	4,358,036	542	13.4	134
	Sep	2,493,341	310	7.7	134
	Oct	4,235,337	527	13.0	134
	Nov	3,706,415	461	11.4	134
	Dec	4,562,982	568	14.0	134

* Totalizer miscalibrated. Gallons pumped est. based in 2015 proportional values.

IW-12 Total Gallons Pumped:	45,102,000
IW-12 Total Acre-Feet Pumped:	138
IW-12 Average Yield Rate (gpm):	134
IW-12 % Run Time:	63.9%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-13	Jan	0	0	0.0	0
	Feb	0	0	0.0	0
	Mar	0	0	0.0	0
	Apr	0	0	0.0	0
	May	0	0	0.0	0
	Jun	0	0	0.0	0
	Jul	0	0	0.0	0
	Aug	0	0	0.0	0
	Sep	0	0	0.0	0
	Oct	0	0	0.0	0
	Nov	0	0	0.0	0
	Dec	0	0	0.0	0

IW-13 Total Gallons Pumped:	0
IW-13 Total Acre-Feet Pumped:	0
IW-13 Average Yield Rate (gpm):	0
IW-13 % Run Time:	0.0%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-14	Jan	1,555,359	518	4.8	50
	Feb	1,150,000	383	3.5	50
	Mar	1,155,000	385	3.5	50
	Apr	1,797,000	599	5.5	50
	May	1,690,000	563	5.2	50
	Jun	92,000	31	0.3	50
	Jul	0	0	0.0	0
	Aug	0	0	0.0	0
	Sep	0	0	0.0	0
	Oct	0	0	0.0	0
	Nov	0	0	0.0	0
	Dec	0	0	0.0	0

IW-14 Total Gallons Pumped:	7,439,359
IW-14 Total Acre-Feet Pumped:	23
IW-14 Average Yield Rate (gpm):	50
IW-14 % Run Time:	28.2%

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Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-15	Jan	938,696	356	2.9	44
	Feb	792,000	300	2.4	44
	Mar	769,000	291	2.4	44
	Apr	984,000	373	3.0	44
	May	1,046,000	396	3.2	44
	Jun	1,301,713	493	4.0	44
	Jul	1,166,287	442	3.6	44
	Aug	1,185,000	449	3.6	44
	Sep	718,000	272	2.2	44
	Oct	1,225,000	464	3.8	44
	Nov	865,000	328	2.7	44
	Dec	1,329,000	503	4.1	44

IW-15 Total Gallons Pumped:	12,319,696
IW-15 Total Acre-Feet Pumped:	38
IW-15 Average Yield Rate (gpm):	44
IW-15 % Run Time:	53.1%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-19	Jan	4,090,484	431	12.6	158
	Feb	3,148,305	332	9.7	158
	Mar	2,169,695	229	6.7	158
	Apr	2,911,000	307	8.9	158
	May	1,311,922	138	4.0	158
	Jun	2,464,531	260	7.6	158
	Jul	2,935,547	310	9.0	158
	Aug	495,000	52	1.5	158
	Sep	788,000	83	2.4	158
	Oct	4,190,953	442	12.9	158
	Nov	4,270,266	450	13.1	158
	Dec	5,321,781	561	16.3	158

IW-19 Total Gallons Pumped:	34,097,484
IW-19 Total Acre-Feet Pumped:	105
IW-19 Average Yield Rate (gpm):	158
IW-19 % Run Time:	40.9%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-20	Jan	0	0	0.0	0
	Feb	0	0	0.0	0
	Mar	0	0	0.0	0
	Apr	0	0	0.0	0
	May	0	0	0.0	0
	Jun	0	0	0.0	0
	Jul	0	0	0.0	0
	Aug	0	0	0.0	0
	Sep	0	0	0.0	0
	Oct	0	0	0.0	0
	Nov	0	0	0.0	0
	Dec	0	0	0.0	0

IW-20 Total Gallons Pumped:	0
IW-20 Total Acre-Feet Pumped:	0
IW-20 Average Yield Rate (gpm):	0
IW-20 % Run Time:	0.0%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-21	Jan	4,946,438	569	15.2	145
	Feb	3,314,578	381	10.2	145
	Mar	3,054,125	351	9.4	145
	Apr	4,517,000	519	13.9	145
	May	4,451,078	512	13.7	145
	Jun	5,450,344	626	16.7	145
	Jul	4,282,578	492	13.1	145
	Aug	4,807,563	553	14.8	145
	Sep	1,090,438	125	3.3	145
	Oct	0	0	0.0	0
	Nov	0	0	0.0	0
	Dec	0	0	0.0	0

IW-21 Total Gallons Pumped:	35,914,141
IW-21 Total Acre-Feet Pumped:	110
IW-21 Average Yield Rate (gpm):	145
IW-21 % Run Time:	47.0%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-25	Jan	16,960,313	598	52.0	473
	Feb	10,703,813	377	32.8	473
	Mar	9,897,125	349	30.4	473
	Apr	14,989,000	528	46.0	473
	May	13,997,250	493	43.0	473
	Jun	18,233,063	642	56.0	473
	Jul	15,468,688	545	47.5	473
	Aug	11,238,750	396	34.5	473
	Sep	9,018,250	318	27.7	473
	Oct	14,916,625	526	45.8	473
	Nov	12,729,188	449	39.1	473
	Dec	16,862,188	594	51.7	473

IW-25 Total Gallons Pumped:	165,014,250
IW-25 Total Acre-Feet Pumped:	506
IW-25 Average Yield Rate (gpm):	473
IW-25 % Run Time:	66.2%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-26	Jan	9,450,594	638	29.0	247
	Feb	5,854,938	395	18.0	247
	Mar	5,115,406	345	15.7	247
	Apr	8,017,000	541	24.6	247
	May	7,017,375	474	21.5	247
	Jun	9,749,656	658	29.9	247
	Jul	8,242,969	556	25.3	247
	Aug	8,487,625	573	26.0	247
	Sep	4,738,375	320	14.5	247
	Oct	7,874,281	531	24.2	247
	Nov	6,731,719	454	20.7	247
	Dec	8,902,000	601	27.3	247

IW-26 Total Gallons Pumped:	90,181,938
IW-26 Total Acre-Feet Pumped:	277
IW-26 Average Yield Rate (gpm):	247
IW-26 % Run Time:	69.3%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-27	Jan	8,639,125	550	26.5	262
	Feb	5,793,844	369	17.8	262
	Mar	5,919,063	377	18.2	262
	Apr	8,716,000	554	26.7	262
	May	7,965,484	507	24.4	262
	Jun	10,618,578	675	32.6	262
	Jul	7,676,938	488	23.6	262
	Aug	8,765,063	558	26.9	262
	Sep	5,320,938	338	16.3	262
	Oct	8,744,781	556	26.8	262
	Nov	8,139,641	518	25.0	262
	Dec	9,753,578	620	29.9	262

IW-27 Total Gallons Pumped:	96,053,031
IW-27 Total Acre-Feet Pumped:	295
IW-27 Average Yield Rate (gpm):	262
IW-27 % Run Time:	69.6%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-28	Jan	11,145,125	720	34.2	258
	Feb	7,670,625	496	23.5	258
	Mar	5,500,500	355	16.9	258
	Apr	8,334,000	538	25.6	258
	May	7,587,438	490	23.3	258
	Jun	10,230,438	661	31.4	258
	Jul	7,726,125	499	23.7	258
	Aug	8,549,938	552	26.2	258
	Sep	4,982,063	322	15.3	258
	Oct	8,256,063	533	25.3	258
	Nov	7,993,938	516	24.5	258
	Dec	9,074,000	586	27.8	258

IW-28 Total Gallons Pumped:	97,050,250
IW-28 Total Acre-Feet Pumped:	298
IW-28 Average Yield Rate (gpm):	258
IW-28 % Run Time:	71.4%

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Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
IW-29	Jan	0	0	0.0	0
	Feb	15,287,594	493	46.9	517
	Mar	17,120,406	552	52.5	517
	Apr	10,204,719	329	31.3	517
	May	5,366,281	173	16.5	517
	Jun	0	0	0.0	0
	Jul	4,449,000	143	13.7	517
	Aug	3,885,000	125	11.9	517
	Sep	12,728,656	410	39.1	517
	Oct	20,366,906	657	62.5	517
	Nov	19,826,531	639	60.8	517
	Dec	22,606,344	729	69.4	517

IW-29 Total Gallons Pumped:	131,841,438
IW-29 Total Acre-Feet Pumped:	405
IW-29 Average Yield Rate (gpm):	517
IW-29 % Run Time:	48.4%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
PS-1	Jan	24,523,063	670	75.3	610
	Feb	25,525,563	697	78.3	610
	Mar	27,337,688	747	83.9	610
	Apr	26,329,438	719	80.8	610
	May	24,854,938	679	76.3	610
	Jun	26,333,625	719	80.8	610
	Jul	26,283,000	718	80.7	610
	Aug	25,593,063	699	78.5	610
	Sep	25,575,250	699	78.5	610
	Oct	26,498,875	724	81.3	610
	Nov	25,303,813	691	77.6	610
	Dec	26,658,375	728	81.8	610

PS-1 Total Gallons Pumped:	310,816,688
PS-1 Total Acre-Feet Pumped:	954
PS-1 Average Yield Rate (gpm):	610
PS-1 % Run Time:	96.7%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
PS-2	Jan	23,239,406	666	71.3	582
	Feb	24,163,719	692	74.2	582
	Mar	25,642,125	734	78.7	582
	Apr	24,389,906	698	74.8	582
	May	23,215,500	665	71.2	582
	Jun	24,462,250	701	75.1	582
	Jul	24,441,625	700	75.0	582
	Aug	24,414,750	699	74.9	582
	Sep	24,478,563	701	75.1	582
	Oct	25,426,313	728	78.0	582
	Nov	24,252,750	695	74.4	582
	Dec	25,650,188	735	78.7	582

PS-2 Total Gallons Pumped:	293,777,094
PS-2 Total Acre-Feet Pumped:	902
PS-2 Average Yield Rate (gpm):	582
PS-2 % Run Time:	95.8%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
PS-3	Jan	23,856,906	674	73.2	590
	Feb	24,680,031	697	75.7	590
	Mar	26,375,063	745	80.9	590
	Apr	25,323,813	715	77.7	590
	May	20,483,375	579	62.9	590
	Jun	24,489,688	692	75.2	590
	Jul	25,387,375	717	77.9	590
	Aug	25,569,750	722	78.5	590
	Sep	24,568,000	694	75.4	590
	Oct	25,473,813	720	78.2	590
	Nov	12,733,438	360	39.1	590
	Dec	0	0	0.0	0

PS-3 Total Gallons Pumped:	258,941,250
PS-3 Total Acre-Feet Pumped:	795
PS-3 Average Yield Rate (gpm):	590
PS-3 % Run Time:	83.3%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
PS-4	Jan	30,437,438	658	93.4	771
	Feb	31,819,563	688	97.6	771
	Mar	34,272,563	741	105.2	771
	Apr	33,101,500	716	101.6	771
	May	31,172,875	674	95.7	771
	Jun	28,721,313	621	88.1	771
	Jul	33,371,250	721	102.4	771
	Aug	33,694,438	728	103.4	771
	Sep	32,521,500	703	99.8	771
	Oct	29,780,063	644	91.4	771
	Nov	24,385,250	527	74.8	771
	Dec	33,898,500	733	104.0	771

PS-4 Total Gallons Pumped:	377,176,250
PS-4 Total Acre-Feet Pumped:	1157
PS-4 Average Yield Rate (gpm):	771
PS-4 % Run Time:	92.8%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
MC-1	Jan	31,489,125	590	96.6	890
	Feb	37,075,688	694	113.8	890
	Mar	39,596,063	741	121.5	890
	Apr	38,218,938	716	117.3	890
	May	36,031,938	675	110.6	890
	Jun	38,060,563	713	116.8	890
	Jul	38,035,500	712	116.7	890
	Aug	38,509,250	721	118.2	890
	Sep	37,325,500	699	114.5	890
	Oct	38,578,000	722	118.4	890
	Nov	34,169,813	640	104.9	890
	Dec	38,346,563	718	117.7	890

MC-1 Total Gallons Pumped:	445,436,938
MC-1 Total Acre-Feet Pumped:	1367
MC-1 Average Yield Rate (gpm):	890
MC-1 % Run Time:	95.0%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
MC-2	Jan	21,893,406	584	67.2	625
	Feb	26,086,063	696	80.0	625
	Mar	27,673,094	738	84.9	625
	Apr	26,714,594	712	82.0	625
	May	25,322,094	675	77.7	625
	Jun	25,975,375	693	79.7	625
	Jul	26,653,313	711	81.8	625
	Aug	26,506,719	707	81.3	625
	Sep	25,848,313	689	79.3	625
	Oct	26,845,844	716	82.4	625
	Nov	25,315,813	675	77.7	625
	Dec	26,643,813	711	81.8	625

MC-2 Total Gallons Pumped:	311,478,438
MC-2 Total Acre-Feet Pumped:	956
MC-2 Average Yield Rate (gpm):	625
MC-2 % Run Time:	94.6%

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Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)	Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
MC-3	Jan	19,497,531	596	59.8	545	MC-4	Jan	19,514,469	597	59.9	545
	Feb	22,794,281	697	69.9	545		Feb	22,755,875	696	69.8	545
	Mar	24,266,219	742	74.5	545		Mar	24,302,313	743	74.6	545
	Apr	23,384,375	715	71.8	545		Apr	23,447,375	717	72.0	545
	May	21,891,469	669	67.2	545		May	21,282,125	651	65.3	545
	Jun	23,300,688	713	71.5	545		Jun	23,224,313	710	71.3	545
	Jul	23,391,813	715	71.8	545		Jul	23,164,938	708	71.1	545
	Aug	23,376,688	715	71.7	545		Aug	23,129,625	707	71.0	545
	Sep	22,321,688	683	68.5	545		Sep	22,233,000	680	68.2	545
	Oct	22,835,625	698	70.1	545		Oct	22,813,250	698	70.0	545
	Nov	22,006,063	673	67.5	545		Nov	21,977,375	672	67.4	545
	Dec	23,047,188	705	70.7	545		Dec	22,924,438	701	70.3	545

MC-3 Total Gallons Pumped:	272,113,625
MC-3 Total Acre-Feet Pumped:	835
MC-3 Average Yield Rate (gpm):	545
MC-3 % Run Time:	94.7%

MC-4 Total Gallons Pumped:	270,769,094
MC-4 Total Acre-Feet Pumped:	831
MC-4 Average Yield Rate (gpm):	545
MC-4 % Run Time:	94.3%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)	Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
FFS-1	Jan	31,393,188	588	96.3	890	FFS-2	Jan	34,814,125	659	106.8	880
	Feb	37,071,375	694	113.8	890		Feb	24,802,688	470	76.1	880
	Mar	38,963,188	730	119.6	890		Mar	38,089,500	721	116.9	880
	Apr	27,527,063	515	84.5	890		Apr	38,100,500	722	116.9	880
	May	31,679,313	593	97.2	890		May	33,012,688	625	101.3	880
	Jun	37,278,438	698	114.4	890		Jun	37,847,813	717	116.1	880
	Jul	36,543,438	684	112.1	890		Jul	34,858,813	660	107.0	880
	Aug	37,230,063	697	114.2	890		Aug	29,039,000	550	89.1	880
	Sep	34,791,375	652	106.8	890		Sep	30,820,000	584	94.6	880
	Oct	37,205,813	697	114.2	890		Oct	36,020,000	682	110.5	880
	Nov	32,391,125	607	99.4	890		Nov	30,491,375	577	93.6	880
	Dec	36,859,875	690	113.1	890		Dec	35,473,250	672	108.9	880

FFS-1 Total Gallons Pumped:	418,934,250
FFS-1 Total Acre-Feet Pumped:	1286
FFS-1 Average Yield Rate (gpm):	890
FFS-1 % Run Time:	89.3%

FFS-2 Total Gallons Pumped:	403,369,750
FFS-2 Total Acre-Feet Pumped:	1238
FFS-2 Average Yield Rate (gpm):	880
FFS-2 % Run Time:	87.0%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)	Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
FFS-3	Jan	10,099,992	679	31.0	248	FFS-4	Jan	5,828,844	694	17.9	140
	Feb	7,159,266	481	22.0	248		Feb	5,826,469	694	17.9	140
	Mar	10,886,578	732	33.4	248		Mar	6,062,766	722	18.6	140
	Apr	10,696,641	719	32.8	248		Apr	5,788,297	689	17.8	140
	May	9,314,906	626	28.6	248		May	5,250,813	625	16.1	140
	Jun	10,352,000	696	31.8	248		Jun	5,620,047	669	17.2	140
	Jul	9,405,609	632	28.9	248		Jul	5,446,563	648	16.7	140
	Aug	9,054,641	609	27.8	248		Aug	5,486,844	653	16.8	140
	Sep	8,135,359	547	25.0	248		Sep	5,035,703	599	15.5	140
	Oct	8,428,516	566	25.9	248		Oct	5,293,656	630	16.2	140
	Nov	7,671,547	516	23.5	248		Nov	4,565,641	544	14.0	140
	Dec	8,770,688	589	26.9	248		Dec	5,167,109	615	15.9	140

FFS-3 Total Gallons Pumped:	109,975,742
FFS-3 Total Acre-Feet Pumped:	337
FFS-3 Average Yield Rate (gpm):	248
FFS-3 % Run Time:	84.1%

FFS-4 Total Gallons Pumped:	65,372,750
FFS-4 Total Acre-Feet Pumped:	201
FFS-4 Average Yield Rate (gpm):	140
FFS-4 % Run Time:	88.6%

Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)	Well	Month	Gallons Pumped	Estimated Hours	Yield (Acrefeet)	Approx. Yield Rate (gpm)
FFS-5	Jan	36,771,438	595	112.8	1030	FFS-6	Jan	19,151,344	597	58.8	535
	Feb	43,111,000	698	132.3	1030		Feb	22,361,813	697	68.6	535
	Mar	45,486,313	736	139.6	1030		Mar	23,569,055	734	72.3	535
	Apr	44,211,188	715	135.7	1030		Apr	22,924,320	714	70.3	535
	May	40,447,500	654	124.1	1030		May	20,442,344	637	62.7	535
	Jun	44,068,250	713	135.2	1030		Jun	22,759,203	709	69.8	535
	Jul	18,644,188	302	57.2	1030		Jul	22,429,656	699	68.8	535
	Aug	41,473,438	671	127.3	1030		Aug	21,126,203	658	64.8	535
	Sep	38,369,438	621	117.7	1030		Sep	21,052,703	656	64.6	535
	Oct	44,092,438	713	135.3	1030		Oct	22,626,563	705	69.4	535
	Nov	37,966,313	614	116.5	1030		Nov	19,508,594	608	59.9	535
	Dec	43,645,000	706	133.9	1030		Dec	22,549,875	702	69.2	535

FFS-5 Total Gallons Pumped:	478,286,500
FFS-5 Total Acre-Feet Pumped:	1468
FFS-5 Average Yield Rate (gpm):	1030
FFS-5 % Run Time:	88.1%

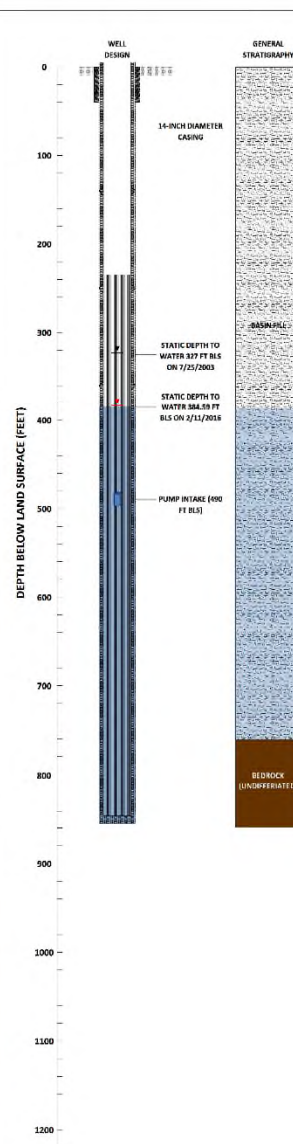
FFS-6 Total Gallons Pumped:	260,501,672
FFS-6 Total Acre-Feet Pumped:	799
FFS-6 Average Yield Rate (gpm):	535
FFS-6 % Run Time:	92.4%

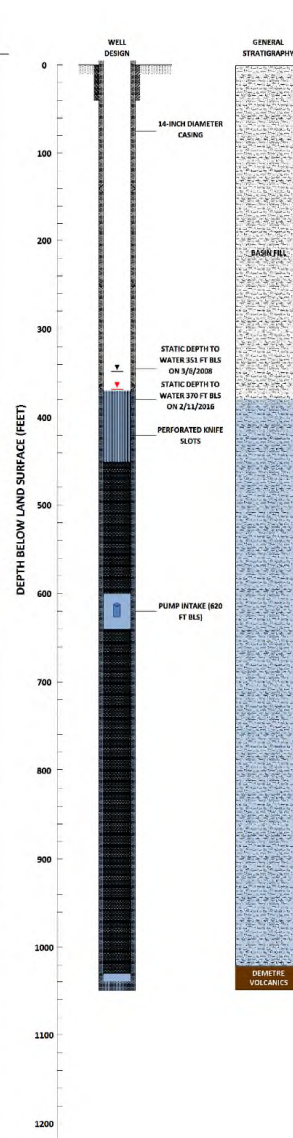
BasinWells Associates PLLC

ATTACHMENT B

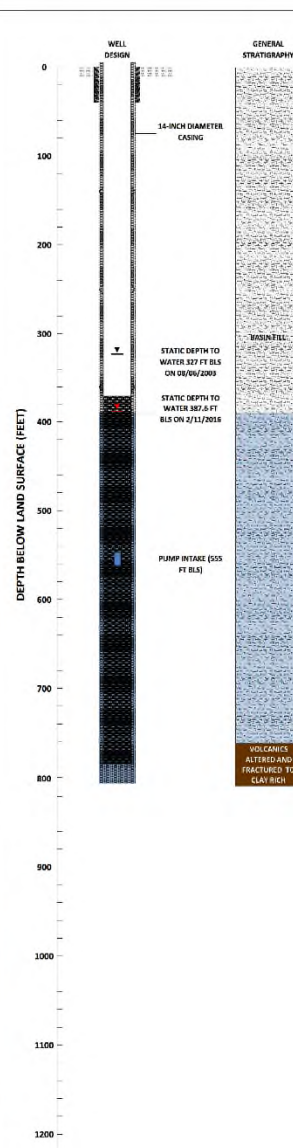
SIERRITA SULFATE MITIGATION ACTION WELL FIELD WELL FIELD DATA PLOTS

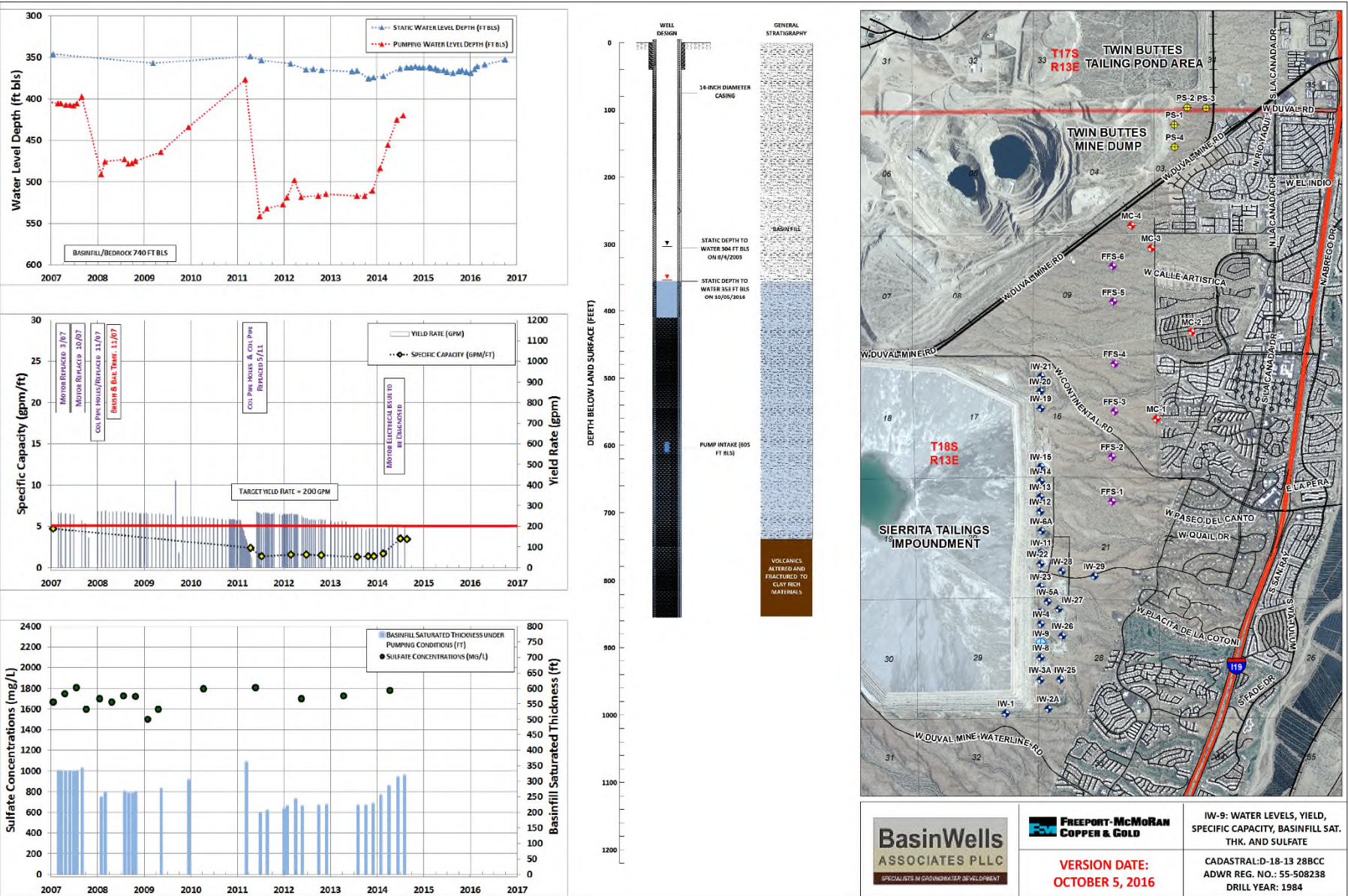
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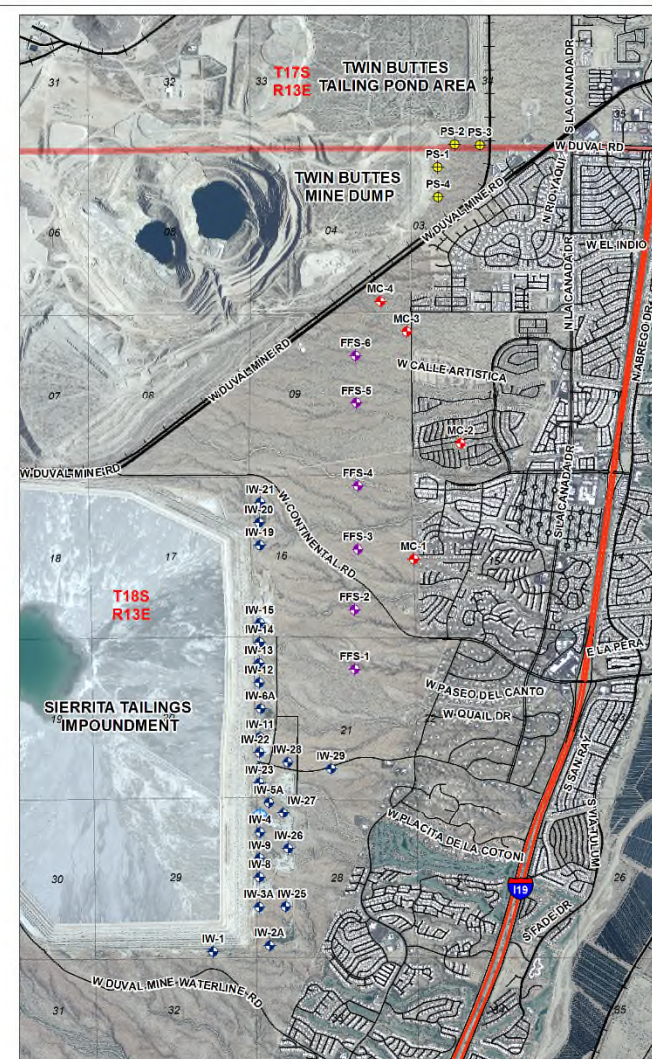
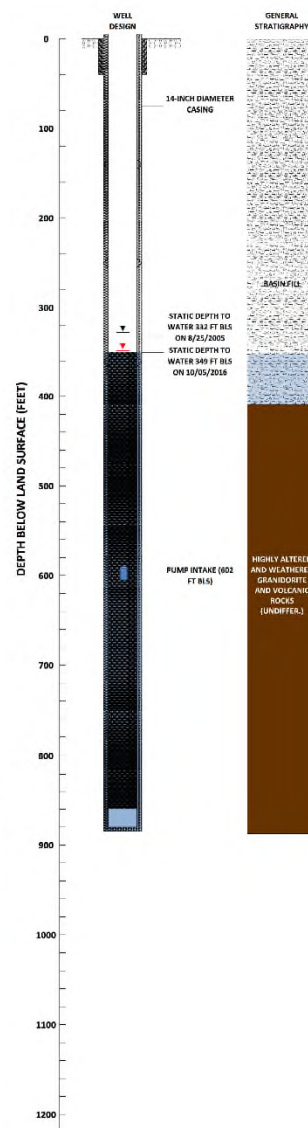






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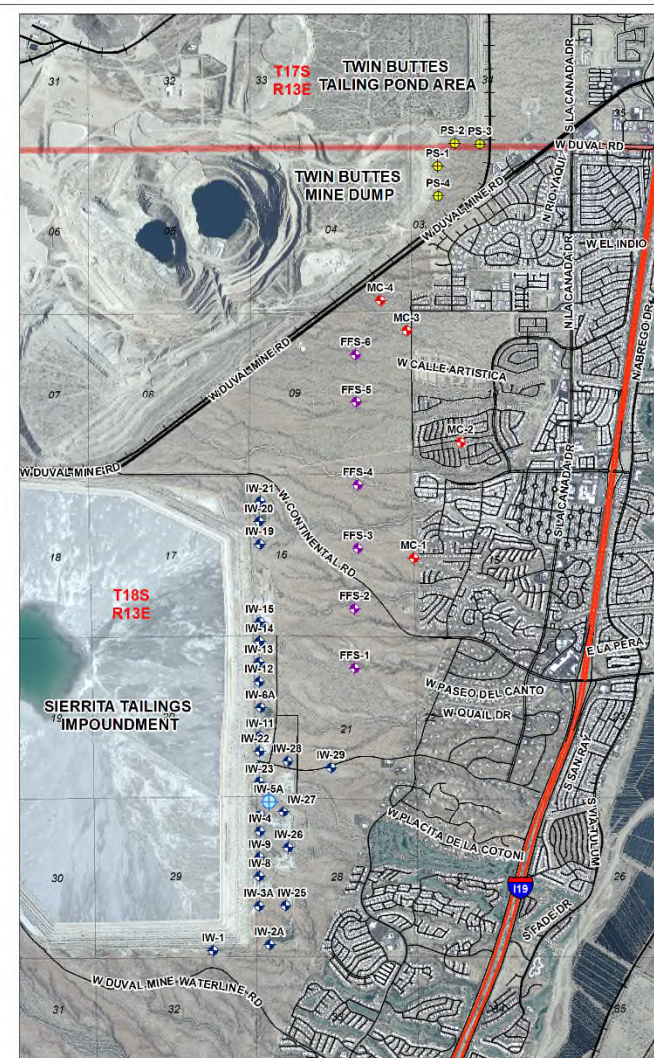
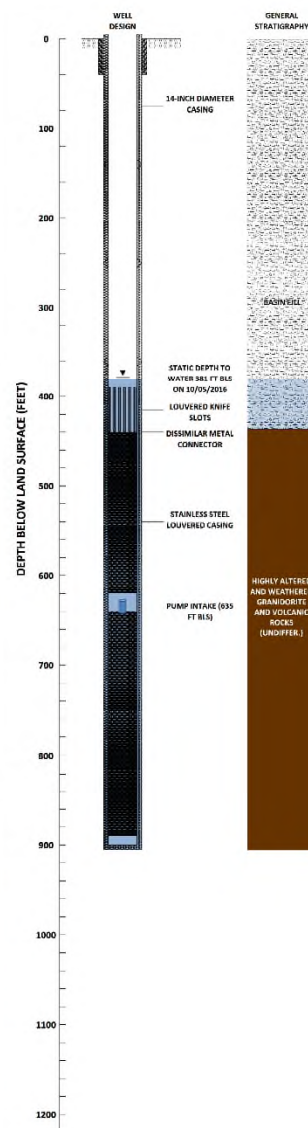




**FREEPORT-McMORAN
COPPER & GOLD**

**VERSION DATE:
OCTOBER 5, 2016**

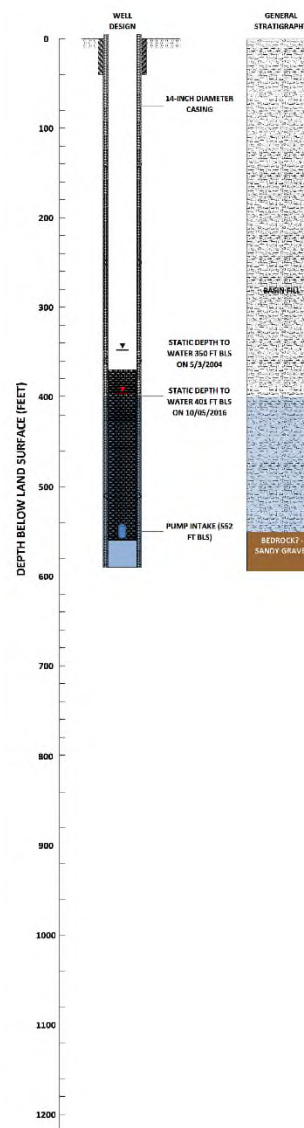
IW-24: WATER LEVELS, YIELD, SPECIFIC CAPACITY, BASINFILL SAT. THK. AND SULFATE	CADASTRAL:D-18-13 28BBB ADWR REG. NO.: 55-200556 DRILL YEAR: 2004
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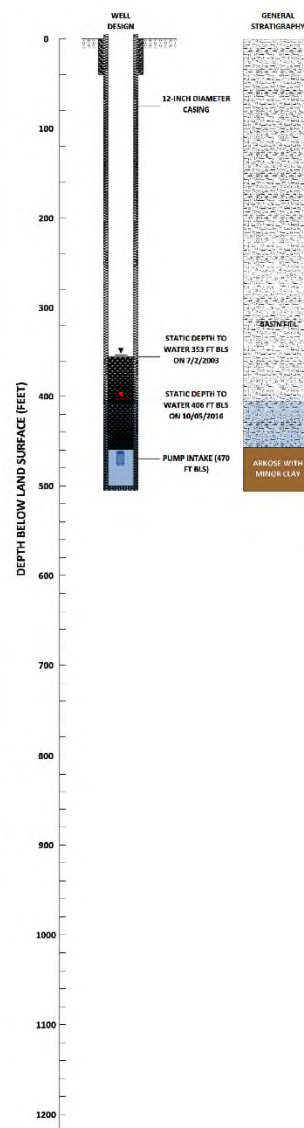
IW-5A: WATER LEVELS, YIELD, SPECIFIC CAPACITY, BASINFILL SAT. THK. AND SULFATE	CADASTRAL:D-18-13 28BBB ADWR REG. NO.: 55-219131 DRILL YEAR: 2010
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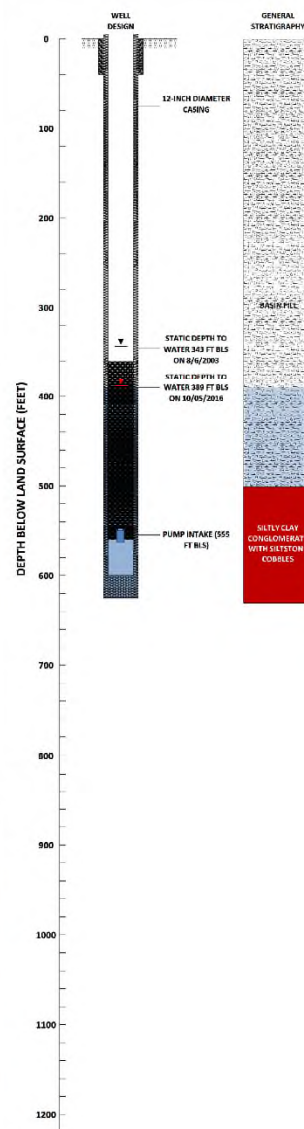




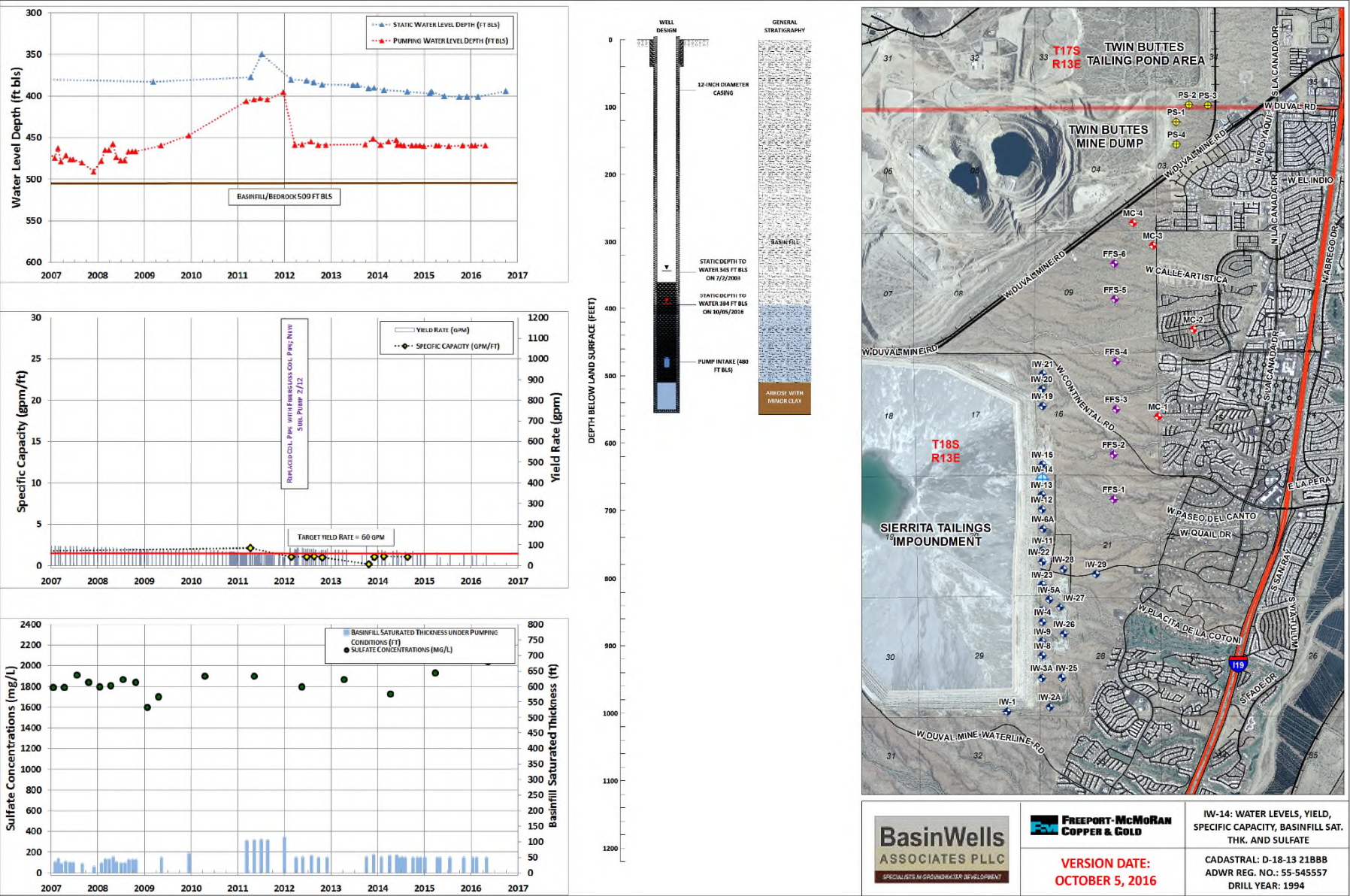




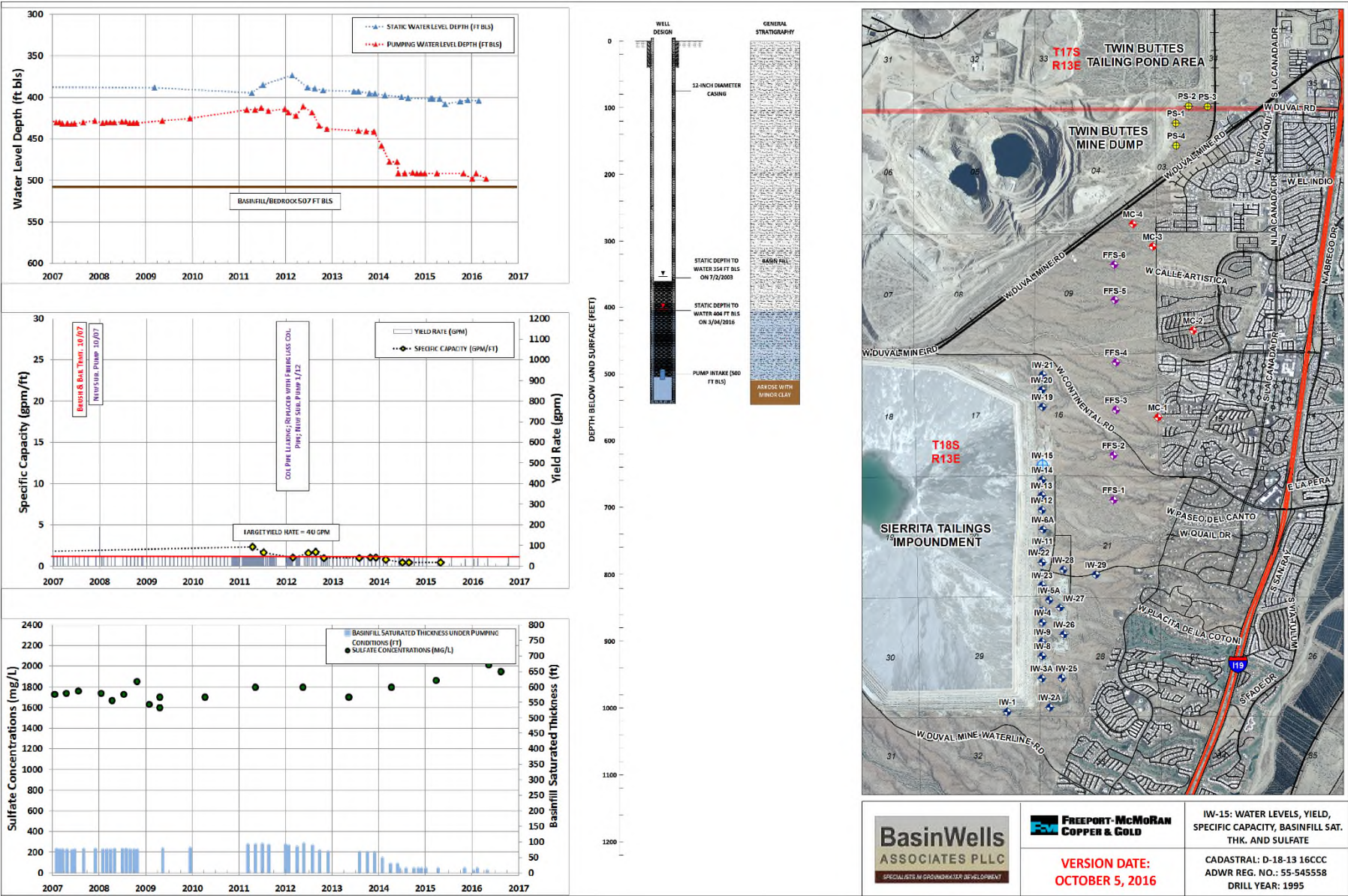




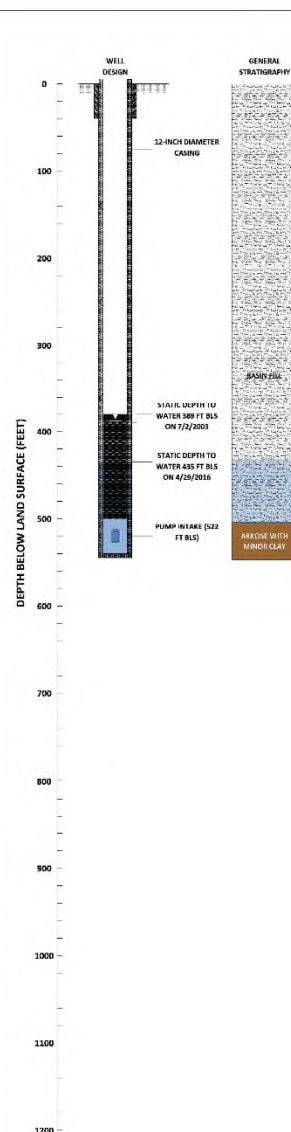


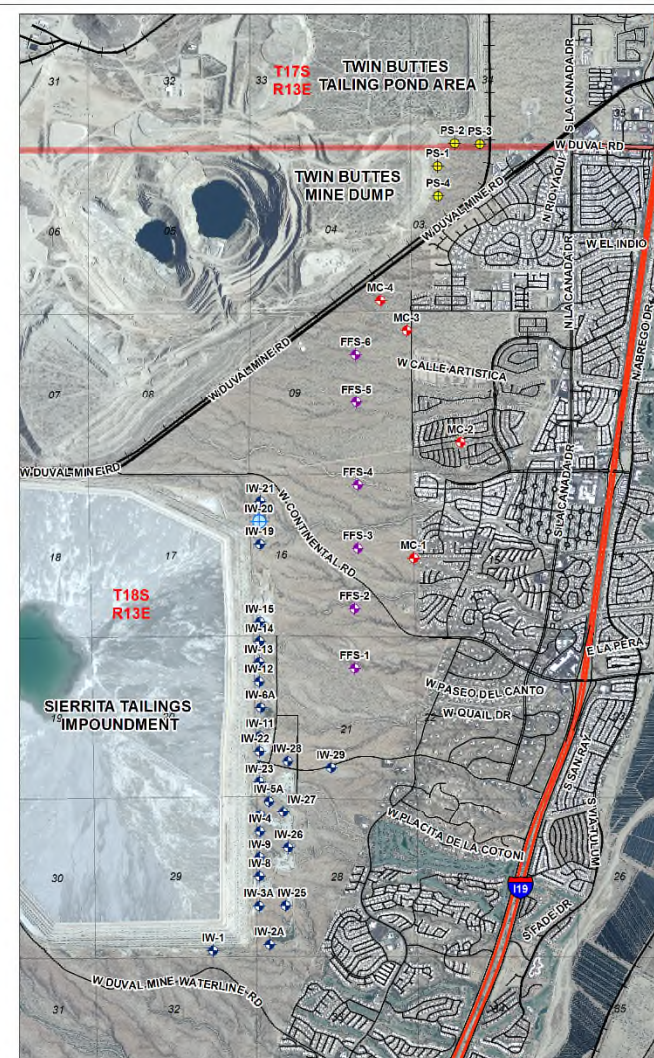
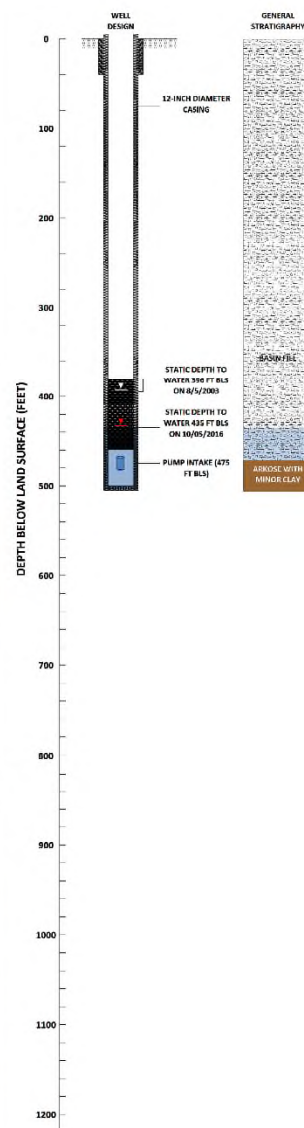


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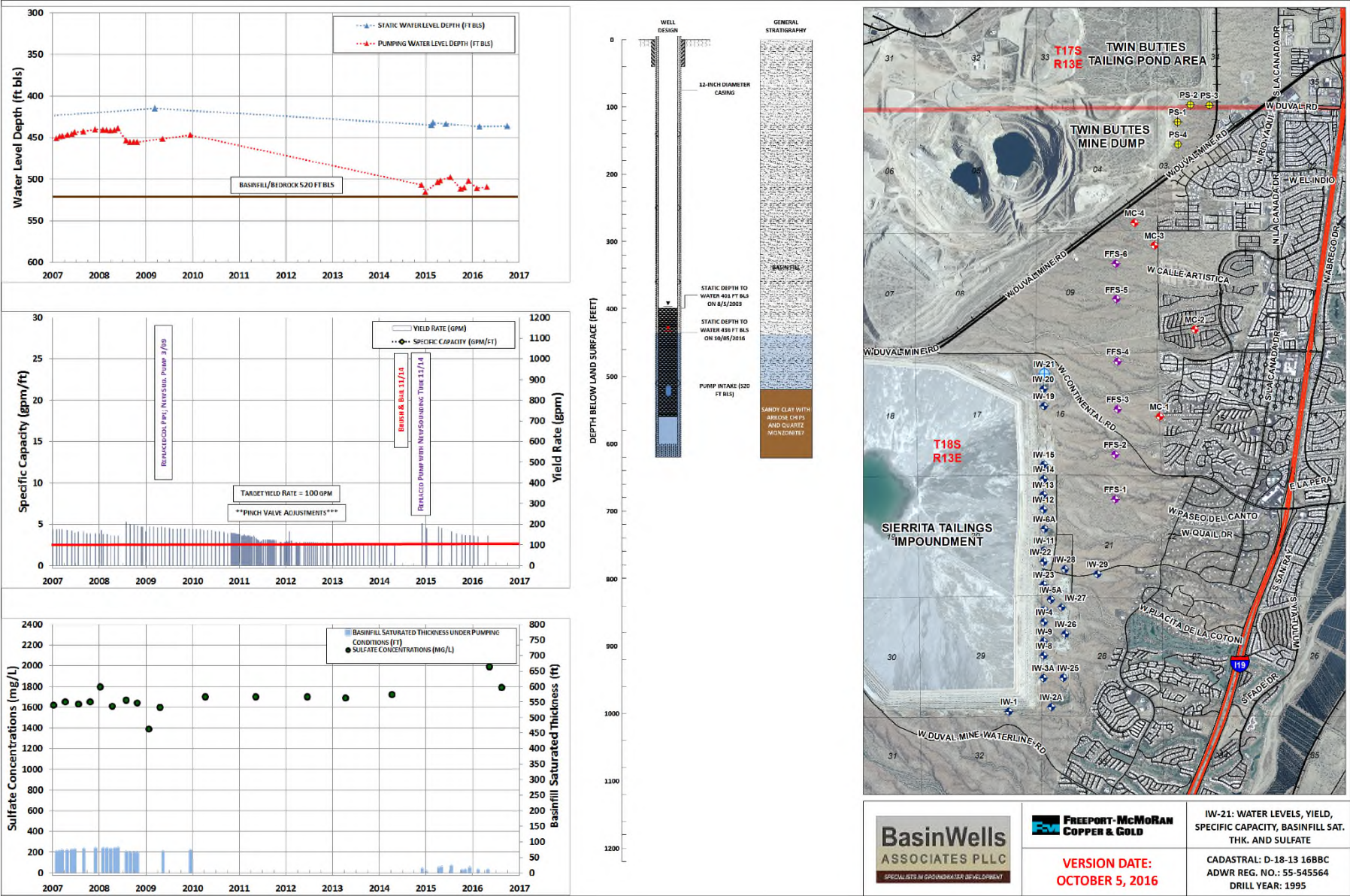


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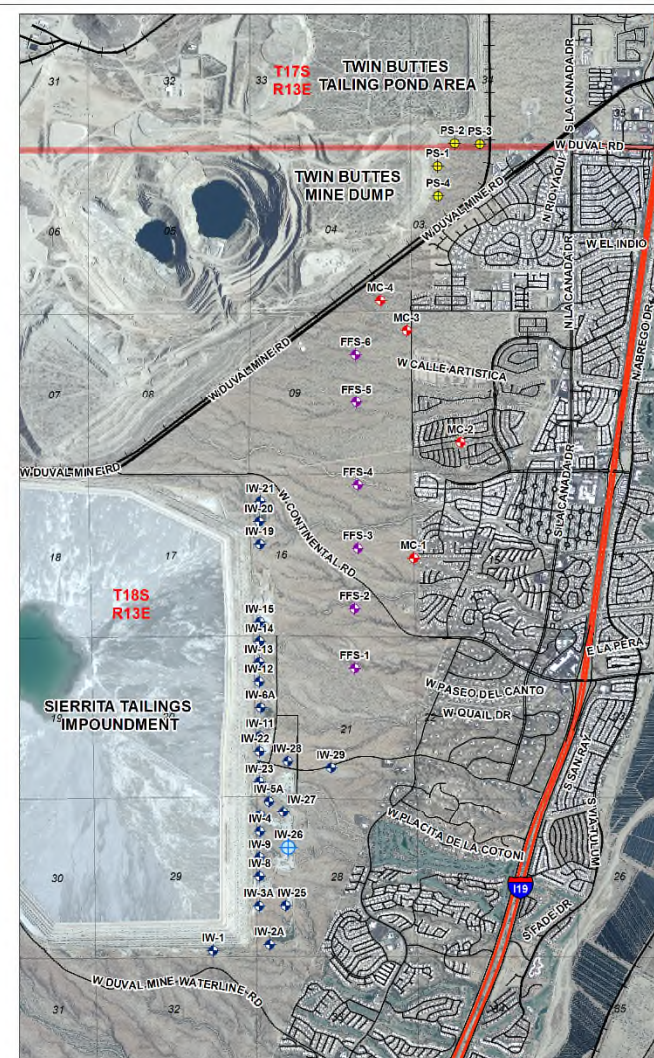
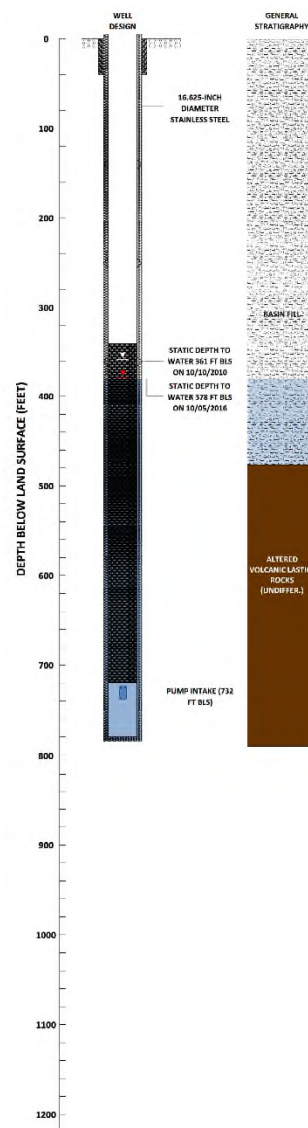


IW-20: WATER LEVELS, YIELD, SPECIFIC CAPACITY, BASINFILL SAT. THK. AND SULFATE	CADASTRAL: D-18-13 16BCB ADWR REG. NO.: 55-545563 DRILL YEAR: 1995
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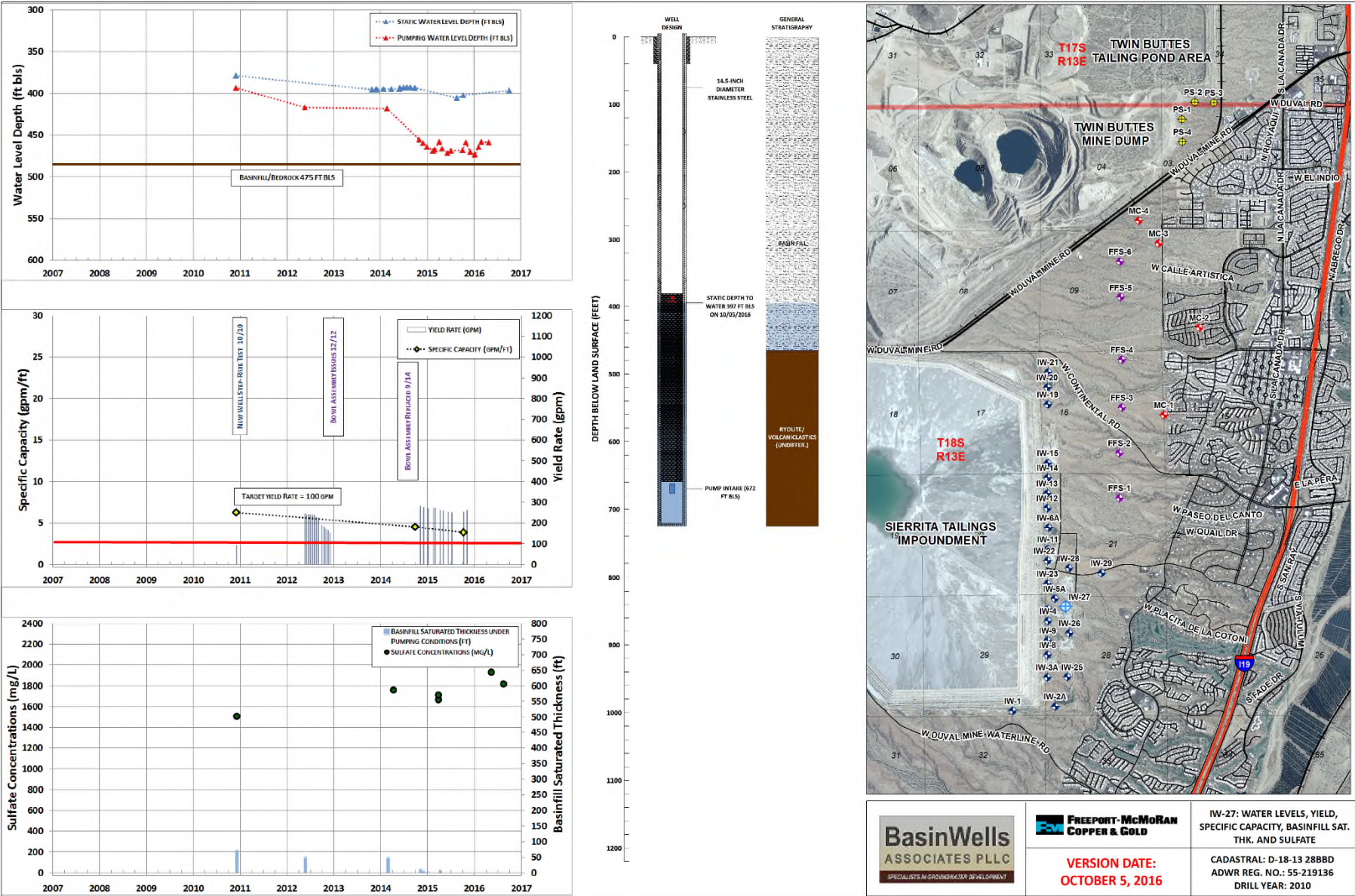




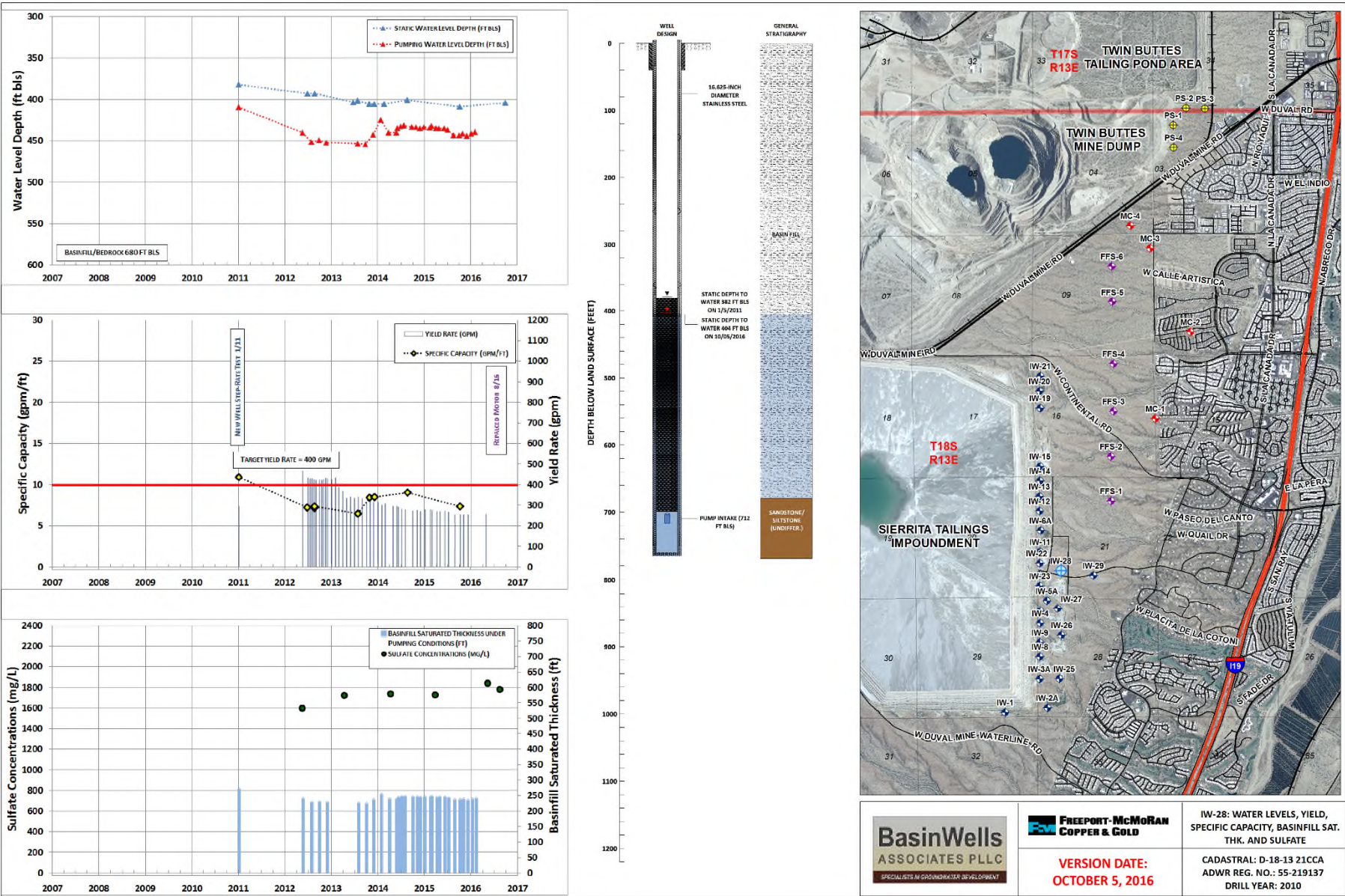
Freeport-McMoRan
Copper & Gold

VERSION DATE:
OCTOBER 5, 2016

IW-26: WATER LEVELS, YIELD, SPECIFIC CAPACITY, BASINFILL SAT. THK. AND SULFATE	CADASTRAL: D-18-13 28BCD ADWR REG. NO.: 55-219143 DRILL YEAR: 2010
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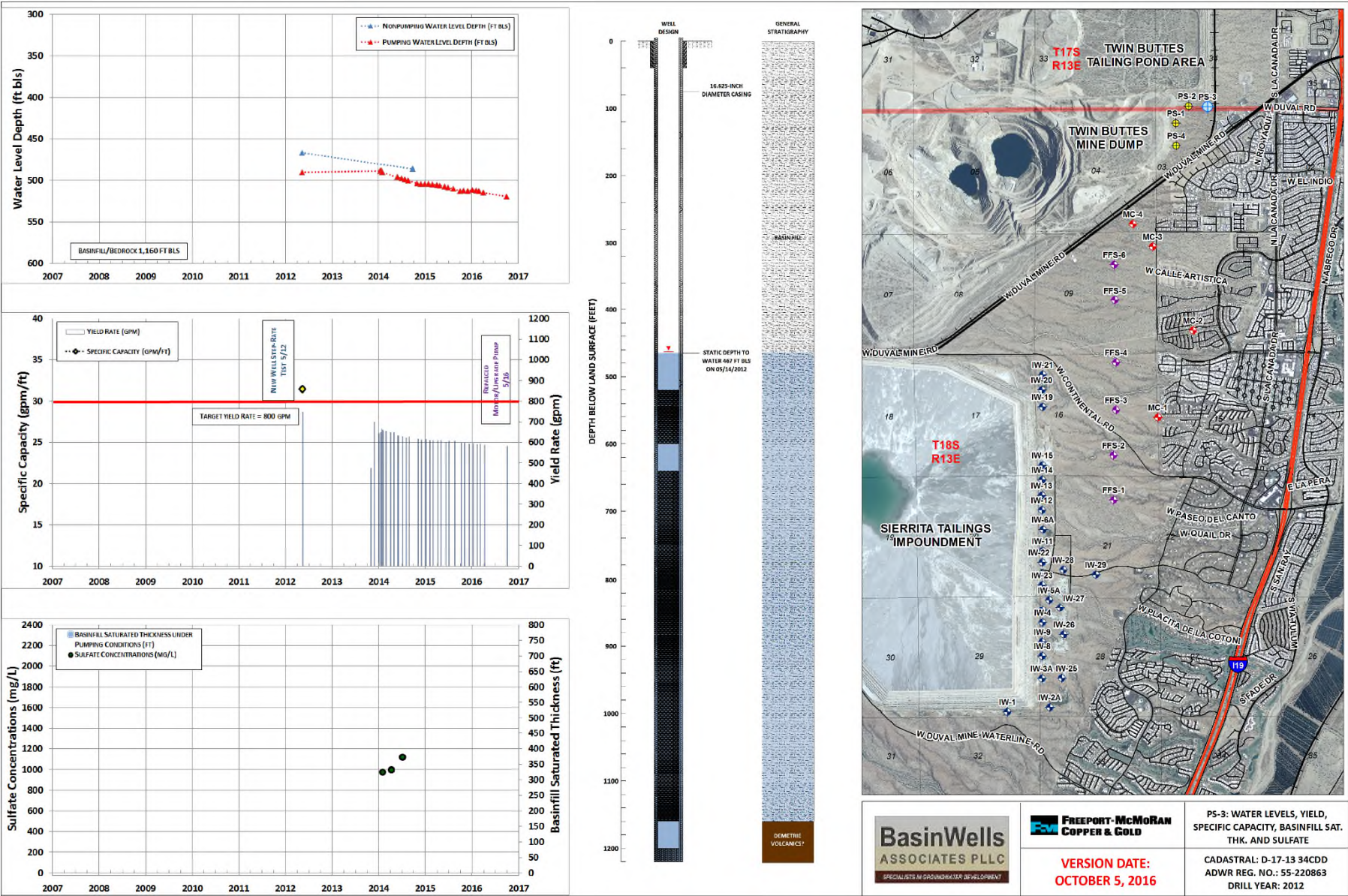


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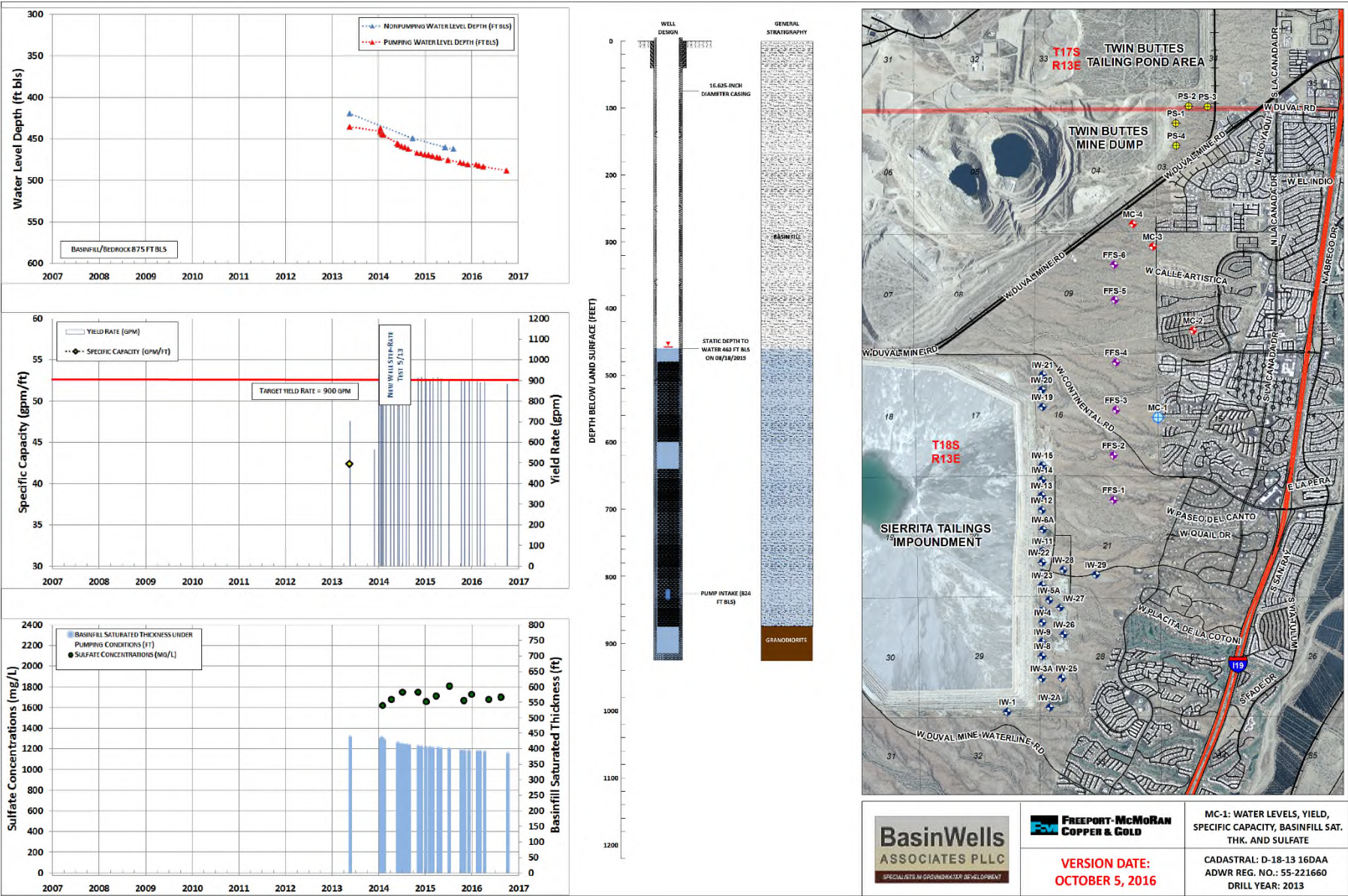




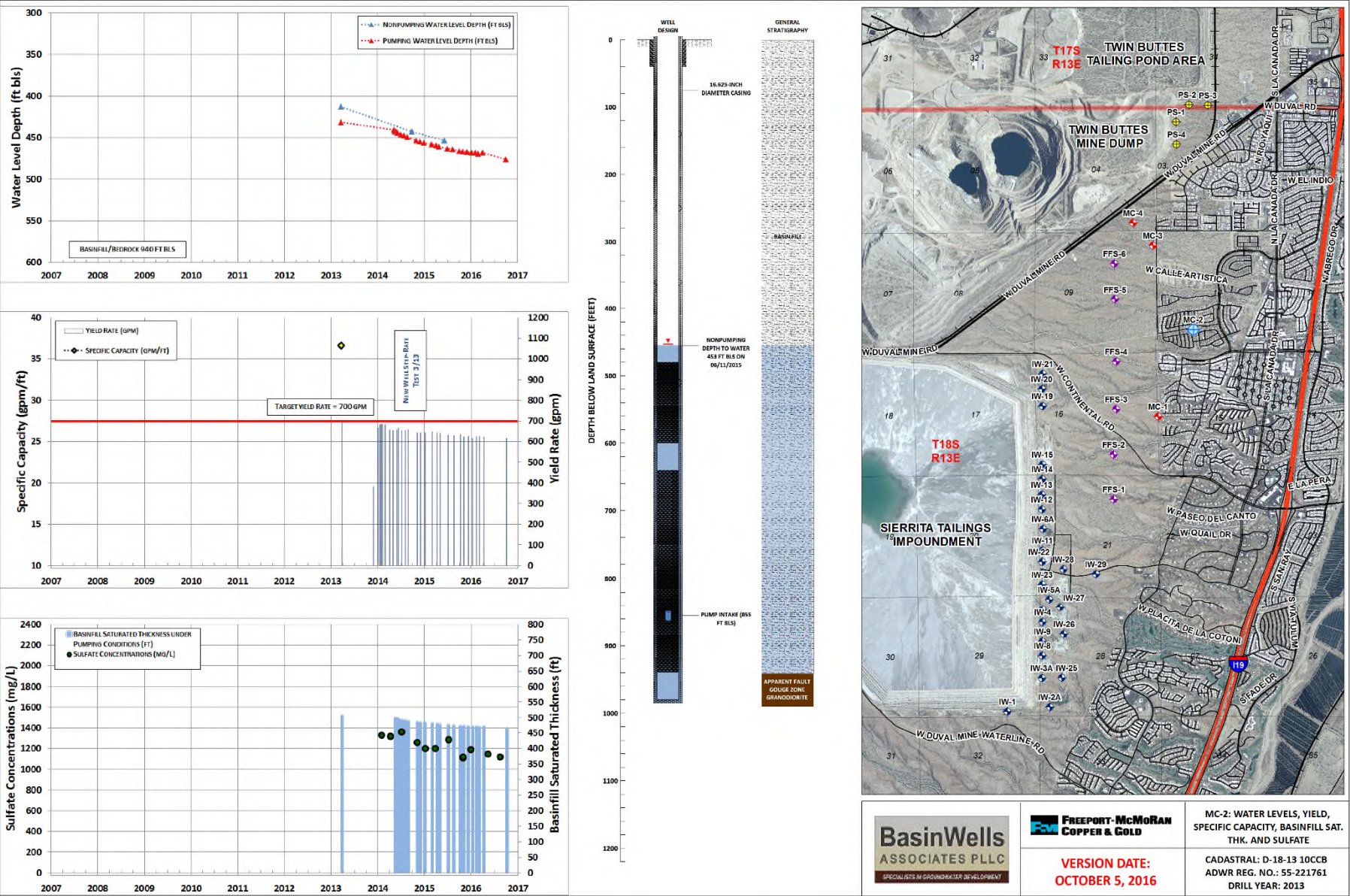


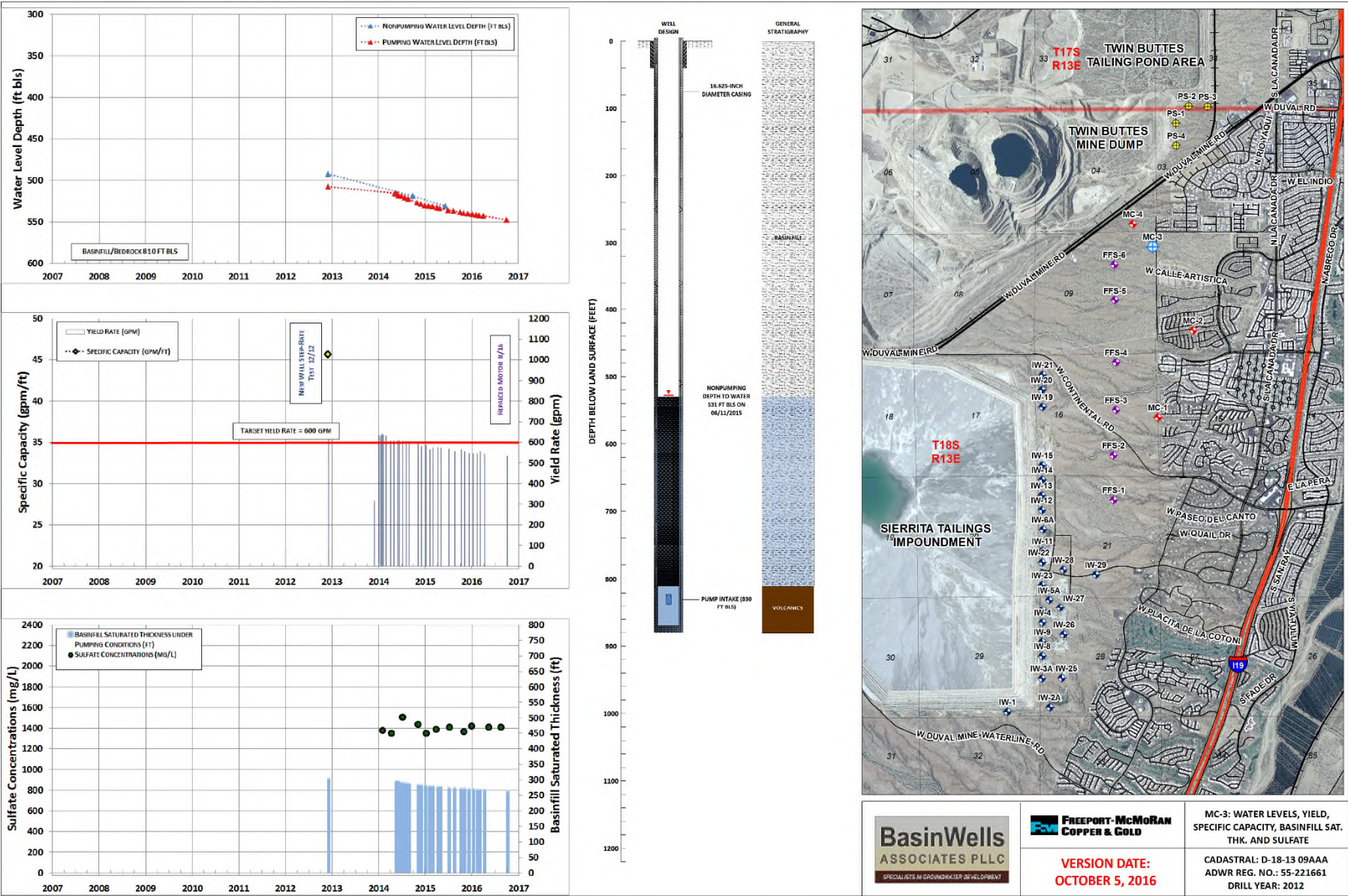
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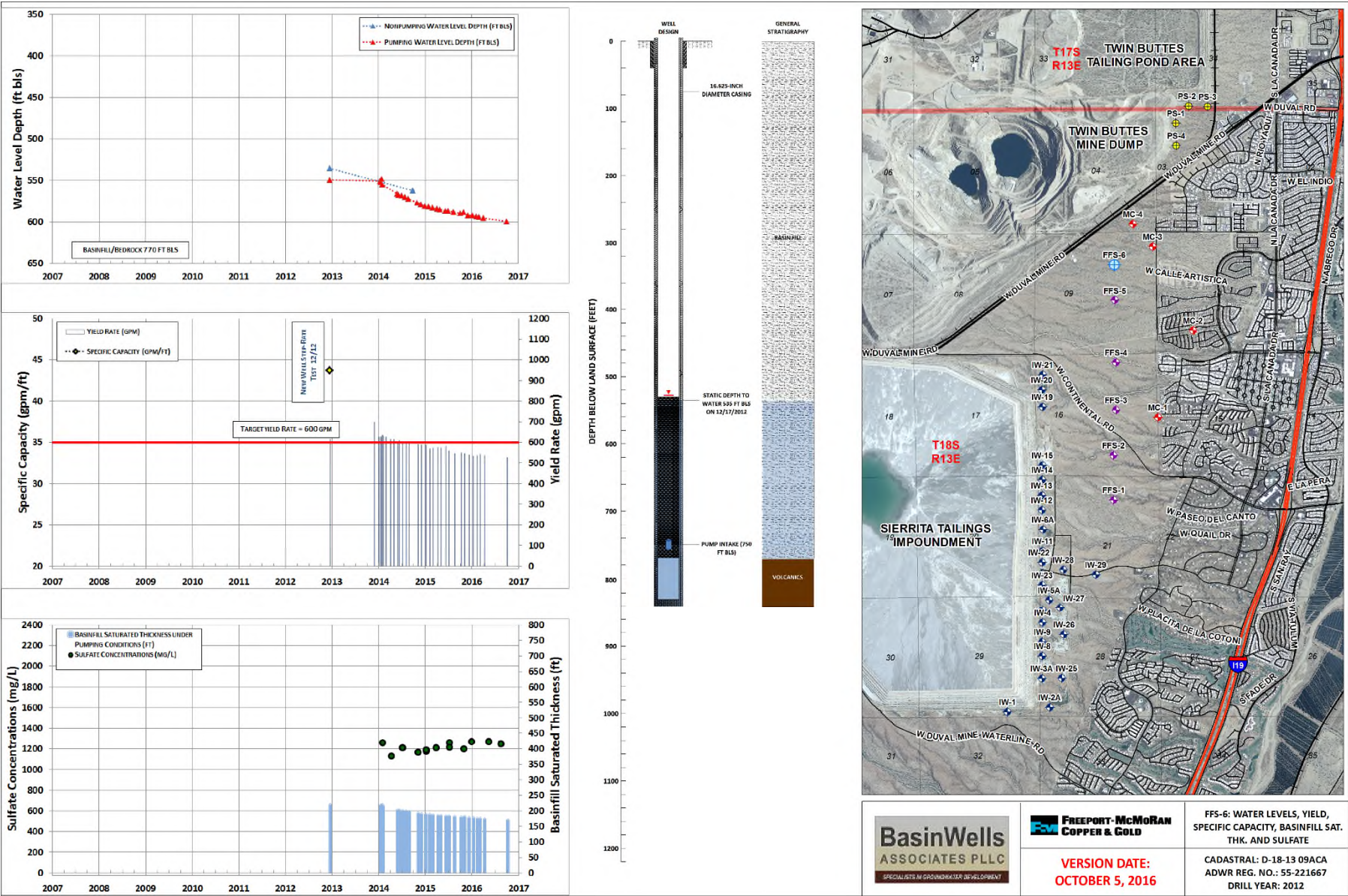












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