STATUS REPORT FOR STAGE 1 ABATEMENT AT THE COPPER FLAT MINE SITE NEAR HILLSBORO, NEW MEXICO

prepared by

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prepared for

New Mexico Copper Corporation
a wholly owned subsidiary of THEMAC Resources Group, Ltd.
2424 Louisiana Blvd NE, Suite 301
Albuquerque, New Mexico 87110

June 27, 2013

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STATUS REPORT FOR STAGE 1 ABATEMENT AT THE COPPER FLAT MINE SITE NEAR HILLSBORO, NEW MEXICO

New Mexico Copper Corporation (NMCC) contracted John Shomaker & Associates, Inc. (JSAI) to implement the approved Stage 1 Abatement Plan (Plan) for the Copper Flat Mine (as amended by JSAI, 2011). The Plan calls for four quarters of monitoring and investigation of the Copper Flat Mine facilities created by the Quintana Minerals operations in 1982. The facilities include 1) open pit area, 2) waste rock and mill site area, and 3) tailings storage facility (TSF) area (Fig. 1). This status report presents the initial results of the first two quarters of monitoring and investigation.

1.0 BACKGROUND

The Stage 1 Abatement monitoring plan can be referenced from JSAI (2011). Modifications were made to the monitoring plan after the first quarter revealed several shallow wells below the TSF were dry. Additional monitoring wells were added to the monitoring program so the extent of the TSF sulfate plume could be better defined. Details on the monitoring program modifications can be referenced from (THEMAC, 2013). The current Stage 1 monitoring points can be referenced from Table 1, and locations are shown on Figures 1 and 2.

1.1 Purpose

The first task of the Stage 1 Abatement Plan is to define the extent and nature of contamination associated with the Copper Flat Mine facilities shown on Figure 1. As described in NMAC 20.6.2.4106.C, “the purpose of Stage 1 of the abatement plan shall be to design and conduct a site investigation that will adequately define site conditions, and provide the data necessary to select and design an effective abatement option.”

Table 1. Summary of wells and well data for the Stage 1 Abatement Plan monitoring, Copper Flat Mine, Sierra County, New Mexico

well name	well type	facility area	year drilled	casing diameter (inches)	total depth (ft bgl)	screen interval (ft bgl)	measuring-point elevation (ft amsl)	geologic unit	depth to water measurement date	depth to water (ft bmp)	water-level elevation (ft amsl)
GWQ96-22A	monitoring	pit	1996	2	244	174 to 244	5,596.17	andesite	4/8/2013	55.45	5,540.72
GWQ96-22B	monitoring	pit	1996	2	380	340 to 380	5,595.95	andesite	4/8/2013	55.28	5,540.67
GWQ96-23A	monitoring	pit	1996	2	101	50 to 100	5,489.84	quartz monzonite	4/8/2013	41.09	5,448.75
GWQ96-23B	monitoring	pit	1996	2	251	150 to 250	5,489.70	quartz monzonite	4/8/2013	41.37	5,448.33
GWQ11-24A	monitoring	pit	2011	2	90	60 to 90	5,517.37	quartz monzonite	4/8/2013	58.44	5,458.93
GWQ11-24B	monitoring	pit	2011	2	250	230 to 250	5,517.26	quartz monzonite	4/8/2013	61.44	5,455.82
GWQ11-25A	monitoring	pit	2011	2	100	70 to 100	5,533.60	quartz monzonite	4/8/2013	73.25	5,460.35
GWQ11-25B	monitoring	pit	2011	2	242	222 to 242	5,533.41	quartz monzonite	4/8/2013	73.66	5,459.75
GWQ11-26	monitoring	pit	2011	4	43	23 to 43	5,539.75	alluvium	4/9/2013	41.42	5,498.33
pit	monitoring	pit	1982				5,430.00	quartz monzonite	4/8/2013	-8.60	5,438.60
GWQ-1	supply	waste rock and mill site	1972	14/12	391	100 to 391	5,195.59	Santa Fe Group	4/10/2013	7.46	5,188.13
GWQ-3	supply	waste rock and mill site	1932	40 x 43	33	10 to 33	5,252.60	alluvium/andesite	4/11/2013	24.55	5,228.05
GWQ-5R	monitoring	waste rock and mill site	2011	4	120	80 to 120	5,412.80	andesite	4/9/2013	48.25	5,364.55
GWQ-8	supply	waste rock and mill site	1931	8	148	81 to 148	5,216.94	Santa Fe Group	4/9/2013	27.53	5,189.41
GWQ-11	monitoring	tailings storage facility (TSF)	1981	3	70	na	5,196.44	alluvium/Santa Fe Group	4/10/2013	21.38	5,175.06
GWQ-12	monitoring	tailings storage facility (TSF)	1981	3	137	na	5,237.28	Santa Fe Group	4/10/2013	82.75	5,154.53
GWQ94-13	monitoring	tailings storage facility (TSF)	1994	5	106	74 to 104.5	5,200.47	Santa Fe Group	4/10/2013	16.22	5,184.25
GWQ94-14	monitoring	tailings storage facility (TSF)	1994	5	159	127.5 to 157.5	5,192.69	Santa Fe Group	4/10/2013	9.6	5,183.09
GWQ94-16	monitoring	tailings storage facility (TSF)	1994	5	46	25 to 45	5,197.41	alluvium	4/10/2013	22.62	5,174.79
GWQ94-18	monitoring	tailings storage facility (TSF)	1994	4	51	10 to 50	5,194.83	alluvium	4/10/2013	dry	<5,143.83
GWQ94-19	monitoring	tailings storage facility (TSF)	1994	4	53	10 to 50	5,203.36	alluvium	4/10/2013	dry	<5,150.36
IW-1	monitoring	tailings storage facility (TSF)	1982	4	49	na	5,198.99	alluvium	4/10/2013	dry	<5,149.99
IW-2	monitoring	tailings storage facility (TSF)	1982	4	46	na	5,208.01	alluvium	4/10/2013	dry	<5,162.01
IW-3	monitoring	tailings storage facility (TSF)	1982	4	45	na	5,213.17	alluvium	4/10/2013	dry	<5,168.17
NP-2	monitoring	tailings storage facility (TSF)	1981	4	110	na	5,192.54	Santa Fe Group	4/10/2013	35.55	5,156.99
NP-3	monitoring	tailings storage facility (TSF)	1981	4	100	na	5,199.73	Santa Fe Group	4/10/2013	15.25	5,184.48
MW-4	supply	tailings storage facility (TSF)	1975	6	1,500	123 to 1,500	5,146.12	Santa Fe Group	12/8/2011	82.2	5,063.92

ft bgl - feet below ground level
ft amsl - feet above mean sea level
ft bmp - feet below measuring point
na - not available

2.0 DATA COLLECTION METHODS

Stage 1 monitoring points are listed in Table 1. In addition to those listed in Table 1 are the pit wall seep, and storm-water sampling locations SWQ-1, SWQ, 2, and SWQ-3 (Figs. 1 and 2). The pit wall seep and storm-water sampling locations have been dry for the 1st and 2nd Quarters 2013. Well completion diagrams for most of the monitoring wells listed in Table 1 can be referenced from Appendix A.

2.1 Water-Level Elevation Measurements

Water levels were measured with a calibrated wire-line sounder or steel tape prior to well purging and sampling. Measuring points were established and surveyed prior to Stage 1 water-level measurements; measuring point elevations are listed in Table 1.

2.2 Well Purging

Monitoring wells were purged using disposable bailers, or a redi-flo submersible pump. Purged volumes are listed in Tables 2 and 3. Several wells pumped dry after the first well volume, and under those conditions, the sample is collected after the well has recovered enough for collection of a sample. Wells GWQ-1, GWQ-3, and GWQ-8 were sampled using micropurging methods (low flow pumping from the top of the screen interval). Pit samples were collected by using a disposable bailer to collect a grab sample approximately 6 ft from shore line on the south end of the pit water surface.

2.3 Field Parameters

Field parameters included temperature, specific conductance, and pH. Instruments were calibrated prior to collection of measurements. Results from 1st and 2nd Quarter sampling can be referenced from Tables 2 and 3.

2.4 Laboratory Analyses

Based on the approved amended Stage 1 Abatement Plan, two constituent lists for laboratory analysis included 1) List A for the pit area, and 2) List B for the waste rock/mill site and TSF areas. A summary of the List A and List B constituents for laboratory analysis can be referenced from Table 4. Copies of laboratory reports are in Appendix B.

Table 2. Summary of 1st Quarter field data and sample collection methods

monitoring point	sample list	casing diameter (in.)	date sampled	temp. (°C)	pH	conductivity (µS/cm)	depth to water (ft)	volume purged (gal)	comments
pit area									
GWQ96-22A	A	2	1/9/2013	15.5	7.41	679	54.31	17	pumped off, micropurge sample in screen
GWQ96-22B	A	2	1/9/2013	19.1	6.85	1,038	53.96	6	pumped off, sampled w/ bailer after recovered
GWQ96-23A	A	2	1/11/2013	17.1	7.46	878	41.14	5	pumped off, sampled w/ bailer after recovered
GWQ96-23B	A	2	1/11/2013	16.2	7.16	737	41.16	13	pumped off, sampled w/ sample pump after recovered
GWQ11-24A	A	2	1/8/2013	18.0	4.08	2,807	57.62	20	
GWQ11-24B	A	2	1/9/2013	18.0	6.72	1,904	61.30	30	parameters stable-sampled after 1 well vol.
GWQ11-25A	A	2	1/9/2013	16.5	3.63	6,410	70.00	8	pumped off, sampled w/ bailer after recovered
GWQ11-25B	A	2	1/9/2013	19.8	6.28	2,390	72.06	84	
GWQ11-26	A	4	1/8/2013	17.4	6.81	735	41.30	8	
pit lake	A	na	1/9/2013	4.3	7.32	10,510	surface water	grab sample	
pit wall seep	A	na	1/9/2013						no seep observed

µS/cm - microSiemens per centimeter

Table 2. Summary of 1st Quarter field data and sample collection methods (concluded)

monitoring point	sample list	casing diameter (in.)	date sampled	temp. (°C)	pH	conductivity (µS/cm)	depth to water (ft)	volume purged (gal)	comments
waste rock and mill site area									
GWQ-1	B	12	1/10/2013	19.6	7.20	659	7.26	305	parameters stable-sampled after 1 well vol.
GWQ-3	B	40 x 43							no access 1/2013
GWQ-5R	B	4	1/10/2013	16.4	7.21	624	47.78	33	pumped off, sampled w/ sample pump after recovered
GWQ-8	B	8	1/10/2013	19.1	6.77	1,358	27.35	450	parameters stable-sampled after 1 well vol.
tailings storage facility (TSF) area									
GWQ94-13	B	5	1/10/2013	19.3	6.90	1,638	15.90	145	parameters stable, sampled after 1.5 wells vol.
GWQ94-14	B	5	1/11/2013	20.7	6.97	743	9.2	210	parameters stable-sampled after 2 well vol.
GWQ94-16	B	5	1/10/2013	18.6	7.59	1,477	22.57	27	purged 3 wells vol. and sampled
GWQ94-18	B	4					dry		dry 1/10/2013
GWQ94-19	B	4					dry		dry 1/10/2013
IW-1	B	4					dry		dry 1/10/2013
IW-2	B	4	1/10/2013	18.8	7.19	3,050	42.20		purged dry; still dry 1/11/2013
IW-3	B	4					dry		dry 1/10/2013
NP-3	B	4	1/10/2013	19.5	6.36	1,605	14.80	6	pumped off, sampled w/ sample pump after recovered
MW-4	B	6					NA		no access due to frozen 1/2013

µS/cm - microSiemens per centimeter

Table 3. Summary of 2nd Quarter field data and sample collection methods

monitoring point	sample list	casing diameter (in.)	date sampled	temp. (°C)	pH	conductivity (µS/cm)	depth to water (ft)	volume purged (gal)	comments
pit area									
GWQ96-22A	A	2	4/8/2013				55.45		water level only
GWQ96-22B	A	2	4/8/2013				55.28		water level only
GWQ96-23A	A	2	4/8/2013				41.09		water level only
GWQ96-23B	A	2	4/8/2013				41.37		water level only
GWQ11-24A	A	2	4/11/2013	18.6	4.48	3,662	61.44	14	bailed 3 vols., sampled, cloudy yellow color
GWQ11-24B	A	2	4/8/2013	20.1	6.18	2,470	58.44	30	parameters stable-sampled after 1 well vol. (very slow pumping)
GWQ11-25A	A	2	4/9/2013	14.4	3.30	10,120	73.25	22.5	purged 3 times, then sampled, water gray color, low pH
GWQ11-25B	A	2	4/8/2013	21.0	6.54	2,722	73.66	80	purged 3 volumes and sampled, water was clear
GWQ11-26	A	4	4/9/2013	18.5	7.05	891	41.42	5	purged 3 volumes, then sampled, water was clear
pit lake	A	na	4/8/2013	17.6	7.07	10,610	8.6	grab	surface sample from NW corner of ramp
pit wall seep	A	na	4/8/2013						no seep observed

µS/cm - microSiemens per centimeter

Table 3. Summary of 2nd Quarter field data and sample collection methods (concluded)

monitoring points	sample list	casing diameter (in.)	date sampled	temp. (°C)	pH	conductivity (µS/cm)	depth to water (ft)	volume purged (gal)	comments
waste rock and mill site									
GWQ-1	B	12	4/10/2013	20.0	7.33	723	7.46	350	pump set middle of screen, micropurged and sampled ~1 vol.
GWQ-3	B	40 x 43	4/11/2013	17.5	7.50	2,782	24.55	957	sampled after parameters stable and 1.5 well volumes
GWQ-5R	B	4	4/9/2013	19.0	7.12	771	48.25	30	sampled after parameters stable and 1 well volume
GWQ-8	B	8	4/9/2013	19.6	7.16	1,564	27.53	575	parameters stable-sampled after 1.5 well volumes
tailings storage facility (TSF) area									
GWQ-11	B	3	4/10/2013	19.8	6.73	1,351	21.38	57	purged 3 vol. & sampled; water clear
GWQ-12	B	3	4/10/2013	20.1	7.19	553	82.75	55	purged 3 vol. & sampled; water clear
GWQ94-13	B	5	4/10/2013	19.4	7.16	1,711	16.22	310	purged 3 vol. & sampled; water clear
GWQ94-14	B	5	4/10/2013	19.7	7.21	721	9.60	300	purged 3 vol. & sampled; water clear
GWQ94-16	B	4	4/10/2013	19.0	7.36	1,576	22.62	45	purged 3 vol. & sampled; water clear
GWQ94-18	B	4					dry		dry 4/10/2013
GWQ94-19	B	4					dry		dry 4/10/2013
IW-1	B	4					dry		dry 4/10/2013
IW-2	B	4					dry		dry 4/10/2013
IW-3	B	4					dry		dry 4/10/2013
NP-2	B	2	4/10/2013	19.1	7.38	1,364	35.55	30	bailed 3 volumes and sampled; cloudy to reddish-brown
NP-3	B	2	4/10/2013	18.9	6.95	2,134	15.25	7.5	pumped off, sampled w/ bailer after it recovered
MW-4	B	6	4/12/2013	19.4	8.29	427		approx. 30	stock well; sampled from tank after approx. 30 gallons pumped

µS/cm - microSiemens per centimeter

Table 4. Summary of Copper Flat Mine Stage 1 Abatement Plan constituent lists for lab analysis

List A*	List B**
pit area	**waste rock/mill site and tailings storage facility (TSF) areas**
aluminum	total dissolved solids (TDS)
cadmium	sulfate
cobalt	chloride
copper	alkalinity
manganese	calcium
selenium	magnesium
zinc	sodium
calcium	potassium
magnesium	
sodium	
potassium	
alkalinity	
total acidity	
chloride	
fluoride	
sulfate	
total dissolved solids (TDS)	

* List A metals are for dissolved metals (filtered)
** List B metals are for total metals (NOT filtered)

3.0 RESULTS

The results focus on the three areas of primary concern: 1) pit area, 2) Grayback Arroyo downgradient of the waste rock and mill site area, and 3) TDS and sulfate plume observed below the TSF.

3.1 Hydrogeologic Investigation

One task described in the amended Stage 1 Abatement Plan was to use data collected from the proposed monitoring plan to refine the hydrogeologic conceptual model for each facility. Rate of potential transport will be addressed in the refined conceptual model. The first two quarters of data collection and investigation have focused on hydrogeologic conditions along Grayback Arroyo downgradient of the waste rock and mill site area and the barrier boundary fault east of the TSF. A revised geologic map of the area of investigation is presented as Figure 3, and a hydrogeologic cross-section along Grayback Arroyo downgradient of the waste rock and mill site area is presented as Figure 4.

3.1.1 Waste Rock and Mill Site Area

Geologic mapping and well drilling data were used to construct the hydrogeologic cross-section downgradient of the waste rock and mill site area along Grayback Arroyo (Fig. 4). Between the waste rock/mill site area and GWQ-3, groundwater from the low-permeability andesite discharges to the alluvium along Grayback Arroyo. From a point upstream of GWQ-3, storm water in Grayback Arroyo recharges the alluvium, and, downstream of GWQ-3, storm water recharges the alluvium and the underlying Santa Fe Group sediments.

3.1.2 Tailings Storage Facility (TSF) Area

The south to north trending fault east of the TSF (Fig. 3) is referred to as part of the East Animas Fault Trend that forms the boundary between Animas Uplift and Palomas Basin. The fault is downthrown on the east side. The East Animas Fault Trend is either composed of several parallel faults or one fault mapped in slightly different longitude by Seager et al. (1982), Harrison et al. (1993), Beaumont (2012), and Hawley (2012).

The fault mapped by Beaumont (2012) is a barrier boundary to groundwater flow and is supported by hydraulic response in monitoring wells east of the TSF and groundwater flow model calibration (THEMAC, 2013). The barrier boundary fault must be located directly east of the monitoring points below the TSF for the hydraulic response from hydraulic loading behind the dam to be observed at the monitoring points.

3.2 Water-Level Elevation

The 2nd Quarter water-level data were used to develop a groundwater elevation contour map (Fig. 5). The groundwater elevation contours are also based on regional contouring presented in the Baseline Data Report (INTERA, 2012).

3.2.1 Pit Capture Zone

Groundwater elevation data from wells in the pit area show the pit is a hydraulic sink. The pit capture zone encompasses the pit excavation area, including wells GWQ11-24 and GWQ11-25. A hydrograph for the pit is presented in Appendix C as Figure C1. The pit hydrograph consists of water levels collected from historical documents, Baseline Data Report, and Stage 1 Abatement; all data points were referenced to NMCC 2011 land surface survey. The pit filled to its maximum height in the late 1980s as a result of the corresponding period of elevated precipitation and storm-water runoff. Between 1990 and 2010, the pit level dropped 14 ft, and in the last 2 years the pit level has dropped 5.8 ft.

3.2.2 Waste Rock and Mill Site Area

In the vicinity of GWQ-5R, the groundwater elevation in the andesite is slightly higher than the bottom elevation of the alluvium in Grayback Arroyo, and the alluvium is gaining groundwater from the andesite (Fig. 5). The hydraulic gradient flattens downgradient of GWQ-3 where the alluvium recharges the underlying Santa Fe Group sediments. The direction of groundwater flow is west to east, but preferentially along Grayback Arroyo where the alluvium acts as a hydraulic drain (Fig. 5). Downgradient of GWQ-1 the hydraulic gradient steepens as a result of the barrier boundary effect of the East Animas Fault Trend mapped by Beaumont (2012). Based on the revised conceptual model for the area downgradient of the waste rock pile, discharges from the mill site area would follow Grayback Arroyo.

3.2.3 Tailings Storage Facility (TSF)

In the TSF vicinity, regional groundwater flow is from west to east, but the changes in the hydraulic gradient are controlled by the low permeability andesite, higher permeability Santa Fe Group sediments, and the East Animas Fault Trend barrier boundary (Fig. 5). Monitoring wells in the alluvial channel running east to west through the TSF (GWQ94-18, GWQ94-19, IW-1, IW-2, and IW-3), have been dry during the 1st and 2nd Quarter Stage 1 sampling events (Tables 2 and 3). This alluvial channel is also referred to as Hunkidori Gulch (Fig. 5).

3.3 Water Quality

The analyses of water-quality data include historical data and data collected during the 1st and 2nd Quarter Stage 1 sampling events. Drought conditions have prevented the collection of storm-water runoff samples from SWQ-1, SWQ-2, and SWQ-3. Auto samplers at these locations are currently in place and ready for sample collection when a storm-water event occurs. Plumbing associated with MW-4 (stock well) was frozen during the 1st Quarter sampling event and prevented sample collection. U.S. Bureau of Land Management (BLM) access to GWQ-3 was not granted until the 2nd Quarter sampling event: therefore no sample was obtained during the 1st Quarter.

A few minor laboratory issues occurred during 1st and 2nd Quarter sampling events, and have since been resolved. During 1st Quarter, the lab analyzed all of the samples for List A (except manganese), and the analysis for acidity was not performed on samples with no alkalinity.

3.3.1 Pit Area

A summary of 1st and 2nd Quarter water-quality data for the pit area monitoring points can be referenced from Table 5. Copies of lab reports are provided in Appendix B. Monitoring wells GWQ11-26 and GWQ96-22(A, B) represent upgradient water-quality conditions. Monitoring wells GWQ96-22(A, B) and GWQ96-23(A, B) are completed in the andesite rocks, which exhibit low TDS and sulfate, but relatively high alkalinity (Table 5).

As discussed in the Stage 1 Abatement Plan amendment (JSAI, 2011), the pit chemistry is influenced by the effects of evapo-concentration. Sulfate salts are precipitating along the edge of the pit water surface, but, under neutral pH conditions, concentrations of sulfate continue to increase along with chloride, sodium, and magnesium. Time-series pit water-quality data are presented as Figure 6.

Table 5. Summary of 1st and 2nd Quarter water-quality data for pit area

sample ID	date	pH	total dissolved solids (TDS)	total alkalinity	bicarbonate	carbonate	sulfate	chloride	fluoride	calcium	magnesium	sodium	potassium	aluminum	cadmium	cobalt	copper	manganese	selenium	zinc
		standard units	mg/L	mg/L as CaCO3	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NMWQCC standard*		6 to 9	1,000				600	250	1.6					5.00	0.01	0.05	1.0	0.2	0.05	10
pit wall seepage	8/19/2010	**2.00**	**13,900**	<20	<20	<2	**11,000**	21	**51.00**	470	190	<50	<50	**540.00**	**0.140**	**1.500**	**80.000**	**24.00**	**0.086**	**12.00**
pit	1/9/2013	7.73	**11,100**	112	112	< 2	**6,800**	**577**	**18.70**	500	958	1,170	44.400	0.08	**0.037**	**0.086**	0.059		0.008	0.78
pit	4/12/2013	7.07	**11,700**	122	122	<2	**6,750**	**670**	**22.10**	494	929	1,320	49.1	0.11	**0.039**	**0.069**	0.058	**31.90**	0.013	0.86
pit lake 1A**	4/12/2013	7.07	**10,500**	123	123	<2	**7,130**	**599**	**20.40**	453	859	1,230	40.2	0.11	**0.039**	**0.070**	0.061	**33.10**	0.015	0.88
GWQ96-22A	1/9/2013	7.85	521	301	301	< 2	39	61	**3.07**	41	3	147	2.34	0.02	< 0.002	< 0.006	< 0.001		< 0.001	< 0.01
GWQ96-22B	1/9/2013	7.52	722	477	477	< 2	6	101	**3.32**	70	6	193	3.66	0.04	< 0.002	< 0.006	0.003		< 0.001	0.05
GWQ96-23A	1/11/2013	8.07	693	627	627	< 2	6	12	**2.00**	129	38	71	1.37	0.03	< 0.002	< 0.006	0.001		< 0.001	< 0.01
GWQ96-23B	1/11/2013	8.03	571	502	502	< 2	< 5.0	15	**2.05**	77	21	98	1.57	< 0.02	< 0.002	< 0.006	< 0.001		< 0.001	0.01
GWQ11-24A	1/8/2013	**4.53**	**4,180**	< 20	< 20	< 2	**2,550**	30	**17.40**	464	108	129	6.98	**38.00**	**0.181**	**0.256**	**104.000**		0.029	5.72
GWQ11-24A	4/12/2013	**4.48**	**4,320**	< 20	< 20	< 2	**2,730**	30	**22.90**	468	110	126	<10	**46.00**	**0.206**	**0.290**	**126.000**	**11.40**	0.035	6.32
GWQ11-24B	1/9/2013	7.07	**2,280**	219	219	< 2	**1,280**	27	**3.39**	417	76	96	6.23	< 0.02	< 0.002	0.011	< 0.001		< 0.001	0.05
GWQ11-24B	4/12/2013	6.18	**2,440**	189	189	< 2	**1,510**	28	**3.99**	469	78	91	5.81	< 0.02	< 0.002	0.019	< 0.006	**3.54**	<0.005	0.23
GWQ11-25A	1/9/2013	**3.98**	**11,300**	< 20	< 20	< 2	**7,900**	21	**124.00**	419	149	647	< 100	**414.00**	**0.385**	**1.720**	**12.600**		**0.087**	**14.90**
GWQ11-25A	4/12/2013	**3.30**	**23,800**	< 20	< 20	< 2	**17,400**	11	**324.00**	556	<500	<500	<500	**1,730.00**	**0.656**	**3.910**	**63.900**	**77.50**	<0.500	**42.10**
GWQ11-25B	1/9/2013	6.94	**2,540**	343	343	< 2	**1,400**	27	**8.03**	493	76	139	3.9	0.34	< 0.002	< 0.006	0.002		0.002	0.02
GWQ11-25B	4/12/2013	6.54	**2,530**	339	339	< 3	**1,470**	27	**8.10**	465	81	128	4.35	0.38	< 0.002	< 0.006	< 0.006	**3.30**	0.002	0.02
GWQ11-26	1/8/2013	7.76	654	361	361	< 2	97	14	< 1.00	96	22	72	1.34	0.03	< 0.002	< 0.006	0.003		0.001	< 0.01
GWQ11-26	4/12/2013	7.05	582	354	354	< 2	98	16	0.39	93	23	68	1.73	<0.02	< 0.002	< 0.006	< 0.006	0.02	0.002	< 0.01

* may not apply to pit and pit capture area
** conformation sample

NMWQCC – New Mexico Water Quality Control Commission
mg/L – milligrams per liter

Monitoring wells GWQ11-24(A, B) and GWQ11-25(A, B) are completed in the mineralized ore-bearing quartz monzonite rocks surrounding the pit (Fig. 3). Water-quality data from the A piezometers are significantly different than the data from the deeper B piezometers (Table 5). Furthermore, water quality from GWQ11-25(A) is completely different than all other samples from the pit area, but somewhat similar to the pit wall seepage (Table 5). GWQ11-25(A) is completed in a localized zone of sulfide mineralization (see completion diagram in Appendix A), and it is suspected that air-lift development in the low-yielding formation caused oxidation of the sulfide mass in the borehole surrounding the screen interval. The other theory considered is localized infiltration of oxygenated meteoric water into sulfide-bearing fractures on the bench that are connected to the shallow piezometer. The second theory requires vertical fractures or interconnected fractures. The A piezometer purged dry after one well volume indicating low horizontal hydraulic conductivity, so vertical infiltration appears plausible. GWQ11-24(B) and GWQ11-25(B) were also developed using air-lift methods, but adequate submergence, better hydraulic conductivity, and low sulfide content in the borehole adjacent to the screen interval possibly prevented adverse water-quality effects.

Poor quality groundwater observed in GWQ11-24(A) and GWQ11-25(A) is most likely localized to the area around the wells or shallow fracture, and not a plume of acidic groundwater. All other pit area monitoring points yield neutral pH groundwater with healthy concentrations of alkalinity. Current sampling shows low pH water is located to the upper piezometers at GWQ11-24 and GWQ11-25. At these locations the formation has low horizontal hydraulic conductivity and the wells are within the hydraulic sink created by the pit. This area will be mined out and dewatered if the proposed mine plan proceeds.

3.3.2 Waste Rock and Mill Site Area

A summary of 1st and 2nd Quarter water-quality data for the waste rock and mill site area monitoring points can be referenced from Table 6. Copies of lab reports are provided in Appendix B. Monitoring well GWQ-5R represents upgradient groundwater quality conditions in the andesite rocks. Monitoring well GWQ-5R exhibits low TDS and sulfate, but relatively high alkalinity (Table 6).

Results from GWQ-1, GWQ-3, and GWQ-8 provide evidence that a sulfate-TDS plume exists in the alluvium and Santa Fe Group sediments below the waste rock and mill site area along Grayback Arroyo (Table 6). Time-series sulfate concentrations for these three wells and historical data from SWQ-1 through -3 are shown on Figure 7. The source of the sulfate-TDS plume is likely leachate from the waste rock and mill site area (Fig. 1) that has comingled with storm-water runoff and infiltrated in the alluvium along Grayback Arroyo (Figs. 3, 4, and 7).

Table 6. Summary of 1st and 2nd Quarter water-quality data for monitoring points in the waste rock/mill site and TSF areas

sample location	analysis date	pH	total dissolved solids (TDS)	total alkalinity	bicarbonate	carbonate	sulfate	chloride	fluoride	calcium	magnesium	sodium	potassium	aluminum	cadmium	cobalt	copper	selenium	zinc
		standard units	mg/L	mg/L as CaCO3	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NMWQCC standard		6 to 9	1,000				600	250	1.6					5.0	0.01	0.05	1.0	0.05	10.0
waste rock and mill site area																			
GWQ-1	1/10/2013	7.87	487	164	164	< 2	152	38	0.38	63.2	17.7	65.1	2.11	< 0.02	< 0.002	< 0.006	< 0.001	< 0.001	< 0.01
GWQ-1	4/12/2013		465	195	195	< 2	120	30		57.0	13.5	60.0	2.00						
GWQ-3	4/12/2013	7.50	**3,060**	188	188	< 2.0	**1,750**	75		477.0	111.0	253.0	3.99						
GWQ-5R	1/10/2013	7.79	504	293	293	< 2	97	17	1.25	96.9	22.7	34.0	5.15	< 0.02	< 0.002	< 0.006	< 0.001	< 0.001	0.01
GWQ-5R	4/12/2013	7.12	500	285	285	< 2	101	17		87.1	20.3	30.6	4.63						
GWQ-8	1/10/2013	7.60	**1,200**	213	213	< 2	498	89	< 0.50	202.0	33.8	107.0	2.43	< 0.02	< 0.002	< 0.006	< 0.001	0.002	0.01
GWQ-8	4/12/2013	7.16	**1,190**	214	214	< 2.0	447	85		214.0	35.6	113.0	2.73						
tailings storage facility (TSF) area																			
GWQ-11	4/12/2013	6.73	952	163	163	< 2	359	142		155.0	43.0	68.6	3.34						
GWQ-12	4/12/2013	7.19	360	179	179	< 2	47	27		50.0	16.1	26.9	2.66						
GWQ94-13	1/10/2013	7.63	**1,460**	126	126	< 2	543	184	< 0.50	246.0	49.9	106.0	3.22	< 0.02	< 0.002	< 0.006	< 0.001	0.017	< 0.01
GWQ94-13	4/10/2013	7.16	**1,410**	124	124	< 2	517	177		231.0	44.2	90.7	2.73						
GWQ94-14	1/11/2013	7.78	583	218	218	< 2	140	44	0.42	90.2	24.5	45.8	1.62	< 0.02	< 0.002	< 0.006	< 0.001	0.003	< 0.01
GWQ94-14	4/10/2013	7.36	553	213	213	< 2	141	44		94.8	25.8	48.7	1.71						
GWQ94-16	1/10/2013	7.76	**1,170**	173	173	< 2	407	192	0.59	188.0	47.7	75.7	3.33	0.04	< 0.002	< 0.006	< 0.001	0.002	< 0.01
GWQ94-16	4/12/2013		**1,070**	171	171	< 2	421	191		281.0	50.7	65.0	4.78						
NP-2	4/12/2013	7.38	872	167	167	< 2	299	170		147.0	40.7	68.9	4.24						
NP-3	1/10/2013	7.24	**1,390**	54.2	54.2	< 2	557	190	< 0.10	218.0	49.5	107.0	3.23	< 0.02	< 0.002	< 0.006	0.001	0.006	1.85
NP-3	4/12/2013	6.95	**1,340**	71.4	71.4		561	191		219.0	47.5	97.9	3.41						
MW-4	4/12/2013	8.29	267	87	87	< 2.0	92	21		23.2	7.3	48.1	2.27						

NMWQCC – New Mexico Water Quality Control Commission
mg/L - milligrams per liter

The downgradient extent of the sulfate-TDS plume occurs between GWQ-8 and GWQ-1 (Table 6). Groundwater samples from monitoring wells in Grayback Arroyo have neutral pH, alkalinity, and low to non-detectable metal concentrations. TDS is slightly elevated in GWQ-1 and GWQ-8, but sulfate concentrations are below NMWQCC standard of 600 mg/L. Only one sample has been collected from GWQ-3, and additional samples from GWQ-3 are needed to confirm the elevated TDS and sulfate.

3.3.3 Tailings Storage Facility (TSF)

A summary of 1st and 2nd Quarter water-quality data for the TSF area monitoring points can be referenced from Table 6. Copies of lab reports are provided in Appendix B. Monitoring well GWQ-5R represents upgradient groundwater quality conditions in the andesite rocks, and GWQ-12 represents off-gradient groundwater quality conditions in the Santa Fe Group sediments (Table 6). Groundwater upgradient and off-gradient of the TSF exhibits low TDS and sulfate, but relatively high alkalinity (Table 6).

All samples from the monitoring network below the TSF had sulfate concentrations below the NMWQCC standard of 600 mg/L (Table 6), but monitoring wells GWQ94-13, GWQ94-16, and NP-3 had elevated TDS concentrations. Furthermore, TDS concentrations in GWQ94-13, GWQ94-16, and NP-3 are decreasing over time (Fig. 8).

4.0 DISCUSSION

4.1 Pit Area

The additional Stage 1 water-level data from wells in the pit area demonstrate the pit is a hydraulic sink, and the capture zone includes the mineralized quartz monzonite rocks. The pit chemistry has maintained a neutral pH, and significant precipitation of sulfate salts have been occurring around the water surface perimeter.

Pit water balance during the last 2 years has been dominated by evaporation. Evaporation exceeds groundwater inflow for pit level to drop. With no surface-water and groundwater inflow, the evaporation rate would equal 35 inches per year or 13.9 gpm for a 5-acre water surface.

The poorer quality groundwater observed in the shallow piezometers at GWQ11-24 and GWQ11-25 is puzzling, and is suspected to be an artifact of well development, or localized in fracture zone. The pit chemistry would be drastically different if significant rates of groundwater resembling the quality observed at GWQ11-25(A) were reporting to the pit. Both shallow piezometers are low yielding, easily pump dry after one well volume, slowly recover, and produce turbid water; therefore additional well development by bailing or pumping is impractical. Field measurements of dissolved oxygen from pit area monitoring points will be collected during the upcoming 3rd and 4th Quarter sampling events, so the chemistry at GWQ11-24(A) and GWQ11-25(A) can be evaluated in more detail.

4.2 Waste Rock and Mill Site Area

Stage 1 data from monitoring points for the waste rock and mill site area have provided a better understanding of water-quality conditions. Only GWQ-3 exceeds NMWQCC standards for both sulfate and TDS (Table 6). Groundwater along Grayback Arroyo has neutral pH and adequate concentrations of alkalinity for buffering historical discharges from the waste rock and mill site area.

The revised conceptual model and Stage 1 sampling results for the waste rock and mill site area (Figs. 4 and 7) help clarify the source for elevated sulfate and TDS, transport mechanisms, and extent of the sulfate and TDS plume. Figures 9 and 10 are maps showing the distribution of groundwater sulfate and TDS concentrations in Grayback Arroyo.

4.3 TSF Area

Analysis of the 1st and 2nd Quarter Stage 1 sampling data demonstrates the sulfate concentrations are below NMWQCC standard of 600 mg/L, and the remaining TDS plume below the TSF is decreasing in concentration and size (Figs. 10, 11, and 12). Pumping from GWQ-7 and GWQ-9 has caused drawdown and capture of the residual TDS plume below the TSF. Figure 11 is a graph of metered pumping from GWQ-7 and GWQ-9, and well locations can be referenced from Figure 9. These wells are located directly north and south of the TSF TDS plume. A total of 6 ac-ft has been pumped from GWQ-7 and GWQ-9 in the last 24 months, which has resulted in observed drawdown and TDS plume reduction.

5.0 REFERENCES

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[JSAI] John Shomaker & Associates, Inc., 2011, Amendment to New Mexico Copper Company (Copper Flat Mine) Stage 1 Abatement Plan: Consultant's report prepared by John Shomaker & Associates, Inc. prepared for New Mexico Copper Company, 21 p. plus figure and appendices

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Seager, W. R., Clemons, R. E., Hawley, J. W., and Kelley, R. E., 1982, Geology of northwest part of Las Cruces 1x2 sheet (scale 1:125,000), New Mexico: New Mexico Bureau of Mines & Mineral Resources Geologic Map 53.

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ILLUSTRATIONS

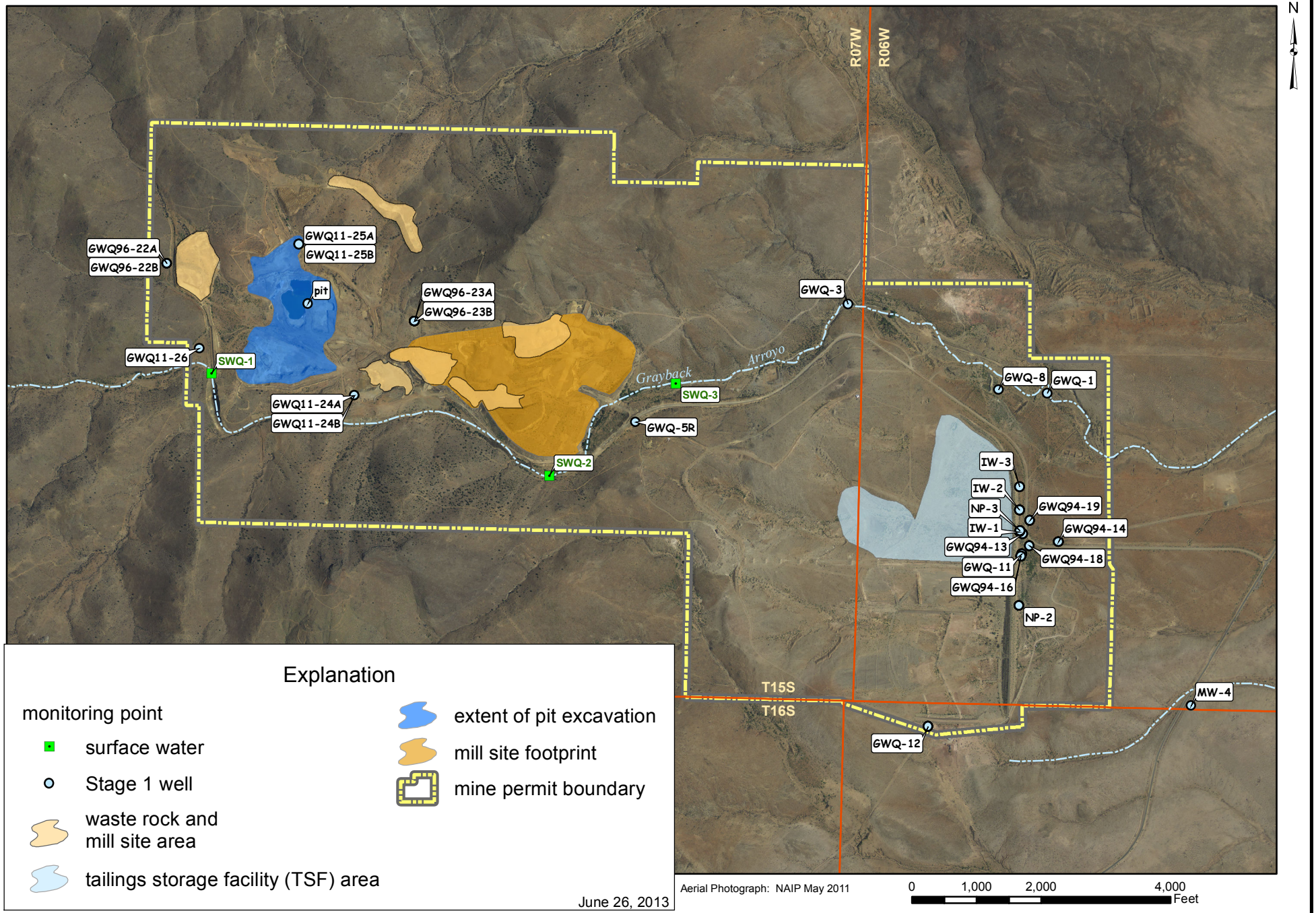


Figure 1. Aerial photograph showing locations of facilities associated with the former Copper Flat Mine operated by Quintana Minerals, Sierra County, New Mexico.

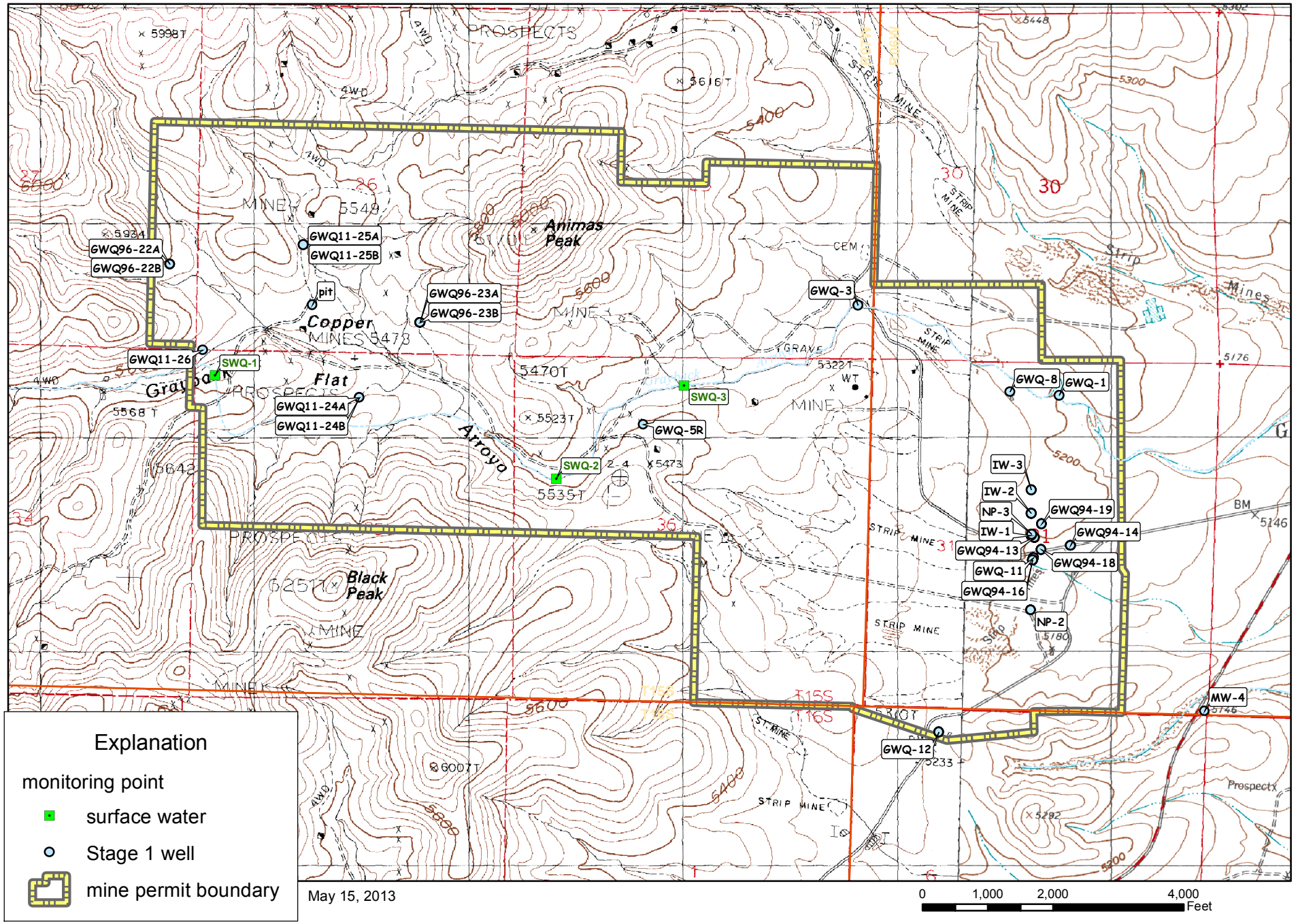
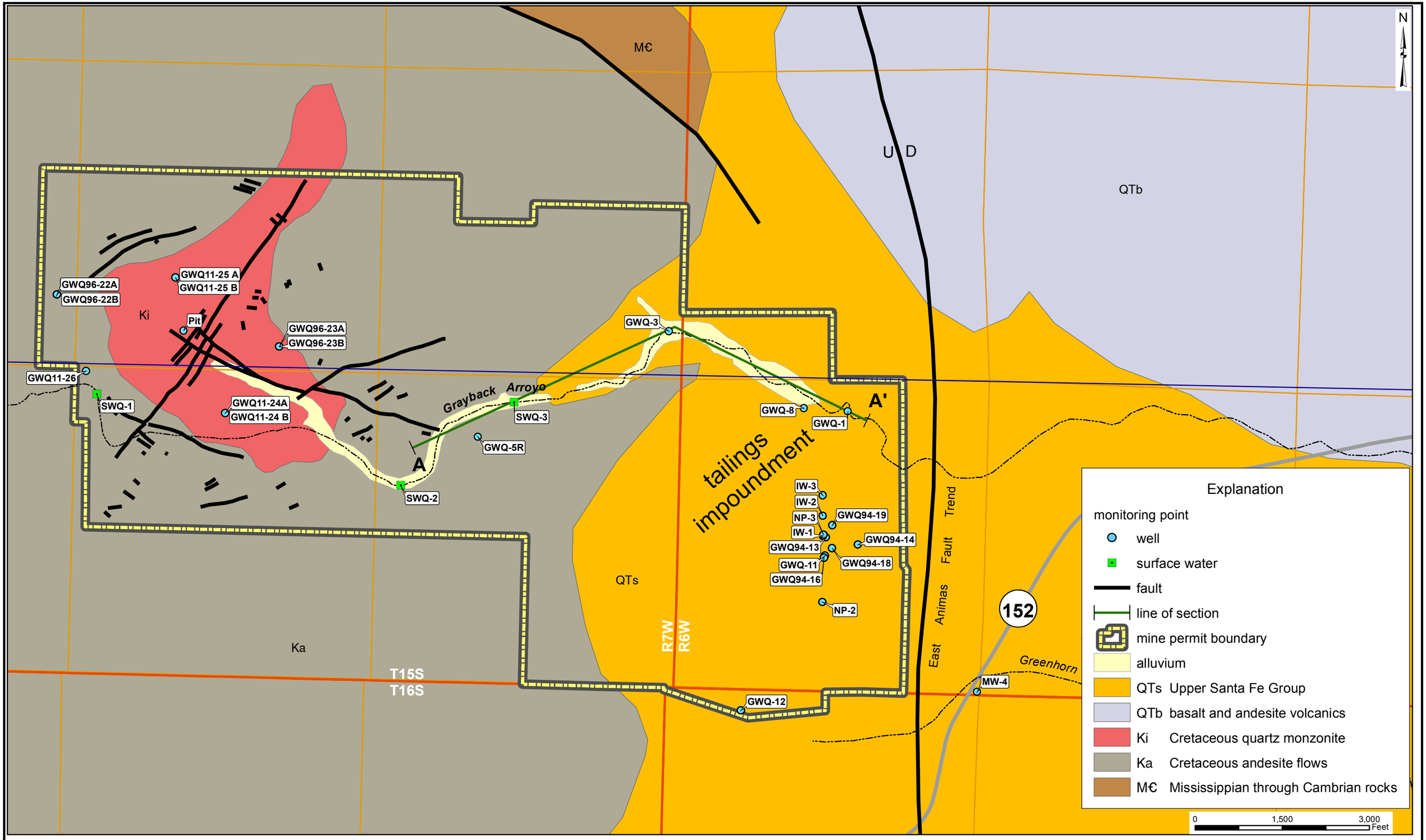


Figure 2. Topographic map showing locations of Stage 1 Abatement Plan monitoring points, Copper Flat Mine, Sierra County, New Mexico.



Geologic Source: modified from USGS OFR 97-0052

Figure 3. Geologic map showing distribution of Stage 1 Abatement Plan area, Copper Flat Mine, Sierra County, New Mexico.

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Exhibit 18

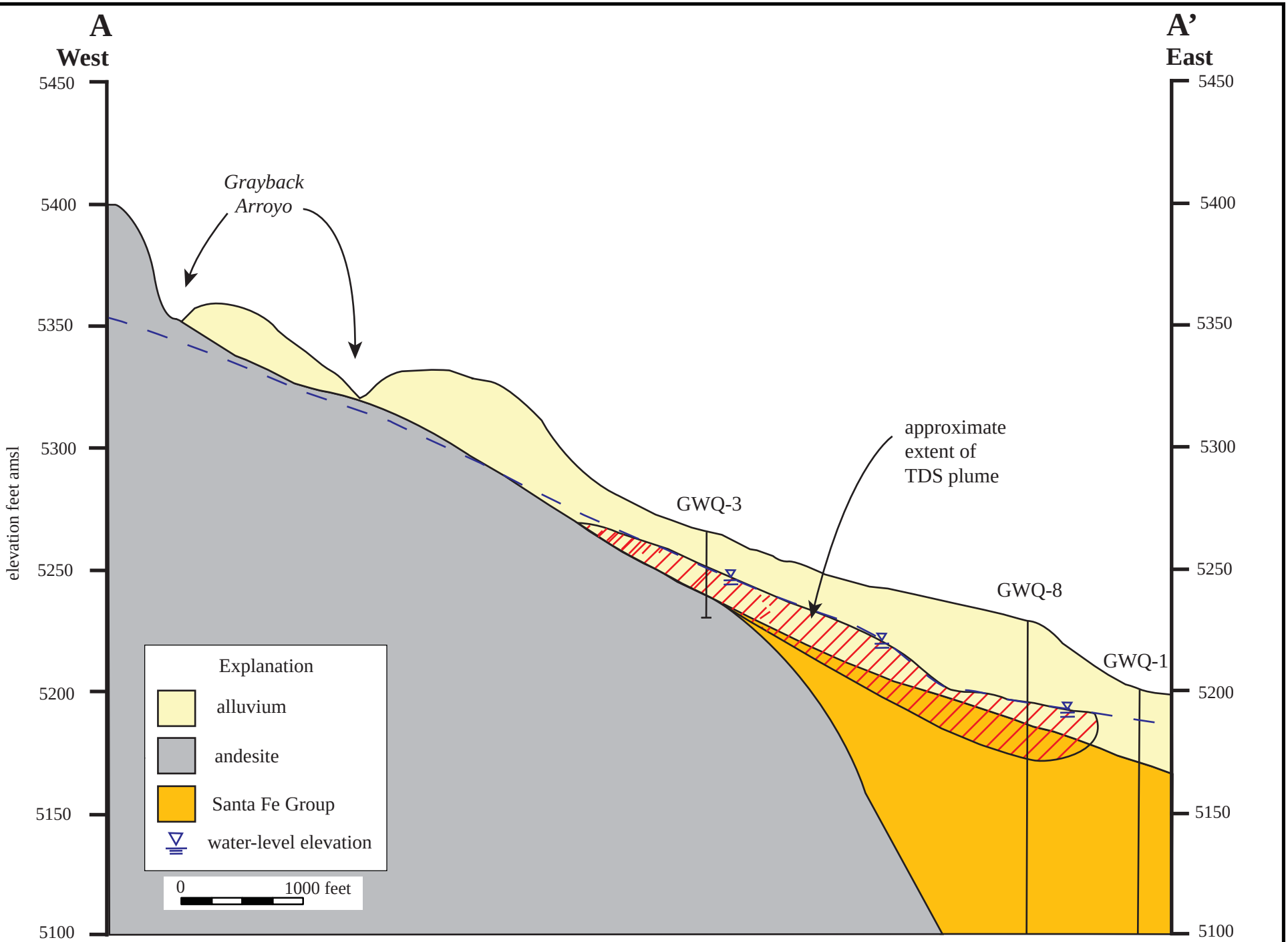

Figure 4. West to east hydrogeologic cross-section through the waste rock and mill site area, Copper Flat Mine, Sierra County, New Mexico.

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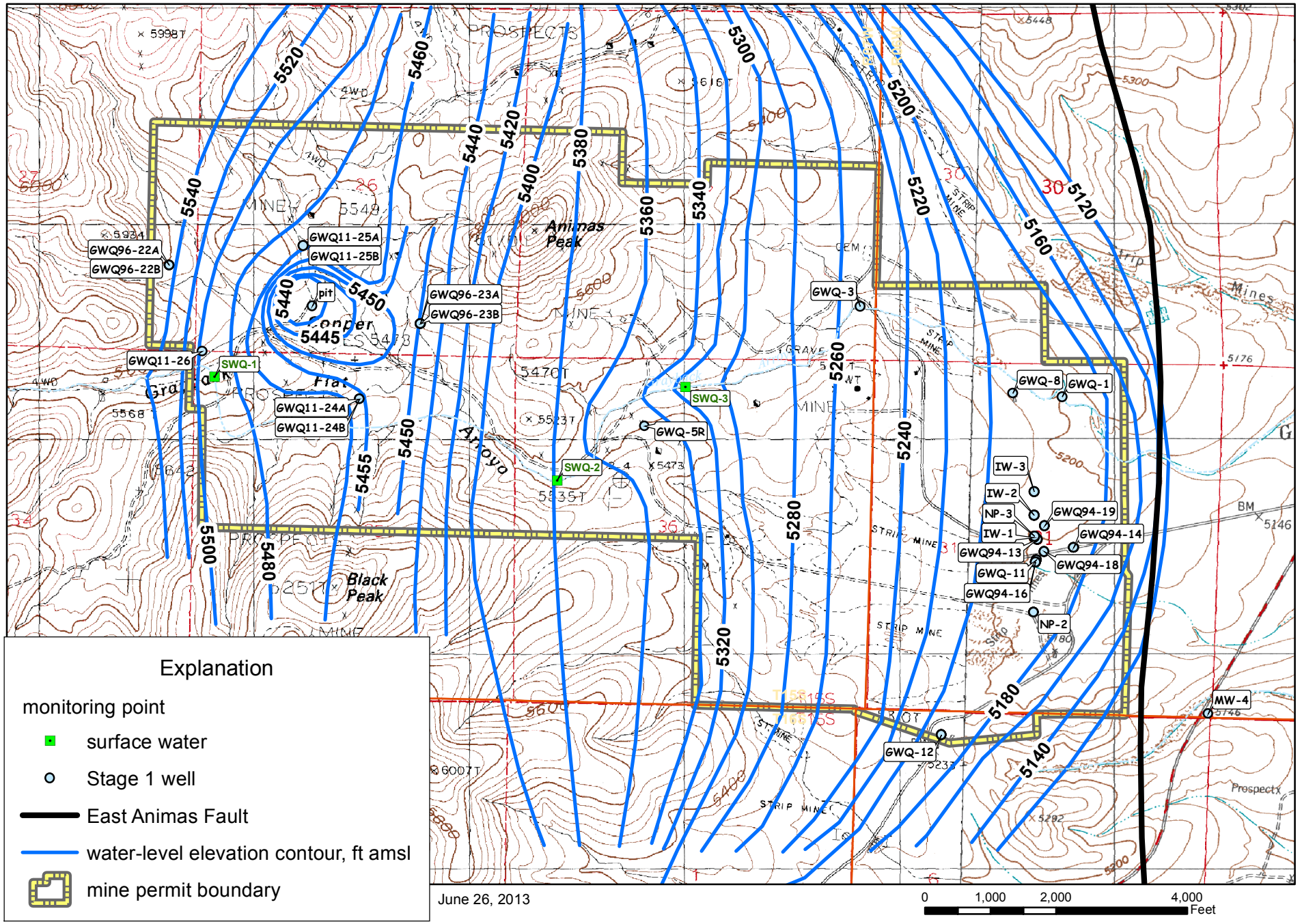

Figure 5. Water-level elevation contour map for Stage 1 Abatement Plan, 2nd Quarter 2013, Copper Flat Mine, Sierra County, New Mexico.

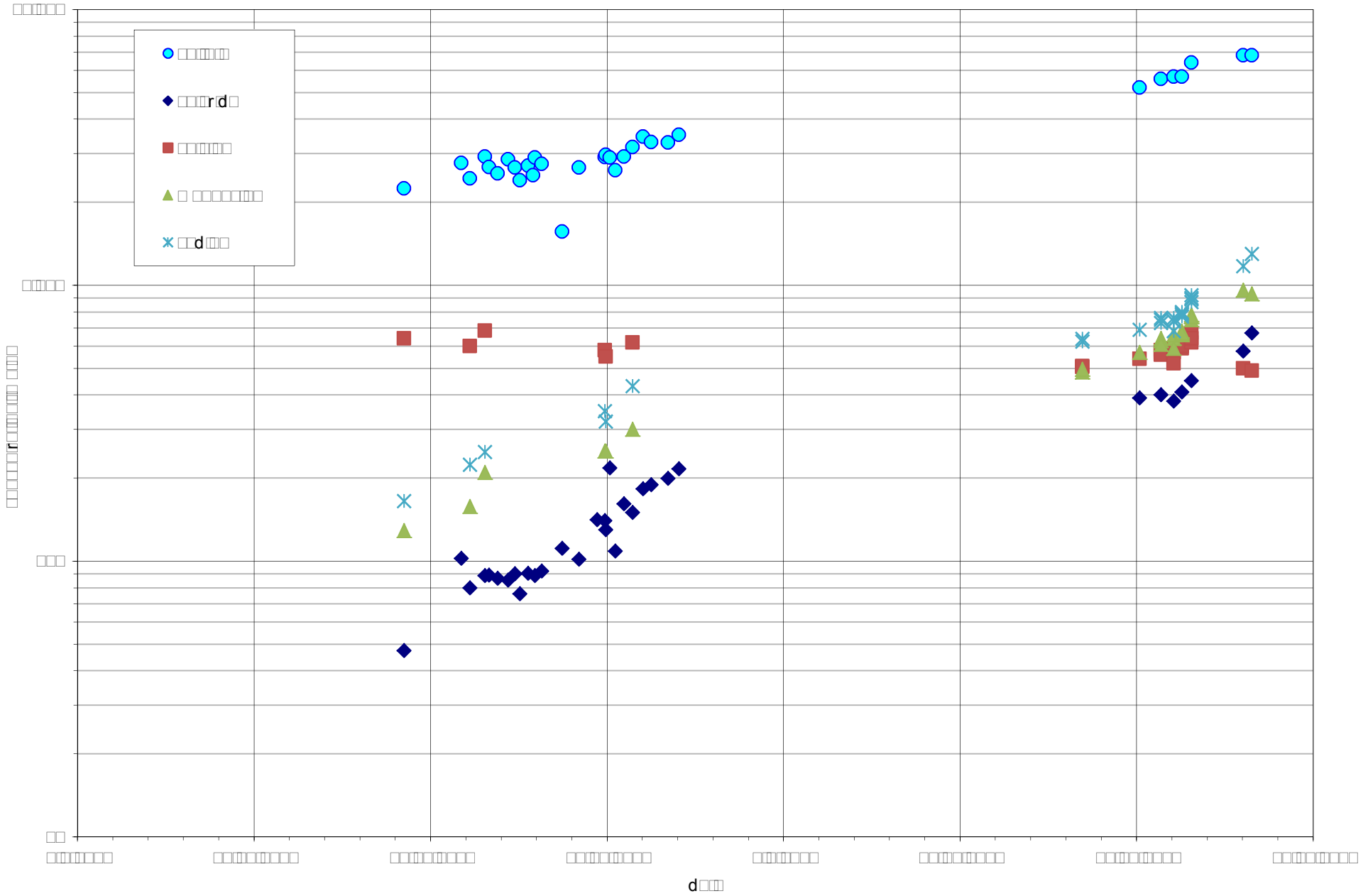

Figure 6. Time-series graph of selected water-quality data for the pit water body, Copper Flat Mine, Sierra County, New Mexico.

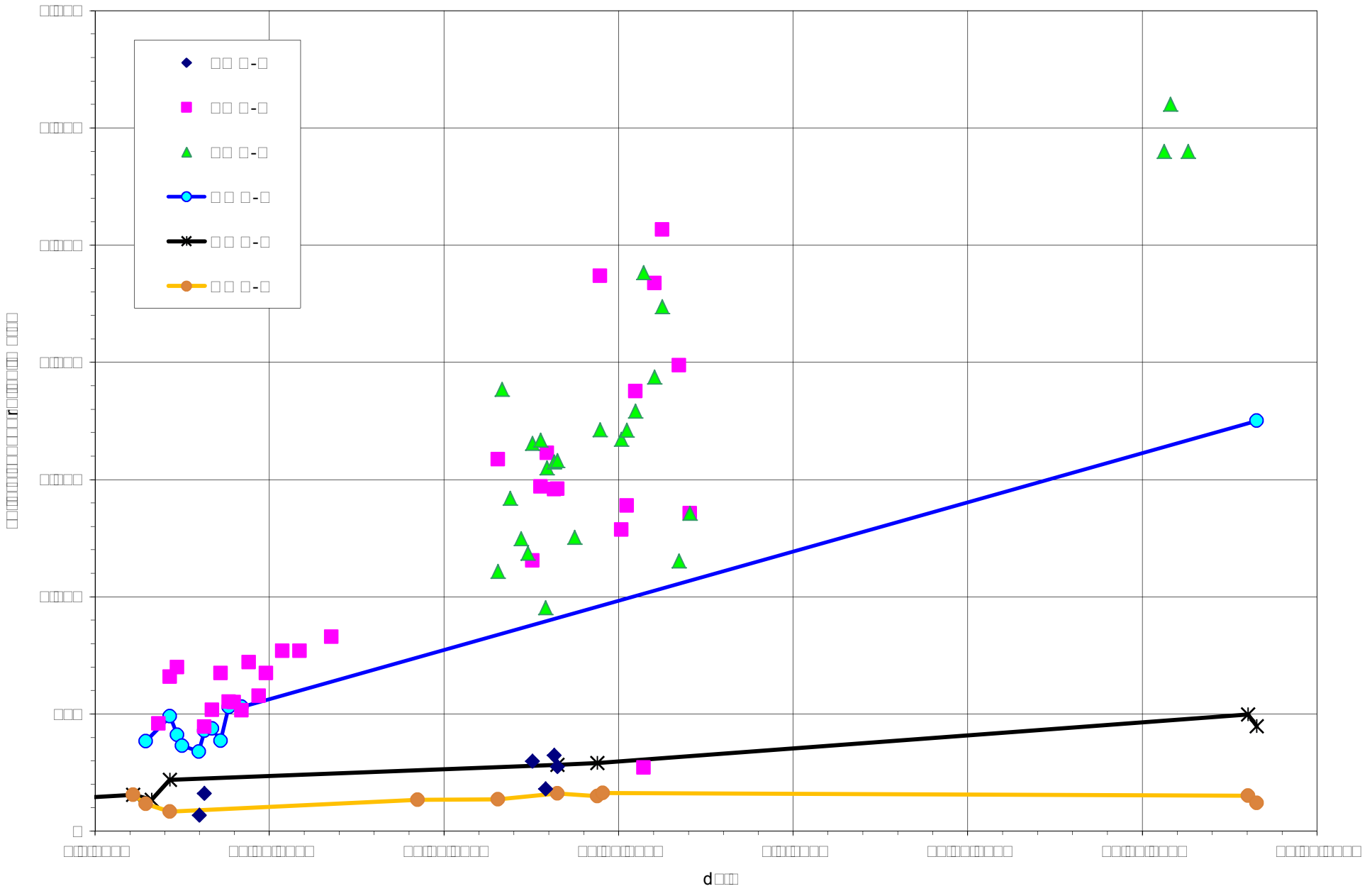

Figure 7. Time-series graph of sulfate concentrations in SWQ-1, SWQ-2, SWQ-3, and monitoring wells GWQ-1, GWQ-3, and GWQ-8 located in Grayback arroyo below waste rock and mill site area, Copper Flat Mine, Sierra County, New Mexico.

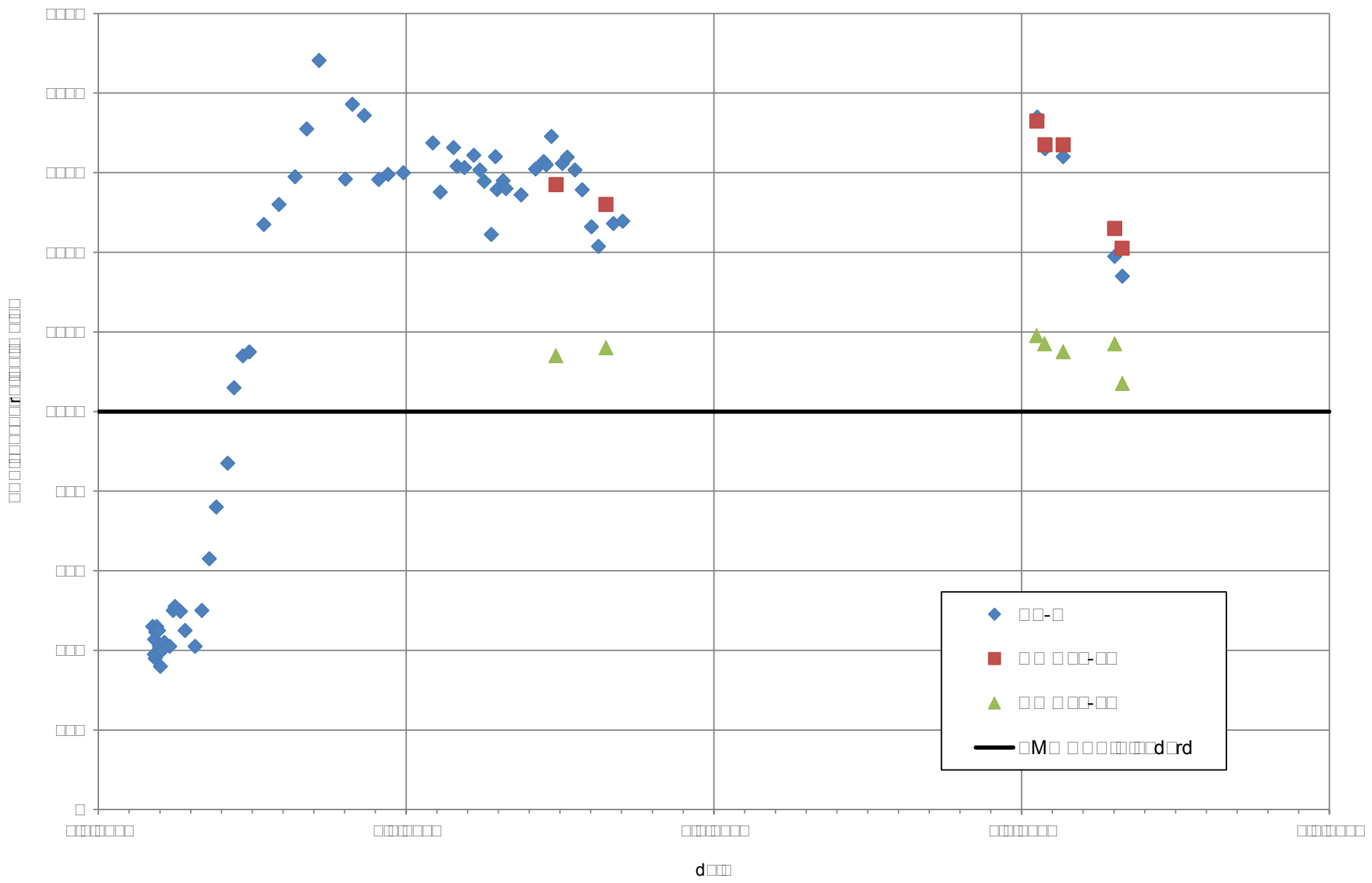

Figure 8. Time-series graph of total dissolved solids (TDS) concentrations in NP-3, GWQ94-13, and GWQ94-16, located downgradient of the tailings storage facility (TSF), Copper Flat Mine, Sierra County, New Mexico.

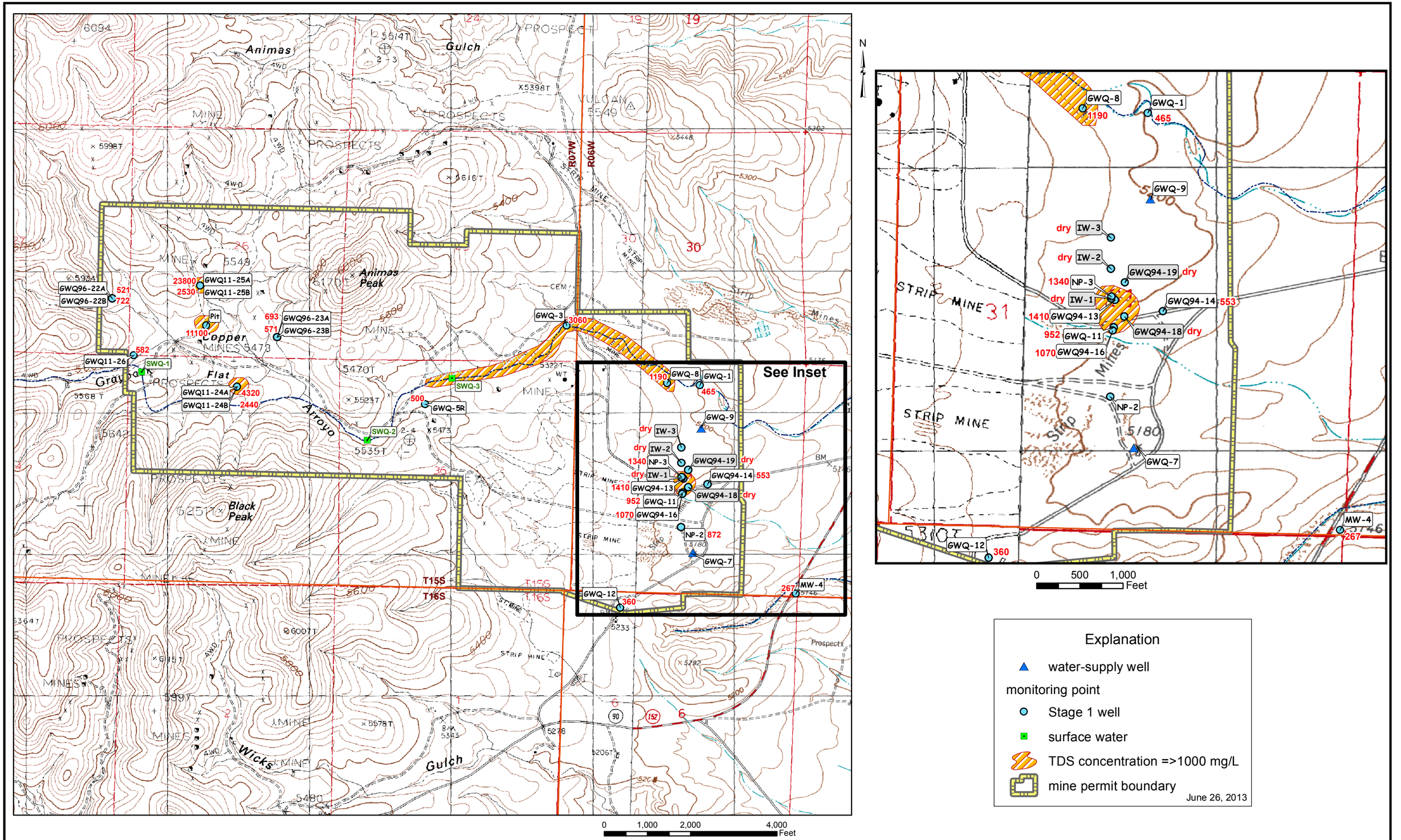

Figure 9. Map showing Stage 1 Abatement Plan monitoring points and lateral extent of 2nd Quarter 2013 TDS plumes, Copper Flat Mine, Sierra County, New Mexico.

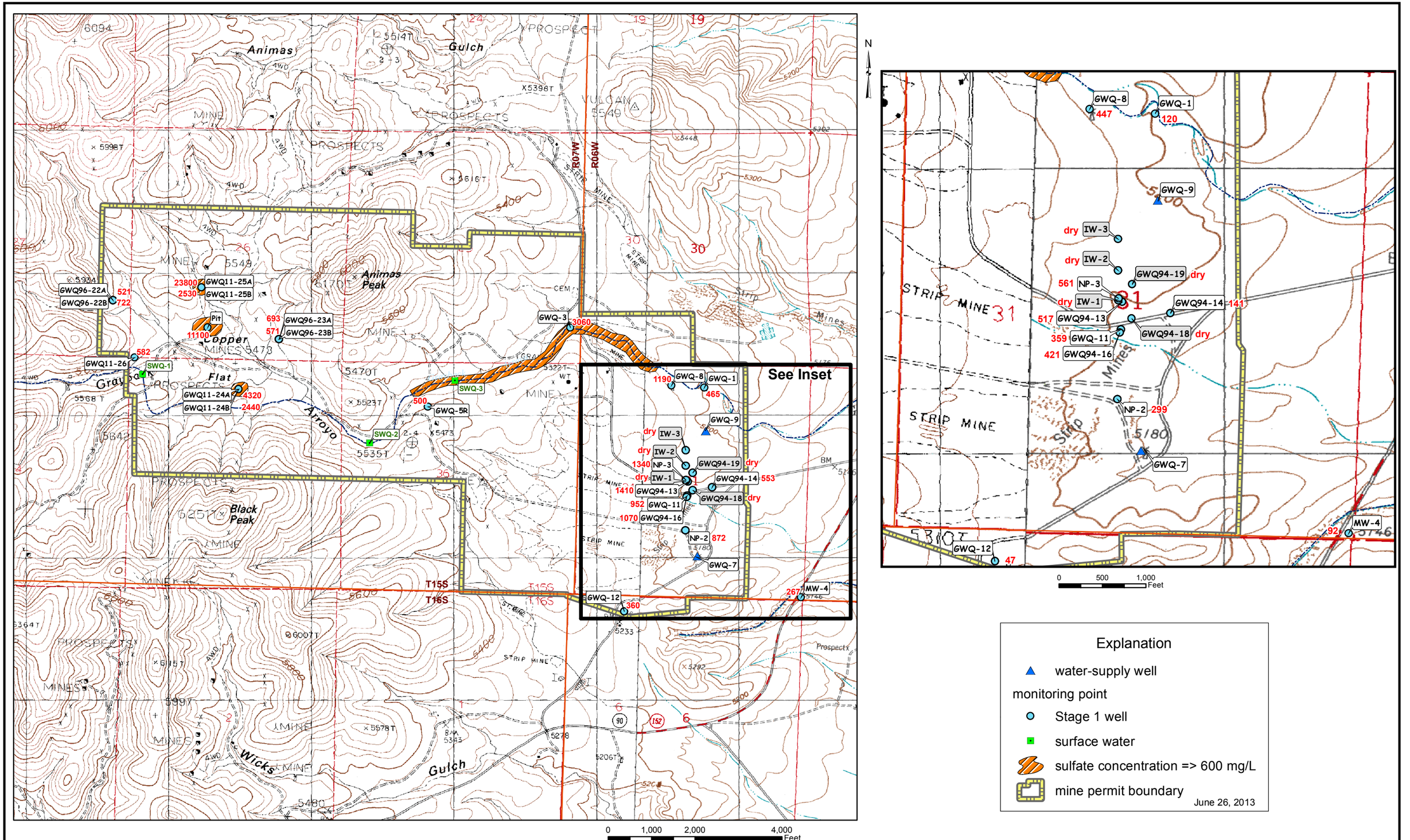

Figure 10. Map showing Stage 1 Abatement Plan monitoring points and lateral extent of 2nd Quarter 2013 sulfate plumes, Copper Flat Mine, Sierra County, New Mexico.

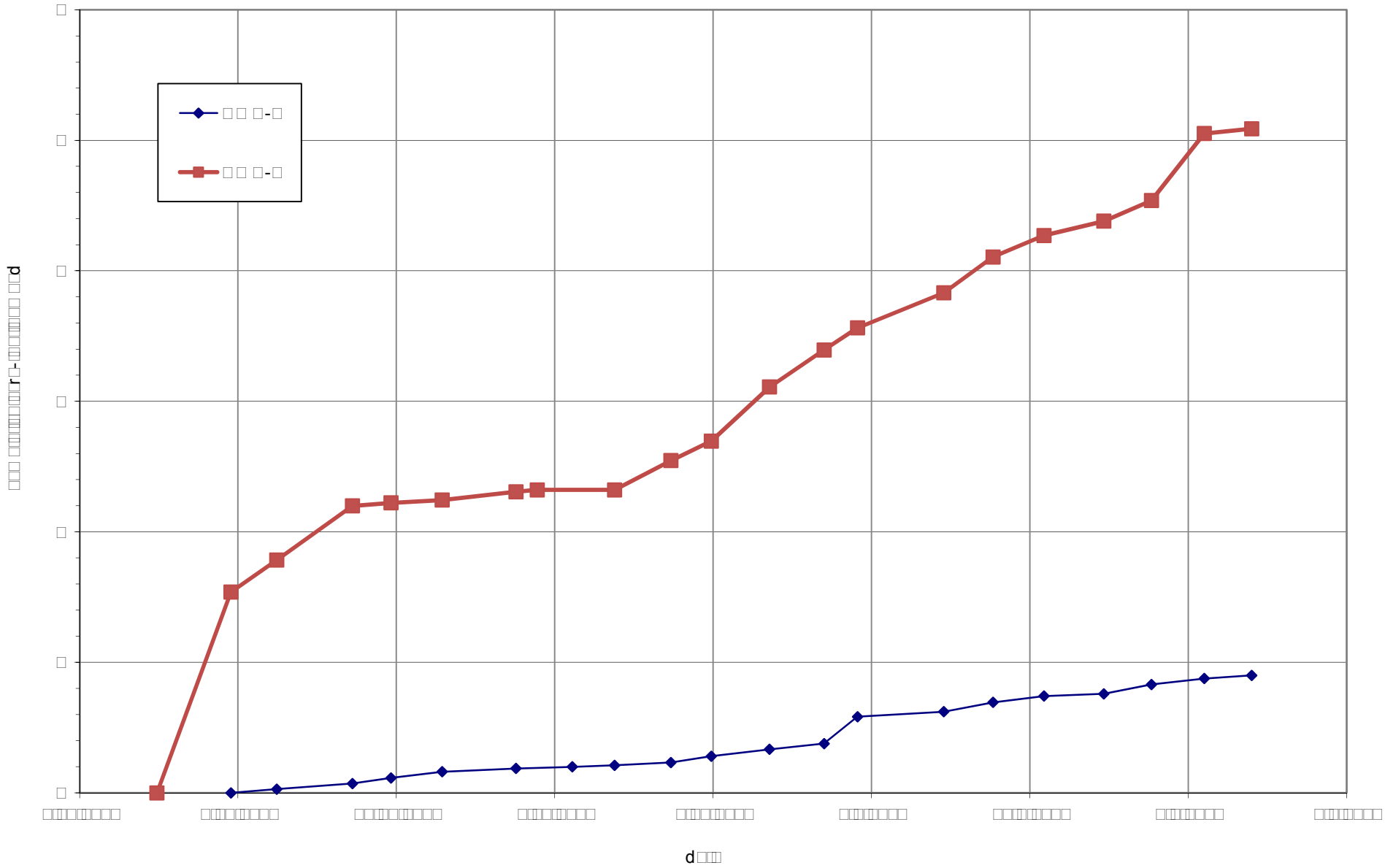

Figure 11. Graph of cumulative water pumped versus time for GWQ-7 and GWQ-9, Copper Flat Mine, Sierra County, New Mexico.

APPENDICES

Appendix A.

Well completion diagrams

Appendix A. Well completion diagrams

Appendix A figure number	well name	facility area	year drilled	comments
A1	GWQ96-22A	pit	1996	well diagram from well log
A1	GWQ96-22B	pit	1996	well diagram from well log
A2	GWQ96-23A	pit	1996	well diagram from well log
A2	GWQ96-23B	pit	1996	well diagram from well log
A3	GWQ11-24A	pit	2011	as-built well diagram
A3	GWQ11-24B	pit	2011	as-built well diagram
A4	GWQ11-25A	pit	2011	as-built well diagram
A4	GWQ11-25B	pit	2011	as-built well diagram
A5	GWQ11-26	pit	2011	as-built well diagram
n/a	pit	pit	1982	not applicable
A6	GWQ-1	waste rock and mill site	1972	simple well diagram from available information
A15	GWQ-3	waste rock and mill site	1932	Well Schedule form; no diagram
A7	GWQ-5R	waste rock and mill site	2011	as-built well diagram
A8	GWQ-8	waste rock and mill site	1931	well diagram from available information
A16	GWQ-11	tailings storage facility (TSF)	1981	Water Quality Monitor Wells table; no diagram
A16	GWQ-12	tailings storage facility (TSF)	1981	Water Quality Monitor Wells table; no diagram
A9	GWQ94-13	tailings storage facility (TSF)	1994	well diagram from well log
A10	GWQ94-14	tailings storage facility (TSF)	1994	well diagram from well log
A11	GWQ94-16	tailings storage facility (TSF)	1994	well diagram from well log
A12	GWQ94-18	tailings storage facility (TSF)	1994	well diagram from well log
A13	GWQ94-19	tailings storage facility (TSF)	1994	well diagram from well log
A16	IW-1	tailings storage facility (TSF)	1982	Water Quality Monitor Wells table; no diagram
A16	IW-2	tailings storage facility (TSF)	1982	Water Quality Monitor Wells table; no diagram
A16	IW-3	tailings storage facility (TSF)	1982	Water Quality Monitor Wells table; no diagram
A16	NP-2	tailings storage facility (TSF)	1981	Water Quality Monitor Wells table; no diagram
A16	NP-3	tailings storage facility (TSF)	1981	Water Quality Monitor Wells table; no diagram
A14	MW-4	tailings storage facility (TSF)	1975	simple well diagram from available information

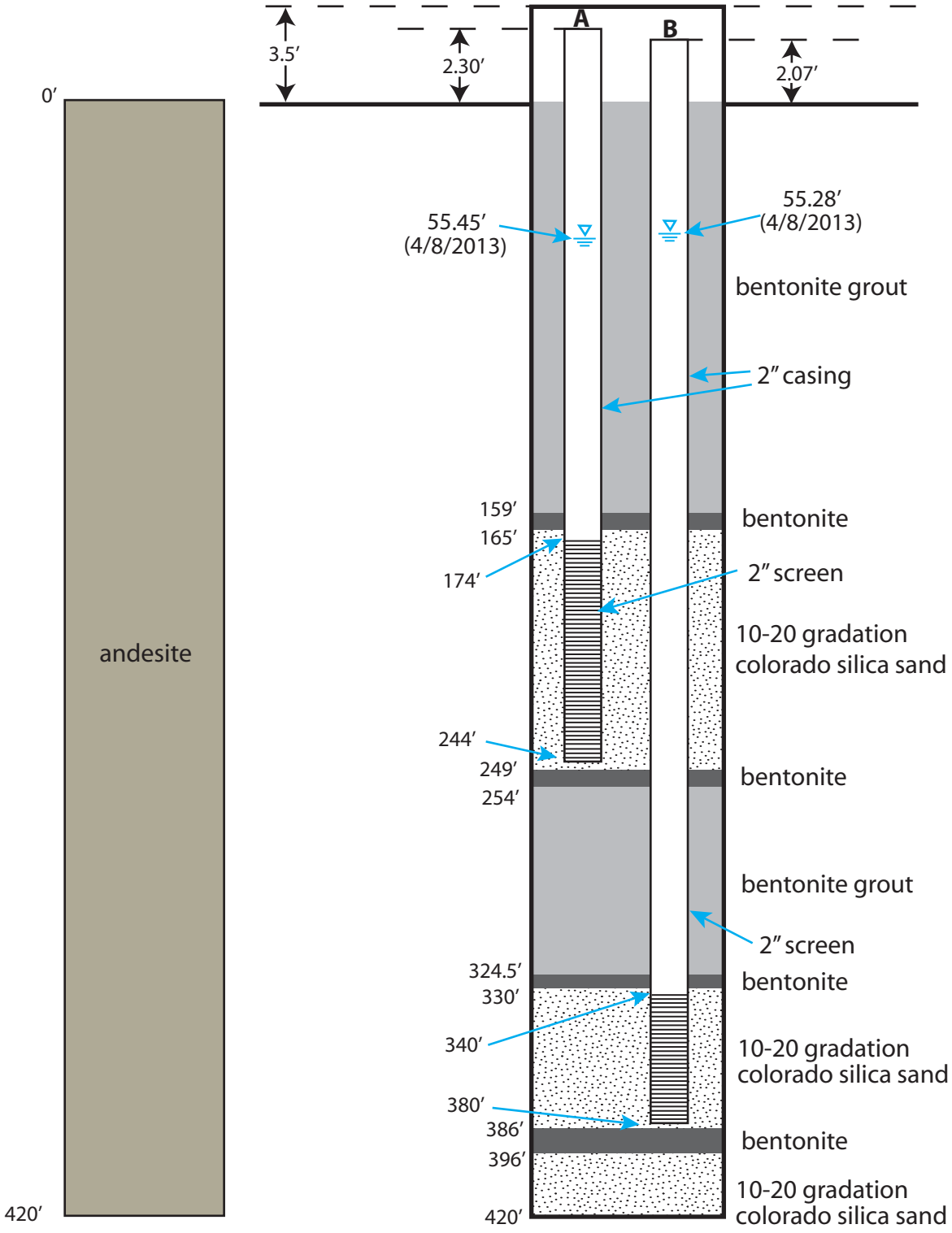

Figure A1. Well diagram, GWQ96-22, Copper Flat Mine, Sierra County, New Mexico.

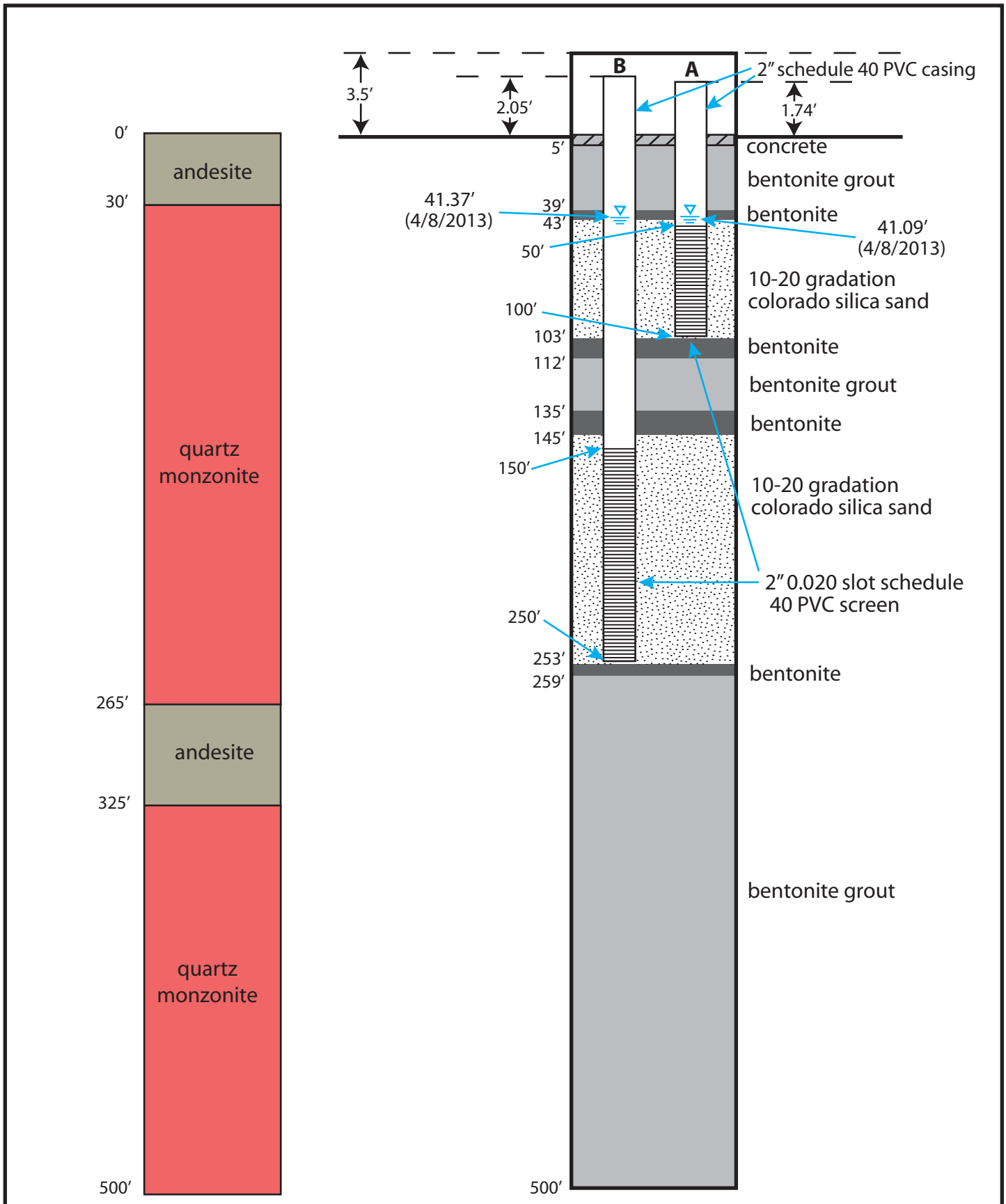

Figure A2. Well diagram, GWQ96-23, Copper Flat Mine, Sierra County, New Mexico.

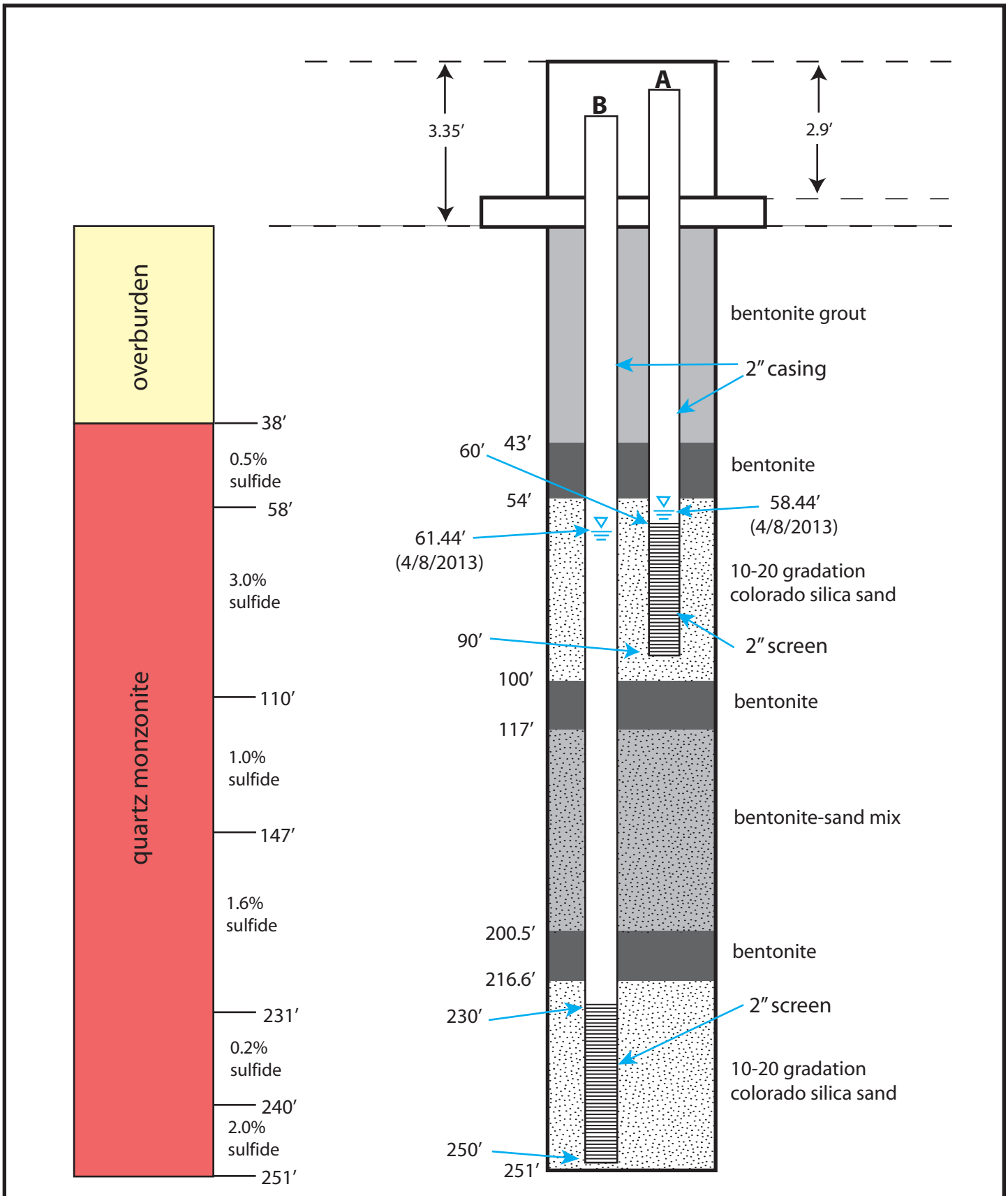

Figure A3. Well diagram, GWQ11-24, Copper Flat Mine, Sierra County, New Mexico.

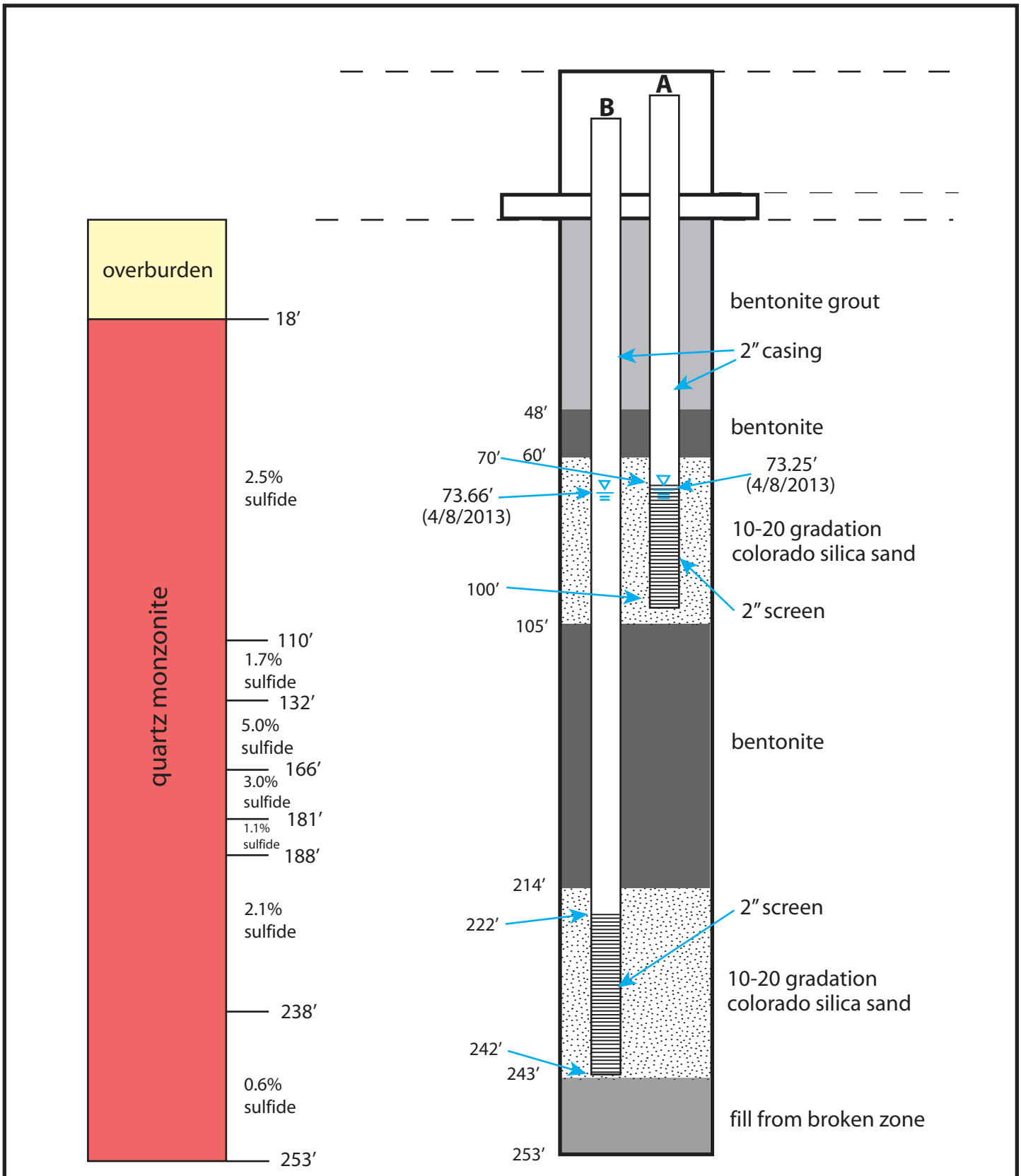

Figure A4. Well diagram, GWQ11-25, Copper Flat Mine, Sierra County, New Mexico.

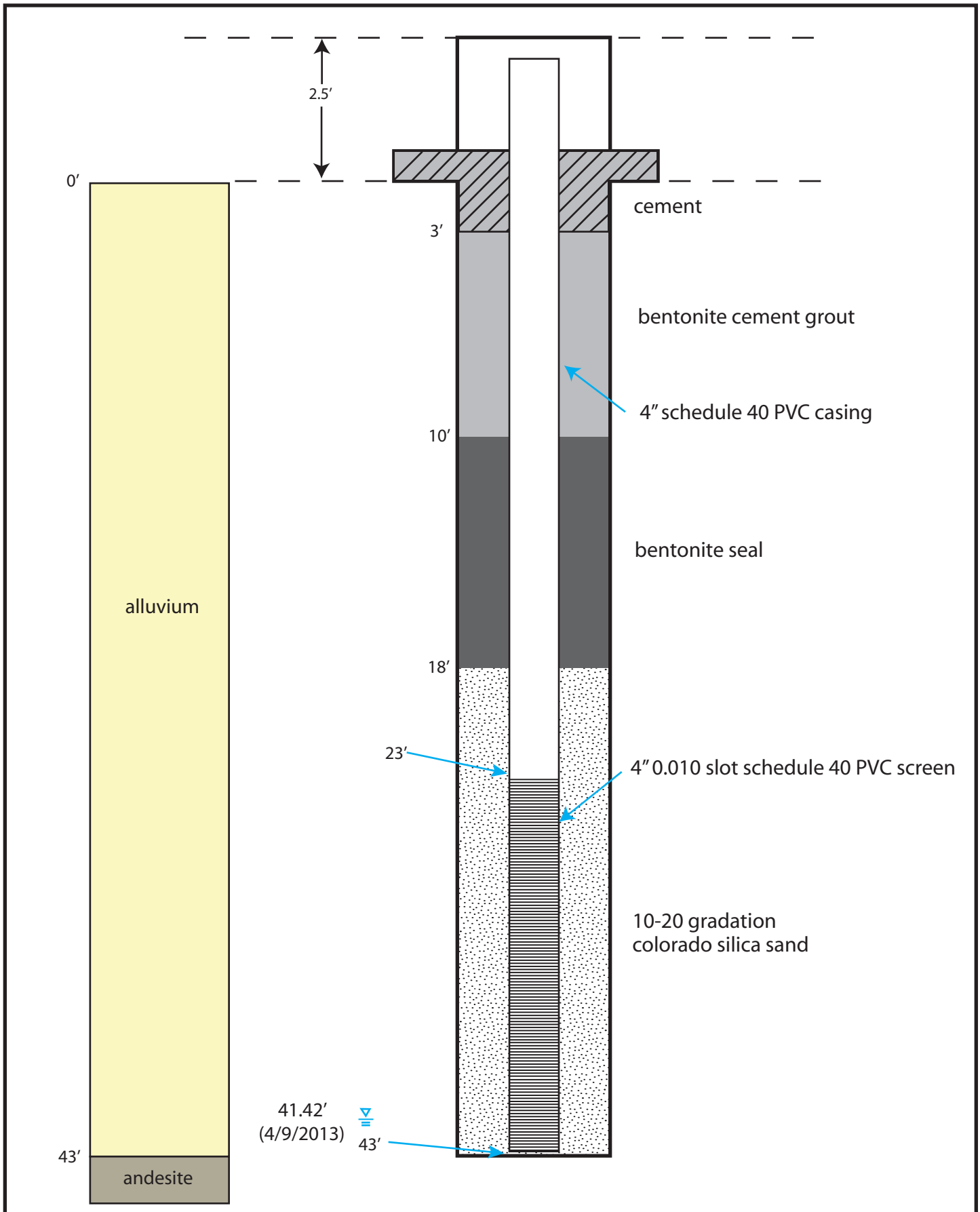

Figure A5. Well diagram, GWQ11-26, Copper Flat Mine, Sierra County, New Mexico.

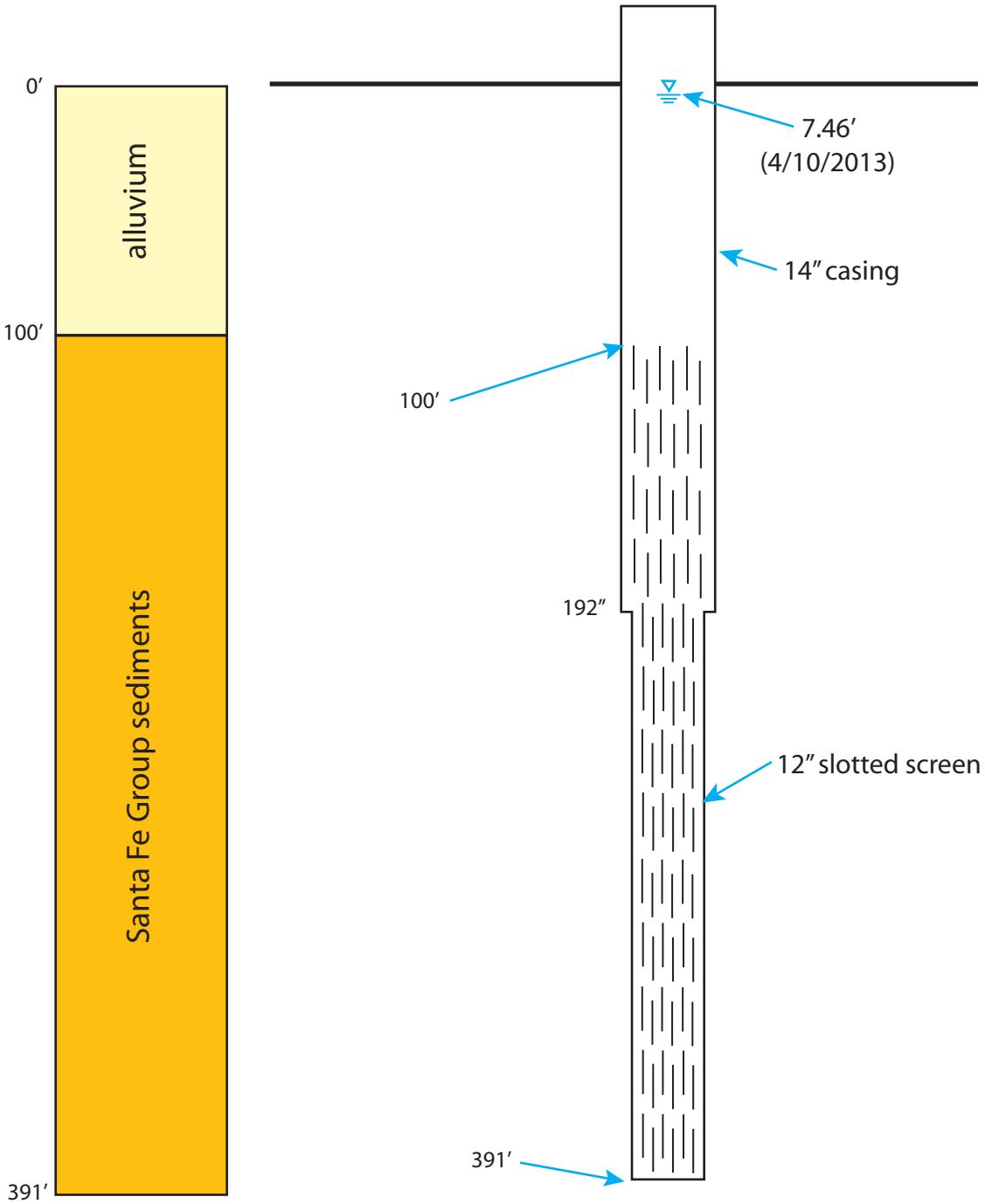

Figure A6. Well diagram, GWQ-1, Copper Flat Mine, Sierra County, New Mexico.

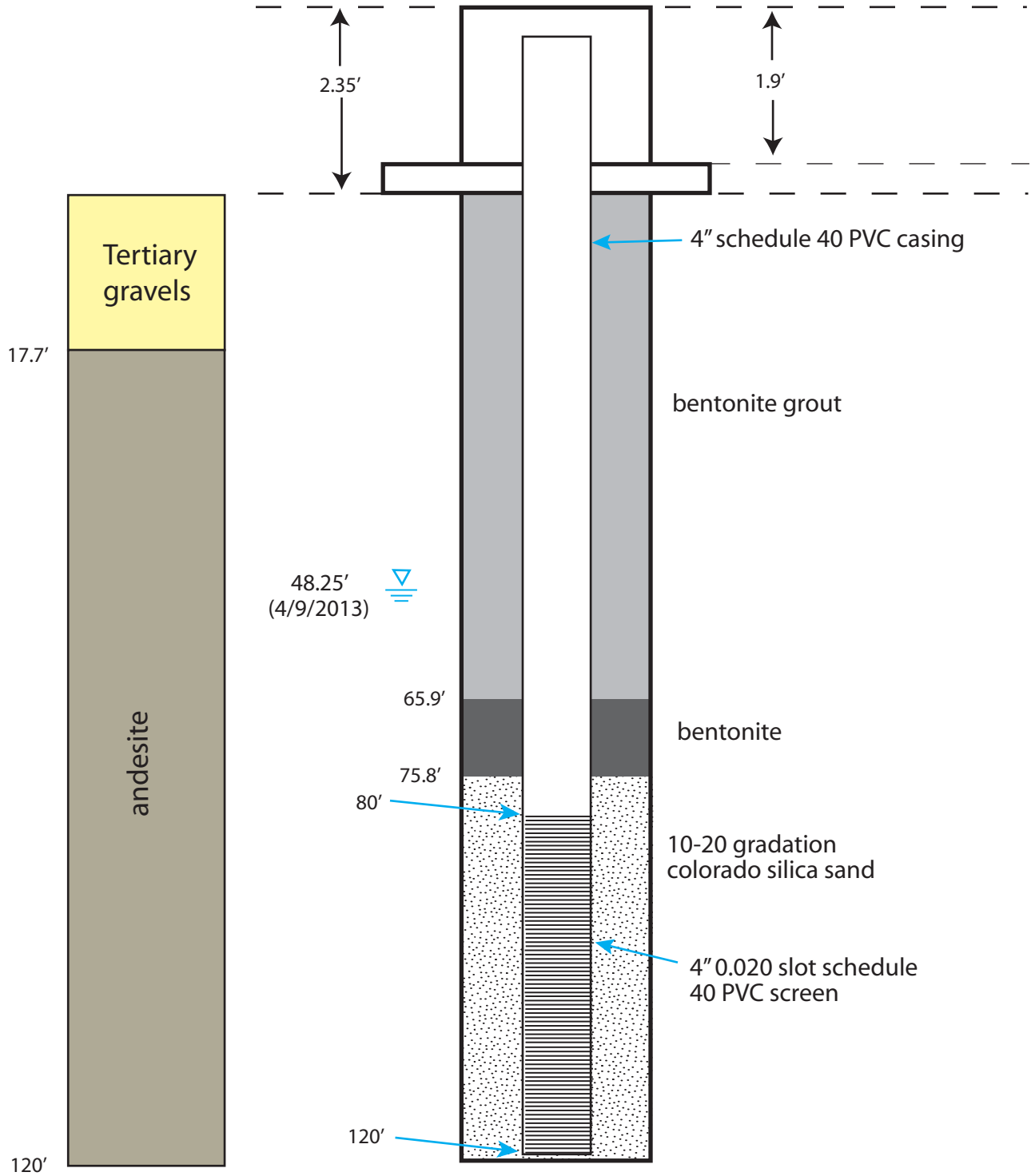

Figure A7. Well diagram, GWQ-5R, Copper Flat Mine, Sierra County, New Mexico.

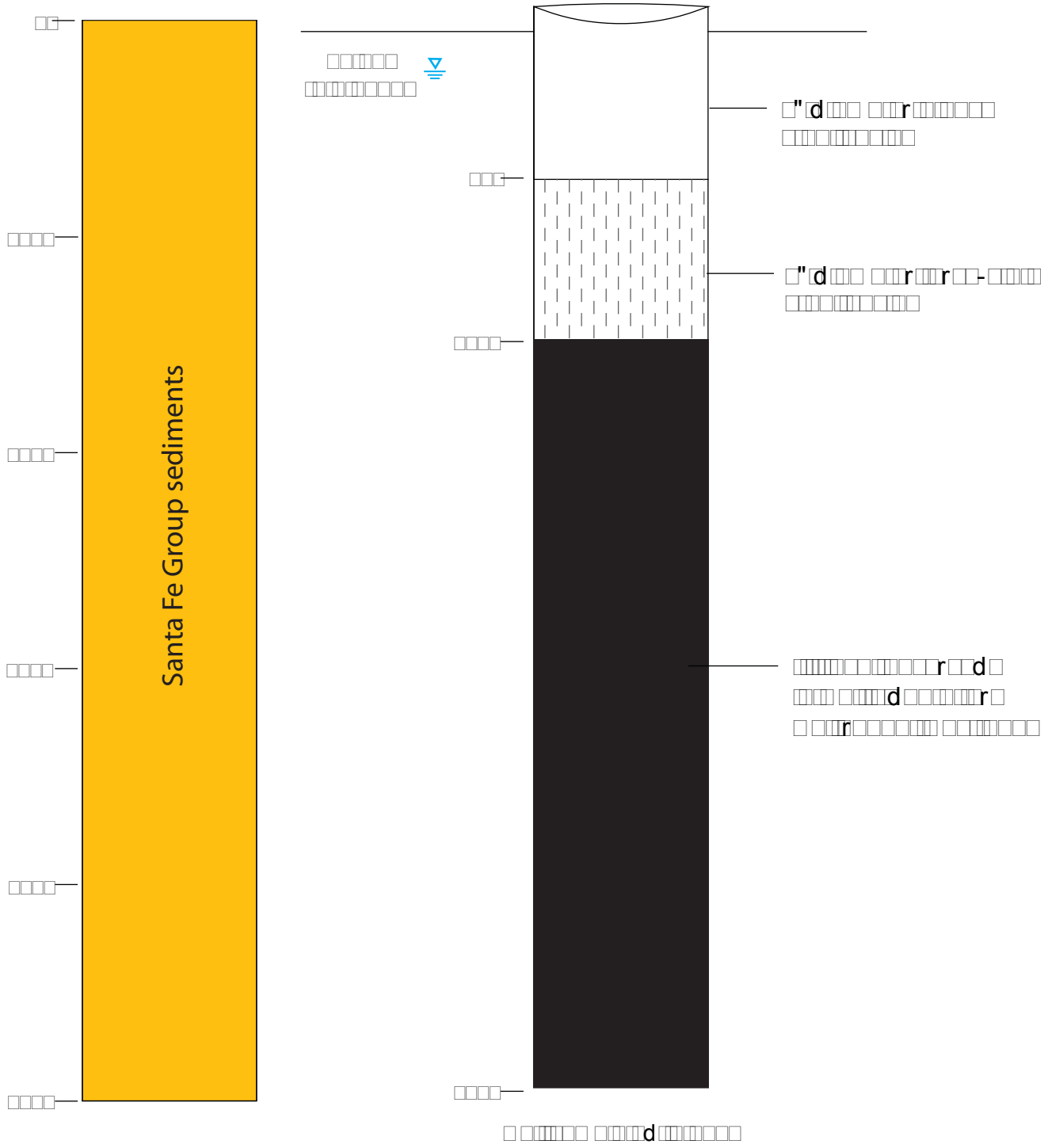

Figure A8. Well Diagram, GWQ-8 (LRG-4652-S-4), Copper Flat Mine, Sierra County, New Mexico.

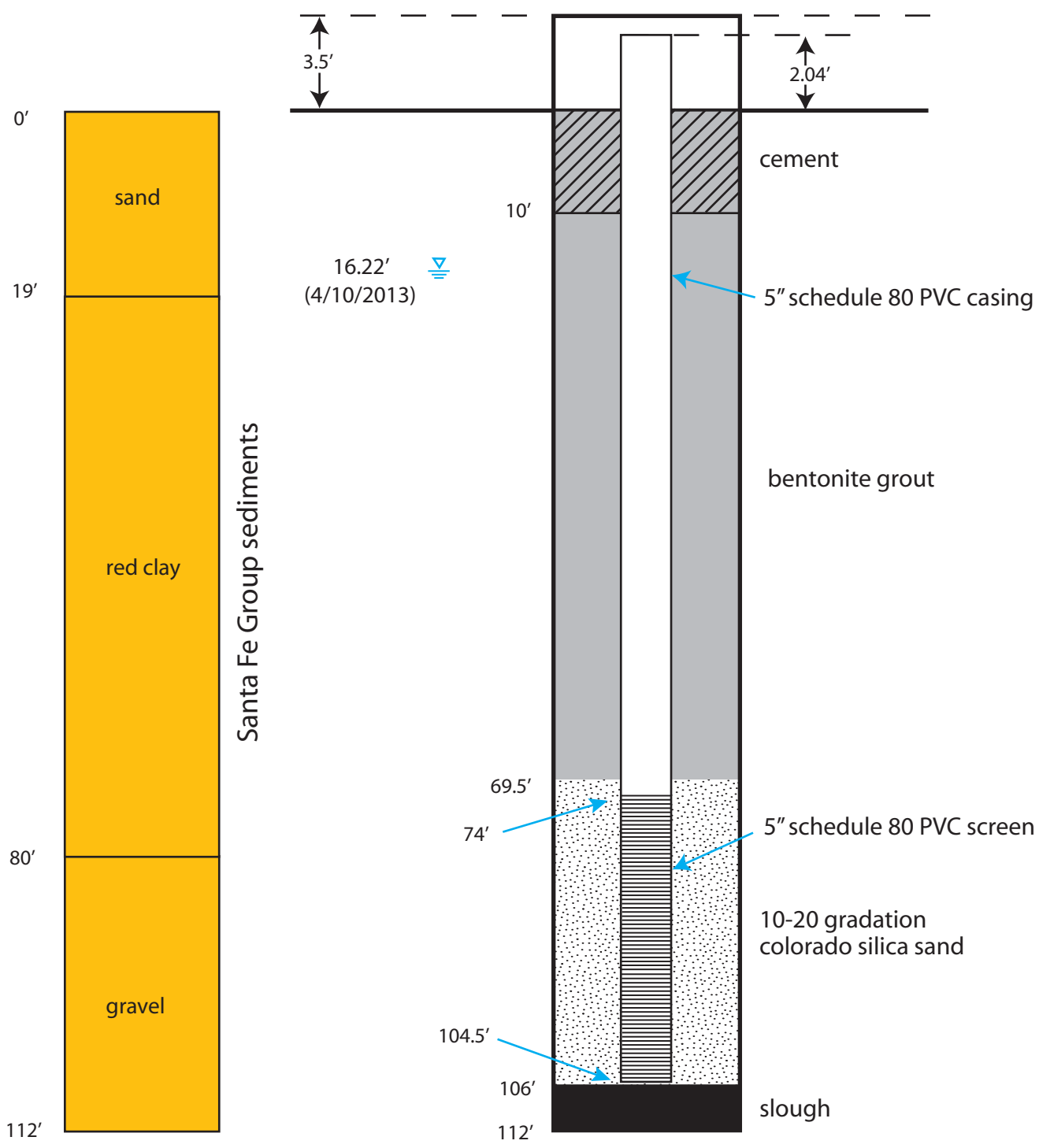

Figure A9. Well diagram, GWQ94-13, Copper Flat Mine, Sierra County, New Mexico.

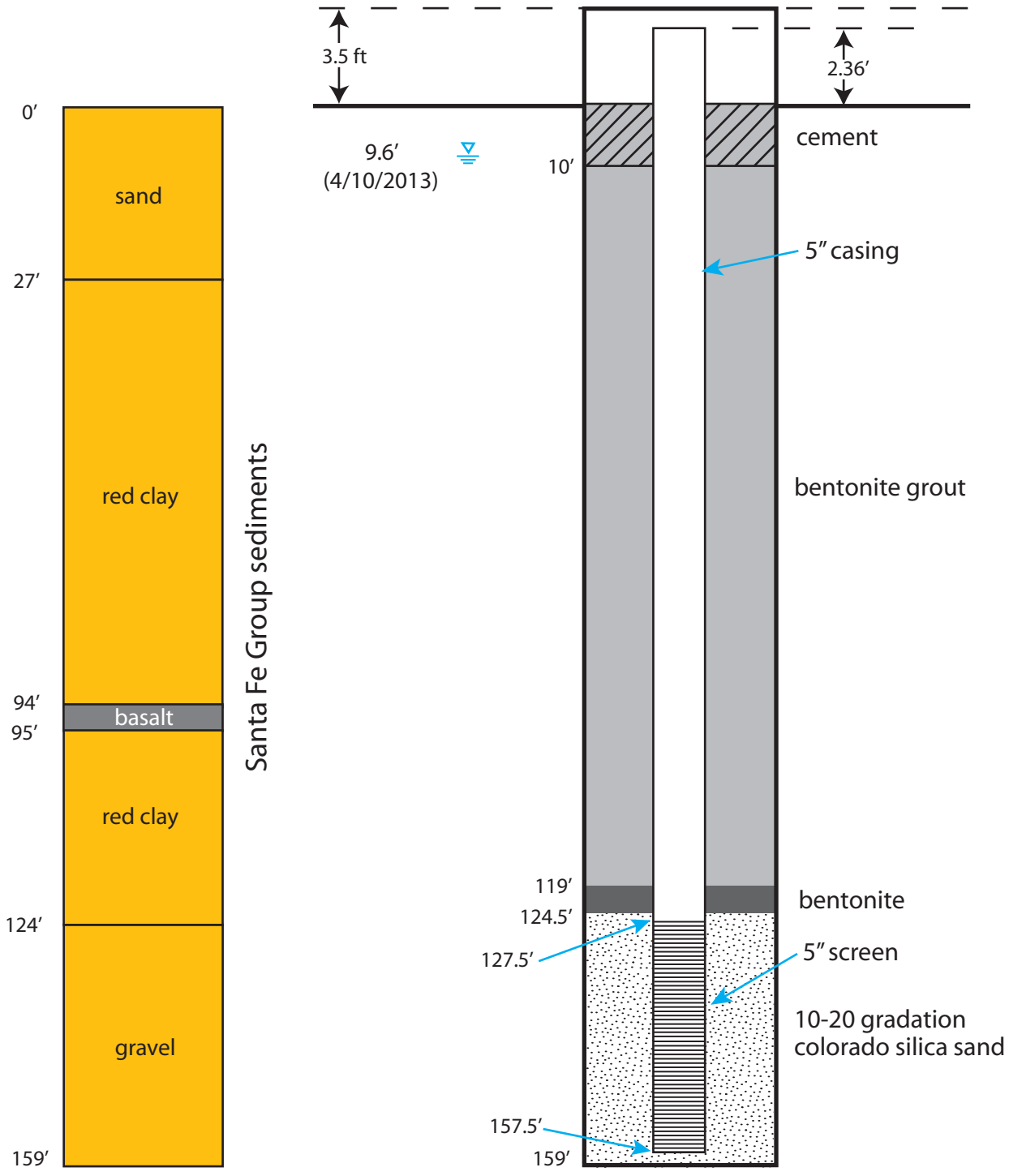

Figure A10. Well diagram, GWQ94-14, Copper Flat Mine, Sierra County, New Mexico.

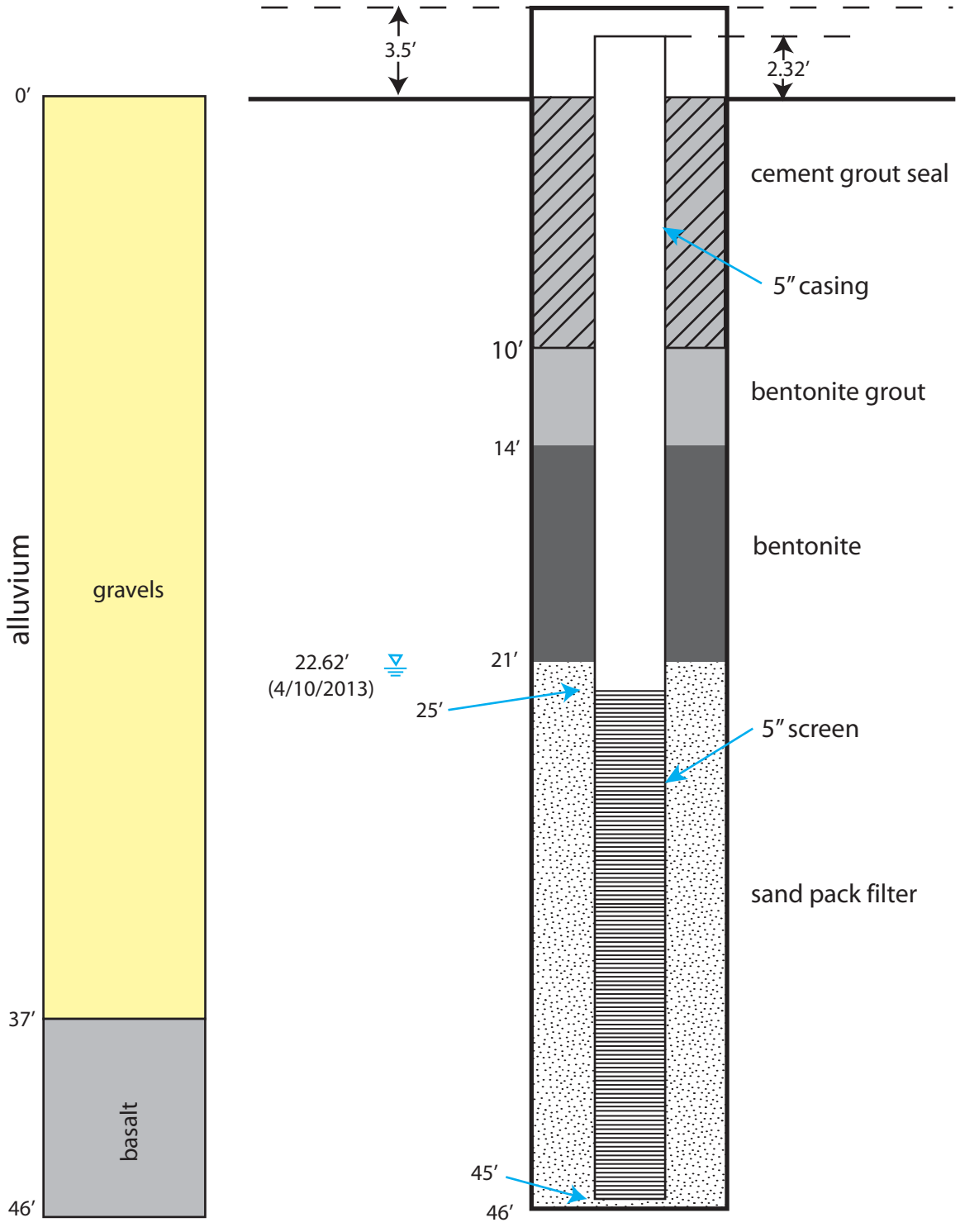

Figure A11. Well diagram, GWQ94-16, Copper Flat Mine, Sierra County, New Mexico.

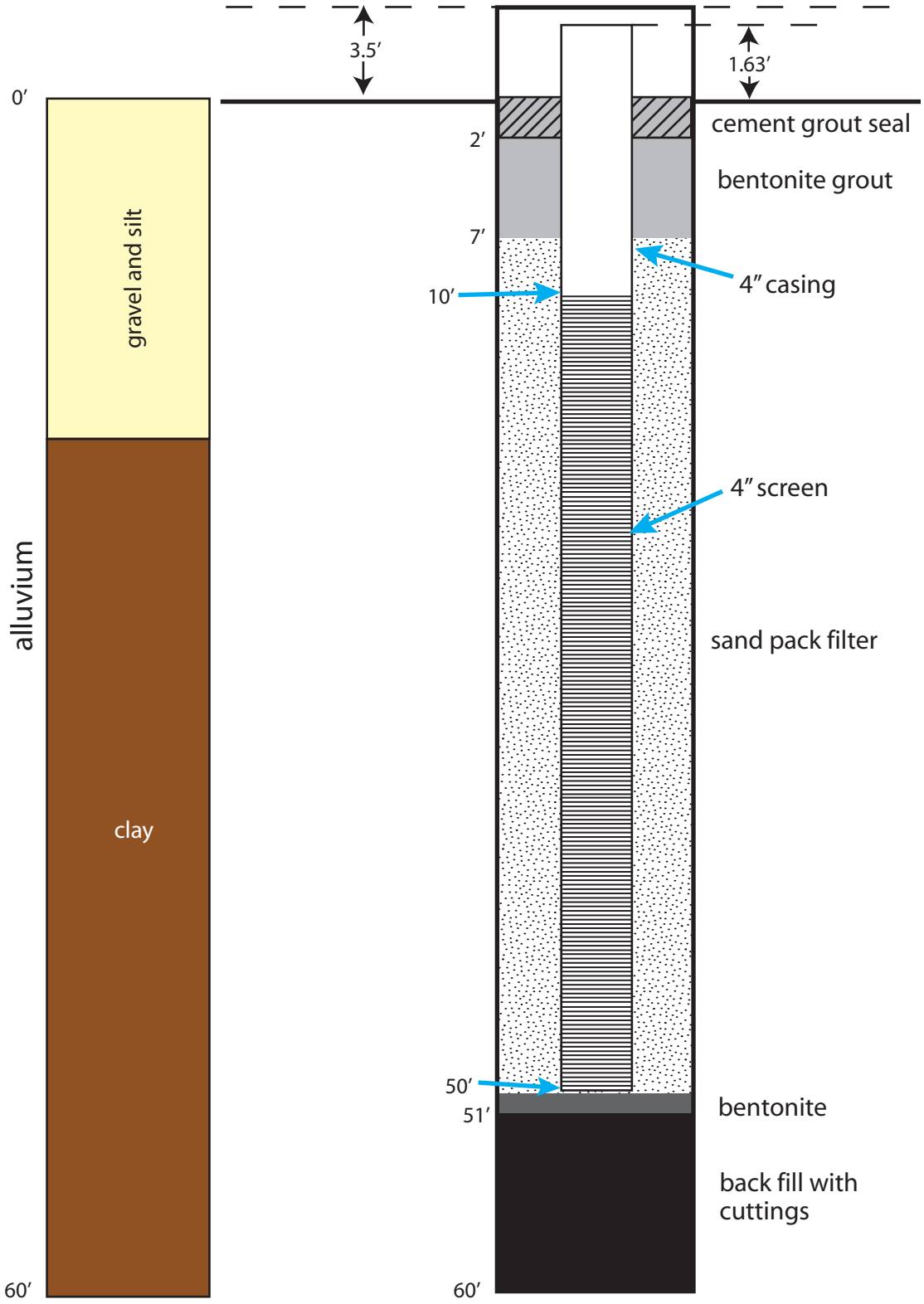

Figure A12. Well diagram, GWQ94-18, Copper Flat Mine, Sierra County, New Mexico.

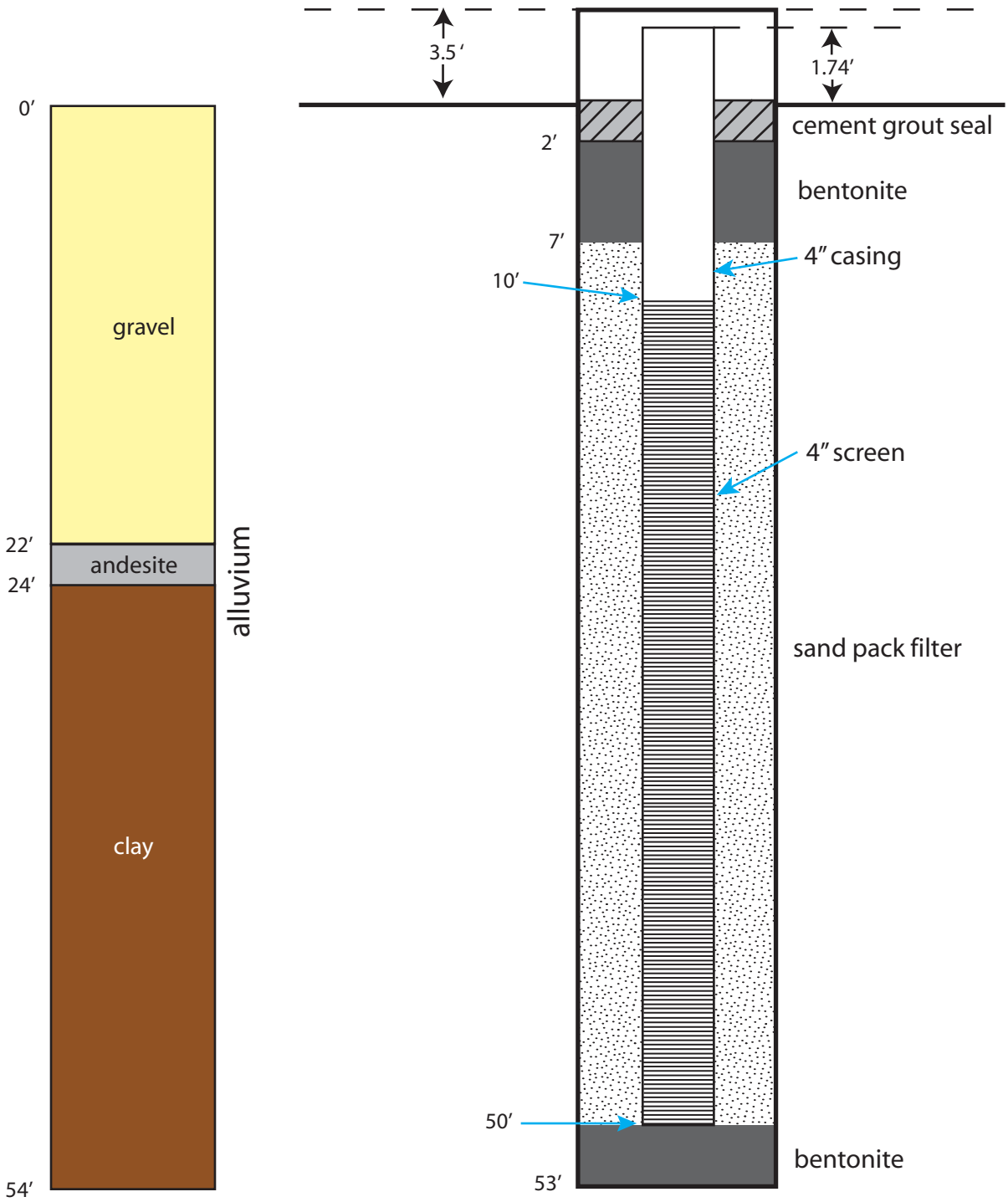

Figure A13. Well diagram, GWQ94-19, Copper Flat Mine, Sierra County, New Mexico.

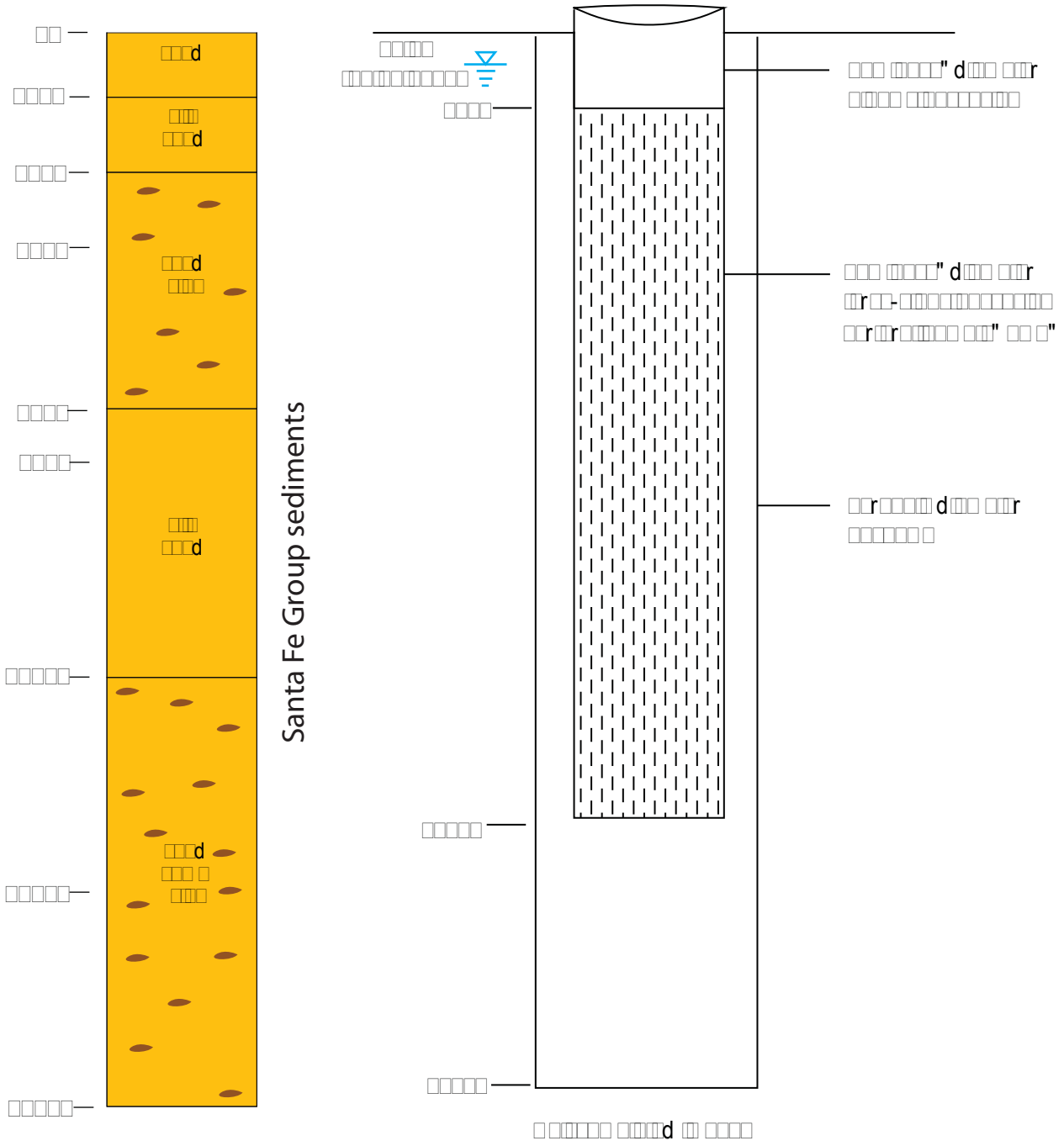

Figure A14. Well diagram, MW-4 (LRG-4652-S-13), Copper Flat Mine, Sierra County, New Mexico.

Copper Flat Project
Quintana Minerals Corporation
Sierra County, New Mexico

Well No. Shale Well GWQ-3

Other not in answers

WELL SCHEDULE

Recorded by Jim Humphrey Source of Data Observed Date 11-11-82

State New Mexico County or Town Sierra County Map Quintana Minerals

Legal Description: T 15 (N/S), R 7 (E/W), Section 25, SE¼, SE¼, NE¼

Owner Quintana Address

Depth Well 32.7 ft. (Measured/Reported) By Harvey Chatfield

Depth Cased ? ft. Casing Type concrete Diameter 3.3 X 3.6

Method Drilled hand dug Date Drilled 1932 Log Yes (No)

Finish Use of Water unused

Perforations

Driller drilled for Henry Eisenheart Power none Lift

Description of M.P. 3 ft. (above/below) LSD

Altitude: Land Surface M.P.

Water Level 10.6 ft. above/below M.P.; 7.6 ft. above (below) LSD

Date Measured 11-11-82 Accuracy cloth type

Quality of Water Data: Field (Yes/No), Lab Yes/No, Date June 9, 1981

pH 6.98, Spec. Cond. 1100 micromhos, Alkalinity 275 mg/l

Salinity 0.7 ppt, Temperature 19 degrees (C/F)

Figure A15. Well Schedule form, GWQ-3, Copper Flat Mine, Grant County, New Mexico.

WATER QUALITY MONITOR WELLS

Well No.	Depth	Depth Cased	Casing Type	Elevation (Top of Casing)
NP-1	115'	106'	Steel-2"	5177.0
NP-2	115'	110'	Steel-2"	5180.2
NP-3	109'6"	100'	Steel-2"	5187.6
NP-4	117'	117'	Steel-2"	5213.8
NP-5	35'	35'	Steel-2"	5187.0
GWQ-10	124'	121'	PVC-3"	5201.4
GWQ-11	80'	76'	PVC-3"	5184.4
GWQ-12	130'	130'	PVC-3"	5225.5
IW-1	49'	49'	PVC-4"	5187.8
IW-2	45'	45'	PVC-4"	5195.8
IW-3	45'	45'	PVC-4"	5201.4

The NP and GWQ wells were installed during July and August of 1981, as referenced in Sergent, Hauskins and Beckwith's "Geohydrological Evaluation for Submission of Discharge Plan, Copper Flat Project, Hillsboro, N.M.", 1981.

The IW wells were installed during May, 1982, by Quintana Minerals Corporation.

Figure A16. Water Quality Monitor Wells table, Copper Flat Mine, Grant County, New Mexico.

Appendix B.

Laboratory reports

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 12, 2013

Steve Finch
John Shomaker & Assoc.
2611 Broadbent Parkway NE
Albuquerque, NM 87107
TEL: (505) 345-3407
FAX (505) 345-9920

RE: NMCC Stage 1 OrderNo.: 1301409

Dear Steve Finch:

Hall Environmental Analysis Laboratory received 17 sample(s) on 1/11/2013 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued January 31, 2013.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1301409**
Date Reported: **2/12/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ 11-24 B
Project: NMCC Stage 1
Collection Date: 1/9/2013 10:58:00 AM
Lab ID: 1301409-001 **Matrix:** AQUEOUS **Received Date:** 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	3.39	0.20000	1.00		mg/L	10	1/23/2013 12:15:53 AM
Chloride	27.1	0.66200	5.00		mg/L	10	1/14/2013 4:10:15 PM
Sulfate	1280	23.33000	50.0	*	mg/L	100	1/14/2013 4:22:40 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	ND	0.01091	0.0200		mg/L	1	1/17/2013 1:58:25 PM
Cadmium	ND	0.00060	0.00200		mg/L	1	1/17/2013 1:58:25 PM
Calcium	417	0.12939	5.00		mg/L	5	1/18/2013 8:22:23 AM
Cobalt	0.0107	0.00060	0.00600		mg/L	1	1/17/2013 1:58:25 PM
Magnesium	75.9	0.06454	5.00		mg/L	5	1/18/2013 8:22:23 AM
Potassium	6.23	0.48088	1.00		mg/L	1	1/18/2013 7:59:34 AM
Sodium	95.7	1.07750	5.00		mg/L	5	1/18/2013 8:22:23 AM
Zinc	0.0522	0.00090	0.0100		mg/L	1	1/17/2013 1:58:25 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.000605	0.00016	0.00100	J	mg/L	1	1/22/2013 10:40:49 AM
Selenium	0.000587	0.00055	0.00100	J	mg/L	1	1/22/2013 10:40:49 AM
SM4500-H+B: PH							Analyst: **JML**
pH	7.07	0.10000	1.68	H	pH units	1	1/14/2013 8:50:20 PM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	219	5.00000	20.0		mg/L CaCO3	1	1/14/2013 8:50:20 PM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/14/2013 8:50:20 PM
Total Alkalinity (as CaCO3)	219	5.00000	20.0		mg/L CaCO3	1	1/14/2013 8:50:20 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	2280	20.11120	40.0		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

EBID
Exhibit 18

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ 11-25 A
Project: NMCC Stage 1
Collection Date: 1/9/2013 5:40:00 PM
Lab ID: 1301409-002 **Matrix:** AQUEOUS **Received Date:** 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	124	1.00000	5.00	*	mg/L	50	1/23/2013 12:28:18 AM
Chloride	20.7	0.66200	5.00		mg/L	10	1/14/2013 4:35:05 PM
Sulfate	7900	46.66000	100	*	mg/L	200	1/15/2013 5:01:38 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	414	5.45543	10.0	*	mg/L	500	1/18/2013 4:30:15 PM
Cadmium	0.385	0.30000	1.00	J*	mg/L	500	1/18/2013 4:30:15 PM
Calcium	419	2.58780	100		mg/L	100	1/18/2013 10:37:46 AM
Cobalt	1.72	0.30000	3.00	J	mg/L	500	1/18/2013 4:30:15 PM
Magnesium	149	1.29074	100		mg/L	100	1/18/2013 10:37:46 AM
Potassium	ND	48.08831	100		mg/L	100	1/18/2013 10:37:46 AM
Sodium	647	21.55000	100		mg/L	100	1/18/2013 10:37:46 AM
Zinc	14.9	0.45000	5.00	*	mg/L	500	1/18/2013 4:30:15 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	12.6	0.16000	1.00	*	mg/L	1000	1/22/2013 11:00:33 AM
Selenium	0.087	0.02750	0.050	*	mg/L	50	2/7/2013 2:09:03 PM
SM4500-H+B: PH							Analyst: **JML**
pH	3.98	0.10000	1.68	H	pH units	1	1/14/2013 9:07:04 PM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	ND	5.00000	20.0		mg/L CaCO3	1	1/14/2013 9:07:04 PM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/14/2013 9:07:04 PM
Total Alkalinity (as CaCO3)	ND	5.00000	20.0		mg/L CaCO3	1	1/14/2013 9:07:04 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	11300	100.55600	200		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ 11-25 B
Project: NMCC Stage 1
Collection Date: 1/9/2013 2:14:00 PM
Lab ID: 1301409-003
Matrix: AQUEOUS
Received Date: 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	8.03	0.20000	1.00	*	mg/L	10	1/23/2013 1:05:31 AM
Chloride	27	0.66200	5.0		mg/L	10	1/14/2013 3:20:37 PM
Sulfate	1400	23.33000	50	*	mg/L	100	1/14/2013 3:57:50 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	0.336	0.01091	0.0200	*	mg/L	1	1/17/2013 2:40:30 PM
Cadmium	ND	0.00060	0.00200		mg/L	1	1/17/2013 2:40:30 PM
Calcium	493	0.25878	10.0		mg/L	10	1/18/2013 8:35:39 AM
Cobalt	0.00578	0.00060	0.00600	J	mg/L	1	1/17/2013 2:40:30 PM
Magnesium	76.2	0.01291	1.00		mg/L	1	1/18/2013 8:32:54 AM
Potassium	3.90	0.48088	1.00		mg/L	1	1/18/2013 8:32:54 AM
Sodium	139	2.15500	10.0		mg/L	10	1/18/2013 8:35:39 AM
Zinc	0.0210	0.00090	0.0100		mg/L	1	1/17/2013 2:40:30 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.00153	0.00016	0.00100		mg/L	1	1/22/2013 11:04:30 AM
Selenium	0.00161	0.00055	0.00100		mg/L	1	1/22/2013 11:04:30 AM
SM4500-H+B: PH							Analyst: **JML**
pH	6.94	0.10000	1.68	H	pH units	1	1/14/2013 9:11:19 PM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	343	5.00000	20.0		mg/L CaCO3	1	1/14/2013 9:11:19 PM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/14/2013 9:11:19 PM
Total Alkalinity (as CaCO3)	343	5.00000	20.0		mg/L CaCO3	1	1/14/2013 9:11:19 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	2540	10.05560	20.0		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ 96-22 A
Project: NMCC Stage 1
Collection Date: 1/9/2013 4:53:00 PM
Lab ID: 1301409-004
Matrix: AQUEOUS
Received Date: 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	3.07	0.20000	1.00		mg/L	10	1/23/2013 1:17:56 AM
Chloride	60.5	0.66200	5.00		mg/L	10	1/14/2013 5:24:43 PM
Sulfate	38.6	2.33300	5.00		mg/L	10	1/14/2013 5:24:43 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	0.0202	0.01091	0.0200		mg/L	1	1/17/2013 2:48:10 PM
Cadmium	ND	0.00060	0.00200		mg/L	1	1/17/2013 2:48:10 PM
Calcium	41.3	0.02588	1.00		mg/L	1	1/18/2013 8:38:18 AM
Cobalt	0.00108	0.00060	0.00600	J	mg/L	1	1/17/2013 2:48:10 PM
Magnesium	2.77	0.01291	1.00		mg/L	1	1/18/2013 8:38:18 AM
Potassium	2.34	0.48088	1.00		mg/L	1	1/18/2013 8:38:18 AM
Sodium	147	1.07750	5.00		mg/L	5	1/18/2013 8:40:54 AM
Zinc	0.00622	0.00090	0.0100	J	mg/L	1	1/17/2013 2:48:10 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.000848	0.00016	0.00100	J	mg/L	1	1/22/2013 2:57:12 PM
Selenium	ND	0.00055	0.00100		mg/L	1	1/22/2013 11:16:22 AM
SM4500-H+B: PH							Analyst: **JML**
pH	7.85	0.10000	1.68	H	pH units	1	1/14/2013 9:30:25 PM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	301	5.00000	20.0		mg/L CaCO3	1	1/14/2013 9:30:25 PM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/14/2013 9:30:25 PM
Total Alkalinity (as CaCO3)	301	5.00000	20.0		mg/L CaCO3	1	1/14/2013 9:30:25 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	521	10.05560	20.0		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ 96-22 B
Project: NMCC Stage 1
Collection Date: 1/9/2013 5:14:00 PM
Lab ID: 1301409-005 **Matrix:** AQUEOUS **Received Date:** 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	3.32	0.20000	1.00		mg/L	10	1/23/2013 1:30:20 AM
Chloride	101	0.66200	5.00		mg/L	10	1/14/2013 5:49:32 PM
Sulfate	6.18	2.33300	5.00		mg/L	10	1/14/2013 5:49:32 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	0.0432	0.01091	0.0200		mg/L	1	1/17/2013 3:11:33 PM
Cadmium	ND	0.00060	0.00200		mg/L	1	1/17/2013 3:11:33 PM
Calcium	70.2	0.02588	1.00		mg/L	1	1/18/2013 8:53:07 AM
Cobalt	0.00295	0.00060	0.00600	J	mg/L	1	1/17/2013 3:11:33 PM
Magnesium	5.51	0.01291	1.00		mg/L	1	1/18/2013 8:53:07 AM
Potassium	3.66	0.48088	1.00		mg/L	1	1/18/2013 8:53:07 AM
Sodium	193	1.07750	5.00		mg/L	5	1/18/2013 8:55:13 AM
Zinc	0.0468	0.00090	0.0100		mg/L	1	1/17/2013 3:11:33 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.00307	0.00016	0.00100		mg/L	1	1/22/2013 3:01:08 PM
Selenium	ND	0.00055	0.00100		mg/L	1	1/22/2013 11:20:18 AM
SM4500-H+B: PH							Analyst: **JML**
pH	7.52	0.10000	1.68	H	pH units	1	1/14/2013 9:47:33 PM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	477	5.00000	20.0		mg/L CaCO3	1	1/14/2013 9:47:33 PM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/14/2013 9:47:33 PM
Total Alkalinity (as CaCO3)	477	5.00000	20.0		mg/L CaCO3	1	1/14/2013 9:47:33 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	722	20.11120	40.0		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: Pit
Project: NMCC Stage 1
Collection Date: 1/9/2013 12:00:00 PM
Lab ID: 1301409-006
Matrix: AQUEOUS
Received Date: 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	18.7	0.20000	1.00	*	mg/L	10	1/23/2013 1:42:45 AM
Chloride	577	6.62000	50.0	*	mg/L	100	1/14/2013 6:26:45 PM
Sulfate	6800	46.66000	100	*	mg/L	200	1/15/2013 5:14:03 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	0.0788	0.01091	0.0200		mg/L	1	1/17/2013 3:18:30 PM
Cadmium	0.0369	0.00060	0.00200	*	mg/L	1	1/17/2013 3:18:30 PM
Calcium	500	0.51756	20.0		mg/L	20	1/18/2013 9:00:53 AM
Cobalt	0.0860	0.00060	0.00600		mg/L	1	1/17/2013 3:18:30 PM
Magnesium	958	0.25815	20.0		mg/L	20	1/18/2013 9:00:53 AM
Potassium	44.4	0.48088	1.00		mg/L	1	1/18/2013 8:57:49 AM
Sodium	1170	4.31000	20.0		mg/L	20	1/18/2013 9:00:53 AM
Zinc	0.779	0.00090	0.0100		mg/L	1	1/17/2013 3:18:30 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.0586	0.00080	0.00500		mg/L	5	1/22/2013 3:20:49 PM
Selenium	0.00812	0.00055	0.00100		mg/L	1	1/22/2013 11:24:14 AM
SM4500-H+B: PH							Analyst: **JML**
pH	7.73	0.10000	1.68	H	pH units	1	1/14/2013 10:09:59 PM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	112	5.00000	20.0		mg/L CaCO3	1	1/14/2013 10:09:59 PM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/14/2013 10:09:59 PM
Total Alkalinity (as CaCO3)	112	5.00000	20.0		mg/L CaCO3	1	1/14/2013 10:09:59 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	11100	100.55600	200		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ- 5 R
Project: NMCC Stage 1
Collection Date: 1/10/2013 9:21:00 AM
Lab ID: 1301409-007
Matrix: AQUEOUS
Received Date: 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	1.25	0.20000	1.00		mg/L	10	1/23/2013 1:55:10 AM
Chloride	17.3	0.66200	5.00		mg/L	10	1/14/2013 6:39:10 PM
Sulfate	97.2	2.33300	5.00		mg/L	10	1/14/2013 6:39:10 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	0.0159	0.01091	0.0200	J	mg/L	1	1/17/2013 3:26:47 PM
Cadmium	ND	0.00060	0.00200		mg/L	1	1/17/2013 3:26:47 PM
Calcium	96.9	0.02588	1.00		mg/L	1	1/18/2013 9:03:32 AM
Cobalt	0.00132	0.00060	0.00600	J	mg/L	1	1/17/2013 3:26:47 PM
Magnesium	22.7	0.01291	1.00		mg/L	1	1/18/2013 9:03:32 AM
Potassium	5.15	0.48088	1.00		mg/L	1	1/18/2013 9:03:32 AM
Sodium	34.0	0.21550	1.00		mg/L	1	1/18/2013 9:03:32 AM
Zinc	0.0111	0.00090	0.0100		mg/L	1	1/17/2013 3:26:47 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.000692	0.00016	0.00100	J	mg/L	1	1/22/2013 3:05:04 PM
Selenium	0.000616	0.00055	0.00100	J	mg/L	1	1/22/2013 11:32:08 AM
SM4500-H+B: PH							Analyst: **JML**
pH	7.79	0.10000	1.68	H	pH units	1	1/14/2013 11:06:17 PM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	293	5.00000	20.0		mg/L CaCO3	1	1/14/2013 11:06:17 PM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/14/2013 11:06:17 PM
Total Alkalinity (as CaCO3)	293	5.00000	20.0		mg/L CaCO3	1	1/14/2013 11:06:17 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	504	10.05560	20.0		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ-8
Project: NMCC Stage 1
Collection Date: 1/10/2013 12:07:00 PM
Lab ID: 1301409-008
Matrix: AQUEOUS
Received Date: 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	0.48	0.10000	0.50	J	mg/L	5	1/15/2013 5:26:28 PM
Chloride	88.7	0.66200	5.00		mg/L	10	1/14/2013 7:04:00 PM
Sulfate	498	23.33000	50.0	*	mg/L	100	1/14/2013 7:16:25 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	ND	0.01091	0.0200		mg/L	1	1/17/2013 3:34:28 PM
Cadmium	ND	0.00060	0.00200		mg/L	1	1/17/2013 3:34:28 PM
Calcium	202	0.12939	5.00		mg/L	5	1/18/2013 9:11:35 AM
Cobalt	0.00193	0.00060	0.00600	J	mg/L	1	1/17/2013 3:34:28 PM
Magnesium	33.8	0.01291	1.00		mg/L	1	1/18/2013 9:08:50 AM
Potassium	2.43	0.48088	1.00		mg/L	1	1/18/2013 9:08:50 AM
Sodium	107	1.07750	5.00		mg/L	5	1/18/2013 9:11:35 AM
Zinc	0.0101	0.00090	0.0100		mg/L	1	1/17/2013 3:34:28 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.000580	0.00016	0.00100	J	mg/L	1	1/14/2013 2:26:37 PM
Selenium	0.00197	0.00055	0.00100		mg/L	1	1/14/2013 2:26:37 PM
SM4500-H+B: PH							Analyst: **JML**
pH	7.60	0.10000	1.68	H	pH units	1	1/14/2013 11:23:19 PM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	213	5.00000	20.0		mg/L CaCO3	1	1/14/2013 11:23:19 PM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/14/2013 11:23:19 PM
Total Alkalinity (as CaCO3)	213	5.00000	20.0		mg/L CaCO3	1	1/14/2013 11:23:19 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	1200	10.05560	20.0		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ-1
Project: NMCC Stage 1
Collection Date: 1/10/2013 1:50:00 PM
Lab ID: 1301409-009
Matrix: AQUEOUS
Received Date: 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	0.38	0.02000	0.10		mg/L	1	1/15/2013 5:38:52 PM
Chloride	38.2	0.66200	5.00		mg/L	10	1/14/2013 7:53:39 PM
Sulfate	152	2.33300	5.00		mg/L	10	1/14/2013 7:53:39 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	ND	0.01091	0.0200		mg/L	1	1/17/2013 3:42:09 PM
Cadmium	ND	0.00060	0.00200		mg/L	1	1/17/2013 3:42:09 PM
Calcium	63.2	0.02588	1.00		mg/L	1	1/18/2013 9:14:12 AM
Cobalt	0.00130	0.00060	0.00600	J	mg/L	1	1/17/2013 3:42:09 PM
Magnesium	17.7	0.01291	1.00		mg/L	1	1/18/2013 9:14:12 AM
Potassium	2.11	0.48088	1.00		mg/L	1	1/18/2013 9:14:12 AM
Sodium	65.1	0.21550	1.00		mg/L	1	1/18/2013 9:14:12 AM
Zinc	0.00597	0.00090	0.0100	J	mg/L	1	1/17/2013 3:42:09 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.000364	0.00016	0.00100	J	mg/L	1	1/14/2013 2:34:29 PM
Selenium	ND	0.00055	0.00100		mg/L	1	1/14/2013 2:34:29 PM
SM4500-H+B: PH							Analyst: **JML**
pH	7.87	0.10000	1.68	H	pH units	1	1/14/2013 11:38:33 PM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	164	5.00000	20.0		mg/L CaCO3	1	1/14/2013 11:38:33 PM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/14/2013 11:38:33 PM
Total Alkalinity (as CaCO3)	164	5.00000	20.0		mg/L CaCO3	1	1/14/2013 11:38:33 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	487	10.05560	20.0		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ 94-13
Project: NMCC Stage 1
Collection Date: 1/10/2013 4:45:00 PM
Lab ID: 1301409-010 **Matrix:** AQUEOUS **Received Date:** 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	0.18	0.10000	0.50	J	mg/L	5	1/15/2013 5:51:17 PM
Chloride	184	6.62000	50.0		mg/L	100	1/14/2013 8:30:53 PM
Sulfate	543	23.33000	50.0	*	mg/L	100	1/14/2013 8:30:53 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	ND	0.01091	0.0200		mg/L	1	1/17/2013 4:05:31 PM
Cadmium	ND	0.00060	0.00200		mg/L	1	1/17/2013 4:05:31 PM
Calcium	246	0.12939	5.00		mg/L	5	1/18/2013 9:28:09 AM
Cobalt	0.00209	0.00060	0.00600	J	mg/L	1	1/17/2013 4:05:31 PM
Magnesium	49.9	0.01291	1.00		mg/L	1	1/18/2013 9:17:27 AM
Potassium	3.22	0.48088	1.00		mg/L	1	1/18/2013 9:17:27 AM
Sodium	106	1.07750	5.00		mg/L	5	1/18/2013 9:28:09 AM
Zinc	0.00143	0.00090	0.0100	J	mg/L	1	1/17/2013 4:05:31 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.000621	0.00016	0.00100	J	mg/L	1	1/14/2013 2:38:25 PM
Selenium	0.0174	0.00055	0.00100		mg/L	1	1/14/2013 2:38:25 PM
SM4500-H+B: PH							Analyst: **JML**
pH	7.63	0.10000	1.68	H	pH units	1	1/14/2013 11:52:40 PM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	126	5.00000	20.0		mg/L CaCO3	1	1/14/2013 11:52:40 PM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/14/2013 11:52:40 PM
Total Alkalinity (as CaCO3)	126	5.00000	20.0		mg/L CaCO3	1	1/14/2013 11:52:40 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	1460	10.05560	20.0		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ 94-16
Project: NMCC Stage 1
Collection Date: 1/10/2013 2:40:00 PM
Lab ID: 1301409-011
Matrix: AQUEOUS
Received Date: 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	0.59	0.10000	0.50		mg/L	5	1/15/2013 6:03:41 PM
Chloride	192	0.66200	5.00		mg/L	10	1/14/2013 8:43:18 PM
Sulfate	407	2.33300	5.00	*	mg/L	10	1/14/2013 8:43:18 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	0.0446	0.01091	0.0200		mg/L	1	1/17/2013 4:13:19 PM
Cadmium	ND	0.00060	0.00200		mg/L	1	1/17/2013 4:13:19 PM
Calcium	188	0.12939	5.00		mg/L	5	1/18/2013 9:33:25 AM
Cobalt	0.00148	0.00060	0.00600	J	mg/L	1	1/17/2013 4:13:19 PM
Magnesium	47.7	0.01291	1.00		mg/L	1	1/18/2013 9:30:47 AM
Potassium	3.33	0.48088	1.00		mg/L	1	1/18/2013 9:30:47 AM
Sodium	75.7	0.21550	1.00		mg/L	1	1/18/2013 9:30:47 AM
Zinc	0.00164	0.00090	0.0100	J	mg/L	1	1/17/2013 4:13:19 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.000538	0.00016	0.00100	J	mg/L	1	1/14/2013 2:42:21 PM
Selenium	0.00212	0.00055	0.00100		mg/L	1	1/14/2013 2:42:21 PM
SM4500-H+B: PH							Analyst: **JML**
pH	7.76	0.10000	1.68	H	pH units	1	1/15/2013 12:05:32 AM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	173	5.00000	20.0		mg/L CaCO3	1	1/15/2013 12:05:32 AM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/15/2013 12:05:32 AM
Total Alkalinity (as CaCO3)	173	5.00000	20.0		mg/L CaCO3	1	1/15/2013 12:05:32 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	1170	20.11120	40.0		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: NP-3
Project: NMCC Stage 1
Collection Date: 1/10/2013 2:56:00 PM
Lab ID: 1301409-012
Matrix: AQUEOUS
Received Date: 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	0.0890	0.02000	0.100	J	mg/L	1	1/16/2013 9:07:34 PM
Chloride	190	6.62000	50.0		mg/L	100	1/14/2013 10:34:58 PM
Sulfate	557	23.33000	50.0	*	mg/L	100	1/14/2013 10:34:58 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	ND	0.01091	0.0200		mg/L	1	1/17/2013 4:21:00 PM
Cadmium	ND	0.00060	0.00200		mg/L	1	1/17/2013 4:21:00 PM
Calcium	218	0.12939	5.00		mg/L	5	1/18/2013 9:38:53 AM
Cobalt	0.00225	0.00060	0.00600	J	mg/L	1	1/17/2013 4:21:00 PM
Magnesium	49.5	0.01291	1.00		mg/L	1	1/18/2013 9:36:03 AM
Potassium	3.23	0.48088	1.00		mg/L	1	1/18/2013 9:36:03 AM
Sodium	107	1.07750	5.00		mg/L	5	1/18/2013 9:38:53 AM
Zinc	1.85	0.00450	0.0500		mg/L	5	1/17/2013 4:24:54 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.00129	0.00016	0.00100		mg/L	1	1/14/2013 2:54:11 PM
Selenium	0.00614	0.00055	0.00100		mg/L	1	1/14/2013 2:54:11 PM
SM4500-H+B: PH							Analyst: **JML**
pH	7.24	0.10000	1.68	H	pH units	1	1/15/2013 12:20:06 AM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	54.2	5.00000	20.0		mg/L CaCO3	1	1/15/2013 12:20:06 AM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/15/2013 12:20:06 AM
Total Alkalinity (as CaCO3)	54.2	5.00000	20.0		mg/L CaCO3	1	1/15/2013 12:20:06 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	1390	50.27800	100		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ 11-24 A
Project: NMCC Stage 1
Collection Date: 1/8/2013 5:00:00 PM
Lab ID: 1301409-013
Matrix: AQUEOUS
Received Date: 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	17.4	0.20000	1.00	*	mg/L	10	1/23/2013 2:07:34 AM
Chloride	29.9	0.66200	5.00		mg/L	10	1/14/2013 10:47:23 PM
Sulfate	2550	23.33000	50.0	*	mg/L	100	1/14/2013 10:59:47 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	38.0	0.54554	1.00	*	mg/L	50	1/18/2013 4:39:33 PM
Cadmium	0.181	0.00600	0.0200	*	mg/L	10	1/18/2013 4:35:37 PM
Calcium	464	0.12939	5.00		mg/L	5	1/18/2013 9:41:32 AM
Cobalt	0.256	0.00600	0.0600		mg/L	10	1/18/2013 4:35:37 PM
Magnesium	108	0.06454	5.00		mg/L	5	1/18/2013 9:41:32 AM
Potassium	6.98	2.40442	5.00		mg/L	5	1/18/2013 9:41:32 AM
Sodium	129	1.07750	5.00		mg/L	5	1/18/2013 9:41:32 AM
Zinc	5.72	0.00900	0.100	*	mg/L	10	1/18/2013 4:35:37 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	104	0.80000	5.00	*	mg/L	5000	1/22/2013 3:24:46 PM
Selenium	0.0294	0.00055	0.00100		mg/L	1	1/22/2013 11:40:03 AM
SM4500-H+B: PH							Analyst: **JML**
pH	4.53	0.10000	1.68	H	pH units	1	1/15/2013 12:30:17 AM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	ND	5.00000	20.0		mg/L CaCO3	1	1/15/2013 12:30:17 AM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/15/2013 12:30:17 AM
Total Alkalinity (as CaCO3)	ND	5.00000	20.0		mg/L CaCO3	1	1/15/2013 12:30:17 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	4180	50.27800	100		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ 11-26
Project: NMCC Stage 1
Collection Date: 1/8/2013 1:15:00 PM
Lab ID: 1301409-014
Matrix: AQUEOUS
Received Date: 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	0.760	0.20000	1.00	J	mg/L	10	1/23/2013 2:20:00 AM
Chloride	13.8	0.66200	5.00		mg/L	10	1/14/2013 11:12:12 PM
Sulfate	96.5	2.33300	5.00		mg/L	10	1/14/2013 11:12:12 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	0.0313	0.01091	0.0200		mg/L	1	1/17/2013 4:35:53 PM
Cadmium	ND	0.00060	0.00200		mg/L	1	1/17/2013 4:35:53 PM
Calcium	95.5	0.02588	1.00		mg/L	1	1/18/2013 9:46:10 AM
Cobalt	0.00149	0.00060	0.00600	J	mg/L	1	1/17/2013 4:35:53 PM
Magnesium	21.5	0.01291	1.00		mg/L	1	1/18/2013 9:46:10 AM
Potassium	1.34	0.48088	1.00		mg/L	1	1/18/2013 9:46:10 AM
Sodium	72.0	0.21550	1.00		mg/L	1	1/18/2013 9:46:10 AM
Zinc	0.00334	0.00090	0.0100	J	mg/L	1	1/17/2013 4:35:53 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.00265	0.00016	0.00100		mg/L	1	1/22/2013 3:09:01 PM
Selenium	0.00149	0.00055	0.00100		mg/L	1	1/22/2013 11:43:59 AM
SM4500-H+B: PH							Analyst: **JML**
pH	7.76	0.10000	1.68	H	pH units	1	1/15/2013 12:34:53 AM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	361	5.00000	20.0		mg/L CaCO3	1	1/15/2013 12:34:53 AM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/15/2013 12:34:53 AM
Total Alkalinity (as CaCO3)	361	5.00000	20.0		mg/L CaCO3	1	1/15/2013 12:34:53 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	654	20.11120	40.0		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ 96-23 A
Project: NMCC Stage 1
Collection Date: 1/11/2013 9:45:00 AM
Lab ID: 1301409-015 **Matrix:** AQUEOUS **Received Date:** 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	2.00	0.20000	1.00		mg/L	10	1/23/2013 2:32:24 AM
Chloride	11.5	0.66200	5.00		mg/L	10	1/14/2013 9:08:06 PM
Sulfate	6.14	2.33300	5.00		mg/L	10	1/14/2013 9:08:06 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	0.0314	0.01091	0.0200		mg/L	1	1/17/2013 4:57:45 PM
Cadmium	ND	0.00060	0.00200		mg/L	1	1/17/2013 4:57:45 PM
Calcium	129	0.12939	5.00		mg/L	5	1/18/2013 10:03:45 AM
Cobalt	0.00143	0.00060	0.00600	J	mg/L	1	1/17/2013 4:57:45 PM
Magnesium	37.7	0.01291	1.00		mg/L	1	1/18/2013 9:53:12 AM
Potassium	1.37	0.48088	1.00		mg/L	1	1/18/2013 9:53:12 AM
Sodium	70.6	0.21550	1.00		mg/L	1	1/18/2013 9:53:12 AM
Zinc	0.00615	0.00090	0.0100	J	mg/L	1	1/17/2013 4:57:45 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.00113	0.00016	0.00100		mg/L	1	1/22/2013 3:12:57 PM
Selenium	ND	0.00055	0.00100		mg/L	1	1/22/2013 12:11:38 PM
SM4500-H+B: PH							Analyst: **JML**
pH	8.07	0.10000	1.68	H	pH units	1	1/15/2013 12:53:27 AM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	627	5.00000	20.0		mg/L CaCO3	1	1/15/2013 12:53:27 AM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/15/2013 12:53:27 AM
Total Alkalinity (as CaCO3)	627	5.00000	20.0		mg/L CaCO3	1	1/15/2013 12:53:27 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	693	10.05560	20.0		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ 94-14
Project: NMCC Stage 1
Collection Date: 1/11/2013 11:50:00 AM
Lab ID: 1301409-016 **Matrix:** AQUEOUS **Received Date:** 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	0.424	0.02000	0.100		mg/L	1	1/16/2013 9:19:59 PM
Chloride	43.6	0.66200	5.00		mg/L	10	1/14/2013 11:37:01 PM
Sulfate	140	2.33300	5.00		mg/L	10	1/14/2013 11:37:01 PM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	ND	0.01091	0.0200		mg/L	1	1/17/2013 5:06:52 PM
Cadmium	ND	0.00060	0.00200		mg/L	1	1/17/2013 5:06:52 PM
Calcium	90.2	0.02588	1.00		mg/L	1	1/18/2013 10:06:21 AM
Cobalt	0.00114	0.00060	0.00600	J	mg/L	1	1/17/2013 5:06:52 PM
Magnesium	24.5	0.01291	1.00		mg/L	1	1/18/2013 10:06:21 AM
Potassium	1.62	0.48088	1.00		mg/L	1	1/18/2013 10:06:21 AM
Sodium	45.8	0.21550	1.00		mg/L	1	1/18/2013 10:06:21 AM
Zinc	ND	0.00090	0.0100		mg/L	1	1/17/2013 5:06:52 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.000295	0.00016	0.00100	J	mg/L	1	1/14/2013 2:58:07 PM
Selenium	0.00337	0.00055	0.00100		mg/L	1	1/14/2013 2:58:07 PM
SM4500-H+B: PH							Analyst: **JML**
pH	7.78	0.10000	1.68	H	pH units	1	1/15/2013 1:19:02 AM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	218	5.00000	20.0		mg/L CaCO3	1	1/15/2013 1:19:02 AM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/15/2013 1:19:02 AM
Total Alkalinity (as CaCO3)	218	5.00000	20.0		mg/L CaCO3	1	1/15/2013 1:19:02 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	583	10.05560	20.0		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ 96-23 B
Project: NMCC Stage 1
Collection Date: 1/11/2013 10:15:00 AM
Lab ID: 1301409-017
Matrix: AQUEOUS
Received Date: 1/11/2013 3:43:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS							Analyst: **JRR**
Fluoride	2.05	0.20000	1.00		mg/L	10	1/23/2013 2:44:49 AM
Chloride	15.4	0.66200	5.00		mg/L	10	1/15/2013 12:01:50 AM
Sulfate	ND	2.33300	5.00		mg/L	10	1/15/2013 12:01:50 AM
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **ELS**
Aluminum	ND	0.01091	0.0200		mg/L	1	1/17/2013 5:14:36 PM
Cadmium	ND	0.00060	0.00200		mg/L	1	1/17/2013 5:14:36 PM
Calcium	76.7	0.02588	1.00		mg/L	1	1/18/2013 10:11:34 AM
Cobalt	0.00125	0.00060	0.00600	J	mg/L	1	1/17/2013 5:14:36 PM
Magnesium	21.2	0.01291	1.00		mg/L	1	1/18/2013 10:11:34 AM
Potassium	1.57	0.48088	1.00		mg/L	1	1/18/2013 10:11:34 AM
Sodium	98.2	0.21550	1.00		mg/L	1	1/18/2013 10:11:34 AM
Zinc	0.0104	0.00090	0.0100		mg/L	1	1/17/2013 5:14:36 PM
EPA 200.8: DISSOLVED METALS							Analyst: **DBD**
Copper	0.000671	0.00016	0.00100	J	mg/L	1	1/22/2013 3:16:53 PM
Selenium	ND	0.00055	0.00100		mg/L	1	1/22/2013 12:15:34 PM
SM4500-H+B: PH							Analyst: **JML**
pH	8.03	0.10000	1.68	H	pH units	1	1/15/2013 1:34:04 AM
SM2320B: ALKALINITY							Analyst: **JML**
Bicarbonate (As CaCO3)	502	5.00000	20.0		mg/L CaCO3	1	1/15/2013 1:34:04 AM
Carbonate (As CaCO3)	ND	2.00000	2.00		mg/L CaCO3	1	1/15/2013 1:34:04 AM
Total Alkalinity (as CaCO3)	502	5.00000	20.0		mg/L CaCO3	1	1/15/2013 1:34:04 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**
Total Dissolved Solids	571	10.05560	20.0		mg/L	1	1/18/2013 9:17:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301409**

12-Feb-13

Client: John Shomaker & Assoc.

Project: NMCC Stage 1

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R8121**	RunNo:	**8121**					
Prep Date:		Analysis Date:	**1/17/2013**	SeqNo:	**234884**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Cadmium	ND	0.0020								
Cobalt	ND	0.0060								
Zinc	ND	0.010								

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**R8121**	RunNo:	**8121**					
Prep Date:		Analysis Date:	**1/17/2013**	SeqNo:	**234886**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.47	0.020	0.5000	0	94.8	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.1	85	115			
Zinc	0.47	0.010	0.5000	0	94.4	85	115			

Sample ID	**1301409-001BMS**	SampType:	**MS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**GWQ 11-24 B**	Batch ID:	**R8121**	RunNo:	**8121**					
Prep Date:		Analysis Date:	**1/17/2013**	SeqNo:	**234906**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.476	0.0200	0.5000	0	95.3	70	130			
Cadmium	0.522	0.00200	0.5000	0	104	70	130			
Cobalt	0.481	0.00600	0.5000	0.01074	94.0	70	130			
Zinc	0.520	0.0100	0.5000	0.05224	93.6	70	130			

Sample ID	**1301409-001BMSD**	SampType:	**MSD**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**GWQ 11-24 B**	Batch ID:	**R8121**	RunNo:	**8121**					
Prep Date:		Analysis Date:	**1/17/2013**	SeqNo:	**234910**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.476	0.0200	0.5000	0	95.2	70	130	0.0861	20	
Cadmium	0.513	0.00200	0.5000	0	103	70	130	1.69	20	
Cobalt	0.473	0.00600	0.5000	0.01074	92.6	70	130	1.57	20	
Zinc	0.513	0.0100	0.5000	0.05224	92.2	70	130	1.30	20	

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R8137**	RunNo:	**8137**					
Prep Date:		Analysis Date:	**1/18/2013**	SeqNo:	**235375**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

EBID
Exhibit 18

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301409**

12-Feb-13

Client: John Shomaker & Assoc.

Project: NMCC Stage 1

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R8137**	RunNo: **8137**
Prep Date:	Analysis Date: **1/18/2013**	SeqNo: **235375** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R8137**	RunNo: **8137**
Prep Date:	Analysis Date: **1/18/2013**	SeqNo: **235378** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	52	1.0	50.00	0	104	85	115			
Magnesium	52	1.0	50.00	0	104	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Sodium	51	1.0	50.00	0	102	85	115			

Sample ID **1301409-001BMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **GWQ 11-24 B**	Batch ID: **R8137**	RunNo: **8137**
Prep Date:	Analysis Date: **1/18/2013**	SeqNo: **235389** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	55.8	1.00	50.00	6.228	99.1	70	130			

Sample ID **1301409-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **GWQ 11-24 B**	Batch ID: **R8137**	RunNo: **8137**
Prep Date:	Analysis Date: **1/18/2013**	SeqNo: **235394** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	57.5	1.00	50.00	6.228	103	70	130	3.10	20	

Sample ID **1301409-001BMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **GWQ 11-24 B**	Batch ID: **R8137**	RunNo: **8137**
Prep Date:	Analysis Date: **1/18/2013**	SeqNo: **235397** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	321	5.00	250.0	75.93	98.2	70	130			
Sodium	338	5.00	250.0	95.72	97.0	70	130			

Sample ID **1301409-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **GWQ 11-24 B**	Batch ID: **R8137**	RunNo: **8137**
Prep Date:	Analysis Date: **1/18/2013**	SeqNo: **235398** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	325	5.00	250.0	75.93	99.7	70	130	1.13	20	
Sodium	343	5.00	250.0	95.72	98.9	70	130	1.38	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

EBID
Exhibit 18

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301409**

12-Feb-13

Client: John Shomaker & Assoc.

Project: NMCC Stage 1

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R8150**	RunNo: **8150**
Prep Date:	Analysis Date: **1/18/2013**	SeqNo: **235643** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Cadmium	ND	0.0020								
Cobalt	ND	0.0060								
Zinc	0.0012	0.010								J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R8150**	RunNo: **8150**
Prep Date:	Analysis Date: **1/18/2013**	SeqNo: **235644** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.48	0.020	0.5000	0	95.2	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.1	85	115			
Zinc	0.48	0.010	0.5000	0.001210	96.3	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

EBID
Exhibit 18

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301409**

12-Feb-13

Client: John Shomaker & Assoc.

Project: NMCC Stage 1

Sample ID **1301409-008BMS** SampType: **MS** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **GWQ-8** Batch ID: **R8032** RunNo: **8032**
Prep Date: Analysis Date: **1/14/2013** SeqNo: **232432** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.0236	0.00100	0.02500	0.0005800	92.2	70	130			
Selenium	0.0266	0.00100	0.02500	0.001975	98.4	70	130			

Sample ID **LCS** SampType: **LCS** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW** Batch ID: **R8032** RunNo: **8032**
Prep Date: Analysis Date: **1/14/2013** SeqNo: **232436** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.024	0.0010	0.02500	0	97.7	85	115			
Selenium	0.023	0.0010	0.02500	0	90.4	85	115			

Sample ID **MB** SampType: **MBLK** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW** Batch ID: **R8032** RunNo: **8032**
Prep Date: Analysis Date: **1/14/2013** SeqNo: **232438** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0010								
Selenium	ND	0.0010								

Sample ID **LCS** SampType: **LCS** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW** Batch ID: **R8183** RunNo: **8183**
Prep Date: Analysis Date: **1/22/2013** SeqNo: **236826** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.024	0.0010	0.02500	0	95.7	85	115			
Selenium	0.023	0.0010	0.02500	0	90.8	85	115			

Sample ID **LCS** SampType: **LCS** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW** Batch ID: **R8183** RunNo: **8183**
Prep Date: Analysis Date: **1/22/2013** SeqNo: **236827** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.025	0.0010	0.02500	0	98.7	85	115			
Selenium	0.024	0.0010	0.02500	0	94.1	85	115			

Sample ID **MB** SampType: **MBLK** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW** Batch ID: **R8183** RunNo: **8183**
Prep Date: Analysis Date: **1/22/2013** SeqNo: **236828** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

EBID
Exhibit 18

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301409**

12-Feb-13

Client: John Shomaker & Assoc.

Project: NMCC Stage 1

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R8183**	RunNo:	**8183**					
Prep Date:		Analysis Date:	**1/22/2013**	SeqNo:	**236829**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**R8513**	RunNo:	**8513**					
Prep Date:		Analysis Date:	**2/7/2013**	SeqNo:	**245245**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.024	0.0010	0.02500	0	95.7	85	115			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R8513**	RunNo:	**8513**					
Prep Date:		Analysis Date:	**2/7/2013**	SeqNo:	**245246**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

EBID
Exhibit 18

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301409**

12-Feb-13

Client: John Shomaker & Assoc.

Project: NMCC Stage 1

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBW**	Batch ID:	**R8050**	RunNo:	**8050**					
Prep Date:		Analysis Date:	**1/14/2013**	SeqNo:	**232961**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSW**	Batch ID:	**R8050**	RunNo:	**8050**					
Prep Date:		Analysis Date:	**1/14/2013**	SeqNo:	**232962**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.4	90	110			
Sulfate	9.1	0.50	10.00	0	91.0	90	110			

Sample ID	**1301409-003AMS**	SampType:	**MS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**GWQ 11-25 B**	Batch ID:	**R8050**	RunNo:	**8050**					
Prep Date:		Analysis Date:	**1/14/2013**	SeqNo:	**232964**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	76	5.0	50.00	26.62	97.9	87.8	111			

Sample ID	**1301409-003AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**GWQ 11-25 B**	Batch ID:	**R8050**	RunNo:	**8050**					
Prep Date:		Analysis Date:	**1/14/2013**	SeqNo:	**232965**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	75	5.0	50.00	26.62	97.4	87.8	111	0.375	20	

Sample ID	**1301409-015AMS**	SampType:	**MS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**GWQ 96-23 A**	Batch ID:	**R8050**	RunNo:	**8050**					
Prep Date:		Analysis Date:	**1/14/2013**	SeqNo:	**232992**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	58.0	5.00	50.00	11.50	93.0	87.8	111			
Sulfate	96.8	5.00	100.0	6.139	90.6	84.6	122			

Sample ID	**1301409-015AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**GWQ 96-23 A**	Batch ID:	**R8050**	RunNo:	**8050**					
Prep Date:		Analysis Date:	**1/14/2013**	SeqNo:	**232993**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	57.1	5.00	50.00	11.50	91.2	87.8	111	1.60	20	
Sulfate	95.4	5.00	100.0	6.139	89.2	84.6	122	1.44	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301409**

12-Feb-13

Client: John Shomaker & Assoc.

Project: NMCC Stage 1

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R8050**	RunNo: **8050**
Prep Date:	Analysis Date: **1/15/2013**	SeqNo: **233015** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R8050**	RunNo: **8050**
Prep Date:	Analysis Date: **1/15/2013**	SeqNo: **233016** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.8	90	110			
Sulfate	9.6	0.50	10.00	0	96.3	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R8074**	RunNo: **8074**
Prep Date:	Analysis Date: **1/15/2013**	SeqNo: **233657** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Sulfate	ND	0.50								

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R8074**	RunNo: **8074**
Prep Date:	Analysis Date: **1/15/2013**	SeqNo: **233659** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.45	0.10	0.5000	0	90.6	90	110			
Sulfate	9.4	0.50	10.00	0	94.4	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R8095**	RunNo: **8095**
Prep Date:	Analysis Date: **1/16/2013**	SeqNo: **234152** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R8095**	RunNo: **8095**
Prep Date:	Analysis Date: **1/16/2013**	SeqNo: **234161** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	95.8	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301409**

12-Feb-13

Client: John Shomaker & Assoc.

Project: NMCC Stage 1

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R8199**	RunNo: **8199**
Prep Date:	Analysis Date: **1/22/2013**	SeqNo: **237146** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R8199**	RunNo: **8199**
Prep Date:	Analysis Date: **1/22/2013**	SeqNo: **237147** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	95.9	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

EBID
Exhibit 18

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301409**

12-Feb-13

Client: John Shomaker & Assoc.

Project: NMCC Stage 1

Sample ID	**1301409-006a ms**	SampType:	**MS**		TestCode:	**SM2320B: Alkalinity**				
Client ID:	**Pit**	Batch ID:	**R8053**		RunNo:	**8053**				
Prep Date:		Analysis Date:	**1/14/2013**		SeqNo:	**233050**	Units:	**mg/L CaCO3**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	184	20.0	80.00	111.6	91.1	65.3	113			

Sample ID	**1301409-006a msd**	SampType:	**MSD**		TestCode:	**SM2320B: Alkalinity**				
Client ID:	**Pit**	Batch ID:	**R8053**		RunNo:	**8053**				
Prep Date:		Analysis Date:	**1/14/2013**		SeqNo:	**233051**	Units:	**mg/L CaCO3**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	184	20.0	80.00	111.6	91.0	65.3	113	0.0217	10	

Sample ID	**mb-1**	SampType:	**MBLK**		TestCode:	**SM2320B: Alkalinity**				
Client ID:	**PBW**	Batch ID:	**R8053**		RunNo:	**8053**				
Prep Date:		Analysis Date:	**1/14/2013**		SeqNo:	**233063**	Units:	**mg/L CaCO3**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	**lcs-1**	SampType:	**LCS**		TestCode:	**SM2320B: Alkalinity**				
Client ID:	**LCSW**	Batch ID:	**R8053**		RunNo:	**8053**				
Prep Date:		Analysis Date:	**1/14/2013**		SeqNo:	**233064**	Units:	**mg/L CaCO3**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	98.6	95	105			

Sample ID	**mb-2**	SampType:	**MBLK**		TestCode:	**SM2320B: Alkalinity**				
Client ID:	**PBW**	Batch ID:	**R8053**		RunNo:	**8053**				
Prep Date:		Analysis Date:	**1/14/2013**		SeqNo:	**233087**	Units:	**mg/L CaCO3**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	**lcs-2**	SampType:	**LCS**		TestCode:	**SM2320B: Alkalinity**				
Client ID:	**LCSW**	Batch ID:	**R8053**		RunNo:	**8053**				
Prep Date:		Analysis Date:	**1/14/2013**		SeqNo:	**233088**	Units:	**mg/L CaCO3**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78	20	80.00	0	98.0	95	105			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

EBID
Exhibit 18

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1301409**

12-Feb-13

Client: John Shomaker & Assoc.

Project: NMCC Stage 1

Sample ID **MB-5677**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**							
Client ID: **PBW**	Batch ID: **5677**	RunNo: **8129**							
Prep Date: **1/15/2013**	Analysis Date: **1/18/2013**	SeqNo: **235114**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	11.0	20.0								J

Sample ID **LCS-5677**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**							
Client ID: **LCSW**	Batch ID: **5677**	RunNo: **8129**							
Prep Date: **1/15/2013**	Analysis Date: **1/18/2013**	SeqNo: **235115**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	20.0	1000	11.00	102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

EBID
Exhibit 18

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SHO Work Order Number: 1301409

Received by/date: 01/11/13

Logged By: **Lindsay Mangin** 1/11/2013 3:43:00 PM

Completed By: **Lindsay Mangin** 1/14/2013 9:53:24 AM

Reviewed By: 01/14/13

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☑
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? Client

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☑ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☐ No ☑
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☐ No ☑
10. Was preservative added to bottles? Yes ☑ No ☐ NA ☐
    -008c- -012c, -016c added 0.4mL HNO3 for acceptable pH - 01/12/13
11. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: 23 (<2 or >12 unless noted)
Adjusted? YES
Checked by:

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: STEVE FINCH Date: 01/14/13
By Whom: LINDSAY MANGIN Via: ☐ eMail ☒ Phone ☐ Fax ☐ In Person
Regarding: -014 SAMPLE ID + COLLECTION TIME.
Client Instructions: SAMPLE ID IS GWQ 11-26, COLLECTION TIME IS 1515 01/14/13

18. Additional remarks:
    -008c- -012c, -016c Poured off/filtered/preserved in lab. -LM 01/14/13

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Not Present			

EBID
Exhibit 18

Chain-of-Custody Record

Client: John Shomaker + Assoc. INC

Mailing Address: 2611 Broadbent Pkwy NE
ABQ, NM 87107

Phone #: ~~AGQ~~ 505-345-3407

email or Fax#: shen@shomaker.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☐ Rush _____

Project Name: NMCC Stage 1

Project #: 540.101

Project Manager: STF

Sampler: STF/MW/SAC

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.1 C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1301409	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	List B				Air Bubbles (Y or N)
1/9/13	10:58	aq	GWQ 11-24B	1x500	none	-001												X				
1/9/13	10:58	aq	GWQ 11-24B	1x 120 filtered	HNO3													↓				
1/9/13	17:40	aq	GWQ 11-25A	1x500	none	-002																
1/9/13	17:40	aq	GWQ 11-25A	1x 120 filtered	HNO3																	
1/9/13	14:14 [redacted]	aq	GWQ 11-25B	1x 500	none	-003																
1/9/13	14:14 [redacted]	aq	GWQ 11-25B	1x 120 filtered	HNO3																	
1/9/13	16:53	aq	GWQ 96-22A	1x 500	none	-004																
1/9/13	16:53	aq	GWQ 96-22A	1x 120 filtered	HNO3																	
1/9/13	17:14	aq	GWQ 96-22B	1x 500	None	-005																
1/9/13	17:14	aq	GWQ 96-22B	1x 120 filtered	HNO3																	
1/9/13	12:00	aq	Pit [redacted]	1x 500	None	-006												X				
1/9/13	12:00	aq	Pit	1x 120 filtered	HNO3													X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
1-11-13	1543			01/11/13	1543
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

EBID
Exhibit 18

Chain-of-Custody Record

Client: John Shomaker + Associates, Inc

Mailing Address: 2611 Broadbent Pkwy NE
ABQ, NM 87107

Phone #: 505-345-3407

email or Fax#: stinch@shomaker.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☐ Rush _____

Project Name: NMCC Stage 1

Project #: 540.101

Project Manager: STF

Sampler: MW/SAF/STF

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1301409	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	List B	List A			Air Bubbles (Y or N)
1/10/13	9:21	aq	GWQ-5R	1x500	none	-007												X				
1/10/13	9:21	aq	GWQ-5R	1x120	filtered HNO3													X				
1/10/13	12:07	aq	GWQ-8	1x500	none	-008													X			
1/10/13	12:07	aq	GWQ-8	1x120	HNO3																	
1/10/13	13:50	aq	GWQ-1	1x500	none	-009																
1/10/13	13:50	aq	GWQ-1	1x120	HNO3																	
1/10/13	16:45	aq	GWQ 94-13	1x500	None	-010																
1/10/13	16:45	aq	GWQ 94-13	1x120	HNO3																	
1/10/13	14:40	aq	GWQ 94-16	1x500	None	-011																
1/10/13	14:40	aq	GWQ 94-16	1x120	HNO3																	
1/10/13	14:56	aq	NP-3	1x ~~120~~ 500	HNO3	-012																
1/10/13	14:56	aq	NP-3	1x500	None																	

Date	Time	Relinquished by:	Received by:	Date	Time
1-11-13	1543			01/11/13	1543
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

EBID Exhibit 18

Chain-of-Custody Record

Client: John Shomaker & Assoc., Inc.

Mailing Address: 2611 Broadbent Pkwy NE
ABQ, NM 87107

Phone #: 505-345-3407

email or Fax#: steve@shomaker.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☐ Rush _____

Project Name: NMCC Stage 1

Project #: 540.101

Project Manager: STF

Sampler: MW / SAF / STF

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1301409	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	List B				Air Bubbles (Y or N)
1/8/13	17:00	aq	GWQ 11-24A	1 x 500	None	-013												X				
1/8/13	17:00	aq	GWQ 11-24A	1 x 120	filtered HNO_3													X				
1/8/13	17:15	aq	GWQ 11-26	1 x 500	None	-014												X				
1/8/13	17:15	aq	GWQ 11-26	1 x 120	filtered HNO_3													X				
	15:15																					
		01/12/13																				

Date	Time	Relinquished by:	Received by:	Date	Time
1-11-13	15:43			01/11/13	1543
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: See accompanying form for Lists. Report 3 sig. fig. For general Chemistry, ?? - please call Steve

Chain-of-Custody Record

Client: John Shomaker + Assoc, Inc.

Mailing Address: 2611 Broadbent Pkwy NE ABQ, NM 87107

Phone #: 505-345-3407

email or Fax#: sfinch@shomaker.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☐ Rush

Project Name: NMCC Stage 1 Abatement

Project #: 540.101

Project Manager: STF

Sampler: MW/ SAF

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1301409	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	List B	List A			Air Bubbles (Y or N)
1/11/13	9:45	aq	GWQ 96-23A	1x500	none	-015												X				
1/11/13	9:45	aq	GWQ 96-23A	1x120	Filtered HNO_3													X				
1/11/13	11:50	aq	GWQ 94-14	1x500	none	-016												X	X			
1/11/13	11:50	aq	GWQ 94-14	1x120	HNO_3													X	X			
1/11/13	10:15	aq	GWQ 96-23B	1x500	None	-017												X				
1/11/13	10:15	aq	GWQ 96-23B	1x120	Filtered HNO_3													X				

Remarks:

Date	Time	Relinquished by:	Received by:	Date	Time
1-11-13	1543			01/11/13	1543
Date:	Time:	Relinquished by:	Received by:	Date	Time

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

EBID Exhibit 18

	Constituent List A	Constituent List B	details
general chemistry	pH	pH	12 samples for List A
	alkalinity/Acidity	alkalinity/Acidity	16 samples for List B
	sulfate	sulfate	report 3 significant digits for general chemistry constituents
	chloride	chloride	
	fluoride	calcium	
	calcium	magnesium	
	magnesium	sodium	
	sodium	potassium	
	potassium	Total Dissolved Solids	
	Total Dissolved Solids		
dissolved metals	aluminum		
	cadmium		
	cobalt		
	copper		
	magnessium		
	selenium		
	zinc		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 25, 2013

Steve Finch
John Shomaker & Assoc.
2611 Broadbent Parkway NE
Albuquerque, NM 87107
TEL: (505) 345-3407
FAX (505) 345-9920

RE: Copper Flat OrderNo.: 1304522

Dear Steve Finch:

Hall Environmental Analysis Laboratory received 19 sample(s) on 4/12/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1304522**
Date Reported: **4/25/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ11-26
Project: Copper Flat
Collection Date: 4/9/2013 1:41:00 PM
Lab ID: 1304522-001 **Matrix:** AQUEOUS **Received Date:** 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	0.391	0.100		mg/L	1	4/17/2013 3:35:48 AM
Chloride	16.1	0.500		mg/L	1	4/12/2013 2:39:21 PM
Sulfate	98.2	10.0		mg/L	20	4/12/2013 2:51:45 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Aluminum	ND	0.0200		mg/L	1	4/16/2013 5:43:20 PM
Cadmium	ND	0.00200		mg/L	1	4/15/2013 9:51:30 AM
Cobalt	ND	0.00600		mg/L	1	4/15/2013 9:51:30 AM
Copper	ND	0.00600		mg/L	1	4/15/2013 9:51:30 AM
Manganese	0.0194	0.00200		mg/L	1	4/15/2013 9:51:30 AM
Zinc	ND	0.0100		mg/L	1	4/15/2013 9:51:30 AM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	92.7	1.00		mg/L	1	4/17/2013 6:03:17 PM
Magnesium	23.0	1.00		mg/L	1	4/17/2013 6:03:17 PM
Potassium	1.73	1.00		mg/L	1	4/17/2013 6:03:17 PM
Sodium	68.2	1.00		mg/L	1	4/17/2013 6:03:17 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Selenium	0.00177	0.00100		mg/L	1	4/17/2013 1:34:00 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	354	20.0		mg/L CaCO3	1	4/12/2013 12:39:14 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 12:39:14 PM
Total Alkalinity (as CaCO3)	354	20.0		mg/L CaCO3	1	4/12/2013 12:39:14 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	582	40.0	*	mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

EBID
Exhibit 18

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ11-25A
Project: Copper Flat
Collection Date: 4/8/2013 8:48:00 AM
Lab ID: 1304522-002 **Matrix:** AQUEOUS **Received Date:** 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	324	100	*	mg/L	1000	4/17/2013 4:00:38 AM
Chloride	11.0	10.0		mg/L	20	4/12/2013 3:16:35 PM
Sulfate	17400	500	*	mg/L	1000	4/17/2013 4:00:38 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Aluminum	1730	40.0	*	mg/L	2000	4/18/2013 1:26:25 PM
Cadmium	0.656	0.400	*	mg/L	200	4/17/2013 2:46:51 PM
Cobalt	3.91	1.20		mg/L	200	4/17/2013 2:46:51 PM
Copper	63.9	1.20	*	mg/L	200	4/17/2013 2:46:51 PM
Manganese	77.5	0.400	*	mg/L	200	4/17/2013 2:46:51 PM
Silicon	68.4	16.0		mg/L	200	4/18/2013 1:24:28 PM
Zinc	42.1	2.00	*	mg/L	200	4/17/2013 2:46:51 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	556	500		mg/L	500	4/18/2013 2:18:59 PM
Magnesium	ND	500		mg/L	500	4/18/2013 2:18:59 PM
Potassium	ND	500		mg/L	500	4/18/2013 2:18:59 PM
Sodium	ND	500		mg/L	500	4/18/2013 2:18:59 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Selenium	ND	0.50	*	mg/L	500	4/22/2013 12:45:58 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	ND	20.0		mg/L CaCO3	1	4/12/2013 12:56:20 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 12:56:20 PM
Total Alkalinity (as CaCO3)	ND	20.0		mg/L CaCO3	1	4/12/2013 12:56:20 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	23800	1000	*	mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ11-24B
Project: Copper Flat
Collection Date: 4/8/2013 6:20:00 PM
Lab ID: 1304522-003 **Matrix:** AQUEOUS **Received Date:** 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	3.99	0.100		mg/L	1	4/17/2013 4:13:02 AM
Chloride	28.4	10.0		mg/L	20	4/13/2013 12:34:57 AM
Sulfate	1510	25.0	*	mg/L	50	4/17/2013 4:25:26 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Aluminum	ND	0.0200		mg/L	1	4/16/2013 6:00:01 PM
Cadmium	ND	0.00200		mg/L	1	4/15/2013 10:10:31 AM
Cobalt	0.0191	0.00600		mg/L	1	4/15/2013 10:10:31 AM
Copper	ND	0.00600		mg/L	1	4/15/2013 10:10:31 AM
Manganese	3.54	0.0100	*	mg/L	5	4/15/2013 10:12:56 AM
Zinc	0.233	0.0100		mg/L	1	4/15/2013 10:10:31 AM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	469	10.0		mg/L	10	4/15/2013 3:21:25 PM
Magnesium	77.7	1.00		mg/L	1	4/15/2013 3:17:55 PM
Potassium	5.81	1.00		mg/L	1	4/15/2013 3:17:55 PM
Sodium	91.4	1.00		mg/L	1	4/15/2013 3:17:55 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Selenium	ND	0.0050		mg/L	5	4/22/2013 12:53:50 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	189	20.0		mg/L CaCO3	1	4/12/2013 1:00:56 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 1:00:56 PM
Total Alkalinity (as CaCO3)	189	20.0		mg/L CaCO3	1	4/12/2013 1:00:56 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	2440	40.0	*	mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ11-24A
Project: Copper Flat
Collection Date: 4/8/2013 6:10:00 PM
Lab ID: 1304522-004
Matrix: AQUEOUS
Received Date: 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	22.9	10.0	*	mg/L	100	4/17/2013 4:50:15 AM
Chloride	29.8	10.0		mg/L	20	4/12/2013 4:31:02 PM
Sulfate	2730	50.0	*	mg/L	100	4/17/2013 4:50:15 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Aluminum	46.0	2.00	*	mg/L	100	4/16/2013 6:04:44 PM
Cadmium	0.206	0.0100	*	mg/L	5	4/15/2013 10:17:42 AM
Cobalt	0.290	0.0300		mg/L	5	4/15/2013 10:17:42 AM
Copper	126	1.20	*	mg/L	200	4/17/2013 12:51:12 PM
Manganese	11.4	0.0400	*	mg/L	20	4/17/2013 12:49:06 PM
Zinc	6.32	0.100	*	mg/L	10	4/16/2013 6:02:30 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	468	10.0		mg/L	10	4/17/2013 6:23:09 PM
Magnesium	110	10.0		mg/L	10	4/17/2013 6:23:09 PM
Potassium	ND	10.0		mg/L	10	4/17/2013 6:23:09 PM
Sodium	126	10.0		mg/L	10	4/17/2013 6:23:09 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Selenium	0.0351	0.00100		mg/L	1	4/17/2013 1:39:36 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	ND	20.0		mg/L CaCO3	1	4/12/2013 1:13:22 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 1:13:22 PM
Total Alkalinity (as CaCO3)	ND	20.0		mg/L CaCO3	1	4/12/2013 1:13:22 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	4320	40.0	*	mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: Pit Lake 1
Project: Copper Flat
Collection Date: 4/8/2013 2:40:00 PM
Lab ID: 1304522-005
Matrix: AQUEOUS
Received Date: 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	22.1	5.00	*	mg/L	50	4/17/2013 5:39:53 AM
Chloride	670	25.0	*	mg/L	50	4/17/2013 5:39:53 AM
Sulfate	6750	250	*	mg/L	500	4/17/2013 5:52:17 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Aluminum	0.109	0.0200		mg/L	1	4/16/2013 6:07:22 PM
Cadmium	0.0385	0.00200	*	mg/L	1	4/15/2013 10:19:58 AM
Cobalt	0.0688	0.00600		mg/L	1	4/15/2013 10:19:58 AM
Copper	0.0584	0.00600		mg/L	1	4/15/2013 10:19:58 AM
Manganese	31.9	0.100	*	mg/L	50	4/17/2013 12:53:36 PM
Silicon	5.08	0.400		mg/L	5	4/18/2013 1:28:22 PM
Zinc	0.864	0.0100		mg/L	1	4/15/2013 10:19:58 AM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	494	10.0		mg/L	10	4/15/2013 3:31:15 PM
Magnesium	929	10.0		mg/L	10	4/15/2013 3:31:15 PM
Potassium	49.1	1.00		mg/L	1	4/15/2013 3:25:29 PM
Sodium	1320	20.0		mg/L	20	4/15/2013 3:43:59 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Selenium	0.013	0.0050		mg/L	5	4/22/2013 12:57:46 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	122	20.0		mg/L CaCO3	1	4/12/2013 1:17:47 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 1:17:47 PM
Total Alkalinity (as CaCO3)	122	20.0		mg/L CaCO3	1	4/12/2013 1:17:47 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	11700	200	*	mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ11-25B
Project: Copper Flat
Collection Date: 4/8/2013 1:38:00 PM
Lab ID: 1304522-006 **Matrix:** AQUEOUS **Received Date:** 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	8.10	5.00	*	mg/L	50	4/17/2013 6:04:42 AM
Chloride	27.2	10.0		mg/L	20	4/12/2013 5:45:27 PM
Sulfate	1470	25.0	*	mg/L	50	4/17/2013 6:04:42 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Aluminum	0.383	0.0200	*	mg/L	1	4/16/2013 6:12:49 PM
Cadmium	ND	0.00200		mg/L	1	4/15/2013 10:25:51 AM
Cobalt	ND	0.00600		mg/L	1	4/15/2013 10:25:51 AM
Copper	ND	0.00600		mg/L	1	4/15/2013 10:25:51 AM
Manganese	3.30	0.0100	*	mg/L	5	4/15/2013 10:28:16 AM
Zinc	0.0225	0.0100		mg/L	1	4/15/2013 10:25:51 AM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	465	10.0		mg/L	10	4/15/2013 4:00:10 PM
Magnesium	80.6	1.00		mg/L	1	4/15/2013 3:35:35 PM
Potassium	4.35	1.00		mg/L	1	4/15/2013 3:35:35 PM
Sodium	128	10.0		mg/L	10	4/15/2013 4:00:10 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Selenium	0.00168	0.00100		mg/L	1	4/17/2013 2:11:28 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	339	20.0		mg/L CaCO3	1	4/12/2013 1:26:35 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 1:26:35 PM
Total Alkalinity (as CaCO3)	339	20.0		mg/L CaCO3	1	4/12/2013 1:26:35 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	2530	40.0	*	mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ-11
Project: Copper Flat
Collection Date: 4/10/2013 6:15:00 PM
Lab ID: 1304522-007
Matrix: AQUEOUS
Received Date: 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	142	5.00		mg/L	10	4/12/2013 6:22:42 PM
Sulfate	359	5.00	*	mg/L	10	4/12/2013 6:22:42 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	155	10.0		mg/L	10	4/15/2013 4:18:29 PM
Magnesium	43.0	1.00		mg/L	1	4/15/2013 4:12:38 PM
Potassium	3.34	1.00		mg/L	1	4/15/2013 4:12:38 PM
Sodium	68.6	1.00		mg/L	1	4/15/2013 4:12:38 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	163	20.0		mg/L CaCO3	1	4/12/2013 1:43:08 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 1:43:08 PM
Total Alkalinity (as CaCO3)	163	20.0		mg/L CaCO3	1	4/12/2013 1:43:08 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	952	20.0	*	mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ94-14
Project: Copper Flat
Collection Date: 4/10/2013 2:52:00 PM
Lab ID: 1304522-008 **Matrix:** AQUEOUS **Received Date:** 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	43.7	5.00		mg/L	10	4/12/2013 6:47:31 PM
Sulfate	141	5.00		mg/L	10	4/12/2013 6:47:31 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	94.8	1.00		mg/L	1	4/15/2013 4:26:30 PM
Magnesium	25.8	1.00		mg/L	1	4/15/2013 4:26:30 PM
Potassium	1.71	1.00		mg/L	1	4/15/2013 4:26:30 PM
Sodium	48.7	1.00		mg/L	1	4/15/2013 4:26:30 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	213	20.0		mg/L CaCO3	1	4/12/2013 1:53:36 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 1:53:36 PM
Total Alkalinity (as CaCO3)	213	20.0		mg/L CaCO3	1	4/12/2013 1:53:36 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	553	20.0	*	mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ-12
Project: Copper Flat
Collection Date: 4/10/2013 4:51:00 PM
Lab ID: 1304522-009
Matrix: AQUEOUS
Received Date: 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	27.2	5.00		mg/L	10	4/12/2013 7:12:19 PM
Sulfate	46.9	5.00		mg/L	10	4/12/2013 7:12:19 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	50.0	1.00		mg/L	1	4/17/2013 6:42:01 PM
Magnesium	16.1	1.00		mg/L	1	4/17/2013 6:42:01 PM
Potassium	2.66	1.00		mg/L	1	4/17/2013 6:42:01 PM
Sodium	26.9	1.00		mg/L	1	4/17/2013 6:42:01 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	179	20.0		mg/L CaCO3	1	4/12/2013 2:05:17 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 2:05:17 PM
Total Alkalinity (as CaCO3)	179	20.0		mg/L CaCO3	1	4/12/2013 2:05:17 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	360	20.0		mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ94-13
Project: Copper Flat
Collection Date: 4/10/2013 11:05:00 AM
Lab ID: 1304522-010
Matrix: AQUEOUS
Received Date: 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	177	50.0		mg/L	100	4/12/2013 7:49:32 PM
Sulfate	517	50.0	*	mg/L	100	4/12/2013 7:49:32 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	231	10.0		mg/L	10	4/17/2013 6:54:52 PM
Magnesium	44.2	1.00		mg/L	1	4/17/2013 6:50:43 PM
Potassium	2.73	1.00		mg/L	1	4/17/2013 6:50:43 PM
Sodium	90.7	1.00		mg/L	1	4/17/2013 6:50:43 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	124	20.0		mg/L CaCO3	1	4/12/2013 2:16:00 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 2:16:00 PM
Total Alkalinity (as CaCO3)	124	20.0		mg/L CaCO3	1	4/12/2013 2:16:00 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	1410	20.0	*	mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: NP-3
Project: Copper Flat
Collection Date: 4/10/2013 12:09:00 PM
Lab ID: 1304522-011
Matrix: AQUEOUS
Received Date: 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	191	50.0		mg/L	100	4/12/2013 8:14:21 PM
Sulfate	561	50.0	*	mg/L	100	4/12/2013 8:14:21 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	219	10.0		mg/L	10	4/17/2013 7:03:00 PM
Magnesium	47.5	1.00		mg/L	1	4/17/2013 6:59:28 PM
Potassium	3.41	1.00		mg/L	1	4/17/2013 6:59:28 PM
Sodium	97.9	1.00		mg/L	1	4/17/2013 6:59:28 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	71.4	20.0		mg/L CaCO3	1	4/12/2013 2:25:26 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 2:25:26 PM
Total Alkalinity (as CaCO3)	71.4	20.0		mg/L CaCO3	1	4/12/2013 2:25:26 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	1340	40.0	*	mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: NP-2
Project: Copper Flat
Collection Date: 4/10/2013 1:21:00 PM
Lab ID: 1304522-012
Matrix: AQUEOUS
Received Date: 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	170	5.00		mg/L	10	4/12/2013 8:51:35 PM
Sulfate	299	5.00	*	mg/L	10	4/12/2013 8:51:35 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	147	10.0		mg/L	10	4/17/2013 7:12:52 PM
Magnesium	40.7	1.00		mg/L	1	4/17/2013 7:09:15 PM
Potassium	4.24	1.00		mg/L	1	4/17/2013 7:09:15 PM
Sodium	68.6	1.00		mg/L	1	4/17/2013 7:09:15 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	167	20.0		mg/L CaCO3	1	4/12/2013 2:33:07 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 2:33:07 PM
Total Alkalinity (as CaCO3)	167	20.0		mg/L CaCO3	1	4/12/2013 2:33:07 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	872	40.0	*	mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ94-16
Project: Copper Flat
Collection Date: 4/10/2013 11:05:00 AM
Lab ID: 1304522-013
Matrix: AQUEOUS
Received Date: 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	191	5.00		mg/L	10	4/12/2013 9:16:24 PM
Sulfate	421	5.00	*	mg/L	10	4/12/2013 9:16:24 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	281	10.0		mg/L	10	4/17/2013 7:20:04 PM
Magnesium	50.7	1.00		mg/L	1	4/17/2013 7:16:24 PM
Potassium	4.78	1.00		mg/L	1	4/17/2013 7:16:24 PM
Sodium	65.0	1.00		mg/L	1	4/17/2013 7:16:24 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	171	20.0		mg/L CaCO3	1	4/12/2013 2:43:35 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 2:43:35 PM
Total Alkalinity (as CaCO3)	171	20.0		mg/L CaCO3	1	4/12/2013 2:43:35 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	1070	40.0	*	mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: MW-4
Project: Copper Flat
Collection Date: 4/11/2013 2:30:00 PM
Lab ID: 1304522-014
Matrix: AQUEOUS
Received Date: 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	20.8	5.00		mg/L	10	4/12/2013 9:41:12 PM
Sulfate	91.5	5.00		mg/L	10	4/12/2013 9:41:12 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	23.2	1.00		mg/L	1	4/17/2013 7:37:17 PM
Magnesium	7.27	1.00		mg/L	1	4/17/2013 7:37:17 PM
Potassium	2.27	1.00		mg/L	1	4/17/2013 7:37:17 PM
Sodium	48.1	1.00		mg/L	1	4/17/2013 7:37:17 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	87.2	20.0		mg/L CaCO3	1	4/12/2013 2:53:38 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 2:53:38 PM
Total Alkalinity (as CaCO3)	87.2	20.0		mg/L CaCO3	1	4/12/2013 2:53:38 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	267	20.0		mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ-3
Project: Copper Flat
Collection Date: 4/11/2013 11:22:00 AM
Lab ID: 1304522-015 **Matrix:** AQUEOUS **Received Date:** 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	75.3	5.00		mg/L	10	4/12/2013 10:06:00 PM
Sulfate	1750	50.0	*	mg/L	100	4/12/2013 10:18:25 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	477	10.0		mg/L	10	4/15/2013 4:38:52 PM
Magnesium	111	10.0		mg/L	10	4/15/2013 4:38:52 PM
Potassium	3.99	1.00		mg/L	1	4/15/2013 4:34:39 PM
Sodium	253	10.0		mg/L	10	4/15/2013 4:38:52 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	188	20.0		mg/L CaCO3	1	4/12/2013 3:01:18 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 3:01:18 PM
Total Alkalinity (as CaCO3)	188	20.0		mg/L CaCO3	1	4/12/2013 3:01:18 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	3060	40.0	*	mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ-8
Project: Copper Flat
Collection Date: 4/9/2013 4:45:00 PM
Lab ID: 1304522-016
Matrix: AQUEOUS
Received Date: 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	85.0	5.00		mg/L	10	4/12/2013 10:30:49 PM
Sulfate	447	50.0	*	mg/L	100	4/12/2013 10:43:14 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	214	10.0		mg/L	10	4/15/2013 4:47:14 PM
Magnesium	35.6	1.00		mg/L	1	4/15/2013 4:42:59 PM
Potassium	2.73	1.00		mg/L	1	4/15/2013 4:42:59 PM
Sodium	113	10.0		mg/L	10	4/15/2013 4:47:14 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	214	20.0		mg/L CaCO3	1	4/12/2013 3:11:49 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 3:11:49 PM
Total Alkalinity (as CaCO3)	214	20.0		mg/L CaCO3	1	4/12/2013 3:11:49 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	1190	20.0	*	mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ-5R
Project: Copper Flat
Collection Date: 4/9/2013 12:39:00 PM
Lab ID: 1304522-017
Matrix: AQUEOUS
Received Date: 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	17.4	5.00		mg/L	10	4/12/2013 11:20:29 PM
Sulfate	101	5.00		mg/L	10	4/12/2013 11:20:29 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	87.1	1.00		mg/L	1	4/17/2013 7:45:29 PM
Magnesium	20.3	1.00		mg/L	1	4/17/2013 7:45:29 PM
Potassium	4.63	1.00		mg/L	1	4/17/2013 7:45:29 PM
Sodium	30.6	1.00		mg/L	1	4/17/2013 7:45:29 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	285	20.0		mg/L CaCO3	1	4/12/2013 3:23:40 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 3:23:40 PM
Total Alkalinity (as CaCO3)	285	20.0		mg/L CaCO3	1	4/12/2013 3:23:40 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	500	20.0		mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: GWQ-1
Project: Copper Flat
Collection Date: 4/11/2013 1:25:00 PM
Lab ID: 1304522-018 **Matrix:** AQUEOUS **Received Date:** 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	29.8	5.00		mg/L	10	4/12/2013 11:45:18 PM
Sulfate	120	5.00		mg/L	10	4/12/2013 11:45:18 PM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	57.0	1.00		mg/L	1	4/17/2013 7:54:14 PM
Magnesium	13.5	1.00		mg/L	1	4/17/2013 7:54:14 PM
Potassium	2.00	1.00		mg/L	1	4/17/2013 7:54:14 PM
Sodium	60.0	1.00		mg/L	1	4/17/2013 7:54:14 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	195	20.0		mg/L CaCO3	1	4/12/2013 3:37:20 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 3:37:20 PM
Total Alkalinity (as CaCO3)	195	20.0		mg/L CaCO3	1	4/12/2013 3:37:20 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	465	20.0		mg/L	1	4/15/2013 5:17:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

EBID
Exhibit 18

Hall Environmental Analysis Laboratory, Inc.

CLIENT: John Shomaker & Assoc.
Client Sample ID: Pit Lake 1A
Project: Copper Flat
Collection Date: 4/8/2013 2:40:00 PM
Lab ID: 1304522-019
Matrix: AQUEOUS
Received Date: 4/12/2013 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	20.4	1.00	*	mg/L	10	4/17/2013 6:17:06 AM
Chloride	599	50.0	*	mg/L	100	4/13/2013 12:22:33 AM
Nitrogen, Nitrate (As N)	ND	1.00	H	mg/L	10	4/13/2013 12:10:08 AM
Sulfate	7130	100	*	mg/L	200	4/17/2013 6:29:31 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Aluminum	0.113	0.0200		mg/L	1	4/16/2013 6:15:14 PM
Cadmium	0.0391	0.00200	*	mg/L	1	4/15/2013 10:30:46 AM
Cobalt	0.0700	0.00600		mg/L	1	4/15/2013 10:30:46 AM
Copper	0.0611	0.00600		mg/L	1	4/15/2013 10:30:46 AM
Manganese	33.1	0.100	*	mg/L	50	4/17/2013 12:56:03 PM
Zinc	0.884	0.0100		mg/L	1	4/15/2013 10:30:46 AM
EPA METHOD 200.7: METALS						Analyst: **JLF**
Calcium	453	10.0		mg/L	10	4/17/2013 8:07:28 PM
Magnesium	859	10.0		mg/L	10	4/17/2013 8:07:28 PM
Potassium	40.2	1.00		mg/L	1	4/17/2013 8:02:56 PM
Sodium	1230	20.0		mg/L	20	4/18/2013 2:22:54 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Selenium	0.015	0.0050		mg/L	5	4/22/2013 1:01:42 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	123	20.0		mg/L CaCO3	1	4/12/2013 3:47:52 PM
Carbonate (As CaCO3)	ND	2.00		mg/L CaCO3	1	4/12/2013 3:47:52 PM
Total Alkalinity (as CaCO3)	123	20.0		mg/L CaCO3	1	4/12/2013 3:47:52 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1304522**

25-Apr-13

Client: John Shomaker & Assoc.

Project: Copper Flat

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**PBW**	Batch ID:	**R9867**	RunNo:	**9867**					
Prep Date:	**2/22/2013**	Analysis Date:	**4/15/2013**	SeqNo:	**280774**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**LCSW**	Batch ID:	**R9867**	RunNo:	**9867**					
Prep Date:		Analysis Date:	**4/15/2013**	SeqNo:	**280775**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	48	1.0	50.00	0	97.0	85	115			
Magnesium	49	1.0	50.00	0	98.4	85	115			
Potassium	48	1.0	50.00	0	96.7	85	115			
Sodium	49	1.0	50.00	0	97.6	85	115			

Sample ID	**MB-7014**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**PBW**	Batch ID:	**7014**	RunNo:	**9947**					
Prep Date:	**4/17/2013**	Analysis Date:	**4/17/2013**	SeqNo:	**283253**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID	**LCS-7014**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**LCSW**	Batch ID:	**7014**	RunNo:	**9947**					
Prep Date:	**4/17/2013**	Analysis Date:	**4/17/2013**	SeqNo:	**283255**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	98.1	85	115			
Magnesium	49	1.0	50.00	0	98.3	85	115			
Potassium	48	1.0	50.00	0	96.0	85	115			
Sodium	48	1.0	50.00	0	96.8	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

EBID
Exhibit 18

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1304522**

25-Apr-13

Client: John Shomaker & Assoc.

Project: Copper Flat

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R9879**	RunNo: **9879**
Prep Date: **2/22/2013**	Analysis Date: **4/15/2013**	SeqNo: **280993** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	ND	0.0020								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Zinc	ND	0.010								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R9879**	RunNo: **9879**
Prep Date:	Analysis Date: **4/15/2013**	SeqNo: **280994** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.51	0.0020	0.5000	0	101	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.8	85	115			
Copper	0.52	0.0060	0.5000	0	104	85	115			
Manganese	0.52	0.0020	0.5000	0	103	85	115			
Zinc	0.48	0.010	0.5000	0	96.4	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R9910**	RunNo: **9910**
Prep Date: **2/22/2013**	Analysis Date: **4/16/2013**	SeqNo: **281828** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Zinc	ND	0.010								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R9910**	RunNo: **9910**
Prep Date:	Analysis Date: **4/16/2013**	SeqNo: **281829** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	113	85	115			
Zinc	0.50	0.010	0.5000	0	99.0	85	115			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R9937**	RunNo: **9937**
Prep Date:	Analysis Date: **4/17/2013**	SeqNo: **283074** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Cobalt	0.49	0.0060	0.5000	0	97.8	85	115			
Copper	0.51	0.0060	0.5000	0	102	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

EBID
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1304522**

25-Apr-13

Client: John Shomaker & Assoc.

Project: Copper Flat

Sample ID	**LCS**	SampType: **LCS**		TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **R9937**		RunNo: **9937**					
Prep Date:		Analysis Date: **4/17/2013**		SeqNo: **283074**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.51	0.0020	0.5000	0	101	85	115			
Zinc	0.48	0.010	0.5000	0	96.0	85	115			

Sample ID	**MB**	SampType: **MBLK**		TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **R9967**		RunNo: **9967**					
Prep Date:	**2/22/2013**	Analysis Date: **4/18/2013**		SeqNo: **283917**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Silicon	ND	0.080								

Sample ID	**LCS**	SampType: **LCS**		TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **R9967**		RunNo: **9967**					
Prep Date:		Analysis Date: **4/18/2013**		SeqNo: **283918**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.57	0.020	0.5000	0	115	85	115			
Silicon	2.7	0.080	2.500	0	107	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

EBID
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1304522**

25-Apr-13

Client: John Shomaker & Assoc.

Project: Copper Flat

Sample ID	**LCS**	SampType: **LCS**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **R9934**			RunNo: **9934**					
Prep Date:		Analysis Date: **4/17/2013**			SeqNo: **283050**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.023	0.0010	0.02500	0	91.0	85	115			

Sample ID	**LCS**	SampType: **LCS**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **R9934**			RunNo: **9934**					
Prep Date:		Analysis Date: **4/17/2013**			SeqNo: **283051**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.023	0.0010	0.02500	0	92.4	85	115			

Sample ID	**MB**	SampType: **MBLK**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **R9934**			RunNo: **9934**					
Prep Date:		Analysis Date: **4/17/2013**			SeqNo: **283052**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID	**MB**	SampType: **MBLK**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **R9934**			RunNo: **9934**					
Prep Date:		Analysis Date: **4/17/2013**			SeqNo: **283053**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID	**LCS**	SampType: **LCS**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **R10026**			RunNo: **10026**					
Prep Date:		Analysis Date: **4/22/2013**			SeqNo: **285715**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.024	0.0010	0.02500	0	97.2	85	115			

Sample ID	**MB**	SampType: **MBLK**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **R10026**			RunNo: **10026**					
Prep Date:		Analysis Date: **4/22/2013**			SeqNo: **285717**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

EBID
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1304522**
25-Apr-13

Client: John Shomaker & Assoc.
Project: Copper Flat

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R10026**	RunNo: **10026**
Prep Date:	Analysis Date: **4/22/2013**	SeqNo: **285841** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.025	0.0010	0.02500	0	101	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R10026**	RunNo: **10026**
Prep Date:	Analysis Date: **4/22/2013**	SeqNo: **285842** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1304522**

25-Apr-13

Client: John Shomaker & Assoc.

Project: Copper Flat

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R9850**	RunNo: **9850**
Prep Date:	Analysis Date: **4/12/2013**	SeqNo: **280386** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R9850**	RunNo: **9850**
Prep Date:	Analysis Date: **4/12/2013**	SeqNo: **280387** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.7	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.0	90	110			
Sulfate	9.4	0.50	10.00	0	94.2	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R9925**	RunNo: **9925**
Prep Date:	Analysis Date: **4/16/2013**	SeqNo: **282646** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R9925**	RunNo: **9925**
Prep Date:	Analysis Date: **4/16/2013**	SeqNo: **282647** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.46	0.10	0.5000	0	92.0	90	110			
Chloride	4.7	0.50	5.000	0	94.6	90	110			
Sulfate	9.9	0.50	10.00	0	99.3	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R9925**	RunNo: **9925**
Prep Date:	Analysis Date: **4/17/2013**	SeqNo: **282701** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Sulfate	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1304522**

25-Apr-13

Client: John Shomaker & Assoc.

Project: Copper Flat

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R9925**	RunNo: **9925**
Prep Date:	Analysis Date: **4/17/2013**	SeqNo: **282702** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.49	0.10	0.5000	0	98.5	90	110			
Chloride	4.8	0.50	5.000	0	95.3	90	110			
Sulfate	9.9	0.50	10.00	0	99.5	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

EBID
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1304522**

25-Apr-13

Client: John Shomaker & Assoc.

Project: Copper Flat

Sample ID	**mb-1**	SampType:	**mblk**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R9854**	RunNo:	**9854**					
Prep Date:		Analysis Date:	**4/12/2013**	SeqNo:	**280512**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	**lcs-1**	SampType:	**lcs**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R9854**	RunNo:	**9854**					
Prep Date:		Analysis Date:	**4/12/2013**	SeqNo:	**280513**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	99.2	90	110			

Sample ID	**1304522-019a ms**	SampType:	**ms**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**Pit Lake 1A**	Batch ID:	**R9854**	RunNo:	**9854**					
Prep Date:		Analysis Date:	**4/12/2013**	SeqNo:	**280533**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	195	20.0	80.00	122.6	90.8	65.3	113			

Sample ID	**1304522-019a msd**	SampType:	**msd**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**Pit Lake 1A**	Batch ID:	**R9854**	RunNo:	**9854**					
Prep Date:		Analysis Date:	**4/12/2013**	SeqNo:	**280534**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	195	20.0	80.00	122.6	90.5	65.3	113	0.123	10	

Sample ID	**mb-2**	SampType:	**mblk**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R9854**	RunNo:	**9854**					
Prep Date:		Analysis Date:	**4/12/2013**	SeqNo:	**280535**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	**lcs-2**	SampType:	**lcs**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R9854**	RunNo:	**9854**					
Prep Date:		Analysis Date:	**4/12/2013**	SeqNo:	**280536**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	98.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

EBID
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1304522**

25-Apr-13

Client: John Shomaker & Assoc.

Project: Copper Flat

Sample ID **MB-6966**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **6966**	RunNo: **9871**
Prep Date: **4/14/2013**	Analysis Date: **4/15/2013**	SeqNo: **280848** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID **LCS-6966**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **6966**	RunNo: **9871**
Prep Date: **4/14/2013**	Analysis Date: **4/15/2013**	SeqNo: **280849** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Sample ID **1304522-005AMS**	SampType: **MS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **Pit Lake 1**	Batch ID: **6966**	RunNo: **9871**
Prep Date: **4/14/2013**	Analysis Date: **4/15/2013**	SeqNo: **280855** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	22100	200	10000	11660	104	80	120			

Sample ID **1304522-005AMSD**	SampType: **MSD**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **Pit Lake 1**	Batch ID: **6966**	RunNo: **9871**
Prep Date: **4/14/2013**	Analysis Date: **4/15/2013**	SeqNo: **280856** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	21900	200	10000	11660	102	80	120	0.957	5	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

EBID
Exhibit 18

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 8710[illegible]
TEL: 505-345-3975 FAX: 505-345-410[illegible]
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SHO | Work Order Number: 1304522 | RcptNo: 1

Received by/date: MG 04/12/13

Logged By: **Michelle Garcia** 4/12/2013 9:07:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 4/12/2013 9:49:42 AM Michelle Garcia

Reviewed By: IO 04/12/2013

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☑
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? Client

Log In

4. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☑ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☑
9. Was preservative added to bottles? Yes ☐ No ☑ NA ☐

-001B- -006B- ADDED 0.5 mL HNO_3 FOR ACCEPTABLE pH 04/12/13 @ 1030

10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
11. Were any sample containers received broken? Yes ☐ No ☑
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
14. Is it clear what analyses were requested? Yes ☑ No ☐
15. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: 26 (<2 or >12 unless noted)
Adjusted? YES
Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

17. Additional remarks:

-001B- -006B- HELD IN LOGIN FOR 24 HRS AFTER PRESERVATION

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Not Present			

EBID
Exhibit 18

Chain-of-Custody Record

List "A"

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Client: John Shomaker + Assoc, Inc.

Mailing Address: 2611 Broadbent Pkwy.
Albuquerque, NM 87107

Phone #: (505) 345-3407

email or Fax#: sfinch@shomaker.com

QA/QC Package: ☑ ~~Standard~~ ☐ Level 4 (Full Validation)

Accreditation ☐ NELAP ☐ Other ______

☐ EDD (Type) ______

Turn-Around Time: ☑ ~~Standard~~ ☐ Rush ______

Project Name: Copper Flat

Project #:

Project Manager: sfinch@shomaker.com
Steve Finch

Sampler: M. Wikstrom

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

Analysis Request

Date 2013	Time	Matrix	Sample Request ID	Container ~~Type and~~ #	Preservative Type	HEAL No. 1304522	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	See List	Filtered (dissolved)	~~Not Filtered (see remarks)~~ (only HNO_3 bottle)	~~[illegible]~~
4/9	13:41	H_2O	GWQ11-26	3	HNO_3x1	-001												✓	✓		
4/8	08:48	H_2O	GWQ11-25A	3	1xHNO_3	-002												✓	✓		
4/8	18:20	H_2O	GWQ11-24B	3	1xHNO_3	-003												✓	✓		
4/8	18:10	H_2O	GWQ11-24A	3	1xHNO_3	-004												✓	✓		
4/8	14:40	H_2O	Pit Lake 1	3	1xHNO_3	-005												✓	✓		
4/8	14:40	H_2O	Pit Lake 1A	3	2xHNO_3	~~006~~ 005-0019															✓
4/8	13:38	H_2O	GWQ11-25B	3	1xHNO_3	~~007~~ 006												✓	✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/12	09:07	M. Wikstrom	[signature]	04/12/13	09:07
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Please copy to ~~mwikstrom@shomaker.com~~ sfinch@shomaker.com
List "A" add diss SiO_2 to -2 and -5 per SJ

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

EBID
Exhibit 18

Chain-of-Custody Record

Client: John Shomaker & Assoc, Inc.

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Phone #: (505) 345-3407

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☑ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name:
Copper Flat

Project #:

Project Manager:
Steve Finch
sfinch@shomaker.com

Sampler: M. Wikstrom

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0°

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List "B"

Analysis Request

Date 2013	Time	Matrix	Sample Request ID	Container ~~Type and #~~	Preservative Type	HEAL No. 1304522	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	See List	Not Filtered		Air Bubbles (Y or N)
4/10	18:15	H_2O	GWQ-11	2	1 x HNO_3	~~008~~ 007												✓	✓		
4/10	14:52	H_2O	GWQ94-14	2	1 x HNO_3	~~009~~ 008												✓	✓		
4/10	16:51	H_2O	GWQ-12	2	1 x HNO_3	~~010~~ 009												✓	✓		
4/10	11:05	H_2O	GWQ94-13	2	1 x HNO_3	~~011~~ 010												✓	✓		
4/10	12:09	H_2O	NP-3	2	1 x HNO_3	~~012~~ 011												✓	✓		
4/10	13:21	H_2O	NP-2	2	1 x HNO_3	~~013~~ 012												✓	✓		
4/10	11:05	H_2O	GWQ94-16	2	1 x HNO_3	~~014~~ 013												✓	✓		
4/11	14:30	H_2O	MW-4	2	1 x HNO_3	~~015~~ 014												✓	✓		
						MW 04/12															

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/12	09:07	M. Wikstrom		04/12/13	09:07
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Please email results to: sfinch@shomaker.com

List "B"

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EBID Exhibit 18

Chain-of-Custody Record

Client: John Shomaker & Assoc. Inc.

Mailing Address: 2611 Broadbent Pkwy
Albuquerque, NM 87107

Phone #: (505) 345-3907

email or Fax#: sfinch@shomaker.com

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name:
Copper Flat

Project #:

Project Manager:
Steve Finch

Sampler:
On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0°

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Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container ~~Type and~~ #	Preservative Type	HEAL No. 1304522	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	See List	Not Filtered,
2011																			
4/11	11:22	H_2O	GWQ-3	2	1x HNO_3	~~016~~ 015												✓	✓
4/9	16:45	H_2O	GWQ-8	2	1x HNO_3	~~017~~ 016												✓	✓
4/9	12:39	H_2O	GWQ-5R	2	1x HNO_3	~~018~~ 017												✓	✓
4/11	13:25	H_2O	GWQ-1	2	1x HNO_3	~~019~~ 018												✓	✓
						MJ 04/12													

Date	Time	Relinquished by:	Received by:	Date	Time
4/12	09:07	M. Winston			
				04/12/13	09:07
Date	Time	Relinquished by:	Received by:	Date	Time

Remarks: Please email results to: sfinch@shomaker.com List "B"

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

EBID Exhibit 18

	Constituent List A	Constituent List B
general chemistry	[redacted]	[redacted]
	alkalinity/Acidity (total)	alkalinity/[redacted]
	sulfate	sulfate
	chloride	chloride
	fluoride	calcium
	calcium	magnesium
	magnesium	sodium
	sodium	potassium
	potassium	Total Dissolved Solids
	Total Dissolved Solids	
dissolved metals	aluminum	
	cadmium	
	cobalt	
	copper	
	~~magnesium~~ Manganese	
	selenium	
	zinc	

details

[redacted] samples for List A – (Filtered) dissolved

[redacted] samples for List B

report 3 significant digits for general chemistry constituents

EBID
Exhibit 18

Appendix C.

Hydrographs
(pit, pit area wells, waste rock/mill site area wells, and TSF wells)

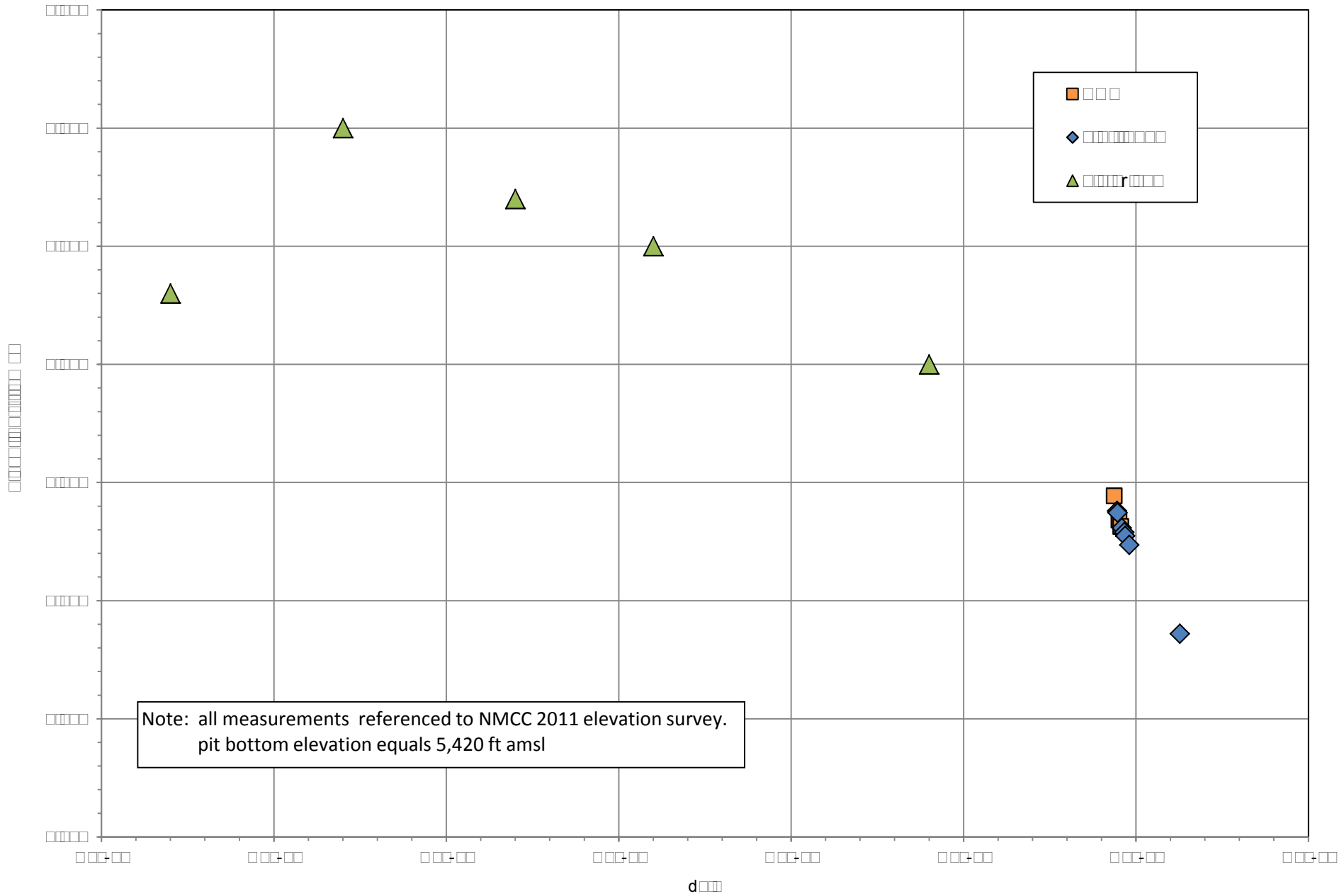

Figure C1. Hydrograph of pit water level elevation (reconstructed historical, BDR, Staff gage).

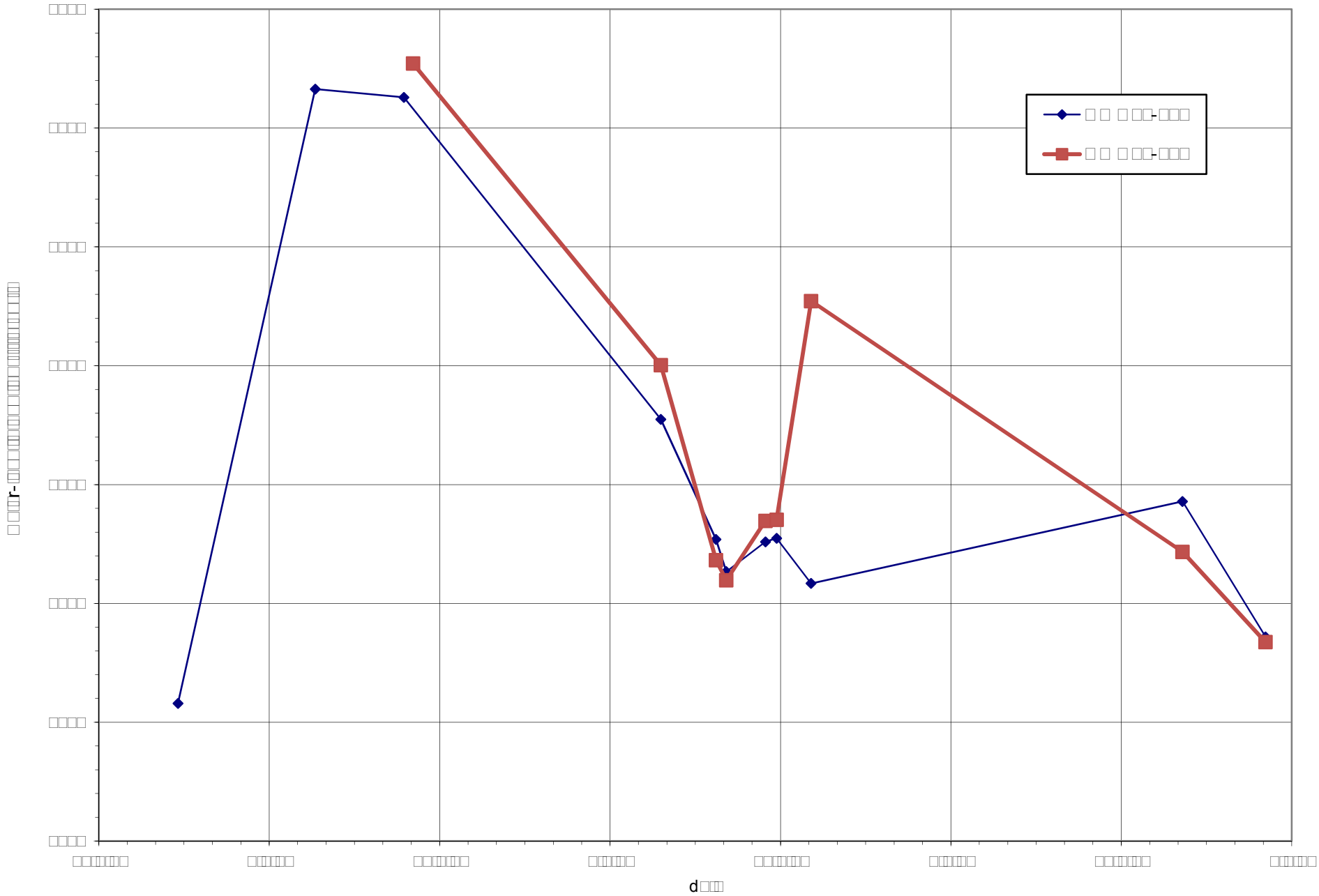

Figure C2. Hydrograph of pit area well GWQ96-22(A, B).

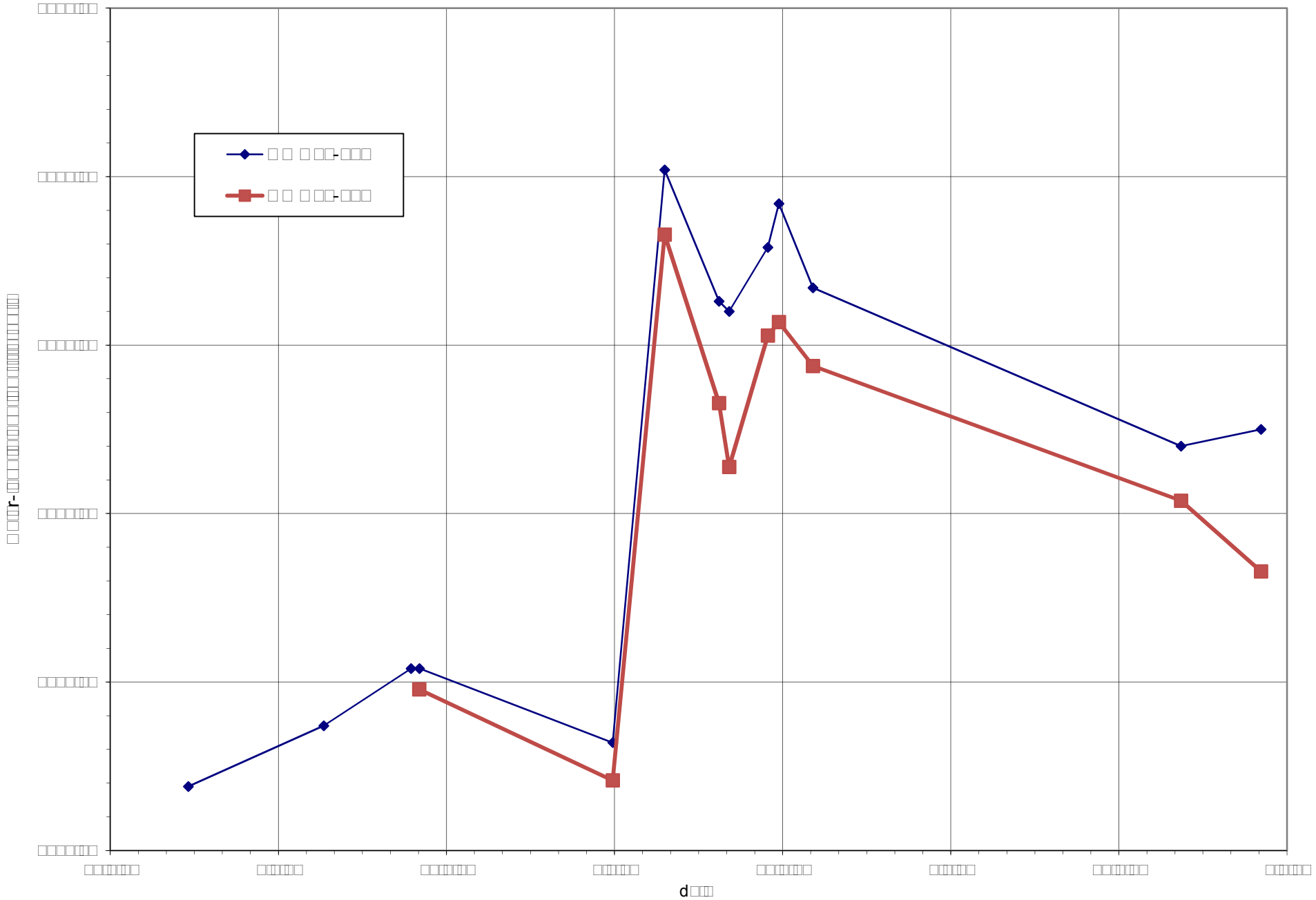

Figure C3. Hydrographs of pit area well GWQ96-23(A, B).

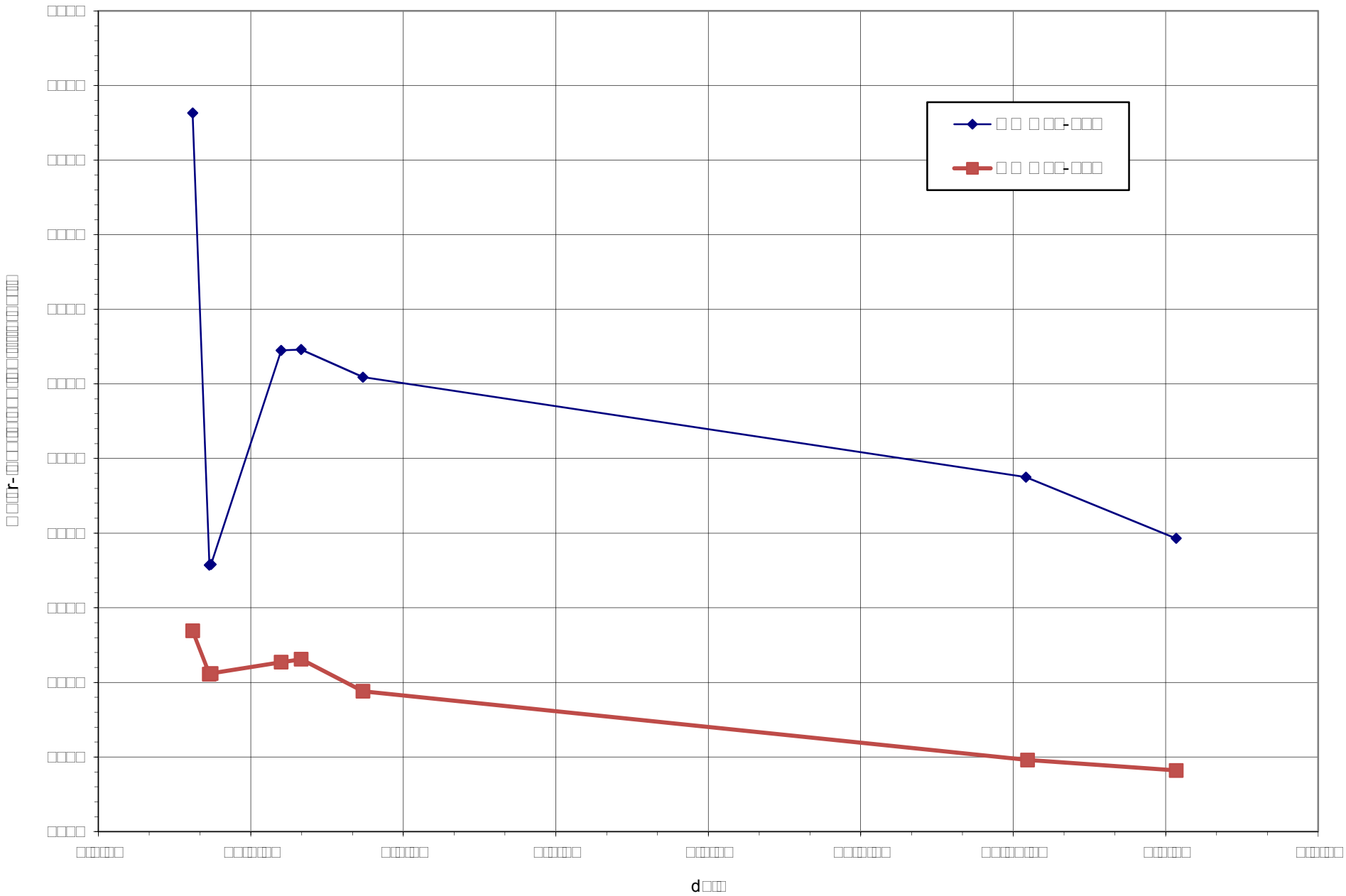

Figure C4. Hydrographs of pit area well GWQ11-24(A,B).

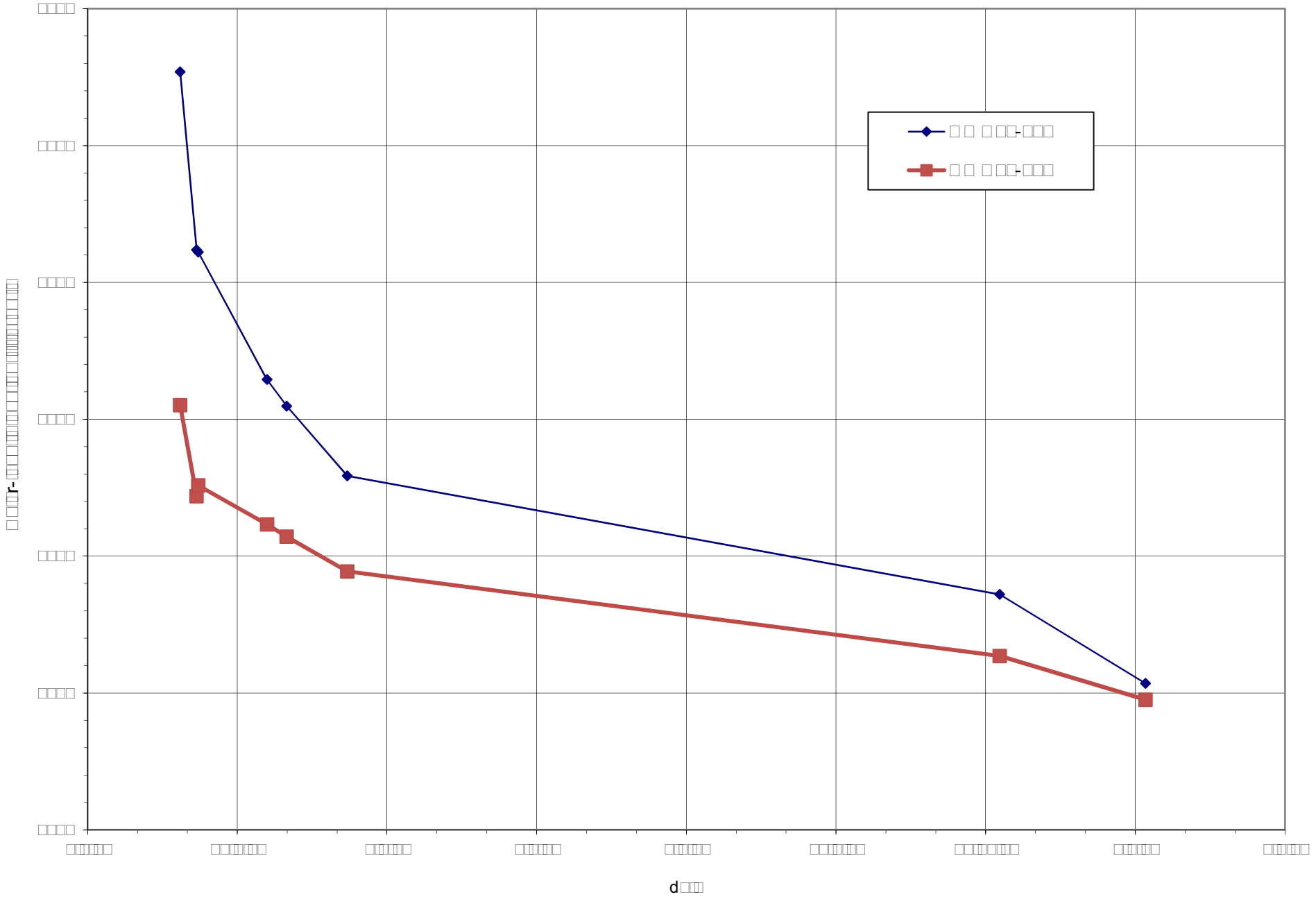

Figure C5. Hydrographs of pit area well GWQ11-25(A, B).

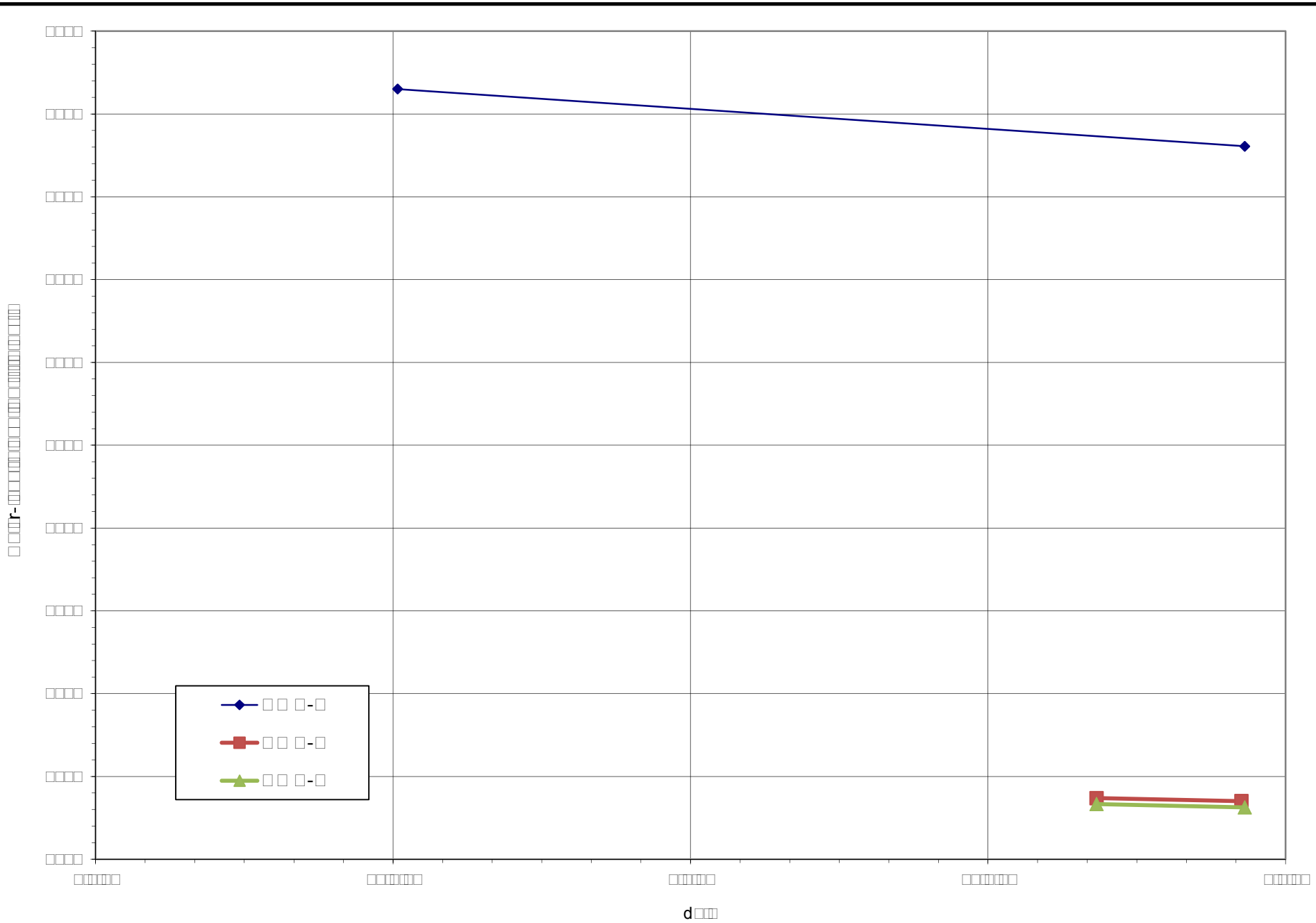

Figure C6. Hydrographs of waste rock pile area wells in GWQ-1, GWQ-3, and GWQ-8 Grayback Arroyo.

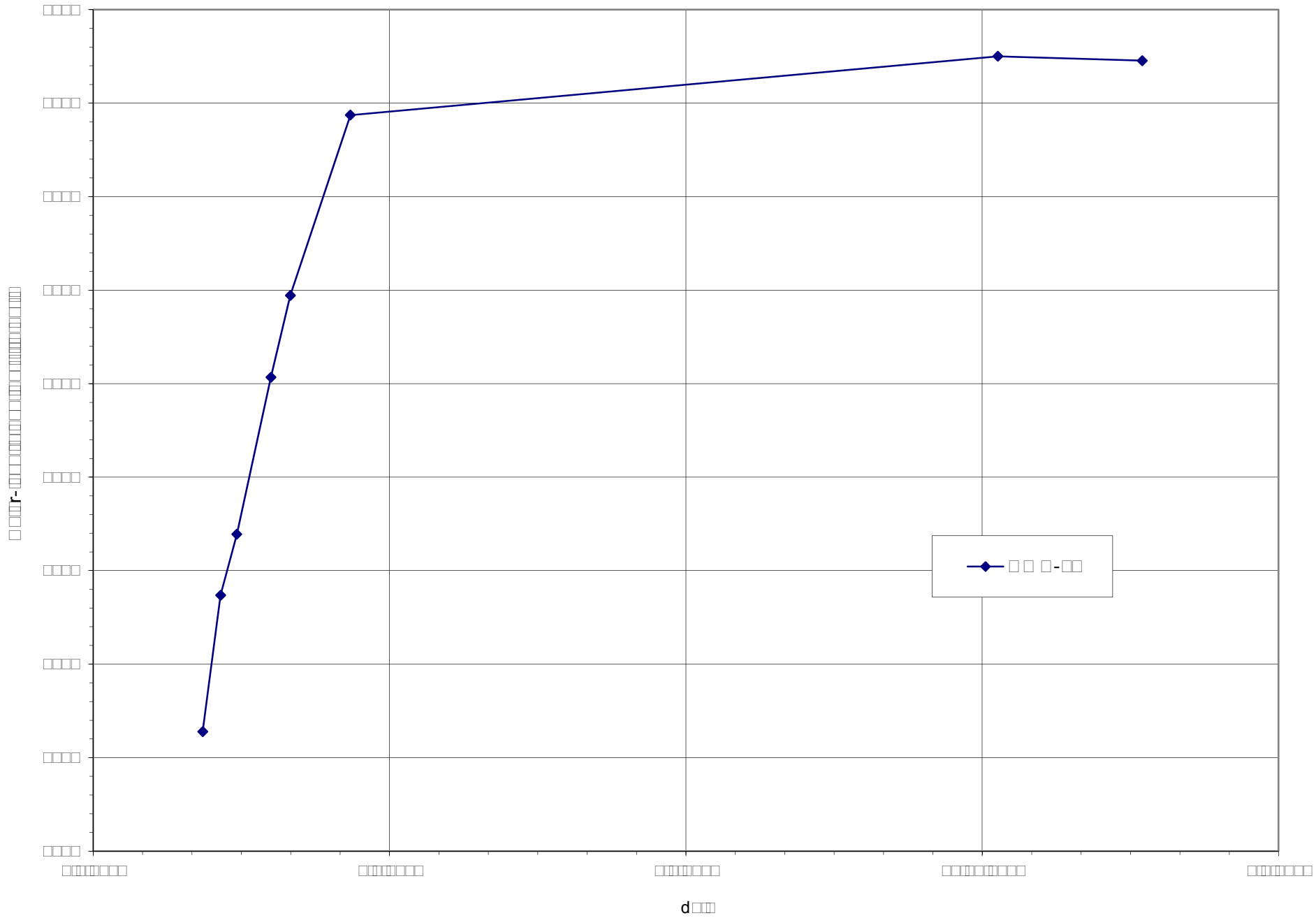

Figure C7. Hydrogrpahs of waste rock area well GWQ-5R.

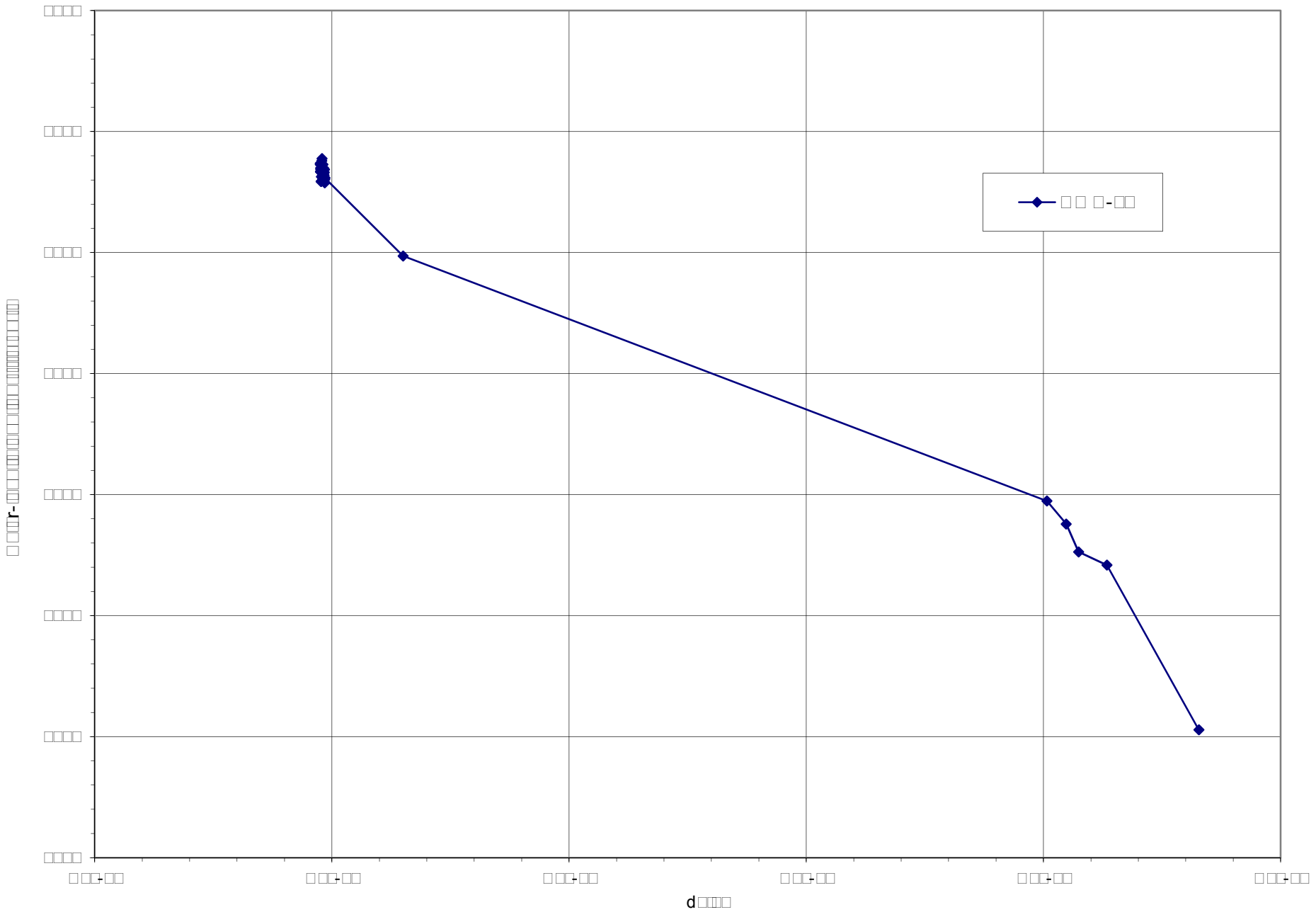

Figure C8. Hydrographs of TSF area well GWQ-11.

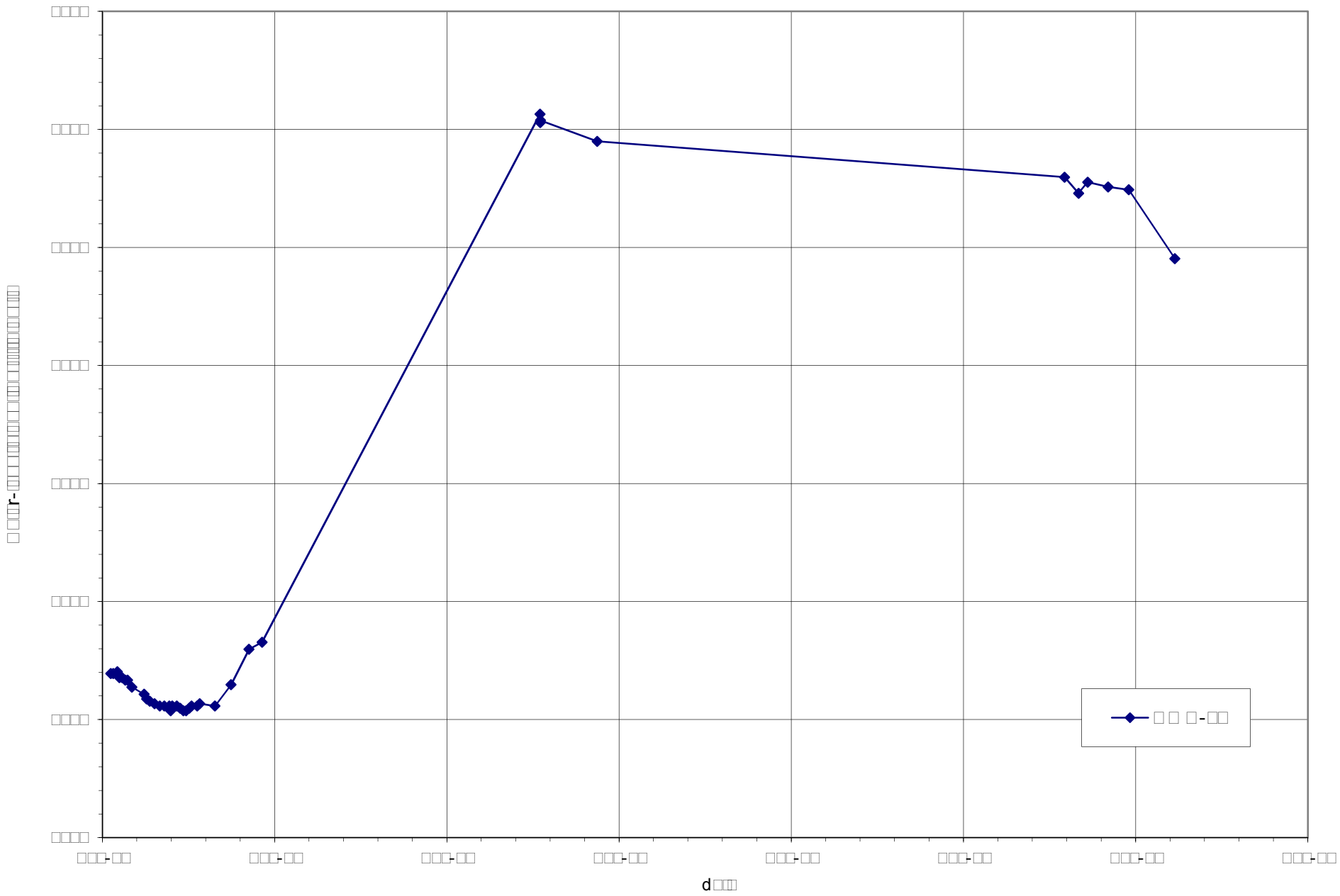

Figure C9. Hydrographs of TSF area well GWQ-12.

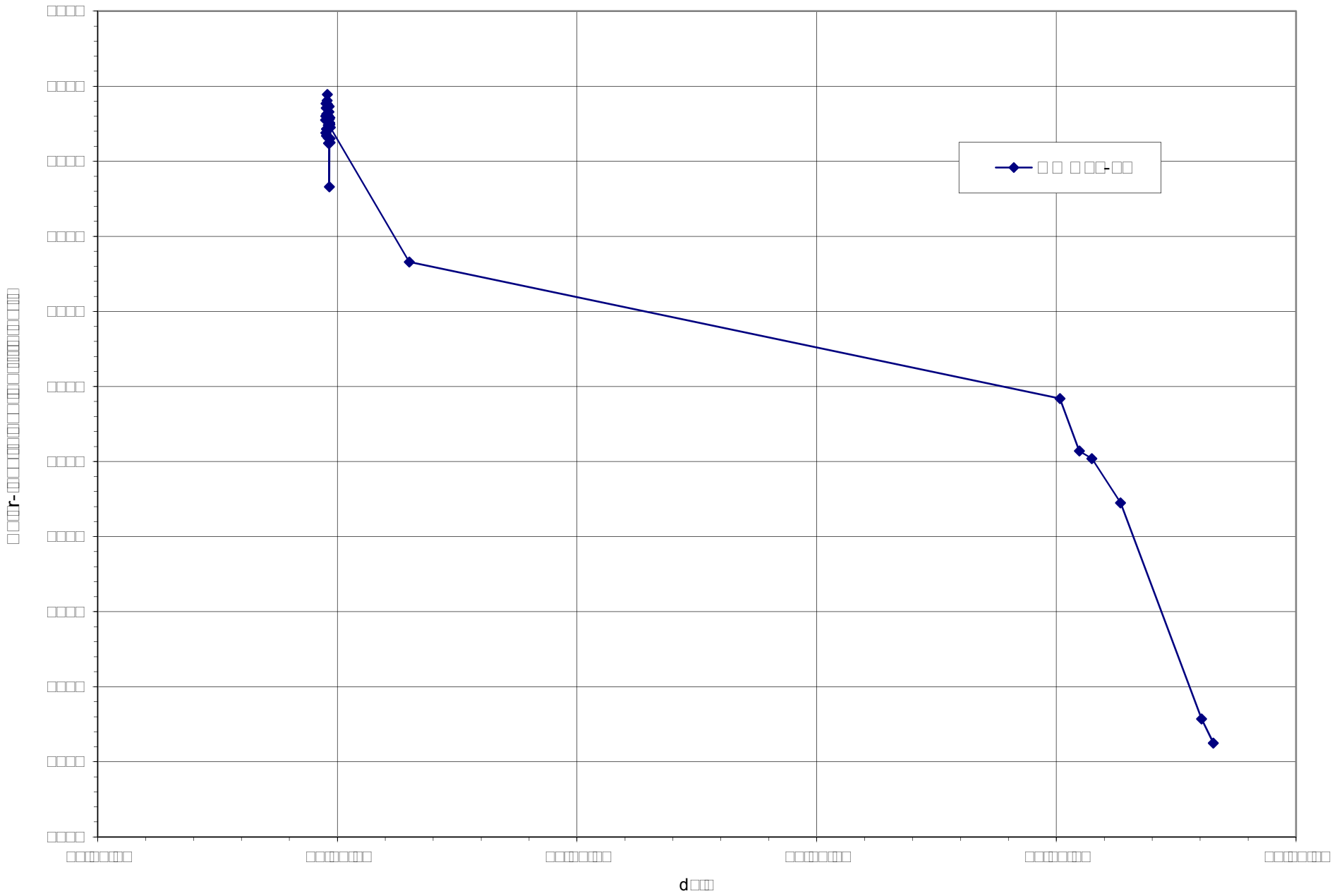

Figure C10. Hydrographs of TSF area well GWQ94-13.

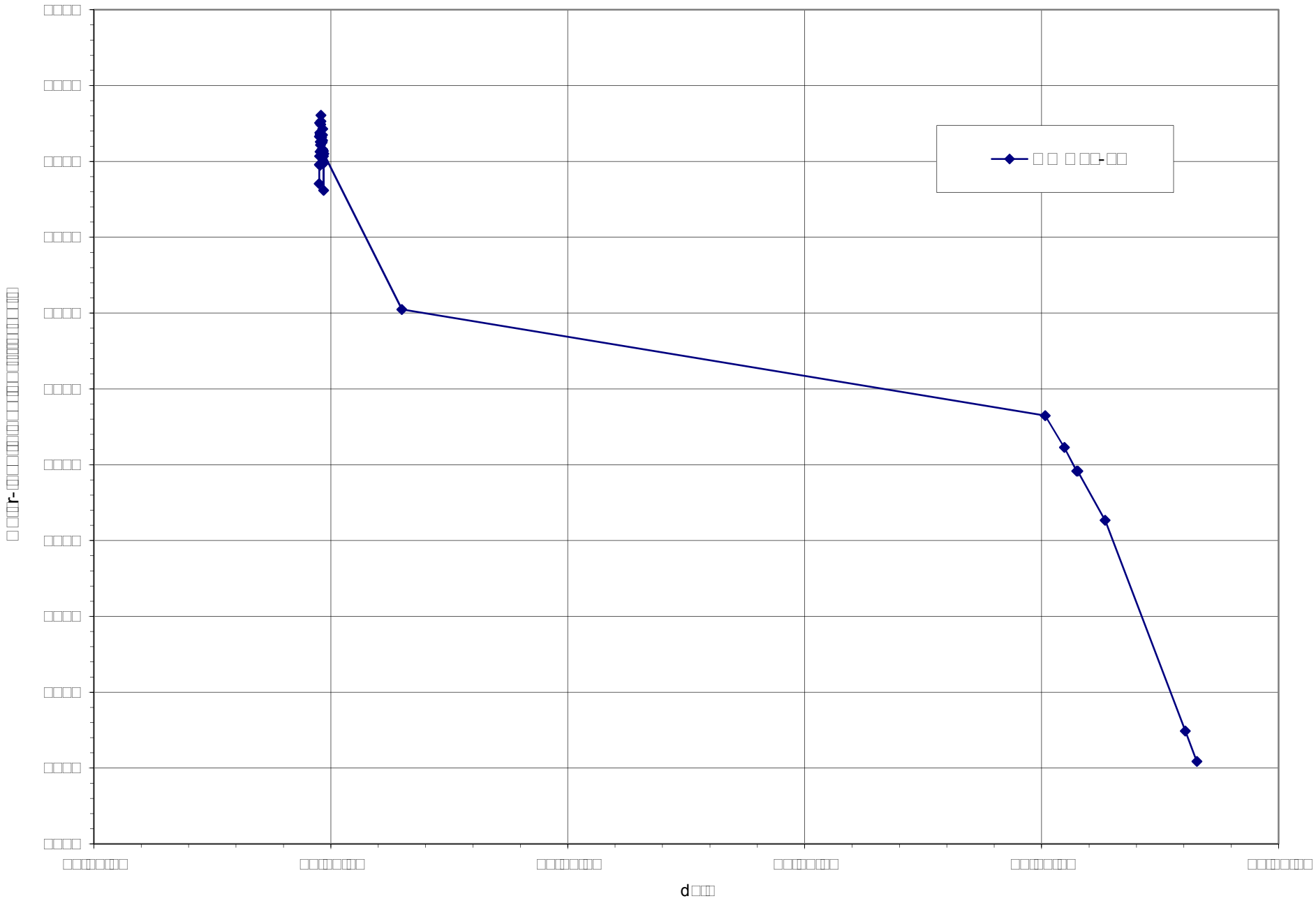

Figure C11. Hydrographs of TSF Area Well GWQ94-14.

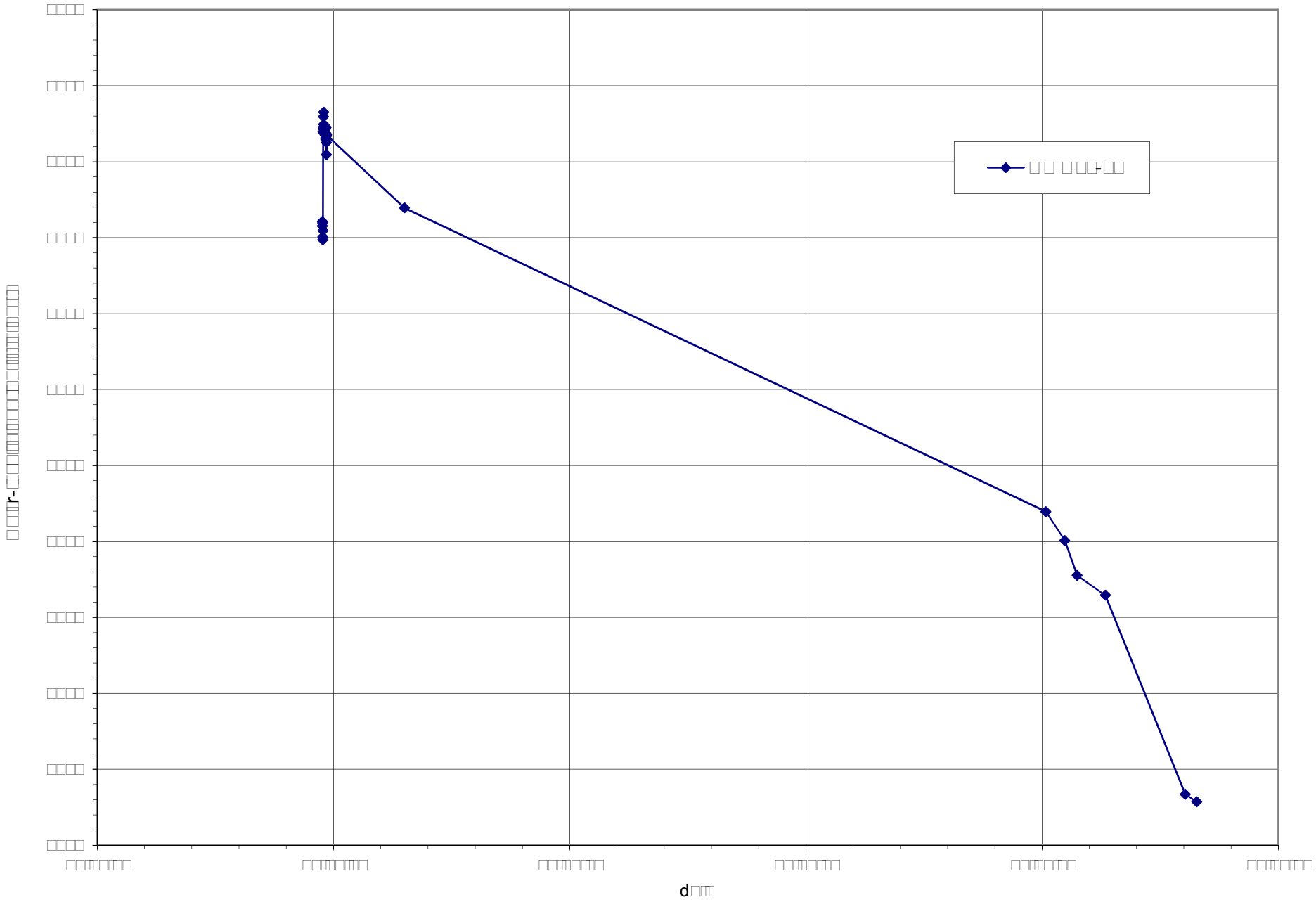

Figure C12. Hydrographs of TSF area well GWQ94-16.

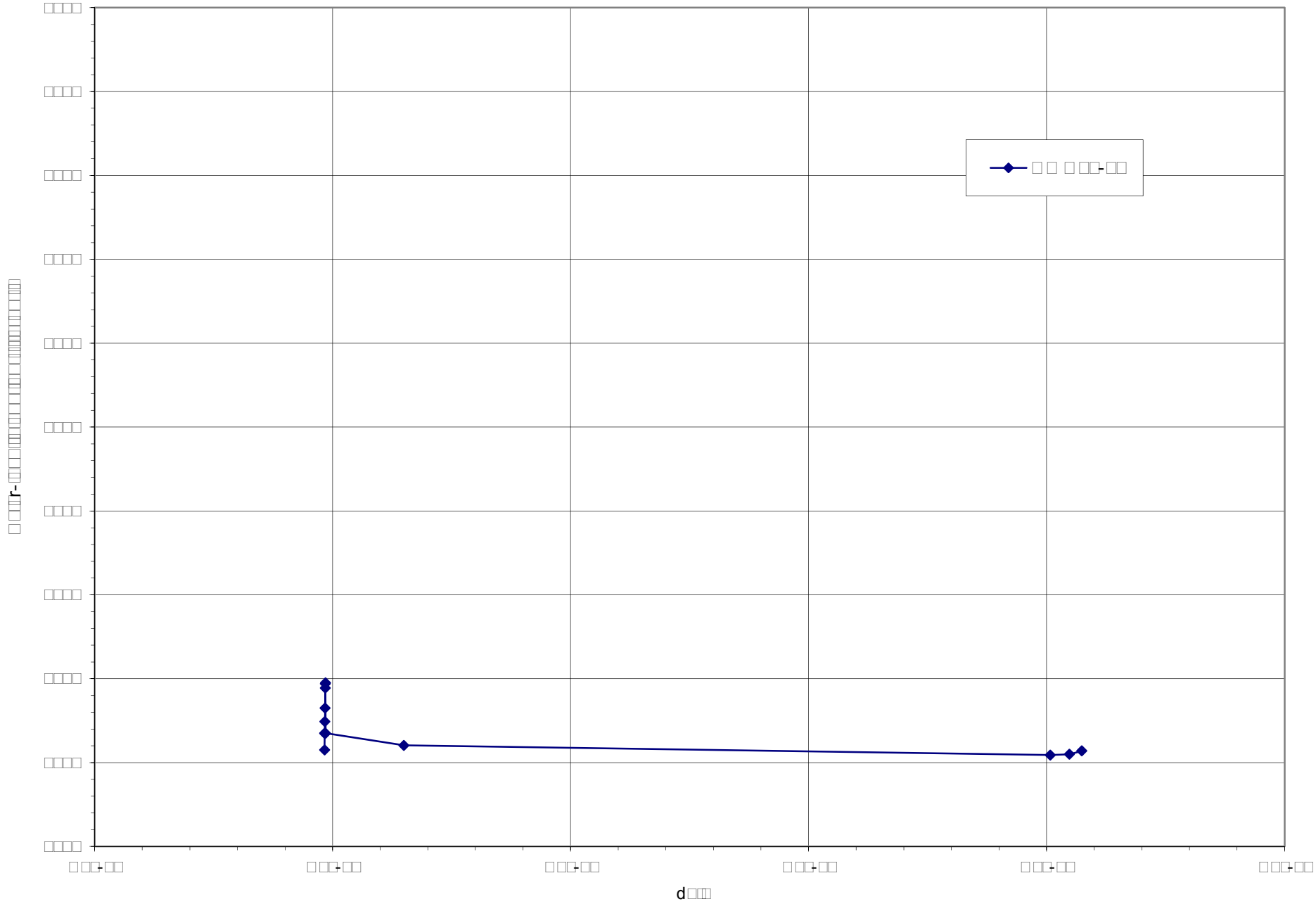

Figure C13. Hydrographs of TSF area well GWQ94-19.

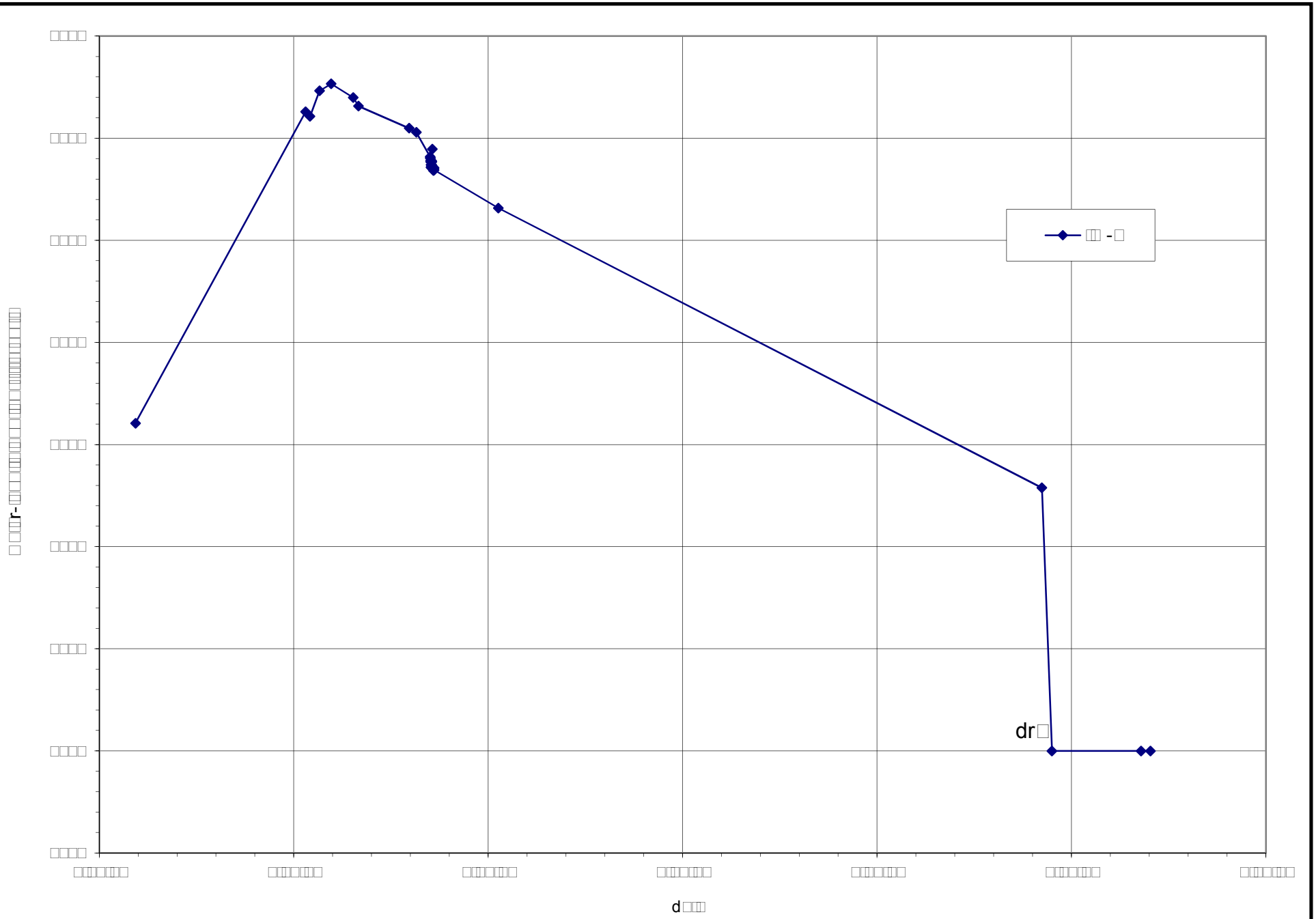

Figure C14. Hydrographs of TSF area well IW-1.

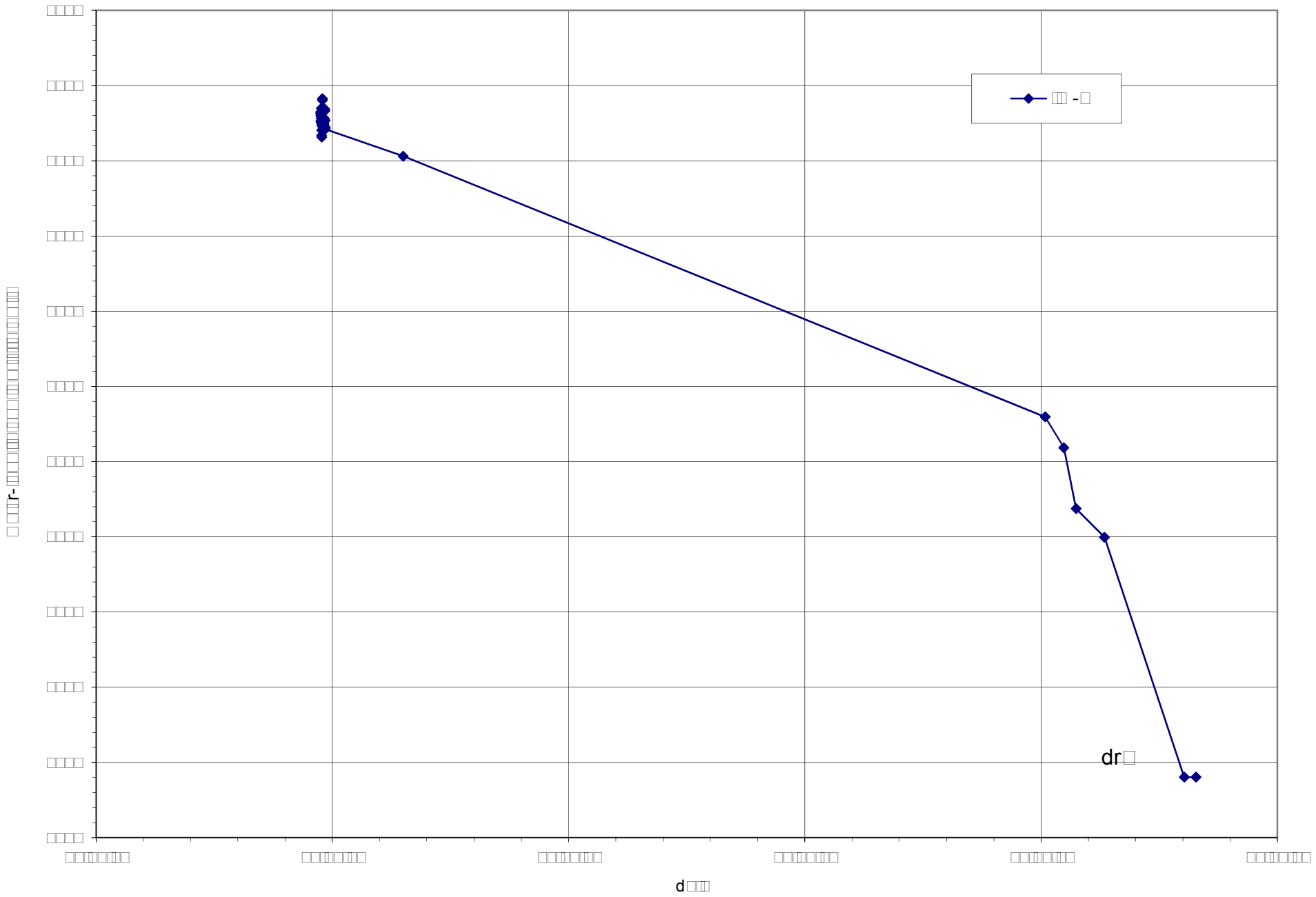

Figure C15. Hydrographs of TSF area well IW-2.

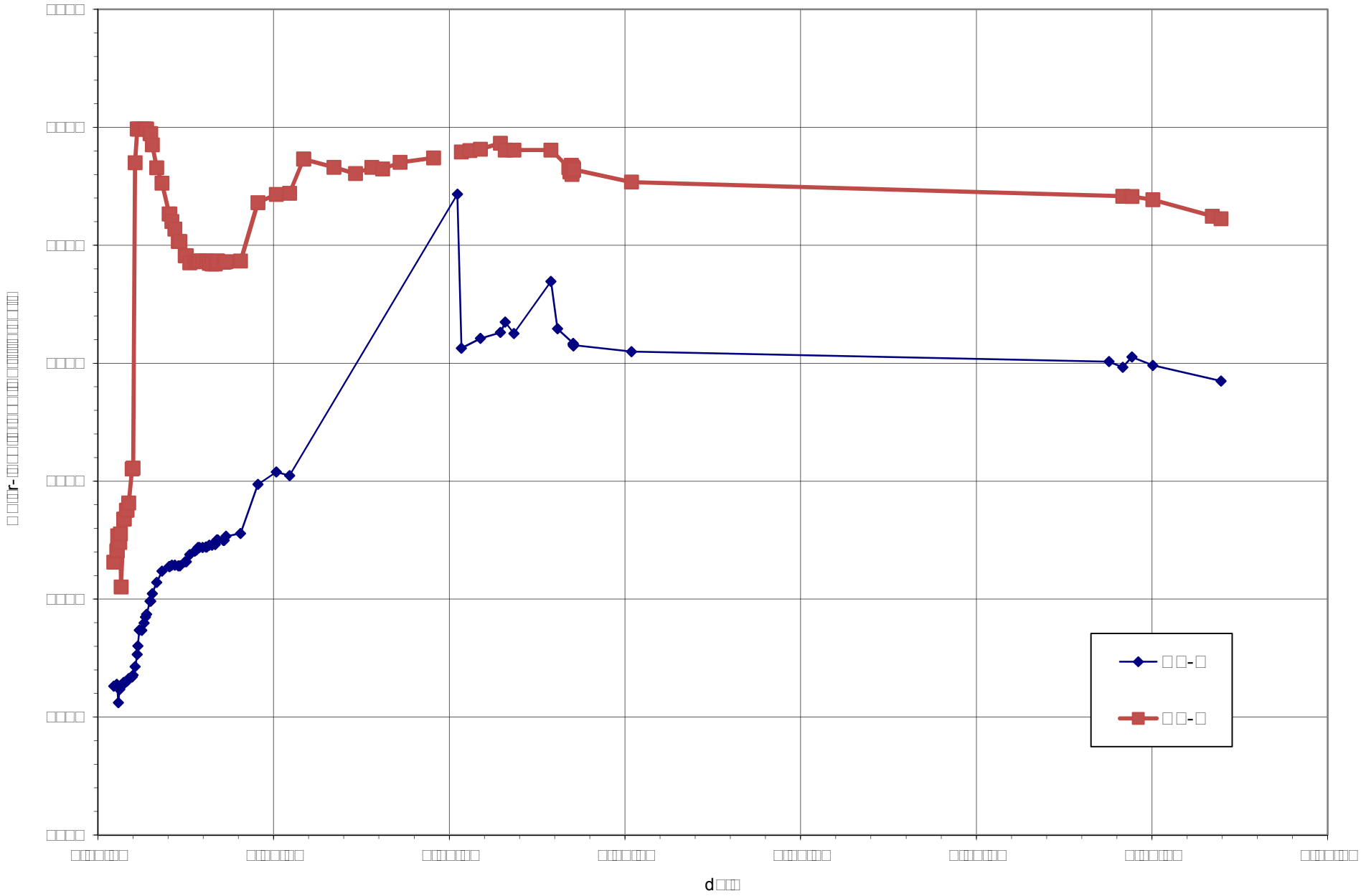

Figure C16. Hydrographs of TSF area wells NP-2 and NP-3.