FREEPORT-MCMORAN

Freeport-McMoRan Chino Mines Company
P.O. Box 10.
Bayard, NM 88023

Sherry Burt-Kested
Manager, Environmental Services
Telephone: 575-912-5927
e-mail: sburtkest@fmi.com

October 31, 2022

Certified Mail # 7020129000110357927

Mr. Joseph Fox, Manager
New Mexico Environment Department
Ground Water Quality Bureau
Mining Environmental Compliance Section
P. O. Box 5624
Santa Fe, New Mexico 87502

Dear Mr. Fox:

Re: Annual Monitoring Report, Groundhog Mine Site IRA
Hanover-Whitewater Creeks Investigation Unit, Chino AOC

Freeport-McMoRan Chino Mines Company (Chino) submits the attached Annual Monitoring Report for the completed Groundhog Mine Site Interim Remedial Action (IRA) for the monitoring period ending September 30, 2022. The Groundhog Mine Site IRA was completed by Chino pursuant to requirements of the Administrative Order on Consent between the New Mexico Environment Department (NMED) and Chino.

As per Section 6.0 of both the IRA Completion Report and of the Completion Report for the Osceolla, CG Bell, and Tenderfoot B Stockpiles IRA dated June 10, 2009, this annual monitoring report includes the bulleted information listed below.

- Data tabulation sheet of analytical results screened against NM Groundwater Quality Standards from monitoring well and surface water samples collected at the Groundhog Mine Site;
- Copies of the original laboratory data sheets;
- Figure 1 illustrates locations for all of the IRA sites.

The annual vegetation monitoring for both IRAs has been completed and documented along with the five-year quantitative vegetation survey in a report submitted September 30, 2016. NMED approved the *Vegetation Monitoring Report for the Groundhog Mine Site and Small Historic Stockpile Sites Interim Remedial Action* in a letter dated August 31, 2017, and no further annual vegetation surveys are required as provided in the IRA Completion Reports.

The attached ground water quality data are for monitor wells GH-2004-2S and GH-2004-2D. See Figure 1 for well locations. Beginning in 2009 shallow ground water quality began to increase in concentrations for cadmium, manganese, sulfate, TDS, and zinc. This is being addressed as part of the Discharge Permit (DP) 1340 Site Wide Abatement (SWA) process. A *Draft Revised Final Site Investigation Report* under, Site Wide Stage 1 Abatement dated March 30, 2016, is under review by NMED.

Water quality data in the table for the existing surface impoundment system are also provided. The surface impoundment sampling locations include the Lower Stormwater Sump “GH-Sump” and the Lower Stormwater Pond “GH-Lower Pond” which make up the Groundhog Mine seepage collection system located up gradient of, and including, the headwall. See Figure 1. Surface water from this collection system when present is pumped to Reservoir 17 for use as process water.

Chino has continued monitoring surface water quality for improvements from remediation at this seepage collection system for fourteen years as it is the downstream drainage endpoint for the Groundhog Mine Site. Sample results are provided in this annual report, as per the Groundhog IRA Completion Report, to document improving water quality. Upon reaching water quality standards, and following the Record of Decision, the watershed surface water from the remediated mine site runoff, as per the completion report, would flow into Whitewater Creek. Currently the operational pipelines for the Chino mill divide the IRA site and the Groundhog Mine seepage collection system. Thus, the Groundhog Lower Stormwater Pond is now utilized by mine operations as a containment for upset conditions in the event of a pipeline break as part of the "pipeline spill containment system" under Discharge Permit 213. The Groundhog Lower Pond, and the upstream natural drainage comprising the collection system, will no longer be included in the Groundhog Mine IRA as the remedial objectives are not in alignment with active operational site. See Figure 2.

In alignment with comments made by NMED in a letter dated March 21, 2018, Chino has requested the Groundhog Lower Pond collection system be removed from the oversight of the AOC and placed under Discharge Permit (DP) 213. The current renewal draft for DP-484 incorporates the current DP-213 requirements and addresses this portion of the IRA site that is part of active operations. The Groundhog Lower Pond collection system will be explicitly included in the pending renewal for DP-484.

If you require additional information regarding this submittal, please contact Ms. Pam Pinson at (575) 912-5213.

Sincerely,

Sherry Burt-Kested, Manager
SBK:nc

Attachments
20221031-001

xc: David Mercer, NMED (via email)
D.J. Ennis, Mining & Minerals Division, NMEMNRD (via email)
Petra Sanchez, Environmental Protection Agency (via email)
Christian Krueger, Chino (via email)
Mike Steward, FMI (via email)
Nina Cerno, Chino (via email)

Drawing file: Figure01_150D14.dwg Oct 29, 2014 - 7:48am

OSCEOLLA

CG BELL

STAR ROCK STOCKPILE

WHITEWATER CREEK

TENDERFOOT B

GH SUMP

GH LOWER POND

GH-2004-2S
GH-2004-2D

GROUNDHOG MINE

BORROW AREA

LAKE ONE HAUL ROAD

300 0 300
SCALE 1 = 300 FEET

LEGEND

- RECLAMATION AREAS
- STORMWATER POND
- 2011 RECLAMATION AREA

REFERENCES

1.) BOUNDARIES PROVIDED BY TELESTO SOLUTIONS.

FIGURE 1

PROJECT No. 1411-1162	0	10/29/14	DAD	DB	DB
FILE No. Figure01	A	10/30/14	CS	DB	DB
REV. 0 SCALE AS SHOWN	B	11/3/14	DAD	DB	DB

TITLE

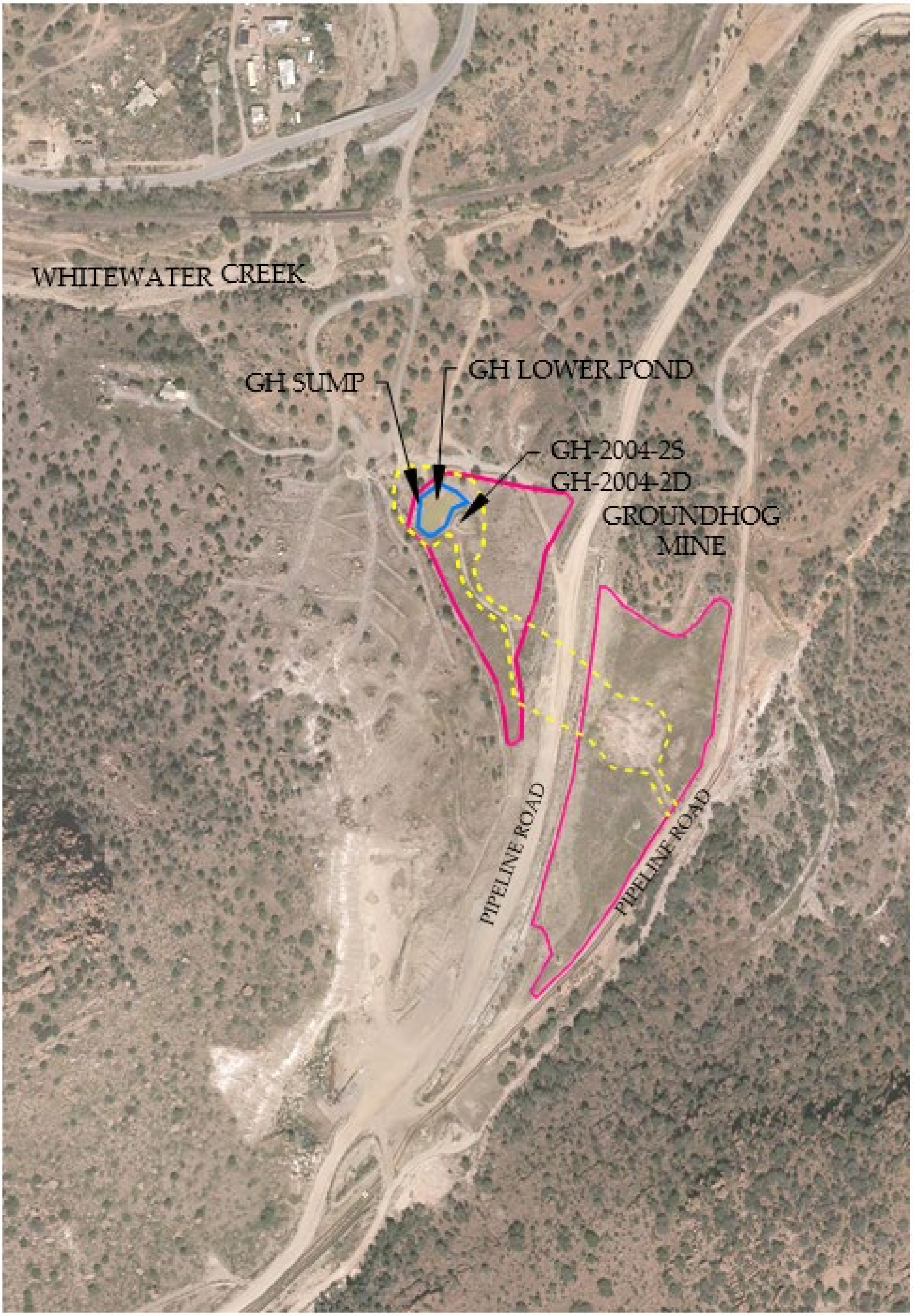
ANNUAL MONITORING OF INTERIM REMEDIAL ACTION SITES LOCATION MAP

PROJECT

FREEPORT-McMoRan COPPER & GOLD

GROUNDHOG MINE AND SMALL HISTORIC STOCKPILES IRAS
GRANT COUNTY, NEW MEXICO

Golder Associates
Albuquerque, NM



Legend

- Proposed Operations Area/Pipeline Spill Containment System
- Reclaimed Area
- Pond

FREEPORT-McMoRan
CHINO MINES COMPANY

Figure 2

Scale: As Noted	Date: 10-31-2007	Notes:
Dept: Environmental Services		
Drawn By: [illegible]	Checked By: [illegible]	

Freeport-McMoRan Chino Mines Company
Groundhog Mine IRA Annual Report
October 30, 2022

Site Number	Sample ID	Sample Date	Comments	Ca, Diss (mg/L)	Cd, Diss (mg/l)	Co, Diss (mg/l)	Cu, Diss (mg/l)	F, Tot_ (mg/l)	Fe, Diss (mg/l)	Mg, Diss (mg/L)	Mn, Diss (mg/l)	Ni, Diss (mg/l)	Pb, Diss (mg/l)	Zn, Diss (mg/l)	pH, Field (su)	SO4, Tot_ (mg/l)	TDS (mg/l)	Cond, Fld (micromho)	Water Temp (Cent)	Well Collar Level (ft msl)	Well Depth (ft)	Depth to Water (ft)
WQCC Water Quality Standard					0.01	0.05	1	1.6	1		0.2	0.2	0.015	10	6- 9	600	1000					
GH-2004-2D	235809	10/28/2004		NA	0.0044	<0.006	0.0049	<1	<0.02	NA	0.0591	<0.01	<0.005	0.743	6.63	**1780**	**2580**	2292	17.3	6009.7	157.6	62
GH-2004-2D	245863	5/17/2005		NA	0.0027	<0.006	<0.01	<0.5	0.089	NA	**0.374**	<0.01	<0.005	0.654	6.76	**1640**	**2440**	2339	17.4	6003.74	147.6	44.5
GH-2004-2D	270674	10/25/2005		NA	0.0074	<0.006	<0.01	1.03	<0.06	NA	**0.213**	<0.01	0.009	1.65	6.62	**1620**	**2530**	2354	17.4	6003.74	147.6	46.3
GH-2004-2D	276910	3/14/2006		NA	0.0087	<0.006	<0.01	0.2	<0.06	NA	0.129	<0.01	0.009	0.851	6.63	**1600**	**2770**	2334	17.2	6003.74	147.6	47.43
GH-2004-2D	283019	8/4/2006		NA	**0.0119**	<0.006	<0.01	<0.2	<0.06	NA	0.123	<0.01	0.0108	1	6.58	**1590**	**2620**	2384	17.6	6003.74	147.6	50.3
GH-2004-2D	299167	2/6/2007		NA	0.0095	<0.006	<0.01	<0.2	<0.06	NA	0.108	<0.01	0.0091	0.903	6.53	**1660**	**2630**	2372	17.3	6003.74	147.6	43.03
GH-2004-2D	305946	7/23/2007		NA	**0.011**	<0.006	<0.01	<0.5	<0.06	NA	0.0899	<0.01	0.011	0.935	6.72	**1640**	**2700**	2432	18.1	6003.74	147.6	43.45
GH-2004-2D	316507	3/25/2008		NA	**0.0105**	<0.006	<0.01	<0.2	<0.06	NA	0.0555	<0.01	0.0086	0.82	6.79	**1760**	**2700**	2304	17	6003.74	147.6	44.7
GH-2004-2D	320089	10/28/2008		NA	0.0094	<0.006	<0.01	<0.5	<0.06	NA	0.112	<0.01	0.011	0.866	6.63	**1990**	**2700**	2351	17.2	6003.74	147.6	41.42
GH-2004-2D	321236	03/23/2009		NA	0.0072	<0.006	0.015	0.107	<0.06	NA	**0.254**	<0.01	<0.0075	0.904	6.82	**1570**	**2690**	2348	17.2	6003.74	147.6	44.8
GH-2004-2D	322688	09/30/2009		494	**0.0101**	<0.006	0.016	<0.5	<0.06	121	0.139	<0.01	<0.0075	0.873	6.43	**1560**	**2730**	2405	17.8	6003.74	147.6	48.08
GH-2004-2D	323312	03/11/2010		491	**0.0116**	<0.0061	0.013	<0.2	<0.061	118	0.0689	<0.01	0.008	0.838	6.77	**1710**	**2680**	2382	16.9	6003.74	147.6	48.22
GH-2004-2D	324880	09/20/2010		515	**0.0117**	<0.006	<0.01	<0.5	<0.06	125	0.0606	<0.01	0.0108	0.775	6.81	**1660**	**2760**	2422	18.7	6003.74	147.6	44.74
GH-2004-2D	326361	03/02/2011		509	**0.0122**	<0.006	<0.01	<0.5	<0.06	118	0.0703	<0.01	0.0134	0.855	6.73	**1620**	**2540**	2367	17.5	6003.74	147.6	47.99
GH-2004-2D	327872	09/02/2011		489	0.0098	<0.006	0.01	<0.1	<0.06	113	0.0474	<0.01	<0.0075	0.782	6.75	**1640**	**2660**	2416	18.9	6003.74	147.6	50.32
GH-2004-2D	329325	03/22/2012		527	**0.0118**	<0.006	<0.01	<0.5	<0.06	122	0.0626	<0.01	0.0096	0.804	6.63	**1,750**	**2,710**	2,272	17.9	6003.74	147.6	45.34
GH-2004-2D	330950	09/06/2012		525	**0.0119**	<0.006	<0.01	<0.5	<0.06	123	0.0484	<0.01	0.009	0.852	6.72	**1,800**	**2,640**	2,467	19.3	6003.74	147.6	49.13
GH-2004-2D	332598	03/11/2013		540	**0.0136**	<0.006	0.011	<0.5	<0.06	130	0.0496	<0.01	0.0144	0.912	6.69	**1,780**	**2,720**	2,389	18	6003.74	147.6	52.56
GH-2004-2D	334321	09/18/2013		541	**0.0143**	<0.006	<0.01	1.01	<0.06	127	0.0635	<0.01	0.012	0.912	6.69	**1,780**	**2,720**	2,428	17.9	6003.74	147.6	50.28
GH-2004-2D	335938	03/06/2014		512	**0.0156**	<0.006	<0.01	0.96	<0.06	122	0.0932	<0.01	0.0091	0.883	6.63	**1,720**	**2,570**	2,361	17.9	6003.74	147.6	47
GH-2004-2D	337693	09/09/2014		521	**0.0148**	<0.006	<0.01	<0.5	<0.06	124	0.064	<0.01	<0.0075	0.843	6.75	**1,750**	**2,680**	2,404	18.3	6003.74	147.6	50.24
GH-2004-2D	339360	03/12/2015		503	**0.0119**	<0.006	<0.01	<0.5	<0.06	118	0.0436	<0.01	<0.0075	0.801	6.79	**1,700**	**2,440**	2,247	16.9	6003.74	147.6	45.65
GH-2004-2D	341186	09/02/2015		489	**0.0147**	<0.006	<0.01	<0.5	<0.06	112	0.0507	<0.01	<0.0075	0.874	6.71	**1,730**	**2,580**	2,396	19.3	6003.74	147.6	49.32
GH-2004-2D	343006	03/03/2016		486	**0.0154**	<0.006	<0.01	0.732	<0.06	115	0.0539	<0.01	<0.0075	0.956	6.75	**1,710**	**2,610**	2,310	18	6003.74	147.6	49.74
GH-2004-2D	345111	09/13/2016		505	**0.0146**	<0.006	<0.01	<0.1	<0.1	116	0.0276	<0.01	<0.0075	0.79	6.74	**1,650**	**2,530**	2,260	17.4	6003.74	147.6	54.09
GH-2004-2D	347288	06/01/2017		498	**0.0151**	<0.006	<0.01	0.577	<0.1	118	0.0484	<0.01	0.0089	0.889	6.74	**1,690**	**2,540**	2,450	17.6	6003.74	147.6	44.35
GH-2004-2D	349336	09/12/2017		522	**0.0151**	<0.006	<0.01	0.185	<0.1	127	0.0829	<0.01	<0.0075	0.866	6.65	44	**2,500**	2,539	18.8	6003.74	147.6	44.21
GH-2004-2D	351227	03/21/2018		515	**0.0142**	<0.006	<0.01	<0.5	<0.1	113	0.0517	<0.01	<0.0075	0.878	6.77	**2,030**	**2,490**	2,504	17.6	6003.74	147.6	48.47
GH-2004-2D	352966	09/24/2018		460	<0.002	<0.006	<0.01	<0.1	<0.1	108	0.129	<0.01	<0.0075	0.117	7.01	**1,490**	**2,440**	2,279	17.7	6003.74	147.6	46.7
GH-2004-2D	354773	03/15/2019		480	<0.002	<0.006	<0.01	0.138	<0.1	109	**0.212**	<0.01	<0.0075	<0.01	6.55	**1,500**	**2,330**	2,661	16.2	6003.74	147.6	65.27
GH-2004-2D	356619	09/17/2019		464	<0.002	<0.006	<0.01	0.111	<0.1	107	0.107	<0.01	<0.0075	0.291	6.37	**1,550**	**2,530**	3,370	18.3	6003.74	147.6	47.71
GH-2004-2D	358230	03/27/2020		473	<0.002	<0.006	<0.01	0.243	<0.1	116	0.0952	<0.01	<0.0075	0.504	6.42	**1,490**	**2,370**	2,335	17.8	6003.74	147.6	39.6
GH-2004-2D	359910	09/26/2020		417	<0.002	<0.006	<0.01	0.321	<0.1	105	0.0773	<0.01	<0.0075	0.546	6.83	**1,340**	**3,050**	2,148	19	6003.74	147.6	46.31
GH-2004-2D	361587	03/25/2021		456	<0.002	<0.006	<0.01	0.192	<0.1	97.8	0.122	<0.01	<0.0075	0.223	6.8	**1,430**	**2,270**	1,968	17.4	6003.74	147.6	53.1
GH-2004-2D	367151	09/14/2021		448	<0.002	<0.006	<0.01	0.172	<0.1	104	0.0843	<0.01	<0.0075	0.463	6.59	**1,490**	**2,140**	2,311	17.8	6003.74	147.6	NA
GH-2004-2D	368786	03/17/2022		422	<0.002	<0.006	<0.01	0.189	<0.1	97.4	0.0888	<0.01	<0.0075	0.347	6.93	1,460	2,090	2,360	18	6003.74	147.6	48.66
GH-2004-2D	370736	09/29/2022		419	<0.002	<0.006	<0.01	0.134	<0.1	97.8	0.0628	<0.01	<0.0075	0.605	7.02	1,530	2,160	2,137	18	6003.74	147.6	41.19
GH-2004-2S	236057	10/28/2004		NA	**0.0153**	<0.006	0.007	0.31	<0.02	NA	**0.703**	<0.01	<0.005	2.15	7.07	**1460**	**2120**	2019	17	6009.7	**	53.25
GH-2004-2S	245864	5/17/2005		NA	0.0029	<0.006	0.014	<0.5	<0.06	NA	0.0826	<0.01	<0.005	0.371	7.39	**1360**	**2080**	2046	17.4	6003.74	83	46.73
GH-2004-2S	270675	10/25/2005		NA	0.0026	<0.006	<0.01	1.02	<0.06	NA	0.0321	<0.01	<0.0075	0.421	6.99	**1390**	**2160**	2152	17.3	6003.74	83	40.16
GH-2004-2S	276911	3/14/2006		NA	0.0027	<0.006	<0.01	0.73	<0.06	NA	0.0216	<0.01	<0.008	0.291	7.26	**1410**	**2240**	2204	17.1	6003.74	83	40.64
GH-2004-2S	283020	8/4/2006		NA	0.0027	<0.006	<0.01	<0.2	<0.06	NA	0.011	<0.01	<0.0075	0.359	7.27	**1390**	**2240**	2203	17.8	6003.74	83	43.84
GH-2004-2S	299168	2/6/2007		NA	0.0031	0.01	0.111	1.16	<0.06	NA	**0.564**	<0.01	<0.0075	0.557	6.53	**1410**	**2220**	2142	17.4	6003.74	83	37.08
GH-2004-2S	305947	7/23/2007		NA	<0.002	<0.006	<0.01	<0.5	<0.06	NA	<0.004	<0.01	<0.008	0.226	7.03	**1440**	**2300**	2279	17.7	6003.74	83	36.89
GH-2004-2S	316508	3/25/2008		NA	0.0052	<0.006	0.065	<0.5	0.092	NA	**0.389**	<0.01	<0.0075	1.36	7.23	**1970**	**3000**	2648	16.3	6003.74	83	37.75
GH-2004-2S	320090	10/28/2008		NA	0.0022	<0.006	0.011	<0.5	<0.06	NA	0.0547	<0.01	<0.0075	0.318	7.07	**1870**	**2900**	2650	17.8	6003.74	83	59.59
GH-2004-2S	321237	03/23/2009		NA	0.0068	<0.006	0.051	<0.1	<0.06	NA	**0.916**	<0.01	<0.0075	1.63	7.02	**1720**	**2810**	2554	16.9	6003.74	83	37.27
GH-2004-2S	322689	09/30/2009		468	**0.0286**	<0.006	0.072	0.995	<0.06	137	**3.42**	0.031	<0.0075	5.91	6.73	**1850**	**3170**	2845	17.3	6003.74	83	39.47
GH-2004-2S	323313	03/11/2010		539	**0.0906**	0.0114	0.768	1.48	<0.061	172	**12**	0.026	<0.0076	**21**	6.62	**2520**	**3620**	2639	15.7	6003.74	83	40.25
GH-2004-2S	324881	09/20/2010		619	**0.115**	<0.006	0.019	<1	<0.06	200	**6.43**	0.036	<0.0075	**21.5**	6.69	**2450**	**3820**	3318	18.2	6003.74	83	37.33
GH-2004-2S	326362	03/02/2011		563	**0.111**	<0.006	0.012	0.858	<0.06	181	**5.52**	0.036	<0.0075	**23**	6.6	**2220**	**3550**	3102	17.1	6003.74	83	42.2
GH-2004-2S	327873	09/02/2011		527	**0.0748**	<0.006	0.032	<0.5	<0.06	167	**1.13**	0.016	<0.0075	**18**	6.65	**2150**	**3380**	3023	18.8	6003.74	83	42.57
GH-2004-2S	329326	03/22/2012		599	**0.203**	<0.006	0.012	1.1	<0.06	197	**10.7**	0.036	0.0133	**42.2**	6.53	**2,490**	**3,610**	3,042	17.9	6003.74	83	37.75
GH-2004-2S	330951	09/06/2012		585	**0.171**	<0.006	<0.01	1.34	<0.06	197	**10**	0.03	<0.0075	**36.9**	6.65	**2,500**	**3,580**	3,111	18.6	6003.74	83	41.17
GH-2004-2S	332599	03/11/2013		567	**0.157**	<0.006	<0.01	**1.81**	<0.06	192	**4.52**	0.03	<0.0075	**36.9**	6.5	**2,330**	**3,360**	2,846	18.3	6003.74	83	45.27
GH-2004-2S	334322	09/18/2013		430	**0.133**	<0.006	0.015	1.43	<0.06	152	**4.03**	0.025	<0.0075	**31**	6.6	**2,010**	**2,980**	2,635	18.7	6003.74	83	41.56

Freeport-McMoRan Chino Mines Company
Groundhog Mine IRA Annual Report
October 30, 2022

Site Number	Sample ID	Sample Date	Comments	Ca, Diss (mg/L)	Cd, Diss (mg/l)	Co, Diss (mg/l)	Cu, Diss (mg/l)	F, Tot_ (mg/l)	Fe, Diss (mg/l)	Mg, Diss (mg/L)	Mn, Diss (mg/l)	Ni, Diss (mg/l)	Pb, Diss (mg/l)	Zn, Diss (mg/l)	pH, Field (su)	SO4, Tot_ (mg/l)	TDS (mg/l)	Cond, Fld (micromho)	Water Temp (Cent)	Well Collar Level (ft msl)	Well Depth (ft)	Depth to Water (ft)
WQCC Water Quality Standard					0.01	0.05	1	1.6	1		0.2	0.2	0.05	10	6- 9	600	1000					
GH-2004-2S	335939	03/06/2014		570	**0.296**	<0.006	<0.01	1.59	<0.06	208	**27.3**	0.056	<0.0075	**59.8**	6.58	**2,680**	**3,470**	3,095	18.3	6003.74	83	38.95
GH-2004-2S	337694	09/09/2014		556	**0.227**	<0.006	<0.01	**1.73**	<0.06	198	**13.4**	0.043	<0.0075	**45.2**	6.59	**2,340**	**3,350**	2,999	18.8	6003.74	83	42.1
GH-2004-2S	339361	03/12/2015		531	**0.169**	<0.006	0.0181	**1.76**	<0.06	196	**3.55**	0.0349	<0.0075	**43.2**	6.33	**2,400**	**3,310**	2,812	17.1	6003.74	83	37.76
GH-2004-2S	341187	09/02/2015		511	**0.197**	<0.006	0.0688	<0.5	<0.06	178	**2.87**	0.038	<0.0075	**52.4**	6.04	**2,350**	**3,220**	2,930	19.7	6003.74	83	40.5
GH-2004-2S	343007	03/03/2016		458	**0.291**	<0.006	0.0189	**1.66**	<0.06	167	**16.9**	0.0563	<0.0075	**61.8**	6.26	**2,370**	**3,420**	2,915	19	6003.74	83	40.36
GH-2004-2S	345112	09/06/2016		509	**0.221**	<0.006	0.0103	**1.86**	<0.1	180	**7.83**	0.0426	<0.0075	**61.7**	6.31	**2,220**	**3,310**	2,722	17.8	6003.74	83	44.61
GH-2004-2S	347289	06/01/2017		535	**0.338**	<0.006	0.0189	**1.85**	0.155	195	**30.3**	0.0646	<0.0075	**74.5**	6.31	**2,400**	**3,320**	3,022	18.6	6003.74	83	39.06
GH-2004-2S	349337	09/12/2017		512	**0.33**	<0.006	0.0155	0.996	<0.1	201	**31.4**	0.0594	<0.0075	**69.1**	6.4	**2,220**	**3,350**	3,136	19.3	6003.74	83	39.06
GH-2004-2S	343007	03/03/2016		458	**0.291**	<0.006	0.0189	**1.66**	<0.06	167	**16.9**	0.0563	<0.0075	**61.8**	6.26	**2,370**	**3,420**	3,292	19	6003.74	83	40.36
GH-2004-2S	345112	09/06/2016		509	**0.221**	<0.006	0.0103	**1.86**	<0.1	180	**7.83**	0.0426	<0.0075	**61.7**	6.31	**2,220**	**3,310**	3,156	17.8	6003.74	83	44.61
GH-2004-2S	351228	03/21/2018		499	**0.385**	<0.006	0.391	1.49	<0.1	168	**17.4**	0.0803	<0.0075	**102**	6.09	**2,180**	**3,130**	2,879	17.3	6003.74	83	40.91
GH-2004-2S	352967	09/24/2018		510	**0.187**	<0.006	0.0108	1.11	<0.1	179	**43.7**	0.0696	0.0121	**71.1**	6.61	**2,150**	**3,500**	3,055	17.6	6003.74	83	39.77
GH-2004-2S	354774	03/15/2019		541	**0.0999**	<0.006	<0.01	0.815	<0.1	182	**38.4**	0.0597	<0.0075	**59.1**	6.47	**2,140**	**3,220**	3,460	16.3	6003.74	83	39.91
GH-2004-2S	356620	09/17/2019		509	**0.0599**	<0.006	<0.01	0.569	<0.1	172	**20.9**	0.0491	<0.0075	**53.8**	6.28	**2,190**	**3,220**	3,546	18.1	6003.74	83	40.48
GH-2004-2S	358231	03/27/2020		557	**0.119**	<0.006	0.0104	0.947	<0.1	199	**17.3**	0.0404	<0.0075	**59.5**	6.49	**2,180**	**3,160**	2,937	16.1	6003.74	83	31.58
GH-2004-2S	359911	09/26/2020		512	**0.0472**	<0.006	<0.01	1.1	<0.1	178	**10.3**	0.0441	0.0093	**52.6**	6.74	**2,030**	**3,060**	2,840	17.6	6003.74	83	39.17
GH-2004-2S	361588	03/25/2021		522	**0.0117**	<0.006	0.0258	1.17	<0.1	154	**10**	0.0353	<0.0075	**44.4**	6.35	**2,140**	**3,040**	2,455	16.4	6003.74	83	46.45
GH-2004-2S	367152	09/14/2021		526	**0.193**	<0.006	<0.01	0.651	<0.1	166	**1.38**	0.0208	<0.0075	**35.3**	6.25	**2,160**	**2,940**	2,822	17	6003.74	83	43.19
GH-2004-2S	368787	03/17/2022		511	0.052	<0.006	<0.01	0.783	<0.1	165	8.04	0.0394	<0.0075	48.2	6.62	2,200	3,040	3,016	17.2	6003.74	83	40.71
GH-2004-2S	370737	09/29/2022		547	0.122	<0.006	<0.01	0.641	<0.1	184	8.29	0.0409	<0.0075	55.1	6.54	2,250	2,990	2,748	16	6003.74	83	49.02
Lower GH-Sump*	250151	4/14/2005		NA	**2.31**	**1.11**	**95.1**	**6.04**	0.28	NA	**333**	**0.846**	**1.24**	**844**	**3.92**	**5530**	**9220**	5550	17.7	surface	surface	surface
Lower GH-Sump*	267561	9/26/2005		NA	**0.749**	**0.307**	**20.2**	**1.32**	<0.3	NA	**95.3**	0.178	**0.289**	**224**	**4.05**	**2870**	**4450**	3643	23.6	surface	surface	surface
Lower GH-Sump*	283021	8/4/2006		NA	**0.35**	**0.147**	**9.11**	1.08	0.15	NA	**44**	0.086	**0.0815**	**92**	**5.27**	**1530**	**2390**	2298	22.6	surface	surface	surface
Lower GH-Sump*	305948	7/23/2007		NA	**0.299**	**0.15**	**7.19**	1.15	<0.06	NA	**52.8**	0.097	**0.078**	**76.8**	**5.64**	**1600**	**2600**	2314	22.8	surface	surface	surface
Lower GH-Sump*	316509	3/25/2008	Dry	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
Lower GH-Sump*	320091	10/28/2008		NA	**0.0725**	<0.006	0.227	0.825	<0.06	NA	**6.43**	0.019	<0.0075	**18**	6.93	**1890**	**2400**	1970	15.8	surface	surface	surface
GH-Sump[1]	335941	03/06/2014	Dry	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Sump[1]	337696	09/09/2014		162	0.0029	<0.006	0.019	1.04	<0.06	23.8	<0.004	<0.01	<0.0075	0.461	7.06	475	748	906	21.4	surface	surface	surface
GH-Sump[1]	339363	03/12/2015		310	**0.0274**	<0.006	0.407	0.828	<0.06	48.3	0.0865	<0.01	<0.0075	7.91	6.66	**912**	**1,370**	1,245	14.4	surface	surface	surface
GH-Sump[1]	341189	09/01/2015		130	0.0082	<0.006	0.126	1.27	0.559	21.5	**0.235**	<0.01	**0.0854**	1.51	6.8	419	653	851	24.7	surface	surface	surface
GH-Sump[1]	343009	03/04/2016		186	0.0065	<0.006	0.02	0.928	<0.06	29.2	<0.004	<0.01	<0.0075	1.54	7.17	554	884	849	12.2	surface	surface	surface
GH-Sump[1]	345114	09/14/2016		159	0.0046	<0.006	0.0279	0.639	<0.1	23.4	0.0197	<0.01	<0.0075	0.72	7.04	404	691	809	21.5	surface	surface	surface
GH-Sump[1]	347291	06/01/2017	Dry		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Sump[1]	349339	09/12/2017		107	0.0039	<0.006	0.0134	0.697	<0.1	18.9	**0.316**	<0.01	<0.0075	0.834	7.08	348	552	758	22.1	surface	surface	surface
GH-Sump[1]	351230	03/21/2018		107	0.0088	<0.006	0.0347	0.627	<0.1	16.1	0.0335	<0.01	<0.0075	3.38	7.01	350	522	566	10.6	surface	surface	surface
GH-Sump[1]	352970	09/24/2018		61.4	0.0022	<0.006	0.0166	1.18	0.121	9.56	**0.284**	<0.01	0.0211	0.501	6.92	148	326	426	19.6	surface	surface	surface
GH-Sump	354776	03/15/2019		142	0.0066	<0.006	0.0276	0.714	<0.1	18.8	0.129	<0.01	0.0079	1.91	6.79	387	608	928	8.2	surface	surface	surface
GH-Sump	356623	09/17/2019	No surface water	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Sump	358233	03/27/2020		97.1	0.003	<0.006	0.0291	1	<0.1	14.2	0.0418	<0.01	<0.0075	0.913	6.95	235	429	519	10.5	surface	surface	surface
GH-Sump	359914	09/26/2020	Dry		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Sump	361590	03/25/2021	Dry		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Sump	367155	09/14/2021		142	**0.0074**	<0.006	0.0505	0.599	<0.1	19.1	**0.233**	<0.01	<0.0075	1.75	**5.89**	437	625	847	21.6	surface	surface	surface
GH-Sump	368789	03/17/2022			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Sump	370740	09/29/2022	tried to bail but able get enough water. water would not fill bailer.		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
Lower GH-Sump Pond*		3/14/2006		NA	**0.701**	**0.284**	**20.2**	**5.34**	<0.06	NA	**116**	0.184	**0.16**	**232**	**4.88**	**3160**	**5100**	3293	13.1	surface	surface	surface
Lower GH-Sump Pond*	299169	2/6/2007		NA	**0.273**	**0.117**	**6.41**	**2.22**	<0.06	NA	**45**	0.073	**0.053**	**72.6**	**4.8**	**1870**	**2900**	2047	10.5	surface	surface	surface
Lower GH-Sump*	316509	3/25/2008	Dry	NS	NS	NS	NS	NS	NS	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
Lower GH-Sump*	320091	10/28/2008		NA	**0.0725**	<0.006	0.227	0.825	<0.06	NA	**6.43**	0.019	<0.0075	**18**	6.93	**1890**	**2400**	1970	15.8	surface	surface	surface
Lower GH-Sump*	321238	03/23/2009	Dry	NS	NS	NS	NS	NS	NS	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
Lower GH-Sump*	322691	09/30/2009		111	0.0028	<0.006	0.03	1.02	<0.06	18.1	0.124	<0.01	<0.0075	0.55	7.35	329	536	645	18	surface	surface	surface
GH-Lower Pond[2]	322690	09/30/2009		85.3	<0.002	<0.006	0.017	0.991	<0.06	15.3	0.0159	<0.01	<0.0075	0.0108	7.72	254	438	524	17.1	surface	surface	surface
GH-Lower Pond[2]	323314	03/10/2010		261	0.0048	<0.0061	0.016	1.21	<0.061	49.7	**0.225**	<0.01	<0.0076	0.496	7.49	**849**	**1360**	1140	9.5	surface	surface	surface

Freeport-McMoRan Chino Mines Company
Groundhog Mine IRA Annual Report
October 30, 2022

Site Number	Sample ID	Sample Date	Comments	Ca, Diss (mg/L)	Cd, Diss (mg/l)	Co, Diss (mg/l)	Cu, Diss (mg/l)	F, Tot_ (mg/l)	Fe, Diss (mg/l)	Mg, Diss (mg/L)	Mn, Diss (mg/l)	Ni, Diss (mg/l)	Pb, Diss (mg/l)	Zn, Diss (mg/l)	pH, Field (su)	SO4, Tot_ (mg/l)	TDS (mg/l)	Cond, Fld (micromho)	Water Temp (Cent)	Well Collar Level (ft msl)	Well Depth (ft)	Depth to Water (ft)
WQCC Water Quality Standard					0.01	0.05	1	1.6	1		0.2	0.2	0.05	10	6- 9	600	1000					
GH-Lower Pond[2]	324882	09/20/2010		151	<0.002	<0.006	0.013	0.847	<0.06	25.9	0.183	<0.01	<0.0075	0.0204	8.58	430	740	874	23.5	surface	surface	surface
GH-Lower Pond[2]	326363	03/02/2011	Dry	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Lower Pond[2]	327874	09/02/2011		130	<0.002	<0.006	0.018	0.86	<0.06	20.7	0.119	<0.01	<0.0075	<0.01	7.94	415	656	821	23.8	surface	surface	surface
GH-Lower Pond[2]	329327	03/22/2012	Dry	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Lower Pond[2]	330952	09/06/2012	Dry	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Lower Pond[2]	332600	03/11/2013	Dry	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Lower Pond[2]	GH-Lower Pond	07/22/2013		62.3	0.0059	<0.006	0.061	0.52	<0.06	10.9	**1.12**	<0.01	<0.0075	1.02	6.75	210	350	442	21.6	surface	surface	surface
GH-Lower Pond[2]	334166	08/05/2013		98.1	0.0061	<0.006	0.039	0.7	<0.06	16	**1.71**	<0.01	<0.0075	0.447	7.52	330	494	682	26.5	surface	surface	surface
GH-Lower Pond[2]	334323	09/18/2013		123	**0.018**	0.0061	0.131	0.62	<0.06	24.1	**2.84**	<0.01	0.0077	3.53	7.09	411	634	745	21.2	surface	surface	surface
GH-Lower Pond[2]	335940	03/06/2014		333	0.0055	<0.006	0.051	1.52	<0.06	59.6	0.0924	<0.01	<0.0075	0.554	8.03	**1,090**	**1,650**	1,574	16.5	surface	surface	surface
GH-Lower Pond[2]	337695	09/09/2014		127	0.0055	<0.006	0.045	0.95	<0.06	19.5	**0.812**	<0.01	<0.0075	0.35	7.79	406	607	772	22.7	surface	surface	surface
GH-Lower Pond[2]	339362	03/12/2015		251	**0.0377**	0.0069	0.0354	1	<0.06	50.9	**4.88**	<0.01	<0.0075	3.66	7.18	**873**	**1,260**	1,157	13.6	surface	surface	surface
GH-Lower Pond[2]	341188	09/01/2015		83.2	0.0047	<0.006	0.0282	0.67	<0.06	13	**0.92**	<0.01	<0.0075	0.266	8.58	269	406	585	26.3	surface	surface	surface
GH-Lower Pond[2]	343008	03/04/2016		191	0.0043	<0.006	0.0199	0.936	<0.06	32	**0.292**	<0.01	<0.0075	0.216	8.27	**622**	956	911	13.1	surface	surface	surface
GH-Lower Pond[2]	345113	09/13/2016		108	0.0028	<0.006	0.0207	0.555	<0.1	16.3	**0.467**	<0.01	<0.0075	0.067	7.78	310	486	606	19.7	surface	surface	surface
GH-Lower Pond[2]	347290	04/28/2017	Dry		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Lower Pond[2]	349338	09/12/2017		109	<0.002	<0.006	0.0137	0.621	<0.1	17.4	0.144	<0.01	<0.0075	0.056	7.2	339	507	761	24.2	surface	surface	surface
GH-Lower Pond	361589	03/25/2021	Dry		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Lower Pond	367154	09/14/2021			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.51	NA	NA	1,033	25.3	surface	surface	surface
GH-Lower Pond	368788	03/17/2022			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Lower Pond	370739	09/29/2022		284	**0.0238**	<0.006	0.032	0.759	<0.1	47	4.35	<0.01	<0.0075	1.87	7.89	**973**	**1,370**	1,449	19.8	surface	surface	surface

One Government Gulch - PO Box 929
Kellogg, ID 83837-0929
(208) 784-1258
www.svl.net

Freeport McMoRan - Chino Mines
PO Box 10
Bayard, NM 88023

Project Name: Chino Routine
Work Order: **X1C0509**
Reported: 13-Apr-21 17:09

ANALYTICAL REPORT FOR SAMPLES COC Number: 8904

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
361593 / Equipment Blank - Chino	X1C0509-01	Water	25-Mar-21 12:05	LS	30-Mar-2021	
361594 / Field Blank - Chino	X1C0509-02	Water	25-Mar-21 11:58	LS	30-Mar-2021	
361587 / GH-2004-2D	X1C0509-03	Water	25-Mar-21 11:57	LS	30-Mar-2021	
361588 / GH-2004-2S	X1C0509-04	Water	25-Mar-21 11:30	LS	30-Mar-2021	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
Analyses were performed in accordance with SVL standard operating procedures and calibrations were performed and met SVL internal QC criteria.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.
This report shall not be reproduced except in full, without the written approval of SVL Analytical, Inc.

Case Narrative: X1C0509

The state of origin only accredits for drinking water analyses.

One Government Gulch - PO Box 929
Kellogg, ID 83837-0929
(208) 784-1258
www.svl.net

Freeport McMoRan - Chino Mines
PO Box 10
Bayard, NM 88023

Project Name: Chino Routine
Work Order: **X1C0509**
Reported: 13-Apr-21 17:09

Client Sample ID: **361593 : Equipment Blank - Chino**
SVL Sample ID: **X1C0509-01 (Water)**

Sampled: 25-Mar-21 12:05
Received: 30-Mar-21
Sampled By: LS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
SM 2540 C	Total Diss. Solids	< 10	mg/L	10			X114089	TJL	04/01/21 13:30	
Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	3.29	mg/L	0.30	0.18		X114111	RS	03/31/21 11:54	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dave Tryon
Project Manager

One Government Gulch - PO Box 929
Kellogg, ID 83837-0929
(208) 784-1258
www.svl.net

Freeport McMoRan - Chino Mines
PO Box 10
Bayard, NM 88023

Project Name: Chino Routine
Work Order: **X1C0509**
Reported: 13-Apr-21 17:09

Client Sample ID: **361594 : Field Blank - Chino**
SVL Sample ID: **X1C0509-02 (Water)**

Sampled: 25-Mar-21 11:58
Received: 30-Mar-21
Sampled By: LS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
SM 2540 C	**Total Diss. Solids**	2200	mg/L	40			X114089	TJL	04/01/21 13:30	D2
Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	1420	mg/L	15.0	9.00	50	X114111	RS	03/31/21 12:46	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dave Tryon
Project Manager

One Government Gulch - PO Box 929
Kellogg, ID 83837-0929
(208) 784-1258
www.svl.net

Freeport McMoRan - Chino Mines
PO Box 10
Bayard, NM 88023

Project Name: Chino Routine
Work Order: **X1C0509**
Reported: 13-Apr-21 17:09

Client Sample ID: **361587 : GH-2004-2D**
SVL Sample ID: **X1C0509-03 (Water)**

Sampled: 25-Mar-21 11:57
Received: 30-Mar-21
Sampled By: LS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Dissolved)										
EPA 200.7	Cadmium	< 0.0020	mg/L	0.0020	0.0016		X114049	AS	04/08/21 12:07	
EPA 200.7	**Calcium**	456	mg/L	0.100	0.069		X114049	AS	04/08/21 12:07	
EPA 200.7	Cobalt	< 0.0060	mg/L	0.0060	0.0046		X114049	AS	04/08/21 12:07	
EPA 200.7	Copper	< 0.0100	mg/L	0.0100	0.0027		X114049	AS	04/08/21 12:07	
EPA 200.7	Iron	< 0.100	mg/L	0.100	0.056		X114049	AS	04/08/21 12:07	
EPA 200.7	Lead	< 0.0075	mg/L	0.0075	0.0049		X114049	AS	04/08/21 12:07	
EPA 200.7	**Magnesium**	97.8	mg/L	0.500	0.090		X114049	AS	04/08/21 12:07	
EPA 200.7	**Manganese**	0.122	mg/L	0.0080	0.0034		X114049	AS	04/08/21 12:07	
EPA 200.7	Nickel	< 0.0100	mg/L	0.0100	0.0048		X114049	AS	04/08/21 12:07	
EPA 200.7	**Zinc**	0.223	mg/L	0.0100	0.0054		X114049	AS	04/08/21 12:07	
Classical Chemistry Parameters										
SM 2540 C	**Total Diss. Solids**	2270	mg/L	40			X114089	TJL	04/01/21 13:30	D2
Anions by Ion Chromatography										
EPA 300.0	**Fluoride**	0.192	mg/L	0.100	0.062		X114111	RS	03/31/21 13:04	
EPA 300.0	**Sulfate as SO4**	1430	mg/L	15.0	9.00	50	X114111	RS	03/31/21 13:21	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dave Tryon
Project Manager

One Government Gulch - PO Box 929
Kellogg, ID 83837-0929
(208) 784-1258
www.svl.net

Freeport McMoRan - Chino Mines
PO Box 10
Bayard, NM 88023

Project Name: Chino Routine
Work Order: **X1C0509**
Reported: 13-Apr-21 17:09

Client Sample ID: **361588 : GH-2004-2S**
SVL Sample ID: **X1C0509-04 (Water)**

Sampled: 25-Mar-21 11:30
Received: 30-Mar-21
Sampled By: LS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Dissolved)										
EPA 200.7	**Cadmium**	0.0117	mg/L	0.0020	0.0016		X114049	AS	04/08/21 12:10	
EPA 200.7	**Calcium**	522	mg/L	0.100	0.069		X114049	AS	04/08/21 12:10	
EPA 200.7	Cobalt	< 0.0060	mg/L	0.0060	0.0046		X114049	AS	04/08/21 12:10	
EPA 200.7	**Copper**	0.0258	mg/L	0.0100	0.0027		X114049	AS	04/08/21 12:10	
EPA 200.7	Iron	< 0.100	mg/L	0.100	0.056		X114049	AS	04/08/21 12:10	
EPA 200.7	Lead	< 0.0075	mg/L	0.0075	0.0049		X114049	AS	04/08/21 12:10	
EPA 200.7	**Magnesium**	154	mg/L	0.500	0.090		X114049	AS	04/08/21 12:10	
EPA 200.7	**Manganese**	10.0	mg/L	0.0080	0.0034		X114049	AS	04/08/21 12:10	
EPA 200.7	**Nickel**	0.0353	mg/L	0.0100	0.0048		X114049	AS	04/08/21 12:10	
EPA 200.7	**Zinc**	44.4	mg/L	0.100	0.0540	10	X114049	AS	04/08/21 12:44	D2
Classical Chemistry Parameters										
SM 2540 C	**Total Diss. Solids**	3040	mg/L	40			X114089	TJL	04/01/21 13:30	D2
Anions by Ion Chromatography										
EPA 300.0	**Fluoride**	1.17	mg/L	0.100	0.062		X114111	RS	03/31/21 13:39	
EPA 300.0	**Sulfate as SO4**	2140	mg/L	30.0	18.0	100	X114111	RS	03/31/21 13:56	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dave Tryon
Project Manager

One Government Gulch - PO Box 929
Kellogg, ID 83837-0929
(208) 784-1258
www.svl.net

Freeport McMoRan - Chino Mines
PO Box 10
Bayard, NM 88023

Project Name: Chino Routine
Work Order: **X1C0509**
Reported: 13-Apr-21 17:09

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Metals (Dissolved)								
EPA 200.7	Cadmium	mg/L	<0.0020	0.0016	0.0020	X114049	08-Apr-21	
EPA 200.7	Calcium	mg/L	<0.100	0.069	0.100	X114049	08-Apr-21	
EPA 200.7	Cobalt	mg/L	<0.0060	0.0046	0.0060	X114049	08-Apr-21	
EPA 200.7	Copper	mg/L	<0.0100	0.0027	0.0100	X114049	08-Apr-21	
EPA 200.7	Iron	mg/L	<0.100	0.056	0.100	X114049	08-Apr-21	
EPA 200.7	Lead	mg/L	<0.0075	0.0049	0.0075	X114049	08-Apr-21	
EPA 200.7	Magnesium	mg/L	<0.500	0.090	0.500	X114049	08-Apr-21	
EPA 200.7	Manganese	mg/L	<0.0080	0.0034	0.0080	X114049	08-Apr-21	
EPA 200.7	Nickel	mg/L	<0.0100	0.0048	0.0100	X114049	08-Apr-21	
EPA 200.7	Zinc	mg/L	<0.0100	0.0054	0.0100	X114049	08-Apr-21	
Classical Chemistry Parameters								
SM 2540 C	Total Diss. Solids	mg/L	<10		10	X114089	01-Apr-21	
Anions by Ion Chromatography								
EPA 300.0	Fluoride	mg/L	<0.100	0.062	0.100	X114111	31-Mar-21	
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.18	0.30	X114111	31-Mar-21	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Metals (Dissolved)									
EPA 200.7	Cadmium	mg/L	0.928	1.00	92.8	85 - 115	X114049	08-Apr-21	
EPA 200.7	Calcium	mg/L	18.9	20.0	94.3	85 - 115	X114049	08-Apr-21	
EPA 200.7	Cobalt	mg/L	0.894	1.00	89.4	85 - 115	X114049	08-Apr-21	
EPA 200.7	Copper	mg/L	0.928	1.00	92.8	85 - 115	X114049	08-Apr-21	
EPA 200.7	Iron	mg/L	9.16	10.0	91.6	85 - 115	X114049	08-Apr-21	
EPA 200.7	Lead	mg/L	0.923	1.00	92.3	85 - 115	X114049	08-Apr-21	
EPA 200.7	Magnesium	mg/L	18.6	20.0	92.9	85 - 115	X114049	08-Apr-21	
EPA 200.7	Manganese	mg/L	0.943	1.00	94.3	85 - 115	X114049	08-Apr-21	
EPA 200.7	Nickel	mg/L	0.904	1.00	90.4	85 - 115	X114049	08-Apr-21	
EPA 200.7	Zinc	mg/L	0.922	1.00	92.2	85 - 115	X114049	08-Apr-21	
Anions by Ion Chromatography									
EPA 300.0	Fluoride	mg/L	1.96	2.00	97.9	90 - 110	X114111	31-Mar-21	
EPA 300.0	Sulfate as SO4	mg/L	10.3	10.0	103	90 - 110	X114111	31-Mar-21	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch and Source ID	Analyzed	Notes
Classical Chemistry Parameters									
SM 2540 C	Total Diss. Solids	mg/L	485	494	1.8	10	X114089 - X1C0505-02	01-Apr-21	
SM 2540 C	Total Diss. Solids	mg/L	620	613	1.1	10	X114089 - X1C0505-07	01-Apr-21	

One Government Gulch - PO Box 929
Kellogg, ID 83837-0929
(208) 784-1258
www.svl.net

Freeport McMoRan - Chino Mines
PO Box 10
Bayard, NM 88023

Project Name: Chino Routine
Work Order: **X1C0509**
Reported: 13-Apr-21 17:09

Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch and Source ID	Analyzed	Notes
Metals (Dissolved)										
EPA 200.7	Cadmium	mg/L	0.980	<0.0020	1.00	98.0	70 - 130	X114049 - X1C0496-01	08-Apr-21	
EPA 200.7	Calcium	mg/L	75.6	56.1	20.0	97.6	70 - 130	X114049 - X1C0496-01	08-Apr-21	
EPA 200.7	Cobalt	mg/L	0.934	0.0068	1.00	92.7	70 - 130	X114049 - X1C0496-01	08-Apr-21	
EPA 200.7	Copper	mg/L	1.00	<0.0100	1.00	100	70 - 130	X114049 - X1C0496-01	08-Apr-21	
EPA 200.7	Iron	mg/L	10.2	0.205	10.0	99.8	70 - 130	X114049 - X1C0496-01	08-Apr-21	
EPA 200.7	Lead	mg/L	0.969	<0.0075	1.00	96.9	70 - 130	X114049 - X1C0496-01	08-Apr-21	
EPA 200.7	Magnesium	mg/L	30.9	11.2	20.0	98.5	70 - 130	X114049 - X1C0496-01	08-Apr-21	
EPA 200.7	Manganese	mg/L	3.61	2.70	1.00	90.3	70 - 130	X114049 - X1C0496-01	08-Apr-21	
EPA 200.7	Nickel	mg/L	0.940	<0.0100	1.00	94.0	70 - 130	X114049 - X1C0496-01	08-Apr-21	
EPA 200.7	Zinc	mg/L	1.31	0.356	1.00	95.6	70 - 130	X114049 - X1C0496-01	08-Apr-21	
Anions by Ion Chromatography										
EPA 300.0	Fluoride	mg/L	2.00	<0.100	2.00	100	90 - 110	X114111 - X1C0509-01	31-Mar-21	
EPA 300.0	Sulfate as SO4	mg/L	13.6	3.29	10.0	104	90 - 110	X114111 - X1C0509-01	31-Mar-21	

Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	RPD	RPD Limit	% Recovery	Batch and Source ID	Notes
Metals (Dissolved)										
EPA 200.7	Cadmium	mg/L	0.930	0.980	1.00	5.2	20	93.0	X114049 - X1C0496-01	
EPA 200.7	Calcium	mg/L	76.1	75.6	20.0	0.6	20	99.8	X114049 - X1C0496-01	
EPA 200.7	Cobalt	mg/L	0.888	0.934	1.00	5.0	20	88.1	X114049 - X1C0496-01	
EPA 200.7	Copper	mg/L	0.955	1.00	1.00	4.6	20	95.5	X114049 - X1C0496-01	
EPA 200.7	Iron	mg/L	9.70	10.2	10.0	4.9	20	95.0	X114049 - X1C0496-01	
EPA 200.7	Lead	mg/L	0.917	0.969	1.00	5.5	20	91.7	X114049 - X1C0496-01	
EPA 200.7	Magnesium	mg/L	30.4	30.9	20.0	1.7	20	96.0	X114049 - X1C0496-01	
EPA 200.7	Manganese	mg/L	3.61	3.61	1.00	0.0	20	90.4	X114049 - X1C0496-01	
EPA 200.7	Nickel	mg/L	0.892	0.940	1.00	5.2	20	89.2	X114049 - X1C0496-01	
EPA 200.7	Zinc	mg/L	1.28	1.31	1.00	2.5	20	92.3	X114049 - X1C0496-01	
Anions by Ion Chromatography										
EPA 300.0	Fluoride	mg/L	2.02	2.00	2.00	1.2	20	101	X114111 - X1C0509-01	
EPA 300.0	Sulfate as SO4	mg/L	13.6	13.6	10.0	0.3	20	103	X114111 - X1C0509-01	

One Government Gulch - PO Box 929
Kellogg, ID 83837-0929
(208) 784-1258
www.svl.net

Freeport McMoRan - Chino Mines	**Project Name: Chino Routine**
PO Box 10	Work Order: **X1C0509**
Bayard, NM 88023	Reported: 13-Apr-21 17:09

Notes and Definitions

D2	Sample required dilution due to high concentration of target analyte.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
0.30R>S	% recovery not applicable; spike level is less than 30% of the sample concentration
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable