



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

October 20, 2023

**Certified Mail #70211970000136947674**

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, 2023. 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; and
- **Figure 1** illustrates locations for all of the IRA sites.

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 Mike Steward at (520) 437-3005 or Ms. Pam Pinson at (575) 912-5213.

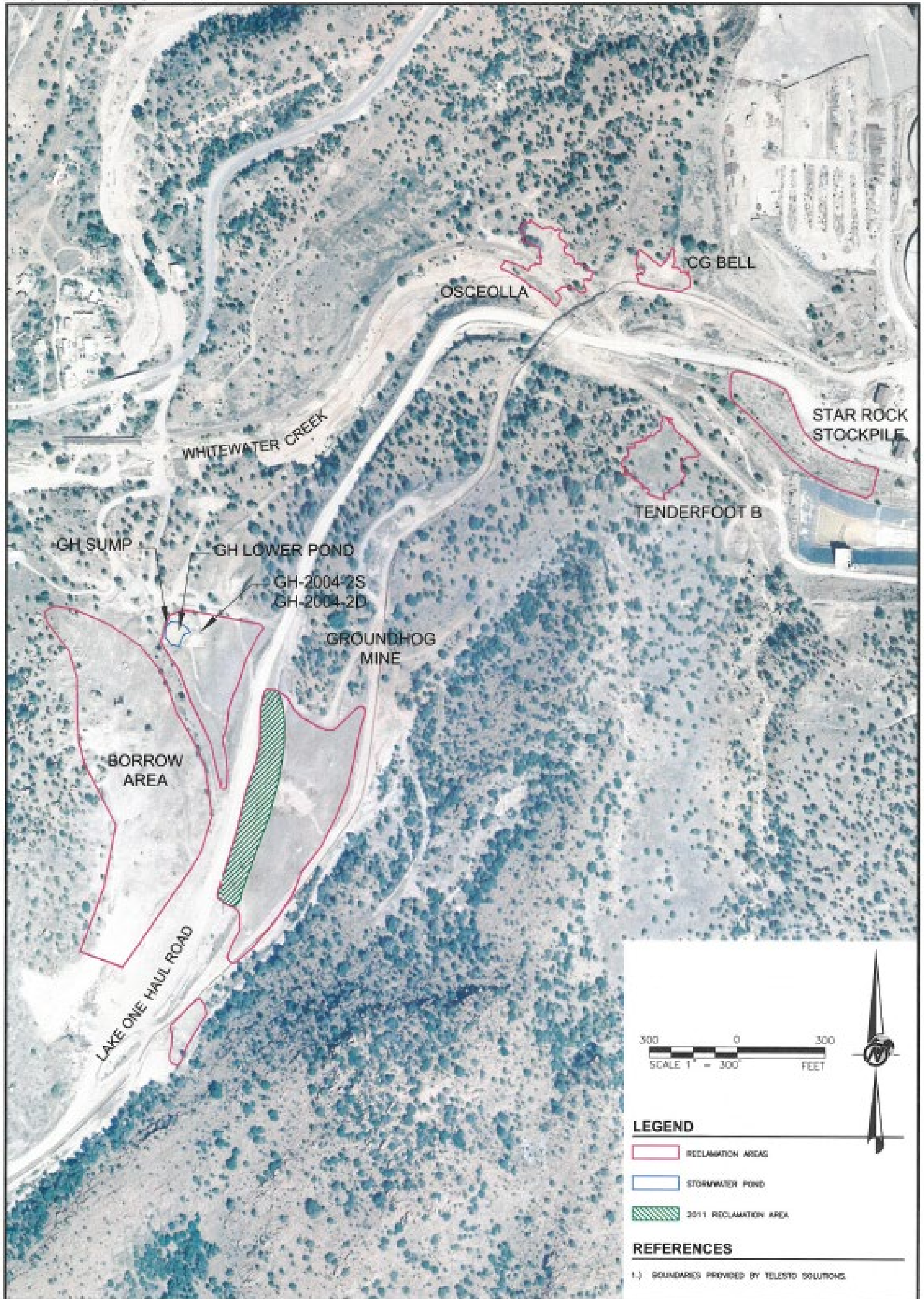
Sincerely,

Handwritten signature of Sherry Burt-Kested in black ink. The signature is cursive and includes the initials 'FOR' written below the main signature.

Sherry Burt-Kested, Manager

SBK:pp  
Enclosures  
20231020-002

ec: David Mercer, NMED (via email)  
Joseph Fox, NMED (via email)  
D.J. Ennis, Mining & Minerals Division, NMEMNRD (via email)  
Petra Sanchez, Environmental Protection Agency (via email)  
Steward, Mike, FMI (via email)



**FIGURE 1**

PROJECT NO. 141-1190	TITLE
FILE NO. Figure01.dwg	<b>ANNUAL MONITORING OF INTERIM REMEDIAL ACTION SITES LOCATION MAP</b>
REV. 0 SCALE AS SHOWN	
DESIGNER 10/28/10	
CADD 04 10/20/14	
CHECKER 05 10/20/14	
NOTED 08 10/20/14	

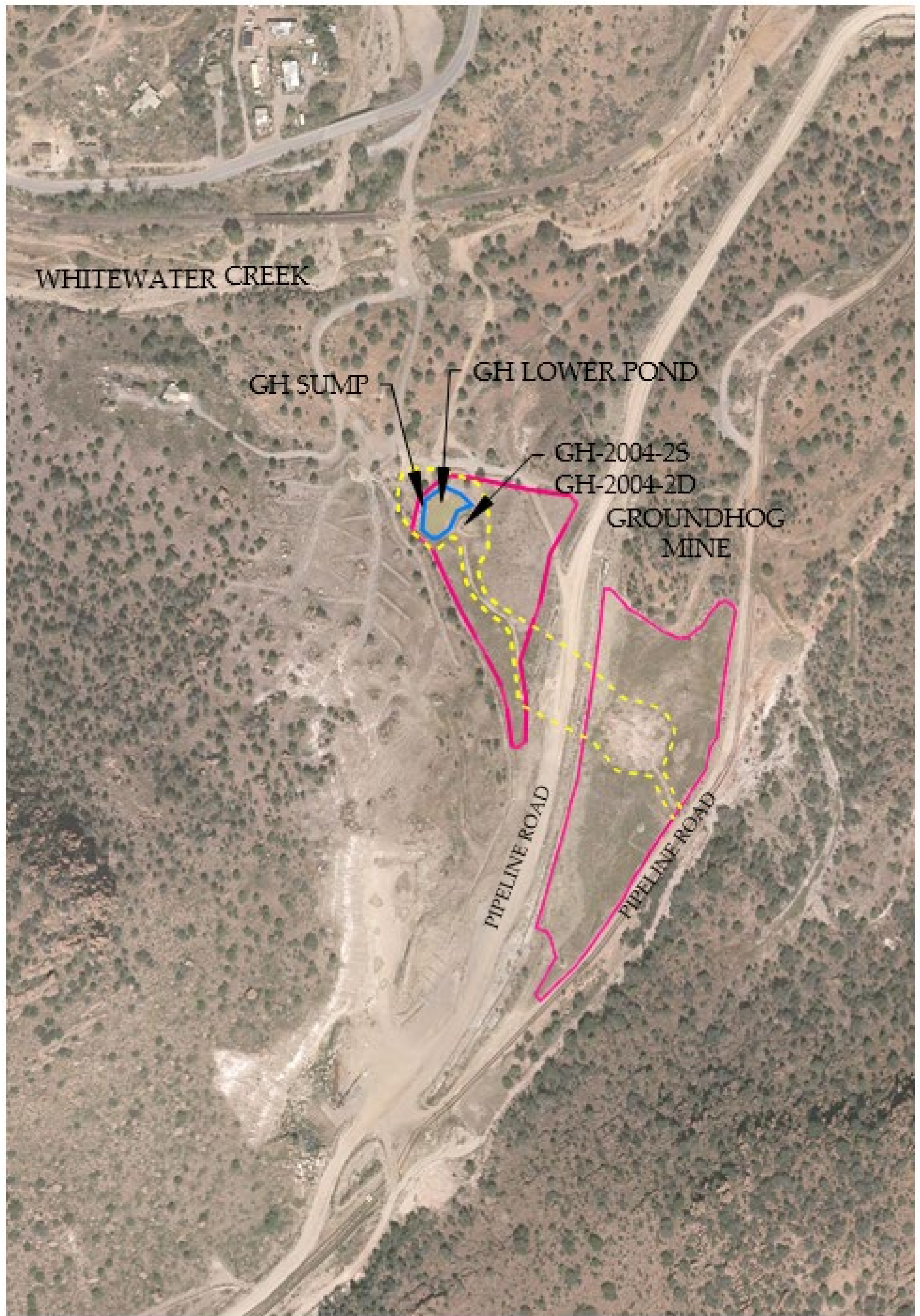
PROJECT



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



Abuquerque, NM



WHITEWATER CREEK

GH SUMP

GH LOWER POND

GH-2004-2S

GH-2004-2D

GROUNDHOG  
MINE

PIPELINE ROAD

PIPELINE ROAD

Legend

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

**Freeport-McMORAN**  
CHINO MINES COMPANY

Figure 2

Scale	As Noted	Date	10-21-2017	Drawn	
Prep	Environmental Services	Checked			
Drawn	By: [unclear]	Checked	By: [unclear]		

Freeport-McMoRan Chino Mines Company  
Groundhog Mine IRA Annual Report  
October 20, 2023

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	water level sounder level issue not reading correctly	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-2004-2D	372683	03/22/2023		474	0.0077	<0.006	<0.01	0.222	<0.1	107	0.0877	<0.01	0.0123	0.661	6.51	1,490	2,180	2,222	18	6003.74	147.6	42.2
GH-2004-2D	374425	09/28/2023		412	0.0039	<0.006	<0.01	0.194	<0.1	101	0.0809	<0.01	<0.0075	0.702	6.57	1,430	2,070	1,981	17.8	6003.74	147.6	47.1
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</		

Freeport-McMoRan Chino Mines Company  
Groundhog Mine IRA Annual Report  
October 20, 2023

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-2004-2S	334322	09/18/2013		430	<b>0.133</b>	<0.006	0.015	1.43	<0.06	152	<b>4.03</b>	0.025	<0.0075	<b>31</b>	6.6	<b>2,010</b>	<b>2,980</b>	2.635	18.7	6003.74	83	41.56
GH-2004-2S	335939	03/06/2014		570	<b>0.296</b>	<0.006	<0.01	1.59	<0.06	208	<b>27.3</b>	0.056	<0.0075	<b>59.8</b>	6.58	<b>2,680</b>	<b>3,470</b>	3.095	18.3	6003.74	83	38.95
GH-2004-2S	337694	09/09/2014		556	<b>0.227</b>	<0.006	<0.01	<b>1.73</b>	<0.06	198	<b>13.4</b>	0.043	<0.0075	<b>45.2</b>	6.59	<b>2,340</b>	<b>3,350</b>	2.999	18.8	6003.74	83	42.1
GH-2004-2S	339361	03/12/2015		531	<b>0.169</b>	<0.006	0.0181	<b>1.76</b>	<0.06	196	<b>3.55</b>	0.0349	<0.0075	<b>43.2</b>	6.33	<b>2,400</b>	<b>3,310</b>	2.812	17.1	6003.74	83	37.76
GH-2004-2S	341187	09/02/2015		511	<b>0.197</b>	<0.006	0.0688	<0.5	<0.06	178	<b>2.87</b>	0.038	<0.0075	<b>52.4</b>	6.04	<b>2,350</b>	<b>3,220</b>	2.930	19.7	6003.74	83	40.5
GH-2004-2S	343007	03/03/2016		458	<b>0.291</b>	<0.006	0.0189	<b>1.66</b>	<0.06	167	<b>16.9</b>	0.0563	<0.0075	<b>61.8</b>	6.26	<b>2,370</b>	<b>3,420</b>	2.915	19	6003.74	83	40.36
GH-2004-2S	345112	09/06/2016		509	<b>0.221</b>	<0.006	0.0103	<b>1.86</b>	<0.1	180	<b>7.83</b>	0.0426	<0.0075	<b>61.7</b>	6.31	<b>2,220</b>	<b>3,310</b>	2.722	17.8	6003.74	83	44.61
GH-2004-2S	347289	06/01/2017		535	<b>0.338</b>	<0.006	0.0189	<b>1.85</b>	0.155	195	<b>30.3</b>	0.0646	<0.0075	<b>74.5</b>	6.31	<b>2,400</b>	<b>3,320</b>	3.022	18.6	6003.74	83	39.06
GH-2004-2S	349337	09/12/2017		512	<b>0.33</b>	<0.006	0.0155	0.996	<0.1	201	<b>31.4</b>	0.0594	<0.0075	<b>69.1</b>	6.4	<b>2,220</b>	<b>3,350</b>	3.136	19.3	6003.74	83	39.06
GH-2004-2S	343007	03/03/2016		458	<b>0.291</b>	<0.006	0.0189	<b>1.66</b>	<0.06	167	<b>16.9</b>	0.0563	<0.0075	<b>61.8</b>	6.26	<b>2,370</b>	<b>3,420</b>	3.292	19	6003.74	83	40.36
GH-2004-2S	345112	09/06/2016		509	<b>0.221</b>	<0.006	0.0103	<b>1.86</b>	<0.1	180	<b>7.83</b>	0.0426	<0.0075	<b>61.7</b>	6.31	<b>2,220</b>	<b>3,310</b>	3.156	17.8	6003.74	83	44.61
GH-2004-2S	351228	03/21/2018		499	<b>0.385</b>	<0.006	0.391	1.49	<0.1	168	<b>17.4</b>	0.0803	<0.0075	<b>102</b>	6.09	<b>2,180</b>	<b>3,130</b>	2.879	17.3	6003.74	83	40.91
GH-2004-2S	352967	09/24/2018		510	<b>0.187</b>	<0.006	0.0108	1.11	<0.1	179	<b>43.7</b>	0.0696	0.0121	<b>71.1</b>	6.61	<b>2,150</b>	<b>3,500</b>	3.055	17.6	6003.74	83	39.77
GH-2004-2S	354774	03/15/2019		541	<b>0.0999</b>	<0.006	<0.01	0.815	<0.1	182	<b>38.4</b>	0.0597	<0.0075	<b>59.1</b>	6.47	<b>2,140</b>	<b>3,220</b>	3.460	16.3	6003.74	83	39.91
GH-2004-2S	356620	09/17/2019		509	<b>0.0599</b>	<0.006	<0.01	0.569	<0.1	172	<b>20.9</b>	0.0491	<0.0075	<b>53.8</b>	6.28	<b>2,190</b>	<b>3,220</b>	3.546	18.1	6003.74	83	40.48
GH-2004-2S	358231	03/27/2020		557	<b>0.119</b>	<0.006	0.0104	0.947	<0.1	199	<b>17.3</b>	0.0404	<0.0075	<b>59.5</b>	6.49	<b>2,180</b>	<b>3,160</b>	2.937	16.1	6003.74	83	31.58
GH-2004-2S	359911	09/26/2020		512	<b>0.0472</b>	<0.006	<0.01	1.1	<0.1	178	<b>10.3</b>	0.0441	0.0093	<b>52.6</b>	6.74	<b>2,030</b>	<b>3,060</b>	2.840	17.6	6003.74	83	39.17
GH-2004-2S	361588	03/25/2021		522	<b>0.0117</b>	<0.006	0.0258	1.17	<0.1	154	<b>10</b>	0.0353	<0.0075	<b>44.4</b>	6.35	<b>2,140</b>	<b>3,040</b>	2.455	16.4	6003.74	83	46.45
GH-2004-2S	367152	09/14/2021		526	<b>0.193</b>	<0.006	<0.01	0.651	<0.1	166	<b>1.38</b>	0.0208	<0.0075	<b>35.3</b>	6.25	<b>2,160</b>	<b>2,940</b>	2.822	17	6003.74	83	43.19
GH-2004-2S	368787	03/17/2022		511	<b>0.052</b>	<0.006	<0.01	0.783	<0.1	165	<b>8.04</b>	0.0394	<0.0075	<b>48.2</b>	6.62	<b>2,200</b>	<b>3,040</b>	3.016	17.2	6003.74	83	40.71
GH-2004-2S	370737	09/29/2022		547	<b>0.122</b>	<0.006	<0.01	0.641	<0.1	184	<b>8.29</b>	0.0409	<0.0075	<b>55.1</b>	6.54	<b>2,250</b>	<b>2,990</b>	2.748	16	6003.74	83	49.02
GH-2004-2S	372684	03/22/2023		580	<b>0.142</b>	<0.006	<0.01	0.825	<0.1	184	<b>4.41</b>	0.0285	<0.0075	<b>44</b>	6.41	<b>2,210</b>	<b>3,040</b>	2.865	16.8	6003.74	83	35.44
GH-2004-2S	374426	09/28/2023		522	<b>0.163</b>	<0.006	<0.01	0.758	<0.1	173	<b>2.35</b>	0.0376	<0.0075	<b>47.4</b>	6.09	<b>2,150</b>	<b>3,040</b>	2.566	17.2	6003.74	83	39.41
Lower GH-Sump*	250151	4/14/2005		NA	<b>2.31</b>	<b>1.11</b>	<b>95.1</b>	<b>6.04</b>	0.28	NA	<b>333</b>	<b>0.846</b>	<b>1.24</b>	<b>844</b>	<b>3.92</b>	<b>5530</b>	<b>9220</b>	5550	17.7	surface	surface	surface
Lower GH-Sump*	267561	9/26/2005		NA	<b>0.749</b>	<b>0.307</b>	<b>20.2</b>	<b>1.32</b>	<0.3	NA	<b>95.3</b>	0.178	<b>0.289</b>	<b>224</b>	<b>4.05</b>	<b>2870</b>	<b>4450</b>	3643	23.6	surface	surface	surface
Lower GH-Sump*	283021	8/4/2006		NA	<b>0.35</b>	<b>0.147</b>	<b>9.11</b>	1.08	0.15	NA	<b>44</b>	0.086	<b>0.0815</b>	<b>92</b>	<b>5.27</b>	<b>1530</b>	<b>2390</b>	2298	22.6	surface	surface	surface
Lower GH-Sump*	305948	7/23/2007		NA	<b>0.299</b>	<b>0.15</b>	<b>7.19</b>	1.15	<0.06	NA	<b>52.8</b>	0.097	<b>0.078</b>	<b>76.8</b>	<b>5.64</b>	<b>1600</b>	<b>2600</b>	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	<b>0.0725</b>	<0.006	0.227	0.825	<0.06	NA	<b>6.43</b>	0.019	<0.0075	<b>18</b>	6.93	<b>1890</b>	<b>2400</b>	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-Sump <sup>1</sup>	323315	03/10/2010		279	<b>0.0149</b>	<0.0061	0.04	1.08	<0.061	44.5	<b>0.67</b>	<0.01	<0.0076	1.69	6.88	<b>837</b>	<b>1360</b>	1130	8.8	surface	surface	surface
GH-Sump <sup>1</sup>	324883	09/20/2010	Dry	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Sump <sup>1</sup>	326364	03/02/2011	Dry	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Sump <sup>1</sup>	327875	09/02/2011		126	0.0074	<0.006	0.049	0.87	<0.06	20.6	<b>1.02</b>	<0.01	<0.0075	1.07	6.65	378	626	838	24.5	surface	surface	surface
GH-Sump <sup>1</sup>	329328	03/22/2012	Dry	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Sump <sup>1</sup>	330953	09/06/2012	Dry	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Sump <sup>1</sup>	332601	03/11/2013	Dry	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Sump <sup>1</sup>	334167	08/05/2013		119	0.0046	<0.006	0.027	0.98	<0.06	17.7	0.0281	<0.01	<0.0075	0.737	6.82	379	570	758	24.2	surface	surface	surface
GH-Sump <sup>1</sup>	334324	09/18/2013		155	0.0069	<0.006	0.031	1.06	<0.06	24.6	<b>0.203</b>	<0.01	<0.0075	0.907	6.83	409	699	837	20.6	surface	surface	surface
GH-Sump <sup>1</sup>	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 <sup>1</sup>	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 <sup>1</sup>	339363	03/12/2015		310	<b>0.0274</b>	<0.006	0.407	0.828	<0.06	48.3	0.0865	<0.01	<0.0075	7.91	6.66	<b>912</b>	<b>1,370</b>	1,245	14.4	surface	surface	surface
GH-Sump <sup>1</sup>	341189	09/01/2015		130	0.0082	<0.006	0.126	1.27	0.559	21.5	<b>0.235</b>	<0.01	<b>0.0854</b>	1.51	6.8	419	653	851	24.7	surface	surface	surface
GH-Sump <sup>1</sup>	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 <sup>1</sup>	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 <sup>1</sup>																						

Freeport-McMoRan Chino Mines Company  
Groundhog Mine IRA Annual Report  
October 20, 2023

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-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
GH-Sump	372686	03/22/2023	Not enough water to sample		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Sump	374429	09/28/2023		55	0.0026	<0.006	0.0796	0.866	0.228	8.31	0.197	<0.01	<0.0075	0.796	6.78	197	289	407	20.3	surface	surface	surface
Lower GH-Sump Pond*		3/14/2006		NA	<b>0.701</b>	<b>0.284</b>	<b>20.2</b>	<b>5.34</b>	<0.06	NA	<b>116</b>	0.184	<b>0.16</b>	<b>232</b>	<b>4.88</b>	<b>3160</b>	<b>5100</b>	3293	13.1	surface	surface	surface
Lower GH-Sump Pond*	299169	2/6/2007		NA	<b>0.273</b>	<b>0.117</b>	<b>6.41</b>	<b>2.22</b>	<0.06	NA	<b>45</b>	0.073	<b>0.053</b>	<b>72.6</b>	<b>4.8</b>	<b>1870</b>	<b>2900</b>	2047	10.5	surface	surface	surface
GH-Lower Pond <sup>2</sup>	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 <sup>2</sup>	323314	03/10/2010		261	0.0048	<0.0061	0.016	1.21	<0.061	49.7	<b>0.225</b>	<0.01	<0.0076	0.496	7.49	<b>849</b>	<b>1360</b>	1140	9.5	surface	surface	surface
GH-Lower Pond <sup>2</sup>	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 <sup>2</sup>	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 <sup>2</sup>	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 <sup>2</sup>	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 <sup>2</sup>	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 <sup>2</sup>	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 <sup>2</sup>	GH-Lower Pond	07/22/2013		62.3	0.0059	<0.006	0.061	0.52	<0.06	10.9	<b>1.12</b>	<0.01	<0.0075	1.02	6.75	210	350	442	21.6	surface	surface	surface
GH-Lower Pond <sup>2</sup>	334166	08/05/2013		98.1	0.0061	<0.006	0.039	0.7	<0.06	16	<b>1.71</b>	<0.01	<0.0075	0.447	7.52	330	494	682	26.5	surface	surface	surface
GH-Lower Pond <sup>2</sup>	334323	09/18/2013		123	<b>0.018</b>	0.0061	0.131	0.62	<0.06	24.1	<b>2.84</b>	<0.01	0.0077	3.53	7.09	411	634	745	21.2	surface	surface	surface
GH-Lower Pond <sup>2</sup>	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	<b>1,090</b>	<b>1,650</b>	1,574	16.5	surface	surface	surface
GH-Lower Pond <sup>2</sup>	337695	09/09/2014		127	0.0055	<0.006	0.045	0.95	<0.06	19.5	<b>0.812</b>	<0.01	<0.0075	0.35	7.79	406	607	772	22.7	surface	surface	surface
GH-Lower Pond <sup>2</sup>	339362	03/12/2015		251	<b>0.0377</b>	0.0069	0.0354	1	<0.06	50.9	<b>4.88</b>	<0.01	<0.0075	3.66	7.18	<b>873</b>	<b>1,260</b>	1,157	13.6	surface	surface	surface
GH-Lower Pond <sup>2</sup>	341188	09/01/2015		83.2	0.0047	<0.006	0.0282	0.67	<0.06	13	<b>0.92</b>	<0.01	<0.0075	0.266	8.58	269	406	585	26.3	surface	surface	surface
GH-Lower Pond <sup>2</sup>	343008	03/04/2016		191	0.0043	<0.006	0.0199	0.936	<0.06	32	<b>0.292</b>	<0.01	<0.0075	0.216	8.27	<b>622</b>	956	911	13.1	surface	surface	surface
GH-Lower Pond <sup>2</sup>	345113	09/13/2016		108	0.0028	<0.006	0.0207	0.555	<0.1	16.3	<b>0.467</b>	<0.01	<0.0075	0.067	7.78	310	486	606	19.7	surface	surface	surface
GH-Lower Pond <sup>2</sup>	347290	04/28/2017	Dry	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Lower Pond <sup>2</sup>	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 <sup>2</sup>	351229	03/21/2018		150	0.0056	<0.006	0.012	0.818	<0.1	23.3	<b>1.22</b>	<0.01	<0.0075	0.5	7.54	480	722	793	13.4	surface	surface	surface
GH-Lower Pond <sup>2</sup>	352969	09/24/2018		144	0.0086	<0.006	0.0225	0.685	<0.1	23.3	<b>2.22</b>	<0.01	<0.0075	0.361	7.19	423	695	898	21.2	surface	surface	surface
GH-Lower Pond <sup>2</sup>	354775	03/15/2019		328	<b>0.0429</b>	0.0124	0.115	0.623	<0.1	57.9	<b>5.32</b>	0.0138	0.0103	8.84	6.77	<b>1,040</b>	<b>1,610</b>	1,920	8.1	surface	surface	surface
GH-Lower Pond <sup>2</sup>	356622	09/17/2019		101	<b>0.0149</b>	0.0083	0.0547	0.576	<0.1	14.7	<b>2.62</b>	<0.01	<0.0075	2.67	6.23	322	509	744	22.9	surface	surface	surface
GH-Lower Pond <sup>2</sup>	358232	03/19/2020		225	<b>0.0642</b>	0.024	0.284	0.708	<0.1	47.4	<b>9.41</b>	0.0189	0.0166	<b>16.9</b>	7.74	<b>842</b>	<b>1,240</b>	1,242	14.6	surface	surface	surface
GH-Lower Pond <sup>2</sup>	359913	09/26/2020	Too low to grab sample		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Lower Pond <sup>2</sup>	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		165	<0.002	<0.006	0.0165	0.727	<0.1	21.4	0.0495	<0.01	<0.0075	<0.01	8.51	499	713	1,033	25.3	surface	surface	surface
GH-Lower Pond <sup>2</sup>	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 <sup>2</sup>	370739	09/29/2022		284	0.0238	<0.006	0.032	0.759	<0.1	47	<b>4.35</b>	<0.01	<0.0075	1.87	7.89	<b>973</b>	<b>1,370</b>	1,449	19.8	surface	surface	surface
GH-Lower Pond <sup>2</sup>	372685	03/22/2023	Dry		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	surface	surface	surface
GH-Lower Pond <sup>2</sup>	374428	09/28/2023		111	<b>0.0164</b>	0.0066	0.0317	0.475	<0.1	18	<b>2.76</b>	<0.01	<0.0075	2.35	7.03	369	564	649	20.3	surface	surface	surface

\*Water in sump at this time was from the construction phase of the stockpile removal.

\*\*Well depth on record is incorrect.

NS - Not sampled, sump and/or sump pond are dry.

NS - Not analysed.

<sup>2</sup> "GH-Lower Pond" is the same monitoring site and location as "Lower GH-Sump" (the site was renamed)



**Freeport McMoRan - Chino Mines**

PO Box 10  
Bayard, NM 88023

Work Order: **X3J0048**  
Reported: 13-Oct-23 14:00

**ANALYTICAL REPORT FOR SAMPLES**

COC Number: 9836

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
374425 / GH-2004-2D	X3J0048-01	Water	28-Sep-23 11:04	LS	03-Oct-2023	
374426 / GH-2004-2S	X3J0048-02	Water	28-Sep-23 11:26	LS	03-Oct-2023	
374428 / GH-Lower Pond	X3J0048-03	Water	28-Sep-23 10:36	LS	03-Oct-2023	
374429 / GH-Sump	X3J0048-04	Water	28-Sep-23 10:20	LS	03-Oct-2023	

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: X3J0048

The state of origin only accredits for drinking water analyses.





**Freeport McMoRan - Chino Mines**

PO Box 10  
Bayard, NM 88023

Work Order: **X3J0048**  
Reported: 13-Oct-23 14:00

Client Sample ID: **374425 : GH-2004-2D**

Sampled: 28-Sep-23 11:04

Received: 03-Oct-23

Sampled By: LS

SVL Sample ID: **X3J0048-01 (Water)**

**Sample Report Page 1 of 1**

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Metals (Dissolved)</b>										
EPA 200.7	<b>Cadmium</b>	0.0039	mg/L	0.0020	0.0016		X340249	JRR	10/12/23 11:35	
EPA 200.7	<b>Calcium</b>	412	mg/L	0.100	0.069		X340249	JRR	10/12/23 11:35	
EPA 200.7	Cobalt	< 0.0060	mg/L	0.0060	0.0046		X340249	JRR	10/12/23 11:35	
EPA 200.7	Copper	< 0.0100	mg/L	0.0100	0.0027		X340249	JRR	10/12/23 11:35	
EPA 200.7	Iron	< 0.100	mg/L	0.100	0.056		X340249	JRR	10/12/23 11:35	
EPA 200.7	Lead	< 0.0075	mg/L	0.0075	0.0049		X340249	JRR	10/12/23 11:35	
EPA 200.7	<b>Magnesium</b>	101	mg/L	0.500	0.090		X340249	JRR	10/12/23 13:51	
EPA 200.7	<b>Manganese</b>	0.0809	mg/L	0.0080	0.0034		X340249	JRR	10/12/23 11:35	
EPA 200.7	Nickel	< 0.0100	mg/L	0.0100	0.0048		X340249	JRR	10/12/23 11:35	
EPA 200.7	<b>Zinc</b>	0.702	mg/L	0.0100	0.0054		X340249	JRR	10/12/23 11:35	
<b>Classical Chemistry Parameters</b>										
SM 2540 C	<b>Total Diss. Solids</b>	2070	mg/L	40			X340130	TJL	10/05/23 14:40	D2
<b>Anions by Ion Chromatography</b>										
EPA 300.0	<b>Fluoride</b>	0.194	mg/L	0.100	0.017		X340149	RS	10/05/23 08:35	
EPA 300.0	<b>Sulfate as SO4</b>	1430	mg/L	15.0	9.00	50	X340149	RS	10/05/23 08:54	D2

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

*Kathryn Salter* Kathryn Salter  
Project Manager



**Freeport McMoRan - Chino Mines**

PO Box 10  
Bayard, NM 88023

Work Order: **X3J0048**  
Reported: 13-Oct-23 14:00

Client Sample ID: **374426 : GH-2004-2S**

Sampled: 28-Sep-23 11:26

Received: 03-Oct-23

Sampled By: LS

SVL Sample ID: **X3J0048-02 (Water)**

**Sample Report Page 1 of 1**

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Metals (Dissolved)</b>										
EPA 200.7	Cadmium	0.163	mg/L	0.0020	0.0016		X340249	JRR	10/12/23 11:38	
EPA 200.7	Calcium	522	mg/L	0.100	0.069		X340249	JRR	10/12/23 11:38	
EPA 200.7	Cobalt	< 0.0060	mg/L	0.0060	0.0046		X340249	JRR	10/12/23 11:38	
EPA 200.7	Copper	< 0.0100	mg/L	0.0100	0.0027		X340249	JRR	10/12/23 11:38	
EPA 200.7	Iron	< 0.100	mg/L	0.100	0.056		X340249	JRR	10/12/23 11:38	
EPA 200.7	Lead	< 0.0075	mg/L	0.0075	0.0049		X340249	JRR	10/12/23 11:38	
EPA 200.7	Magnesium	173	mg/L	0.500	0.090		X340249	JRR	10/12/23 13:54	
EPA 200.7	Manganese	2.35	mg/L	0.0080	0.0034		X340249	JRR	10/12/23 11:38	
EPA 200.7	Nickel	0.0376	mg/L	0.0100	0.0048		X340249	JRR	10/12/23 11:38	
EPA 200.7	Zinc	47.4	mg/L	0.0500	0.0270	5	X340249	JRR	10/12/23 13:27	D2
<b>Classical Chemistry Parameters</b>										
SM 2540 C	Total Diss. Solids	3040	mg/L	40			X340130	TJL	10/05/23 14:40	D2
<b>Anions by Ion Chromatography</b>										
EPA 300.0	Fluoride	0.758	mg/L	0.100	0.017		X340149	RS	10/05/23 09:49	
EPA 300.0	Sulfate as SO4	2150	mg/L	15.0	9.00	50	X340149	RS	10/05/23 10:08	D2

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

*Kathryn Salter* Kathryn Salter  
Project Manager



**Freeport McMoRan - Chino Mines**

PO Box 10  
Bayard, NM 88023

Work Order: **X3J0048**  
Reported: 13-Oct-23 14:00

Client Sample ID: **374428 : GH-Lower Pond**

Sampled: 28-Sep-23 10:36

Received: 03-Oct-23

Sampled By: LS

SVL Sample ID: **X3J0048-03 (Water)**

**Sample Report Page 1 of 1**

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Metals (Dissolved)</b>										
EPA 200.7	Cadmium	0.0164	mg/L	0.0020	0.0016		X340249	JRR	10/12/23 11:49	
EPA 200.7	Calcium	111	mg/L	0.100	0.069		X340249	JRR	10/12/23 11:49	
EPA 200.7	Cobalt	0.0066	mg/L	0.0060	0.0046		X340249	JRR	10/12/23 11:49	
EPA 200.7	Copper	0.0317	mg/L	0.0100	0.0027		X340249	JRR	10/12/23 11:49	
EPA 200.7	Iron	< 0.100	mg/L	0.100	0.056		X340249	JRR	10/12/23 11:49	
EPA 200.7	Lead	< 0.0075	mg/L	0.0075	0.0049		X340249	JRR	10/12/23 11:49	
EPA 200.7	Magnesium	18.0	mg/L	0.500	0.090		X340249	JRR	10/12/23 13:58	
EPA 200.7	Manganese	2.76	mg/L	0.0080	0.0034		X340249	JRR	10/12/23 11:49	
EPA 200.7	Nickel	< 0.0100	mg/L	0.0100	0.0048		X340249	JRR	10/12/23 11:49	
EPA 200.7	Zinc	2.35	mg/L	0.0100	0.0054		X340249	JRR	10/12/23 11:49	
<b>Classical Chemistry Parameters</b>										
SM 2540 C	Total Diss. Solids	564	mg/L	10			X340130	TJL	10/05/23 14:40	
<b>Anions by Ion Chromatography</b>										
EPA 300.0	Fluoride	0.475	mg/L	0.100	0.017		X340149	RS	10/05/23 10:45	
EPA 300.0	Sulfate as SO4	369	mg/L	3.00	1.80	10	X340149	RS	10/05/23 11:03	D2

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

*Kathryn Salter* Kathryn Salter  
Project Manager



**Freeport McMoRan - Chino Mines**

PO Box 10  
Bayard, NM 88023

Work Order: **X3J0048**  
Reported: 13-Oct-23 14:00

Client Sample ID: **374429 : GH-Sump**

Sampled: 28-Sep-23 10:20

Received: 03-Oct-23

Sampled By: LS

SVL Sample ID: **X3J0048-04 (Water)**

**Sample Report Page 1 of 1**

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Metals (Dissolved)</b>										
EPA 200.7	<b>Cadmium</b>	0.0026	mg/L	0.0020	0.0016		X340249	JRR	10/12/23 11:53	
EPA 200.7	<b>Calcium</b>	55.0	mg/L	0.100	0.069		X340249	JRR	10/12/23 11:53	
EPA 200.7	<b>Cobalt</b>	< 0.0060	mg/L	0.0060	0.0046		X340249	JRR	10/12/23 11:53	
EPA 200.7	<b>Copper</b>	0.0796	mg/L	0.0100	0.0027		X340249	JRR	10/12/23 11:53	
EPA 200.7	<b>Iron</b>	0.228	mg/L	0.100	0.056		X340249	JRR	10/12/23 11:53	
EPA 200.7	<b>Lead</b>	< 0.0075	mg/L	0.0075	0.0049		X340249	JRR	10/12/23 11:53	
EPA 200.7	<b>Magnesium</b>	8.31	mg/L	0.500	0.090		X340249	JRR	10/12/23 14:08	
EPA 200.7	<b>Manganese</b>	0.197	mg/L	0.0080	0.0034		X340249	JRR	10/12/23 11:53	
EPA 200.7	<b>Nickel</b>	< 0.0100	mg/L	0.0100	0.0048		X340249	JRR	10/12/23 11:53	
EPA 200.7	<b>Zinc</b>	0.796	mg/L	0.0100	0.0054		X340249	JRR	10/12/23 11:53	
<b>Classical Chemistry Parameters</b>										
SM 2540 C	<b>Total Diss. Solids</b>	289	mg/L	10			X340130	TJL	10/05/23 14:40	
<b>Anions by Ion Chromatography</b>										
EPA 300.0	<b>Fluoride</b>	0.866	mg/L	0.100	0.017		X340149	RS	10/05/23 00:35	
EPA 300.0	<b>Sulfate as SO4</b>	197	mg/L	3.00	1.80	10	X340149	RS	10/05/23 00:54	D2,M4

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

*Kathryn Salter* Kathryn Salter  
Project Manager



**Freeport McMoRan - Chino Mines**

PO Box 10  
Bayard, NM 88023

Work Order: **X3J0048**  
Reported: 13-Oct-23 14:00

**Quality Control - BLANK Data**

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
<b>Metals (Dissolved)</b>								
EPA 200.7	Cadmium	mg/L	<0.0020	0.0016	0.0020	X340249	12-Oct-23	
EPA 200.7	Calcium	mg/L	<0.100	0.069	0.100	X340249	12-Oct-23	
EPA 200.7	Cobalt	mg/L	<0.0060	0.0046	0.0060	X340249	12-Oct-23	
EPA 200.7	Copper	mg/L	<0.0100	0.0027	0.0100	X340249	12-Oct-23	
EPA 200.7	Iron	mg/L	<0.100	0.056	0.100	X340249	12-Oct-23	
EPA 200.7	Lead	mg/L	<0.0075	0.0049	0.0075	X340249	12-Oct-23	
EPA 200.7	Magnesium	mg/L	<0.500	0.090	0.500	X340249	12-Oct-23	
EPA 200.7	Manganese	mg/L	<0.0080	0.0034	0.0080	X340249	12-Oct-23	
EPA 200.7	Nickel	mg/L	<0.0100	0.0048	0.0100	X340249	12-Oct-23	
EPA 200.7	Zinc	mg/L	<0.0100	0.0054	0.0100	X340249	12-Oct-23	

**Classical Chemistry Parameters**

SM 2540 C	Total Diss. Solids	mg/L	<10		10	X340130	05-Oct-23	
-----------	--------------------	------	-----	--	----	---------	-----------	--

**Anions by Ion Chromatography**

EPA 300.0	Fluoride	mg/L	<0.100	0.017	0.100	X340149	05-Oct-23	
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.18	0.30	X340149	05-Oct-23	

**Quality Control - LABORATORY CONTROL SAMPLE Data**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
<b>Metals (Dissolved)</b>									
EPA 200.7	Cadmium	mg/L	0.926	1.00	92.6	85 - 115	X340249	12-Oct-23	
EPA 200.7	Calcium	mg/L	17.7	20.0	88.7	85 - 115	X340249	12-Oct-23	
EPA 200.7	Cobalt	mg/L	0.931	1.00	93.1	85 - 115	X340249	12-Oct-23	
EPA 200.7	Copper	mg/L	0.918	1.00	91.8	85 - 115	X340249	12-Oct-23	
EPA 200.7	Iron	mg/L	8.48	10.0	84.8	85 - 115	X340249	12-Oct-23	
EPA 200.7	Lead	mg/L	0.925	1.00	92.5	85 - 115	X340249	12-Oct-23	
EPA 200.7	Magnesium	mg/L	18.5	20.0	92.5	85 - 115	X340249	12-Oct-23	
EPA 200.7	Manganese	mg/L	0.933	1.00	93.3	85 - 115	X340249	12-Oct-23	
EPA 200.7	Nickel	mg/L	0.927	1.00	92.7	85 - 115	X340249	12-Oct-23	
EPA 200.7	Zinc	mg/L	0.987	1.00	98.7	85 - 115	X340249	12-Oct-23	

**Anions by Ion Chromatography**

EPA 300.0	Fluoride	mg/L	2.06	2.00	103	90 - 110	X340149	05-Oct-23	
EPA 300.0	Sulfate as SO4	mg/L	10.3	10.0	103	90 - 110	X340149	05-Oct-23	

**Quality Control - DUPLICATE Data**

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch and Source ID	Analyzed	Notes
<b>Classical Chemistry Parameters</b>									
SM 2540 C	Total Diss. Solids	mg/L	216	215	0.5	10	X340130 - X3J0061-02	05-Oct-23	
SM 2540 C	Total Diss. Solids	mg/L	511	564	9.9	10	X340130 - X3J0048-03	05-Oct-23	



**Freeport McMoRan - Chino Mines**

PO Box 10  
Bayard, NM 88023

Work Order: **X3J0048**  
Reported: 13-Oct-23 14:00

**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
<b>Metals (Dissolved)</b>										
EPA 200.7	Cadmium	mg/L	0.943	<0.0020	1.00	94.3	70 - 130	X340249 - X3J0025-10	12-Oct-23	
EPA 200.7	Cadmium	mg/L	0.955	0.0042	1.00	95.1	70 - 130	X340249 - X3J0072-02	12-Oct-23	
EPA 200.7	Calcium	mg/L	119	98.2	20.0	103	70 - 130	X340249 - X3J0025-10	12-Oct-23	
EPA 200.7	Calcium	mg/L	41.4	22.4	20.0	95.1	70 - 130	X340249 - X3J0072-02	12-Oct-23	
EPA 200.7	Cobalt	mg/L	0.938	<0.0060	1.00	93.8	70 - 130	X340249 - X3J0025-10	12-Oct-23	
EPA 200.7	Cobalt	mg/L	0.953	<0.0060	1.00	95.3	70 - 130	X340249 - X3J0072-02	12-Oct-23	
EPA 200.7	Copper	mg/L	0.981	0.0112	1.00	97.0	70 - 130	X340249 - X3J0025-10	12-Oct-23	
EPA 200.7	Copper	mg/L	0.962	<0.0100	1.00	96.2	70 - 130	X340249 - X3J0072-02	12-Oct-23	
EPA 200.7	Iron	mg/L	8.95	<0.100	10.0	89.5	70 - 130	X340249 - X3J0025-10	12-Oct-23	
EPA 200.7	Iron	mg/L	8.90	<0.100	10.0	89.0	70 - 130	X340249 - X3J0072-02	12-Oct-23	
EPA 200.7	Lead	mg/L	0.937	<0.0075	1.00	93.7	70 - 130	X340249 - X3J0025-10	12-Oct-23	
EPA 200.7	Lead	mg/L	0.946	<0.0075	1.00	94.6	70 - 130	X340249 - X3J0072-02	12-Oct-23	
EPA 200.7	Magnesium	mg/L	52.0	33.2	20.0	94.4	70 - 130	X340249 - X3J0025-10	12-Oct-23	
EPA 200.7	Magnesium	mg/L	26.5	7.22	20.0	96.3	70 - 130	X340249 - X3J0072-02	12-Oct-23	
EPA 200.7	Manganese	mg/L	0.980	0.0108	1.00	96.9	70 - 130	X340249 - X3J0025-10	12-Oct-23	
EPA 200.7	Manganese	mg/L	1.19	0.225	1.00	96.8	70 - 130	X340249 - X3J0072-02	12-Oct-23	
EPA 200.7	Nickel	mg/L	0.933	<0.0100	1.00	93.3	70 - 130	X340249 - X3J0025-10	12-Oct-23	
EPA 200.7	Nickel	mg/L	0.948	<0.0100	1.00	94.8	70 - 130	X340249 - X3J0072-02	12-Oct-23	
EPA 200.7	Zinc	mg/L	1.02	<0.0100	1.00	101	70 - 130	X340249 - X3J0025-10	12-Oct-23	
EPA 200.7	Zinc	mg/L	1.65	0.641	1.00	101	70 - 130	X340249 - X3J0072-02	12-Oct-23	

**Anions by Ion Chromatography**

EPA 300.0	Fluoride	mg/L	2.19	0.101	2.00	104	90 - 110	X340149 - X3J0007-01	04-Oct-23	
EPA 300.0	Fluoride	mg/L	2.90	0.866	2.00	102	90 - 110	X340149 - X3J0048-04	05-Oct-23	
EPA 300.0	Sulfate as SO4	mg/L	10.7	0.30	10.0	104	90 - 110	X340149 - X3J0007-01	04-Oct-23	
EPA 300.0	Sulfate as SO4	mg/L	204	197	10.0	0.30R>S	90 - 110	X340149 - X3J0048-04	05-Oct-23	D2,M4

**Quality Control - MATRIX SPIKE DUPLICATE Data**

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	RPD	RPD Limit	% Recovery	Batch and Source ID	Notes
<b>Metals (Dissolved)</b>										
EPA 200.7	Cadmium	mg/L	0.948	0.943	1.00	0.6	20	94.8	X340249 - X3J0025-10	
EPA 200.7	Calcium	mg/L	119	119	20.0	0.3	20	105	X340249 - X3J0025-10	
EPA 200.7	Cobalt	mg/L	0.943	0.938	1.00	0.5	20	94.3	X340249 - X3J0025-10	
EPA 200.7	Copper	mg/L	0.988	0.981	1.00	0.7	20	97.7	X340249 - X3J0025-10	
EPA 200.7	Iron	mg/L	8.92	8.95	10.0	0.3	20	89.2	X340249 - X3J0025-10	
EPA 200.7	Lead	mg/L	0.943	0.937	1.00	0.6	20	94.3	X340249 - X3J0025-10	
EPA 200.7	Magnesium	mg/L	51.7	52.0	20.0	0.6	20	92.9	X340249 - X3J0025-10	
EPA 200.7	Manganese	mg/L	0.986	0.980	1.00	0.6	20	97.5	X340249 - X3J0025-10	
EPA 200.7	Nickel	mg/L	0.942	0.933	1.00	1.0	20	94.2	X340249 - X3J0025-10	
EPA 200.7	Zinc	mg/L	1.02	1.02	1.00	0.5	20	101	X340249 - X3J0025-10	

**Anions by Ion Chromatography**

EPA 300.0	Fluoride	mg/L	2.17	2.19	2.00	0.5	20	104	X340149 - X3J0007-01	
EPA 300.0	Sulfate as SO4	mg/L	10.6	10.7	10.0	0.5	20	103	X340149 - X3J0007-01	



**Freeport McMoRan - Chino Mines**

PO Box 10  
Bayard, NM 88023

Work Order: **X3J0048**  
Reported: 13-Oct-23 14:00

---

**Notes and Definitions**

D2	Sample required dilution due to high concentration of target analyte.
M4	The analysis of the spiked sample required a dilution such that the spike recovery calculation does not provide useful information. The LCS recovery was acceptable.
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

---