



Freeport-McMoRan Chino Mines Company  
P.O.Box10  
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January 6, 2015

**Certified Mail #70133020000041047437**  
**Return Receipt Requested**

Trais Kliphuis, Acting Director  
New Mexico Environment Department  
Resource Protection Division  
P.O. Box 5469  
Santa Fe, New Mexico 87502

Dear Ms. Kliphuis:

**Re: Hurley Soils Investigation Unit Completion Report Addendum – Chino AOC**

Freeport-McMoRan Chino Mines Company (Chino) submits under separate cover the *Completion Report Addendum for the Hurley Soil Investigation Unit* (HSIU) under the Chino Administrative Order on Consent (AOC). This report documents the remediation of 5 additional residential properties in the town of Hurley, New Mexico during the spring of 2014 and is an addendum to the 2008 *Interim Remedial Action Completion Report* for HSIU. This report was submitted today to Mr. Matt Schultz in electronic form via email.

Please contact Ned Hall at (520) 393-2292 with any questions or comments concerning this completion report.

Sincerely,

A handwritten signature in black ink that reads 'Sherry Burt-Kested'. The signature is written in a cursive style with a large, looped 'S' at the beginning.

Sherry Burt-Kested, Manager  
Environmental Services

SBK:pp  
20150106-002

c Matthew Schultz, NMED (via email)  
Joseph Fox, NMED (via email)  
Petra Sanchez, US EPA (via email)  
Ned Hall, Freeport-McMoRan Inc. (via email)



REPORT

# HURLEY SOILS INVESTIGATION UNIT COMPLETION REPORT ADDENDUM

Analytical Data and Sample Locations for 2014  
Remedial Actions

**Submitted To:** Freeport-McMoRan Chino Mines Company  
99 Santa Rita Mine Road  
Vanadium, New Mexico 88023

**Submitted By:** Golder Associates Inc.  
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**Distribution:** Pam Pinson, Freeport-McMoRan Chino Mines Co. (5 Copies)

January 2015

Project No.1400638







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## 1.0 INTRODUCTION

Golder Associates Inc. (Golder) conducted project oversight of soil removal, confirmation sampling, and on-site X-Ray Fluorescence (XRF) analysis for five residential properties in Hurley, New Mexico under the Hurley Soils Investigation Unit (HSIU) Interim Remedial Action (IRA) Work Plan (Golder 2006, "Work Plan) during the months of May, June, and July 2014 (Golder, 2006). The HSIU, and remedial actions performed therein, are under the Administrative Order on Consent (AOC), a binding agreement dated December 1994, between Freeport-McMoRan Chino Mines Company (Chino) and the New Mexico Environment Department (NMED). Remediation activities presented in this addendum report were conducted as supplemental remediation to the 2006 IRA to address copper concentrations in soils resulting from historical copper processing facilities near Hurley. See location map in Figure 1. This report presents the confirmation sampling locations and results, including sampling results for borrow soils placed in the yards during yard restoration, and is submitted as an addendum to the Completion Report for the HSIU Interim Remedial Action (Golder, 2008).

The NMED issued Pre-Feasibility Study Remedial Action Criterion (RAC) for the HSIU of 5,000 milligrams per kilogram (mg/kg) of copper in soil at private, commercial, and public developed properties to protect human health on July 27, 2005. The final RAC was defined as 5,000 mg/kg copper in the NMED Record of Decision for the HSIU dated September 2009. The RAC was used as the target remediation level for the HSIU. The remedial action selected for HSIU was soil excavation with restoration using clean fill and landscaping materials for properties where soil copper concentrations were higher than the RAC. The HSIU IRA was conducted between March 2006 and August 2007; however, eleven residential properties were not addressed, or only partially addressed, at the time due to non-Chino private property access issues.

The Hurley properties remediated as part of this supplement to the IRA during the summer of 2014 include:

- 301 A Street
- 12 Cortez Avenue
- 507 D Street
- 212 E Street
- 106 Santa Rita Avenue

Remedial activities in each yard consisted of excavating soil in areas containing elevated copper concentrations, hauling excavated soil to a permitted onsite facility location, and restoring each yard. In 2006, Golder revised the remediation decision making criterion for the x-ray fluorescent analyzer (XRF) results from 5,000 mg/kg for copper to 4,500 mg/kg with NMED concurrence. This was based on review of XRF results against laboratory confirmation sample results available at that time, as described in Appendix F of the Completion Report. The review indicated that the XRF was performing within acceptable performance criteria; however, there were several false negative occurrences (i.e., the XRF predicted no remediation was needed when the laboratory split result indicated remediation was needed). The number of occurrences of the false negative error was substantially decreased by lowering the XRF decision criterion to 4,500 mg/kg to represent the RAC of 5,000 mg/kg as shown in Figure F-3 of the Completion Report (Golder 2008).

Approximately 400 cubic yards of excavated soils from the 5 properties were temporarily staged within Chino's Hurley Operations site (Figure 1). The temporary staging of the impacted soils was approved by NMED under Discharge Permit (DP) 214 in a letter dated May 6, 2014 (NMED, 2014). The soils were



removed daily from the staging site and utilized as fill material in the nearby slag pile reclamation project under DP 1340. Excavated soil was anticipated to be transported to Lampbright Stockpile for leaching and copper recovery under DP-376. However, additional fill material was needed for the closure of the slag pile, and the soil was used instead as fill in the slag reclamation area, under DP 1340, consistent with use of impacted soils during previous AOC soil removal remediation projects.

All procedures implemented during the 2014 remedial activities, including field oversight, health and safety procedures, air monitoring, sample collection methods, XRF analyses, laboratory quality assurance methods, and coordination with the NMED were consistent with the Work Plan.

Chino has used its best efforts to gain access for sampling and remediation on non-Chino properties. Following 2014 remediation activities, six properties remain in Hurley that have not been sampled and/or remediated. Chino, as a private corporation, does not have legal authority to require noncompliant property owners to allow access or complete remediation activities.



## 2.0 CONFIRMATION SAMPLING

Each property was initially sampled on a 20-foot grid during implementation of the IRA in 2006 (Round 1 sampling). Round 1 copper results are shown on the “Initial Results” map for each property in Appendix A. For the E Street property, a few of the sample locations were re-sampled in 2014 due to landscaping changes performed by the resident since the original Round 1 sampling. The most recent results for the initial copper concentrations, prior to any excavation activities, are shown on the Initial Results map for the E Street property in Appendix A.

Round 2 sampling occurred after excavation and prior to restoration to confirm that the RAC were achieved. If the Round 2 results indicated that the target goal was not attained, further excavation was conducted, and additional rounds of sampling occurred until the target goal was attained.

The yard samples were dried and sieved at Golder’s field laboratory in Hurley, and XRF analysis was performed for copper and iron concentrations. Iron analysis was performed to assist in the data quality assurance review (Section 2). Quality Assurance/Quality Control (QA/QC) samples were prepared in the field laboratory in Hurley in accordance with the Work Plan. Laboratory confirmation samples were collected at a rate of one split XRF sample per 10 (10 percent) sent to SVL Analytical laboratory (SVL) in Kellogg, Idaho for copper and iron analysis. Dedicated disposable sampling equipment was used for collection of each sample. Table 1 lists results of the XRF analyses for each property, and includes laboratory analytical results for confirmation split samples. Raw XRF data, including calibration blank and soil standard runs, are in Appendix B.

Borrow material was acquired from the Fowler Brother’s quarry located northeast of the town of Hurley (Figure 1). Samples were collected from topsoil and fill soil stockpiles within the quarry utilized for borrow and compared to United States Environmental Protection Agency (EPA) Region 6 Human Health Medium-Specific Screening Levels, as described in Section 2.3.2 of the Work Plan (Chino, 2006). The medium specific levels used in the comparison were the 2006 residential soil levels. Topsoil was used where the resident requested sod or gardening areas. Fill soil, which was coarser, was used as replacement fill after excavation in areas that were then covered with a weed barrier and landscaped with gravel. For each borrow site, three sub-samples were collected and composited for laboratory analysis of metals and organic constituents in accordance with the Work Plan. Inorganic and organic analytical results for the borrow soils are listed in Tables 2 and 3, respectively.

Laboratory data sheets for the analyses performed by SVL Analytical and Anatek Labs, Inc. for laboratory confirmation samples and borrow soils are included as Appendix C.





### 3.0 DATA QUALITY ASSURANCE

A detailed data validation review was conducted by Golder during the 2006/2007 remediation activities and is presented in the HSIU IRA Completion Report (Golder, 2008). The following sections describe the review of data from the use of the XRF instrument in 2014 to demonstrate that the data were sufficiently accurate for screening soil at the 5,000 mg/kg copper criterion.

#### 3.1 QUALITY CONTROL METRICS

The quality control (QC) tests were performed during the course of the 2014 remediation activities with the XRF instrument, and metrics were generally found to be within limits.

Parameters for QC include precision, accuracy, representativeness, comparability and completeness. The QC items for accuracy include a Peak Resolution check using a stainless steel chip to track instrument resolution, and calibration checks from a National Institute of Standards Testing (NIST) standard, and five site specific calibration standards (SSCS), analyzed on a daily basis. Blank data ensures accuracy when the absence of contamination eliminates the possibility to skew results. Blank data were generated with a standard silicon dioxide matrix, or a polymer (plastic) block to determine fugitive contaminants on the instrument window during testing. Duplicate sample analysis provides precision criteria and was performed each day as either a field duplicate sample (FD) using a separate aliquot of the same processed soil, or a replicate sample test performed on the same XRF sample cup. Comparability is ensured when the SSCS are chosen to match the site samples by analyte concentration range, and matrix similarity. The SSCS were chosen from similar location soils and are independently analyzed to determine copper and iron concentrations that fall within the range of site concentrations tested. Completeness is ensured when the sampling program selects the proper number of soil samples at the proper intervals as is presented in the Work Plan.

#### 3.2 QUALITY CONTROL RESPONSES

##### 3.2.1 Resolution Checks

The stainless steel chip was tested at the beginning of each day's operation of the XRF instrument. If the resolution measured for the signature iron peak was maintained, the peak resolution for other elements is ensured and testing could commence. All resolution requirements were met for each day's testing period.

##### 3.2.2 Calibration Checks

The NIST standard was tested at least once each day, or every 20 sample test, and found to be within expected limits. The acceptance criteria for copper recovery are expected to be 80 to 120 percent for a soil matrix. The recoveries recorded ranged from 82.5 to 87.7 percent

##### 3.2.3 SSCS Checks

There were a set of five SSCS samples tested during the course of the investigation that tracked known concentration ranges from 304 mg/kg to 5,787 mg/kg. Recoveries are generally compared to data validation guideline acceptance criteria (80 to 120 percent) for accuracy. The recoveries ranged from 61.4 to 112.9 percent, with two instances of low recovery recorded on July 11 (61.4 percent) and July 23, 2014 (78.9 percent). The 61.4 percent value was recorded for a low level SSCS (#25121: copper 304 mg/kg), and the 78.9 percent value for a moderate level SSCS (#23624: copper 4936 mg/kg). Associated data was determined to be uncompromised since each of the other SSCS tested during these periods were found to be within acceptance criteria (80 to 120 percent) or subsequent tests for the SSCS, were performed on the same date, and recovery was found to be within acceptance limits (SSCS #25121: copper of 98 percent).



### 3.2.4 Laboratory Confirmation Sample Analysis

Selected samples were prepared in the field for analysis at an off-site certified laboratory for comparison of results to those results from the XRF instrument. Copper results were compared using relative percent difference calculation (RPD) to assess the precision and accuracy of the XRF values. Industry standard comparison cites that RPD less than 35 percent is acceptable for replicate sample analysis using the same source soil. However, dissimilar analytical methods may exhibit an inherent difference in concentration response. Overall, the data are within the percent difference tolerance and are defensible data. The copper RPD results ranged from 0.6 to 25.7 percent, indicating acceptable agreement between analytical methods.

Figure 2 and Table 1 show the XRF results compared to the laboratory analytical results for all laboratory confirmation samples. As shown on Figure 2, the XRF results indicated true negative or true positive results in all but one case (R2-16712). For sample R2-016712, the XRF indicated a copper concentration of 4,453 mg/kg (below the target decision criteria of 4,500 mg/kg), but the laboratory confirmation sample had a concentration of 5,250 mg/kg, which exceeds the RAC. However, the RPD of 16 percent for the two results indicates operation of the XRF was within an operational tolerance.

The XRF data false negative value is within the tolerance range for percent difference. During the more expansive 2006-2007 IRA, a few instances of false negative results occurred, but were within acceptable RPD (Golder, 2008). At that time, Golder decided, with concurrence from NMED, that the XRF decision criterion for the Hurley IRA was 4,500 mg/kg for copper. This allowed for a substantially decrease in the frequency of false negative errors. As shown in Figure 2, the XRF data is reliably used for screening to the RAC. Although there will be the occasional false negative, the XRF data are within the percent difference tolerance and are defensible data.

### 3.3 DATA QUALITY ASSURANCE SUMMARY

This review confirms that the XRF instrument exhibits normal operating parameters, and no conditions existed that indicate data were compromised beyond those qualifiers presented in the HSIU IRA Completion Report (Golder, 2008). One false negative result was indicated by laboratory confirmation sampling, but all data were within the acceptable range of RPD.



## 4.0 RESULTS

Five properties in Hurley were remediated during the months of May, June, and July 2014. At each property, soil exceeding the target copper concentrations of 4,500 mg/kg, as determined by XRF analysis during the 2006 IRA (access was limited to sampling only), were excavated and removed to a permitted on site facility location. Final copper concentrations for each property are shown in the “Final Results” maps included for each property in Table 1 and Appendix A. XRF analyses for all samples met the decision criteria of 4,500 mg/kg copper concentrations.

One exception is sample location 9295 at the 106 Santa Rita Avenue property where the property owner in 2006 allowed limited remediation to only two 20 foot square locations. See Final Results figure for 106 Santa Rita in Appendix A. Following 12 inches of soil excavation, Round 2 sampling still exceeded the target concentration but met the maximum required removal depth, and was remediated by placing at least 12 inches of clean fill placed over the site as per the Work Plan (Golder 2006).

Laboratory confirmation sample results listed in Table 1 and shown on Figure 2 confirmed that the RAC had been achieved as indicated by XRF analyses, with the exception of one sample at the 301 A Street property. This sample had an XRF measured copper concentration of 4453 mg/kg, and a laboratory analytical result of 5250 mg/kg. See the Final Results figure for 301 A Street Appendix A. As discussed in Section 3.2.4, the XRF analysis on this sample returned a false negative reading, but had an RPD within acceptable range, as occurs occasionally, even though the data is accurate within industry standards. Additionally, remediation and landscaping of the property was completed prior to laboratory data availability and the data validation process.

Restoration of each yard included grading for drainage and the residents’ choice of either sod or zeroscape gravel. Coarser fill soil was used in areas where zeroscape was selected, and topsoil was used in areas where the resident selected sod or wished to have an area for gardening. More decorative details were also included in the yard restoration at residents’ request to complete the new landscaping.

Borrow soils used as fill during yard restoration in 2014 were also sampled, and analyzed for inorganic and organic constituents in accordance with the Work Plan. In Table 2 and Table 3, results are listed and screened against EPA Region 6 Human Health Medium-Specific Screening Levels and HSIU maximum reference soils concentrations. Per Section 2.3.1 of the Hurley IRA Work Plan, due to the mineralized nature of soil in the Hurley vicinity, arsenic, and manganese concentrations are compared to maximum reference concentrations from the Hurley Remedial Investigation. The reference concentration for iron was taken from the Background Report (Chino, 1995). There were no exceedances for this borrow material. Tables 2 and 3 are structured similar to Tables 5-1 and 5-2 presented in the Completion Report (Golder 2008).



## 5.0 REFERENCES

Chino 1995. AOC Investigation Area Background Report Chino Mine Investigation Area, prepared for Chino Mines Company, October 5, 1995.

Golder 2006. *Work Plan for the Hurley Interim Remedial Action at the Hurley Soils Investigation Unit.* Submitted to Chino Mines Company. April 7, 2006.

Golder 2008. *Completion Report for the Hurley Interim Remedial Action at the Hurley Soils Investigation Unit.* Submitted to Chino Mines Company. April 18, 2008.

NMED 2014. *Approval of Temporary Permission to Discharge, DP-214, Storage of Hurley IU Soil Remediation Material – Chino AOC, Chino Mines Company.* May 6, 2014.



## TABLES



**TABLE 1**  
**Summary of X-Ray Fluorescence Analyzer and Confirmation Sample Data**

Property Address	Date	Sample ID	XRF Analyzer Results				Laboratory Confirmation Samples	
			Cu (mg/kg)	Cu +/-	Fe (mg/kg)	Fe +/-	Cu (mg/kg)	Fe (mg/kg)
301 A St.	9-May-14	R2 16701	5750	73	25640	268	n/a	n/a
	12-May-14	R3 16701	298	15	21261	223	267	22900
	9-May-14	R2 16703	3145	49	24755	258	n/a	n/a
	9-May-14	R2 16704	4902	66	23931	256	n/a	n/a
	9-May-14	R3 16704	1368	31	21031	232	n/a	n/a
	9-May-14	R2 16705	6110	80	27021	295	n/a	n/a
	9-May-14	R3 16705	381	17	23202	245	n/a	n/a
	9-May-14	R2 16706	3502	52	21347	230	n/a	n/a
	9-May-14	R2 16707	1133	28	22592	242	n/a	n/a
	9-May-14	R2 16708	2090	38	19403	211	n/a	n/a
	9-May-14	R2 16710	2289	42	20147	228	n/a	n/a
	9-May-14	R2 16711	7713	93	23400	261	n/a	n/a
	9-May-14	R3 16711	9703	106	26214	275	n/a	n/a
	12-May-14	R4 16711	1842	36	19126	214	n/a	n/a
	9-May-14	R2 16712	4453	63	19599	225	5250	23400
	9-May-14	R2 16714	2041	37	16683	188	n/a	n/a
	9-May-14	R2 16715	2293	42	22116	245	n/a	n/a
	9-May-14	R2 16716	1774	38	27755	303	n/a	n/a
	9-May-14	R2 16717	4631	64	21476	237	n/a	n/a
	12-May-14	R3 16717	193	13	13310	162	n/a	n/a
12-May-14	R2 16719	3294	50	18238	206	n/a	n/a	
12-May-14	R2 16720	2182	39	20002	220	n/a	n/a	
12-May-14	R2 16721	1742	36	21336	238	n/a	n/a	
12 Cortez	11-Jun-14	R2 7392	8403	96	35261	348	n/a	n/a
	11-Jun-14	R3 7392	597	20	19742	212	n/a	n/a
	11-Jun-14	R2 7393	694	21	26082	258	n/a	n/a
	12-Jun-14	R2 7395	821	22	18169	194	n/a	n/a
	11-Jun-14	R2 7396	2854	46	22962	241	n/a	n/a
	11-Jun-14	R2 7397	13774	144	41792	413	n/a	n/a
	12-Jun-14	R3 7397	2999	48	28899	292	n/a	n/a
	11-Jun-14	R2 7399	14180	144	32744	331	n/a	n/a
	11-Jun-14	R3 7399	1405	30	23093	238	1250	16700
	11-Jun-14	R2 7400	1362	29	21395	221	n/a	n/a
	2-Jun-14	R2 7401	8306	94	25454	266	7010	25400
	2-Jun-14	R3 7401	822	22	23160	230	n/a	n/a
	2-Jun-14	R3 7401 DUP	859	23	22653	228	867	31400
	13-Jun-14	R2 7402	983	25	19600	212	n/a	n/a
	17-Jun-14	R2 7403	4377	58	26509	262	n/a	n/a
	17-Jun-14	R2 7404	4647	64	29010	299	n/a	n/a
	19-Jun-14	R3 7404	6664	79	32968	320	n/a	n/a
	19-Jun-14	R4 7404	940	24	18413	194	n/a	n/a
	19-Jun-14	R2 7405	1687	34	24120	253	n/a	n/a
	19-Jun-14	R2 7406	1680	32	23730	238	n/a	n/a
	19-Jun-14	R2 7407	4639	63	23134	247	3970	19200
	19-Jun-14	R3 7407	3640	53	25199	261	n/a	n/a
	19-Jun-14	R2 7408	5660	71	29527	296	n/a	n/a
	19-Jun-14	R3 7408	2365	41	21841	235	n/a	n/a
	19-Jun-14	R2 7409	4779	63	22359	237	n/a	n/a
	19-Jun-14	R3 7409	3515	52	22987	242	n/a	n/a
	19-Jun-14	R2 7410	6432	78	24881	259	n/a	n/a
	19-Jun-14	R3 7410	3609	53	24287	253	n/a	n/a
	19-Jun-14	R2 7412	7448	85	25904	265	5750	21000
	20-Jun-14	R3 7412	345	15	16667	184	360	15200
17-Jun-14	R2 7413	3096	48	32739	317	n/a	n/a	
20-Jun-14	R2 7414	2423	43	17949	210	n/a	n/a	



**TABLE 1**  
**Summary of X-Ray Fluorescence Analyzer and Confirmation Sample Data**

Property Address	Date	Sample ID	XRF Analyzer Results				Laboratory Confirmation Samples	
			Cu	Cu +/-	Fe	Fe +/-	Cu	Fe
507 D St.	15-May-14	R2 22568	1911	38	37423	372	n/a	n/a
	15-May-14	R2 22574	4124	59	36304	354	n/a	n/a
	15-May-14	R2 22575	4876	66	31315	318	n/a	n/a
	16-May-14	R3 22575	2202	40	27538	280	n/a	n/a
	13-May-14	R2 22579	2997	47	31890	311	n/a	n/a
	15-May-14	R2 22581	943	26	35587	355	n/a	n/a
	14-May-14	R2-22570	7469	85	29249	288	n/a	n/a
	15-May-14	R3 22570	4525	61	26548	271	n/a	n/a
	15-May-14	R4 22570	622	22	39201	387	540	48000
	14-May-14	R2-22572	2606	43	32131	310	2590	30900
	14-May-14	R2-22578	4390	60	33118	326	n/a	n/a
	14-May-14	R2-22580	1194	29	30435	313	n/a	n/a
	15-May-14	R3 22580	1060	27	31184	314	n/a	n/a
	14-May-14	R2-22583	5644	74	37486	372	n/a	n/a
	15-May-14	R3 22583	2244	41	33363	335	n/a	n/a
14-May-14	R2-22585	1511	33	32979	327	n/a	n/a	
14-May-14	R2-22590	3649	56	27051	287	n/a	n/a	
212 E. St.	28-May-14	R3 23608	3890	54	19467	209	n/a	n/a
	28-May-14	R3 23614	3743	57	25876	278	n/a	n/a
	28-May-14	R3 23619	4734	64	20711	228	n/a	n/a
	28-May-14	R4 23619	2639	43	19602	213	n/a	n/a
	28-May-14	R3 23621	6906	90	27503	309	n/a	n/a
	29-May-14	R4-23621	1647	35	29596	305	n/a	n/a
	28-May-14	R3 23624	5123	71	28953	313	n/a	n/a
	28-May-14	R4 23624	1354	30	21749	228	n/a	n/a
	28-May-14	R3 23625	5079	67	23731	254	5610	29400
	28-May-14	R4 23625	4582	63	25218	266	n/a	n/a
28-May-14	R5 23625	2298	41	24602	258	n/a	n/a	
106 Santa Rita	27-Jun-14	R2 9275	1649	33	27317	273	n/a	n/a
	26-Jun-14	R2 9276	1319	29	22147	230	n/a	n/a
	26-Jun-14	R2 9277	804	22	20307	208	n/a	n/a
	26-Jun-14	R2 9280	524	18	18261	195	n/a	n/a
	27-Jun-14	R2 9282	1492	31	25886	263	n/a	n/a
	27-Jun-14	R2 9283	5438	70	26391	273	n/a	n/a
	27-Jun-14	R3 9283	3024	48	24577	259	2550	19700
	26-Jun-14	R2 9284	1649	33	26456	268	n/a	n/a
	26-Jun-14	R2 9287	807	23	28627	283	652	22100
	23-Jul-14	R2 9288	1500	31	18879	204	n/a	n/a
	23-Jul-14	R2 9289	1754	35	27765	279	n/a	n/a
	26-Jun-14	R2 9290	2200	41	27946	291	n/a	n/a
	26-Jun-14	R2 9291	1376	29	18102	195	n/a	n/a
	26-Jun-14	R2 9293	5344	71	24359	264	n/a	n/a
	26-Jun-14	R3 9293	3826	54	25372	259	n/a	n/a
26-Jun-14	R2 9294	2462	42	19171	213	n/a	n/a	

Notes:

5123 = XRF Copper sample result exceeds 4500 ppm action level  
 n/a = not analyzed

**TABLE 2**  
**Borrow Site Soil**  
**Inorganic Constituents Results Comparison**

Parameter	Units	Sample Collection Date	EPA Region 6 RCRA Residential Soil Limit* (mg/kg)	Hurley Maximum Reference Soil Concentration	Topsoil - Fowlers	Fill Soil - Fowlers	RCRA Limit exceeded?	Reference Concentration exceeded?
% Solids	%	4/14/2014	NA		99.4	96.2	NA	NA
Aluminum	mg/kg	4/14/2014	76,188		11,200	14,200	NO	NA
Antimony	mg/kg	4/14/2014	31		<2	<2	NO	NA
Arsenic	mg/kg	4/14/2014	0.39	3.1	2.9	<2.5	NA	NO
Barium	mg/kg	4/14/2014	15,642		189	217	NO	NA
Beryllium	mg/kg	4/14/2014	154		1.04	1.01	NO	NA
Cadmium	mg/kg	4/14/2014	39		0.2	<0.2	NO	NA
Calcium	mg/kg	4/14/2014	NA		16,500	47,800	NA	NA
Chromium	mg/kg	4/14/2014	210		14	16	NO	NA
Cobalt	mg/kg	4/14/2014	903		10.8	7.46	NO	NA
Copper	mg/kg	4/14/2014	2,905		36.4	246	NO	NA
Iron	mg/kg	4/14/2014	54,750	47,300	22,800	18,000	NO	NO
Lead	mg/kg	4/14/2014	400		22.8	24.2	NO	NA
Magnesium	mg/kg	4/14/2014	NA		5,890	3,910	NA	NA
Manganese	mg/kg	4/14/2014	3,239	686	572	562	NO	NO
Mercury	mg/kg	4/14/2014	23		0.083	<0.033	NO	NA
Nickel	mg/kg	4/14/2014	1,564		11.4	16.8	NO	NA
Potassium	mg/kg	4/14/2014	NA		2,720	2,870	NA	NA
Selenium	mg/kg	4/14/2014	391		<4	<4	NO	NA
Silver	mg/kg	4/14/2014	391		<0.5	<0.5	NO	NA
Sodium	mg/kg	4/14/2014	NA		254	146	NA	NA
Thallium	mg/kg	4/14/2014	5.5		<1.5	<1.5	NO	NA
Vanadium	mg/kg	4/14/2014	391		45.9	31.4	NO	NA
Zinc	mg/kg	4/14/2014	23,464		73.5	77.1	NO	NA

\* = Environmental Protection Agency (EPA) Region 6 Human Health Medium-Specific Screening Levels (2006)

RCRA: Resource Conservation and Recovery Act

NA: Not applicable

Note: Per Section 2.3.1 of the Hurley IRA Work Plan, due to the mineralized nature of soil in the Hurley vicinity, arsenic, and manganese concentrations are compared to maximum reference concentrations from the Hurley Remedial Investigation. The reference concentration for iron was taken from the Background Report (Chino, 1995).

TABLE 3  
Borrow Site Soil  
Organic Constituents Results Comparison

Parameter	Units	Sample Collection Date	EPA Region 6 RCRA Residential Soil Limit* (mg/kg)	Topsoil - Fowlers	Fill Soil - Fowlers	RCRA Limit exceeded?
1,1,1,2-tetrachloroethane	mg/kg	4/14/2014	3.0E+00	ND	ND	NO
1,1,1-trichloroethane	mg/kg	4/14/2014	1.4E+03	ND	ND	NO
1,1,2-tetrachloroethane	mg/kg	4/14/2014	3.8E-01	ND	ND	NO
1,1,2-trichloroethane	mg/kg	4/14/2014	8.4E-01	ND	ND	NO
1,1-dichloroethane	mg/kg	4/14/2014	8.5E+02	ND	ND	NO
1,1-dichloroethene	mg/kg	4/14/2014	2.8E+02	ND	ND	NO
1,1-Dichloropropylene	mg/kg	4/14/2014		ND	ND	NA
1,2,3-Trichlorobenzene	mg/kg	4/14/2014		ND	ND	NA
1,2,3-trichloropropane	mg/kg	4/14/2014	1.4E-03	ND	ND	NO
1,2,4-Trichlorobenzene	mg/kg	4/14/2014	1.4E+02	ND	ND	NO
1,2,4-Trichlorobenzene	mg/kg	4/14/2014	1.4E+02	ND	ND	NO
1,2,4-Trimethylbenzene	mg/kg	4/14/2014	5.2E+01	ND	ND	NO
1,2-dibromo-3chloropropane	mg/kg	4/14/2014	2.6E-03	ND	ND	NO
1,2-dibromoethane	mg/kg	4/14/2014	2.8E-02	ND	ND	NO
1,2-dichlorobenzene	mg/kg	4/14/2014	2.8E+02	ND	ND	NO
1,2-Dichlorobenzene	mg/kg	4/14/2014	2.8E+02	ND	ND	NO
1,2-dichloroethane	mg/kg	4/14/2014	3.5E-01	ND	ND	NO
1,2-dichloropropane	mg/kg	4/14/2014	3.5E-01	ND	ND	NO
1,2-Diphenylhydrazine	mg/kg	4/14/2014	6.1E-01	ND	ND	NO
1,3,5-Trimethylbenzene	mg/kg	4/14/2014	2.1E+01	ND	ND	NO
1,3-dichlorobenzene	mg/kg	4/14/2014	6.9E+01	ND	ND	NO
1,3-Dichlorobenzene	mg/kg	4/14/2014	6.9E+01	ND	ND	NO
1,3-dichloropropane	mg/kg	4/14/2014		ND	ND	NA
1,4-dichlorobenzene	mg/kg	4/14/2014	3.2E+00	ND	ND	NO
1,4-Dichlorobenzene	mg/kg	4/14/2014	3.2E+00	ND	ND	NO
2,2-dichloropropane	mg/kg	4/14/2014		ND	ND	NA
2,4,5-Trichlorophenol	mg/kg	4/14/2014	6.1E+03	ND	ND	NO
2,4,6-Trichlorophenol	mg/kg	4/14/2014	4.4E+01	ND	ND	NO
2,4-Dichlorophenol	mg/kg	4/14/2014	1.8E+02	ND	ND	NO
2,4-Dimethylphenol	mg/kg	4/14/2014	1.2E+03	ND	ND	NO
2,4-Dinitrophenol	mg/kg	4/14/2014	1.2E+02	ND	ND	NO
2,4-Dinitrotoluene	mg/kg	4/14/2014	1.2E+02	ND	ND	NO
2,6-Dichlorophenol	mg/kg	4/14/2014		ND	ND	NA
2,6-Dinitrotoluene	mg/kg	4/14/2014	6.1E+01	ND	ND	NO
2-Chloronaphthalene	mg/kg	4/14/2014		ND	ND	NA
2-Chlorophenol	mg/kg	4/14/2014	6.4E+01	ND	ND	NO
2-Chlorotoluene	mg/kg	4/14/2014		ND	ND	NA
2-Hexanone	mg/kg	4/14/2014		ND	ND	NA
2-Methylnaphthalene	mg/kg	4/14/2014		ND	ND	NA
2-Methylphenol	mg/kg	4/14/2014	3.1E+03	ND	ND	NO
2-Nitroaniline	mg/kg	4/14/2014	1.8E+02	ND	ND	NO
2-Nitrophenol	mg/kg	4/14/2014		ND	ND	NA
2-Nitropropane	mg/kg	4/14/2014		ND	ND	NA
3,3-Dichlorobenzidine	mg/kg	4/14/2014	1.1E+00	ND	ND	NO
3-Nitroaniline	mg/kg	4/14/2014		ND	ND	NA
4,4-DDD	mg/kg	4/14/2014	2.4E+00	ND	ND	NO
4,4-DDE	mg/kg	4/14/2014	1.7E+00	0.0167	ND	NO
4,4-DDT	mg/kg	4/14/2014	1.7E+00	0.0160	ND	NO
4,6-Dinitro-2-methylphenol	mg/kg	4/14/2014		ND	ND	NA
4-Bromophenyl phenyl ether	mg/kg	4/14/2014		ND	ND	NA
4-Chloro-3-methylphenol	mg/kg	4/14/2014		ND	ND	NA
4-Chloroaniline	mg/kg	4/14/2014	2.4E+02	ND	ND	NO
4-Chlorophenyl phenyl ether	mg/kg	4/14/2014		ND	ND	NA
4-Chlorotoluene	mg/kg	4/14/2014		ND	ND	NA
4-Methylphenol	mg/kg	4/14/2014	3.1E+02	ND	ND	NO
4-Nitroaniline	mg/kg	4/14/2014		ND	ND	NA
4-Nitrophenol	mg/kg	4/14/2014		ND	ND	NA
Acenaphthene	mg/kg	4/14/2014	3.7E+03	ND	ND	NO
Acenaphthylene	mg/kg	4/14/2014		ND	ND	NA

TABLE 3  
Borrow Site Soil  
Organic Constituents Results Comparison

Parameter	Units	Sample Collection Date	EPA Region 6 RCRA Residential Soil Limit* (mg/kg)	Topsoil - Fowlers	Fill Soil - Fowlers	RCRA Limit exceeded?
Acetone	mg/kg	4/14/2014	1.4E+04	ND	ND	NO
acrylonitrile	mg/kg	4/14/2014	2.1E-01	ND	ND	NO
Aldrin	mg/kg	4/14/2014	2.9E-02	ND	ND	NO
alpha-BHC	mg/kg	4/14/2014		ND	ND	NA
Aniline	mg/kg	4/14/2014	8.5E+01	ND	ND	NO
Anthracene	mg/kg	4/14/2014	2.2E+04	ND	ND	NO
Arochlor 1016	mg/kg	4/14/2014	3.9E+00	ND	ND	NO
Arochlor 1221	mg/kg	4/14/2014	2.2E-01	ND	ND	NO
Arochlor 1232	mg/kg	4/14/2014	2.2E-01	ND	ND	NO
Arochlor 1242	mg/kg	4/14/2014	2.2E-01	ND	ND	NO
Arochlor 1248	mg/kg	4/14/2014	2.2E-01	ND	ND	NO
Arochlor 1254	mg/kg	4/14/2014	2.2E-01	ND	ND	NO
Arochlor 1260	mg/kg	4/14/2014	2.2E-01	ND	ND	NO
benzene	mg/kg	4/14/2014	6.6E-01	ND	ND	NO
Benzidine	mg/kg	4/14/2014	5.0E-04	ND	ND	NO
Benzo(a)anthracene	mg/kg	4/14/2014		ND	ND	NA
Benzo(a)pyrene	mg/kg	4/14/2014	1.5E-02	ND	ND	NO
Benzo(b)fluoranthene	mg/kg	4/14/2014	1.5E-01	ND	ND	NO
Benzo(ghi)perylene	mg/kg	4/14/2014		ND	ND	NA
Benzo(k)fluoranthene	mg/kg	4/14/2014	1.5E+00	ND	ND	NO
Benzyl alcohol	mg/kg	4/14/2014	1.8E+04	ND	ND	NO
beta-BHC	mg/kg	4/14/2014		ND	ND	NA
Bis(2-chlorethoxy)methane	mg/kg	4/14/2014		ND	ND	NA
Bis(2-chloroethyl)ether	mg/kg	4/14/2014	2.1E-01	ND	ND	NO
Bis(2-chloroisopropyl)ether	mg/kg	4/14/2014	2.9E+00	ND	ND	NO
Bis(2-ethylhexyl)phthalate	mg/kg	4/14/2014	3.5E+01	ND	ND	NO
bromobenzene	mg/kg	4/14/2014	7.3E+01	ND	ND	NO
bromochloromethane	mg/kg	4/14/2014		ND	ND	NA
bromodichloromethane	mg/kg	4/14/2014	1.0E+00	ND	ND	NO
bromoform	mg/kg	4/14/2014	6.2E+01	ND	ND	NO
bromomethane	mg/kg	4/14/2014	3.9E+00	ND	ND	NO
Butylbenzylphthalate	mg/kg	4/14/2014	2.4E+02	ND	ND	NO
carbon disulfide	mg/kg	4/14/2014	7.2E+02	ND	ND	NO
carbon tetrachloride	mg/kg	4/14/2014	2.4E-01	ND	ND	NO
Carbazole	mg/kg	4/14/2014		ND	ND	NA
Chlordane	mg/kg	4/14/2014	1.6E+00	ND	ND	NO
chlorobenzene	mg/kg	4/14/2014	2.7E+02	ND	ND	NO
chloroethane	mg/kg	4/14/2014		ND	ND	NA
chloroform	mg/kg	4/14/2014	2.5E-01	ND	ND	NO
chloromethane	mg/kg	4/14/2014	1.3E+00	ND	ND	NO
Chrysene	mg/kg	4/14/2014	1.5E+01	ND	ND	NO
cis-1,2-dichloroethene	mg/kg	4/14/2014		ND	ND	NA
cis-1,3-dichloropropene	mg/kg	4/14/2014		ND	ND	NA
Cresol (total)	mg/kg	4/14/2014		ND	ND	NA
delta-BHC	mg/kg	4/14/2014		ND	ND	NA
Dibenz(ah)anthracene	mg/kg	4/14/2014	1.5E-02	ND	ND	NO
Dibenzofuran	mg/kg	4/14/2014	1.5E+02	ND	ND	NO
dibromochloromethane	mg/kg	4/14/2014	1.0E+00	ND	ND	NO
dibromomethane	mg/kg	4/14/2014		ND	ND	NA
dichlorodifluoromethane	mg/kg	4/14/2014	9.4E+01	ND	ND	NO
Dichloromethane	mg/kg	4/14/2014		ND	ND	NA
Dieldrin	mg/kg	4/14/2014	3.0E-02	ND	ND	NO
Diethyl phthalate	mg/kg	4/14/2014	4.9E+04	ND	ND	NO
Dimethyl phthalate	mg/kg	4/14/2014	1.0E+05	ND	ND	NO
Di-n-butyl phthalate	mg/kg	4/14/2014		ND	ND	NA
Di-n-octyl phthalate	mg/kg	4/14/2014		ND	ND	NA
EDB	mg/kg	4/14/2014		ND	ND	NA
Endosulfan I	mg/kg	4/14/2014	3.7E+02	ND	ND	NO
Endosulfan II	mg/kg	4/14/2014		ND	ND	NA

TABLE 3  
Borrow Site Soil  
Organic Constituents Results Comparison

Parameter	Units	Sample Collection Date	EPA Region 6 RCRA Residential Soil Limit* (mg/kg)	Topsoil - Fowlers	Fill Soil - Fowlers	RCRA Limit exceeded?
Endosulfan Sulfate	mg/kg	4/14/2014		ND	ND	NA
Endrin	mg/kg	4/14/2014	1.8E+01	ND	ND	NO
Endrin Aldehyde	mg/kg	4/14/2014		ND	ND	NA
Endrin Ketone	mg/kg	4/14/2014		ND	ND	NA
ethylbenzene	mg/kg	4/14/2014	2.3E+02	ND	ND	NO
Fluoranthene	mg/kg	4/14/2014	2.3E+03	ND	ND	NO
Fluorene	mg/kg	4/14/2014	2.6E+03	ND	ND	NO
Fluorotrichloromethane	mg/kg	4/14/2014		ND	ND	NA
gamma-BHC (Lindane)	mg/kg	4/14/2014		ND	ND	NA
Gasoline	mg/kg	4/14/2014		ND	ND	NA
Heptachlor	mg/kg	4/14/2014	1.1E-01	ND	ND	NO
Heptachlor Epoxide	mg/kg	4/14/2014	5.3E-02	ND	ND	NO
Hexachlorobenzene	mg/kg	4/14/2014	3.0E-01	ND	ND	NO
hexachlorobutadiene	mg/kg	4/14/2014	6.2E+00	ND	ND	NO
Hexachlorobutadiene	mg/kg	4/14/2014	6.2E+00	ND	ND	NA
Hexachlorocyclopentadiene	mg/kg	4/14/2014	3.7E+02	ND	ND	NO
Hexachloroethane	mg/kg	4/14/2014	3.5E+01	ND	ND	NO
Indeno(123,cd)pyrene	mg/kg	4/14/2014	1.5E-01	ND	ND	NO
Isophorone	mg/kg	4/14/2014	5.1E+02	ND	ND	NO
Isopropylbenzene	mg/kg	4/14/2014		ND	ND	NA
m+p-xylene	mg/kg	4/14/2014		ND	ND	NA
Methoxychlor	mg/kg	4/14/2014	3.1E+02	ND	ND	NO
Methyl ethyl ketone	mg/kg	4/14/2014	32089.6	ND	0.207	NO
Methyl isobutyl ketone	mg/kg	4/14/2014	5.8E+03	ND	ND	NO
MTBE	mg/kg	4/14/2014	3.2E+01	ND	ND	NO
naphthalene	mg/kg	4/14/2014	1.2E+02	ND	ND	NO
Naphthalene	mg/kg	4/14/2014		ND	ND	NA
n-Butylbenzene	mg/kg	4/14/2014	1.4E+02	ND	ND	NO
Nitrobenzene	mg/kg	4/14/2014	2.0E+01	ND	ND	NO
N-nitrosodibutylamine	mg/kg	4/14/2014	2.4E-02	ND	ND	NO
N-nitrosodimethylamine	mg/kg	4/14/2014	2.3E-03	ND	ND	NA
N-nitrosodiphenylamine	mg/kg	4/14/2014	9.9E+01	ND	ND	NO
N-nitrosodipropylamine	mg/kg	4/14/2014		ND	ND	NA
n-Propylbenzene	mg/kg	4/14/2014	1.4E+02	ND	ND	NO
o-xylene	mg/kg	4/14/2014	2.8E+02	ND	ND	NO
Pentachlorophenol	mg/kg	4/14/2014	3.0E+00	ND	ND	NO
Phenanthrene	mg/kg	4/14/2014		ND	ND	NA
Phenol	mg/kg	4/14/2014	1.8E+04	ND	ND	NO
p-Isopropyltoluene	mg/kg	4/14/2014		ND	ND	NA
Pyrene	mg/kg	4/14/2014	2.3E+03	ND	ND	NO
Pyridine	mg/kg	4/14/2014	6.1E+01	ND	ND	NO
sec-Butylbenzene	mg/kg	4/14/2014	1.1E+02	ND	ND	NO
styrene	mg/kg	4/14/2014	1.7E+03	ND	ND	NO
tert-Butylbenzene	mg/kg	4/14/2014	1.3E+02	ND	ND	NO
tetrachloroethene	mg/kg	4/14/2014	5.5E-01	ND	ND	NO
toluene	mg/kg	4/14/2014	5.2E+02	ND	ND	NO
Toxaphene	mg/kg	4/14/2014	4.4E-01	ND	ND	NO
trans-1,2-dichloroethene	mg/kg	4/14/2014		ND	ND	NA
trans-1,3-dichloropropene	mg/kg	4/14/2014		ND	ND	NA
trans-1,4-dichloro-2-butene	mg/kg	4/14/2014		ND	ND	NA
trichloroethene	mg/kg	4/14/2014	4.3E-02	ND	ND	NO
vinyl chloride	mg/kg	4/14/2014	4.3E-02	ND	ND	NO
Waste Oil by GC	mg/kg	4/14/2014		ND	ND	NA
WTPH-D	mg/kg	4/14/2014		ND	ND	NA

\* = Environmental Protection Agency (EPA) Region 6 Human Health Medium-Specific Screening Levels (2006)

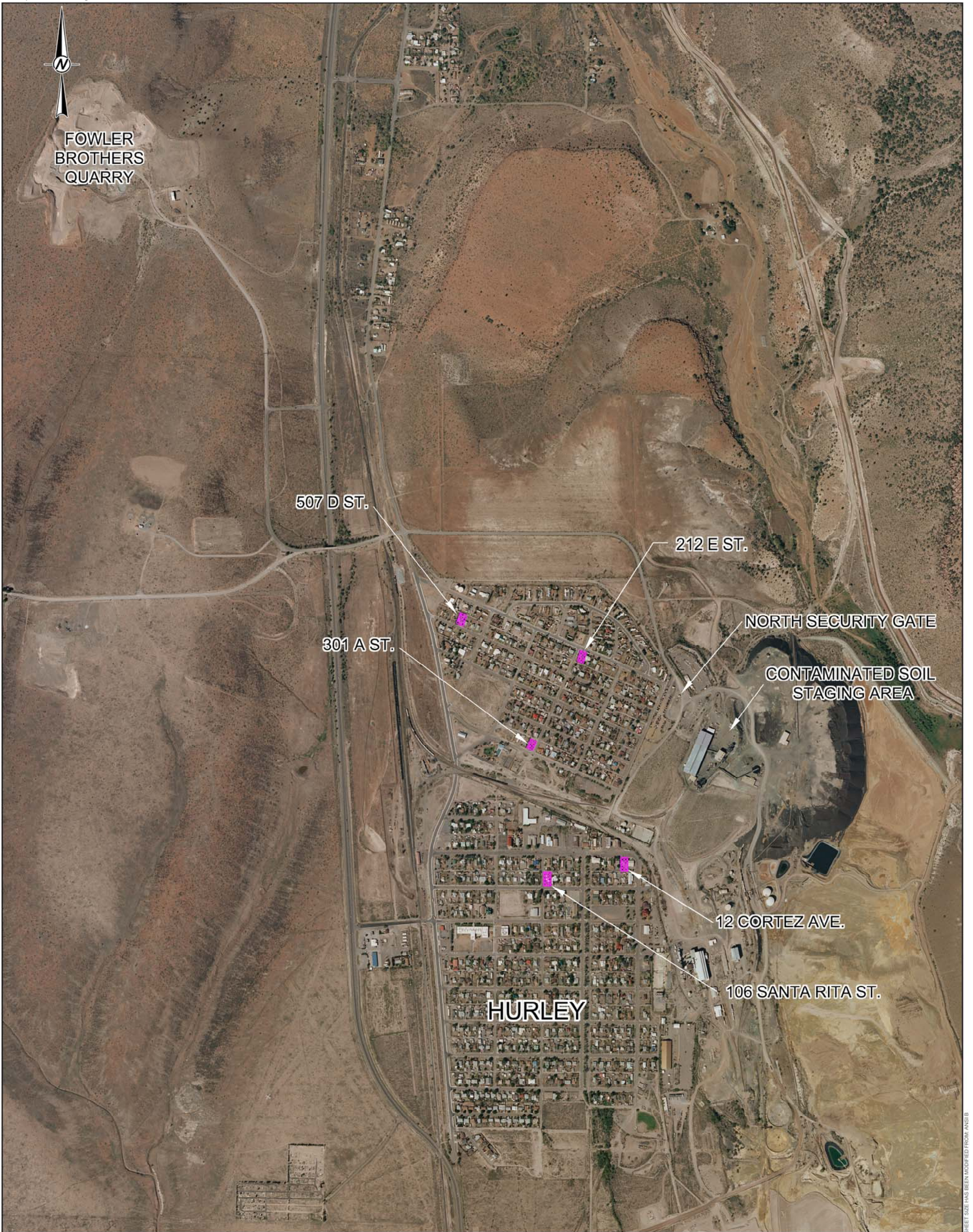
RCRA: Resource Conservation and Recovery Act

NA: Not applicable

ND: Not detected

## FIGURES





LEGEND

 TARGETED YARDS FOR REMEDIATION

CLIENT  
 FREEPORT - McMoran CHINO MINES COMPANY  
 VANADIUM, NEW MEXICO

PROJECT  
 HURLEY SOILS INVESTIGATION UNIT

TITLE  
 2014 HURLEY SOILS REMEDIAL ACTION ACTIVITIES  
 LOCATION MAP

CONSULTANT	YYYY-MM-DD	2014-10-16
	PREPARED	CM
	DESIGN	JP
	REVIEW	JP
	APPROVED	DC



PROJECT No.  
 140-0638

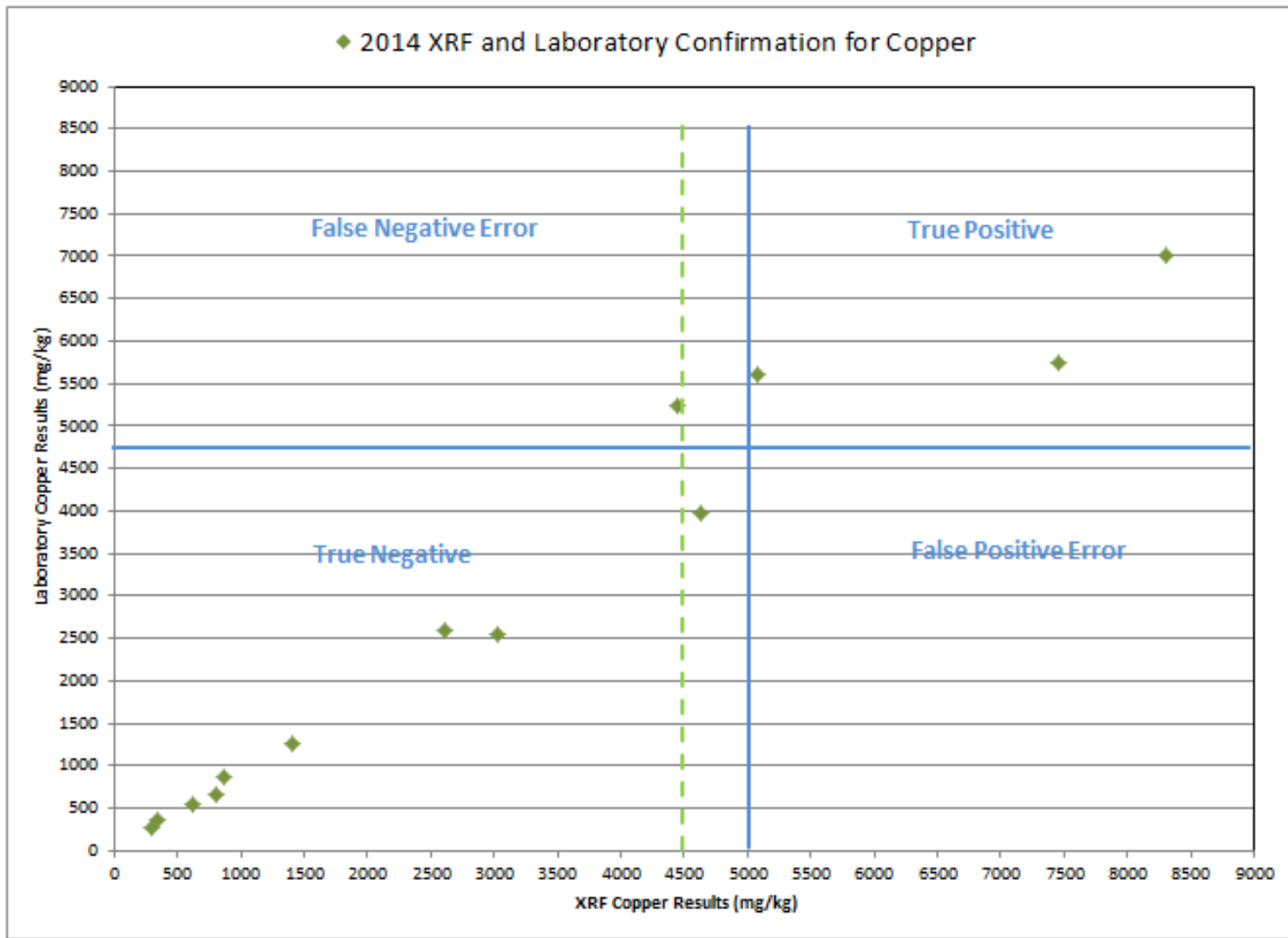
PHASE  
 #####

Rev.  
 0

FIGURE  
 1







PROJECT

CHINO MINES COMPANY  
HURLEY YARD REMEDIATION  
GRANT COUNTY, NEW MEXICO



PORTLAND, OREGON

PROJECT No. 130-1428

DESIGN JP 10/8/14

CADD N/A

CHECK AC

REVIEW DC

FIGURE 2

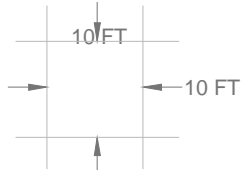
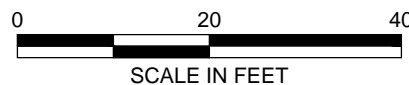
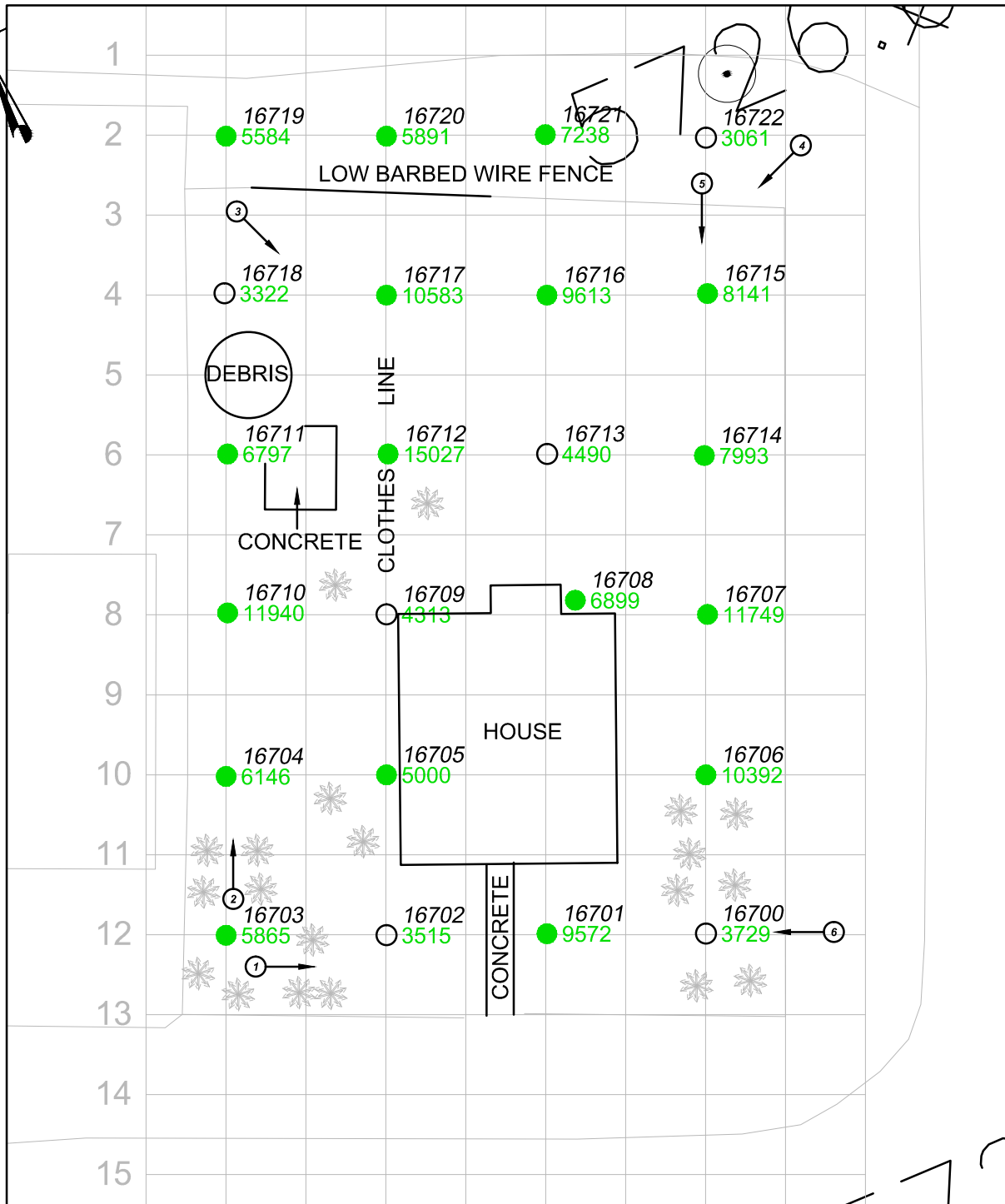
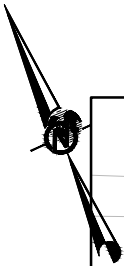
TITLE

**Comparison of XRF Analyzer  
and Laboratory Confirmation  
Results for Copper**



## **APPENDIX A**





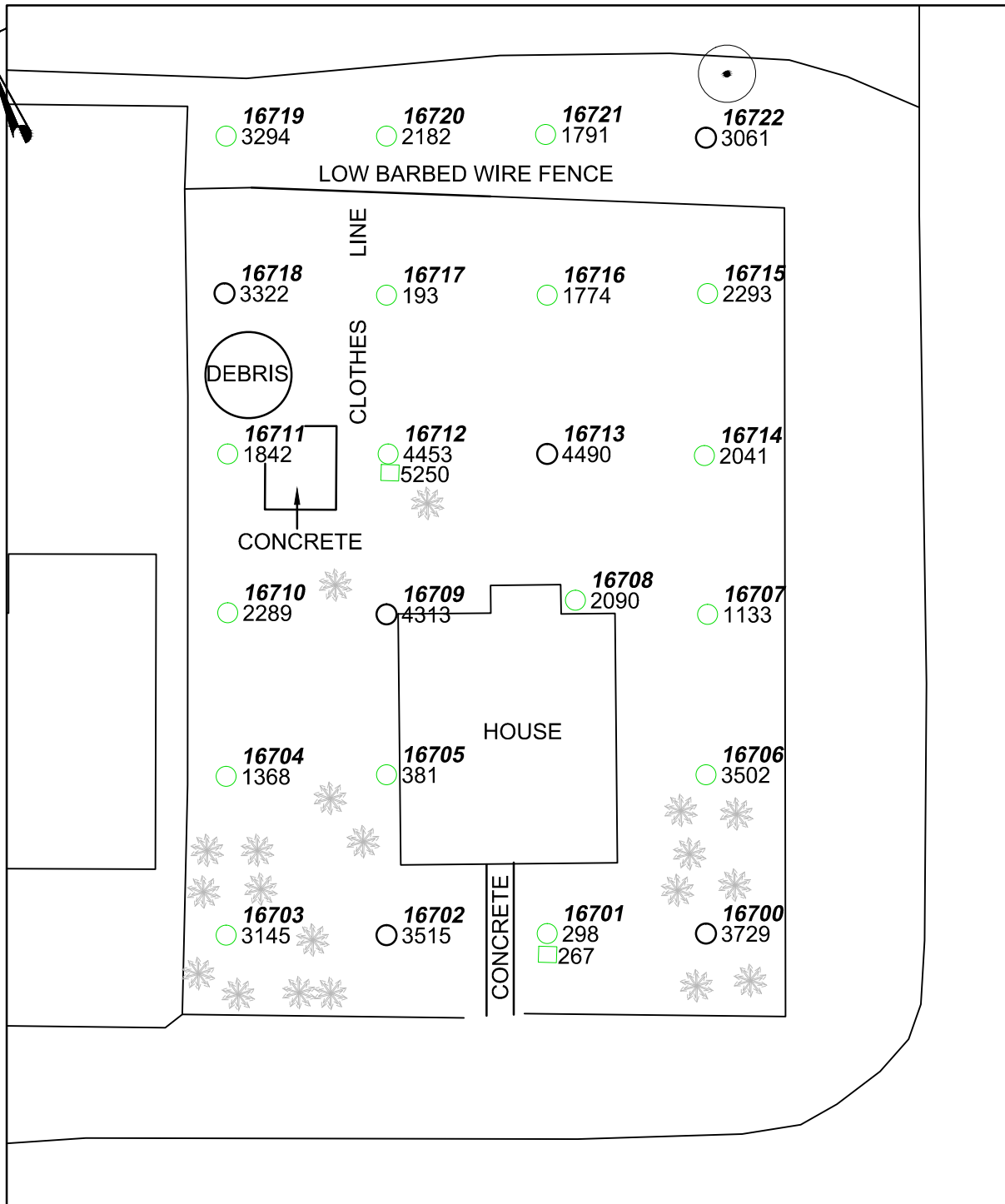
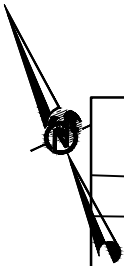
**LEGEND**

<b>REQUIRES CLEANUP</b>	<b>DOES NOT REQUIRE CLEANUP</b>
● Sample Location Number	○ Sample Location Number
● XRF Copper Results	○ XRF Copper Results
	□ Laboratory Copper Results
⑦ → Photo Number and Direction	✻ Tree/Bush

• Cleanup Level = 5,000 ppm copper, per New Mexico Environment Department

Note: XRF (X-RAY Fluorescence Analyzer) results greater than 4,500 ppm require cleanup due to 500 ppm margin of error for this instrument. ppm= parts per million

**301 A STREET**  
**ROUND 1**  
 HURLEY REMEDIAL ACTION  
**Golder Associates**



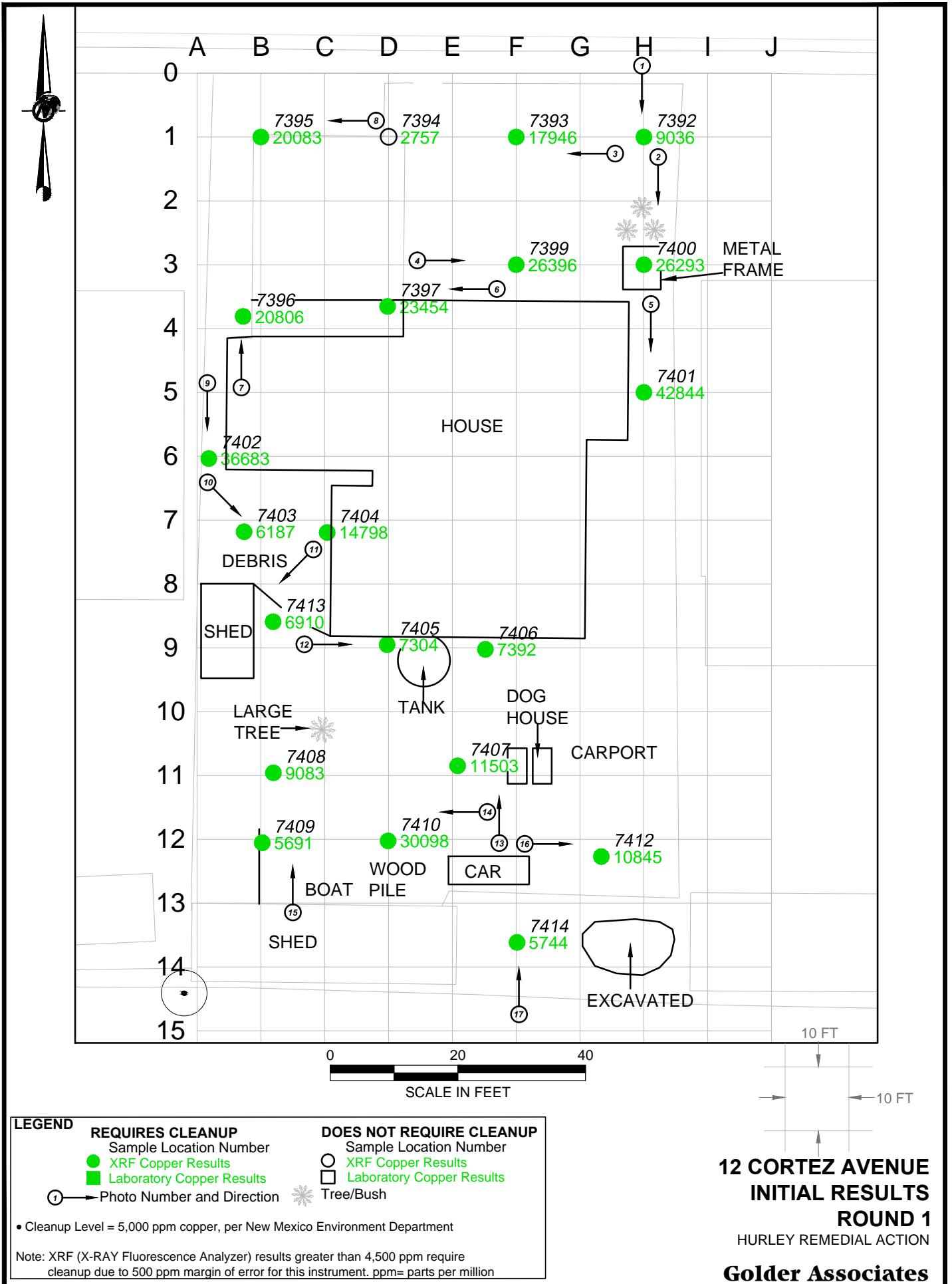
**LEGEND**

<b>SOIL REMOVAL COMPLETE</b>	<b>NO REMOVAL REQUIRED</b>
○ Sample Location Number	○ Sample Location Number
○ Post Removal XRF Cu Results	○ Original XRF Cu Results
□ Laboratory Cu Results	
	* Tree/Bush

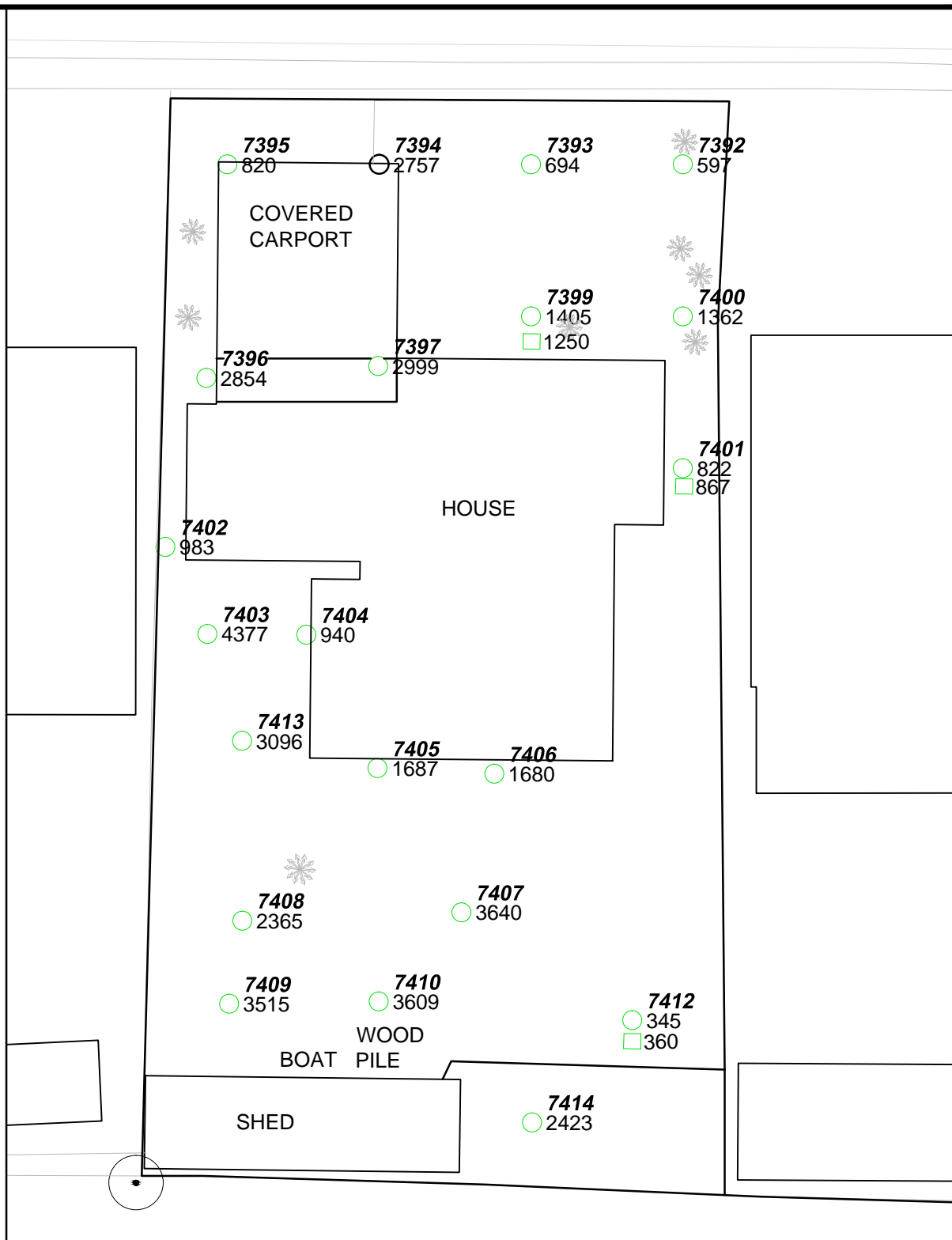
• Cleanup Level = 5,000 ppm copper, per New Mexico Environment Department

Note: XRF (X-RAY Fluorescence Analyzer) results greater than 4,500 ppm require cleanup due to 500 ppm margin of error for this instrument. ppm= parts per million

**301 A STREET**  
**FINAL RESULTS**  
 HURLEY REMEDIAL ACTION  
**Golder Associates**







LEGEND	
<b>SOIL REMOVAL COMPLETE</b>	<b>NO REMOVAL REQUIRED</b>
○ Sample Location Number	○ Sample Location Number
○ Post Removal XRF CU Results	○ Original XRF CU Results
□ Laboratory CU Results	

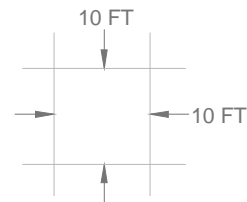
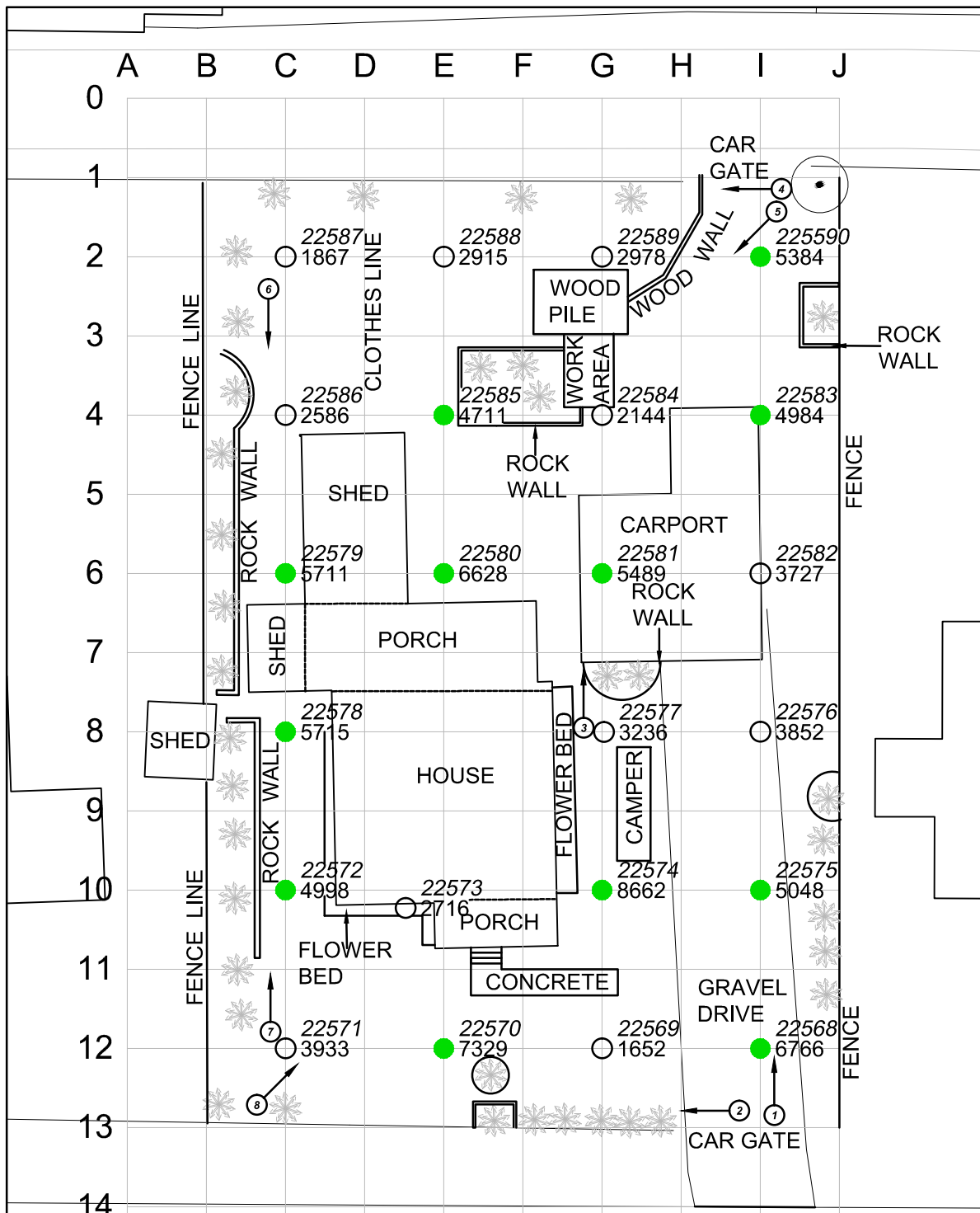
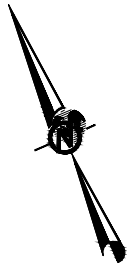


• Cleanup Level = 5,000 ppm copper, per New Mexico Environment Department

Note: XRF (X-RAY Fluorescence Analyzer) results greater than 4,500 ppm require cleanup due to 500 ppm margin of error for this instrument. ppm= parts per million

**12 CORTEZ AVENUE**  
**FINAL RESULTS**  
HURLEY REMEDIAL ACTION

**Golder Associates**



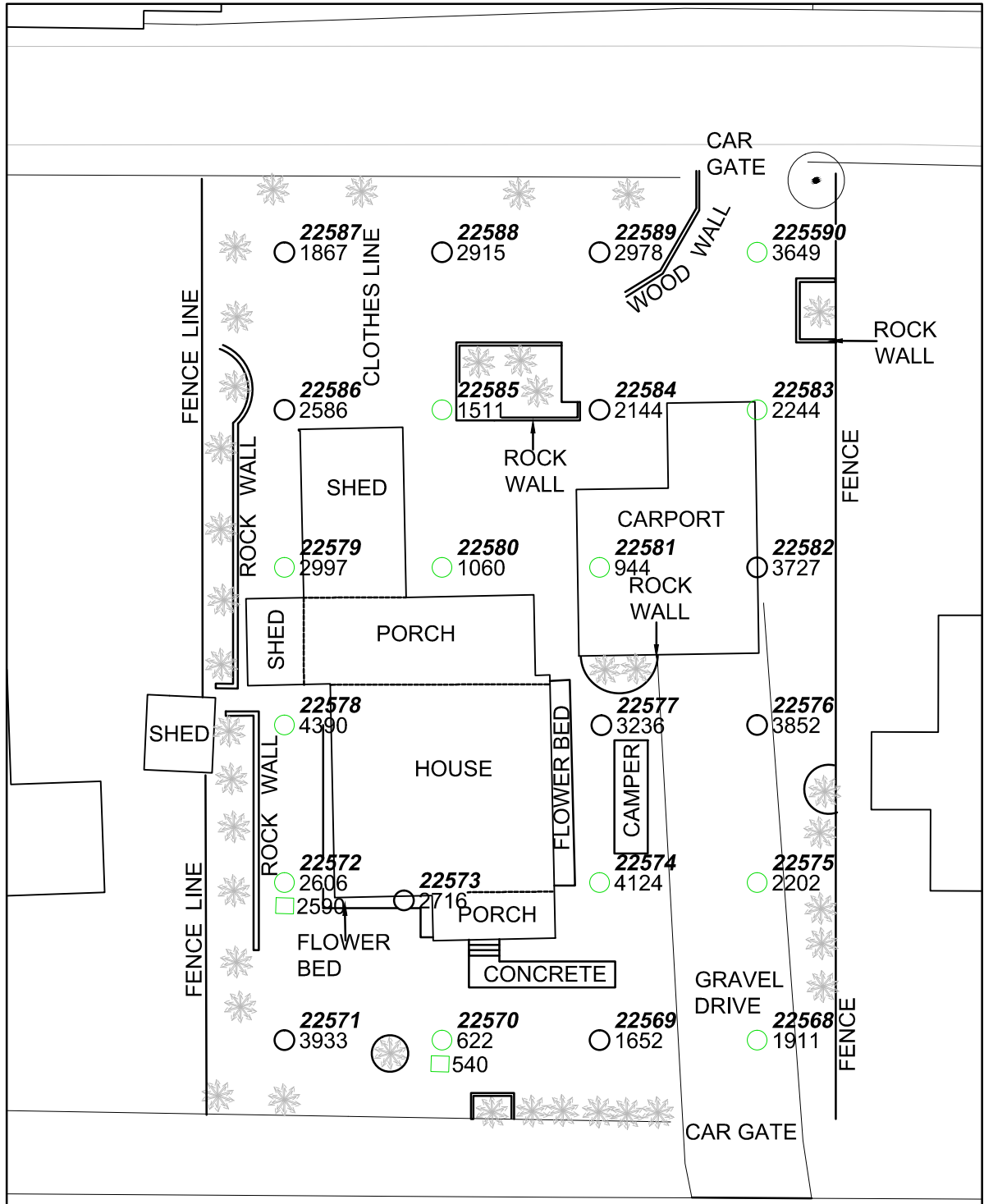
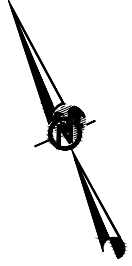
**LEGEND**

<b>REQUIRES CLEANUP</b>	<b>DOES NOT REQUIRE CLEANUP</b>
● Sample Location Number	○ Sample Location Number
● XRF Copper Results	○ XRF Copper Results
	□ Laboratory Copper Results
⊙ → Photo Number and Direction	✱ Tree/Bush

• Cleanup Level = 5,000 ppm copper, per New Mexico Environment Department

Note: XRF (X-RAY Fluorescence Analyzer) results greater than 4,500 ppm require cleanup due to 500 ppm margin of error for this instrument. ppm= parts per million

**507 D STREET  
INITIAL RESULTS  
ROUND 1**  
HURLEY REMEDIAL ACTION  
**Golder Associates**



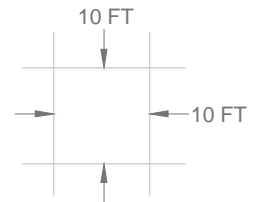
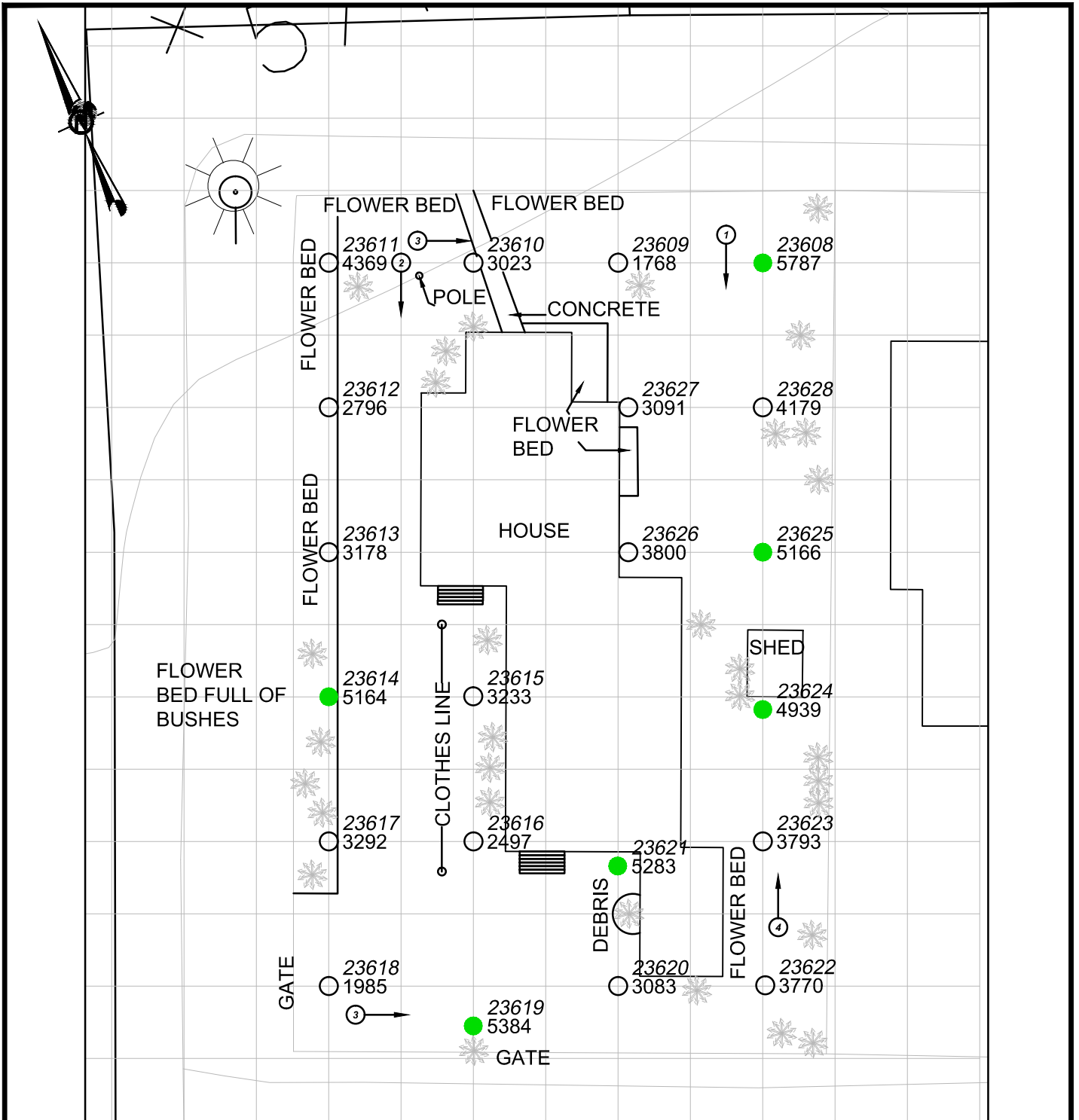
**LEGEND**

<b>SOIL REMOVAL COMPLETE</b>	<b>NO REMOVAL REQUIRED</b>
○ Sample Location Number	○ Sample Location Number
○ Post Removal XRF Cu Results	○ Original XRF Cu Results
□ Laboratory Cu Results	
	* Tree/Bush

• Cleanup Level = 5,000 ppm copper, per New Mexico Environment Department

Note: XRF (X-RAY Fluorescence Analyzer) results greater than 4,500 ppm require cleanup due to 500 ppm margin of error for this instrument. ppm= parts per million

**507 D STREET**  
**FINAL RESULTS**  
 HURLEY REMEDIAL ACTION  
**Golder Associates**



**LEGEND**

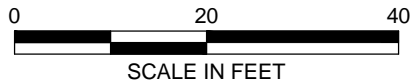
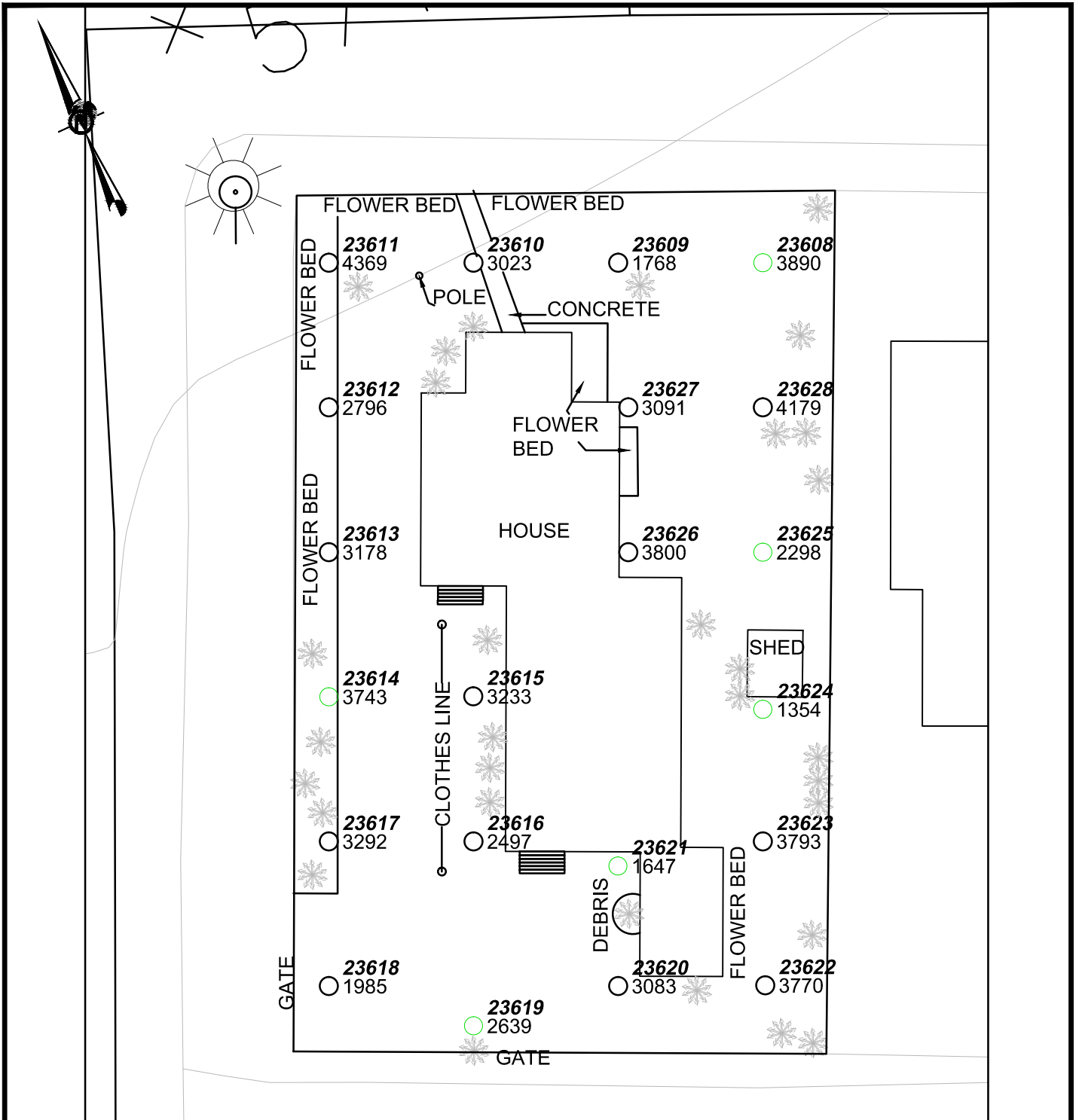
<b>REQUIRES CLEANUP</b>	<b>DOES NOT REQUIRE CLEANUP</b>
Sample Location Number	Sample Location Number
● XRF Copper Results	○ XRF Copper Results
	□ Laboratory Copper Results
① → Photo Number and Direction	✪ Tree/Bush

• Cleanup Level = 5,000 ppm copper, per New Mexico Environment Department

Note: XRF (X-RAY Fluorescence Analyzer) results greater than 4,500 ppm require cleanup due to 500 ppm margin of error for this instrument. ppm= parts per million

**212 E STREET  
INITIAL 2014  
ROUND 1  
HURLEY REMEDIAL ACTION**

**Golder Associates**



**LEGEND**

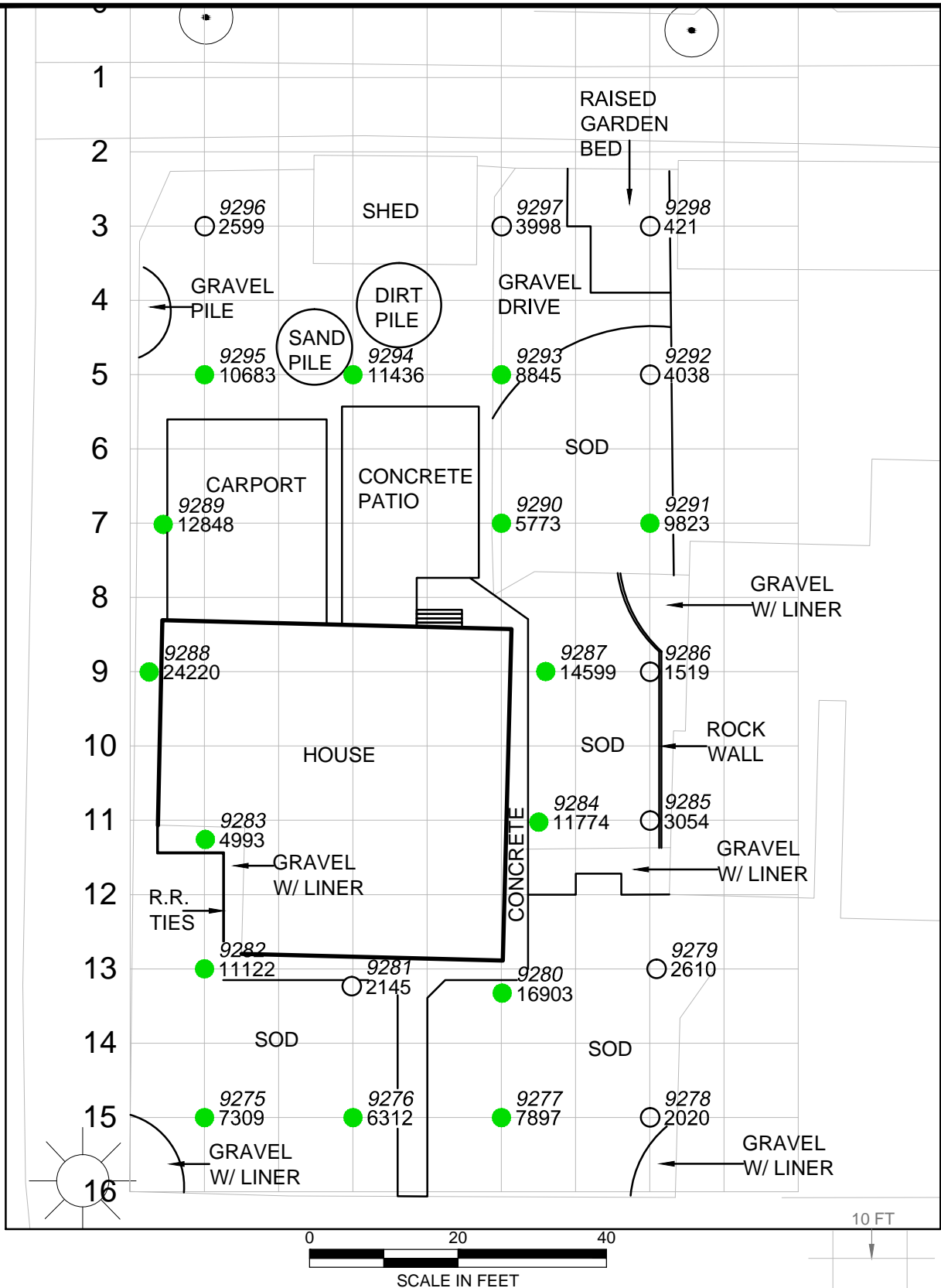
<b>SOIL REMOVAL COMPLETE</b>	<b>NO REMOVAL REQUIRED</b>
Sample Location Number	Sample Location Number
○ Post removal XRF Cu Results	○ Original XRF Cu Results

\* Tree/Bush

- Cleanup Level = 5,000 ppm copper, per New Mexico Environment Department

Note: XRF (X-RAY Fluorescence Analyzer) results greater than 4,500 ppm require cleanup due to 500 ppm margin of error for this instrument. ppm= parts per million

**212 E STREET**  
**FINAL RESULTS**  
HURLEY REMEDIAL ACTION  
**Golder Associates**



**LEGEND**

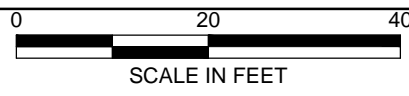
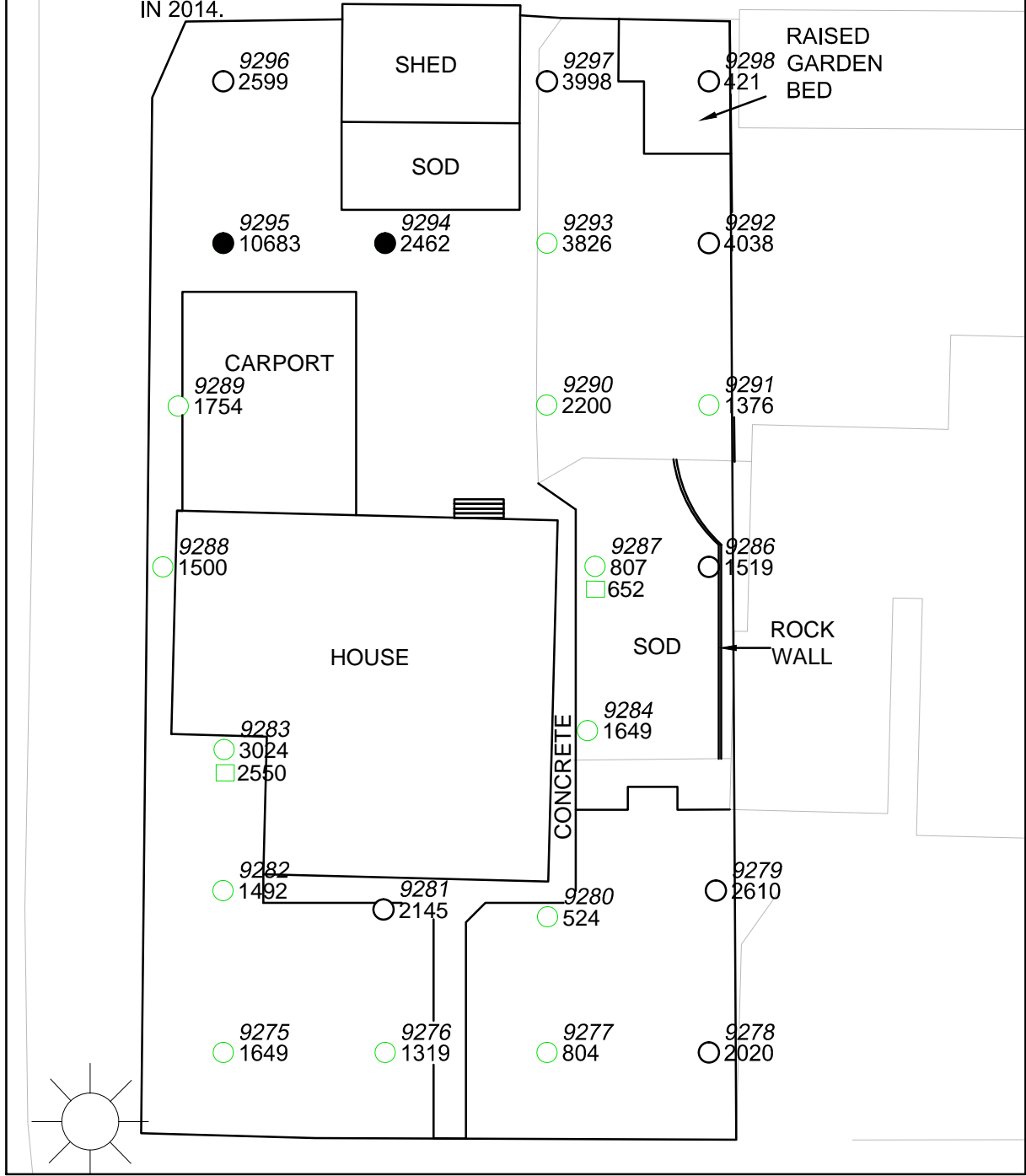
<p><b>REQUIRES CLEANUP</b></p> <p>Sample Location Number</p> <p>● XRF Copper Results</p>	<p><b>DOES NOT REQUIRE CLEANUP</b></p> <p>Sample Location Number</p> <p>○ XRF Copper Results</p> <p>□ Laboratory Copper Results</p> <p>✪ Tree/Bush</p>
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• Cleanup Level = 5,000 ppm copper, per New Mexico Environment Department

Note: XRF (X-RAY Fluorescence Analyzer) results greater than 4,500 ppm require cleanup due to 500 ppm margin of error for this instrument. ppm= parts per million

**106 SANTA RITA AVENUE**  
**INITIAL RESULTS**  
**ROUND 1**  
 HURLEY RESIDENTIAL PROPERTY REMEDIATION  
**Golder Associates**

OWNER DECLINED ACCESS IN 2006 EXCEPT LOCATIONS 9294 & 9295 WHICH WERE EXCAVATED TO 12" AND COVERED WITH AT LEAST 12" OF CLEAN FILL. OWNER LANDSCAPED 9288 & 9289 SUBSEQUENT TO R1 SAMPLING. REMAINING SECTORS WITH ELEVATED CU WERE EXCAVATED IN 2014.



**LEGEND**

<b>SOIL REMOVAL COMPLETE</b>	<b>NO REMOVAL REQUIRED</b>
○ Sample Location Number	○ Sample Location Number
○ Post XRF Cu Results	○ Original XRF CU Results
□ Laboratory Cu Results	
● Excavated 12" deep	✱ Tree/Bush

• Cleanup Level = 5,000 ppm copper, per New Mexico Environment Department

Note: XRF (X-RAY Fluorescence Analyzer) results greater than 4,500 ppm require cleanup due to 500 ppm margin of error for this instrument. ppm= parts per million

**106 SANTA RITA AVENUE**  
**FINAL RESULTS**  
 HURLEY RESIDENTIAL PROPERTY REMEDIATION  
**Golder Associates**

## **APPENDIX B**





Reading	Date	Sample ID	Cu (mg/kg)	Cu +/-	Fe (mg/kg)	Fe +/-
1	9-May-14	Steel chip				
2	9-May-14	SiO2 Blank	<LOD	24.09	<LOD	43.91
3	9-May-14	NIST 2710A	3698.95	59.18	41474.37	424.48
4	9-May-14	23608	6197.02	76.02	19812.41	219.66
5	9-May-14	23622	3078.8	51.04	19067.37	225.25
6	9-May-14	23624	4411.07	63.81	24967.55	274.97
7	9-May-14	23325	495.28	19.24	14265.03	177.24
8	9-May-14	25121	277.25	14.72	15368.8	180.72
9	9-May-14	R2 16717	4630.64	63.71	21475.75	237.44
10	9-May-14	R2 16717 RE	4545.44	64.01	22810.56	252.64
11	9-May-14	R2 16705	6109.88	79.98	27020.56	294.88
12	9-May-14	R2 16715	2293.26	41.94	22116.16	245.45
13	9-May-14	R2 16715 DUP	2197.54	41.2	21602.66	242.89
14	9-May-14	R2 16711	7713.05	92.92	23400.12	260.65
15	9-May-14	R2 16703	3145.01	48.76	24755.47	257.89
16	9-May-14	R2 16710	2289.42	41.74	20147.17	228.21
17	9-May-14	R2 16716	1773.53	37.62	27755.23	302.59
18	9-May-14	R2 16704	4901.92	65.65	23930.76	255.8
19	9-May-14	R2 16712	4453.47	63.04	19599.06	225.31
20	9-May-14	Steel chip				
21	9-May-14	SiO2 Blank	<LOD	24.6	<LOD	46.51
22	9-May-14	NIST 2710A	3712.77	59.03	41500.76	422.62
23	9-May-14	23608	6463.67	78.09	20131.85	221.72
24	9-May-14	23622	3568.42	54.12	18742.53	215.39
25	9-May-14	23624	4506.11	64.64	27078.37	292.54
26	9-May-14	23625	481.83	18.73	13565.07	168.65
27	9-May-14	25121	301	15.35	16431.71	191.01
28	9-May-14	R2 16701	5750.05	72.61	25640.42	267.96
29	9-May-14	R2 16706	3502.32	51.91	21347.18	229.92
30	9-May-14	R2 16707	1132.95	27.83	22591.74	242.11
31	9-May-14	R2 16707 DUP	1147.15	28.25	20740.76	229.22
32	9-May-14	R2 16708	2090.12	37.75	19403.28	211.39
33	9-May-14	R2 16714	2040.93	36.92	16682.67	187.93
34	9-May-14	R3 16704	1368.42	30.99	21031.48	231.85
35	9-May-14	R3 16705	380.97	16.76	23202.01	245.14
36	9-May-14	R3 16711	9702.57	106.47	26214.02	275.2
1	12-May-14	Steel chip				
2	12-May-14	SiO2 Blank	<LOD	23.23	<LOD	52.07
3	12-May-14	NIST 2710A	3629.87	58.94	41224.85	425.6
4	12-May-14	23608	5980.63	72.81	19060.57	209.58
5	12-May-14	23622	3701.94	56.58	25542.46	277.52
6	12-May-14	23624	4415.19	63.52	30748.17	321.75
7	12-May-14	23325	450.01	18.3	14332.89	176.42

Reading	Date	Sample ID	Cu (mg/kg)	Cu +/-	Fe (mg/kg)	Fe +/-
8	12-May-14	25121	316.81	15.49	15522.89	181.87
9	12-May-14	R3 16701	297.7	14.81	21260.56	223.28
10	12-May-14	R4 16711	1842.32	36.07	19125.79	214.27
11	12-May-14	R3 16717	193.42	12.7	13310.16	161.93
12	12-May-14	R2 16719	3294.22	50.21	18238.4	205.73
13	12-May-14	R2 16719 DUP	3205.85	49.82	18094.49	206.38
14	12-May-14	R2 16720	2181.79	39.37	20002.45	220.09
15	12-May-14	R2 16721	1742.27	35.74	21336.33	237.64
16	12-May-14	R2 16721 RE	1790.93	36.16	21807.95	240.53
1	13-May-14	Steel chip				
2	13-May-14	SiO2 Blank	<LOD	27.7	71.25	20.35
3	13-May-14	SiO2 Blank	<LOD	25.93	<LOD	45.91
4	13-May-14	NIST 2710A	3682.15	59.81	41341.71	429.03
5	13-May-14	23608	5610.81	71.49	21320.79	233.32
6	13-May-14	23622	3798.7	57.86	23214.7	259.61
7	13-May-14	23624	4792.93	67.09	28360.78	302.31
8	13-May-14	23325	470.07	18.54	13745.56	170.56
9	13-May-14	25121	290.57	15.19	16073.82	188.98
10	13-May-14	R2 22579	2996.67	46.94	31889.98	311.2
1	14-May-14	Steel chip				
2	14-May-14	SiO2 Blank	<LOD	25.89	<LOD	47.38
3	14-May-14	NIST 2710A	3702.72	59.18	41408.16	423.58
4	14-May-14	23608	5431.83	69.49	20505.36	225.19
5	14-May-14	23622	3855.26	58.7	25505.08	280.27
6	14-May-14	23624	4551.17	64.83	27287.29	293.24
7	14-May-14	23325	470.53	18.73	13901.13	173.29
8	14-May-14	25121	297.1	15.12	15500.88	182.07
9	14-May-14	R2-22570	7468.99	84.59	29249.02	288.19
10	14-May-14	R2-22572	2606.25	42.79	32131.41	310.22
11	14-May-14	R2-22578	4389.71	60.47	33118.09	325.88
12	14-May-14	R2-22580	1194.2	29.38	30435.33	312.87
13	14-May-14	R2-22583	5643.78	73.76	37486.25	371.89
14	14-May-14	R2-22585	1510.74	32.6	32978.68	326.94
15	14-May-14	R2-22585 DUP	1466.62	32.55	32546.92	327.99
16	14-May-14	R2-22590	3649.06	55.54	27051.31	287.18
1	15-May-14	Steel chip				
2	15-May-14	SiO2 Blank	<LOD	23.93	<LOD	54.23
3	15-May-14	NIST 2710A	3317.38	77.86	48372.04	715.41
4	15-May-14	NIST 2710A	3776.16	60.77	41838.92	433.47
5	15-May-14	23608	5709.78	71.86	20887.18	228.29
6	15-May-14	23622	3898.56	58.78	25087.68	275.21
7	15-May-14	23624	4351.85	61.66	26770.75	282.72
8	15-May-14	23325	457.34	18.55	14336.59	177.28
9	15-May-14	25121	288.05	15.06	16109.38	188.33
10	15-May-14	R3 22570	4524.94	61.05	26547.57	271.15

Reading	Date	Sample ID	Cu (mg/kg)	Cu +/-	Fe (mg/kg)	Fe +/-
11	15-May-14	R3 22580	1060.48	27.27	31183.5	314.15
12	15-May-14	R3 22583	2243.75	41.19	33362.77	335.21
13	15-May-14	SiO2 Blank	23.3	6.27	9.34	10.27
14	15-May-14	Steel chip				
15	15-May-14	SiO2 Blank	<LOD	25.74	<LOD	49.63
16	15-May-14	NIST 2710A	3661.85	58.8	40902.64	419.44
17	15-May-14	23608	6147.22	78.07	23746.62	259.59
18	15-May-14	23622	3926.56	58.89	23918.48	264.68
19	15-May-14	23624	4506.47	63.84	27248.46	290.28
20	15-May-14	23325	476.67	18.71	14046.46	173.46
21	15-May-14	25121	286.33	15.22	16381.87	193.23
22	15-May-14	R4 22570	621.79	21.78	39200.7	387.42
23	15-May-14	R2 22575	4876.13	66.1	31314.93	318.32
24	15-May-14	R2 22574	4124.09	58.56	36303.71	353.7
25	15-May-14	R2 22581	943.47	26.19	35587.24	355.03
26	15-May-14	R2 22568	1910.86	38	37423.12	371.77
1	16-May-14	Steel chip				
2	16-May-14	SiO2 Blank	<LOD	25.66	<LOD	53.25
3	16-May-14	NIST 2710A	3654.95	58.99	40898.64	421.19
4	16-May-14	23608	6054.05	75.83	20091.33	224.9
5	16-May-14	23622	3927.45	58.83	21051.78	240.19
6	16-May-14	23624	4589.44	65.61	27833.79	299.71
7	16-May-14	23325	470.6	18.77	14500.48	178.65
8	16-May-14	25121	293.14	15.07	15139.65	178.84
9	16-May-14	R3 22575	2202.04	39.53	27538.16	279.62
1	28-May-14	Steel chip				
2	28-May-14	SiO2 Blank	<LOD	26.04	<LOD	47.7
3	28-May-14	NIST 2710A	3681.26	59.66	41260.62	427.35
4	28-May-14	23608	6027.2	75.28	20912.2	230.67
5	28-May-14	23622	3779	57.07	21073.67	238.95
6	28-May-14	23624	4456.68	63.78	27882.38	297.25
7	28-May-14	23325	463.41	18.6	13554.92	170.11
8	28-May-14	25121	287.97	15.15	15761.24	186.61
9	28-May-14	R3 23608	3889.69	53.83	19467.15	208.51
10	28-May-14	R3 23619	4733.92	63.81	20710.98	228.15
11	28-May-14	R3 23624	5122.86	71.36	28952.92	312.81
12	28-May-14	R3 23624 DUP	5050.25	70.6	35986.11	371.38
13	28-May-14	R3 23625	5079.38	67.27	23731.09	254.28
14	28-May-14	23624	4645.66	65.6	29676.09	312.52
15	28-May-14	R3 23614	3743.16	56.57	25876.1	278.2
16	28-May-14	R4 23619	2638.79	43.25	19602.05	213.36
17	28-May-14	R4 23625	4582.11	62.7	25217.97	265.51
18	28-May-14	R4 23624	1354.21	29.57	21748.6	227.84
19	28-May-14	Steel chip				
20	28-May-14	Steel chip				

Reading	Date	Sample ID	Cu (mg/kg)	Cu +/-	Fe (mg/kg)	Fe +/-
21	28-May-14	Steel chip	4079.51	85.67	32616.84	507.16
22	28-May-14	SiO2 Blank	<LOD	25.01	<LOD	50.24
23	28-May-14	NIST 2710A	3716.03	59.17	41155.66	420.63
24	28-May-14	23608	6326.21	76.03	20233.52	219.88
25	28-May-14	23622	3849.72	57.82	21865.54	245.88
26	28-May-14	23624	4849.46	67.89	29150.01	310.24
27	28-May-14	23325	472.89	18.88	14167.45	176.31
28	28-May-14	25121	288.71	15.1	15843.99	186.24
29	28-May-14	R5 23625	2298.08	40.77	24602.48	258.19
30	28-May-14	R3 23621	6905.78	89.88	27502.87	308.57
1	29-May-14	Steel chip				
2	29-May-14	SiO2 Blank	<LOD	25.24	<LOD	49.19
3	29-May-14	NIST 2710A	3674.23	58.94	41375.33	423.5
4	29-May-14	23608	5945	73.61	22688.01	241.91
5	29-May-14	23622	3806.56	56.67	22939.31	251.56
6	29-May-14	23624	4569.87	65.37	28643.88	306.15
7	29-May-14	23325	481.01	18.87	14455.04	177.64
8	29-May-14	25121	289.07	15.19	15685.81	185.73
9	29-May-14	R4-23621	1647.1	34.65	29596.4	304.64
1	2-Jun-14	Steel chip				
2	2-Jun-14	SiO2 Blank	<LOD	23.53	<LOD	47.83
3	2-Jun-14	NIST 2710A	3690.21	59.4	40808.33	420.97
4	2-Jun-14	23608	5930.49	74.02	22015.6	238.28
5	2-Jun-14	23622	4045.51	59.82	24260.14	266.57
6	2-Jun-14	23624	4545.12	63.52	27991.13	293.22
7	2-Jun-14	23325	473.23	18.72	14536.8	178.02
8	2-Jun-14	25121	298.11	15.05	16431.97	189.19
9	2-Jun-14	R2 7401	8306.16	93.98	25454.13	266.27
10	2-Jun-14	R3 7401	821.52	22.13	23159.69	229.64
11	2-Jun-14	R3 7401 DUP	859.45	22.87	22653.06	228.27
1	11-Jun-14	Steel chip				
2	11-Jun-14	SiO2 Blank	<LOD	26.53	<LOD	46.32
3	11-Jun-14	NIST 2710A	3727.9	60.27	41235.55	428.13
4	11-Jun-14	23608	6056.58	73.74	21472.26	229.67
5	11-Jun-14	23622	3773.33	55.64	22596.63	245.51
6	11-Jun-14	23624	4608.73	65.78	29438.75	313.03
7	11-Jun-14	23325	501.16	19.2	13988.59	173.66
8	11-Jun-14	25121	186.77	13.24	22287.17	241.7
9	11-Jun-14	25121	219.19	13.99	21358.3	234.92
10	11-Jun-14	25121	186.14	13.07	21544.97	233.81
11	11-Jun-14	23624	4690.47	66.67	29196.83	311.62
12	11-Jun-14	R2 7392	8402.51	95.72	35260.96	347.66
13	11-Jun-14	R2 7392 DUP	8208.73	92.5	30637.94	305.38
14	11-Jun-14	R2 7393	693.62	20.99	26081.77	258.17
15	11-Jun-14	R2 7396	2854.2	45.59	22961.88	241.28

Reading	Date	Sample ID	Cu (mg/kg)	Cu +/-	Fe (mg/kg)	Fe +/-
16	11-Jun-14	R2 7397	13774.48	144.05	41791.81	413.04
17	11-Jun-14	R2 7399	14180.05	143.92	32743.58	330.69
18	11-Jun-14	R2 7400	1361.76	29.09	21394.85	220.92
19	11-Jun-14	R3 7392	596.83	19.81	19741.67	212.06
20	11-Jun-14	Steel chip				
21	11-Jun-14	SiO2 Blank	<LOD	25.42	<LOD	50.08
22	11-Jun-14	NIST 2710A	3625.26	58.99	41215.05	426.13
23	11-Jun-14	23608	5772.09	72.82	22394.38	241.84
24	11-Jun-14	23622	4257.11	61.52	22116.07	247.44
25	11-Jun-14	23624	4479.36	64.71	30178.83	319.87
26	11-Jun-14	23325	472.87	18.57	13384.95	167.25
27	11-Jun-14	25121	297.83	15.25	16350.14	190.37
28	11-Jun-14	R3 7392	601	20.05	22639.1	236.88
29	11-Jun-14	R3 7399	1405.34	30.17	23093.4	238.49
1	12-Jun-14	Steel chip				
2	12-Jun-14	SiO2 Blank	<LOD	25.07	<LOD	51.99
3	12-Jun-14	NIST 2710A	3643.49	58.95	40997.16	422.73
4	12-Jun-14	23608	5462.57	68.51	24421.09	252.05
5	12-Jun-14	23622	3864.93	57.58	23489.37	257.77
6	12-Jun-14	23624	4218.5	58.24	27192.18	275.59
7	12-Jun-14	23325	435.77	17.83	14388.24	174.47
8	12-Jun-14	25121	323.85	15.63	15278.68	180
9	12-Jun-14	R2 7395	820.51	22.26	18169.35	193.53
10	12-Jun-14	R3 7397	2999	47.66	28898.79	292.38
1	13-Jun-14	Steel chip				
2	13-Jun-14	SiO2 Blank	<LOD	26.02	<LOD	44.06
3	13-Jun-14	NIST 2710A	3672.29	59.49	41583.1	429.5
4	13-Jun-14	23608	5609.47	70.67	22068.73	236.62
5	13-Jun-14	23622	3906.57	57.26	23278.48	252.93
6	13-Jun-14	23624	4513.5	63.75	28436.19	299.31
7	13-Jun-14	23325	504.95	19.19	13610.3	169.59
8	13-Jun-14	25121	304.36	15.35	14791.27	177.54
9	13-Jun-14	R2 7402	983.06	25.14	19599.94	211.64
1	17-Jun-14	Steel chip				
2	17-Jun-14	SiO2 Blank	<LOD	24.51	<LOD	50.5
3	17-Jun-14	NIST 2710A	3591.51	58.79	41116.83	426.28
4	17-Jun-14	23608	5629.62	71.65	22525.71	243.08
5	17-Jun-14	23622	3951.35	57.98	23004.06	251.85
6	17-Jun-14	23624	4598.23	65.19	29384	310.22
7	17-Jun-14	23325	488.78	18.93	14006	173.39
8	17-Jun-14	25121	314.1	15.39	15759.56	183.33
9	17-Jun-14	R2 7404	4646.63	63.86	29010.39	298.78
10	17-Jun-14	R2 7403	4377.23	57.87	26509.06	262.16
11	17-Jun-14	R2 7413	3096.09	47.81	32739.09	317.22
1	19-Jun-14	Steel chip				

Reading	Date	Sample ID	Cu (mg/kg)	Cu +/-	Fe (mg/kg)	Fe +/-
2	19-Jun-14	SiO2 Blank	<LOD	22.87	<LOD	52.6
3	19-Jun-14	NIST 2710A	3673.22	59.47	41049.02	424.82
4	19-Jun-14	23608	5780.43	72.94	22391.92	242.01
5	19-Jun-14	23622	3900.75	58.14	22182.12	247.84
6	19-Jun-14	23624	4470.42	63.83	27842.87	296.57
7	19-Jun-14	23325	467.59	18.53	14347.26	175.88
8	19-Jun-14	25121	304.19	15.53	16719.16	195.47
9	19-Jun-14	R3 7404	6664.42	78.78	32967.86	319.51
10	19-Jun-14	R2 7405	1687.49	34.19	24119.64	253.3
11	19-Jun-14	R2 7406	1679.7	32.46	23730.24	237.95
12	19-Jun-14	R2 7407	4638.97	62.87	23133.5	247.31
13	19-Jun-14	R2 7408	5660.37	71.13	29526.81	296
14	19-Jun-14	R2 7409	4779.27	63.14	22359.11	237.47
15	19-Jun-14	R2 7410	6432.18	77.58	24881	258.8
16	19-Jun-14	R4 7404	940.34	23.59	18412.99	193.76
17	19-Jun-14	R3 7407	3639.9	53.27	25199.14	260.92
18	19-Jun-14	R3 7408	2365.37	41.4	21840.62	235.32
19	19-Jun-14	R3 7409	3514.65	51.89	22987.46	242.15
20	19-Jun-14	R3 7410	3609.22	52.76	24286.72	252.52
21	19-Jun-14	R2 7412	7448.49	85.2	25903.75	264.55
1	20-Jun-14	Steel chip				
2	20-Jun-14	Steel chip				
3	20-Jun-14	SiO2 Blank	<LOD	25.85	<LOD	44.59
4	20-Jun-14	NIST 2710A	3564.19	58.17	40929.24	422.15
5	20-Jun-14	23608	5435.04	68.89	22533.76	239.38
6	20-Jun-14	23622	3940.23	58.04	21632.24	241.21
7	20-Jun-14	23624	4621.94	65.15	28860.09	304.74
8	20-Jun-14	23325	479.89	18.95	14259.59	176.85
9	20-Jun-14	25121	262.51	14.77	16343.49	192.59
10	20-Jun-14	R3 7412	344.83	15.29	16667.22	183.51
11	20-Jun-14	R3 7412 DUP	336.32	15.25	16406.46	182.82
12	20-Jun-14	R2 7414	2422.82	43.27	17948.6	210.44
1	26-Jun-14	Steel chip				
2	26-Jun-14	NIST 2710A	3275.82	76.76	47431.29	699.3
3	26-Jun-14	SiO2 Blank	<LOD	23.51	<LOD	46.81
4	26-Jun-14	NIST 2710A	3656.69	59.23	41496.94	427.93
5	26-Jun-14	23608	5727.41	72.51	22705.44	244.58
6	26-Jun-14	23622	4038.55	58.95	22816.08	251.04
7	26-Jun-14	23624	4753.7	67.04	30087.91	318.05
8	26-Jun-14	23325	483.16	18.67	14079.33	172.56
9	26-Jun-14	25121	290.43	15.17	15627.12	185.09
10	26-Jun-14	R2 9276	1318.86	29.06	22146.57	230.39
11	26-Jun-14	R2 9277	804.03	21.92	20306.81	208
12	26-Jun-14	R2 9277 DUP	659.96	20.06	21666.73	219.45
13	26-Jun-14	R2 9280	523.75	18.23	18260.89	195.05

Reading	Date	Sample ID	Cu (mg/kg)	Cu +/-	Fe (mg/kg)	Fe +/-
14	26-Jun-14	R2 9284	1649.31	33.29	26455.96	268.11
15	26-Jun-14	R2 9291	1376.19	29.23	18101.5	195.28
16	26-Jun-14	R2 9293	5343.67	70.87	24359.18	264.29
17	26-Jun-14	R2 9287	807.42	23.02	28627.19	282.95
18	26-Jun-14	R3 9293	3825.83	54.14	25372.07	258.51
19	26-Jun-14	Steel chip				
20	26-Jun-14	Error	22.42	6.75	-1.28	10.47
21	26-Jun-14	SiO2 Blank	<LOD	27.17	<LOD	51.25
22	26-Jun-14	NIST 2710A	3787.74	61.17	41572.96	433.29
23	26-Jun-14	23608	5729.21	71.27	22363.6	237.58
24	26-Jun-14	23622	3894.78	57.57	22828.04	250.97
25	26-Jun-14	23624	4604.85	65.23	26614.84	287.06
26	26-Jun-14	23325	475.3	18.85	14610.55	179.81
27	26-Jun-14	25121	275.42	14.93	15947.36	188.37
28	26-Jun-14	R3 9293	3982.66	55.96	24592.11	254.38
29	26-Jun-14	R2 9290	2199.95	40.63	27945.64	291.05
30	26-Jun-14	R2 9280	433.07	16.8	17342.92	188.02
31	26-Jun-14	R2 9294	2462.35	42.08	19171.46	212.56
1	27-Jun-14	Steel chip				
2	27-Jun-14	SiO2 Blank	<LOD	25.69	<LOD	51.34
3	27-Jun-14	NIST 2710A	3697.8	60.25	41219.83	430.01
4	27-Jun-14	23608	5687.23	69.09	20064.63	213.58
5	27-Jun-14	23622	4032.37	57.31	21059.35	230.07
6	27-Jun-14	23624	4562.38	64.66	28885.42	305.17
7	27-Jun-14	23325	469.62	18.61	14749.04	179.31
8	27-Jun-14	25121	286.05	14.79	14817.75	174.61
9	27-Jun-14	R2 9275	1648.87	33.02	27316.86	272.55
10	27-Jun-14	R2 9275 DUP	1609.06	32.32	27343.44	270.21
11	27-Jun-14	R2 9282	1491.56	31.46	25886.32	262.67
12	27-Jun-14	R2 9283	5437.77	69.6	26391.02	272.59
13	27-Jun-14	R3 9283	3024.2	48.09	24577.47	259.03
1	23-Jul-14	Steel chip				
2	23-Jul-14	SiO2 Blank	<LOD	25.37	<LOD	53.84
3	23-Jul-14	NIST 2710A	3246.79	112.28	47108.76	1022.55
4	23-Jul-14	NIST 2710A	3610.47	58.05	41015.13	418.8
5	23-Jul-14	23608	5529.19	69.59	21978.61	234.6
6	23-Jul-14	23622	4118.15	59.22	22169.28	243.7
7	23-Jul-14	23624	3895.23	53.02	23295.96	234.48
8	23-Jul-14	23325	433.85	17.9	13929.43	171.53
9	23-Jul-14	25121	270.07	14.73	15151.41	180.05
10	23-Jul-14	R3 16711	9890.89	108.73	25898.57	274.43
11	23-Jul-14	R2 7392 DUP	8117.83	88.43	22472.62	231.78
12	23-Jul-14	23608	5481.9	70.11	22289.79	240.22
13	23-Jul-14	R2 9293	4896.65	65.07	24352.91	257
14	23-Jul-14	R2 9288	1500.36	31	18878.97	204.03



Reading	Date	Sample ID	Cu (mg/kg)	Cu +/-	Fe (mg/kg)	Fe +/-
15	23-Jul-14	R2 9288 DUP	1525.15	32.01	19078.77	210.28
16	23-Jul-14	R2 9289	1754	34.55	27765.08	279.07

## Notes:

<LOD = less than limit of detection

DUP = Duplicate XRF cup prepared from the field sample

RE = Replicate run on a single XRF cup

## **APPENDIX C**





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

**Project Name: Chino Routine / HURLEY YARDS**  
Work Order: **W4F0250**  
Reported: 27-Jun-14 11:10

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
R2-16712	W4F0250-01	Soil	09-May-14 12:00	YM	12-Jun-2014
R3-16701	W4F0250-02	Soil	12-May-14 10:40	YM	12-Jun-2014
R2-22572	W4F0250-03	Soil	14-May-14 14:14	YM	12-Jun-2014
R4-22570	W4F0250-04	Soil	15-May-14 14:30	YM	12-Jun-2014
R3-23625	W4F0250-05	Soil	28-May-14 09:30	YM	12-Jun-2014
R3-7401 DUP	W4F0250-06	Soil	02-Jun-14 11:57	YM	12-Jun-2014
R2-7401	W4F0250-07	Soil	02-Jun-14 11:00	YM	12-Jun-2014

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.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

(Q6) SVL received the following containers outside of published EPA guidelines for preservation temperatures (0-6°C).

The guidelines do not pertain to nitric-preserved metals.

**Default Cooler (Received Temperature: 19.3°C)**

Labnumber	Container	Client ID	Labnumber	Container	Client ID
W4F0250-01 A	XRF Cup	R2-16712	W4F0250-02 A	XRF Cup	R3-16701
W4F0250-03 A	XRF Cup	R2-22572	W4F0250-04 A	XRF Cup	R4-22570
W4F0250-05 A	XRF Cup	R3-23625	W4F0250-06 A	XRF Cup	R3-7401 DUP
W4F0250-07 A	XRF Cup	R2-7401			



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

**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4F0250**

Reported: 27-Jun-14 11:10

Client Sample ID: **R2-16712**

SVL Sample ID: **W4F0250-01 (Soil)**

**Sample Report Page 1 of 1**

Sampled: 09-May-14 12:00

Received: 12-Jun-14

Sampled By: YM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	<b>Copper</b>	5250	mg/kg	10.0	3.50	10	W425084	AS	06/26/14 15:39	D2
EPA 6010B	<b>Iron</b>	23400	mg/kg	6.0	2.7		W425084	MCE	06/25/14 17:13	

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

**John Kern**  
Laboratory Director



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**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4F0250**

Reported: 27-Jun-14 11:10

Client Sample ID: **R3-16701**

SVL Sample ID: **W4F0250-02 (Soil)**

**Sample Report Page 1 of 1**

Sampled: 12-May-14 10:40

Received: 12-Jun-14

Sampled By: YM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	<b>Copper</b>	267	mg/kg	1.00	0.35		W425084	MCE	06/25/14 17:17	
EPA 6010B	<b>Iron</b>	22900	mg/kg	6.0	2.7		W425084	MCE	06/25/14 17:17	

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

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**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4F0250**

Reported: 27-Jun-14 11:10

Client Sample ID: **R2-22572**

SVL Sample ID: **W4F0250-03 (Soil)**

**Sample Report Page 1 of 1**

Sampled: 14-May-14 14:14

Received: 12-Jun-14

Sampled By: YM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	<b>Copper</b>	2590	mg/kg	1.00	0.35		W425084	MCE	06/25/14 17:21	
EPA 6010B	<b>Iron</b>	30900	mg/kg	6.0	2.7		W425084	MCE	06/25/14 17:21	

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

**John Kern**  
Laboratory Director



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**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4F0250**

Reported: 27-Jun-14 11:10

Client Sample ID: **R4-22570**

SVL Sample ID: **W4F0250-04 (Soil)**

**Sample Report Page 1 of 1**

Sampled: 15-May-14 14:30

Received: 12-Jun-14

Sampled By: YM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	<b>Copper</b>	540	mg/kg	1.00	0.35		W425084	MCE	06/25/14 17:25	
EPA 6010B	<b>Iron</b>	48000	mg/kg	6.0	2.7		W425084	MCE	06/25/14 17:25	

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**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4F0250**

Reported: 27-Jun-14 11:10

Client Sample ID: **R3-23625**

SVL Sample ID: **W4F0250-05 (Soil)**

**Sample Report Page 1 of 1**

Sampled: 28-May-14 09:30

Received: 12-Jun-14

Sampled By: YM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	<b>Copper</b>	5610	mg/kg	10.0	3.50	10	W425084	AS	06/26/14 15:42	D2
EPA 6010B	<b>Iron</b>	29400	mg/kg	6.0	2.7		W425084	MCE	06/25/14 17:29	

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

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**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4F0250**

Reported: 27-Jun-14 11:10

Client Sample ID: **R3-7401 DUP**

SVL Sample ID: **W4F0250-06 (Soil)**

**Sample Report Page 1 of 1**

Sampled: 02-Jun-14 11:57

Received: 12-Jun-14

Sampled By: YM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	<b>Copper</b>	867	mg/kg	1.00	0.35		W425084	MCE	06/25/14 17:33	
EPA 6010B	<b>Iron</b>	31400	mg/kg	6.0	2.7		W425084	MCE	06/25/14 17:33	

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

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**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4F0250**

Reported: 27-Jun-14 11:10

Client Sample ID: **R2-7401**

SVL Sample ID: **W4F0250-07 (Soil)**

**Sample Report Page 1 of 1**

Sampled: 02-Jun-14 11:00

Received: 12-Jun-14

Sampled By: YM

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	<b>Copper</b>	7010	mg/kg	10.0	3.50	10	W425084	AS	06/26/14 15:45	D2
EPA 6010B	<b>Iron</b>	25400	mg/kg	6.0	2.7		W425084	MCE	06/25/14 17:37	

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

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**Project Name: Chino Routine / HURLEY YARDS**  
 Work Order: **W4F0250**  
 Reported: 27-Jun-14 11:10

**Quality Control - BLANK Data**

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	Copper	mg/kg	<1.00	0.35	1.00	W425084	25-Jun-14	
EPA 6010B	Iron	mg/kg	<6.0	2.7	6.0	W425084	25-Jun-14	

**Quality Control - LABORATORY CONTROL SAMPLE Data**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	Copper	mg/kg	102	100	102	80 - 120	W425084	25-Jun-14	
EPA 6010B	Iron	mg/kg	975	1000	97.5	80 - 120	W425084	25-Jun-14	

**Quality Control - MATRIX SPIKE Data**

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	Copper	mg/kg	123000	125000	100	R > 4S	75 - 125	W425084	26-Jun-14	D2
EPA 6010B	Iron	mg/kg	40700	39000	1000	R > 4S	75 - 125	W425084	26-Jun-14	D1,M3

**Quality Control - MATRIX SPIKE DUPLICATE Data**

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	%R	RPD	RPD Limit	Batch ID	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	Copper	mg/kg	128000	123000	100	R > 4S	4.4	20	W425084	26-Jun-14	D2
EPA 6010B	Iron	mg/kg	48100	40700	1000	R > 4S	16.6	20	W425084	26-Jun-14	D1,M3



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Bayard, NM 88023

**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4F0250**

Reported: 27-Jun-14 11:10

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### Notes and Definitions

D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of target analyte.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to spike level. The LCS was acceptable.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

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

**Project Name: Chino Routine / HURLEY YARDS**  
Work Order: **W4G0253**  
Reported: 25-Jul-14 09:49

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
R3-7399	W4G0253-01	Soil	11-Jun-14 16:00	EG	11-Jul-2014
R2-7407	W4G0253-02	Soil	19-Jun-14 10:50	EG	11-Jul-2014
R2-7412	W4G0253-03	Soil	19-Jun-14 11:10	EG	11-Jul-2014
R3-7412	W4G0253-04	Soil	20-Jun-14 09:22	EG	11-Jul-2014
R2-9287	W4G0253-05	Soil	26-Jun-14 11:50	EG	11-Jul-2014
R3-9283	W4G0253-06	Soil	26-Jun-14 12:30	EG	11-Jul-2014

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.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

(Q6) SVL received the following containers outside of published EPA guidelines for preservation temperatures (0-6°C).

The guidelines do not pertain to nitric-preserved metals.

**Default Cooler (Received Temperature: 20.2°C)**

<u>Labnumber</u>	<u>Container</u>	<u>Client ID</u>	<u>Labnumber</u>	<u>Container</u>	<u>Client ID</u>
W4G0253-01 A	XRF Cup	R3-7399	W4G0253-02 A	XRF Cup	R2-7407
W4G0253-03 A	XRF Cup	R2-7412	W4G0253-04 A	XRF Cup	R3-7412
W4G0253-05 A	XRF Cup	R2-9287	W4G0253-06 A	XRF Cup	R3-9283



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

**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4G0253**

Reported: 25-Jul-14 09:49

Client Sample ID: **R3-7399**

SVL Sample ID: **W4G0253-01 (Soil)**

**Sample Report Page 1 of 1**

Sampled: 11-Jun-14 16:00

Received: 11-Jul-14

Sampled By: EG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	<b>Copper</b>	1250	mg/kg	1.00	0.25		W429085	AS	07/23/14 15:10	
EPA 6010B	<b>Iron</b>	16700	mg/kg	6.0	2.7		W429085	AS	07/23/14 15:10	B7

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

**John Kern**  
Laboratory Director



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**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4G0253**

Reported: 25-Jul-14 09:49

Client Sample ID: **R2-7407**

SVL Sample ID: **W4G0253-02 (Soil)**

**Sample Report Page 1 of 1**

Sampled: 19-Jun-14 10:50

Received: 11-Jul-14

Sampled By: EG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	<b>Copper</b>	3970	mg/kg	1.00	0.25		W429085	AS	07/23/14 15:14	
EPA 6010B	<b>Iron</b>	19200	mg/kg	6.0	2.7		W429085	AS	07/23/14 15:14	B7

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**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4G0253**

Reported: 25-Jul-14 09:49

Client Sample ID: **R2-7412**

SVL Sample ID: **W4G0253-03 (Soil)**

**Sample Report Page 1 of 1**

Sampled: 19-Jun-14 11:10

Received: 11-Jul-14

Sampled By: EG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Metals (Total) by EPA 6000/7000 Methods</b>										
EPA 6010B	<b>Copper</b>	5750	mg/kg	10.0	2.50	10	W429085	AS	07/23/14 15:42	
EPA 6010B	<b>Iron</b>	21000	mg/kg	6.0	2.7		W429085	AS	07/23/14 15:23	B7

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**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4G0253**

Reported: 25-Jul-14 09:49

Client Sample ID: **R3-7412**

SVL Sample ID: **W4G0253-04 (Soil)**

**Sample Report Page 1 of 1**

Sampled: 20-Jun-14 09:22

Received: 11-Jul-14

Sampled By: EG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	<b>Copper</b>	360	mg/kg	1.00	0.25		W429085	AS	07/23/14 15:27	
EPA 6010B	<b>Iron</b>	15200	mg/kg	6.0	2.7		W429085	AS	07/23/14 15:27	B7

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**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4G0253**

Reported: 25-Jul-14 09:49

Client Sample ID: **R2-9287**

SVL Sample ID: **W4G0253-05 (Soil)**

**Sample Report Page 1 of 1**

Sampled: 26-Jun-14 11:50

Received: 11-Jul-14

Sampled By: EG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	<b>Copper</b>	652	mg/kg	1.00	0.25		W429085	AS	07/23/14 15:30	
EPA 6010B	<b>Iron</b>	22100	mg/kg	6.0	2.7		W429085	AS	07/23/14 15:30	B7

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**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4G0253**

Reported: 25-Jul-14 09:49

Client Sample ID: **R3-9283**

SVL Sample ID: **W4G0253-06 (Soil)**

**Sample Report Page 1 of 1**

Sampled: 26-Jun-14 12:30

Received: 11-Jul-14

Sampled By: EG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	<b>Copper</b>	2550	mg/kg	1.00	0.25		W429085	AS	07/23/14 15:33	
EPA 6010B	<b>Iron</b>	19700	mg/kg	6.0	2.7		W429085	AS	07/23/14 15:33	B7

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**John Kern**  
Laboratory Director



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**Project Name: Chino Routine / HURLEY YARDS**  
 Work Order: **W4G0253**  
 Reported: 25-Jul-14 09:49

**Quality Control - BLANK Data**

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	Copper	mg/kg	<1.00	0.25	1.00	W429085	23-Jul-14	
EPA 6010B	Iron	mg/kg	6.2	2.7	6.0	W429085	23-Jul-14	B7

**Quality Control - LABORATORY CONTROL SAMPLE Data**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	Copper	mg/kg	96.3	100	96.3	80 - 120	W429085	23-Jul-14	
EPA 6010B	Iron	mg/kg	983	1000	98.3	80 - 120	W429085	23-Jul-14	

**Quality Control - MATRIX SPIKE Data**

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	Copper	mg/kg	713	525	100	R > 4S	75 - 125	W429085	23-Jul-14	M3
EPA 6010B	Iron	mg/kg	14400	12600	1000	R > 4S	75 - 125	W429085	23-Jul-14	B7,M3

**Quality Control - MATRIX SPIKE DUPLICATE Data**

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	%R	RPD	RPD Limit	Batch ID	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	Copper	mg/kg	676	713	100	R > 4S	5.3	20	W429085	23-Jul-14	M3
EPA 6010B	Iron	mg/kg	14000	14400	1000	R > 4S	3.0	20	W429085	23-Jul-14	B7,M3

**Notes and Definitions**

- B7 Target analyte detected in method blank exceeded method QC limits, but concentrations in the samples are at least 10x the blank concentration.
- M3 The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to spike level. The LCS was acceptable.
- LCS Laboratory Control Sample (Blank Spike)
- RPD Relative Percent Difference
- UDL A result is less than the detection limit
- R > 4S % recovery not applicable, sample concentration more than four times greater than spike level
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable



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PO Box 10  
Bayard, NM 88023

**Project Name: Chino Routine / HURLEY YARDS**

Work Order: **W4D0499**

Reported: 06-May-14 11:24

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TOPSOIL-FOWLER'S	W4D0499-01	Soil	29-Apr-14 12:55	30-Apr-2014
FILL SOIL-FOWLER'S	W4D0499-02	Soil	29-Apr-14 13:05	30-Apr-2014

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.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

### Case Narrative

djs 05/06/2014 The apparently conflicting QC Flags ( example: M1 high spike recovery, M2 low spike recovery) showing up on the same sample is due to the fact that some flags are triggered by the matrix spike and others are triggered from matrix spike duplicate.



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**Project Name: Chino Routine / HURLEY YARDS**  
Work Order: **W4D0499**  
Reported: 06-May-14 11:24

Client Sample ID: **TOPSOIL-FOWLER'S**  
SVL Sample ID: **W4D0499-01 (Soil)**

Sampled: 29-Apr-14 12:55  
Received: 30-Apr-14  
Sampled By:

**Sample Report Page 1 of 1**

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Metals (Total) by EPA 6000/7000 Methods</b>										
EPA 6010B	Aluminum	11200	mg/kg	8.0	2.4		W418192	DT	05/05/14 13:01	M3
EPA 6010B	Antimony	< 2.0	mg/kg	2.0	0.8		W418143	MCE	05/02/14 12:56	M2,R2B
EPA 6010B	Arsenic	2.9	mg/kg	2.5	0.8		W418143	MCE	05/02/14 12:56	
EPA 6010B	Barium	189	mg/kg	0.200	0.038		W418143	MCE	05/02/14 12:56	B7,M2,R4
EPA 6010B	Beryllium	1.04	mg/kg	0.200	0.028		W418143	MCE	05/02/14 12:56	
EPA 6010B	Cadmium	< 0.20	mg/kg	0.20	0.04		W418143	MCE	05/02/14 12:56	
EPA 6010B	Calcium	16500	mg/kg	4.0	2.3		W418143	MCE	05/02/14 12:56	B7,M3
EPA 6010B	Chromium	13.8	mg/kg	0.60	0.07		W418143	MCE	05/02/14 12:56	
EPA 6010B	Cobalt	10.8	mg/kg	0.60	0.07		W418143	MCE	05/02/14 12:56	
EPA 6010B	Copper	36.4	mg/kg	1.00	0.35		W418143	MCE	05/02/14 12:56	
EPA 6010B	Iron	22800	mg/kg	6.0	2.7		W418143	MCE	05/02/14 12:56	B7,M3,R5
EPA 6010B	Lead	22.8	mg/kg	0.75	0.25		W418143	MCE	05/02/14 12:56	
EPA 6010B	Magnesium	5890	mg/kg	6.0	3.4		W418143	MCE	05/02/14 12:56	B7,M1,M2, R5
EPA 6010B	Manganese	572	mg/kg	0.40	0.08		W418143	MCE	05/02/14 12:56	B7,M3,R5
EPA 6010B	Nickel	11.4	mg/kg	1.00	0.13		W418143	MCE	05/02/14 12:56	
EPA 6010B	Potassium	2720	mg/kg	50.0	8.30		W418143	MCE	05/02/14 12:56	M1
EPA 6010B	Selenium	< 4.0	mg/kg	4.0	0.09		W418143	MCE	05/02/14 12:56	
EPA 6010B	Silver	< 0.50	mg/kg	0.50	0.08		W418143	MCE	05/02/14 12:56	
EPA 6010B	Sodium	254	mg/kg	50.0	3.3		W418143	MCE	05/02/14 12:56	
EPA 6010B	Thallium	< 1.5	mg/kg	1.5	0.7		W418143	MCE	05/02/14 12:56	
EPA 6010B	Vanadium	45.9	mg/kg	0.50	0.06		W418143	MCE	05/02/14 12:56	
EPA 6010B	Zinc	73.5	mg/kg	1.00	0.18		W418143	MCE	05/02/14 12:56	
EPA 7471A	Mercury	0.083	mg/kg	0.033	0.004		W418129	STA	05/05/14 12:06	
<b>Percent Solids</b>										
Percent Solids	% Solids	99.4	%	0.1			W418144	HC	05/02/14 08:30	

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

**John Kern**  
Laboratory Director



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**Project Name: Chino Routine / HURLEY YARDS**  
Work Order: **W4D0499**  
Reported: 06-May-14 11:24

Client Sample ID: **FILL SOIL-FOWLER'S**  
SVL Sample ID: **W4D0499-02 (Soil)**

Sampled: 29-Apr-14 13:05  
Received: 30-Apr-14  
Sampled By:

**Sample Report Page 1 of 1**

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Metals (Total) by EPA 6000/7000 Methods</b>										
EPA 6010B	<b>Aluminum</b>	14200	mg/kg	8.0	2.4		W418192	DT	05/05/14 13:10	
EPA 6010B	Antimony	< 2.0	mg/kg	2.0	0.8		W418143	MCE	05/02/14 13:14	
EPA 6010B	Arsenic	< 2.5	mg/kg	2.5	0.8		W418143	MCE	05/02/14 13:14	
EPA 6010B	<b>Barium</b>	217	mg/kg	0.200	0.038		W418143	MCE	05/02/14 13:14	B7
EPA 6010B	<b>Beryllium</b>	1.01	mg/kg	0.200	0.028		W418143	MCE	05/02/14 13:14	
EPA 6010B	Cadmium	< 0.20	mg/kg	0.20	0.04		W418143	MCE	05/02/14 13:14	
EPA 6010B	<b>Calcium</b>	47800	mg/kg	4.0	2.3		W418143	MCE	05/02/14 13:14	B7
EPA 6010B	<b>Chromium</b>	16.1	mg/kg	0.60	0.07		W418143	MCE	05/02/14 13:14	
EPA 6010B	<b>Cobalt</b>	7.46	mg/kg	0.60	0.07		W418143	MCE	05/02/14 13:14	
EPA 6010B	<b>Copper</b>	246	mg/kg	1.00	0.35		W418143	MCE	05/02/14 13:14	
EPA 6010B	<b>Iron</b>	18000	mg/kg	6.0	2.7		W418143	MCE	05/02/14 13:14	B7
EPA 6010B	<b>Lead</b>	24.2	mg/kg	0.75	0.25		W418143	MCE	05/02/14 13:14	
EPA 6010B	<b>Magnesium</b>	3910	mg/kg	6.0	3.4		W418143	MCE	05/02/14 13:14	B7
EPA 6010B	<b>Manganese</b>	562	mg/kg	0.40	0.08		W418143	MCE	05/02/14 13:14	B7
EPA 6010B	<b>Nickel</b>	16.8	mg/kg	1.00	0.13		W418143	MCE	05/02/14 13:14	
EPA 6010B	<b>Potassium</b>	2870	mg/kg	50.0	8.30		W418143	MCE	05/02/14 13:14	
EPA 6010B	Selenium	< 4.0	mg/kg	4.0	0.09		W418143	MCE	05/02/14 13:14	
EPA 6010B	Silver	< 0.50	mg/kg	0.50	0.08		W418143	MCE	05/02/14 13:14	
EPA 6010B	<b>Sodium</b>	146	mg/kg	50.0	3.3		W418143	MCE	05/02/14 13:14	
EPA 6010B	Thallium	< 1.5	mg/kg	1.5	0.7		W418143	MCE	05/02/14 13:14	
EPA 6010B	<b>Vanadium</b>	31.4	mg/kg	0.50	0.06		W418143	MCE	05/02/14 13:14	
EPA 6010B	<b>Zinc</b>	77.1	mg/kg	1.00	0.18		W418143	MCE	05/02/14 13:14	
EPA 7471A	Mercury	< 0.033	mg/kg	0.033	0.004		W418129	STA	05/05/14 12:12	

**Percent Solids**

Percent Solids	% Solids	96.2	%	0.1			W418144	HC	05/02/14 08:30	
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director





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

**Project Name: Chino Routine / HURLEY YARDS**  
 Work Order: **W4D0499**  
 Reported: 06-May-14 11:24

**Quality Control - BLANK Data**

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
<b>Metals (Total) by EPA 6000/7000 Methods</b>								
EPA 6010B	Aluminum	mg/kg	<8.0	2.4	8.0	W418192	05-May-14	
EPA 6010B	Antimony	mg/kg	<2.0	0.8	2.0	W418143	02-May-14	
EPA 6010B	Arsenic	mg/kg	<2.5	0.8	2.5	W418143	02-May-14	
EPA 6010B	Barium	mg/kg	<0.200	0.038	0.200	W418143	02-May-14	B7
EPA 6010B	Beryllium	mg/kg	<0.200	0.028	0.200	W418143	02-May-14	
EPA 6010B	Cadmium	mg/kg	<0.20	0.04	0.20	W418143	02-May-14	
EPA 6010B	Calcium	mg/kg	11.7	2.3	4.0	W418143	02-May-14	B7
EPA 6010B	Chromium	mg/kg	<0.60	0.07	0.60	W418143	02-May-14	
EPA 6010B	Cobalt	mg/kg	<0.60	0.07	0.60	W418143	02-May-14	
EPA 6010B	Copper	mg/kg	<1.00	0.35	1.00	W418143	02-May-14	
EPA 6010B	Iron	mg/kg	35.5	2.7	6.0	W418143	02-May-14	B7
EPA 6010B	Lead	mg/kg	<0.75	0.25	0.75	W418143	02-May-14	
EPA 6010B	Magnesium	mg/kg	<6.0	3.4	6.0	W418143	02-May-14	B7
EPA 6010B	Manganese	mg/kg	2.16	0.08	0.40	W418143	02-May-14	B7
EPA 6010B	Nickel	mg/kg	<1.00	0.13	1.00	W418143	02-May-14	
EPA 6010B	Potassium	mg/kg	<50.0	8.30	50.0	W418143	02-May-14	
EPA 6010B	Selenium	mg/kg	<4.0	0.09	4.0	W418143	02-May-14	
EPA 6010B	Silver	mg/kg	<0.50	0.08	0.50	W418143	02-May-14	
EPA 6010B	Sodium	mg/kg	<50.0	3.3	50.0	W418143	02-May-14	
EPA 6010B	Thallium	mg/kg	<1.5	0.7	1.5	W418143	02-May-14	
EPA 6010B	Vanadium	mg/kg	<0.50	0.06	0.50	W418143	02-May-14	
EPA 6010B	Zinc	mg/kg	<1.00	0.18	1.00	W418143	02-May-14	
EPA 7471A	Mercury	mg/kg	<0.033	0.004	0.033	W418129	05-May-14	

**Quality Control - LABORATORY CONTROL SAMPLE Data**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
<b>Metals (Total) by EPA 6000/7000 Methods</b>									
EPA 6010B	Aluminum	mg/kg	104	100	104	80 - 120	W418192	05-May-14	
EPA 6010B	Antimony	mg/kg	96.3	100	96.3	80 - 120	W418143	02-May-14	
EPA 6010B	Arsenic	mg/kg	95.6	100	95.6	80 - 120	W418143	02-May-14	
EPA 6010B	Barium	mg/kg	104	100	104	80 - 120	W418143	02-May-14	B7
EPA 6010B	Beryllium	mg/kg	105	100	105	80 - 120	W418143	02-May-14	
EPA 6010B	Cadmium	mg/kg	97.4	100	97.4	80 - 120	W418143	02-May-14	
EPA 6010B	Calcium	mg/kg	2050	2000	102	80 - 120	W418143	02-May-14	B7
EPA 6010B	Chromium	mg/kg	102	100	102	80 - 120	W418143	02-May-14	
EPA 6010B	Cobalt	mg/kg	100	100	100	80 - 120	W418143	02-May-14	
EPA 6010B	Copper	mg/kg	106	100	106	80 - 120	W418143	02-May-14	
EPA 6010B	Iron	mg/kg	1030	1000	103	80 - 120	W418143	02-May-14	B7
EPA 6010B	Lead	mg/kg	97.1	100	97.1	80 - 120	W418143	02-May-14	
EPA 6010B	Magnesium	mg/kg	1970	2000	98.3	80 - 120	W418143	02-May-14	B7
EPA 6010B	Manganese	mg/kg	103	100	103	80 - 120	W418143	02-May-14	B7
EPA 6010B	Nickel	mg/kg	98.6	100	98.6	80 - 120	W418143	02-May-14	
EPA 6010B	Potassium	mg/kg	2080	2000	104	80 - 120	W418143	02-May-14	
EPA 6010B	Selenium	mg/kg	91.0	100	91.0	80 - 120	W418143	02-May-14	
EPA 6010B	Silver	mg/kg	5.06	5.00	101	80 - 120	W418143	02-May-14	
EPA 6010B	Sodium	mg/kg	1890	1900	99.7	80 - 120	W418143	02-May-14	
EPA 6010B	Thallium	mg/kg	95.7	100	95.7	80 - 120	W418143	02-May-14	
EPA 6010B	Vanadium	mg/kg	104	100	104	80 - 120	W418143	02-May-14	
EPA 6010B	Zinc	mg/kg	94.2	100	94.2	80 - 120	W418143	02-May-14	
EPA 7471A	Mercury	mg/kg	0.838	0.833	101	80 - 120	W418129	05-May-14	



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

**Project Name: Chino Routine / HURLEY YARDS**  
 Work Order: **W4D0499**  
 Reported: 06-May-14 11:24

**Quality Control - MATRIX SPIKE Data**

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
<b>Metals (Total) by EPA 6000/7000 Methods</b>										
EPA 6010B	Aluminum	mg/kg	18400	11200	100	R > 4S	75 - 125	W418192	05-May-14	M3
EPA 6010B	Antimony	mg/kg	36.5	<2.0	100	36.5	75 - 125	W418143	02-May-14	M2
EPA 6010B	Arsenic	mg/kg	94.7	2.9	100	91.8	75 - 125	W418143	02-May-14	
EPA 6010B	Barium	mg/kg	240	189	100	50.8	75 - 125	W418143	02-May-14	B7,M2
EPA 6010B	Beryllium	mg/kg	101	1.04	100	99.9	75 - 125	W418143	02-May-14	
EPA 6010B	Cadmium	mg/kg	91.0	<0.20	100	91.0	75 - 125	W418143	02-May-14	
EPA 6010B	Calcium	mg/kg	16600	16500	2000	R > 4S	75 - 125	W418143	02-May-14	B7,M3
EPA 6010B	Chromium	mg/kg	112	13.8	100	97.8	75 - 125	W418143	02-May-14	
EPA 6010B	Cobalt	mg/kg	99.3	10.8	100	88.5	75 - 125	W418143	02-May-14	
EPA 6010B	Copper	mg/kg	142	36.4	100	105	75 - 125	W418143	02-May-14	
EPA 6010B	Iron	mg/kg	20800	22800	1000	R > 4S	75 - 125	W418143	02-May-14	B7,M3
EPA 6010B	Lead	mg/kg	112	22.8	100	88.8	75 - 125	W418143	02-May-14	
EPA 6010B	Magnesium	mg/kg	7340	5890	2000	72.5	75 - 125	W418143	02-May-14	B7,M2
EPA 6010B	Manganese	mg/kg	550	572	100	R > 4S	75 - 125	W418143	02-May-14	B7,M3
EPA 6010B	Nickel	mg/kg	109	11.4	100	98.0	75 - 125	W418143	02-May-14	
EPA 6010B	Potassium	mg/kg	5200	2720	2000	124	75 - 125	W418143	02-May-14	
EPA 6010B	Selenium	mg/kg	85.2	<4.0	100	85.2	75 - 125	W418143	02-May-14	
EPA 6010B	Silver	mg/kg	5.02	<0.50	5.00	100	75 - 125	W418143	02-May-14	
EPA 6010B	Sodium	mg/kg	2110	254	1900	97.4	75 - 125	W418143	02-May-14	
EPA 6010B	Thallium	mg/kg	87.0	<1.5	100	87.0	75 - 125	W418143	02-May-14	
EPA 6010B	Vanadium	mg/kg	147	45.9	100	101	75 - 125	W418143	02-May-14	
EPA 6010B	Zinc	mg/kg	152	73.5	100	78.1	75 - 125	W418143	02-May-14	
EPA 7471A	Mercury	mg/kg	0.368	0.083	0.333	85.5	75 - 125	W418129	05-May-14	

**Quality Control - MATRIX SPIKE DUPLICATE Data**

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	%R	RPD	RPD Limit	Batch ID	Analyzed	Notes
<b>Metals (Total) by EPA 6000/7000 Methods</b>											
EPA 6010B	Aluminum	mg/kg	11600	18400	100	R > 4S	45.3	20	W418192	05-May-14	M3
EPA 6010B	Antimony	mg/kg	28.7	36.5	100	28.7	23.7	20	W418143	02-May-14	M2,R2B
EPA 6010B	Arsenic	mg/kg	94.8	94.7	100	91.9	0.1	20	W418143	02-May-14	
EPA 6010B	Barium	mg/kg	296	240	100	106	20.7	20	W418143	02-May-14	B7,R4
EPA 6010B	Beryllium	mg/kg	101	101	100	99.6	0.3	20	W418143	02-May-14	
EPA 6010B	Cadmium	mg/kg	90.7	91.0	100	90.7	0.3	20	W418143	02-May-14	
EPA 6010B	Calcium	mg/kg	19900	16600	2000	R > 4S	18.3	20	W418143	02-May-14	B7,M3
EPA 6010B	Chromium	mg/kg	116	112	100	102	3.5	20	W418143	02-May-14	
EPA 6010B	Cobalt	mg/kg	103	99.3	100	92.1	3.6	20	W418143	02-May-14	
EPA 6010B	Copper	mg/kg	158	142	100	121	10.6	20	W418143	02-May-14	
EPA 6010B	Iron	mg/kg	28100	20800	1000	R > 4S	29.8	20	W418143	02-May-14	B7,M3,R5
EPA 6010B	Lead	mg/kg	121	112	100	97.9	7.9	20	W418143	02-May-14	
EPA 6010B	Magnesium	mg/kg	9480	7340	2000	179	25.4	20	W418143	02-May-14	B7,M1,R5
EPA 6010B	Manganese	mg/kg	836	550	100	R > 4S	41.3	20	W418143	02-May-14	B7,M3,R5
EPA 6010B	Nickel	mg/kg	115	109	100	103	4.8	20	W418143	02-May-14	
EPA 6010B	Potassium	mg/kg	6000	5200	2000	164	14.2	20	W418143	02-May-14	M1
EPA 6010B	Selenium	mg/kg	85.0	85.2	100	85.0	0.2	20	W418143	02-May-14	
EPA 6010B	Silver	mg/kg	4.88	5.02	5.00	97.6	2.8	20	W418143	02-May-14	
EPA 6010B	Sodium	mg/kg	2150	2110	1900	99.6	2.0	20	W418143	02-May-14	
EPA 6010B	Thallium	mg/kg	85.1	87.0	100	85.1	2.3	20	W418143	02-May-14	
EPA 6010B	Vanadium	mg/kg	161	147	100	115	9.3	20	W418143	02-May-14	
EPA 6010B	Zinc	mg/kg	182	152	100	109	18.4	20	W418143	02-May-14	
EPA 7471A	Mercury	mg/kg	0.373	0.368	0.333	87.0	1.4	20	W418129	05-May-14	



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

**Project Name: Chino Routine / HURLEY YARDS**  
Work Order: **W4D0499**  
Reported: 06-May-14 11:24

**Quality Control - POST DIGESTION SPIKE Data**

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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**Metals (Total) by EPA 6000/7000 Methods**

EPA 6010B	Antimony	mg/kg	39.6	<2.0	50.0	79.2	75 - 125	W418143	02-May-14	
EPA 6010B	Barium	mg/kg	204	189	50.0	29.9	75 - 125	W418143	02-May-14	B7,M2
EPA 6010B	Magnesium	mg/kg	6010	5890	1000	11.7	75 - 125	W418143	02-May-14	B7,M2

**Notes and Definitions**

B7	Target analyte detected in method blank exceeded method QC limits, but concentrations in the samples are at least 10x the blank concentration.
M1	Matrix spike recovery was high, but the LCS recovery was acceptable.
M2	Matrix spike recovery was low, but the LCS recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to spike level. The LCS was acceptable.
R2B	RPD exceeded the laboratory acceptance limit.
R4	MS/MSD RPD exceeded the method acceptance limit. Recovery met acceptance criteria.
R5	MS/MSD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

# Anatek Labs, Inc.

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report

<b>Sample Number</b>	140501018-001	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014	12:00 PM
<b>Client Sample ID</b>	TOPSOIL-FOWLER'S	<b>Sampling Time</b>	12:55 PM			
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-01			
<b>Comments</b>						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,1,1-Trichloroethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,1,2-Trichloroethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,1-Dichloroethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,1-Dichloroethene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,1-dichloropropene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2,3-Trichlorobenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2,3-Trichloropropane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2,4-Trichlorobenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2,4-Trimethylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2-Dibromoethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2-Dichlorobenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2-Dichloroethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2-Dichloropropane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,3,5-Trimethylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,3-Dichlorobenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,3-Dichloropropane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,4-Dichlorobenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
2,2-Dichloropropane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
2-Chlorotoluene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
2-hexanone	ND	mg/kg	0.025	5/2/2014	SAT	EPA 8260B	
4-Chlorotoluene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Acetone	ND	mg/kg	0.025	5/2/2014	SAT	EPA 8260B	
Acrylonitrile	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Benzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Bromobenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report

**Sample Number** 140501018-001      **Sampling Date** 4/29/2014      **Date/Time Received** 5/1/2014 12:00 PM  
**Client Sample ID** TOPSOIL-FOWLER'S      **Sampling Time** 12:55 PM  
**Matrix** Soil      **Sample Location** W4D0499-01

### Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Bromochloromethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Bromodichloromethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Bromoform	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Bromomethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Carbon disulfide	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Carbon Tetrachloride	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Chlorobenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Chloroethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Chloroform	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Chloromethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
cis-1,2-dichloroethene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
cis-1,3-Dichloropropene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Dibromochloromethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Dibromomethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Dichlorodifluoromethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Ethylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Hexachlorobutadiene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Isopropylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
m+p-Xylene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	mg/kg	0.025	5/2/2014	SAT	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	mg/kg	0.025	5/2/2014	SAT	EPA 8260B	
Methylene chloride	ND	mg/kg	0.025	5/2/2014	SAT	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Naphthalene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
n-Butylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
n-Propylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
o-Xylene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
p-isopropyltoluene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
sec-Butylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report

<b>Sample Number</b>	140501018-001	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014 12:00 PM
<b>Client Sample ID</b>	TOPSOIL-FOWLER'S	<b>Sampling Time</b>	12:55 PM		
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-01		

**Comments**

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Styrene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
tert-Butylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Tetrachloroethene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Toluene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
trans-1,2-Dichloroethene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
trans-1,3-Dichloropropene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Trichloroethene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Trichloroflouromethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Vinyl Chloride	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
%moisture	3.1	Percent		5/1/2014	SAT	%moisture	

## Surrogate Data

<b>Sample Number</b>	140501018-001		
<b>Surrogate Standard</b>	<b>Method</b>	<b>Percent Recovery</b>	<b>Control Limits</b>
1,2-Dichlorobenzene-d4	EPA 8260B	103.2	70-130
4-Bromofluorobenzene	EPA 8260B	98.4	70-130
Toluene-d8	EPA 8260B	98.8	70-130

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**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report

**Sample Number** 140501018-002      **Sampling Date** 4/29/2014      **Date/Time Received** 5/1/2014 12:00 PM  
**Client Sample ID** FILL SOIL-FOWLER'S      **Sampling Time** 1:05 PM  
**Matrix** Soil      **Sample Location** W4D0499-02

### Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,1,1-Trichloroethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,1,2-Trichloroethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,1-Dichloroethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,1-Dichloroethene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,1-dichloropropene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2,3-Trichlorobenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2,3-Trichloropropane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2,4-Trichlorobenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2,4-Trimethylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2-Dibromoethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2-Dichlorobenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2-Dichloroethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,2-Dichloropropane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,3,5-Trimethylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,3-Dichlorobenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,3-Dichloropropane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
1,4-Dichlorobenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
2,2-Dichloropropane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
2-Chlorotoluene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
2-hexanone	ND	mg/kg	0.025	5/2/2014	SAT	EPA 8260B	
4-Chlorotoluene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Acetone	ND	mg/kg	0.025	5/2/2014	SAT	EPA 8260B	
Acrylonitrile	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Benzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Bromobenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Bromochloromethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report

<b>Sample Number</b>	140501018-002	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014 12:00 PM
<b>Client Sample ID</b>	FILL SOIL-FOWLER'S	<b>Sampling Time</b>	1:05 PM		
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-02		

### Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Bromodichloromethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Bromoform	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Bromomethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Carbon disulfide	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Carbon Tetrachloride	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Chlorobenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Chloroethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Chloroform	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Chloromethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
cis-1,2-dichloroethene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
cis-1,3-Dichloropropene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Dibromochloromethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Dibromomethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Dichlorodifluoromethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Ethylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Hexachlorobutadiene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Isopropylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
m+p-Xylene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Methyl ethyl ketone (MEK)	0.207	mg/kg	0.025	5/2/2014	SAT	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	mg/kg	0.025	5/2/2014	SAT	EPA 8260B	
Methylene chloride	ND	mg/kg	0.025	5/2/2014	SAT	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Naphthalene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
n-Butylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
n-Propylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
o-Xylene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
p-isopropyltoluene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
sec-Butylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Styrene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	



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**Client:** FREEPORT MCMORAN - CHINO MINES      **Batch #:** 140501018  
**Address:** PO BOX 10      **Project Name:** SVL #W4D0499  
BAYARD, NM 88023  
**Attn:** PAM PINSON

## Analytical Results Report

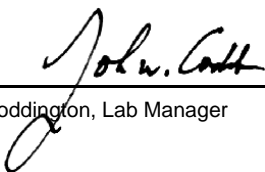
<b>Sample Number</b>	140501018-002	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014	12:00 PM
<b>Client Sample ID</b>	FILL SOIL-FOWLER'S	<b>Sampling Time</b>	1:05 PM			
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-02			
<b>Comments</b>						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
tert-Butylbenzene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Tetrachloroethene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Toluene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
trans-1,2-Dichloroethene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
trans-1,3-Dichloropropene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Trichloroethene	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Trichlorofluoromethane	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
Vinyl Chloride	ND	mg/kg	0.005	5/2/2014	SAT	EPA 8260B	
%moisture	3.4	Percent		5/1/2014	SAT	%moisture	

## Surrogate Data

<b>Sample Number</b>	140501018-002		
<b>Surrogate Standard</b>	<b>Method</b>	<b>Percent Recovery</b>	<b>Control Limits</b>
1,2-Dichlorobenzene-d4	EPA 8260B	104.4	70-130
4-Bromofluorobenzene	EPA 8260B	98.8	70-130
Toluene-d8	EPA 8260B	98.4	70-130

Authorized Signature

  
John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level  
ND Not Detected  
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.  
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report Quality Control Data

### Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Trichloroethene	0.00967	mg/kg	0.01	96.7	72-125	5/2/2014	5/2/2014
Toluene	0.00975	mg/kg	0.01	97.5	74-126	5/2/2014	5/2/2014
Tetrachloroethene	0.0102	mg/kg	0.01	102.0	68-130	5/2/2014	5/2/2014
o-Xylene	0.00987	mg/kg	0.01	98.7	77-123	5/2/2014	5/2/2014
Ethylbenzene	0.00980	mg/kg	0.01	98.0	76-121	5/2/2014	5/2/2014
Chlorobenzene	0.00972	mg/kg	0.01	97.2	80-123	5/2/2014	5/2/2014
Benzene	0.00962	mg/kg	0.01	96.2	75-125	5/2/2014	5/2/2014
1,1-Dichloroethene	0.00971	mg/kg	0.01	97.1	60-143	5/2/2014	5/2/2014

### Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
140501042-002A	Trichloroethene	ND	0.396	mg/kg	0.432	91.7	66-139	5/2/2014	5/2/2014
140501042-002A	Toluene	ND	0.398	mg/kg	0.432	92.1	62-138	5/2/2014	5/2/2014
140501042-002A	Tetrachloroethene	ND	0.412	mg/kg	0.432	95.4	63-149	5/2/2014	5/2/2014
140501042-002A	o-Xylene	ND	0.400	mg/kg	0.432	92.6	64-136	5/2/2014	5/2/2014
140501042-002A	Ethylbenzene	ND	0.399	mg/kg	0.432	92.4	66-131	5/2/2014	5/2/2014
140501042-002A	Chlorobenzene	ND	0.398	mg/kg	0.432	92.1	66-128	5/2/2014	5/2/2014
140501042-002A	Benzene	ND	0.397	mg/kg	0.432	91.9	65-139	5/2/2014	5/2/2014
140501042-002A	1,1-Dichloroethene	ND	0.409	mg/kg	0.432	94.7	66-142	5/2/2014	5/2/2014

### Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Trichloroethene	0.420	mg/kg	0.432	97.2	5.9	0-25	5/2/2014	5/2/2014
Toluene	0.419	mg/kg	0.432	97.0	5.1	0-25	5/2/2014	5/2/2014
Tetrachloroethene	0.430	mg/kg	0.432	99.5	4.3	0-25	5/2/2014	5/2/2014
o-Xylene	0.420	mg/kg	0.432	97.2	4.9	0-25	5/2/2014	5/2/2014
Ethylbenzene	0.419	mg/kg	0.431	97.2	4.9	0-25	5/2/2014	5/2/2014
Chlorobenzene	0.412	mg/kg	0.432	95.4	3.5	0-25	5/2/2014	5/2/2014
Benzene	0.418	mg/kg	0.432	96.8	5.2	0-25	5/2/2014	5/2/2014
1,1-Dichloroethene	0.434	mg/kg	0.432	100.5	5.9	0-25	5/2/2014	5/2/2014

### Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595  
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report Quality Control Data

### Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,1,1-Trichloroethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,1,2-Trichloroethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,1-Dichloroethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,1-Dichloroethene	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,1-dichloropropene	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,2,3-Trichlorobenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,2,3-Trichloropropane	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,2,4-Trichlorobenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,2,4-Trimethylbenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,2-Dibromo-3-chloropropane(DBCP)	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,2-Dibromoethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,2-Dichlorobenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,2-Dichloroethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,2-Dichloropropane	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,3,5-Trimethylbenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,3-Dichlorobenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,3-Dichloropropane	ND	mg/kg	0.005	5/2/2014	5/2/2014
1,4-Dichlorobenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
2,2-Dichloropropane	ND	mg/kg	0.005	5/2/2014	5/2/2014
2-Chlorotoluene	ND	mg/kg	0.005	5/2/2014	5/2/2014
2-hexanone	ND	mg/kg	0.025	5/2/2014	5/2/2014
4-Chlorotoluene	ND	mg/kg	0.005	5/2/2014	5/2/2014
Acetone	ND	mg/kg	0.025	5/2/2014	5/2/2014
Acrylonitrile	ND	mg/kg	0.005	5/2/2014	5/2/2014
Benzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
Bromobenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
Bromochloromethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
Bromodichloromethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
Bromoform	ND	mg/kg	0.005	5/2/2014	5/2/2014
Bromomethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
Carbon disulfide	ND	mg/kg	0.005	5/2/2014	5/2/2014
Carbon Tetrachloride	ND	mg/kg	0.005	5/2/2014	5/2/2014
Chlorobenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
Chloroethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
Chloroform	ND	mg/kg	0.005	5/2/2014	5/2/2014

### Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595  
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cer0095; FL(NELAP): E871099

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**Client:** FREEPORT MCMORAN - CHINO MINES

**Batch #:** 140501018

**Address:** PO BOX 10  
BAYARD, NM 88023

**Project Name:** SVL #W4D0499

**Attn:** PAM PINSON

## Analytical Results Report Quality Control Data

### Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chloromethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
cis-1,2-dichloroethene	ND	mg/kg	0.005	5/2/2014	5/2/2014
cis-1,3-Dichloropropene	ND	mg/kg	0.005	5/2/2014	5/2/2014
Dibromochloromethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
Dibromomethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
Dichlorodifluoromethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
Ethylbenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
Hexachlorobutadiene	ND	mg/kg	0.005	5/2/2014	5/2/2014
Isopropylbenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
m+p-Xylene	ND	mg/kg	0.005	5/2/2014	5/2/2014
Methyl ethyl ketone (MEK)	ND	mg/kg	0.025	5/2/2014	5/2/2014
Methyl isobutyl ketone (MIBK)	ND	mg/kg	0.025	5/2/2014	5/2/2014
Methylene chloride	ND	mg/kg	0.025	5/2/2014	5/2/2014
methyl-t-butyl ether (MTBE)	ND	mg/kg	0.005	5/2/2014	5/2/2014
Naphthalene	ND	mg/kg	0.005	5/2/2014	5/2/2014
n-Butylbenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
n-Propylbenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
o-Xylene	ND	mg/kg	0.005	5/2/2014	5/2/2014
p-isopropyltoluene	ND	mg/kg	0.005	5/2/2014	5/2/2014
sec-Butylbenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
Styrene	ND	mg/kg	0.005	5/2/2014	5/2/2014
tert-Butylbenzene	ND	mg/kg	0.005	5/2/2014	5/2/2014
Tetrachloroethene	ND	mg/kg	0.005	5/2/2014	5/2/2014
Toluene	ND	mg/kg	0.005	5/2/2014	5/2/2014
trans-1,2-Dichloroethene	ND	mg/kg	0.005	5/2/2014	5/2/2014
trans-1,3-Dichloropropene	ND	mg/kg	0.005	5/2/2014	5/2/2014
Trichloroethene	ND	mg/kg	0.005	5/2/2014	5/2/2014
Trichlorofluoromethane	ND	mg/kg	0.005	5/2/2014	5/2/2014
Vinyl Chloride	ND	mg/kg	0.005	5/2/2014	5/2/2014

AR Acceptable Range  
ND Not Detected  
PQL Practical Quantitation Limit  
RPD Relative Percentage Difference

### Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; OR:ID200001-002; WA:C595  
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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**Client:** FREEPORT MCMORAN - CHINO MINES      **Batch #:** 140501018  
**Address:** PO BOX 10      **Project Name:** SVL #W4D0499  
BAYARD, NM 88023  
**Attn:** PAM PINSON

## Analytical Results Report

<b>Sample Number</b>	140501018-001	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014	12:00 PM
<b>Client Sample ID</b>	TOPSOIL-FOWLER'S	<b>Sampling Time</b>	12:55 PM	<b>Extraction Date</b>	5/4/2014	
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-01			
<b>Comments</b>						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/Kg	25	5/5/2014	KFG	EPA 8015Bmod	
Lube Oil	ND	mg/Kg	100	5/5/2014	KFG	EPA 8015Bmod	
%moisture	3.1	Percent		5/1/2014	SAT	%moisture	

## Surrogate Data

<b>Sample Number</b>	140501018-001		
<b>Surrogate Standard</b>	hexacosane	<b>Method</b>	<b>Percent Recovery</b>
		EPA 8015Bmod	89.0
			<b>Control Limits</b>
			50-150

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**Client:** FREEPORT MCMORAN - CHINO MINES      **Batch #:** 140501018  
**Address:** PO BOX 10      **Project Name:** SVL #W4D0499  
BAYARD, NM 88023  
**Attn:** PAM PINSON

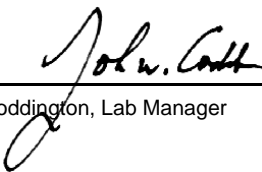
## Analytical Results Report

<b>Sample Number</b>	140501018-002	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014	12:00 PM	
<b>Client Sample ID</b>	FILL SOIL-FOWLER'S	<b>Sampling Time</b>	1:05 PM	<b>Extraction Date</b>	5/4/2014		
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-02				
<b>Comments</b>							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/Kg	25	5/5/2014	KFG	EPA 8015Bmod	
Lube Oil	ND	mg/Kg	100	5/5/2014	KFG	EPA 8015Bmod	
%moisture	3.4	Percent		5/1/2014	SAT	%moisture	

## Surrogate Data

<b>Sample Number</b>	140501018-002			
<b>Surrogate Standard</b>		<b>Method</b>	<b>Percent Recovery</b>	<b>Control Limits</b>
hexacosane		EPA 8015Bmod	90.4	50-150

Authorized Signature

  
John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level  
ND Not Detected  
PQL Practical Quantitation Limit

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report Quality Control Data

### Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	104	mg/kg	100	104.0	50-150	5/4/2014	5/5/2014

### Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
140501018-001	Diesel	ND	103	mg/kg	100	103.0	50-150	5/4/2014	5/5/2014

### Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	106	mg/kg	100	106.0	2.9	0-50	5/4/2014	5/5/2014

### Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/Kg	25	5/4/2014	5/5/2014
Lube Oil	ND	mg/Kg	100	5/4/2014	5/5/2014

AR Acceptable Range  
ND Not Detected  
PQL Practical Quantitation Limit  
RPD Relative Percentage Difference

### Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595  
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report

<b>Sample Number</b>	140501018-001	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014	12:00 PM
<b>Client Sample ID</b>	TOPSOIL-FOWLER'S	<b>Sampling Time</b>	12:55 PM	<b>Extraction Date</b>	5/2/2014	
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-01			
<b>Comments</b>						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
1,2-Dichlorobenzene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
1,2-Diphenyl hydrazine	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
1,3-Dichlorobenzene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
1,4-Dichlorobenzene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
1-Methylnaphthalene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,3,5,6-Tetrachlorophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,4,5-Trichlorophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,4,6-Trichlorophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,4-Dichlorophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,4-Dimethylphenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,4-Dinitrophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,4-Dinitrotoluene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,6-Dinitrotoluene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2-Chloronaphthalene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2-Chlorophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2-Methylnaphthalene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2-Methylphenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2-Nitroaniline	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2-Nitrophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
3,3'-Dichlorobenzidine	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
3+4-Methylphenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
3-Nitroaniline	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
4-Bromophenyl-phenylether	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
4-Chloro-3-methylphenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
4-Chloroaniline	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
4-Chlorophenyl-phenylether	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
4-Nitroaniline	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
4-Nitrophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Acenaphthene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Acenaphthylene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Aniline	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595  
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099



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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report

<b>Sample Number</b>	140501018-001	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014 12:00 PM
<b>Client Sample ID</b>	TOPSOIL-FOWLER'S	<b>Sampling Time</b>	12:55 PM	<b>Extraction Date</b>	5/2/2014
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-01		
<b>Comments</b>					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Anthracene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Benzidine	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Benzo(ghi)perylene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Benzo[a]anthracene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Benzo[a]pyrene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Benzo[b]fluoranthene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Benzo[k]fluoranthene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Benzyl alcohol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
bis(2-Chloroethyl)ether	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Butylbenzylphthalate	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Carbazole	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Chrysene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Dibenz[a,h]anthracene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Dibenzofuran	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Diethylphthalate	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Dimethylphthalate	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Di-n-butylphthalate	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Di-n-octylphthalate	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Fluoranthene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Fluorene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Hexachlorobenzene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Hexachlorobutadiene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Hexachlorocyclopentadiene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Hexachloroethane	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Isophorone	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Naphthalene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Nitrobenzene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Nitrosodimethylamine	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
n-Nitroso-di-n-propylamine	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
n-Nitrosodiphenylamine	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Pentachlorophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	

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**Client:** FREEPORT MCMORAN - CHINO MINES      **Batch #:** 140501018  
**Address:** PO BOX 10      **Project Name:** SVL #W4D0499  
BAYARD, NM 88023  
**Attn:** PAM PINSON

## Analytical Results Report

<b>Sample Number</b>	140501018-001	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014	12:00 PM
<b>Client Sample ID</b>	TOPSOIL-FOWLER'S	<b>Sampling Time</b>	12:55 PM	<b>Extraction Date</b>	5/2/2014	
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-01			
<b>Comments</b>						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Phenanthrene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Phenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Pyrene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Pyridine	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
%moisture	3.1	Percent		5/1/2014	SAT	%moisture	

## Surrogate Data

<b>Sample Number</b>	140501018-001			
<b>Surrogate Standard</b>	<b>Method</b>	<b>Percent Recovery</b>	<b>Control Limits</b>	
2,4,6-Tribromophenol	EPA 8270D	85.5	32-126	
2-Fluorobiphenyl	EPA 8270D	88.0	31-115	
2-Fluorophenol	EPA 8270D	77.2	16-124	
Nitrobenzene-d5	EPA 8270D	80.2	22-112	
Phenol-d5	EPA 8270D	84.4	17-134	
Terphenyl-d14	EPA 8270D	84.0	21-135	

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**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report

<b>Sample Number</b>	140501018-002	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014 12:00 PM
<b>Client Sample ID</b>	FILL SOIL-FOWLER'S	<b>Sampling Time</b>	1:05 PM	<b>Extraction Date</b>	5/2/2014
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-02		

**Comments**

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
1,2-Dichlorobenzene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
1,2-Diphenyl hydrazine	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
1,3-Dichlorobenzene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
1,4-Dichlorobenzene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
1-Methylnaphthalene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,3,5,6-Tetrachlorophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,4,5-Trichlorophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,4,6-Trichlorophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,4-Dichlorophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,4-Dimethylphenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,4-Dinitrophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,4-Dinitrotoluene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2,6-Dinitrotoluene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2-Chloronaphthalene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2-Chlorophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2-Methylnaphthalene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2-Methylphenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2-Nitroaniline	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
2-Nitrophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
3,3'-Dichlorobenzidine	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
3+4-Methylphenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
3-Nitroaniline	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
4-Bromophenyl-phenylether	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
4-Chloro-3-methylphenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
4-Chloroaniline	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
4-Chlorophenyl-phenylether	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
4-Nitroaniline	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
4-Nitrophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Acenaphthene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Acenaphthylene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Aniline	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Anthracene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report

<b>Sample Number</b>	140501018-002	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014 12:00 PM
<b>Client Sample ID</b>	FILL SOIL-FOWLER'S	<b>Sampling Time</b>	1:05 PM	<b>Extraction Date</b>	5/2/2014
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-02		
<b>Comments</b>					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzidine	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Benzo(ghi)perylene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Benzo[a]anthracene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Benzo[a]pyrene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Benzo[b]fluoranthene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Benzo[k]fluoranthene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Benzyl alcohol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
bis(2-Chloroethyl)ether	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Butylbenzylphthalate	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Carbazole	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Chrysene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Dibenz[a,h]anthracene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Dibenzofuran	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Diethylphthalate	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Dimethylphthalate	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Di-n-butylphthalate	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Di-n-octylphthalate	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Fluoranthene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Fluorene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Hexachlorobenzene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Hexachlorobutadiene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Hexachlorocyclopentadiene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Hexachloroethane	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Isophorone	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Naphthalene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Nitrobenzene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Nitrosodimethylamine	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
n-Nitroso-di-n-propylamine	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
n-Nitrosodiphenylamine	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Pentachlorophenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Phenanthrene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595  
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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**Client:** FREEPORT MCMORAN - CHINO MINES      **Batch #:** 140501018  
**Address:** PO BOX 10      **Project Name:** SVL #W4D0499  
BAYARD, NM 88023  
**Attn:** PAM PINSON

## Analytical Results Report

<b>Sample Number</b>	140501018-002	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014	12:00 PM
<b>Client Sample ID</b>	FILL SOIL-FOWLER'S	<b>Sampling Time</b>	1:05 PM	<b>Extraction Date</b>	5/2/2014	
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-02			
<b>Comments</b>						

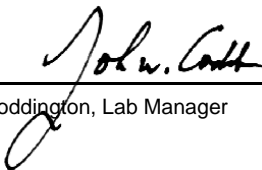
  

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Phenol	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Pyrene	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
Pyridine	ND	mg/kg	0.05	5/2/2014	EMP	EPA 8270D	
%moisture	3.4	Percent		5/1/2014	SAT	%moisture	

## Surrogate Data

<b>Sample Number</b>	140501018-002			
<b>Surrogate Standard</b>	<b>Method</b>	<b>Percent Recovery</b>	<b>Control Limits</b>	
2,4,6-Tribromophenol	EPA 8270D	58.7	32-126	
2-Fluorobiphenyl	EPA 8270D	48.6	31-115	
2-Fluorophenol	EPA 8270D	45.2	16-124	
Nitrobenzene-d5	EPA 8270D	44.2	22-112	
Phenol-d5	EPA 8270D	65.9	17-134	
Terphenyl-d14	EPA 8270D	44.2	21-135	

Authorized Signature

  
John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level  
ND Not Detected  
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.  
The results reported relate only to the samples indicated.  
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report Quality Control Data

### Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	0.913	mg/kg	1	91.3	49-145	5/2/2014	5/2/2014
Phenol	1.01	mg/kg	1	101.0	49-131	5/2/2014	5/2/2014
Pentachlorophenol	0.822	mg/kg	1	82.2	8-128	5/2/2014	5/2/2014
n-Nitroso-di-n-propylamine	1.03	mg/kg	1	103.0	77-133	5/2/2014	5/2/2014
bis(2-Ethylhexyl)phthalate	1.17	mg/kg	1	117.0	38-147	5/2/2014	5/2/2014
Acenaphthene	1.14	mg/kg	1	114.0	52-143	5/2/2014	5/2/2014
4-Nitrophenol	0.726	mg/kg	1	72.6	34-122	5/2/2014	5/2/2014
4-Chloro-3-methylphenol	0.947	mg/kg	1	94.7	64-134	5/2/2014	5/2/2014
2-Chlorophenol	1.10	mg/kg	1	110.0	74-131	5/2/2014	5/2/2014
2,4-Dinitrotoluene	1.02	mg/kg	1	102.0	63-138	5/2/2014	5/2/2014
1,4-Dichlorobenzene	1.11	mg/kg	1	111.0	13-140	5/2/2014	5/2/2014
1,2,4-Trichlorobenzene	1.08	mg/kg	1	108.0	41-136	5/2/2014	5/2/2014

### Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
140501018-002	Pyrene	ND	0.868	mg/kg	1	86.8	49-145	5/2/2014	5/2/2014
140501018-002	Phenol	ND	0.997	mg/kg	1	99.7	49-131	5/2/2014	5/2/2014
140501018-002	Pentachlorophenol	ND	0.565	mg/kg	1	56.5	8-128	5/2/2014	5/2/2014
140501018-002	n-Nitroso-di-n-propylamine	ND	1.03	mg/kg	1	103.0	77-133	5/2/2014	5/2/2014
140501018-002	bis(2-Ethylhexyl)phthalate	ND	1.12	mg/kg	1	112.0	38-147	5/2/2014	5/2/2014
140501018-002	Acenaphthene	ND	1.12	mg/kg	1	112.0	52-143	5/2/2014	5/2/2014
140501018-002	4-Nitrophenol	ND	0.918	mg/kg	1	91.8	34-122	5/2/2014	5/2/2014
140501018-002	4-Chloro-3-methylphenol	ND	0.918	mg/kg	1	91.8	64-134	5/2/2014	5/2/2014
140501018-002	2-Chlorophenol	ND	1.07	mg/kg	1	107.0	74-131	5/2/2014	5/2/2014
140501018-002	2,4-Dinitrotoluene	ND	0.977	mg/kg	1	97.7	63-138	5/2/2014	5/2/2014
140501018-002	1,4-Dichlorobenzene	ND	1.02	mg/kg	1	102.0	13-140	5/2/2014	5/2/2014
140501018-002	1,2,4-Trichlorobenzene	ND	1.06	mg/kg	1	106.0	41-136	5/2/2014	5/2/2014

### Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	0.844	mg/kg	1	84.4	2.8	0-36	5/2/2014	5/2/2014
Phenol	0.974	mg/kg	1	97.4	2.3	0-35	5/2/2014	5/2/2014

### Comments:

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report Quality Control Data

### Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pentachlorophenol	0.633	mg/kg	1	63.3	11.4	0-47	5/2/2014	5/2/2014
n-Nitroso-di-n-propylamine	1.04	mg/kg	1	104.0	1.0	0-38	5/2/2014	5/2/2014
bis(2-Ethylhexyl)phthalate	1.08	mg/kg	1	108.0	3.6	0-50	5/2/2014	5/2/2014
Acenaphthene	1.11	mg/kg	1	111.0	0.9	0-19	5/2/2014	5/2/2014
4-Nitrophenol	0.892	mg/kg	1	89.2	2.9	0-50	5/2/2014	5/2/2014
4-Chloro-3-methylphenol	0.929	mg/kg	1	92.9	1.2	0-33	5/2/2014	5/2/2014
2-Chlorophenol	1.04	mg/kg	1	104.0	2.8	0-50	5/2/2014	5/2/2014
2,4-Dinitrotoluene	0.980	mg/kg	1	98.0	0.3	0-47	5/2/2014	5/2/2014
1,4-Dichlorobenzene	1.01	mg/kg	1	101.0	1.0	0-27	5/2/2014	5/2/2014
1,2,4-Trichlorobenzene	1.07	mg/kg	1	107.0	0.9	0-24	5/2/2014	5/2/2014

### Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	mg/kg	0.05	5/2/2014	5/2/2014
1,2-Dichlorobenzene	ND	mg/kg	0.05	5/2/2014	5/2/2014
1,2-Diphenyl hydrazine	ND	mg/kg	0.05	5/2/2014	5/2/2014
1,3-Dichlorobenzene	ND	mg/kg	0.05	5/2/2014	5/2/2014
1,4-Dichlorobenzene	ND	mg/kg	0.05	5/2/2014	5/2/2014
1-Methylnaphthalene	ND	mg/kg	0.05	5/2/2014	5/2/2014
2,3,4,6-Tetrachlorophenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
2,3,5,6-Tetrachlorophenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
2,4,5-Trichlorophenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
2,4,6-Trichlorophenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
2,4-Dichlorophenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
2,4-Dimethylphenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
2,4-Dinitrophenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
2,4-Dinitrotoluene	ND	mg/kg	0.05	5/2/2014	5/2/2014
2,6-Dinitrotoluene	ND	mg/kg	0.05	5/2/2014	5/2/2014
2-Chloronaphthalene	ND	mg/kg	0.05	5/2/2014	5/2/2014
2-Chlorophenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
2-Methylnaphthalene	ND	mg/kg	0.05	5/2/2014	5/2/2014
2-Methylphenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
2-Nitroaniline	ND	mg/kg	0.05	5/2/2014	5/2/2014
2-Nitrophenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
3,3'-Dichlorobenzidine	ND	mg/kg	0.05	5/2/2014	5/2/2014
3+4-Methylphenol	ND	mg/kg	0.05	5/2/2014	5/2/2014

### Comments:

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report Quality Control Data

### Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
3-Nitroaniline	ND	mg/kg	0.05	5/2/2014	5/2/2014
4,6-Dinitro-2-methylphenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
4-Bromophenyl-phenylether	ND	mg/kg	0.05	5/2/2014	5/2/2014
4-Chloro-3-methylphenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
4-Chloroaniline	ND	mg/kg	0.05	5/2/2014	5/2/2014
4-Chlorophenyl-phenylether	ND	mg/kg	0.05	5/2/2014	5/2/2014
4-Nitroaniline	ND	mg/kg	0.05	5/2/2014	5/2/2014
4-Nitrophenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
Acenaphthene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Acenaphthylene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Aniline	ND	mg/kg	0.05	5/2/2014	5/2/2014
Anthracene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Benzidine	ND	mg/kg	0.05	5/2/2014	5/2/2014
Benzo(ghi)perylene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Benzo[a]anthracene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Benzo[a]pyrene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Benzo[b]fluoranthene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Benzo[k]fluoranthene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Benzyl alcohol	ND	mg/kg	0.05	5/2/2014	5/2/2014
bis(2-Chloroethoxy)methane	ND	mg/kg	0.05	5/2/2014	5/2/2014
bis(2-Chloroethyl)ether	ND	mg/kg	0.05	5/2/2014	5/2/2014
bis(2-chloroisopropyl)ether	ND	mg/kg	0.05	5/2/2014	5/2/2014
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.05	5/2/2014	5/2/2014
Butylbenzylphthalate	ND	mg/kg	0.05	5/2/2014	5/2/2014
Carbazole	ND	mg/kg	0.05	5/2/2014	5/2/2014
Chrysene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Dibenz[a,h]anthracene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Dibenzofuran	ND	mg/kg	0.05	5/2/2014	5/2/2014
Diethylphthalate	ND	mg/kg	0.05	5/2/2014	5/2/2014
Dimethylphthalate	ND	mg/kg	0.05	5/2/2014	5/2/2014
Di-n-butylphthalate	ND	mg/kg	0.05	5/2/2014	5/2/2014
Di-n-octylphthalate	ND	mg/kg	0.05	5/2/2014	5/2/2014
Fluoranthene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Fluorene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Hexachlorobenzene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Hexachlorobutadiene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Hexachlorocyclopentadiene	ND	mg/kg	0.05	5/2/2014	5/2/2014

### Comments:

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report Quality Control Data

### Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Hexachloroethane	ND	mg/kg	0.05	5/2/2014	5/2/2014
Indeno[1,2,3-cd]pyrene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Isophorone	ND	mg/kg	0.05	5/2/2014	5/2/2014
Naphthalene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Nitrobenzene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Nitrosodimethylamine	ND	mg/kg	0.05	5/2/2014	5/2/2014
n-Nitroso-di-n-propylamine	ND	mg/kg	0.05	5/2/2014	5/2/2014
n-Nitrosodiphenylamine	ND	mg/kg	0.05	5/2/2014	5/2/2014
Pentachlorophenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
Phenanthrene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Phenol	ND	mg/kg	0.05	5/2/2014	5/2/2014
Pyrene	ND	mg/kg	0.05	5/2/2014	5/2/2014
Pyridine	ND	mg/kg	0.05	5/2/2014	5/2/2014

AR Acceptable Range  
ND Not Detected  
PQL Practical Quantitation Limit  
RPD Relative Percentage Difference

### Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595  
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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report

<b>Sample Number</b>	140501018-001	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014	12:00 PM
<b>Client Sample ID</b>	TOPSOIL-FOWLER'S	<b>Sampling Time</b>	12:55 PM	<b>Extraction Date</b>	5/1/2014	
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-01			
<b>Comments</b>						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
4,4-DDD	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
4,4-DDE	0.0167	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
4,4-DDT	0.0160	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
Aldrin	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
alpha-BHC	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
beta-BHC	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
Chlordane	ND	mg/Kg	0.05	5/1/2014	SAT	EPA 8081A	
delta-BHC	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
Dieldrin	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
Endosulfan I	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	L2
Endosulfan II	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
Endosulfan sulfate	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
Endrin	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
Endrin aldehyde	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
Endrin ketone	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
gamma-BHC (Lindane)	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
Heptachlor	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	

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**Client:** FREEPORT MCMORAN - CHINO MINES      **Batch #:** 140501018  
**Address:** PO BOX 10      **Project Name:** SVL #W4D0499  
BAYARD, NM 88023  
**Attn:** PAM PINSON

## Analytical Results Report

<b>Sample Number</b>	140501018-001	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014	12:00 PM
<b>Client Sample ID</b>	TOPSOIL-FOWLER'S	<b>Sampling Time</b>	12:55 PM	<b>Extraction Date</b>	5/1/2014	
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-01			
<b>Comments</b>						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Heptachlor epoxide	ND	mg/Kg	0.01	5/1/2014	SAT	EPA 8081A	
Methoxychlor	ND	mg/Kg	0.05	5/1/2014	SAT	EPA 8081A	
Toxaphene	ND	mg/Kg	0.05	5/1/2014	SAT	EPA 8081A	
%moisture	3.1	Percent		5/1/2014	SAT	%moisture	

## Surrogate Data

<b>Sample Number</b>	140501018-001			
<b>Surrogate Standard</b>		<b>Method</b>	<b>Percent Recovery</b>	<b>Control Limits</b>
DCB		EPA 8081A	104.6	30-130

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**Address:** PO BOX 10  
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**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report

<b>Sample Number</b>	140501018-002	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014	12:00 PM
<b>Client Sample ID</b>	FILL SOIL-FOWLER'S	<b>Sampling Time</b>	1:05 PM	<b>Extraction Date</b>	5/1/2014	
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-02			
<b>Comments</b>						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
4,4-DDD	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
4,4-DDE	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
4,4-DDT	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
Aldrin	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
alpha-BHC	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
beta-BHC	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
Chlordane	ND	mg/Kg	0.05	5/2/2014	SAT	EPA 8081A	
delta-BHC	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
Dieldrin	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
Endosulfan I	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	L2
Endosulfan II	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
Endosulfan sulfate	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
Endrin	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
Endrin aldehyde	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
Endrin ketone	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
gamma-BHC (Lindane)	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
Heptachlor	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	

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**Client:** FREEPORT MCMORAN - CHINO MINES      **Batch #:** 140501018  
**Address:** PO BOX 10      **Project Name:** SVL #W4D0499  
BAYARD, NM 88023  
**Attn:** PAM PINSON

## Analytical Results Report

<b>Sample Number</b>	140501018-002	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014	12:00 PM
<b>Client Sample ID</b>	FILL SOIL-FOWLER'S	<b>Sampling Time</b>	1:05 PM	<b>Extraction Date</b>	5/1/2014	
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-02			

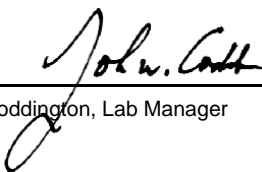
**Comments**

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Heptachlor epoxide	ND	mg/Kg	0.01	5/2/2014	SAT	EPA 8081A	
Methoxychlor	ND	mg/Kg	0.05	5/2/2014	SAT	EPA 8081A	
Toxaphene	ND	mg/Kg	0.05	5/2/2014	SAT	EPA 8081A	
%moisture	3.4	Percent		5/1/2014	SAT	%moisture	

## Surrogate Data

<b>Sample Number</b>	140501018-002			
<b>Surrogate Standard</b>		<b>Method</b>	<b>Percent Recovery</b>	<b>Control Limits</b>
DCB		EPA 8081A	84.6	30-130

Authorized Signature

  
John Coddington, Lab Manager

L2      The associated blank spike recovery was below laboratory acceptance limits  
MCL      EPA's Maximum Contaminant Level  
ND      Not Detected  
PQL      Practical Quantitation Limit

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The results reported relate only to the samples indicated.  
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report Quality Control Data

### Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Endosulfan II	0.0182	mg/Kg	0.05	36.4	20-150	5/1/2014	5/1/2014
4,4-DDE	0.0392	mg/Kg	0.05	78.4	20-150	5/1/2014	5/1/2014
4,4-DDT	0.0419	mg/Kg	0.05	83.8	20-150	5/1/2014	5/1/2014
Aldrin	0.0376	mg/Kg	0.05	75.2	20-150	5/1/2014	5/1/2014
alpha-BHC	0.0433	mg/Kg	0.05	86.6	20-150	5/1/2014	5/1/2014
beta-BHC	0.0420	mg/Kg	0.05	84.0	20-150	5/1/2014	5/1/2014
delta-BHC	0.0402	mg/Kg	0.05	80.4	20-150	5/1/2014	5/1/2014
4,4-DDD	0.0404	mg/Kg	0.05	80.8	20-150	5/1/2014	5/1/2014
Endosulfan I	0.00805	mg/Kg	0.05	16.1	20-150	5/1/2014	5/1/2014
Methoxychlor	0.0440	mg/Kg	0.05	88.0	20-150	5/1/2014	5/1/2014
Endosulfan sulfate	0.0419	mg/Kg	0.05	83.8	20-150	5/1/2014	5/1/2014
Endrin	0.0455	mg/Kg	0.05	91.0	20-150	5/1/2014	5/1/2014
Endrin aldehyde	0.0239	mg/Kg	0.05	47.8	20-150	5/1/2014	5/1/2014
Endrin ketone	0.0378	mg/Kg	0.05	75.6	20-150	5/1/2014	5/1/2014
gamma-BHC (Lindane)	0.0435	mg/Kg	0.05	87.0	20-150	5/1/2014	5/1/2014
Heptachlor	0.0436	mg/Kg	0.05	87.2	20-150	5/1/2014	5/1/2014
Heptachlor epoxide	0.0402	mg/Kg	0.05	80.4	20-150	5/1/2014	5/1/2014
Dieldrin	0.0398	mg/Kg	0.05	79.6	20-150	5/1/2014	5/1/2014

### Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
140501018-002	Endosulfan II	ND	0.0263	mg/Kg	0.05	52.6	10-160	5/1/2014	5/1/2014
140501018-002	4,4-DDE	ND	0.0423	mg/Kg	0.05	84.6	10-160	5/1/2014	5/1/2014
140501018-002	4,4-DDT	ND	0.0466	mg/Kg	0.05	93.2	10-160	5/1/2014	5/1/2014
140501018-002	Aldrin	ND	0.0417	mg/Kg	0.05	83.4	10-160	5/1/2014	5/1/2014
140501018-002	alpha-BHC	ND	0.0460	mg/Kg	0.05	92.0	10-160	5/1/2014	5/1/2014
140501018-002	beta-BHC	ND	0.0494	mg/Kg	0.05	98.8	10-160	5/1/2014	5/1/2014
140501018-002	delta-BHC	ND	0.0446	mg/Kg	0.05	89.2	10-160	5/1/2014	5/1/2014
140501018-002	4,4-DDD	ND	0.0441	mg/Kg	0.05	88.2	10-160	5/1/2014	5/1/2014
140501018-002	Endosulfan I	ND	0.0110	mg/Kg	0.05	22.0	10-160	5/1/2014	5/1/2014
140501018-002	Methoxychlor	ND	0.0444	mg/Kg	0.05	88.8	10-160	5/1/2014	5/1/2014
140501018-002	Endosulfan sulfate	ND	0.0466	mg/Kg	0.05	93.2	10-160	5/1/2014	5/1/2014
140501018-002	Endrin	ND	0.0524	mg/Kg	0.05	104.8	10-160	5/1/2014	5/1/2014
140501018-002	Endrin aldehyde	ND	0.0263	mg/Kg	0.05	52.6	10-160	5/1/2014	5/1/2014

### Comments:

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report Quality Control Data

### Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
140501018-002	Endrin ketone	ND	0.0411	mg/Kg	0.05	82.2	10-160	5/1/2014	5/1/2014
140501018-002	gamma-BHC (Lindane)	ND	0.0508	mg/Kg	0.05	101.6	10-160	5/1/2014	5/1/2014
140501018-002	Heptachlor	ND	0.0519	mg/Kg	0.05	103.8	10-160	5/1/2014	5/1/2014
140501018-002	Heptachlor epoxide	ND	0.0451	mg/Kg	0.05	90.2	10-160	5/1/2014	5/1/2014
140501018-002	Dieldrin	ND	0.0443	mg/Kg	0.05	88.6	10-160	5/1/2014	5/1/2014

### Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Endosulfan II	0.0258	mg/Kg	0.05	51.6	1.9	0-50	5/1/2014	5/1/2014
4,4-DDE	0.0443	mg/Kg	0.05	88.6	4.6	0-50	5/1/2014	5/1/2014
4,4-DDT	0.0485	mg/Kg	0.05	97.0	4.0	0-50	5/1/2014	5/1/2014
Aldrin	0.0426	mg/Kg	0.05	85.2	2.1	0-50	5/1/2014	5/1/2014
alpha-BHC	0.0465	mg/Kg	0.05	93.0	1.1	0-50	5/1/2014	5/1/2014
beta-BHC	0.0593	mg/Kg	0.05	118.6	18.2	0-50	5/1/2014	5/1/2014
delta-BHC	0.0442	mg/Kg	0.05	88.4	0.9	0-50	5/1/2014	5/1/2014
4,4-DDD	0.0461	mg/Kg	0.05	92.2	4.4	0-50	5/1/2014	5/1/2014
Endosulfan I	0.00954	mg/Kg	0.05	19.1	14.2	0-50	5/1/2014	5/1/2014
Methoxychlor	0.0457	mg/Kg	0.05	91.4	2.9	0-50	5/1/2014	5/1/2014
Endosulfan sulfate	0.0470	mg/Kg	0.05	94.0	0.9	0-50	5/1/2014	5/1/2014
Endrin	0.0532	mg/Kg	0.05	106.4	1.5	0-50	5/1/2014	5/1/2014
Endrin aldehyde	0.0273	mg/Kg	0.05	54.6	3.7	0-50	5/1/2014	5/1/2014
Endrin ketone	0.0471	mg/Kg	0.05	94.2	13.6	0-50	5/1/2014	5/1/2014
gamma-BHC (Lindane)	0.0505	mg/Kg	0.05	101.0	0.6	0-50	5/1/2014	5/1/2014
Heptachlor	0.0517	mg/Kg	0.05	103.4	0.4	0-50	5/1/2014	5/1/2014
Heptachlor epoxide	0.0442	mg/Kg	0.05	88.4	2.0	0-50	5/1/2014	5/1/2014
Dieldrin	0.0453	mg/Kg	0.05	90.6	2.2	0-50	5/1/2014	5/1/2014

### Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
4,4-DDD	ND	mg/Kg	0.01	5/1/2014	5/1/2014
4,4-DDE	ND	mg/Kg	0.01	5/1/2014	5/1/2014
4,4-DDT	ND	mg/Kg	0.01	5/1/2014	5/1/2014
Aldrin	ND	mg/Kg	0.01	5/1/2014	5/1/2014
alpha-BHC	ND	mg/Kg	0.01	5/1/2014	5/1/2014
beta-BHC	ND	mg/Kg	0.01	5/1/2014	5/1/2014

### Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595  
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report Quality Control Data

### Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chlordane	ND	mg/Kg	0.05	5/1/2014	5/1/2014
delta-BHC	ND	mg/Kg	0.01	5/1/2014	5/1/2014
Dieldrin	ND	mg/Kg	0.01	5/1/2014	5/1/2014
Endosulfan I	ND	mg/Kg	0.01	5/1/2014	5/1/2014
Endosulfan II	ND	mg/Kg	0.01	5/1/2014	5/1/2014
Endosulfan sulfate	ND	mg/Kg	0.01	5/1/2014	5/1/2014
Endrin	ND	mg/Kg	0.01	5/1/2014	5/1/2014
Endrin aldehyde	ND	mg/Kg	0.01	5/1/2014	5/1/2014
Endrin ketone	ND	mg/Kg	0.01	5/1/2014	5/1/2014
gamma-BHC (Lindane)	ND	mg/Kg	0.01	5/1/2014	5/1/2014
Heptachlor	ND	mg/Kg	0.01	5/1/2014	5/1/2014
Heptachlor epoxide	ND	mg/Kg	0.01	5/1/2014	5/1/2014
Methoxychlor	ND	mg/Kg	0.05	5/1/2014	5/1/2014
Toxaphene	ND	mg/Kg	0.05	5/1/2014	5/1/2014

AR Acceptable Range  
ND Not Detected  
PQL Practical Quantitation Limit  
RPD Relative Percentage Difference

### Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595  
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**Client:** FREEPORT MCMORAN - CHINO MINES      **Batch #:** 140501018  
**Address:** PO BOX 10      **Project Name:** SVL #W4D0499  
BAYARD, NM 88023  
**Attn:** PAM PINSON

## Analytical Results Report

<b>Sample Number</b>	140501018-001	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014	12:00 PM
<b>Client Sample ID</b>	TOPSOIL-FOWLER'S	<b>Sampling Time</b>	12:55 PM	<b>Extraction Date</b>	5/1/2014	
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-01			
<b>Comments</b>						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	mg/Kg	0.1	5/1/2014	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	mg/Kg	0.1	5/1/2014	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	mg/Kg	0.1	5/1/2014	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	mg/Kg	0.1	5/1/2014	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	mg/Kg	0.1	5/1/2014	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	mg/Kg	0.1	5/1/2014	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	mg/Kg	0.1	5/1/2014	SAT	EPA 8082	
PCB 8082 (total)	ND	mg/kg	0.1	5/1/2014	SAT	EPA 8082	
%moisture	3.1	Percent		5/1/2014	SAT	%moisture	

## Surrogate Data

<b>Sample Number</b>	140501018-001			
<b>Surrogate Standard</b>		<b>Method</b>	<b>Percent Recovery</b>	<b>Control Limits</b>
DCB		EPA 8082	102.0	30-130

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**Client:** FREEPORT MCMORAN - CHINO MINES      **Batch #:** 140501018  
**Address:** PO BOX 10      **Project Name:** SVL #W4D0499  
BAYARD, NM 88023  
**Attn:** PAM PINSON

## Analytical Results Report

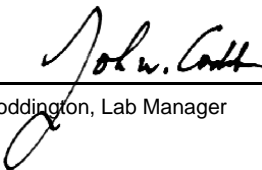
<b>Sample Number</b>	140501018-002	<b>Sampling Date</b>	4/29/2014	<b>Date/Time Received</b>	5/1/2014 12:00 PM
<b>Client Sample ID</b>	FILL SOIL-FOWLER'S	<b>Sampling Time</b>	1:05 PM	<b>Extraction Date</b>	5/1/2014
<b>Matrix</b>	Soil	<b>Sample Location</b>	W4D0499-02		
<b>Comments</b>					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	mg/Kg	0.1	5/2/2014	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	mg/Kg	0.1	5/2/2014	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	mg/Kg	0.1	5/2/2014	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	mg/Kg	0.1	5/2/2014	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	mg/Kg	0.1	5/2/2014	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	mg/Kg	0.1	5/2/2014	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	mg/Kg	0.1	5/2/2014	SAT	EPA 8082	
PCB 8082 (total)	ND	mg/kg	0.1	5/2/2014	SAT	EPA 8082	
%moisture	3.4	Percent		5/1/2014	SAT	%moisture	

## Surrogate Data

<b>Sample Number</b>	140501018-002			
<b>Surrogate Standard</b>		<b>Method</b>	<b>Percent Recovery</b>	<b>Control Limits</b>
DCB		EPA 8082	79.5	30-130

Authorized Signature

  
\_\_\_\_\_  
John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level  
ND Not Detected  
PQL Practical Quantitation Limit

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**Client:** FREEPORT MCMORAN - CHINO MINES  
**Address:** PO BOX 10  
BAYARD, NM 88023  
**Attn:** PAM PINSON

**Batch #:** 140501018  
**Project Name:** SVL #W4D0499

## Analytical Results Report Quality Control Data

### Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
PCB 8082 (total)	0.474	mg/kg	0.4	118.5	30-150	5/1/2014	5/1/2014

### Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
140501018-001	PCB 8082 (total)	ND	0.527	mg/kg	0.4	131.8	30-150	5/1/2014	5/1/2014

### Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
PCB 8082 (total)	0.488	mg/kg	0.4	122.0	7.7	0-50	5/1/2014	5/1/2014

### Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Aroclor 1016 (PCB-1016)	ND	mg/Kg	0.1	5/1/2014	5/1/2014
Aroclor 1221 (PCB-1221)	ND	mg/Kg	0.1	5/1/2014	5/1/2014
Aroclor 1232 (PCB-1232)	ND	mg/Kg	0.1	5/1/2014	5/1/2014
Aroclor 1242 (PCB-1242)	ND	mg/Kg	0.1	5/1/2014	5/1/2014
Aroclor 1248 (PCB-1248)	ND	mg/Kg	0.1	5/1/2014	5/1/2014
Aroclor 1254 (PCB-1254)	ND	mg/Kg	0.1	5/1/2014	5/1/2014
Aroclor 1260 (PCB-1260)	ND	mg/Kg	0.1	5/1/2014	5/1/2014
PCB 8082 (total)	ND	mg/kg	0.1	5/1/2014	5/1/2014

AR Acceptable Range  
ND Not Detected  
PQL Practical Quantitation Limit  
RPD Relative Percentage Difference

### Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595  
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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## Login Report

**Customer Name:** FREEPORT MCMORAN - CHINO MINES  
PO BOX 10  
BAYARD NM 88023

**Order ID:** 140501018  
**Order Date:** 5/1/2014

**Contact Name:** PAM PINSON

**Project Name:** SVL #W4D0499

**Comment:**

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**Sample #:** 140501018-001 **Customer Sample #:** TOPSOIL-FOWLER'S

**Recv'd:**  **Collector:** **Date Collected:** 4/29/2014  
**Quantity:** 1 **Matrix:** Soil **Date Received:** 5/1/2014 12:00:00 PM

**Comment:**

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	5/5/2014	<u>2 Days</u>
OC PEST 8081A	M	EPA 8081A	5/5/2014	<u>2 Days</u>
PCB 8082	M	EPA 8082	5/5/2014	<u>2 Days</u>
SVOC 8270D MOSC	M	EPA 8270D	5/5/2014	<u>2 Days</u>
TPHDX	M	EPA 8015Bmod	5/5/2014	<u>2 Days</u>
VOLATILES 8260 SVL LIST	M	EPA 8260B	5/5/2014	<u>2 Days</u>

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**Sample #:** 140501018-002 **Customer Sample #:** FILL SOIL-FOWLER'S

**Recv'd:**  **Collector:** **Date Collected:** 4/29/2014  
**Quantity:** 1 **Matrix:** Soil **Date Received:** 5/1/2014 12:00:00 PM

**Comment:**

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	5/5/2014	<u>2 Days</u>
OC PEST 8081A	M	EPA 8081A	5/5/2014	<u>2 Days</u>
PCB 8082	M	EPA 8082	5/5/2014	<u>2 Days</u>
SVOC 8270D MOSC	M	EPA 8270D	5/5/2014	<u>2 Days</u>
TPHDX	M	EPA 8015Bmod	5/5/2014	<u>2 Days</u>
VOLATILES 8260 SVL LIST	M	EPA 8260B	5/5/2014	<u>2 Days</u>

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**Comment:**

### SAMPLE CONDITION RECORD

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Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	2.5
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

Established in 1960, Golder Associates is a global, employee-owned organization that helps clients find sustainable solutions to the challenges of finite resources, energy and water supply and management, waste management, urbanization, and climate change. We provide a wide range of independent consulting, design, and construction services in our specialist areas of earth, environment, and energy. By building strong relationships and meeting the needs of clients, our people have created one of the most trusted professional services organizations in the world.

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