Construction Quality Assurance Report
Lake One Reclamation
Chino Mines Company – Hurley, New Mexico

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Submitted to:

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CONSTRUCTION QUALITY ASSURANCE REPORT
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

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Engineer's Certificate
State of New Mexico

I, Travis S. LaBlanc, P.E., hereby certify that I am a professional engineer licensed in the State of New Mexico, qualified in Civil Engineering, that the accompanying Lake One Reclamation Construction Quality Assurance Report (CQAR), including the as-built record drawings, was prepared by me or under my supervision. Further, I hereby certify that closure closeout of the Lake One Reclamation project was conducted in compliance with the Lake One Reclamation Construction Design Quality Assurance Plan.

______________________________, License Number 17215
EMC²

Date submitted:______________________

CONSTRUCTION QUALITY ASSURANCE REPORT
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CHINO MINES COMPANY – HURLEY, NEW MEXICO

1.0 INTRODUCTION

Freeport-McMoRan Chino Mines Company (Chino) has completed the Lake One Reclamation project at the Chino Mine located on the east side of the town of Hurley in Grant County, New Mexico (NM). The Lake One Reclamation project includes the Lake One tailing area and the Slag Pile. This document provides the Construction Quality Assurance Report (CQAR) for the Lake One reclamation work.

The Lake One reclamation generally included: material import, placement and regrading to achieve positive drainage in the project area; constructing surface water controls; placing a minimum three foot thick cover; and revegetation. The project reclamation area is approximately 249 acres. The project's northern area is located in Sections 31/32, Township 18 South, Range 12 West. The project's southern area is located in Sections 5/6, Township 19 South, Range 12 West. The project area elevations range from 5,670 to 5,545 feet in the northern and southern areas, respectively. The reclaimed Slag Pile is located in the project's northwestern area. The project's eastern area is bound by rolling, rocky native terrain referred to locally as "Razorback Ridge". The project's western area is bound by Chino Mine operation facilities. The project area drains to the 1916 Whitewater Diversion Channel at the southeast corner of Lake One. Drawing 1 provides a site location map and aerial detailing the project boundary.

This CQAR was prepared to document that reclamation activities were performed consistent with the Lake One Reclamation Construction Design Quality Assurance Plan [(CDQAP) EMC^2, September 2012]. The CDQAP was developed to meet project closeout requirements established in: the NM Mining Act (NMMA); the NM Environment Department's (NMED) Supplemental Discharge Permit for Closure DP-1340 (DP-1340); and NM Mining and Minerals Division (MMD) Permit Revision 01-1 to Permit No. GR009RE (GR009RE). The CDQAP was approved by NMED and MMD on December 12, 2012. Condition 18 of DP-1340 states that within 180 days of project completion, Chino shall submit a final Construction Design Quality Assurance (CDQA) report to NMED. The CDQA report shall include at a minimum: a summary of work conducted; as-built drawings; a final topographic map with no greater than two foot contour intervals for the top surfaces and no greater than ten feet for the outslopes; construction photographs; the location of borrow areas; soil testing results; and laboratory analytical reports. This CQAR represents the final CDQA for the Lake One reclamation and includes the above required documents as presented below in Sections 2 through 5 as well as in the attached Drawings and Appendices A through H.

Construction quality assurance (CQA) for the duration of the reclamation work was performed by EMC^2, the design Engineer of Record (EOR) firm. The primary construction contractor was Freeport-McMoRan Reclamation Services (FMRS). Construction quality control (CQC) during construction was provided by FMRS. Seeding and mulching was completed by FMRS. Contech Engineered Solutions LLC. (Contech) provided design for the articulated concrete block (ACB) mats placed as revetment in down drains on the Slag Pile. Golder Associates Inc. (Golder), contracted by Contech, performed CQA during the ACB mats installation. Riprap quarry operations and delivery of riprap to the site was performed by T.G. McCauley Construction. Additional activities performed by subcontractors under contract to FMRS included: Hamilton Construction Company (and their subcontractors Field Lining Systems, Inc. and Fusion Technologies, Inc.) who installed the utility corridor UC-3A culvert crossing at the southeast end of Lake One, and who constructed the utility corridor UC1 west of Lake One; Badger Western Exploration and Drilling Company (Badger Western) who performed monitoring wells decommissioning and adjustments; and 5D Mining & Construction, Inc. (and their subcontractor American Environmental Group Ltd) who installed the Slag Pile Seep Collection System and the high density polyethylene (HDPE) liner for the lined portion of Channel P1.

The attached Drawings illustrate pre- and post-reclamation grading, cover thickness, channel profiles and cross sections, down drain profiles, seep collection system details and corrugated metal pipe (CMP) culvert profiles and details. The attached appendices include the following summaries: Appendix A - EOR design clarifications issued during construction; Appendix B - laboratory results for proctor and riprap testing; Appendix C - field testing data results; Appendix D - cover thickness checks; Appendix E - cover material physical properties; Appendix F - seeding and mulching; Appendix G – construction photographs organized by activity and date; and Appendix H - ACB design record drawings and Golder's ACB mats construction certification letters.

1.1 Background

Lake One was created in 1910 to collect and store water for use by the Hurley Mill. The lake was created by constructing an earthen dam to impound surface water runoff from Whitewater Creek. Over time Lake One gradually accumulated sediments from Whitewater Creek and later tailing from the mill. Around 1942 the mill began thickening the tailing as a water conservation measure. By 1955, the water from Lake One had become unsuitable for use in the mill and was sent to the thickeners to be neutralized by excess alkalinity in the tailings. Use of water from Lake One was discontinued in 1981 and the Hurley Mill was shut down in 1982. In 1984, flows from Whitewater Creek were diverted around the eastern side of Lake One. In 2003, Whitewater Creek was diverted along an engineered channel cut into the volcanic bedrock north of Razorback Ridge, through James Canyon and a volcanic bedrock ridge east to Bolton Draw. Chino mined tailing from Lake One for copper recovery between 2003 and 2009. A smelter was built adjacent to Lake One in 1939 and the Slag Pile was developed by depositing slag onto the flanks of the northwestern portion of the lake. The smelter was demolished in June 2007. In 2012, Chino initiated plans to reclaim inactive facilities including Lake One and the Slag Pile.

1.2 Construction Summary

The Lake One reclamation work was performed from April 2013 through August 2014 in accordance with the design requirements included in the CDQAP. Table 1 provides milestones for the main construction activities.

Earthwork activities began in April 2013 with Lake One tailing subgrade regrading. Well closure activities began in May 2013 and consisted of grouting and abandoning two adjacent monitoring wells at the Slag Pile toe (one deep and one shallow) where the reclamation design required approximately 20 feet of backfill. Nine other monitoring wells within the Lake One reclamation area were modified by either extending or shortening well casings to match final grade. Monitoring well abandonment was completed in May 2013 and well modifications were completed in July 2014. The Slag Pile seep collection system construction began in May 2013 and was completed in October 2013.

Slag Pile top and slope subgrade surface regrading began in May 2013. Final regrading of the Lake One tailing and Slag Pile subgrade was completed in June 2014. Placement of cover material from designated borrow sources began in August 2013 and was completed in July 2014. Surface water channel construction, riprap, ACB mats placement and Channel P1 HDPE liner began in August 2013 and was completed in August 2014.

TABLE 1 – CONSTRUCTION MILESTONES

Activity	Start Date	End Date
UC-3A Culvert Crossing	July 2012	August 2012
Subgrade Earthwork	April 2013	June 2014
Well Closures and Modifications	May 2013	July 2014
Slag Pile Toe Seep Collection System	May 2013	October 2013
Riprap Production and Placement	May 2013	July 2014
Cover Borrow	August 2013	July 2014
Channel Construction	August 2013	August 2014
Revegetation	March 2014	June 2014

1.3 Design Clarifications and Changes to CDQAP Design

During the course of construction, design clarifications (DCIs) were issued to document: additional details for the design; minor field fit conditions; and modifications to design details to accommodate constructability, equipment constraints and field conditions. All DCIs issued conformed to the design criteria and did not deviate from the intent of the CDQAP. Appendix A Table A-1 summarizes the DCIs that were issued during construction. The DCIs are maintained in Chino and EMC^2 project files.

2.0 LAKE ONE RECLAMATION CONSTRUCTION ACTIVITIES

2.1 Pre-Earthwork Activities

2.1.1 Well Abandonment and Modification

Well abandonment activities were initiated and completed in May 2013 and consisted of grouting two monitoring wells. Wells 214-03-1D and 214-03-1S, shown on Drawing 3, were abandoned because they were located at the toe of the Slag Pile where the reclamation design required approximately 20 feet of backfill. Nine other monitoring wells within the Lake One project area, shown on Drawings 3 and 4, were modified by either extending or shortening casings to match final grade as specified in the CDQAP Monitoring Well Summary. Monitoring well modifications were completed in July 2014. Badger Western, a NM licensed well driller, performed the well abandonment and modification work per the NMED well construction and abandonment guidelines. Well abandonment and modification records are maintained in Chino and EMC^2 project files and are available upon request. The following table summarizes the well abandonment on Lake One.

Well Number	Latitude	Longitude	Hole Depth (ft)	Water Depth (ft)	Depth of Cement Grout (ft)	Cubic Feet of Grout
214-2003-1D	N 32° 42' 09.30"	W 108° 07' 01.00"	82	36	82	11.23
214-2003-1S	N 32° 42' 09.30"	W 108° 07' 00.80"	35	26	35	7.50

2.1.2 Slag Pile Seep Collection System

A seep collection system was constructed at the toe of the Slag Pile and consisted of a geotextile wrapped PVC perforated drain pipe placed within a 2.5-foot-thick gravel drain rock layer wrapped in a non-woven geotextile. A HDPE liner was installed under the non-woven geotextile along the east side of the drain to promote drainage through the seep collection system. The seep collection system drains from the northeast corner of the Slag Pile to the existing Lower Lined Pond at the southeast corner of the Slag Pile. The seep collection system slopes at approximately 0.5 percent (%) or steeper consistent with the CDQAP. Drawing 28 provides the seep collection system details.

2.2 Subgrade Earthwork Activities

Subgrade work involved backfill and/or regrading to create a subgrade surface with a series of channels that convey flow to a central channel (Channel P1). Channel P1 drains southeast into the 1916 Whitewater Diversion Channel.

2.2.1 Slag Pile Subgrade

The pre-reclamation Slag Pile was approximately 100 feet tall, had a top elevation at approximately 5,670 feet and nominal 1.5-foot-horizontal-to-1.0-foot-vertical (1.5H:1V) south and east facing slopes. The Slag Pile's outer slopes were regraded by excavating the stockpile crest and filling at the toe to achieve a cut-to-fill material balance consistent with the design. The Slag Pile fill material (including slag material and/or grading fill) was placed in controlled lifts. Drawing 7 shows the Slag Pile as-built final cover surface isopach cut/fill areas. The Slag Pile slopes were constructed with 23 foot wide benches as required for surface water channels and construction equipment access. The interslope bench angles were constructed at 3H:1V or flatter. The Slag Pile top was sloped to drain at a minimum slope of 0.5% by using import material.

Slag Pile regrading was performed from May 2013 through June 2014 using conventional construction equipment including bulldozers, haul trucks, and motor graders. Water trucks were used for dust suppression and moisture conditioning of import fill materials. Regrading activities began on the south slope with local cut-to-fill placement and continued to the top surface of the Slag Pile. Subgrade regrading and import material was placed in accordance with the approved equipment method specifications for grading fill.

A 32-inch process pipeline that extended across the Slag Pile's top surface and north slope was maintained during reclamation because this is an active operational pipeline. The design drawings called for the north section of the pipeline to be buried in place while the south pipeline section was to be left undisturbed with berms provided for containment in the event of a pipeline leak. The south and north slope sections of the pipeline subgrade were constructed as designed. However, a portion of the north section of the pipeline that was to be buried was also left undisturbed and containment berms were placed in order for operations to maintain access and inspection of the pipeline.

2.2.2 Lake One Subgrade

The Lake One subgrade surface was constructed to provide positive drainage to channels. The final subgrade surface was constructed at a minimum 0.5% grade up to a 5% grade, as required by DP-1340. The Lake One subgrade surface was constructed by excavation and fill placement and importing grading fill. Fills were placed in controlled lifts. Drawings 7 and 8 show the Lake One as-built final cover surface isopach cut/fill areas.

Regrading was performed from April 2013 through June 2014 using conventional construction equipment including bulldozers, scrapers and motor graders. Water trucks were used for dust suppression and moisture conditioning of fill and cover materials. Regrading activities began in the center section of Lake One with local cut to fill operations. The majority of the cut material was placed in the fill areas at the south end of Lake One. Regrading and grading fill material was placed in accordance with approved equipment method specifications.

2.3 Borrow Activities

2.3.1 Borrow Material

As identified in the CDQAP and as shown on Drawing 1, borrow material for both grading fill and cover was obtained from three borrow areas: the Razorback Ridge Borrow Area (87 acres), the South James Canyon Borrow Area (90 acres), and Borrow Area B (43 acres). The borrow areas can be described as native soils, including alluvium and Gila Conglomerate. Localized surface areas on the Razorback Ridge Borrow Area and the South James Canyon Borrow Area with wind-blown tailing were removed and used as grading fill (i.e., below the base of the cover) within Lake One. Borrow material properties were checked daily by FMRS CQC and confirmed by EMC^2 CQA personnel to meet the requirements for cover material.

2.3.2 Processed Riprap

Lone Mountain Quarry, located about two miles west of the Town of Hurley in Grant County, NM, was the limestone riprap source for processed riprap. Riprap was produced by drilling, blasting, crushing and screening to produce riprap bedding (ASTM C33 Grading Size No. 57 aggregate) and 3-inch, 6-inch and 8-inch D_{50} (i.e., median particle size) riprap. Following riprap placement, a smooth drum roller or excavator was used to complete the riprap placement. A 6-inch thick layer of riprap bedding was placed as a filter layer for the 6-inch and 8-inch D_{50} riprap sections.

2.4 Cover Placement

Cover placement work included excavation and hauling of cover materials from designated borrow areas. The entire Lake One reclamation area (~249 acres) received a minimum 3-foot-thick cover layer, excluding surface water channels. All surface water channels received a minimum 2-foot-thick layer of Gila Bedding material prior to any revetment placement. NMED, FMRS CQC, and EMC^2 CQA personnel verified cover thickness during excavation of test pits.

Prior to cover placement, the regraded subgrade was surveyed and compared to the design. Cover placement began in August 2013 and was completed in July 2014. Cover material was placed in a single uniform lift.

2.5 Channel Construction

Surface water channels are generally categorized into three types: top surface channels, outslope channels, and down drains. The majority of runoff from the Lake One reclamation area is conveyed through a series of channels to ultimately discharge into the 1916 Whitewater Diversion Channel via culverts located at the southeast corner of Lake One. Runoff from a small portion on the northwest end of the Slag Pile outslope/top surface area is conveyed via a top surface channel, a down drain, and two outslope channels to discharge to Whitewater Creek north of Lake One.

Channels were excavated into the subgrade surface as required to provide the design channel depth, including the required Gila Bedding and revetment thickness, and to achieve the design channel gradients. With the exception of the channels constructed in slag subgrade material, the channel subgrade bottom and side slopes were compacted to achieve a minimum density of 95 percent of the maximum Standard Proctor (ASTM D-698) dry density in the upper one foot. If materials were too wet to achieve suitable compaction, the materials were ripped and allowed to dry or the materials were over-excavated and replaced with suitable materials.

A minimum 2-foot-thick layer of Gila Bedding material was placed above the subgrade surface in the channels to create the required channel bottom width with 3H:1V side slopes (see Drawing 26 for typical channel details). The Gila Bedding material was moisture conditioned and compacted using method specifications to achieve a minimum density of 95 percent of the maximum Standard Proctor dry density.

Top surface channels and outslope channels were armored with riprap while down drains were armored with ACB mats. Drawings 11 through 21, 24 through 26, and 30 provide channel details, profiles and sections.

2.5.1 Top Surface Channels

Construction of top surface channels began in August 2013 and continued concurrent with regrading and cover placement activities. Channels were constructed starting with the southern and middle top surface channels progressing to the north, with the Slag Pile top surface channels completed last. Sections of Channel P1 Reach 4, Channel S1 Reach 2 and Channel S5 were constructed after the regrading and cover placement was completed in each area to facilitate haul truck traffic. Channel construction was completed in August 2014.

Approximately 13,700 linear feet of top surface channels were constructed. The completed Lake One top surface was graded to allow water to flow to the armored drainage channels. Grades range from 0.5% to 5%. There are seven top surface channels in the Lake One reclamation area, Channel P1 and Channels S1 through S6. Top surface channel designations and locations are shown on Drawings 11 and 12, with top surface channel profiles provided on Drawings 13 through 17.

Channel P1 receives the majority of runoff from Lake One with the exception of a small area on the northwest end of the Slag Pile outslope/top surface area where runoff flows into Down Drain 1 and Channel S7 for eventual discharge to Whitewater Creek. Channel P1 receives flow from several top surface channels located on the Lake One area and from Down Drain 2, located on the east slope of the Slag Pile. Channel P1 Reach 2 and a portion of Reach 3 are lined with an impermeable HDPE liner overlain with a geotextile fabric and cover material, designed to eliminate infiltration into Lake One. This lined portion of Channel P1 was constructed to allow stormwater to accumulate until it reaches an elevation where it will discharge to the 1916 Whitewater Diversion Channel.

All top surface channels received riprap armoring with various D_{50} sizes based on design requirements. The majority of top surface channels were constructed 2-foot deep with a 10-foot wide bottom. One top surface channel (Channel S1, Reach 1) was constructed with a 20-foot bottom width and 2-to-2.3 foot depth. All top surface channels were constructed with 3H:1V side slopes.

2.5.2 Outslope Channels

There are approximately 7,400 linear feet of outslope channels that convey runoff from the Slag Pile slopes into two down drains. Outslope channels were constructed on the outslope benches that were graded into the slag subgrade. The outslope benches were constructed to a nominal 23 foot width. Typical interbench slope lengths between outslope channels is approximately 100 feet. Outslope channels were constructed with a typical longitudinal slope of 2%. On top of the 2-foot thick Gila Bedding layer, all outslope channels received a 6-inch thick layer of 3-inch D_{50} riprap to create a 10-foot wide channel bottom, 2-foot deep with 3H:1V side slopes. Typical outslope channel details are shown on Drawing 26.

2.5.3 Down Drains

Runoff from the top surface of the Slag Pile area, and runoff conveyed by outslope channels are collected by two down drains. Down Drain 1 conveys flow to a riprap lined channel (Channel S7) ultimately discharging to Whitewater Creek north of Lake One. Down Drain 2 conveys flow to Channel P1.

Down drains were constructed to be trapezoidal with 10-foot and 20-foot bottom widths, 3H:1V side slopes, and maximum longitudinal slopes of 27%. A 20-foot long riprap apron with 8-inch D_{50} riprap was constructed at the outfall of Down Drain 2 to dissipate energy before flow enters Channel P1.

Down drains were cut into the regraded Slag Pile slope subgrade and received a minimum 2-foot-thick layer of Gila Bedding material. A nonwoven geotextile was placed on the compacted Gila Bedding surface and covered with a 6-inch thick layer of No. 57 aggregate, a geogrid and Armorflex 40-T ACB class size mats as specified by Contech. The void spaces within and between the ACB blocks were filled with crusher fines. All construction methods followed the Contech plan details, specifications, recommendations and were field verified by Contech's CQA contractor (Golder). Final down drain CQA documentation provided by Contech/Golder is provided in Appendix H.

2.5.4 Culverts

As shown on Drawings 6, 12 and 29, Channel P1 discharges into six 48-inch diameter, 295-foot long CMP culverts that were constructed at the southeast corner of Lake One, under utility corridor UC-3A, to discharge directly into the 1916 Whitewater Diversion Channel.

A 6-inch backfill layer was placed over the subgrade and compacted to at least 95% of the maximum density prior to placement of the culverts in accordance with the grades and alignments indicated on the design drawings. Backfill around the culverts was a combination of compacted pipe backfill material between the two middle culverts and flowable grout fill placed on both sides of the culverts and to approximately one foot above the culverts.

2.5.5 General Site Drainage

Drawing 27 provides the post-reclamation site drainage patterns within the project area. The overall site drainage routes on-site surface water runoff via a series of channels and culverts into the 1916 Whitewater Diversion Channel. All off-site contributing watershed runoff from un-reclaimed areas is intercepted by a utility corridor channel along the western edge of Lake One. The utility corridor channel generally follows the existing terrain, with a grade break approximately mid-way. The utility corridor channel flows into two existing HDPE-lined operational ponds (i.e., Lower Lined Pond and Elmo's Pond).

2.6 Revegetation

Seeding and mulching for the majority of Lake One occurred between March 2014 and June 2014. After completion of cover material placement, the cover was ripped and scarified to a depth of 8-to-12 inches in order to promote infiltration, reduce compaction and prepare the surface for seeding. Seeding was accomplished using a range drill. Long-stem, native grass hay mulch certified weed-free, was applied at a rate of at least two tons per acre and stabilized. After the mulch was spread, it was anchored 3-to-4 inches into the soil by straight coulter discs. Crimping operations were performed immediately following mulching on the contour on slopes and perpendicular to the prevailing winds on flat areas. The seed mix included cool and warm season grasses, perennial forbs and shrubs. All seeding activities and CQA activities performed in 2014 are documented in the Seeding Report included in Appendix F. Remaining Lake One areas (i.e., the Slag Pile and portions of the borrow areas) will be seeded and mulched in 2015.

2.7 Borrow Areas

Borrow areas were regraded with 3H:1V slopes or flatter. The final surface was then ripped, scarified, seeded, and mulched with the same techniques used for Lake One. The South James Canyon Borrow Area that is too coarse for revegetation equipment will be broadcast seeded in 2015.

2.8 Wildlife Habitat Features

Three wildlife habitat features were constructed on Lake One. The location of the wildlife features are shown on Drawings 5 and 6. The wildlife habitat features were constructed out of loosely stacked boulders in a 'V' configuration with the apex pointing west (the prevailing wind direction).

3.0 CONSTRUCTION QUALITY CONTROL AND QUALITY ASSURANCE

CQA was performed by EMC^2 in accordance with the CDQAP and the Issued For Construction (IFC) Drawings and Specifications. CQC during construction was performed by FMRS.

3.1 Subgrade Regrading

As shown on the as-built cut/fill isopach Drawings 7 and 8, regrading of the Lake One subgrade involved cuts and fills approximately 15-to-20 feet in thickness to establish design grades. The largest cuts were in the center of Lake One in the vicinity of Channel P1. The largest fills were in the northern section of Lake One. Lake One subgrade surface CQA visual inspection to verify that excessively wet or other unsuitable materials were not present. As-built survey data provided by FMRS CQC surveyors was reviewed by the EOR to verify that subgrade elevations were at or below the design grades prior to approving for cover placement.

Slag Pile outslope grading involved cut excavations up to approximately 60 feet and fills up to 40 feet in thickness.

CQA monitors observed regrade fill placement methods on a daily basis. All subgrade materials were placed according to the approved method specifications.

As-built survey information for the completed Slag Pile outslopes prepared by the FMRS CQC surveyors was reviewed and approved by the EOR to verify the slopes were at or below design grades prior to cover placement.

3.2 Cover Material

Lake One cover material was imported from the designated Razorback Ridge Borrow Area and Borrow Area B. Razorback Ridge Borrow Area material was initially confirmed for use as cover in the 'Borrow Materials Investigation and Cover Design Report' by Golder included in the CDQAP. This Golder report approved the materials at Razorback Ridge to a depth of 12 feet. Additional cover material testing was required below the 12-foot excavation depth. Testing of the cover material at depths below 12 feet was performed by EMC^2 and included test pits, visual classification of soil stratigraphy and analysis of laboratory samples. Results of testing performed by EMC^2 and reviewed by Golder confirmed Razorback Ridge material to a depth of 50 feet was suitable as cover material. The Razorback Ridge borrow materials were pH tested by FMRS CQC personnel.

Following placement of the cover material, an as-built survey of the cover surface was generated by FMRS CQC surveyors and provided to the EOR. The as-built subgrade survey information was compared to the as-built top of cover survey information and cover thickness isopach contours were developed to verify that the cover depth met the minimum thickness of 3 feet.

In addition to the isopach, the CQA monitor verified by measuring cover thickness in test pit excavations. Test pits were excavated using either a backhoe or excavator. Thirty (30) CQA test pits were selected using a random number generator linked to coordinates for grids spaced at 150-foot centers. Test pits were excavated to the cover-tailing or cover-slag contact, or to a maximum of 3.5 foot depth if no tailings/slag contact was encountered. To measure the test pit, the CQA monitor cleaned the face of the cover profile to expose the tailing or slag contact with a shovel. A grade bar was placed across the test pit to aid with thickness measurements. Vertical cover thickness measurements were made at four locations distributed evenly around the edge of the test pit. The average of the four cover measurements was recorded.

During test pit excavations, the cover material was classified in the field using the United States Department of Agriculture soil classification system. Field descriptions included rock fragment content (based on a percent volume basis). Additional notes on material continuity, consistency and surface conditions were also documented.

Cover material samples were collected in one-gallon Ziploc bags from the 0-to-6-inch interval and from the bottom one foot of the test pit to document the physical characteristics of the cover material. Rock fragments larger than 3 inches (cobbles or larger) were not included in the collected samples, but a field estimate of the total volume of rock fragments between 3 inches and 12 inches and greater than 12 inches was recorded. Samples were then sent to Energy

Laboratories in Billings, Montana for textural and particle size analysis. Laboratory results are summarized in Appendix E.

A plan map with measured cover thicknesses was provided to NMED. Based on the map, NMED determined the location of an additional 137 test pits to confirm cover thickness. All test pits were excavated with NMED present. The final cover thickness drawings and tables detailing all the test pits performed are located in Appendix D. The cover materials met the 3-foot minimum thickness requirement at all test pit locations.

In addition to the thickness requirement, all cover material samples collected from the test pits met the suitability criteria outlined in the CDQAP. Texturally, the cover materials are predominantly classified as sandy loams and loamy sands with about 47% to 70% rock fragments by volume. Clay contents for the materials in the upper 6 inches ranged from 3% to 12% with a mean value of about 8%. Rock fragment volumes for the same 0-to-6-inch interval ranged from 47% to 70% with a mean value around 59%. All of the subsurface cover materials (lower one foot) met the project requirements. The physical characteristics in the subsurface materials did not vary significantly relative to those in the upper six inches as the cover was placed in one uniform lift. Clay content throughout the profile ranged from 3% to 16%. Rock fragment volumes for the subsurface cover materials ranged from 47% to 70% with a mean value around 59%.

3.3 Channel Construction

Following channel subgrade construction, as-built survey data provided by FMRS CQC surveyors was reviewed by EMC^2's EOR to verify subgrade elevations were at or below design grades. Channel subgrade was inspected to verify that there were no ruts and the surface was firm and dense. For channels in tailing subgrade, nuclear density testing was completed at nominal 250-foot centers along the channel centerline to verify the prescribed minimum density of 95 percent of the Standard Proctor maximum dry density. Nuclear density testing was not performed in channels constructed in slag subgrade due to the nature of the slag material. Following approval of the tailing subgrade grading and density test results by the CQA monitor, channels were approved for Gila Bedding placement.

After the Gila Bedding was placed and compacted, nuclear density testing was completed at nominal 250-foot centers along the channel centerline to verify that the channel met the prescribed minimum density of 95 percent of the Standard Proctor maximum dry density. The thickness of the Gila Bedding placed in the channels, as well as the channel dimensions, was verified by survey provided by FMRS CQC surveyors for review by the EOR. If the survey data indicated that two feet or greater of Gila Bedding was present above the as-built tailing subgrade surface, confirmation CQA test pits were excavated by the CQA monitor at nominal 500-foot centers. Also, CQC test pits were excavated for field verification at any reach where survey data indicated potentially thin areas of Gila Bedding thickness.

NMED accompanied EMC^2 during the CQA test pit excavations of Gila Bedding material. Additional confirmatory test pits were excavated at the discretion of NMED. The cover thickness plans on Drawings 9 and 10 and the "sign-off" cover thickness maps provided in Appendix D include the results of the Gila Bedding thickness checks.

3.4 Riprap

CQC testing of the riprap size gradation was performed at the quarry prior to transport and stockpiling at the project. Size gradation analyses for the 6-inch and 8-inch D_{50} riprap was performed using ASTM D 5519 test method B. The 3-inch D_{50} riprap testing was completed on both a weight basis (ASTM C 136) and particle size basis by measuring the intermediate dimension of a number of rocks. Durability testing was completed at a frequency of greater than the specified frequency of 1-per-5,000 cubic yards, including LA Abrasion (AASHTO T96), Sulfate Soundness (AASHTO T104), Adsorption and Specific Gravity (ASTM D4373) tests. A summary of the riprap size gradation and durability laboratory test results is provided in Appendix B.2.

Following approval of the Gila Bedding placement, riprap bedding (if required) and riprap was placed in the channels. CQA during riprap placement included visual inspection to verify maximum particle sizes, no voids and a smooth surface. For 6-inch and 8-inch D_{50} riprap channel areas, the riprap bedding thickness was checked by hand excavated test pits at nominal 500-foot spacing prior to riprap placement. Following placement, the riprap layer thickness was also checked at nominal 500-foot centers. The measured riprap bedding and riprap thickness results are provided in Appendix C.2.

Based on results of acid base accounting (ABA) tests (Soebek Method) completed during initial characterization activities of the Tailings Reclamation project, and because of the inherently high neutralizing capacity of the limestone material obtained from the Lone Mountain Quarry, additional ABA testing during Lake One construction was deemed unnecessary.

3.5 Revegetation

The adequacy of the seedbed preparation ripping was assessed by the CQA monitors at the commencement of the ripping and seed bed preparation activities and periodically during the course of these activities. Seeding and mulching methods and equipment were observed by the CQA monitors for general conformance with the project requirements. Copies of the daily seed tags were reviewed by CQC monitors and are on file with FMRS. The CQC Seeding Report for Lake One is included in Appendix F.

3.6 Articulated Concrete Block

Contech provided the IFC level design and CQA (subcontracted to Golder) for installation of the geotextile, No. 57 aggregate, geogrid, and ACB mats placed in the down drains. The record drawings and certification letters for the constructed ACB mats are provided in Appendix H.

3.7 HDPE Liner

CQA for installation of the HDPE liner in the Slag Pile Seep Collection System and Channel P1 Reach 2 and a portion of Reach 3 included material verification prior to delivery, continuous observation during construction, destructive testing and non-destructive testing. The EOR verified the liner material resin and components were tested and in compliance with the applicable standards during manufacturing. Continuous observation by the CQA monitors verified the placement procedure was in compliance with the manufacturer's installation recommendations. Destructive testing included test weld samples and random in-place weld samples for every 500 linear feet of weld. Non-destructive testing included pressure testing of all welded seams and vacuum testing of all patches.

3.8 Culverts

CQA for the utility corridor UC-3A culvert crossing work included verification of the as-built culvert materials, dimensions and inlet/outlet elevations.

4.0 CONCLUSIONS

Based on the results of CQA observations, field measurements, testing, and review of the CQC data presented in this CQAR, the Lake One reclamation is in compliance with the requirements of the CDQAP and IFC Drawings and Specifications. All design clarifications made to the original design that occurred during construction are documented in Appendix A and comply with the design criteria and design intent presented in the CDQAP.

5.0 REFERENCES

CDQAP, 2012. Construction Design Quality Assurance Plan, Lake One Reclamation, Chino Mines Company – Hurley, New Mexico, prepared by EMC^2, dated September 14, 2012.

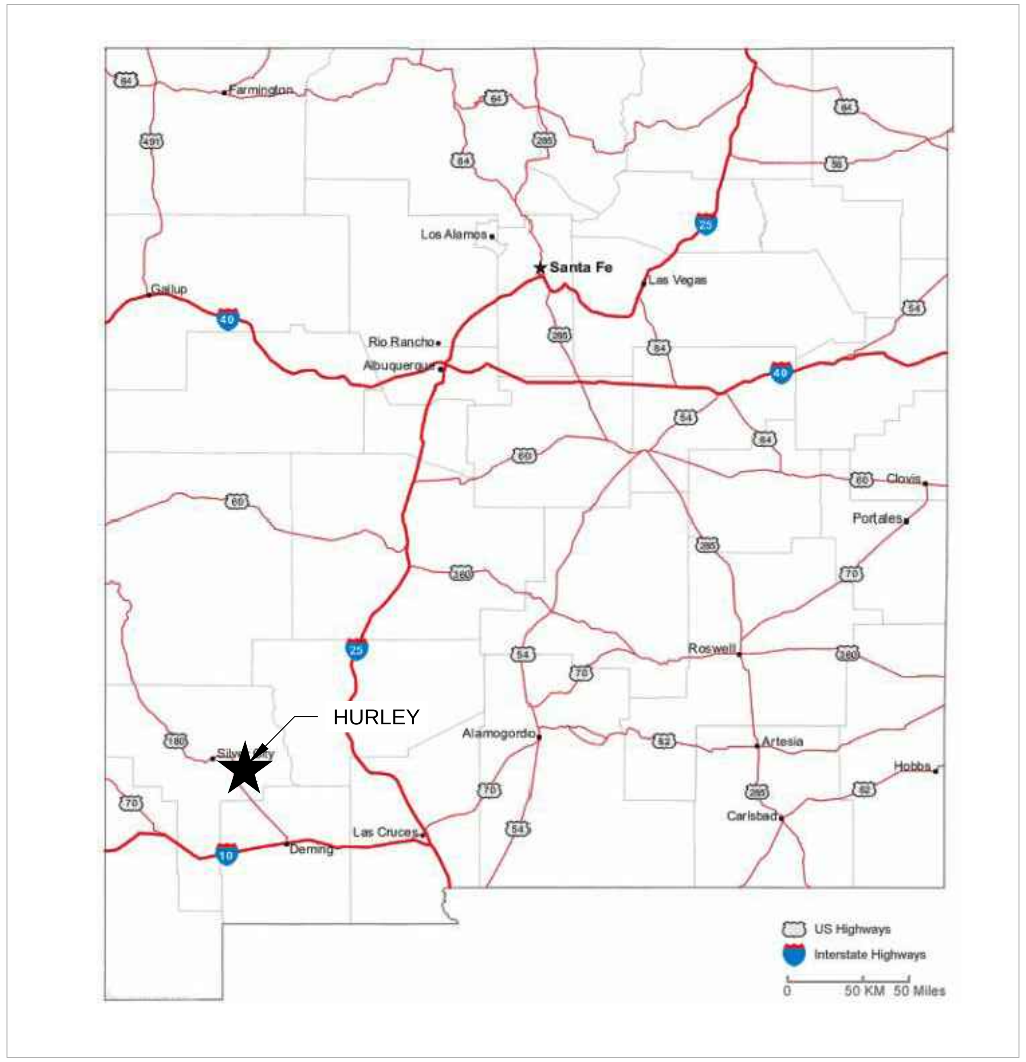
IFC, 2013. Construction Drawings for Lake One Reclamation, Freeport-McMoRan Copper & Gold Inc., Chino Mines Company, Hurley, New Mexico, prepared by EMC^2, dated June 14, 2013 (6th Revision).

Technical Specifications, 2013. Technical Specifications, Lake One Reclamation, Freeport-McMoRan Copper & Gold Inc., Chino Mines Company – Hurley, New Mexico, prepared by EMC^{2,} dated February 2013.

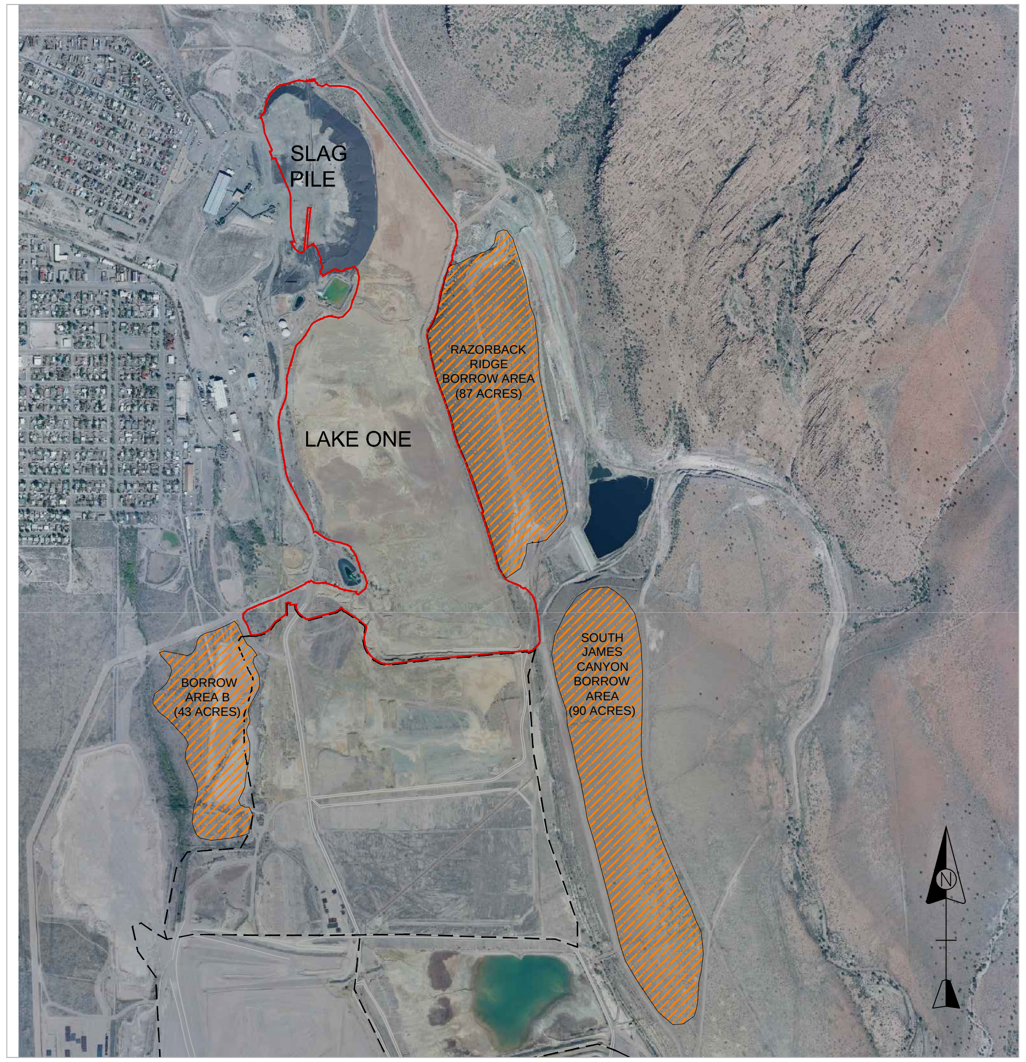
Chino Mines Tailing Pond 1&2 Construction Quality Assurance Report, Chino Tailing Reclamation Project, Chino Mine, prepared by Golder Associated Inc., dated August 2013.

DRAWINGS

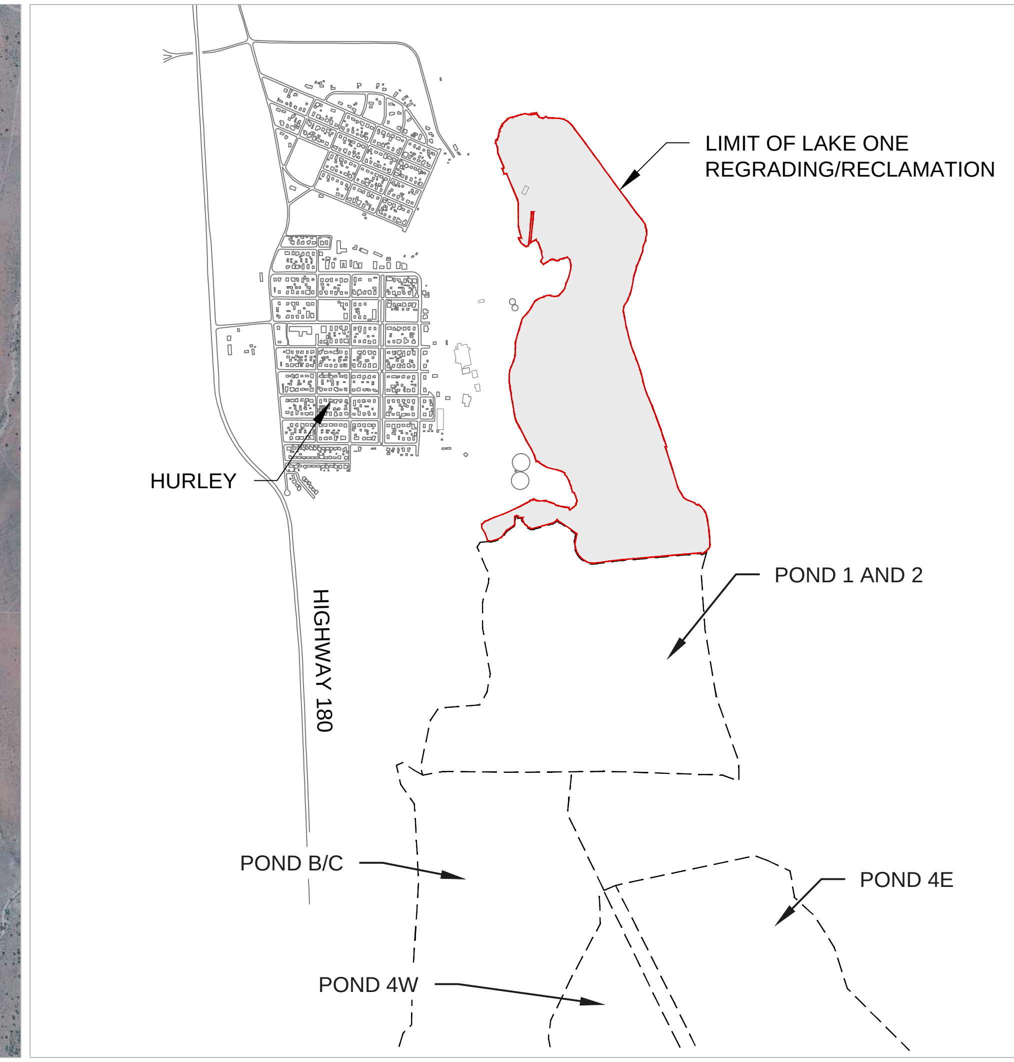
CONSTRUCTION QUALITY ASSURANCE REPORT
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO



STATE OF NEW MEXICO
NOT TO SCALE



AERIAL PHOTOGRAPH (2012)
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

TRAVIS S. LeBLANC
NEW MEXICO
17215
LICENSED PROFESSIONAL ENGINEER
DATE: 9-19-14

LAKE ONE RECLAMATION
AS-BUILT DRAWINGS
CONSTRUCTION QUALITY ASSURANCE REPORT (CQAR)
SEPTEMBER 2014

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

FREEPORT-McMoRAN COPPER & GOLD

EMC²
Engineering and Environmental Solutions
1819 East Morten Avenue, Suite 100
Phoenix, AZ 85020
Tel: (602) 331-3859 Fax: (602) 331-4104

PROJECT:	CHINO MINES COMPANY HURLEY, NEW MEXICO LAKE ONE RECLAMATION
TITLE:	COVER SHEET
DRAWING NO:	1
FILE NAME:	1287_AB-G100-IX.DWG
REV.	0

U:\1287\CADD\AS-BUILT SET _LAKE 1\1287_AB-G100-IX.dwg, SHEET 1, 9/19/2014 8:35:05 AM, Patricia

DRAWING INDEX

DRAWING NO.	FILE NAME	DRAWING TITLE	REVISION NO.	ISSUE DATE
1	1287_AB-G100-IX.DWG	COVER SHEET	0	09/19/14
2	1287_AB-G100-IX.DWG	INDEX SHEET	0	09/19/14
3	1287_AB-C200-EC.DWG	ORIGINAL TOPOGRAPHY SHEET 1 OF 2	0	09/19/14
4	1287_AB-C200-EC.DWG	ORIGINAL TOPOGRAPHY SHEET 2 OF 2	0	09/19/14
5	1287_AB-C303-CV.DWG	POST RECLAMATION TOPOGRAPHY SHEET 1 OF 2	0	09/19/14
6	1287_AB-C303-CV.DWG	POST RECLAMATION TOPOGRAPHY SHEET 2 OF 2	0	09/19/14
7	1287_AB-C304-IS.DWG	FINAL COVER CUT AND FILL ISOPACH SHEET 1 OF 2	0	09/19/14
8	1287_AB-C304-IS.DWG	FINAL COVER CUT AND FILL ISOPACH SHEET 2 OF 2	0	09/19/14
9	1287_AB-C305-TK.DWG	COVER THICKNESS MAP SHEET 1 OF 2	0	09/19/14
10	1287_AB-C305-TK.DWG	COVER THICKNESS MAP SHEET 2 OF 2	0	09/19/14
11	1287_AB-C301-CL.DWG	CHANNEL DESIGNATIONS AND CENTERLINE STATIONING SHEET 1 OF 2	0	09/19/14
12	1287_AB-C301-CL.DWG	CHANNEL DESIGNATIONS AND CENTERLINE STATIONING SHEET 2 OF 2	0	09/19/14
13	1287_AB-C306-PFCH.DWG	CHANNEL PROFILES SHEET 1 OF 5	0	09/19/14
14	1287_AB-C306-PFCH.DWG	CHANNEL PROFILES SHEET 2 OF 5	0	09/19/14
15	1287_AB-C306-PCH2.DWG	CHANNEL PROFILES SHEET 3 OF 5	0	09/19/14
16	1287_AB-C306-PCH3.DWG	CHANNEL PROFILES SHEET 4 OF 5	0	09/19/14
17	1287_AB-C306-PCH3.DWG	CHANNEL PROFILES SHEET 5 OF 5	0	09/19/14
18	1287_AB-C306-PCH3.DWG	DOWN DRAIN PROFILES SHEET 1 OF 1	0	09/19/14
19	1287_AB-C306-POS1.DWG	OUTSLOPE CHANNEL PROFILES SHEET 1 OF 3	0	09/19/14
20	1287_AB-C306-POS1.DWG	OUTSLOPE CHANNEL PROFILES SHEET 2 OF 3	0	09/19/14
21	1287_AB-C306-POS1.DWG	OUTSLOPE CHANNEL PROFILES SHEET 3 OF 3	0	09/19/14
22	1287_AB-C305-XS.DWG	GENERAL SECTIONS SHEET 1 OF 2	0	09/19/14
23	1287_AB-C305-XS.DWG	GENERAL SECTIONS SHEET 2 OF 2	0	09/19/14
24	1287_AB-C306-XSCH.DWG	CHANNEL SECTIONS SHEET 1 OF 2	0	09/19/14
25	1287_AB-C306-XSCH.DWG	CHANNEL SECTIONS SHEET 2 OF 2	0	09/19/14
26	1287_AB-C308-CH-DTL.DWG	CHANNEL TYPICAL DETAILS	0	09/19/14
27	1287_AB-C700-WS.DWG	WATERSHED OVERVIEW (WITHIN LAKE ONE RECLAMATION BOUNDARY)	0	09/19/14
28	1287_AB-C720-SEEP.DWG	SEEP COLLECTION SYSTEM PROFILE AND DETAILS	0	09/19/14
29	1287_AB-C730-CULVERT.DWG	CULVERT CROSSING PLAN, PROFILE AND DETAILS	0	09/19/14
30	1287_AB-C710-CHP1.DWG	LINED CHANNEL PLAN AND DETAILS	0	09/19/14

TRAVIS S. LaBLANC
NEW MEXICO
17215
LICENSED PROFESSIONAL ENGINEER
DATE: 9-19-14

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C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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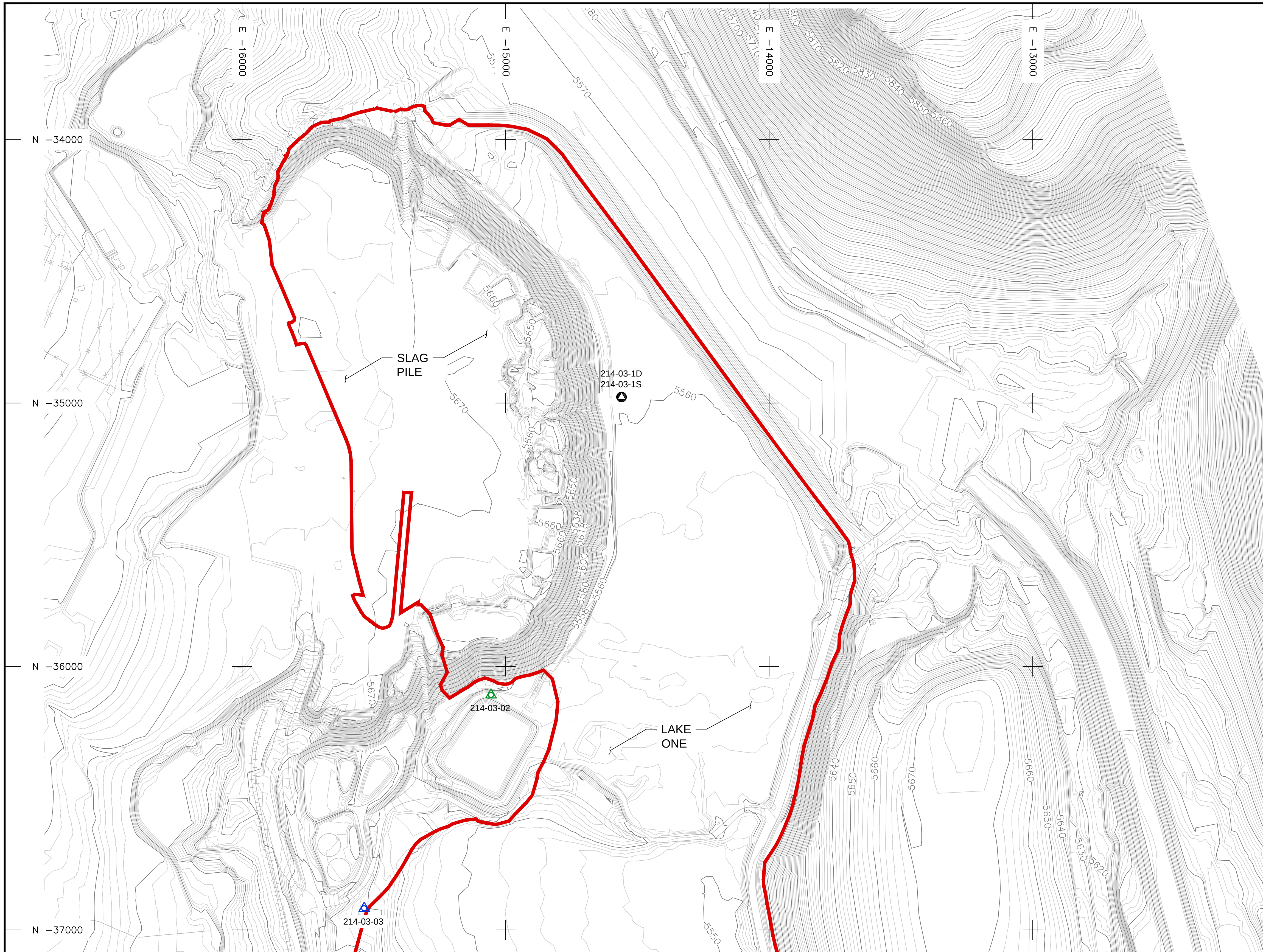
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: INDEX SHEET

DRAWING NO: 2

FILE NAME: 1287_AB-G100-IX.DWG

REV. 0



MATCH LINE - SEE SHEET 4

LEGEND

- LIMIT OF LAKE ONE REGRADING/RECLAMATION
- 5670 — ORIGINAL GROUND SURFACE TOPOGRAPHY
- WELL NO — LOCATION OF WELLS CLOSED AS PART OF LAKE ONE RECLAMATION
- WELL NO — LOCATION OF WELLS MODIFIED AS PART OF LAKE ONE RECLAMATION
- WELL NO — LOCATION OF WELLS NOT AFFECTED BY LAKE ONE RECLAMATION

SCALE: 1"=400'

400 0 400

CONTOUR INTERVAL = 2–FT

TRAVIS S. LeBLANC
NEW MEXICO
17215
LICENSED PROFESSIONAL ENGINEER
DATE: 9-19-14

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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Tel: (602) 331-3859 Fax: (602) 331-4104

PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

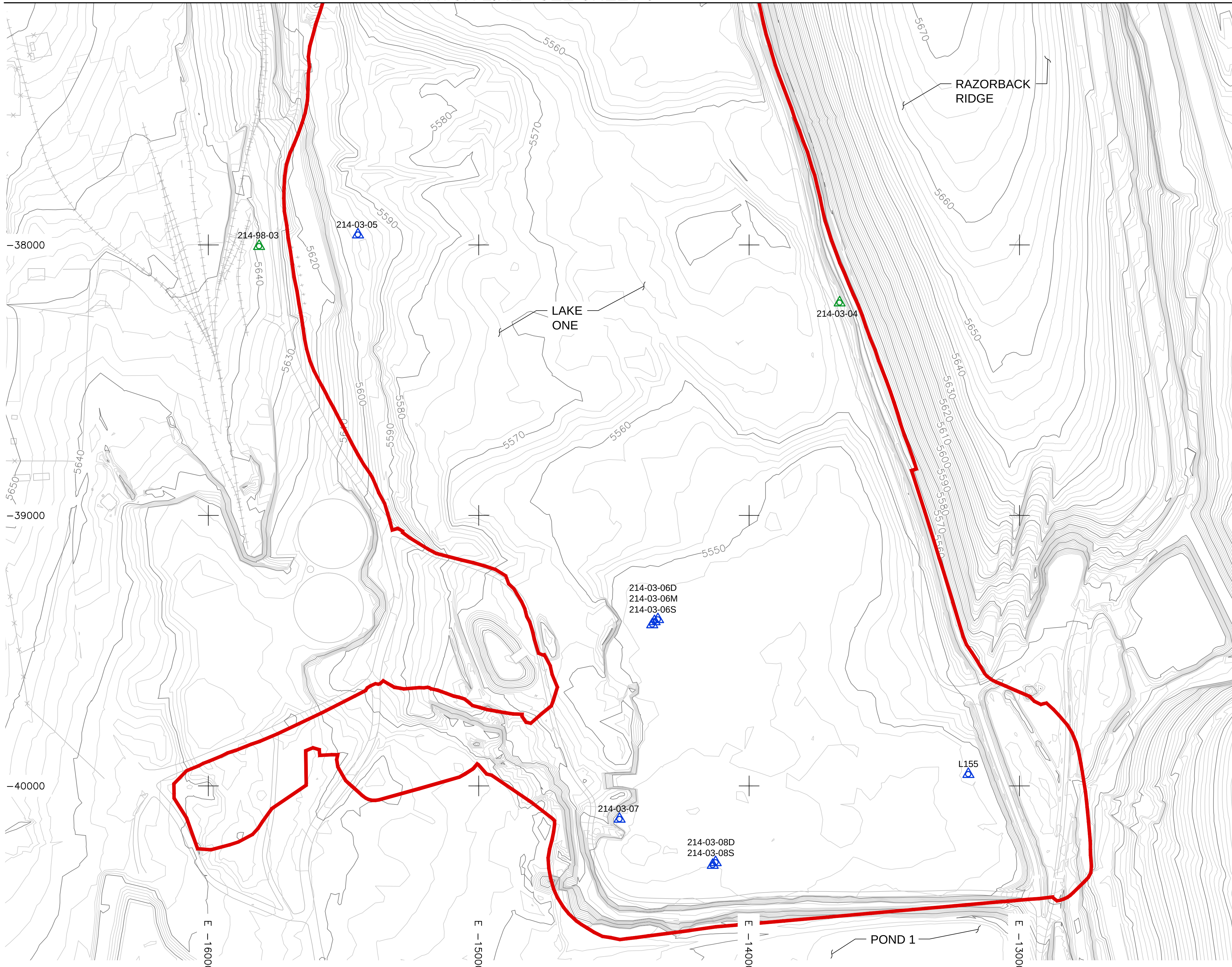
TITLE: ORIGINAL TOPOGRAPHY
SHEET 1 OF 2

DRAWING NO: 3

FILE NAME: 1287_AB-C200-EC.DWG

REV. 0

MATCH LINE - SEE SHEET 3



LEGEND

- LIMIT OF LAKE ONE REGRADING/RECLAMATION
- 5670 — ORIGINAL GROUND SURFACE TOPOGRAPHY
- WELL NO — LOCATION OF WELLS CLOSED AS PART OF LAKE ONE RECLAMATION
- WELL NO — LOCATION OF WELLS MODIFIED AS PART OF LAKE ONE RECLAMATION
- WELL NO — LOCATION OF WELLS NOT AFFECTED BY LAKE ONE RECLAMATION

N

SCALE: 1"=400'

400 0 400

CONTOUR INTERVAL = 2-FT

TRAVIS S. LeBLANC
NEW MEXICO
17215
LICENSED PROFESSIONAL ENGINEER
DATE: 9-19-14

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: ORIGINAL TOPOGRAPHY
SHEET 2 OF 2

DRAWING NO: 4

FILE NAME: 1287_AB-C200-EC.DWG

REV. 0

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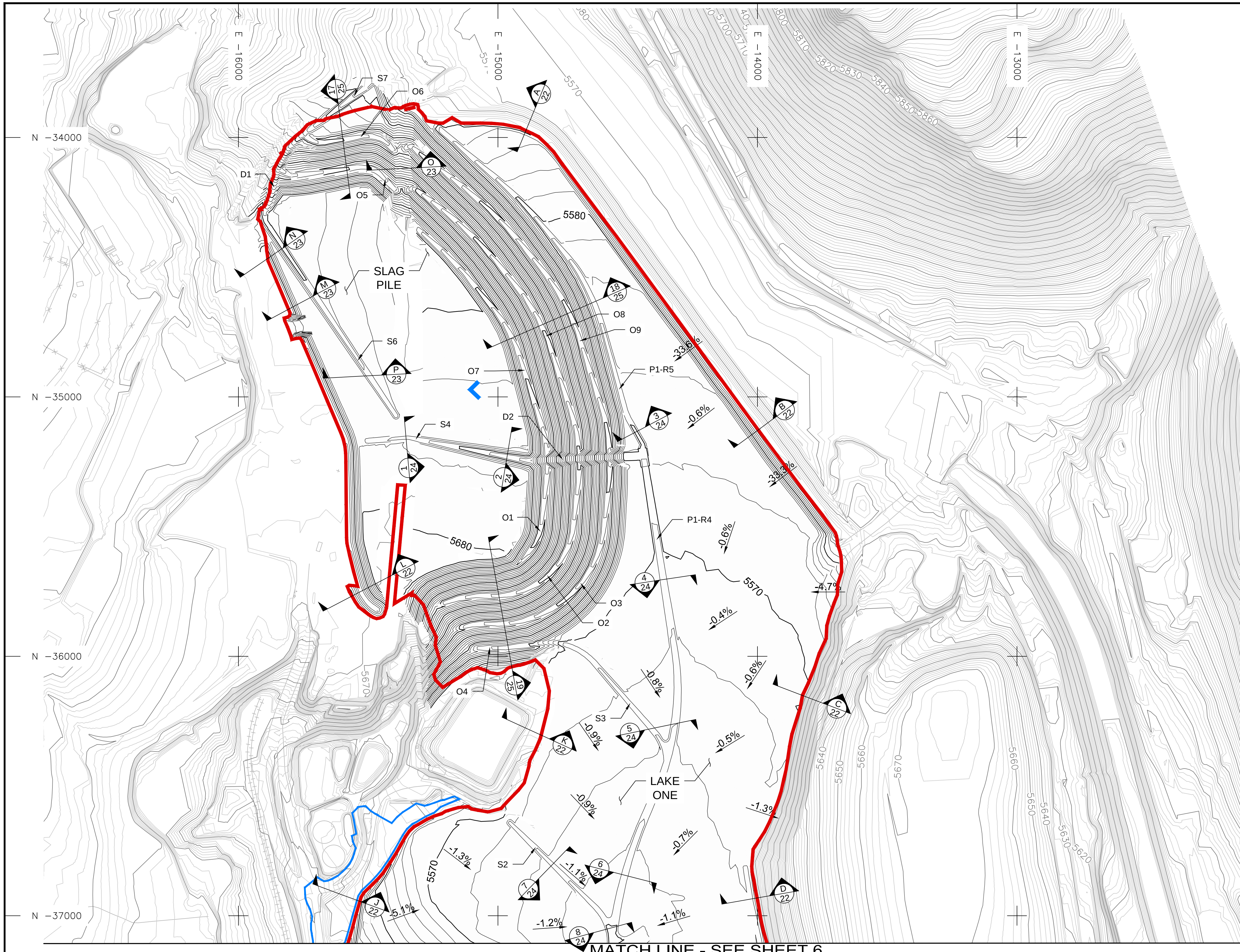

LEGEND

- LIMIT OF LAKE ONE REGRADING/RECLAMATION
- LIMIT OF UTILITY CORRIDOR UC1
- 5670 — ORIGINAL GROUND SURFACE TOPOGRAPHY
- 5670 — RECLAIMED LAKE ONE GROUND SURFACE (PRESENTED IN THIS CQAR)
- S1 — CHANNEL DESIGNATION
- B / 4 — SECTION LETTER; SHEET ON WHICH SECTION APPEARS (' - ' DENOTES CURRENT SHEET)
- WILDLIFE HABITAT FEATURE

N

SCALE

400 0 400

CONTOUR INTERVAL = 2–FT

TRAVIS S. LeBLANC
NEW MEXICO
17215
LICENSED PROFESSIONAL ENGINEER
DATE: 9-19-14

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

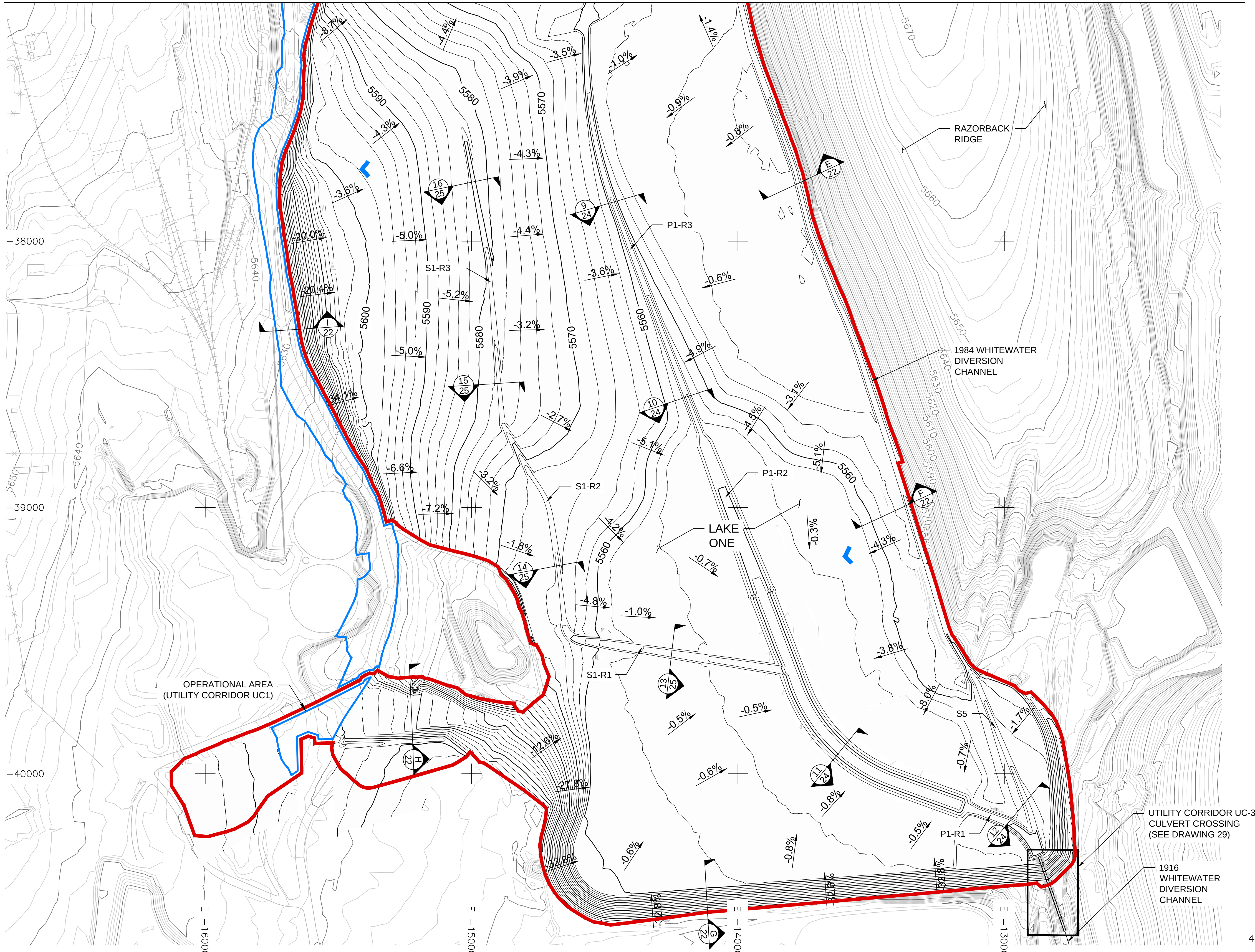
TITLE: POST RECLAMATION TOPOGRAPHY
SHEET 1 OF 2

DRAWING NO: 5

FILE NAME: 1287_AB-C303-CV.DWG

REV. 0

MATCH LINE - SEE SHEET 5



LEGEND

LIMIT OF LAKE ONE REGRADING/RECLAMATION

LIMIT OF UTILITY CORRIDOR UC1

ORIGINAL GROUND SURFACE TOPOGRAPHY

RECLAIMED LAKE ONE GROUND SURFACE (PRESENTED IN THIS CQAR)

S1 CHANNEL DESIGNATION

SECTION LETTER

SHEET ON WHICH SECTION APPEARS (' - ' DENOTES CURRENT SHEET)

WILDLIFE HABITAT FEATURE

SCALE

400 0 400

CONTOUR INTERVAL = 2-FT

TRAVIS S. LeBLANC NEW MEXICO 17215 LICENSED PROFESSIONAL ENGINEER DATE: 9-19-14

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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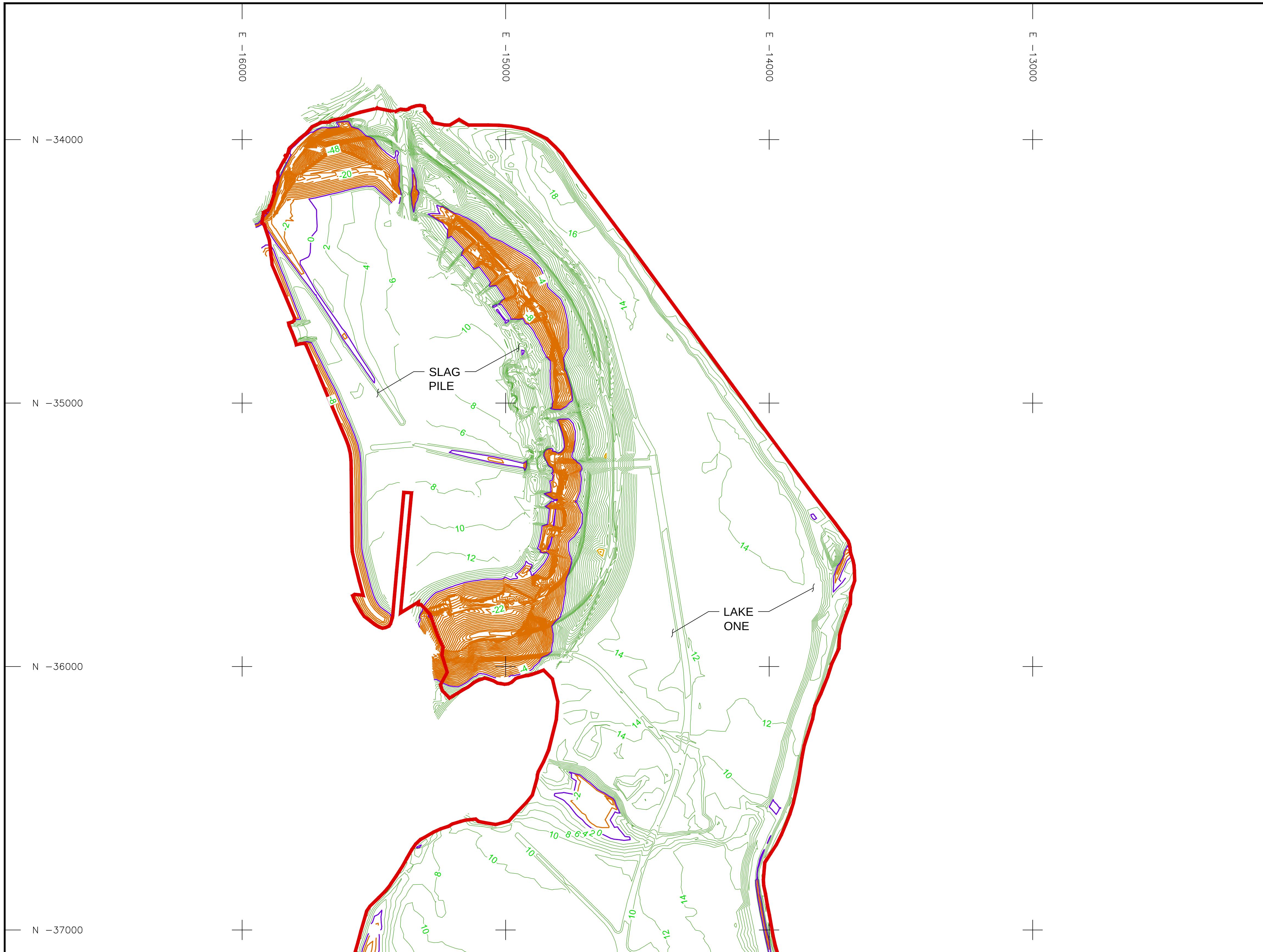
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: POST RECLAMATION TOPOGRAPHY
SHEET 2 OF 2

DRAWING NO: 6

FILE NAME: 1287_AB-C303-CV.DWG

REV. 0



MATCH LINE - SEE SHEET 8

LEGEND

LIMIT OF LAKE ONE REGRADING/RECLAMATION

ISOPACH CUT (FEET)

ISOPACH FILL (FEET)

ISOPACH ZERO CUT/FILL

NOTES

1. ISOPACH COMPARES AS-BUILT FINAL COVER TOPOGRAPHY TO ORIGINAL GROUND SURFACE TOPOGRAPHY.

TRAVIS S. LaBLANC
NEW MEXICO
17215
LICENSED PROFESSIONAL ENGINEER
DATE: 9-19-14

SCALE: 1"=400'

400 0 400

CONTOUR INTERVAL = 2-FT

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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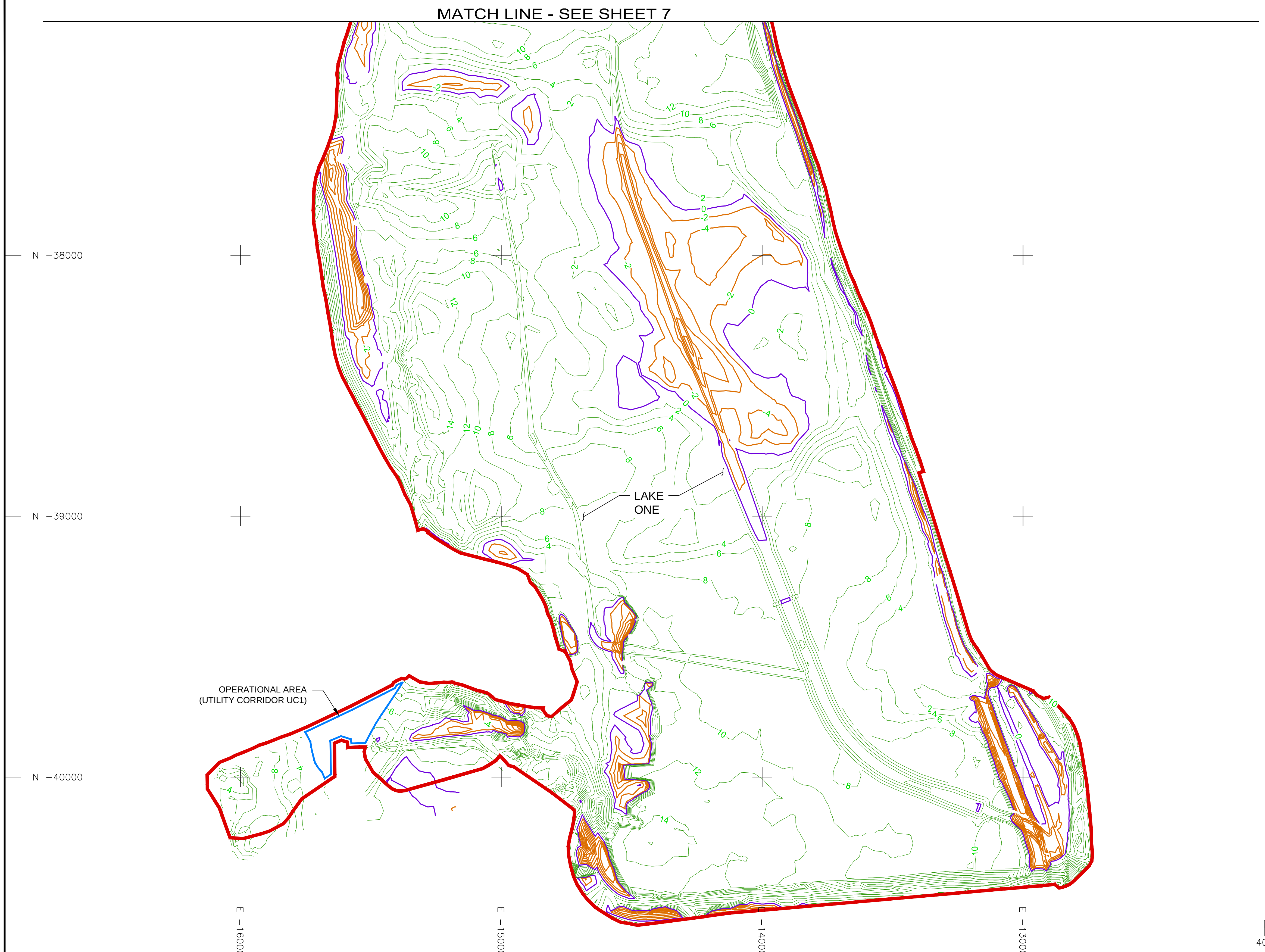
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: FINAL COVER CUT AND FILL ISOPACH
SHEET 1 OF 2

DRAWING NO: 7

FILE NAME: 1287_AB-C304-IS.DWG

REV. 0



LEGEND

- LIMIT OF LAKE ONE REGRADING/RECLAMATION
- LIMIT OF UTILITY CORRIDOR UC1
- ISOPACH CUT (FEET)
- ISOPACH FILL (FEET)
- ISOPACH ZERO CUT/FILL

NOTES

1. ISOPACH COMPARES AS-BUILT FINAL COVER TOPOGRAPHY TO ORIGINAL GROUND SURFACE TOPOGRAPHY.

TRAVIS S. LaBLANC
NEW MEXICO
17215
LICENSED PROFESSIONAL ENGINEER
DATE: 9-19-14

SCALE: 1"=400'

400 0 400

CONTOUR INTERVAL = 1-FT

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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Phoenix, AZ 85020
Tel: (602) 331-3859 Fax: (602) 331-4104

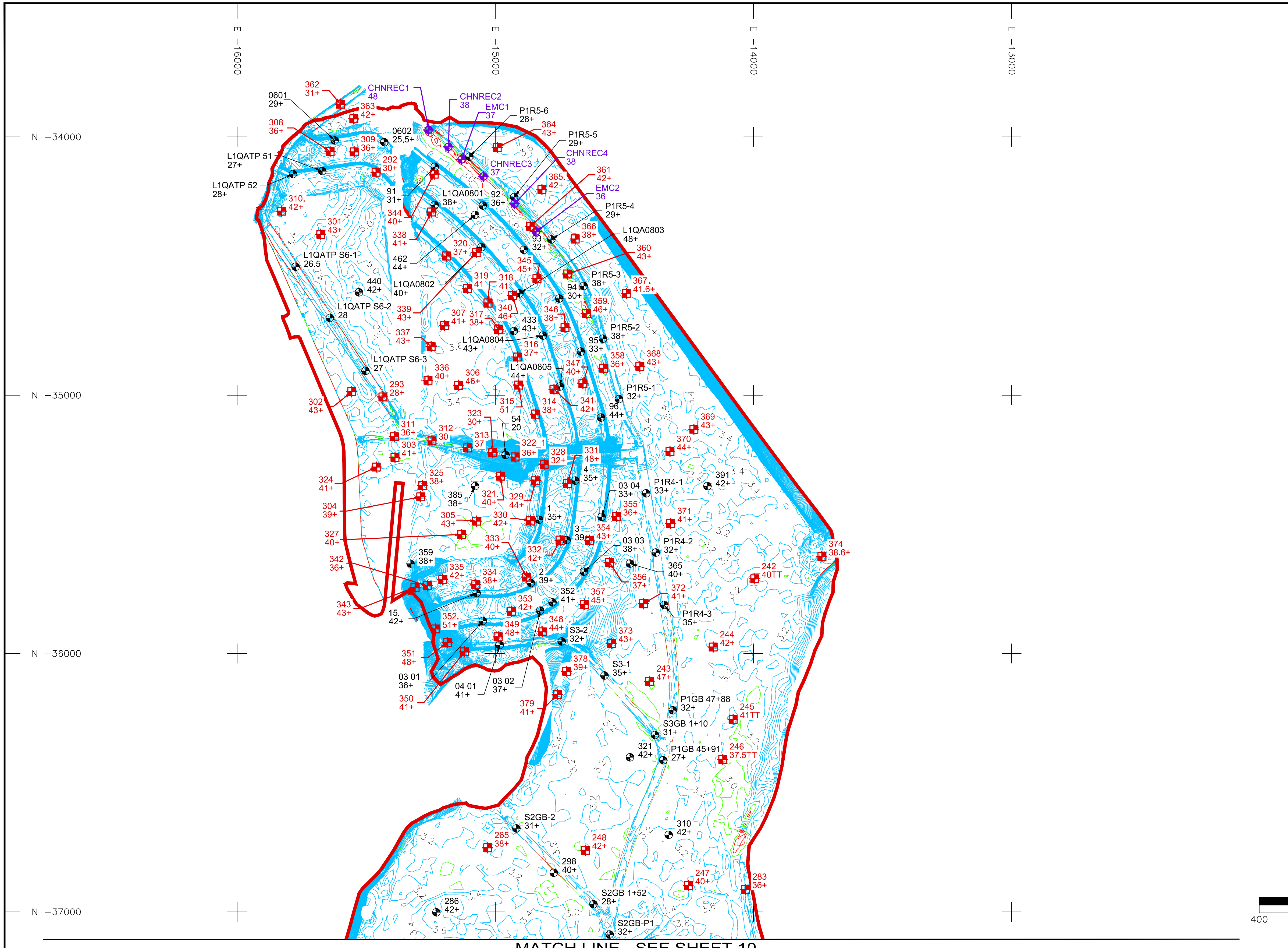
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: FINAL COVER CUT AND FILL ISOPACH
SHEET 2 OF 2

DRAWING NO: 8

FILE NAME: 1287_AB-C304-IS.DWG

REV. 0



LEGEND

- LIMIT OF LAKE ONE REGRADING/RECLAMATION
- 3.0 — ISOPACH CONTOURS - INDICATES GREATER THAN 3 FEET ABOVE (2 FEET IN CHANNELS) AS-BUILT SUBGRADE
- 0.0 — ISOPACH CONTOURS - INDICATES 3 FEET ABOVE (2 FEET IN CHANNELS) AS-BUILT SUBGRADE
- 2.0 — ISOPACH CONTOURS - INDICATES LESS THAN 3 FEET ABOVE (2 FEET IN CHANNELS) AS-BUILT SUBGRADE
- 268 40 — COVER AND GILA BEDDING THICKNESS NMED QA TEST PIT LOCATION WITH THICKNESS IN INCHES
- 268 40 — COVER AND GILA BEDDING THICKNESS EMC² QA TEST PIT LOCATION WITH THICKNESS IN INCHES
- 268 40 — COVER AND GILA BEDDING THICKNESS FMRS QC TEST PIT LOCATION WITH THICKNESS IN INCHES
- TT — TO TAILING CONTACT
- \+ — NO TAILING/SLAG CONTACT

TRAVIS S. LeBLANC
NEW MEXICO
17215
LICENSED PROFESSIONAL ENGINEER
DATE: 9-19-14

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
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C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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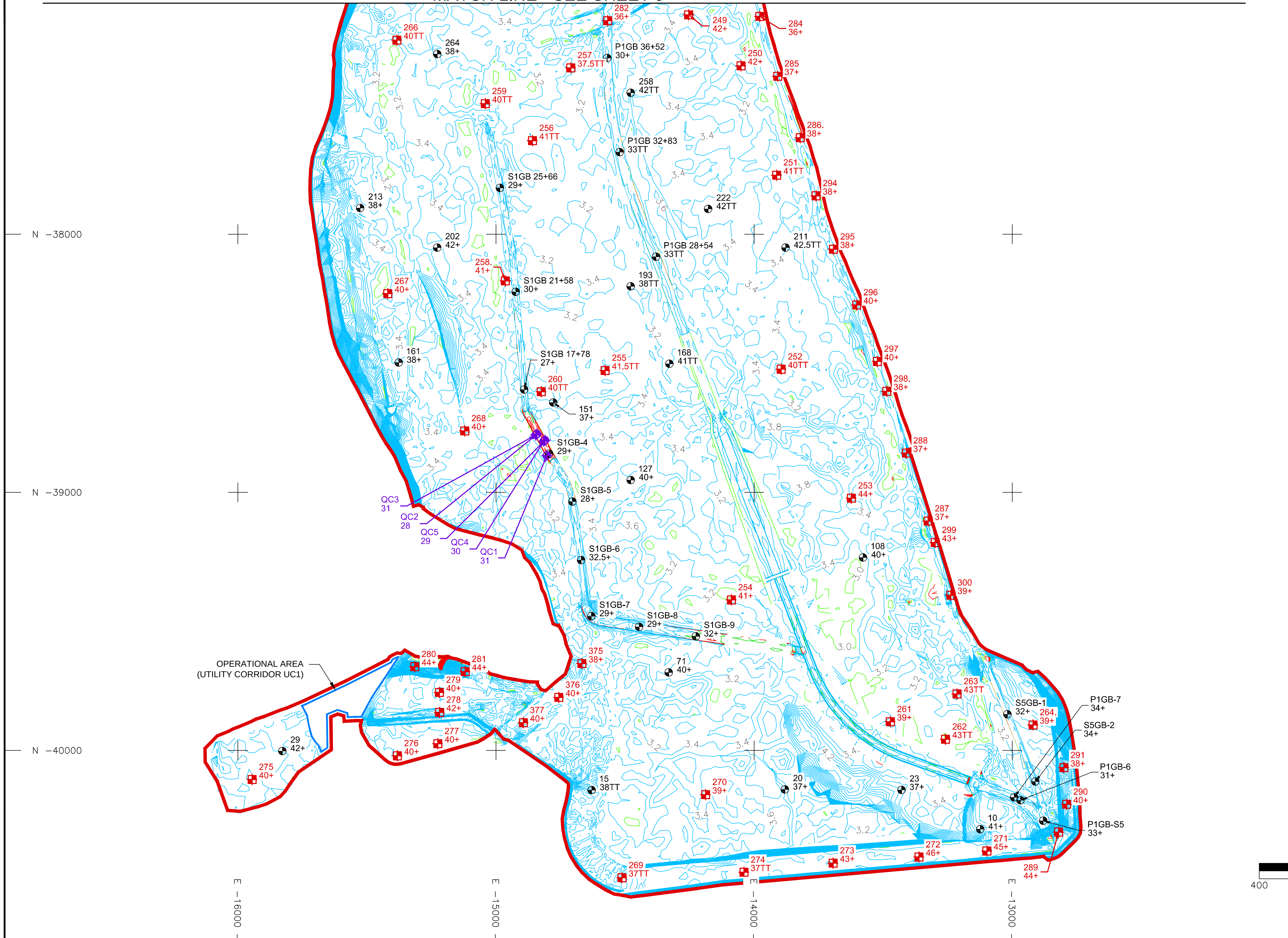
Tel: (602) 331-3859 Fax: (602) 331-4104

PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: COVER THICKNESS MAP
SHEET 1 OF 2

DRAWING NO: 9
FILE NAME: 1287_AB-C305-TK.DWG
REV. 0

MATCH LINE - SEE SHEET 9



LEGEND

(red line)	LIMIT OF LAKE ONE REGRADING/RECLAMATION
(blue line)	LIMIT OF UTILITY CORRIDOR UC1
3.0	ISOPACH CONTOURS - INDICATES GREATER THAN 3 FEET ABOVE (2 FEET IN CHANNELS) AS-BUILT SUBGRADE
0.0	ISOPACH CONTOURS - INDICATES 3 FEET ABOVE (2 FEET IN CHANNELS) AS-BUILT SUBGRADE
2.0	ISOPACH CONTOURS - INDICATES LESS THAN 3 FEET ABOVE (2 FEET IN CHANNELS) AS-BUILT SUBGRADE
268 40	COVER AND GILA BEDDING THICKNESS NMED QA TEST PIT LOCATION WITH THICKNESS IN INCHES
268 40	COVER AND GILA BEDDING THICKNESS EMC² QA TEST PIT LOCATION WITH THICKNESS IN INCHES
268 40	COVER AND GILA BEDDING THICKNESS FMRS QC TEST PIT LOCATION WITH THICKNESS IN INCHES
TT	TO TAILING CONTACT
+	NO TAILING/SLAG CONTACT

SCALE: 1"=400'

400 0 400

CONTOUR INTERVAL = 0.2-FT

TRAVIS S. LeBLANC
NEW MEXICO
17215
LICENSED PROFESSIONAL ENGINEER
DATE: 9-19-14

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
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C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

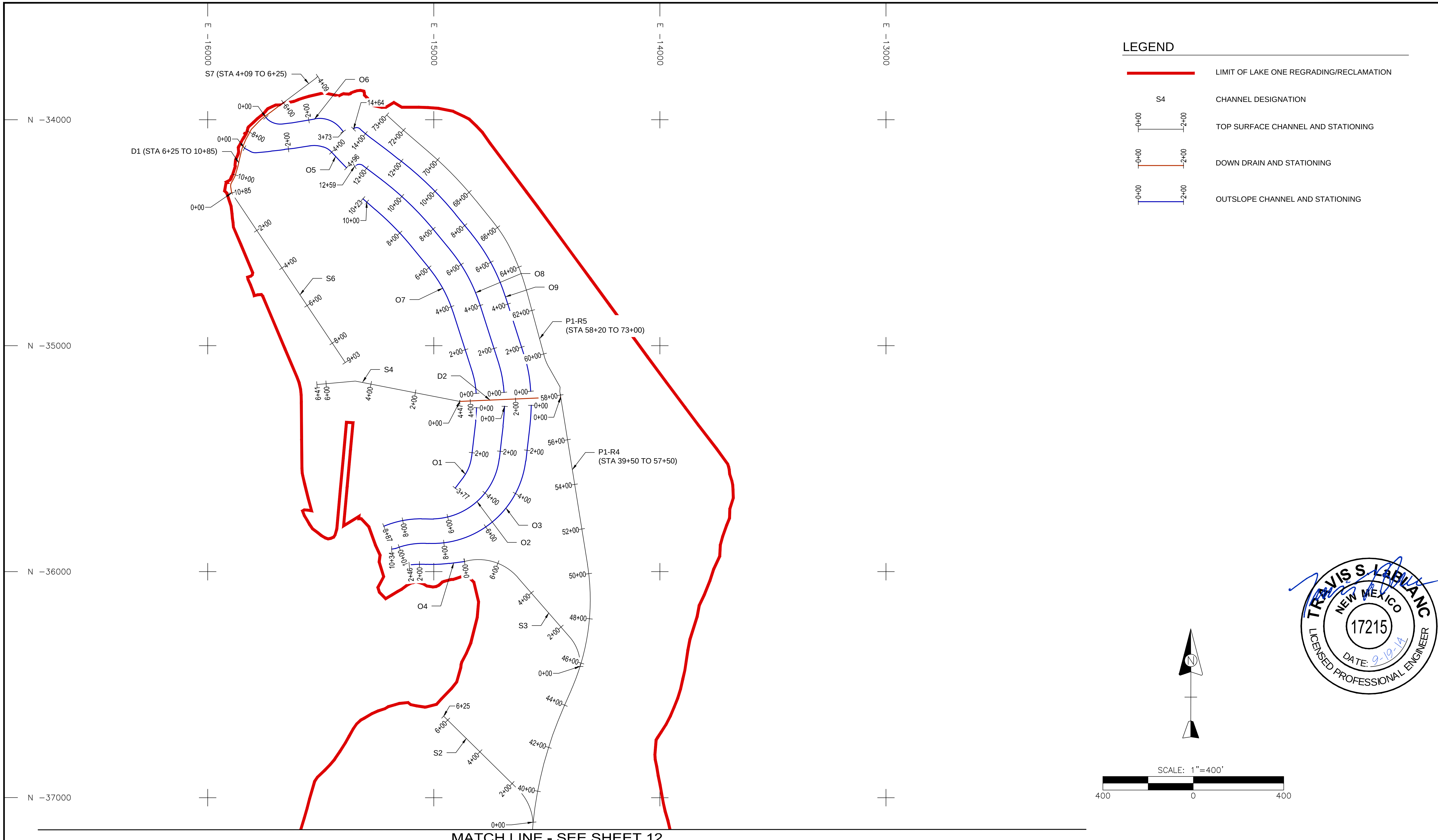
TITLE: COVER THICKNESS MAP
SHEET 2 OF 2

DRAWING NO: 10

FILE NAME: 1287_AB-C305-TK.DWG

REV. 0

U:\1287\CADD\AS-BUILT SET _LAKE 1\1287_AB-C305-TK.dwg, SHEET 10, 9/18/2014 4:03:47 PM, Patricia



NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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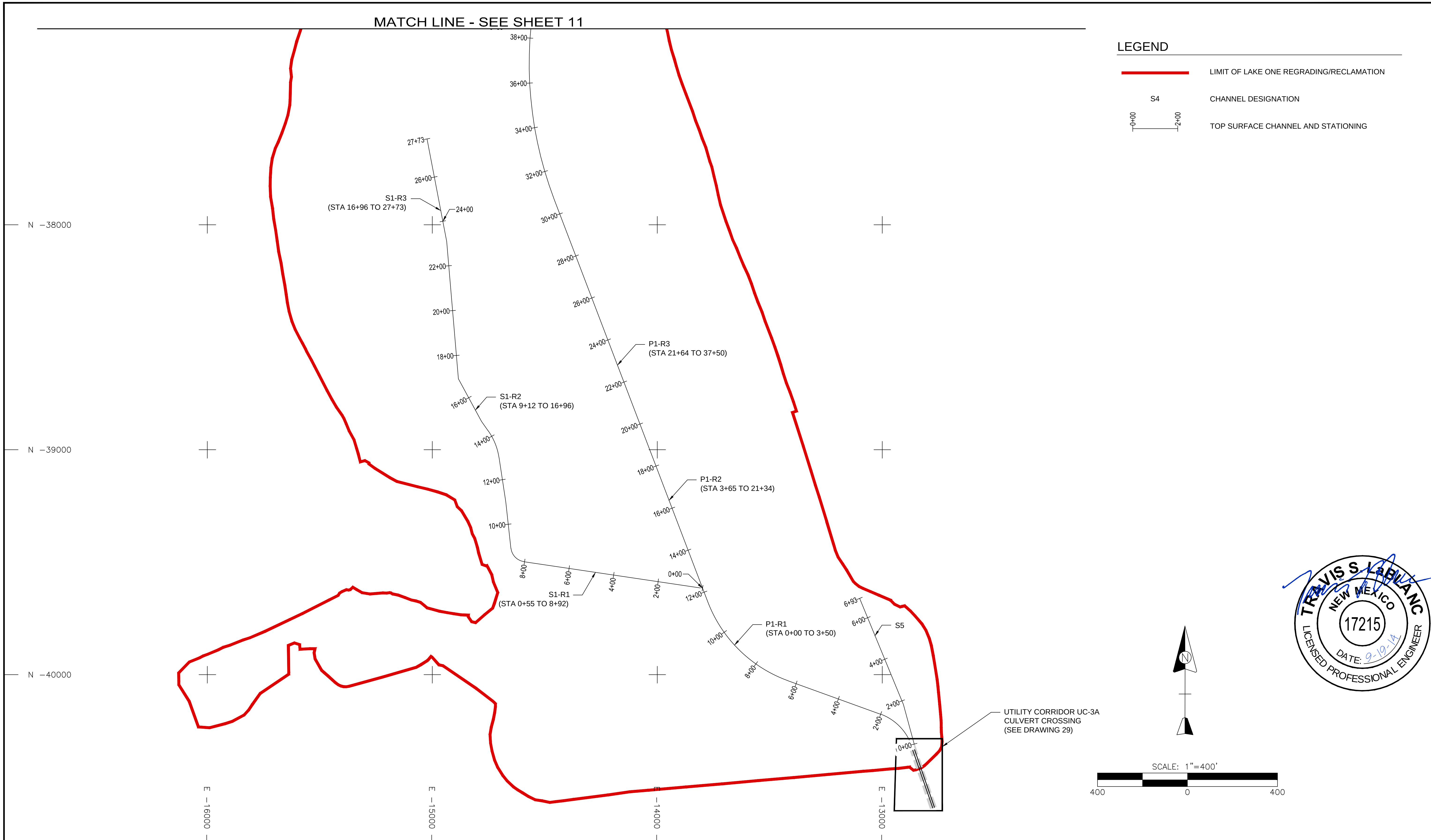
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: CHANNEL DESIGNATIONS
AND CENTERLINE STATIONING
SHEET 1 OF 2

DRAWING NO: 11

FILE NAME: 1287_AB-C301-CL.DWG

REV. 0



NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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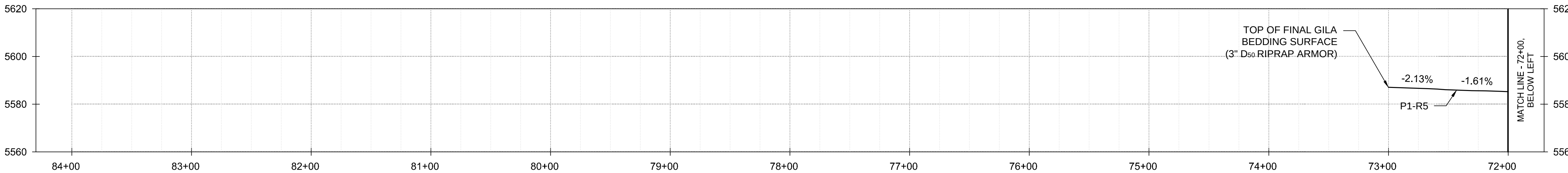
PROJECT:
CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE:
CHANNEL DESIGNATIONS
AND CENTERLINE STATIONING
SHEET 2 OF 2

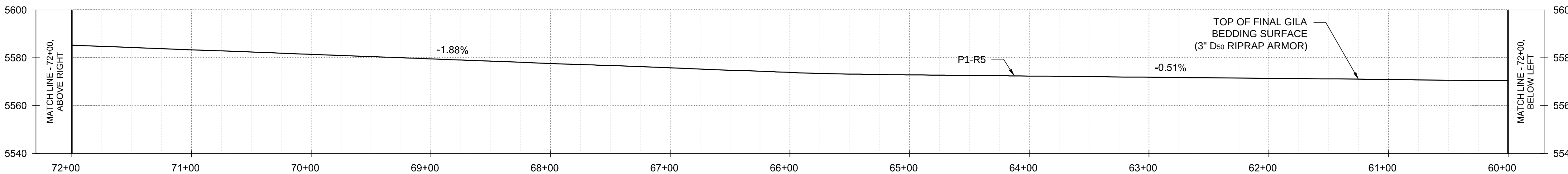
DRAWING NO: 12

FILE NAME: 1287_AB-C301-CL.DWG

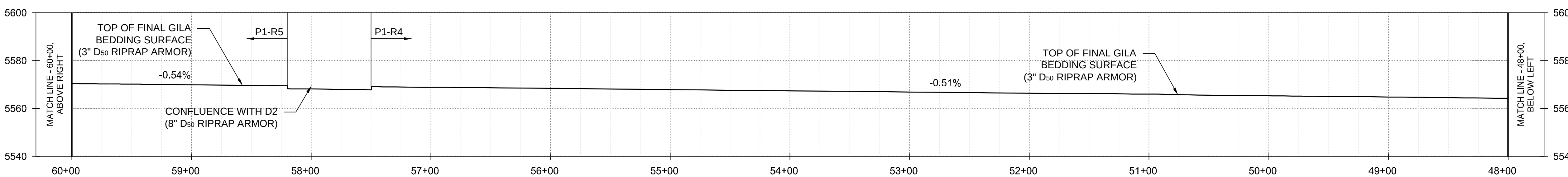
REV. 0



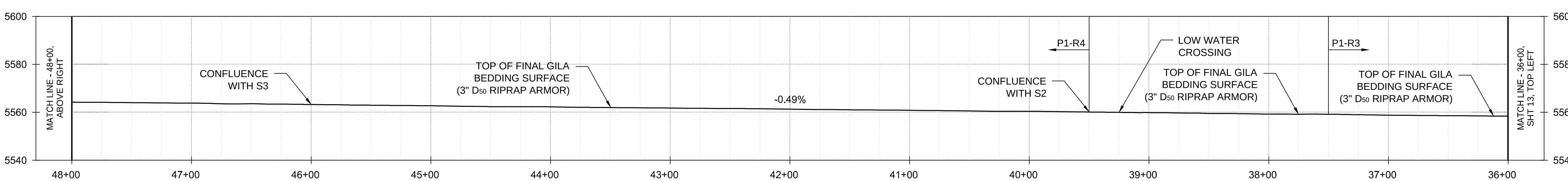
CHANNEL P1
STA 73+00 TO 72+00



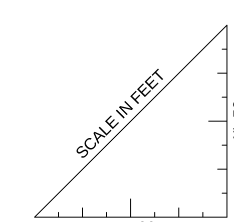
CHANNEL P1
STA 72+00 TO 60+00



CHANNEL P1
STA 60+00 TO 48+00



CHANNEL P1
STA 48+00 TO 36+00



NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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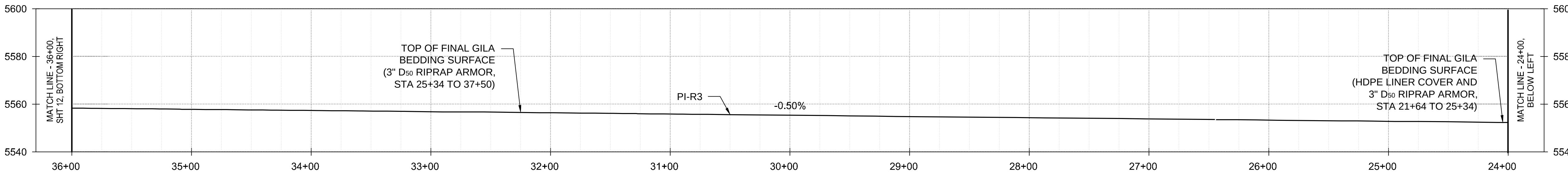
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

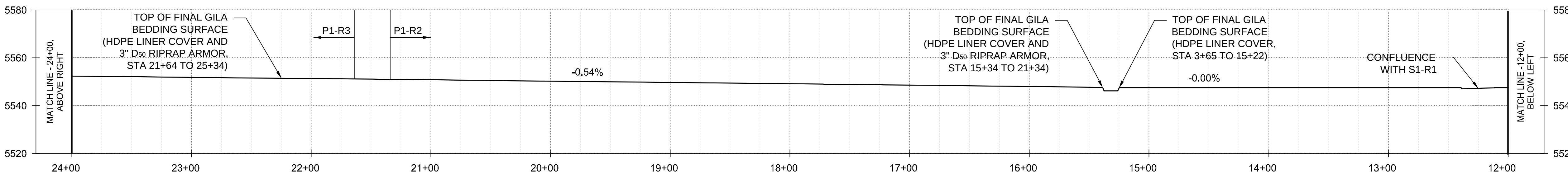
TITLE: CHANNEL PROFILES
SHEET 1 OF 5

DRAWING NO: 13
FILE NAME: 1287_AB-C306-PCH1.DWG
REV. 0



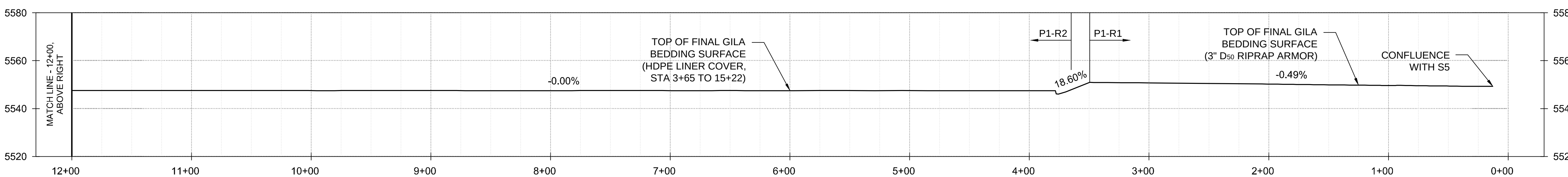
CHANNEL P1

STA 38+00 TO 24+00



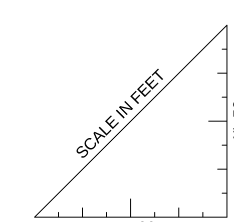
CHANNEL P1

STA 24+00 TO 12+00



CHANNEL P1

STA 12+00 TO 0+00



NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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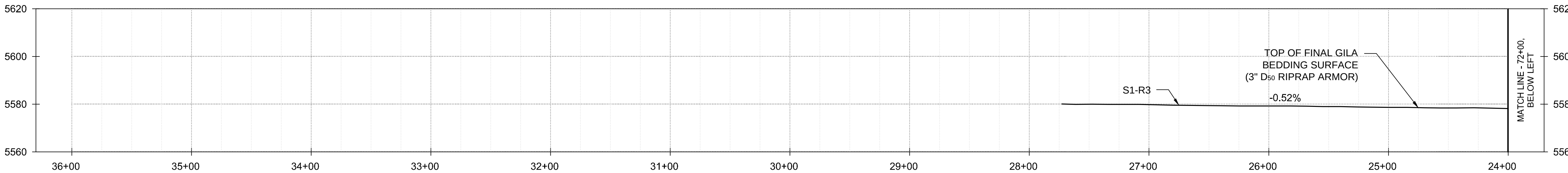
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: CHANNEL PROFILES
SHEET 2 OF 5

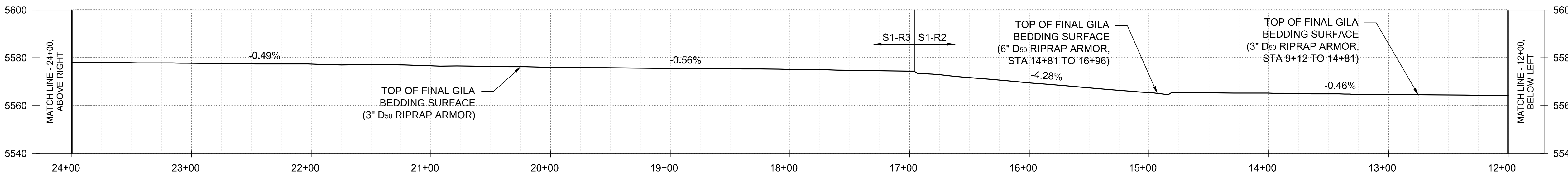
DRAWING NO: 14

FILE NAME: 1287_AB-C306-PCH1.DWG

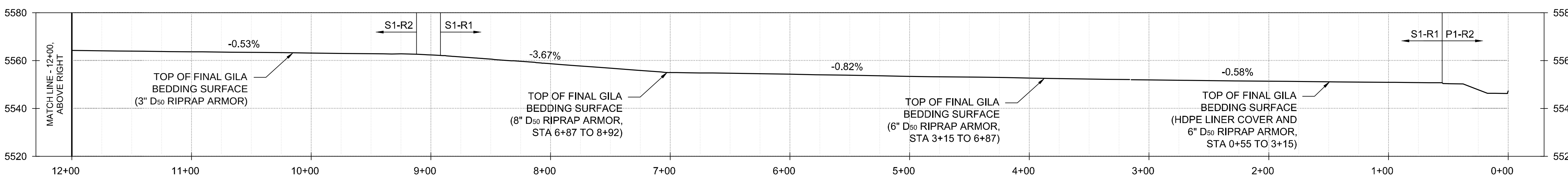
REV. 0



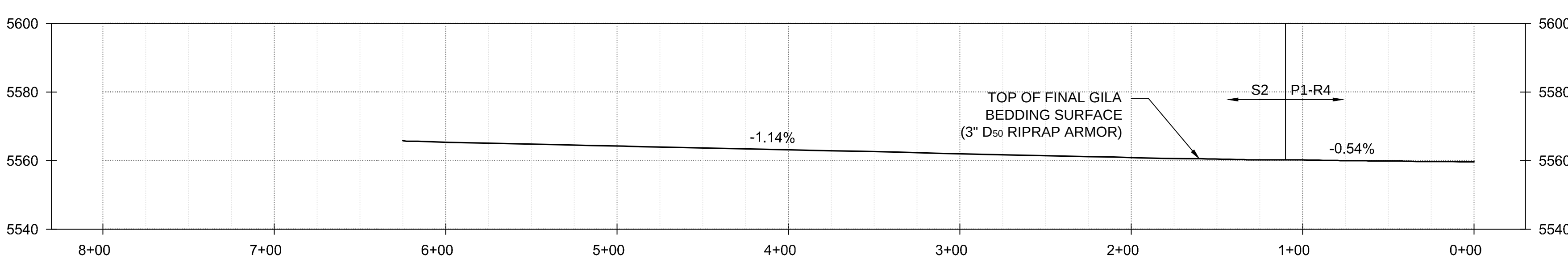
CHANNEL S1
STA 27+73 TO 24+00



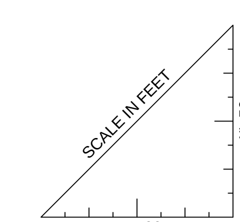
CHANNEL S1
STA 24+00 TO 12+00



CHANNEL S1
STA 12+00 TO 0+55



CHANNEL S2
STA 6+25 TO 1+10



NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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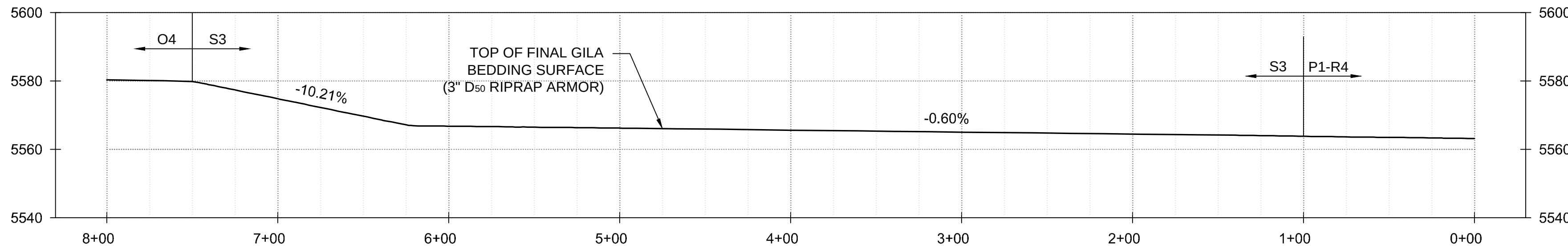
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: CHANNEL PROFILES
SHEET 3 OF 5

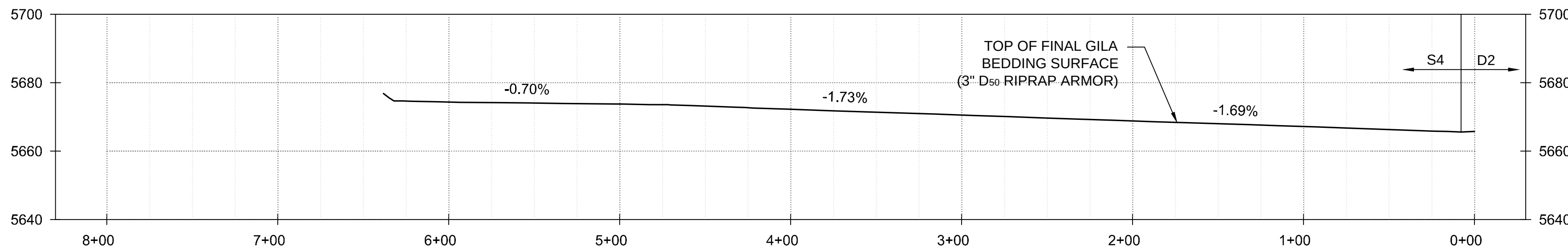
DRAWING NO: 15

FILE NAME: 1287_AB-C306-PCH2.DWG

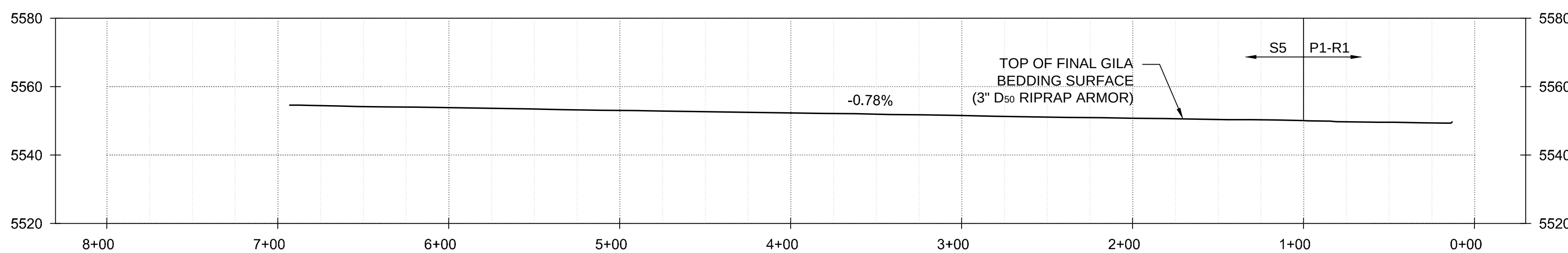
REV. 0



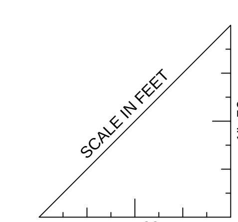
CHANNEL S3
STA 7+50 TO 1+00



CHANNEL S4
STA 6+32 TO 0+00



CHANNEL S5
STA 6+93 TO 0+00



NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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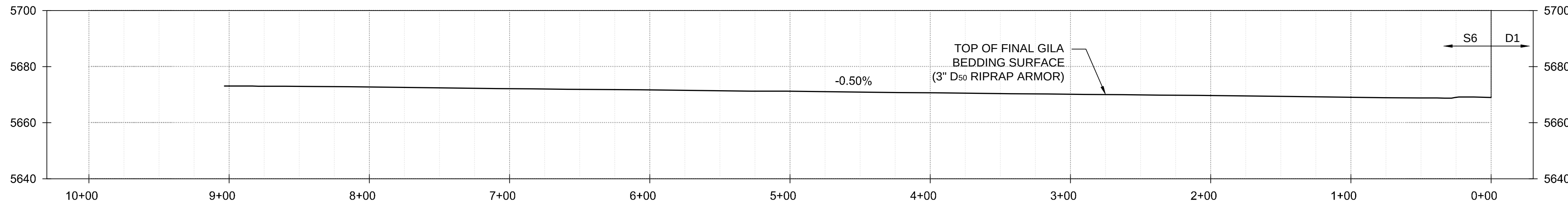
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

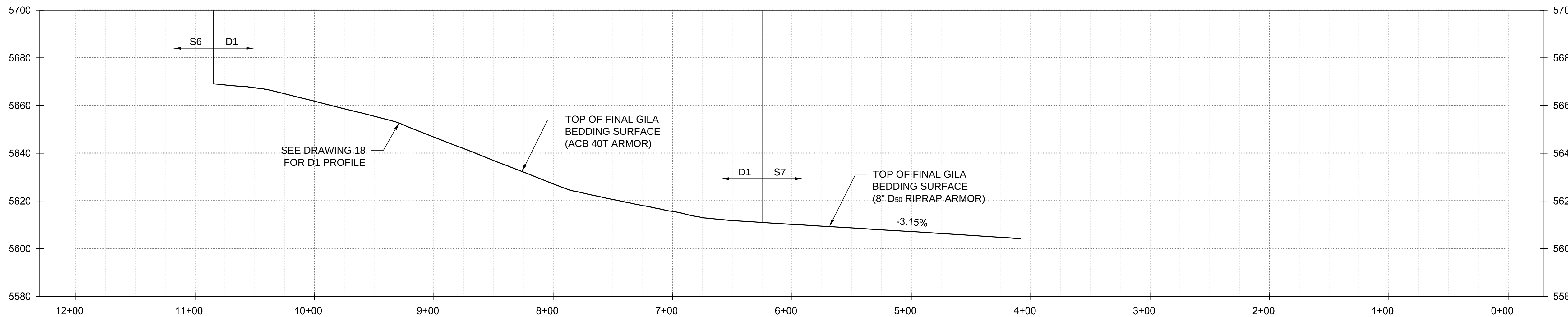
TITLE: CHANNEL PROFILES
SHEET 4 OF 5

DRAWING NO: 16
FILE NAME: 1287_AB-C306-PCH3.DWG
REV. 0



CHANNEL S6

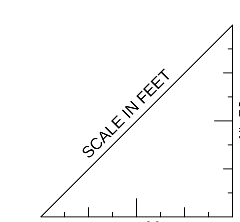
STA 9+03 TO 0+00



CHANNEL S7

STA 6+25 TO 4+09

TRAVIS S. LeBLANC
NEW MEXICO
17215
LICENSED PROFESSIONAL ENGINEER
DATE: 9-19-14



NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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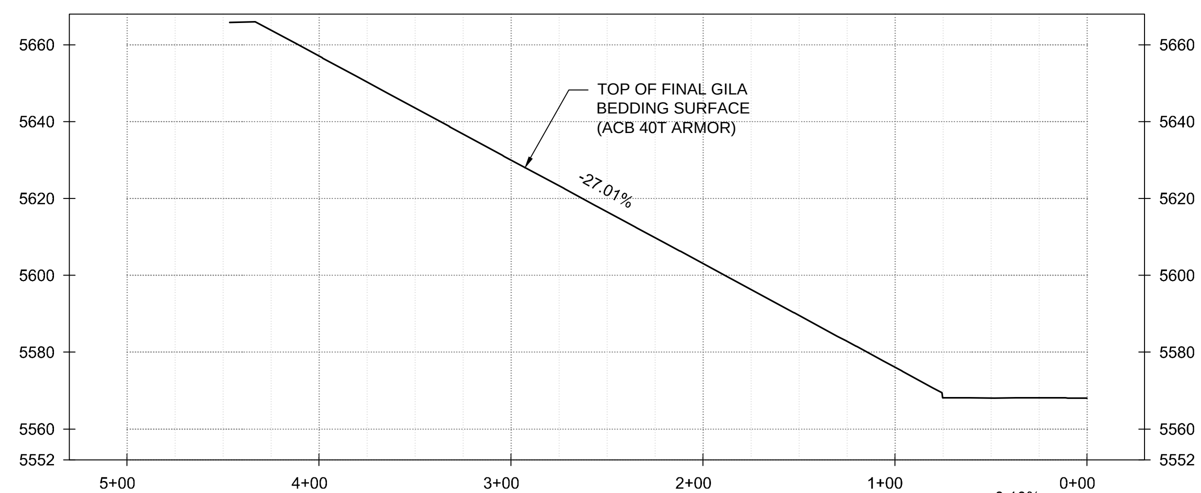
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: CHANNEL PROFILES
SHEET 5 OF 5

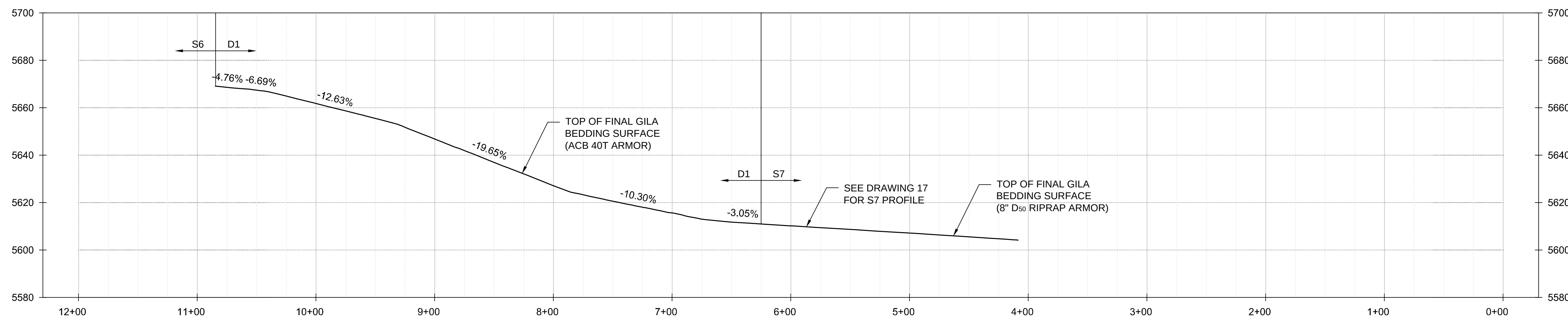
DRAWING NO: 17

FILE NAME: 1287_AB-C306-PCH3.DWG

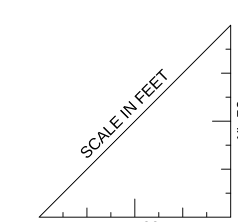
REV. 0



DOWN DRAIN D2
STA 4+47 TO 0+00



DOWN DRAIN D1
STA 10+85 TO 6+25



NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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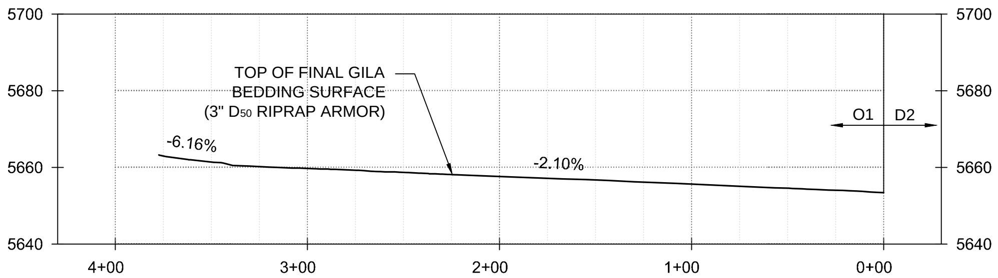
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: DOWN DRAIN PROFILES
SHEET 1 OF 1

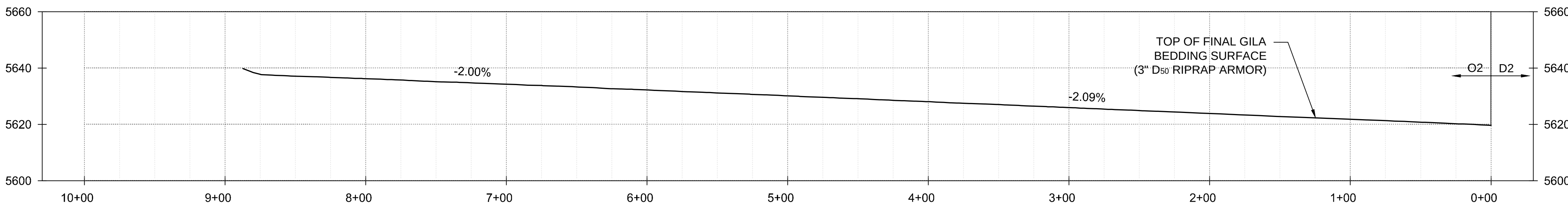
DRAWING NO: 18

FILE NAME: 1287_AB-C306-PCH3.DWG

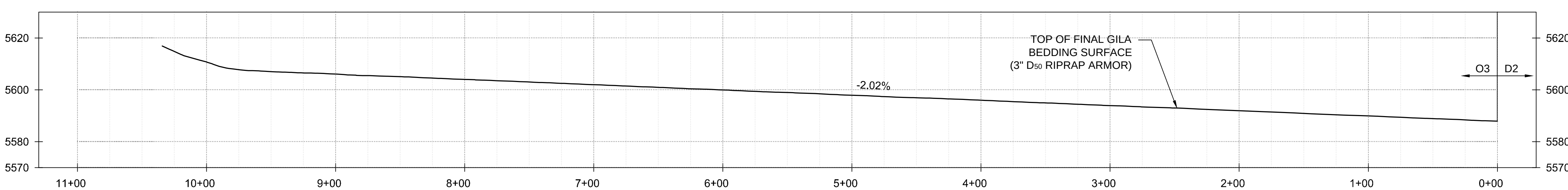
REV. 0



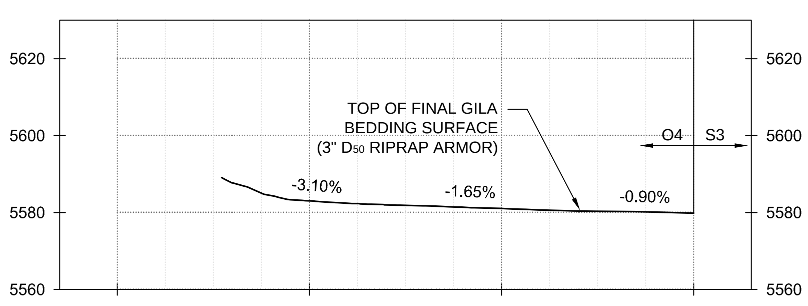
OUTSLOPE CHANNEL O1
STA 3+79 TO 0+00



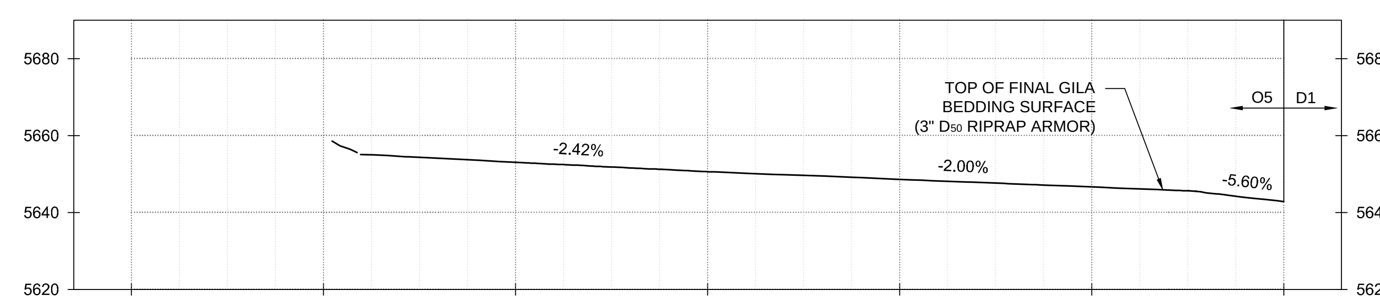
OUTSLOPE CHANNEL O2
STA 8+77 TO 0+00



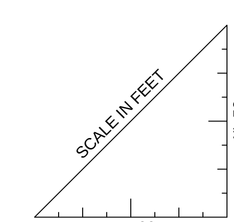
OUTSLOPE CHANNEL O3
STA 9+80 TO 0+00



OUTSLOPE CHANNEL 04
STA 2+18 TO 0+00



OUTSLOPE CHANNEL 05
STA 4+96 TO 0+00



NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
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C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: OUTSLOPE CHANNEL PROFILES
SHEET 1 OF 3

DRAWING NO: 19
FILE NAME: 1287_AB-C306-POS1.DWG
REV. 0

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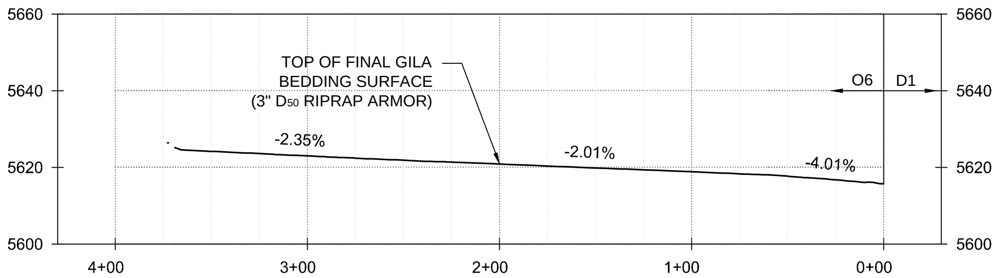
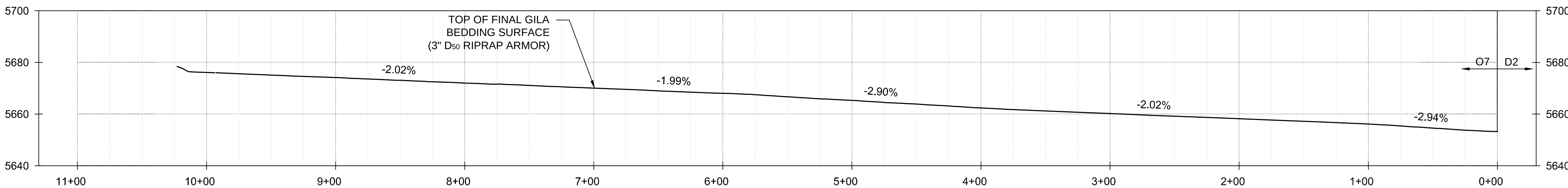
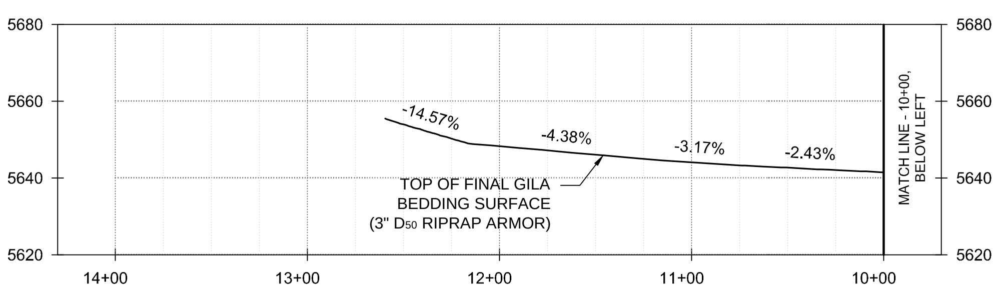


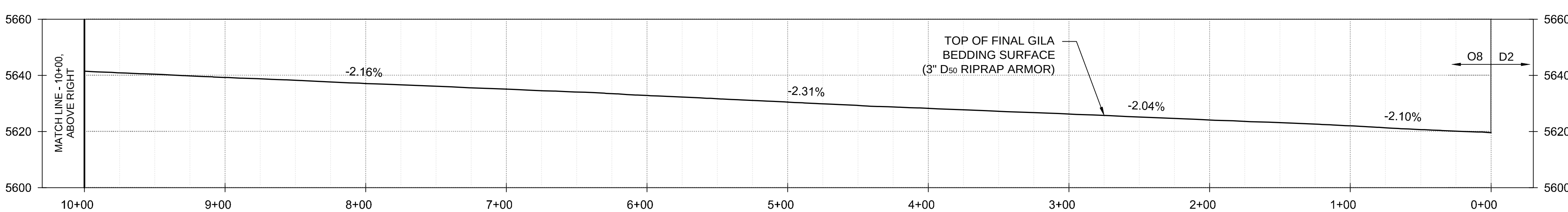
OUTSLOPE CHANNEL O6
STA 3+73 TO 0+00



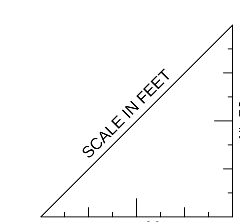
OUTSLOPE CHANNEL O7
STA 10+23 TO 0+00



OUTSLOPE CHANNEL 08
STA 12+59 TO 10+00



OUTSLOPE CHANNEL 08
STA 10+00 TO 0+00



NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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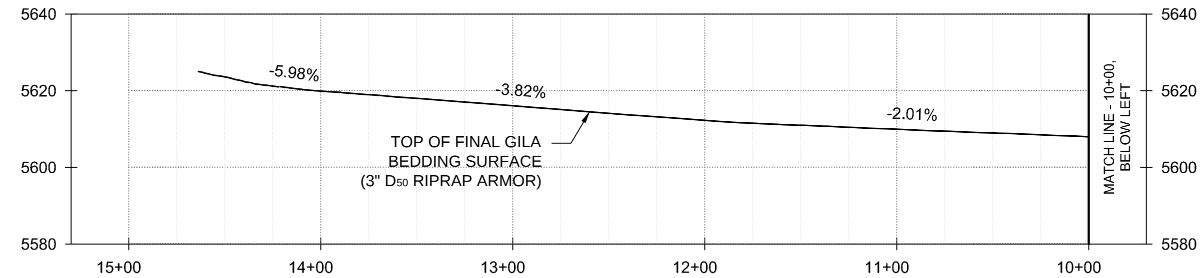
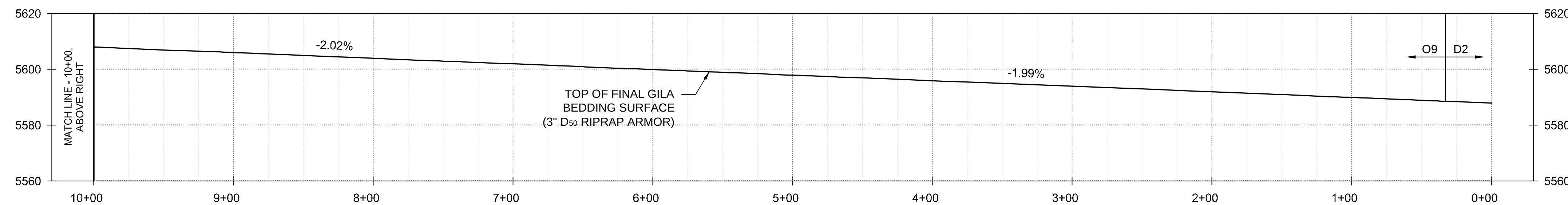
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: OUTSLOPE CHANNEL PROFILES
SHEET 2 OF 3

DRAWING NO: 20
FILE NAME: 1287_AB-C306-POS1.DWG
REV. 0



OUTSLOPE CHANNEL O9
STA 14+64 TO 10+00



OUTSLOPE CHANNEL O9
STA 10+00 TO 0+00

TRAVIS S. LeBLANC
NEW MEXICO
17215
LICENSED PROFESSIONAL ENGINEER
DATE: 9-19-14

SCALE IN FEET
1"=50
1"=100

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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EMC2
Engineering and Environmental Solutions
1819 East Morten Avenue, Suite 100
Phoenix, AZ 85020
Tel: (602) 331-3859 Fax: (602) 331-4104

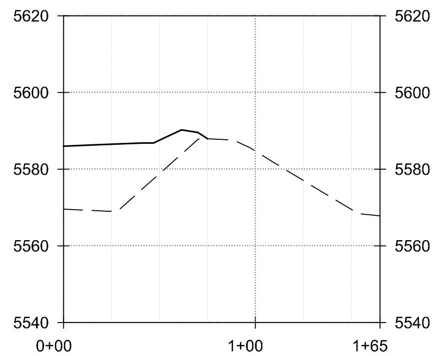
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: OUTSLOPE CHANNEL PROFILES
SHEET 3 OF 3

DRAWING NO: 21

FILE NAME: 1287_AB-C306-POS1.DWG

REV. 0



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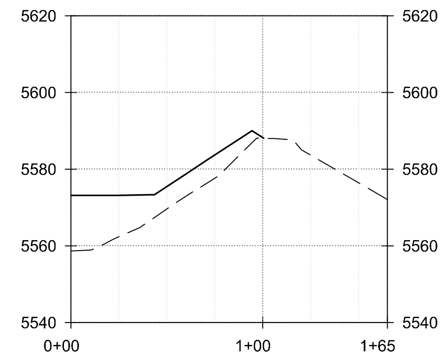

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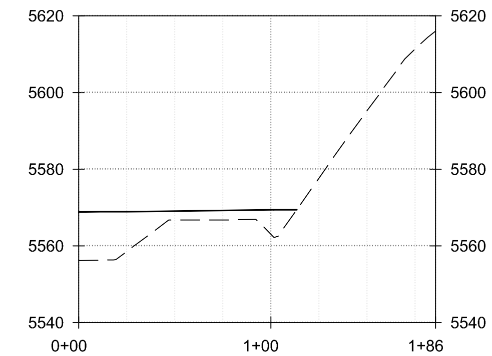

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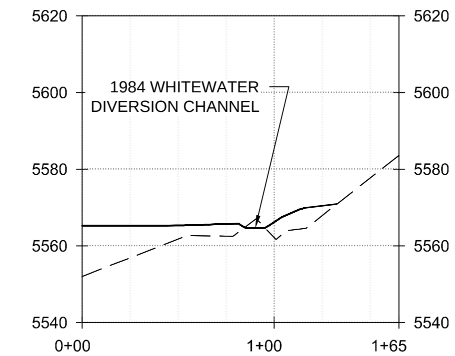

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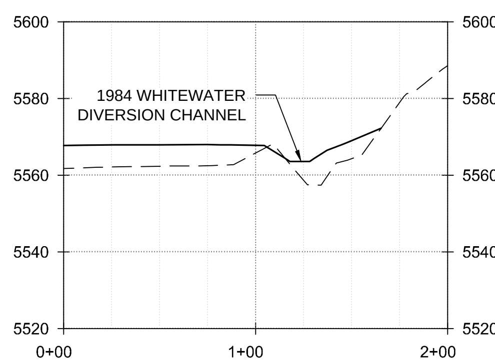

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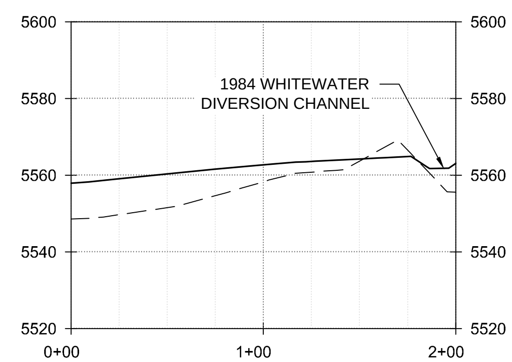

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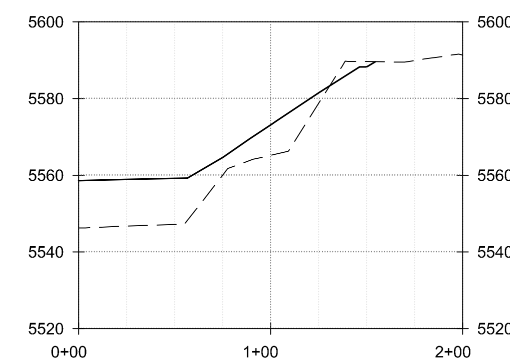

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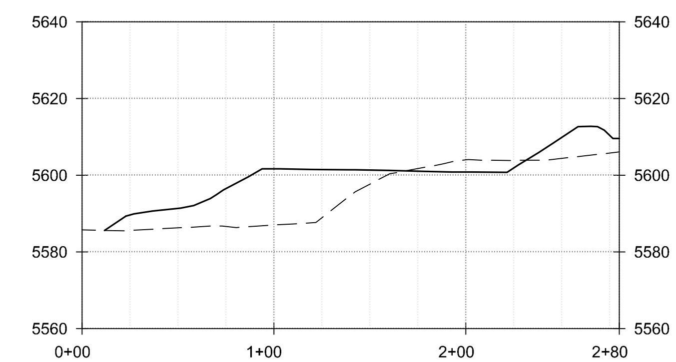

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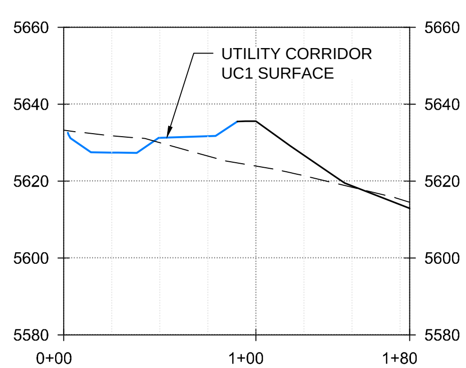

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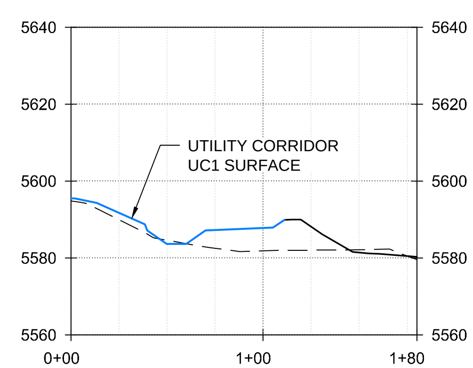

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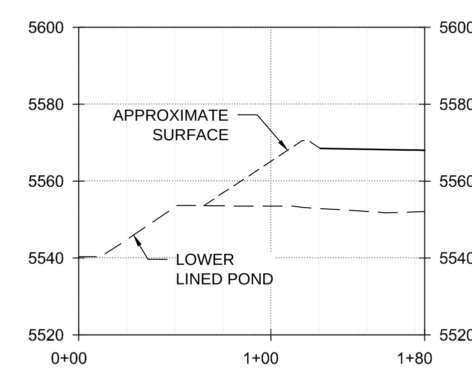

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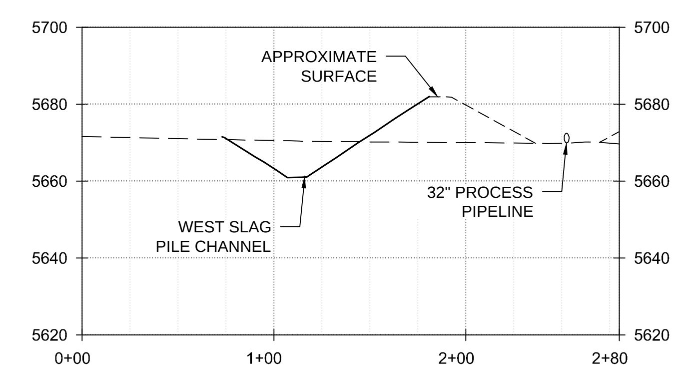

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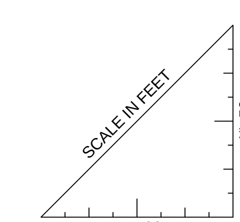

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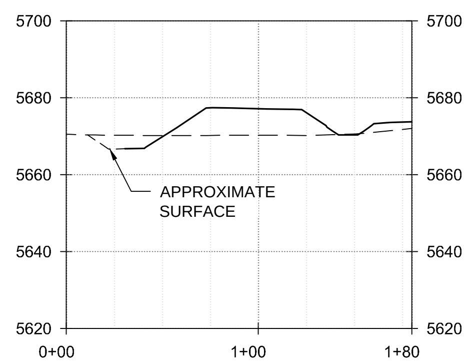
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: GENERAL SECTIONS
SHEET 1 OF 2

DRAWING NO: 22

FILE NAME: 1287_AB-C305-XS.DWG

REV. 0



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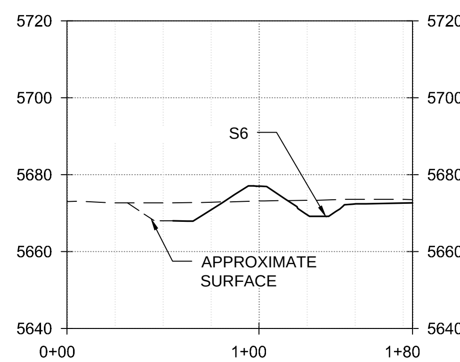
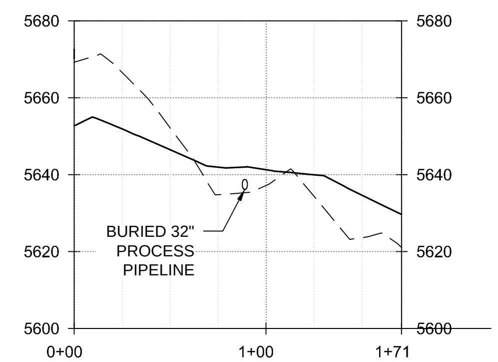


N/5 GENERAL SECTION



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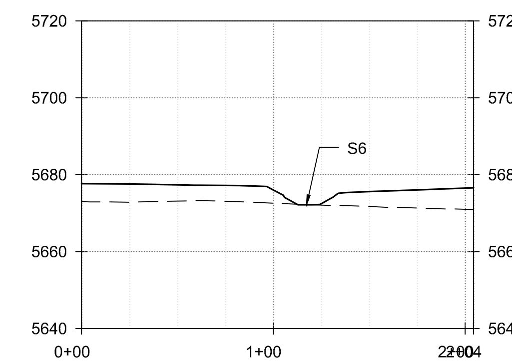
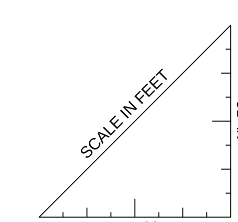


P/5 GENERAL SECTION

LEGEND

FINAL COVER SURFACE
ORIGINAL GROUND SURFACE

TRAVIS S. LEBLANC
NEW MEXICO
17215
LICENSED PROFESSIONAL ENGINEER
DATE: 9-19-14



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0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

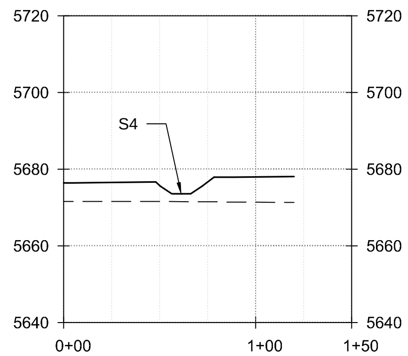
TITLE: GENERAL SECTIONS
SHEET 2 OF 2

DRAWING NO: 23
FILE NAME: 1287_AB-C305-XS.DWG
REV. 0

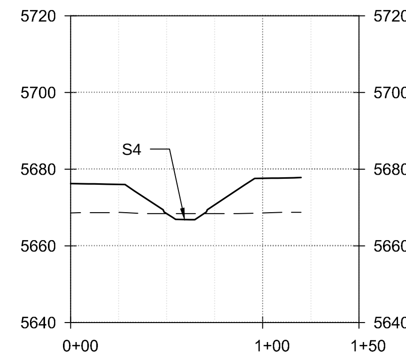
LEGEND

FINAL COVER SURFACE

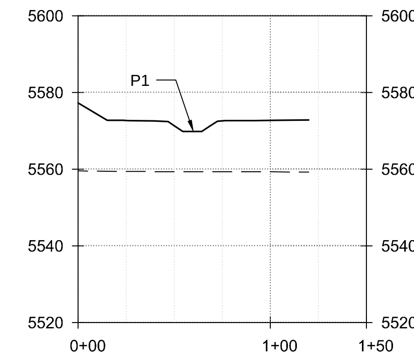
ORIGINAL GROUND SURFACE



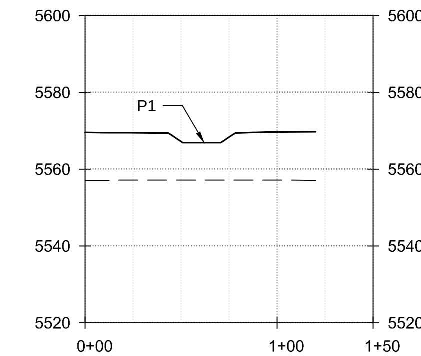
1 / 5 CHANNEL SECTION



2 / 5 CHANNEL SECTION



3 / 5 CHANNEL SECTION



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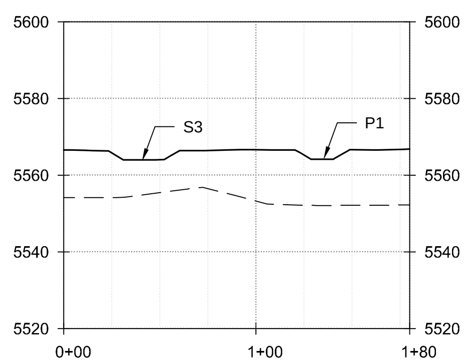

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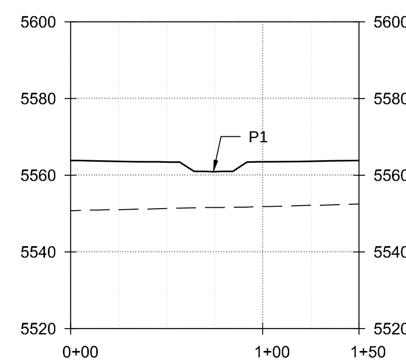

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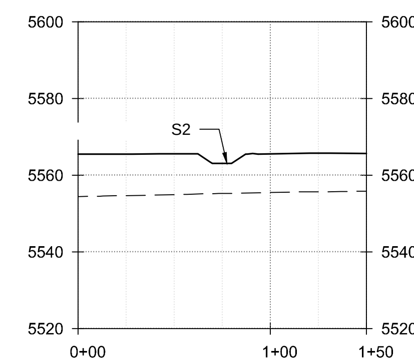

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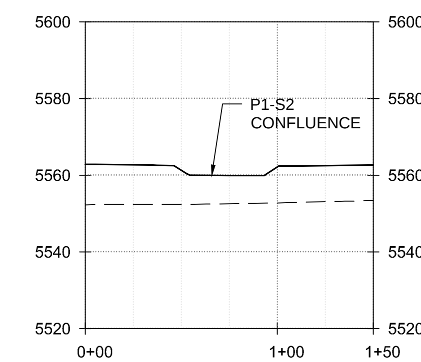

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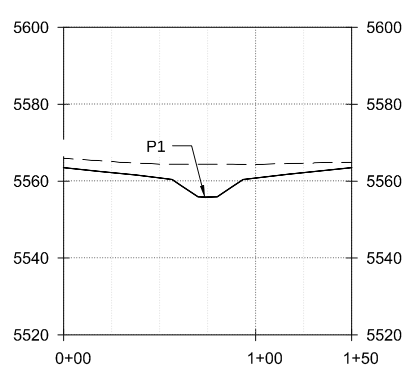
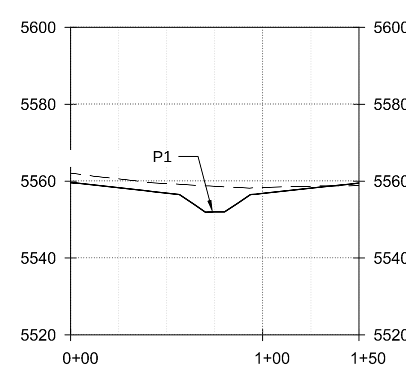


9 / 6 CHANNEL SECTION



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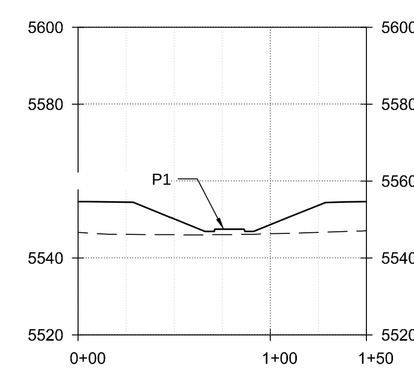

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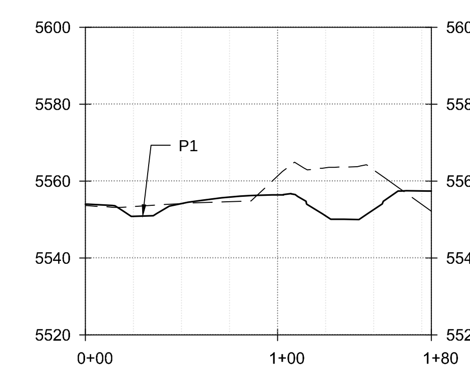
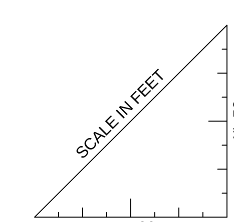


12 / 6 CHANNEL SECTION



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PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: CHANNEL SECTIONS
SHEET 1 OF 2

DRAWING NO: 24

FILE NAME: 1287_AB-C306-XSCH.DWG

REV. 0

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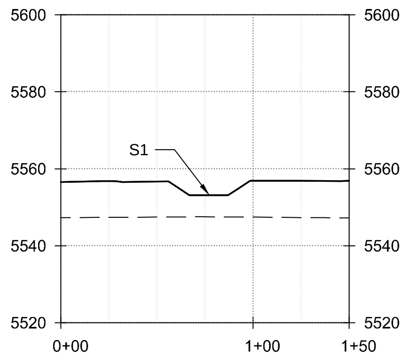
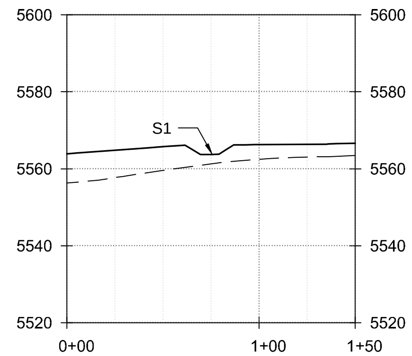
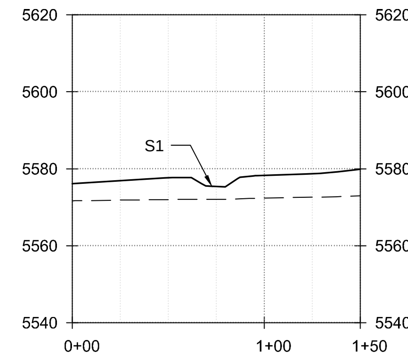


13 / 6 GENERAL SECTION



14 / 6 GENERAL SECTION



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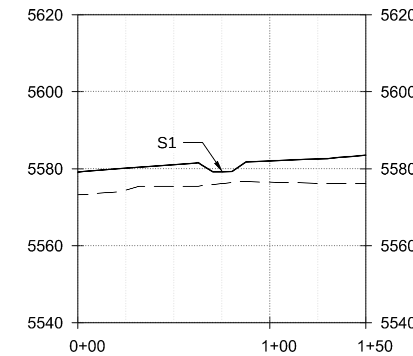
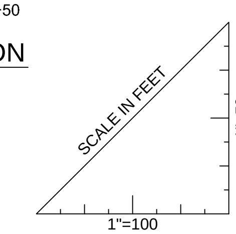


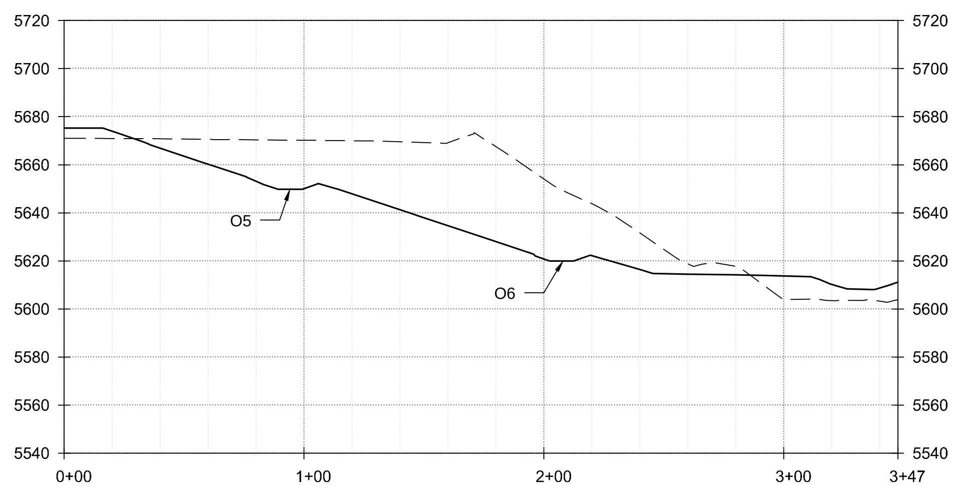
16 / 6 GENERAL SECTION



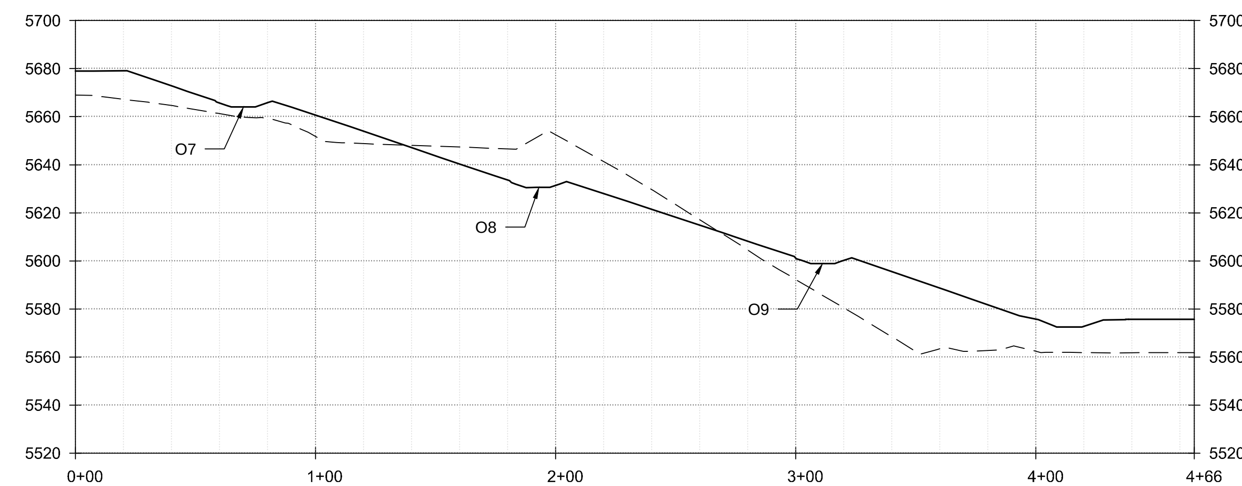
LEGEND

FINAL COVER SURFACE

ORIGINAL GROUND SURFACE



17 / 5 GENERAL SECTION



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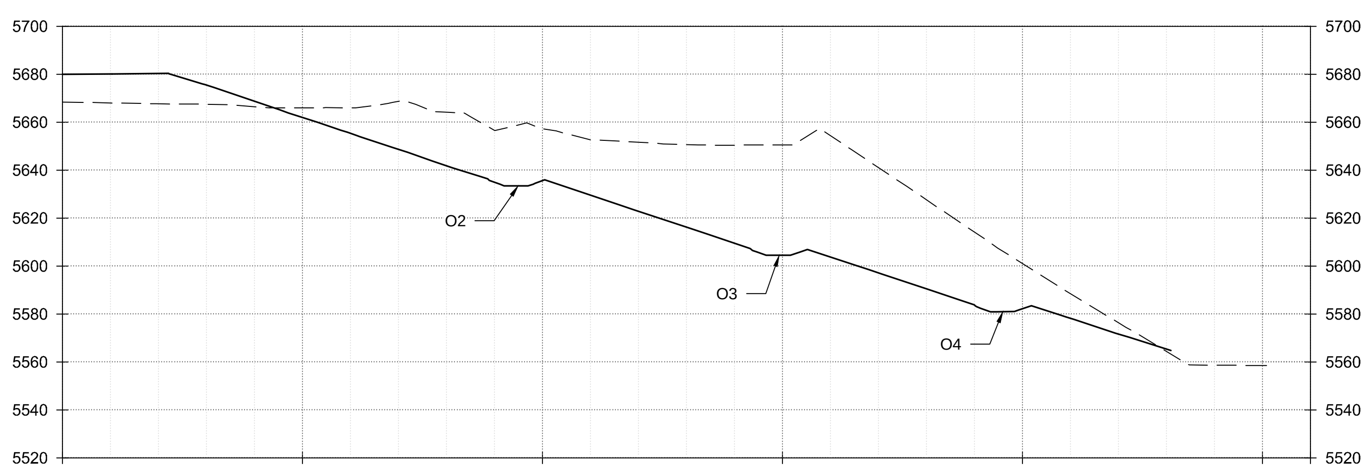
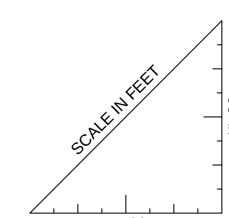


19 / 5 GENERAL SECTION



TRAVIS S. LeBLANC
NEW MEXICO
17215
DATE: 9-19-14
LICENSED PROFESSIONAL ENGINEER

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
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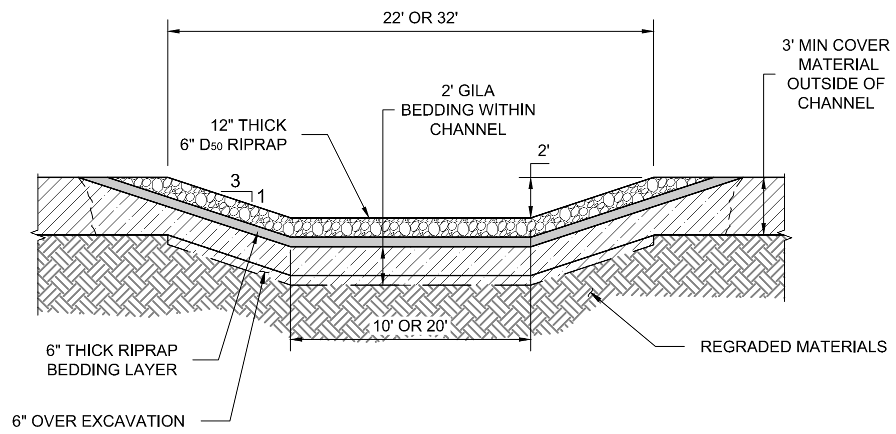
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: CHANNEL SECTIONS
SHEET 2 OF 2

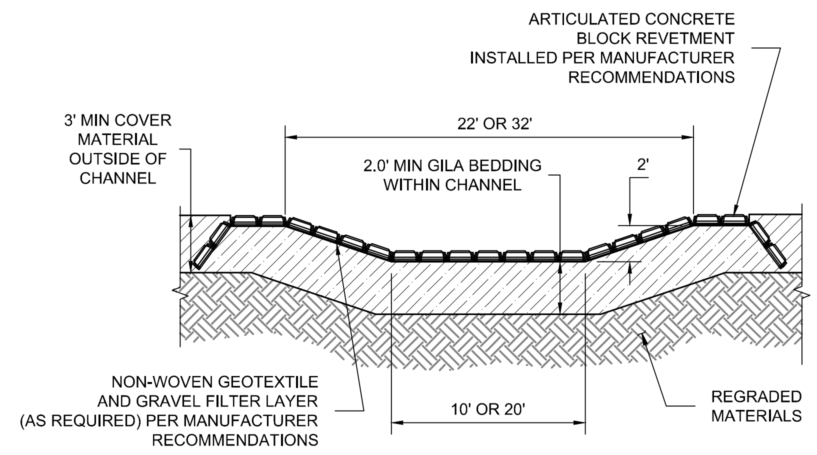
DRAWING NO: 25

FILE NAME: 1287_AB-C306-XSCH.DWG

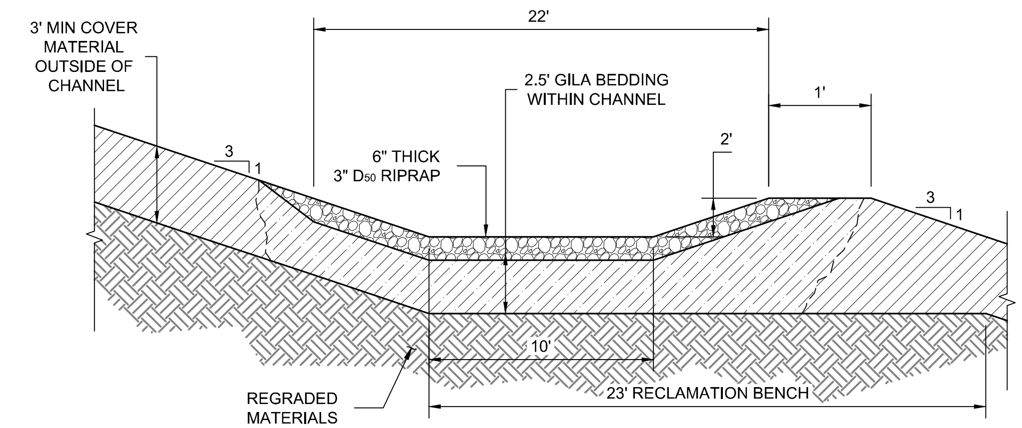
REV. 0



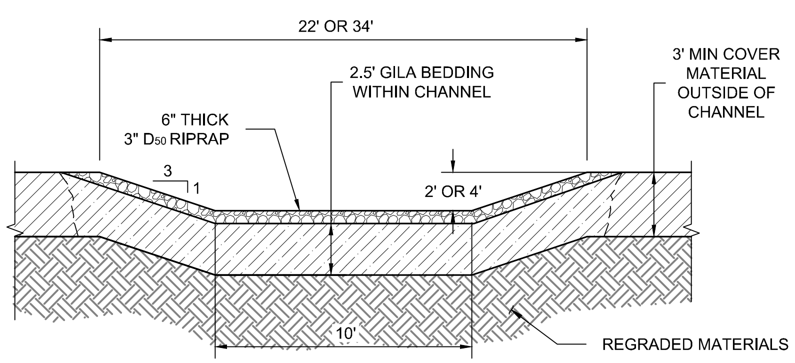
1 6" D50 RIPRAP CHANNEL
TYPICAL SECTION (NTS)



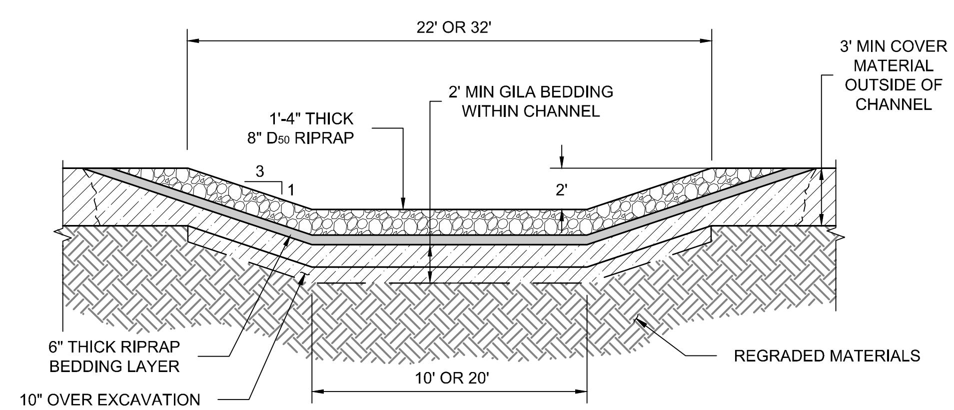
2 ACB CHANNEL
TYPICAL SECTION (NTS)



3 OUTSLOPE CHANNEL
TYPICAL SECTION (NTS)



4 3" D50 RIPRAP CHANNEL
TYPICAL SECTION (NTS)



5 8" D50 RIPRAP CHANNEL
TYPICAL SECTION (NTS)

TRAVIS S. LEBLANC
NEW MEXICO
17215
LICENSED PROFESSIONAL ENGINEER
DATE: 9-19-14

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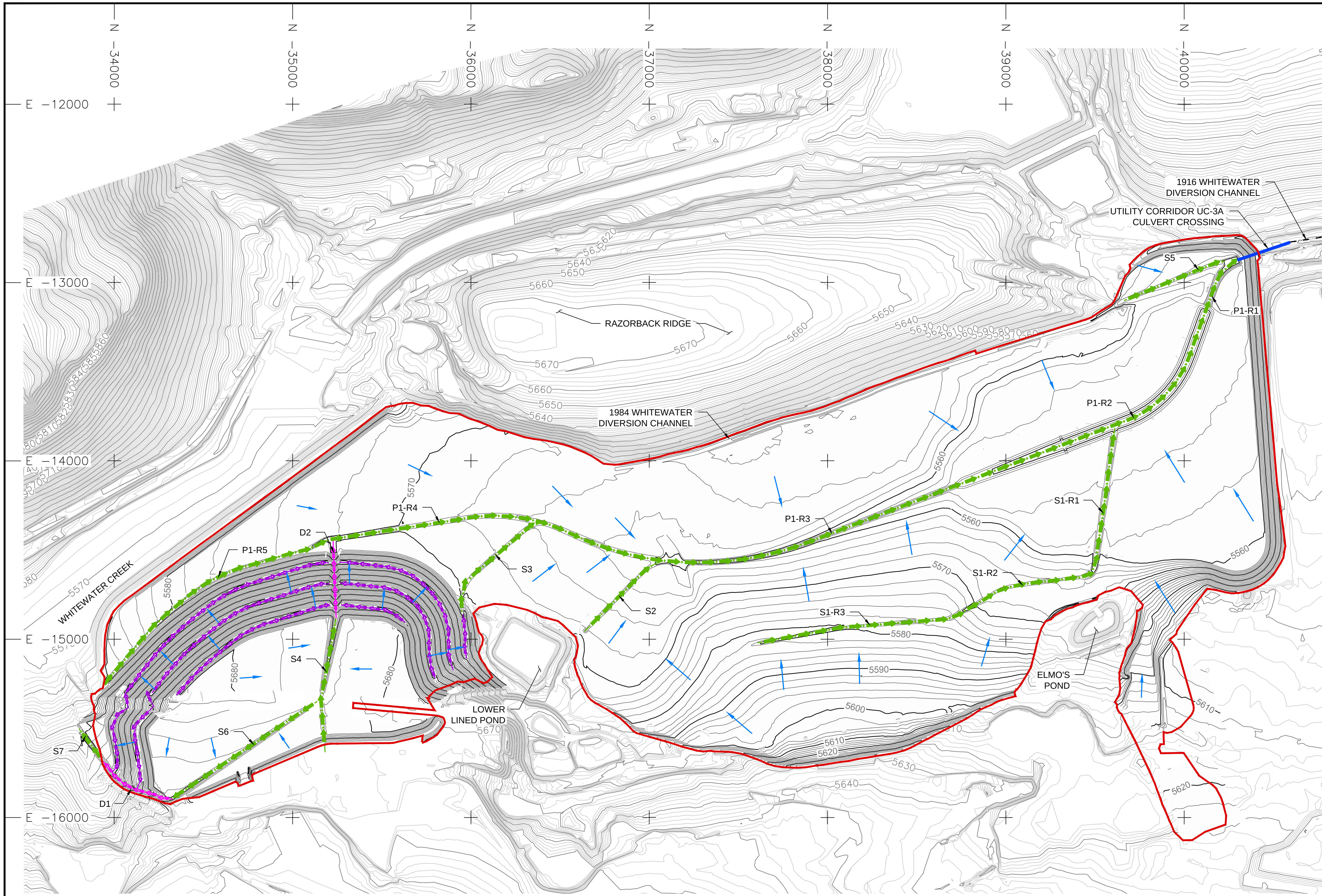
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: CHANNEL TYPICAL DETAILS

DRAWING NO: 26

FILE NAME: 1287_AB-C308-CH-DTL.DWG

REV. 0



LEGEND

- LIMIT OF LAKE ONE REGRADING/RECLAMATION
- 5670 ORIGINAL GROUND SURFACE TOPOGRAPHY
- 5670 RECLAIMED LAKE ONE GROUND SURFACE (PRESENTED IN THIS CQAR)
- P1-R1 CHANNEL - REACH DESIGNATION
- D1 DOWN DRAIN DESIGNATION
- SHEET FLOW DIRECTION
- TOP SURFACE CHANNEL
- DOWN DRAIN
- OUTSLOPE CHANNEL
- CULVERT PIPE

TRAVIS S. LEBLANC
NEW MEXICO
17215
LICENSED PROFESSIONAL ENGINEER
DATE: 9-19-14

N

SCALE: 1"=600'

600 0 600

CONTOUR INTERVAL = 2-FT

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
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PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: WATERSHED OVERVIEW
(WITHIN LAKE ONE RECLAMATION BOUNDARY)

DRAWING NO: 27

FILE NAME: 1287_AB-C700-WS.DWG

REV. 0

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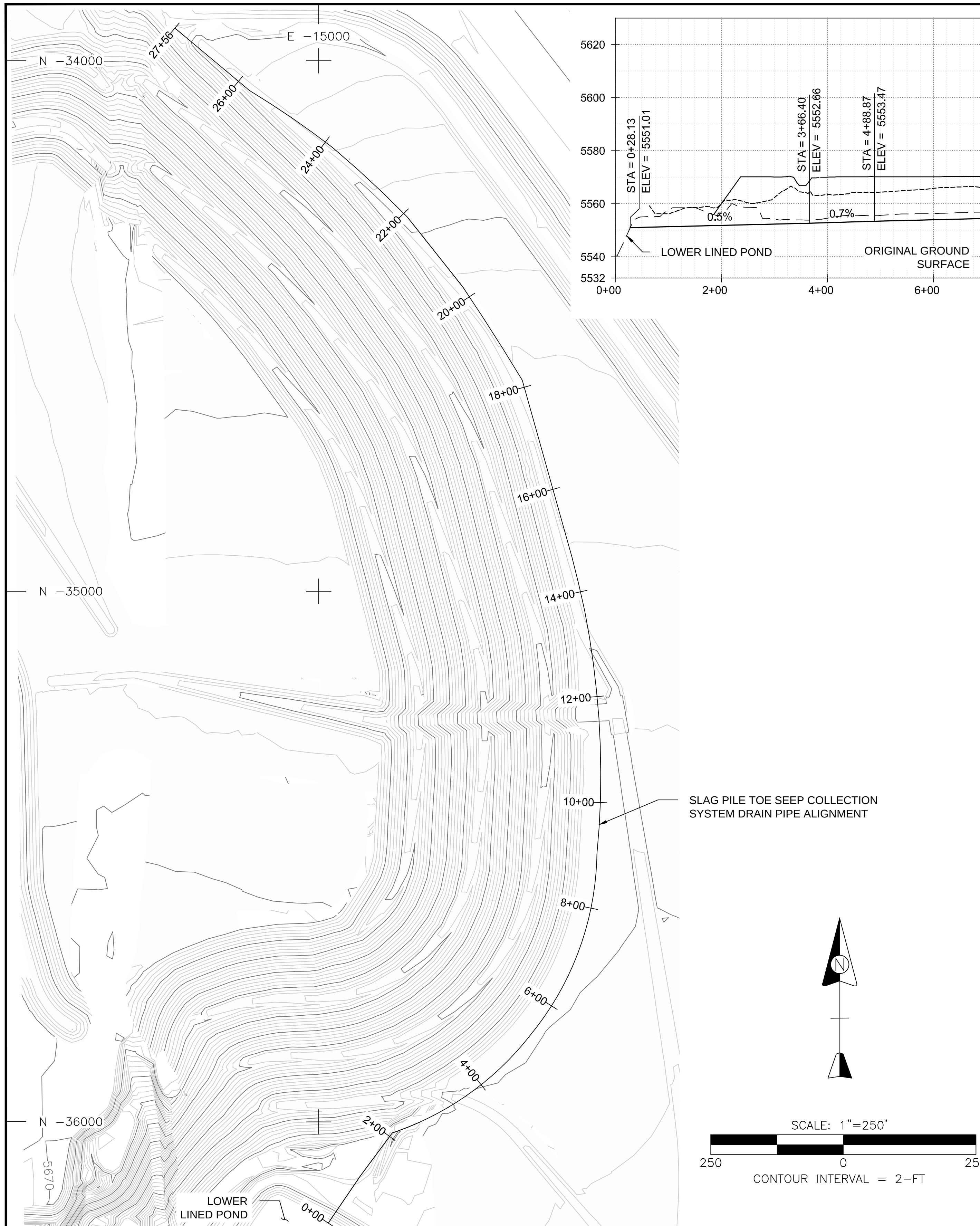
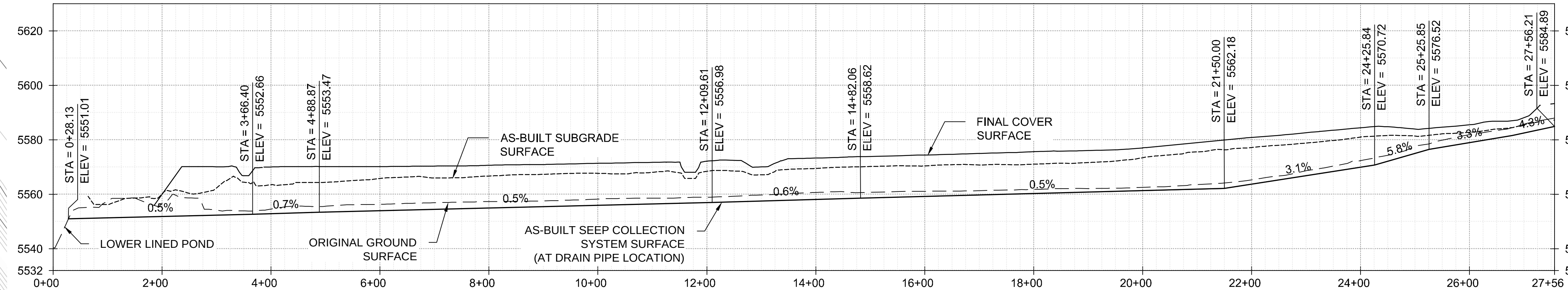
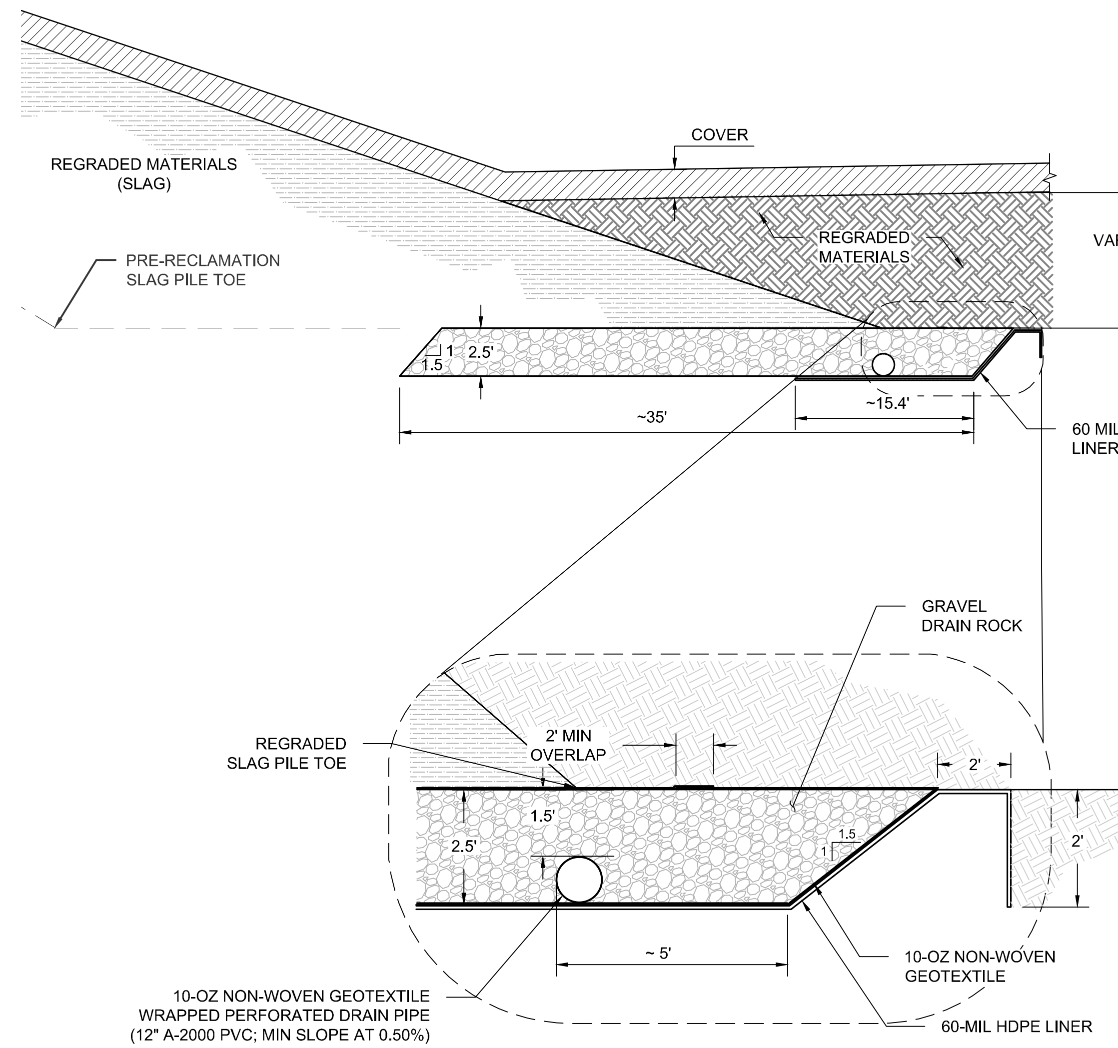




1 SLAG PILE TOE SEEP COLLECTION SYSTEM
PROFILE



2 SLAG PILE TOE SEEP COLLECTION SYSTEM
TYPICAL SECTION (NTS)

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

FREEPORT-MCMORAN COPPER & GOLD

EMC²
Engineering and Environmental Solutions
1819 East Morten Avenue, Suite 100
Phoenix, AZ 85020
Tel: (602) 331-3859 Fax: (602) 331-4104

PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: SEEP COLLECTION SYSTEM
PROFILE AND DETAILS

DRAWING NO: 28
FILE NAME: 1287_AB-C720-SEEP.DWG
REV. 0

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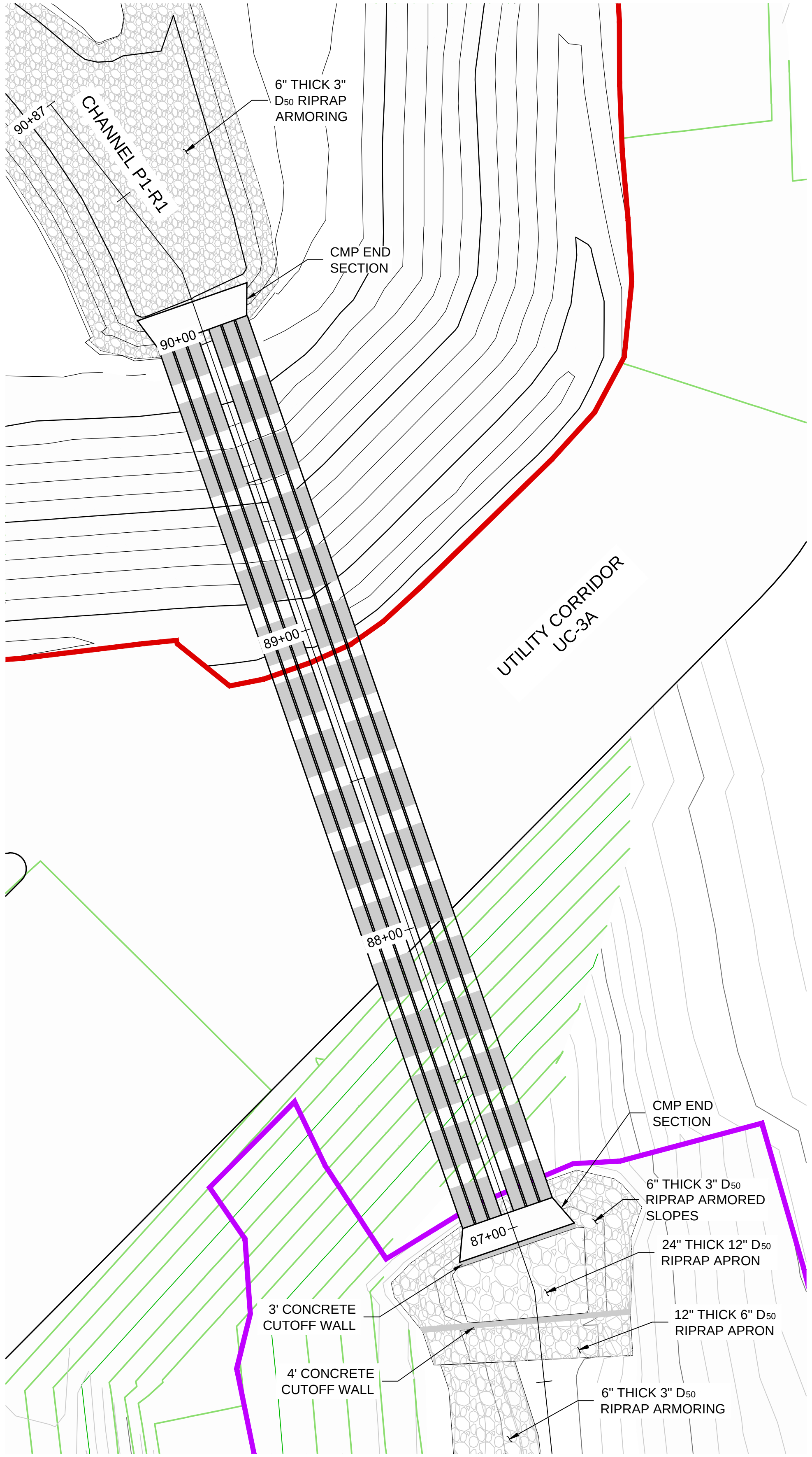
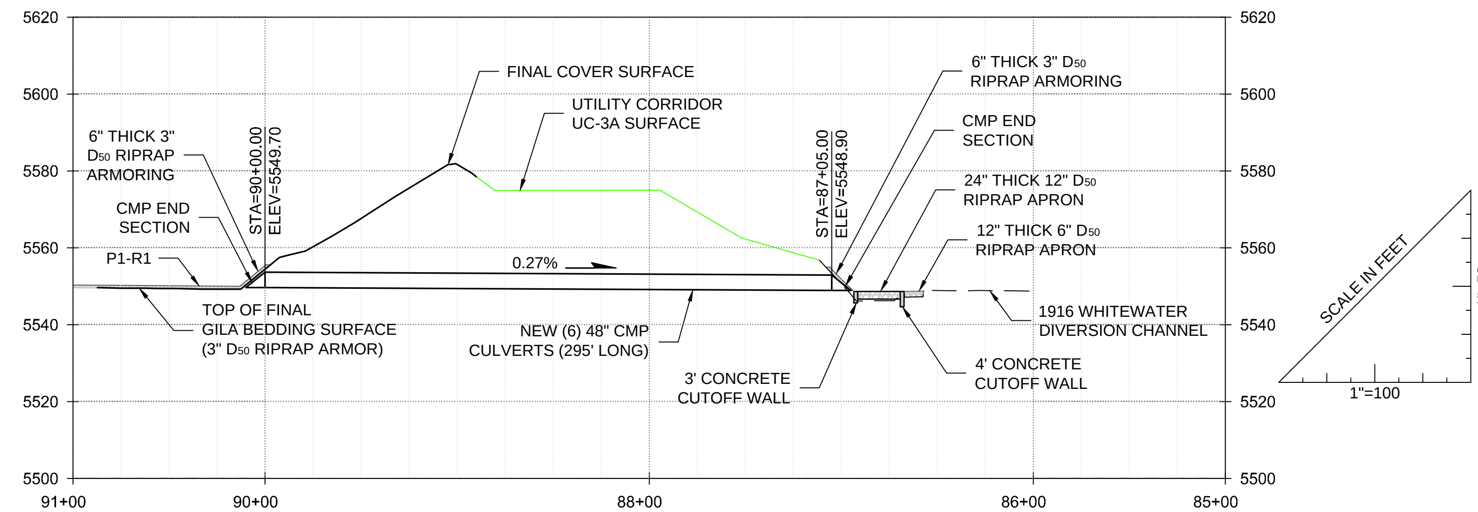
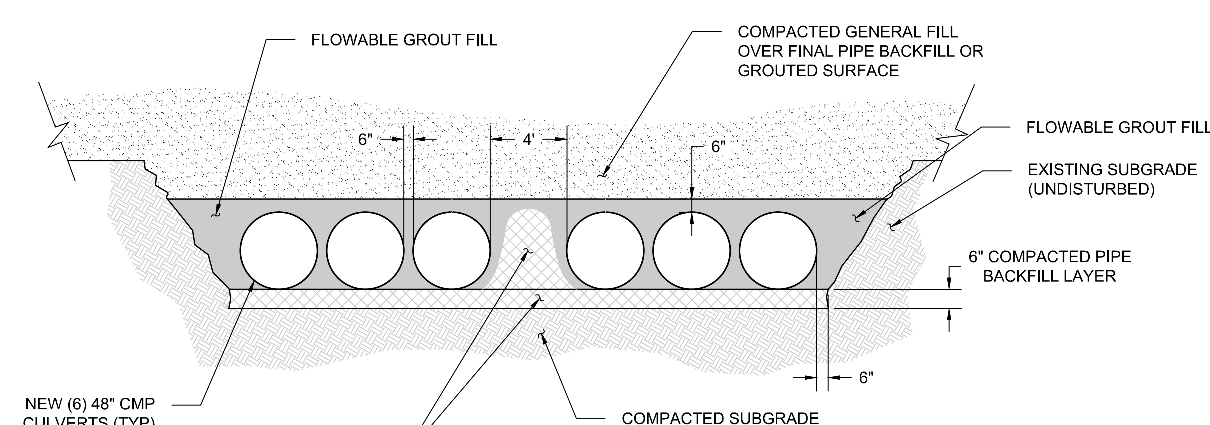


LEGEND

- LIMIT OF LAKE ONE REGRADING/RECLAMATION
- LIMIT OF 1916 WHITEWATER DIVERSION CHANNEL REGRADING
- 5670 — ORIGINAL/EXISTING GROUND SURFACE TOPOGRAPHY
- 5670 — RECLAIMED LAKE ONE GROUND SURFACE (PRESENTED IN THIS CQAR)
- 5670 — UTILITY CORRIDOR UC-3A SURFACE (NOT PART OF THIS CQAR)
- CULVERT



CULVERT PROFILE



1 CULVERT BACKFILL
TYPICAL SECTION (NTS)

N

SCALE: 1"=50'
50 0 50
CONTOUR INTERVAL = 2-FT

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

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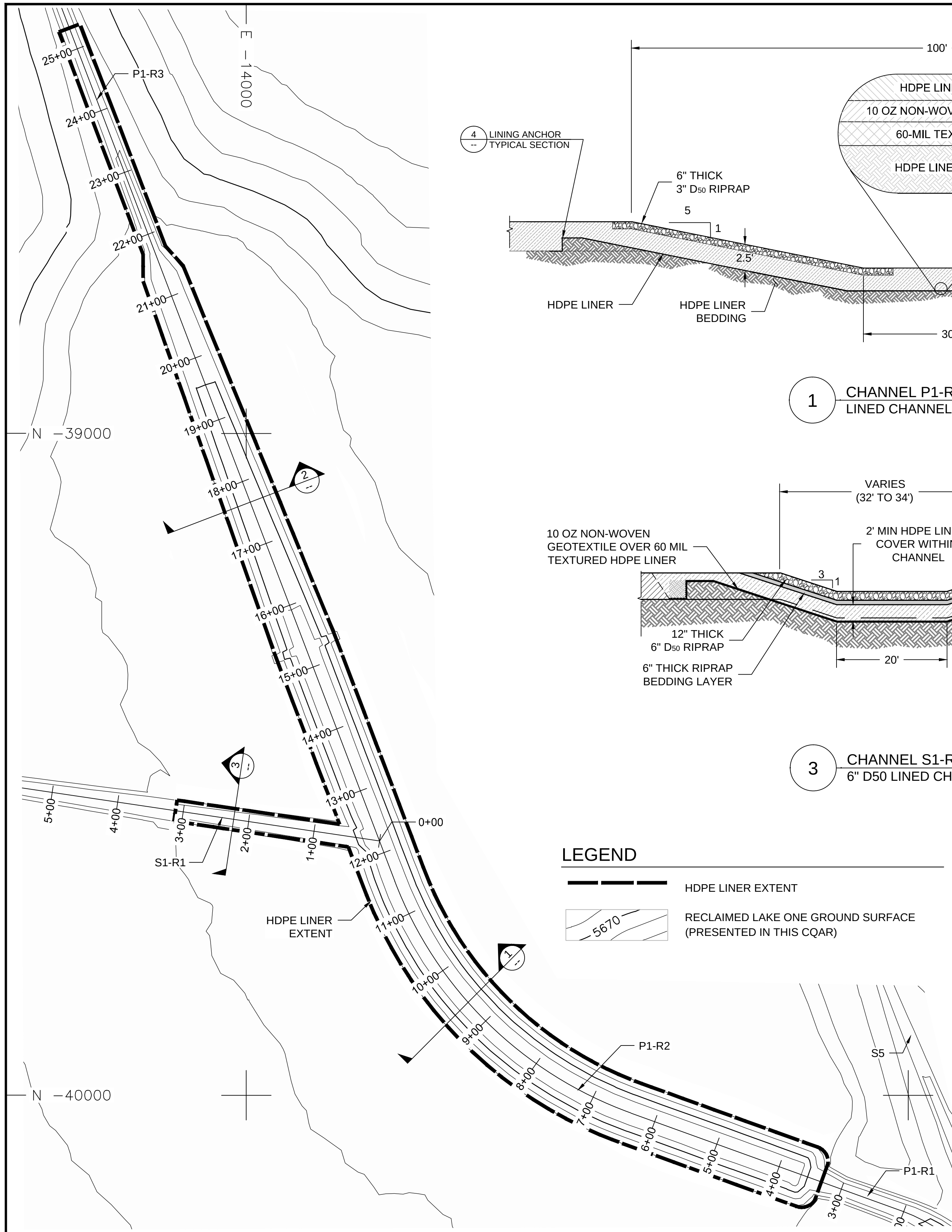
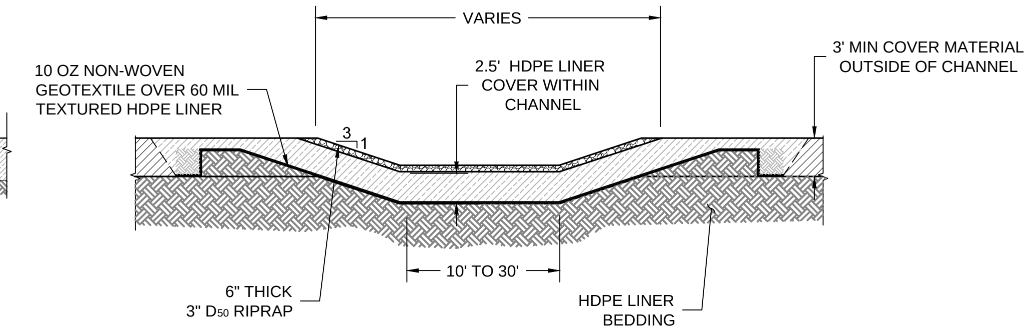
PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: CULVERT CROSSING
PLAN, PROFILE AND DETAILS

DRAWING NO: 29
FILE NAME: 1287_AB-C730-CULVERT.DWG
REV. 0

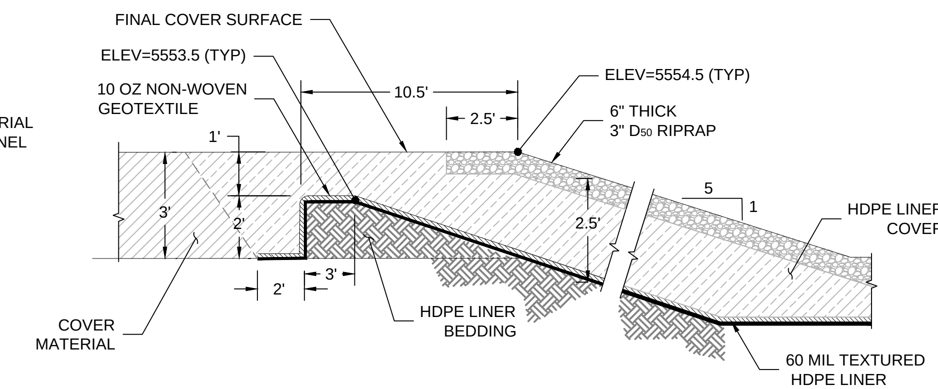


1 CHANNEL P1-REACH 2 (STA 3+65 TO 15+22)
LINED CHANNEL TYPICAL SECTION (NTS)



2 CHANNEL P1-REACH 2 AND REACH 3 (STA 15+34 TO 25+34)
3" D50 LINED CHANNEL TYPICAL SECTION (NTS)

3 CHANNEL S1-REACH 1 (STA 0+55 TO 3+15)
6" D50 LINED CHANNEL TYPICAL SECTION (NTS)

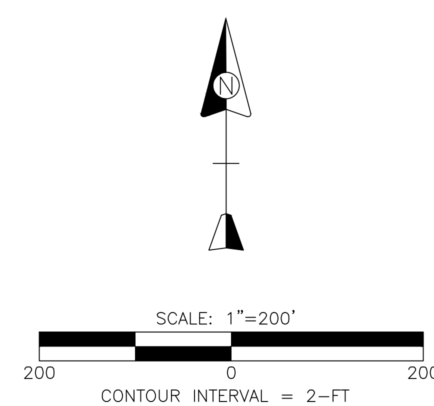


4 LINING ANCHOR
TYPICAL SECTION (NTS)

LEGEND

HDPE LINER EXTENT

RECLAIMED LAKE ONE GROUND SURFACE (PRESENTED IN THIS CQAR)



NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
B	08/19/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR CLIENT REVIEW
C	08/29/14	PAF	SPF	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR AGENCY REVIEW
0	09/19/14	PAF	DCC	TSL	AS-BUILT - ISSUED FINAL

FREEPORT-McMoRAN COPPER & GOLD

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PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: LINED CHANNEL
PLAN AND DETAILS

DRAWING NO: 30
FILE NAME: 1287_AB-C710-CHP1.DWG
REV. 0

U:\1287\CADD\AS-BUILT SET _LAKE 1\1287_AB-C710-CHP1.dwg, SHEET 30, 9/23/2014 8:59:26 AM, Patricia

APPENDIX A

DESIGN CLARIFICATIONS

CONSTRUCTION QUALITY ASSURANCE REPORT
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

Table A-1
Design Clarification Summary
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Item No.	DCI No.	FMRS Record No.	Date Received	Description	Date Submitted	Date Approved	Item No.
1				***Lake One Reclamation and Utility Corridor***			**1**
2	001	2693	04/16/13	Slag Pile Toe Seep Collection System Gravel Drain Rock Gradation	04/23/13	04/23/13	**2**
3	002	2694	04/17/13	Existing 30" Welded Steel Process Pipeline (P1) Corrosion Protection Verification	04/23/13	04/23/13	**3**
4	003	2695	04/22/13	New Pond Network Pipeline (P3) - Replace design 14" HDPE SDR 11 PE 4710 with 24" HDPE SDR 15.5 PE 3608 Pipe	05/06/13	05/06/13	**4**
5	004	2696	04/23/13	New Pond Network Pipeline (P3) - Replace design 12" HDPE SDR 11 PE 4710 with 12" Contech A-2000 Perforated Pipe	05/06/13	05/06/13	**5**
6	005	2697	04/24/13	Channel S5 Drainage Design Verification	05/22/13	05/22/13	**6**
7	006	2698	05/02/13	Utility Corridor Channel Centerline Data	05/03/13	05/03/13	**7**
8	007	2699	05/03/13	Utility Corridor Culvert Crossings Final Design Elevation Verification	05/03/13	05/03/13	**8**
9	008	2700	05/06/13	Slag Pile Toe Seep Collection System French Drain Width Modification	05/09/13	05/09/13	**9**
10	009	2701	05/16/13	Alluvial Riprap - Use 3" instead of 2" D_{50}	05/17/13	05/17/13	**10**
11	010	2702	05/17/13	Drawing C-36 New Pond Network Pipeline (P3) Tie-in	05/21/13	05/21/13	**11**
12	011	2703	05/22/13	Slag Pile Toe Seep Collection System Details	05/22/13	05/22/13	**12**
13	012	2704	05/22/13	Drawing C-7 Channel P1 Reach 3 Detail	06/11/13	06/11/13	**13**
14	013	2705	06/25/13	West Slag Channel Detail	07/11/13	07/11/13	**14**
15	014	2706	08/06/13	Slag Pile Redesign (-3.5-ft Drop)	08/14/13	08/14/13	**15**
16	015	2707	08/07/13	Lake One Containment Area Redesign Adj Channel S5	08/28/13	08/28/13	**16**
17	016	2708	08/14/13	Pipeline Crossings at Slag Pile Including Process Water Pipeline Minimum Cover	08/26/13	08/26/13	**17**
18	017	2709	04/26/13	777 Truck Test Pad Method Specification	08/24/13	08/24/13	**18**
19	018	2710	04/28/13	988 Loader Test Pad Method Specification	08/24/13	08/24/13	**19**
20	019	2711	04/28/13	Steel Wheel 683 Test Pad Method Specification	08/24/13	08/24/13	**20**
21	020	2712	08/14/13	Pond Network Pipeline P16 Size Change	09/26/13	09/26/13	**21**
22	021	2713	09/06/13	563 Sheepsfoot Compactor Method Specification	09/10/13	09/10/13	**22**
23	022	2714	09/17/13	Channel S7 Realignment	09/24/13	09/24/13	**23**
24	023	2715	10/02/13	Lake One Lined Channels - Subgrade Tailings for use as Bedding	10/10/13	10/10/13	**24**
25	024	2716	10/09/13	Flowable Fill for Utility Corridor CMP Culverts	10/10/13	10/10/13	**25**
26	025	2717	10/09/13	Drain Rock Width in Seep Collection System	10/10/13	10/10/13	**26**
27	026	1034	10/16/13	Utility Corridor Redesign - North End to avoid P24 McCauley Pipeline	10/18/13	10/18/13	**27**
28	027A	1035	10/16/13	Lower Lined Pond Liner Extension	10/23/13	10/23/13	**28**
29	027B	2813	10/22/13	Utility Corridor 32" Pipe Alternatives for McCauley Pipeline	10/29/13	10/29/13	**29**
30	027C	--	12/13/14	Utility Corridor 32" Pipe Alternatives for McCauley Pipeline	12/13/14	12/13/14	**30**
31	028	2816	10/22/13	Utility Corridor Ponding Issues due to thickeners on W side of channel	10/29/13	10/29/13	**31**
32	029	3183	12/02/13	Lower Lined Pond Design	12/03/13	12/03/13	**32**
33	030A	1187	12/17/13	Lined Channel Detail	12/20/13	12/20/13	**33**
34	030B	3285	12/18/13	Slag Pile Down drain Pipeline	12/27/13	12/27/13	**34**
35	031A	3294	12/19/13	S1 Channel Design	12/20/13	12/20/13	**35**
36	031B	1192	12/31/13	Process Waterline Bedding	01/31/14	01/31/14	**36**
37	032	1193	12/31/13	Flowfill at Process Waterline	01/31/14	01/31/14	**37**
38	032A	3443	01/17/14	Concrete Transition	01/23/14	01/23/14	**38**
39	033	1198	01/02/14	Realignment West Slag Channel	01/08/14	01/08/14	**39**
40	034	1202	01/10/14	Lake One ACB Quantities	01/14/14	01/14/14	**40**
41	035	1214	01/16/14	Slag Pipe Redesign for Process Waterline	02/01/14	01/31/14	**41**
42	036A	1241	02/04/14	Cutoff Wall Design Modification	02/06/14	02/06/14	**42**
43	037	1261	02/18/14	Slag Pile Gila Outslope Dimensions	02/18/14	02/18/14	**43**
44	038	1266	02/19/14	Single Barrel Culvert UC1	Retracted	Retracted	**44**
45	039	1267	02/20/14	Downdrain 1 CAD Info Request	02/24/14	02/24/14	**45**
46	039A	4607	04/09/14	P1 Lined Channel Redesign	04/10/14	04/10/14	**46**
47	040	1269	02/20/14	Lined Channel HDPE Cover Detail	02/28/14	02/28/14	**47**
48	041	1671	06/17/14	Slag Pile Process Water Pipeline	07/17/14	07/17/14	**48**
49	042	6409	06/24/14	Fiber Optic Realignment	06/24/14	06/24/14	**49**

DCI = Design Clarification; FMRS = Freeport-McMoRan Reclamation Services; (--) = not applicable; HDPE = high-density polyethylene pipe; SDR = standard dimension ratio; CMP = corrugated metal pipe; ACB = articulated concrete block.

APPENDIX B

LABORATORY TESTING

CONSTRUCTION QUALITY ASSURANCE REPORT
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

APPENDIX B-1

PROCTOR TEST RESULTS

CONSTRUCTION QUALITY ASSURANCE REPORT
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

Table B-1
Proctor Summary Table
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Item No.	Sample ID	Proctor Test ID	Lab Performing Analysis	Lab ID	Sample Date	Material Description	Soil Classification (ASTM 2487)		USCS Soil Gradation (ASTM C136)				Atterberg Limits (ASTM D4318)			Standard Proctor (ASTM D698 Method C)		Field Test Rock Corrected Proctor Modified AASHTO T224 Method D (1)		Lab Test Rock Corrected Proctor AASHTO T99 Method D (2)		Field Notes	Item No.
							USCS	AASHTO	Gravel ≥ No. 4 (%)	Gravel > 3/4" (%)	Sand > No. 200 & < No. 4 (%)	Silt / Clay ≤ No. 200 (%)	Plastic Limit PL	Liquid Limit LL	Plasticity Index PI	Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)		
1	LK-1 A-1	1a	Summit Technical Inc.	3202	04/22/13	Light Tailings	SM / Silty Sand	A-2-4	1%	0%	62%	37%	--	--	0	116.6	15.7%	--	--	--	--	--	1
2		1b								35%								127.9	10.5%	--	--	Rock Corr per Field Test 11/29/13	2
3	LK-1 A-2	2a	Summit Technical Inc.	3203	04/22/13	Darker Tailings	SM / Silty Sand	A-2-4	1%	0%	63%	36%	--	--	0	118.4	16.7%	--	--	--	--	--	3
4		2b								26%								126.3	12.6%	--	--	Rock Corr per Field Test 12/17/13	4
5	LK-1 A-3	3	Summit Technical Inc.	3206	04/22/13	Mixed / Pushed Tailings	CL / Lean Clay	A-6	7%	1%	39%	54%	19	34	15	107.8	20.8%	--	--	--	--	--	5
6	LK-1 A-4	4	Summit Technical Inc.	3207	04/25/13	Light Brown Tailing	GW-GC	A-2-6	60%	< 10%	31%	9%	22	32	10	120.9	12.7%	--	--	--	--	--	6
7		4a								40%								132.1	8.0%	--	--	--	7
8		4b								20%								--	--	126.0	12.7%	--	8
9		4c								31%								129.6	9.0%	--	--	Rock Corr per Field Test 8/31/13	9
10		4d								10%								123.7	11.5%	--	--	Rock Corr per Field Test 2/4/14	10
11		4e								25%								127.9	9.8%	--	--	Rock Corr per Field Test 2/12/14	11
12		4f								20%								126.5	10.4%	--	--	Rock Corr per Field Test 2/27/14	12
13		4g								30%								--	--	128.8	9.0%	Lab Corrected Value	13
14		4h								40%								--	--	131.7	7.8%	Lab Corrected Value	14
15		4i								20%								--	--	126.0	10.3%	Lab Corrected Value	15
16		4j								25%								--	--	127.4	9.6%	Lab Corrected Value	16
17		4k								10%								--	--	123.4	11.5%	Lab Corrected Value	17
18	LK-1 A-5	5a	Summit Technical Inc.	3220	05/09/13	Uncontaminated Cover Material	GW	A-1-a	67%	51%	28%	5%	--	--	0	133.5	7.5%	141.3	4.2%	145.6	4.0%	--	18
19		5b								25%								137.3	5.9%	--	--	Rock Corr per Field Test 4/10/14	19
20	LK-1 A-6	6	Summit Technical Inc.	3238	05/28/13	Yellowish Tailings	CL / Sandy Lean Clay	A-6	0%	0%	50%	50%	21	32	11	105.4	19.7%	--	--	--	--	--	20
21	LK-1 A-7	7a	Summit Technical Inc.	3251	06/12/13	Silty Sand Native	SM / Silty Sand	A-2-4	24%	12%	46%	30%	16	34	18	108.2	17.3%	113.1	15.3%	111.8	15.3%	--	21
22		7b								27%								119.0	13.0%	--	--	Rock Corr per Field Test 11/29/13	22
23	LK-1 A-8	8a	Summit Technical Inc.	3285	07/17/13	Silty Sandy Gravel Cover	GW-GC	A-2-6	58%	39%	30%	12%	22	29	7	121.6	12.8%	132.2	8.2%	133.3	9.0%	--	23
24		8b								23%								127.7	10.1%	--	--	Rock Corr per Field Test 8/17/13	24
25		8c								27%								129.0	9.6%	--	--	Rock Corr per Field Test 8/17/13	25
26		8d								23%								128.0	10.0%	--	--	Rock Corr per Field Test 8/18/13	26
27		8e								25%								128.4	9.8%	--	--	Rock Corr per Field Test 8/19/13	27
28		8f								33%								130.7	8.9%	--	--	Rock Corr per Field Test 8/27/13	28
29		8g								32%								130.4	9.0%	--	--	Rock Corr per Field Test 10/3/13	29
30		8h								15%								125.6	11.1%	--	--	Rock Corr per Field Test 10/5/13	30
31		8j								15%								125.7	11.0%	--	--	Rock Corr per Field Test 10/10/13	31
32		8k								36%								131.4	8.6%	--	--	Rock Corr per Field Test 10/14/13	32
33		8l								25%								128.4	9.9%	--	--	Rock Corr per Field Test 12/1/13	33
34		8m								39%								132.2	8.2%	--	--	Rock Corr per Field Test 12/1/13	34
35		8n								35%								131.1	8.7%	--	--	Rock Corr per Field Test 12/3/13	35
36		8o								34%								131.0	8.7%	--	--	Rock Corr per Field Test 12/5/13	36
37		8p								37%								131.7	8.4%	--	--	Rock Corr per Field Test 12/9/13	37
38		8q								35%								131.0	8.7%	--	--	Rock Corr per Field Test 12/14/13	38
39		8r								50%								135.2	6.9%	--	--	Rock Corr per Field Test 2/12/14	39
40		8s								39%								--	--	133.3	9.0%	Lab Corrected Value	40
41		8t								37%								131.7	8.4%	--	--	Rock Corr per Field Test 4/1/14	41
42		8u								25%								128.4	9.9%	--	--	Rock Corr per Field Test 4/2/14	42
43		8v								40%								132.5	8.1%	--	--	Rock Corr per Field Test 4/8/14	43
44		8w								35%								131.1	8.7%	--	--	Rock Corr per Field Test 5/21/14	44
45		8x								44%								133.6	7.6%	--	--	Rock Corr per Field Test 7/16/14	45
46		8y								41%								132.6	8.0%	--	--	Rock Corr per Field Test 7/24/14	46
47		8z								36%								131.5	8.5%	--	--	Rock Corr per Field Test 7/28/14	47

Table B-1
Proctor Summary Table
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Item No.	Sample ID	Proctor Test ID	Lab Performing Analysis	Lab ID	Sample Date	Material Description	Soil Classification (ASTM 2487)		USCS Soil Gradation (ASTM C136)				Atterberg Limits (ASTM D4318)			Standard Proctor (ASTM D698 Method C)		Field Test Rock Corrected Proctor Modified AASHTO T224 Method D (1)		Lab Test Rock Corrected Proctor AASHTO T99 Method D (2)		Field Notes	Item No.
							USCS	AASHTO	Gravel ≥ No. 4 (%)	Gravel > 3/4" (%)	Sand > No. 200 & < No. 4 (%)	Silt / Clay ≤ No. 200 (%)	Plastic Limit PL	Liquid Limit LL	Plasticity Index PI	Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)		
48	LK-1 A-9	9a	Summit Technical Inc.	3302	08/07/13	Sandy Clayey Gravel Cover	GW-GC	A-2-6	56%	44%	32%	11.7%	22	46	24	112.0	15.8%	128.2	9.3%	127.9	9.9%	--	48
49		9e								22%								120.0	12.6%	--	--	Rock Corr per Field Test 9/6/13	49
50		9f								14%								117.2	13.7%	--	--	Rock Corr per Field Test 9/6/13	50
51		9h								43%								127.9	9.4%	--	--	Rock Corr per Field Test 10/15/13	51
52	2517	2517	Summit Technical Inc.	2517	05/02/11	Rounded Non-Spec Base Course	GW	A-1-a	49%	6%	45%	6%	20	21	1	131.3	7.2%	--	--	--	--	Proctor for Utility Corridor Sewer Crossing	52

ID = identification; ft = feet; % = percent; pcf = pounds per cubic feet; ASTM = American Society for Testing and Materials; USCS = Unified Soil Classification System; AASHTO = American Association of State Highway and Transportation Officials; (--) = not applicable.

Notes:

1. Calculations assume a specific gravity value of 2.65.
2. Calculations use measured laboratory test results for specific gravity and moisture content of oversized particles.

APPENDIX B-2

RIPRAP TESTING

CONSTRUCTION QUALITY ASSURANCE REPORT
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

Table B-2
Riprap Gradation Testing Data - Lone Mountain Quarry
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Sample ID	Sample Date	LA Abrasion (%)	Soundness Sulfate Loss (%)	Absorption (%)	Specific Gravity
3199	4/24/2013	27.60%	1.63%	0.660%	2.564
3322	8/22/2013	23.60%	1.14%	0.522%	2.661
3330	8/29/2013	17.10%	0.99%	0.486%	2.698

Table B-3
Riprap Gradation Testing Data - Lone Mountain Quarry
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

D_{50} = 3 inch

Sample ID	Sample Date	Percent Passing Sieve Size							
		1"	2"	3"	4"	5"	6"	7"	8"
No ID	4/22/2013	0	4	40	70	93	98	100	100
No ID	9/4/2013	0	0	27	79	94	97	98	100
No ID	12/5/2013	0	2	22	69	93	100	100	100
No ID	12/9/2013	0	2	47	87	98	99	100	100
Average		0	2	44	75	95	99	100	100
Specification		0-5	5-15	30-50	70-85		90-100		

D_{50} = 6 inch

Sample ID	Sample Date	Percent Passing Sieve Size							
		2"	4"	6"	9"	10"	12"	14"	16"
No ID	8/29/2013	0	14	40	84	91	95	99	99
Specification		0-5	5-15	30-50	70-85		90-100		

D_{50} = 8 inch

Sample ID	Sample Date	Percent Passing Sieve Size							
		3"	5"	8"	10"	12"	16"	18"	20"
No ID	4/26/2013	0	12	48	75	85	97	99	100
No ID	8/29/2013	4	15	50	77	85	98	99	99
Average		2	13.5	49	76	85	98	99	100
Specification		0-5	5-15	30-50		70-85	90-100		

ASTM C33 No. 57 Rock

Sample ID	Sample Date	Percent Passing Sieve Size							
		No. 100	No. 40	No.8	No.4	1/2"	3/4""	1"	1.5"
3330	8/30/2013	1	1	2	2	20	64	100	100
Specification				0-5	0-10	25-60		95-100	100

APPENDIX C

FIELD TEST DATA

CONSTRUCTION QUALITY ASSURANCE REPORT
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

APPENDIX C-1

NUCLEAR DENSITY TESTING

CONSTRUCTION QUALITY ASSURANCE REPORT
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

Table C-1
Earthwork CQC/CQA Summary
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Item No.	Test ID	Test Description	Elevation / Lift Description	Northing	Easting	Elevation (ft)	Test Date	Lab Proctor Test Results			Field Proctor Test Results				Required Compaction (%)	Passed?	Notes	Item No.
								Comparison Proctor Test ID	Optimum Moisture Content (%)	Maximum Dry Density (pcf)	Moisture Content (%)	Difference Optimum Moisture Content (± %)	Density (pcf)	Percent Compaction (%)				
1	042613-02	Method Spec (Tailings in Fill Areas) - 777 Haul Truck	Top of Pad / 3-ft Lift	--	--	5,533.0	4/26/2013	3	20.80%	107.8	14.2%	-6.6%	104.6	97.0%	95%	PASS	--	1
2	042613-03	Method Spec (Tailings in Fill Areas) - 777 Haul Truck	Top of Pad / 3-ft Lift	--	--	5,533.0	4/26/2013	3	20.80%	107.8	15.3%	-5.5%	106.2	98.5%	95%	PASS	--	2
3	042613-05	Method Spec (Tailings in Fill Areas) - 777 Haul Truck	Top of Pad / 3-ft Lift	--	--	5,533.0	4/26/2013	3	20.80%	107.8	16.8%	-4.0%	104.8	97.2%	95%	PASS	--	3
4	042613-07	Method Spec (Tailings in Fill Areas) - 777 Haul Truck	1-ft Below Pad / 3-ft Lift	--	--	5,533.0	4/26/2013	3	20.80%	107.8	20.1%	-0.7%	105.8	98.1%	95%	PASS	--	4
5	042613-08	Method Spec (Tailings in Fill Areas) - 777 Haul Truck	1-ft Below Pad / 3-ft Lift	--	--	5,533.0	4/26/2013	3	20.80%	107.8	17.8%	-3.0%	106.0	98.3%	95%	PASS	--	5
6	042613-09	Method Spec (Tailings in Fill Areas) - 777 Haul Truck	1-ft Below Pad / 3-ft Lift	--	--	5,533.0	4/26/2013	3	20.80%	107.8	17.2%	-3.6%	104.6	97.0%	95%	PASS	--	6
7	042613-10	Method Spec (Tailings in Fill Areas) - 777 Haul Truck	1-ft Below Pad / 3-ft Lift	--	--	5,533.0	4/26/2013	3	20.80%	107.8	17.7%	-3.1%	104.6	97.0%	95%	PASS	--	7
8	042613-11	Method Spec (Tailings in Fill Areas) - 777 Haul Truck	1-ft Below Pad / 3-ft Lift	--	--	5,533.0	4/26/2013	3	20.80%	107.8	18.5%	-2.3%	104.6	97.0%	95%	PASS	--	8
9	042613-12	Method Spec (Tailings in Fill Areas) - 777 Haul Truck	2-ft Below Pad / 3-ft Lift	--	--	5,533.0	4/26/2013	3	20.80%	107.8	6.9%	-13.9%	104.8	97.2%	95%	PASS	--	9
10	042613-13	Method Spec (Tailings in Fill Areas) - 777 Haul Truck	2-ft Below Pad / 3-ft Lift	--	--	5,533.0	4/26/2013	3	20.80%	107.8	6.4%	-14.4%	107.8	100.0%	95%	PASS	--	10
11	042813-01	Method Spec (Tailings in Channel Areas)- 988 Loader	Top of Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	3	20.80%	107.8	13.2%	-7.6%	113.8	105.6%	95%	PASS	--	11
12	042813-02	Method Spec (Tailings in Channel Areas)- 988 Loader	Top of Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	3	20.80%	107.8	12.7%	-8.1%	105.3	97.7%	95%	PASS	--	12
13	042813-04	Method Spec (Tailings in Channel Areas)- 988 Loader	Top of Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	3	20.80%	107.8	14.9%	-5.9%	106.2	98.5%	95%	PASS	--	13
14	042813-05	Method Spec (Tailings in Channel Areas)- 988 Loader	Top of Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	3	20.80%	107.8	13.5%	-7.3%	105.4	97.8%	95%	PASS	--	14
15	042813-06	Method Spec (Tailings in Channel Areas)- 988 Loader	Top of Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	3	20.80%	107.8	13.0%	-7.8%	106.9	99.2%	95%	PASS	--	15
16	042813-07	Method Spec (Tailings in Channel Areas)- 988 Loader	1-ft Below Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	1a	15.70%	116.6	13.8%	-1.9%	118.9	102.0%	95%	PASS	--	16
17	042813-08	Method Spec (Tailings in Channel Areas)- 988 Loader	1-ft Below Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	1a	15.70%	116.6	14.7%	-1.0%	115.7	99.2%	95%	PASS	--	17
18	042813-09	Method Spec (Tailings in Channel Areas)- 988 Loader	1-ft Below Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	1a	15.70%	116.6	13.8%	-1.9%	115.5	99.0%	95%	PASS	--	18
19	042813-10	Method Spec (Tailings in Channel Areas)- 988 Loader	1-ft Below Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	1a	15.70%	116.6	14.7%	-1.0%	114.7	98.4%	95%	PASS	--	19
20	042813-11	Method Spec (Tailings in Channel Areas)- 988 Loader	1-ft Below Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	1a	15.70%	116.6	13.8%	-1.9%	115.7	99.2%	95%	PASS	--	20
21	042813-13	Method Spec (Tailings in Channel Areas) - 683 Vibratory Roller	Top of Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	2a	16.70%	118.4	13.2%	-3.5%	116.2	98.1%	95%	PASS	--	21
22	042813-14	Method Spec (Tailings in Channel Areas) - 683 Vibratory Roller	Top of Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	2a	16.70%	118.4	13.9%	-2.8%	113.4	95.8%	95%	PASS	--	22
23	042813-15	Method Spec (Tailings in Channel Areas) - 683 Vibratory Roller	Top of Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	2a	16.70%	118.4	13.4%	-3.3%	125.7	106.2%	95%	PASS	--	23
24	042813-16	Method Spec (Tailings in Channel Areas) - 683 Vibratory Roller	Top of Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	2a	16.70%	118.4	13.3%	-3.4%	116.1	98.1%	95%	PASS	--	24
25	042813-18	Method Spec (Tailings in Channel Areas) - 683 Vibratory Roller	Top of Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	2a	16.70%	118.4	14.3%	-2.4%	119.1	100.6%	95%	PASS	--	25
26	042813-19	Method Spec (Tailings in Channel Areas) - 683 Vibratory Roller	1-ft Below Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	2a	16.70%	118.4	14.7%	-2.0%	122.4	103.3%	95%	PASS	--	26
27	042813-20	Method Spec (Tailings in Channel Areas) - 683 Vibratory Roller	1-ft Below Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	2a	16.70%	118.4	13.7%	-3.0%	113.6	96.0%	95%	PASS	--	27
28	042813-21	Method Spec (Tailings in Channel Areas) - 683 Vibratory Roller	1-ft Below Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	2a	16.70%	118.4	13.7%	-3.0%	112.1	94.7%	95%	PASS	--	28
29	042813-22	Method Spec (Tailings in Channel Areas) - 683 Vibratory Roller	1-ft Below Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	2a	16.70%	118.4	15.2%	-1.5%	116.9	98.7%	95%	PASS	--	29
30	042813-23	Method Spec (Tailings in Channel Areas) - 683 Vibratory Roller	1-ft Below Pad / 2-ft Lift	--	--	5,533.0	4/28/2013	2a	16.70%	118.4	13.4%	-3.3%	116.7	98.6%	95%	PASS	--	30
31	050413-01	Channel P1R4 Sta 45+50 100-ft East	Top of Surface / 1st 3-ft Lift	36485.3581	14268.9502	5,555.4	5/4/2013	1a	15.70%	116.6	11.3%	-4.4%	113.4	97.3%	95%	PASS	--	31
32	050413-02	Channel P1R4 Sta 45+50 150-ft East	Top of Surface / 1st 3-ft Lift	36501.9166	14221.7717	5,561.2	5/4/2013	1a	15.70%	116.6	11.5%	-4.2%	117.9	101.1%	95%	PASS	--	32
33	050413-03	Channel P1R4 Sta 45+50 200-ft East	Top of Surface / 1st 3-ft Lift	36518.4751	14174.5932	5,561.0	5/4/2013	1a	15.70%	116.6	8.5%	-7.2%	111.4	95.5%	95%	PASS	--	33
34	050413-05	Channel P1R4 Sta 44+50 75-ft East	Top of Surface / 1st 3-ft Lift	36575.1377	14332.2653	5,554.2	5/4/2013	1a	15.70%	116.6	10.2%	-5.5%	113.6	97.4%	95%	PASS	--	34
35	050413-06	Channel P1R4 Sta 44+50 75-ft East - Rotated 90°	Top of Surface / 1st 3-ft Lift	36575.1377	14332.2653	5,554.2	5/4/2013	1a	15.70%	116.6	10.7%	-5.0%	112.3	96.3%	95%	PASS	--	35
36	050413-07	Channel P1R4 Sta 44+50 125-ft East	Top of Surface / 1st 3-ft Lift	36595.3128	14286.5163	5,554.2	5/4/2013	1a	15.70%	116.6	10.4%	-5.3%	113.1	97.0%	95%	PASS	--	36
37	050413-08	Channel P1R4 Sta 44+50 125-ft East - Rotated 90°	Top of Surface / 1st 3-ft Lift	36595.3128	14286.5163	5,554.2	5/4/2013	1a	15.70%	116.6	9.9%	-5.8%	117.0	100.3%	95%	PASS	--	37
38	052313-06	Channel P1R4 CL Sta 38+50	3-ft Above Tailings	37119.8818	14561.5369	5,555.6	5/23/2013	4a	8.02%	132.1	4.6%	-3.4%	125.3	94.9%	95%	PASS	--	38
39	060413-01	Slag Pile Seep Collection Sta 5+00 10-ft LT of CL	Top of Surface	35843.6698	14640.7333	5,553.4	6/4/2013	6	19.70%	105.4	18.1%	-1.6%	100.9	95.7%	95%	PASS	--	39
40	060413-02	Slag Pile Seep Collection Sta 5+00 10-ft RT of CL	Top of Surface	35857.1497	14625.9586	5,553.4	6/4/2013	6	19.70%	105.4	11.5%	-8.2%	102.8	97.5%	95%	PASS	--	40
41	060413-03	Slag Pile Seep Collection Sta 7+90 CL	Top of Surface	35603.3355	14504.7296	5,554.8	6/4/2013	6	19.70%	105.4	12.0%	-7.7%	102.5	97.2%	95%	PASS	--	41
42	060413-04	Slag Pile Seep Collection Sta 10+75 10-ft LT of CL	Top of Surface	35323.6382	14494.7091	5,556.2	6/4/2013	6	19.70%	105.4	6.3%	-13.4%	105.5	100.1%	95%	PASS	--	42
43	060413-05	Slag Pile Seep Collection Sta 11+85 CL	Top of Surface	35214.7481	14490.0707	5,556.8	6/4/2013	6	19.70%	105.4	7.8%	-11.9%	109.8	104.2%	95%	PASS	--	43
44	060413-06	Slag Pile Seep Collection Sta 12+70 CL	Top of Surface	35131.1161	14499.3381	5,557.3	6/4/2013	6	19.70%	105.4	13.6%	-6.1%	100.5	95.4%	95%	PASS	--	44
45	060413-07	Slag Pile Seep Collection Sta 14+70 10-ft LT of CL	Top of Surface	34939.5197	14548.6134	5,558.4	6/4/2013	6	19.70%	105.4	8.3%	-11.4%	105.8	100.4%	95%	PASS	--	45
46	060413-08	Slag Pile Seep Collection Sta 15+70 CL	Top of Surface	34841.0656	14565.7872	5,559.0	6/4/2013	6	19.70%	105.4	6.8%	-12.9%	101.7	96.5%	95%	PASS	--	46
47	060513-01	Slag Pile Seep Collection Sta 16+60 10-ft RT of CL	Top of Surface	34751.7296	14580.5869	5,559.4	6/5/2013	6	19.70%	105.4	12.5%	-7.2%	107.0	101.5%	95%	PASS	--	47
48	060513-02	Slag Pile Seep Collection Sta 19+80 CL	Top of Surface	34470.3438	14718.5020	5,561.1	6/5/2013	6	19.70%	105.4	10.6%	-9.1%	104.3	99.0%	95%	PASS	--	48
49	060513-03	Slag Pile Seep Collection Sta 13+60 CL	Top of Surface	35042.9869	14513.9989	5,557.8	6/5/2013	6	19.70%	105.4	9.5%	-10.2%	104.0	98.7%	95%	PASS	--	49
50	062513-01	Slag Pile Seep Collection Sta 25+55 10-ft LT of CL	Top of Surface	34087.5872	15129.2068	5,577.2	6/25/2013	7a	15.34%	113.1	5.3%	-10.0%	107.5	95.1%	95%	PASS	--	50
51	062513-02	Slag Pile Seep Collection Sta 24+85 10-ft LT of CL	Top of Surface	34125.3763	15071.3022	5,574.0	6/25/2013	7a	15.34%	113.1	6.1%	-9.2%	108.3	95.8%	95%	PASS	--	51
52	062513-03	Slag Pile Seep Collection Sta 24+15 10-ft LT of CL	Top of Surface	34165.3029	15015.1425	5,570.3	6/25/2013	7a	15.34%	113.1	7.8%	-7.5%	116.6	103.1%	95%	PASS	--	52
53	072813-01	Channel P1R4 Sta 58+50 5-ft LT of CL	Top of Final Subgrade Surface	35173.3827	14452.1259	5,567.1	7/28/2013	4b	12.70%	126.0	8.1%	-4.6%	120.6	95.7%	95%	PASS	Superseded by density tests dated 8/31/13	53
54	072813-02	Channel P1R4 Sta 56+00 5-ft RT of CL	Top of Final Subgrade Surface	35415.4426	14403.3659	5,565.8	7/28/2013	4b	12.70%	126.0	10.3%	-2.4%	119.1	94.5%	95%	PASS	Superseded by density tests dated 8/31/13	54
55	072813-03	Channel P1R4 Sta 50+50 CL	Top of Final Subgrade Surface	35959.3182	14321.3641	5,562.8	7/28/2013	4b	12.70%	126.0	7.9%	-4.8%	120.8	95.9%	95%	PASS	Superseded by density tests dated 8/31/13	55
56	072813-04	Channel P1R4 Confluence with Channel S3 CL	Top of Final Subgrade Surface	36419.2764	14352.3836	5,561.1	7/28/2013	4b	12.70%	126.0	7.5%	-5.2%	124.3	98.7%	95%	PASS	Superseded by density tests dated 8/31/13	56
57	072813-05	Channel S3 Sta 4+00 CL	Top of Final Subgrade Surface	36094.1436	14568.5449	5,563.0	7/28/2013	4b	12.70%	126.0	10.9%	-1.8%	119.5	94.8%	95%	PASS	Superseded by density tests dated 8/31/13	57
58	072813-06	Channel P1R4 Sta 48+00 5-ft RT of CL	Top of Final Subgrade Surface	36208.8682	14306.0627	5,561.8	7/28/2013	4b	12.70%	126.0	8.2%	-4.5%	124.6	98.9%	95%	PASS	Superseded by density tests dated 8/31/13	58
59	072813-07	Channel P1R4 Sta 45+50 5-ft LT of CL	Top of Final Subgrade Surface	36450.5852	14368.0252	5,560.6	7/28/2013	4b	12.70%	126.0	9.5%	-3.2%	124.0	98.4%	95%	PASS	Superseded by density tests dated 8/31/13	59
60	081713-01	Channel S1R1 CL Sta 0+80	1-ft Above Tailings	39603.8560	13877.6730	5,546.8	8/17/2013	8b	10.13%	127.7	4.8%	-5.3%	128.9	100.9%	95%	PASS	--	60
61	081713-02	Channel S1R1 CL Sta 0+85	2-ft Above Tailings	39603.1238	13882.6191	5,547.9	8/17/2013	8c	9.61%	129.0	3.8%	-5.8%	127.4	98.8%	95%	PASS	--	61
62	081813-01	Channel S1R1 CL Sta 6+00	1.5-ft Above Tailings / 1st Lift	39527.7029	14392.0665	5,548.5	8/18/2013	8d	10.04%	128.0	8.1%	-1.9%	125.6	98.1%	95%	PASS	--	62
63	081813-02	Channel S1R1 CL Sta 5+75	Tailings Surface / 1st Lift	39531.3641	14367.3361	5,546.4	8/18/2013	1a	15.70%	116.6	16.3%	0.6%	111.2	95.4%	95%	PASS	--	63
64	081813-03	Channel S1R1 CL Sta 4+75	2-ft Above Tailings / 1st Lift	39546.0089	14268.4142	5,549.4	8/18/2013	8d	10.04%	128.0	7.1%	-2.9%	124.8	97.5%	95%	PASS	--	64
65	081913-01	Channel S1R1 CL Sta 2+00	4-ft Above Tailings	39586.2822	13996.3792	5,550.6	8/19/2013	8e	9.84%	128.4	6.2%	-3.6%	125.6	97.8%	95%	PASS	--	65
66	081913-02	Channel S1R1 CL Sta 4+00	4-ft Above Tailings	39556.9925	14194.2228	5,551.4	8/19/2013	8e	9.84%	128.4	8.3%	-1.5%	123.0	95.8%	95%	PASS	--	66
67	081913-03	Channel S1R1 CL Sta 6+00	4-ft Above Tailings	39527.7029	14392.0665	5,551.0	8/19/2013	8e	9.84%	128.4	6.1%	-3.7%	124.3	96.8%	95%	PASS	--	67
68	083113-01	Channel P1 CL Sta 54+00	Top of Final Subgrade Surface	35613.7185	14376.6889	5,564.7	8/31/2013	4c	9.04%	129.6	5.5%	-3.5%	128.8	99.3%	95%	PASS	--	68
69	083113-02	Channel P1 CL Sta 51+50	Top of Final Subgrade Surface	35860.5754	14337.1712	5,563.4	8/31/2013	4c	9.04%	129.6	7.3%	-1.7%	125.4	96.7%	95%	PASS	--	69
70	083113-03	Channel P1 CL Sta 49+00	Top of Final Subgrade Surface	36108.5460	14307.6212	5,562.2	8/31/2013	4c	9.04%	129.6	6.1%	-2.9%	124.6	96.1%	95%	PASS	--	70
71	083113-04	Channel P1 CL Sta 46+50	Top of Final Subgrade Surface	36356.3720	14335.0122	5,560.9	8/31/2013	4c	9.04%	129.6	5.9%	-3.1%	130.7	100.8%	95%	PASS	--	71
72	083113-05	Channel P1 CL Sta 44+00	Top of Final Subgrade Surface	36590.6241	14421.0637	5,559.7	8/31/2013	4c	9.04%	129.6	5.3%	-3.7%	133.6	103.1%	95%	PASS	--	72
73	083113-06	Channel P1 CL Sta 41+50	Top of Final Subgrade Surface	36825.4179	14506.2657	5,558.5	8/31/2013	4c	9.04%	129.6	6.3%	-2.7%	131.4	101.4%	95%	PASS	--	73
74	083113-07	Channel P1 CL Sta 39+00	Top of Final Subgrade Surface	37070.1946	14555.9697	5,557.2	8/31/2013	4c	9.04%	129.6	8.3%	-0.7%	127.0	98.0%	95%	PASS	--	74
75	083113-08	Channel S3 CL Sta 1+50	Top of Final Subgrade Surface	36282.7372	14404.4338	5,561.5	8/31/2013	4c	9.04%	129.6	7.1%	-1.9%	123.0	94.9%	95%	PASS	--	75

Table C-1
Earthwork CQC/CQA Summary
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Item No.	Test ID	Test Description	Elevation / Lift Description	Northing	Easting	Elevation (ft)	Test Date	Lab Proctor Test Results: Comparison Proctor Test ID	Lab Proctor Test Results: Optimum Moisture Content (%)	Lab Proctor Test Results: Maximum Dry Density (pcf)	Field Proctor Test Results: Moisture Content (%)	Field Proctor Test Results: Difference Optimum Moisture Content (± %)	Field Proctor Test Results: Density (pcf)	Field Proctor Test Results: Percent Compaction (%)	Required Compaction (%)	Passed?	Notes	Item No.
76	083113-09	Channel S3 CL Sta 4+00	Top of Final Subgrade Surface	36094.1436	14568.5449	5,563.0	8/31/2013	4c	9.04%	129.6	7.7%	-1.3%	124.8	96.3%	95%	PASS	--	76
77	083113-10	Channel S2 CL Sta 5+00	Top of Final Subgrade Surface	36726.9656	14867.0978	5,561.7	8/31/2013	4c	9.04%	129.6	5.3%	-3.7%	123.5	95.3%	95%	PASS	--	77
78	083113-11	Channel S2 CL Sta 2+50	Top of Final Subgrade Surface	36902.4849	14689.0727	5,558.9	8/31/2013	4c	9.04%	129.6	6.0%	-3.0%	123.6	95.3%	95%	PASS	--	78
79	090613-01	Utility Corridor Alignment Sta 18+50 CL	Top of Final Subgrade Surface	38204.7055	15700.5574	5,632.8	9/6/2013	9e	12.59%	120.0	6.9%	-5.7%	115.2	96.0%	95%	PASS	Method Spec - 563 Sheepsfoot Compactor	79
80	090613-02	Utility Corridor Alignment Sta 19+00 CL	Top of Final Subgrade Surface	38254.1553	15693.1602	5,632.2	9/6/2013	9f	13.71%	117.2	10.0%	-3.7%	113.5	96.9%	95%	PASS	Method Spec - 563 Sheepsfoot Compactor	80
81	090613-03	Utility Corridor Alignment Sta 17+50 CL	Top of Final Subgrade Surface	38105.8060	15715.3519	5,632.8	9/6/2013	9f	13.71%	117.2	10.5%	-3.2%	113.6	96.9%	95%	PASS	Method Spec - 563 Sheepsfoot Compactor	81
82	092513-05	Slag Pile Seep Collection Sta 24+32 CL (Channel P1 Sta 70+50)	Top of Surface	34146.7455	15021.9077	5,571.0	9/25/2013	7a	15.34%	113.1	10.9%	-4.4%	110.7	97.9%	95%	PASS	--	82
83	092513-06	Slag Pile Seep Collection Sta 21+76 CL (Channel P1 Sta 68+00)	Top of Surface	34315.1825	14836.2173	5,563.0	9/25/2013	7a	15.34%	113.1	13.9%	-1.4%	107.0	94.6%	95%	PASS	--	83
84	092513-07	Slag Pile Seep Collection Sta 19+24 CL (Channel P1 Sta 65+50)	Top of Surface	34516.5526	14687.5782	5,560.9	9/25/2013	6	19.70%	105.4	14.6%	-5.1%	106.9	101.4%	95%	PASS	--	84
85	092513-08	Slag Pile Seep Collection Sta 16+67 CL (Channel P1 Sta 63+00)	Top of Surface	34747.0489	14591.3668	5,559.5	9/25/2013	6	19.70%	105.4	11.0%	-8.7%	106.3	100.9%	95%	PASS	--	85
86	092513-09	Slag Pile Seep Collection Sta 14+17 CL (Channel P1 Sta 60+50)	Top of Surface	34988.1830	14525.2709	5,558.2	9/25/2013	6	19.70%	105.4	12.8%	-6.9%	106.8	101.3%	95%	PASS	--	86
87	092513-10	Slag Pile Seep Collection Sta 11+77 CL (Channel P1 Sta 58+00)	Top of Surface	35222.7264	14488.4203	5,556.7	9/25/2013	6	19.70%	105.4	13.7%	-6.0%	104.7	99.3%	95%	PASS	--	87
88	092513-11	Slag Pile Seep Collection Sta 9+37 CL (Channel P1 Sta 55+50)	Top of Surface	35459.4490	14487.6736	5,555.6	9/25/2013	6	19.70%	105.4	14.9%	-4.8%	105.9	100.5%	95%	PASS	--	88
89	092513-12	Slag Pile Seep Collection Sta 7+34 CL (Channel P1 Sta 53+00)	Top of Surface	35655.6082	14519.6326	5,554.7	9/25/2013	6	19.70%	105.4	15.7%	-4.0%	105.2	99.8%	95%	PASS	--	89
90	092513-13	Slag Pile Seep Collection Sta 5+82 CL (Channel P1 Sta 50+50)	Top of Surface	35787.5496	14585.0079	5,553.9	9/25/2013	6	19.70%	105.4	17.9%	-1.8%	106.7	101.2%	95%	PASS	--	90
91	092513-14	Slag Pile Seep Collection Sta 4+66 CL (Channel P1 Sta 48+00)	Top of Surface	35873.7403	14656.8276	5,553.3	9/25/2013	6	19.70%	105.4	16.0%	-3.7%	106.5	101.0%	95%	PASS	--	91
92	100113-01	Slag Pile Seep Collection Sta 1+75 CL	Top of Surface	36064.3332	14863.9282	5,551.8	10/1/2013	6	19.70%	105.4	23.4%	3.7%	87.7	83.2%	95%	--	The subgrade surface was visually approved by the CQA Monitor; therefore,	92
93	100113-02	Slag Pile Seep Collection Sta 1+85 CL	Top of Surface	36057.1697	14857.0648	5,551.8	10/1/2013	6	19.70%	105.4	22.2%	2.5%	97.8	92.8%	95%	--	the 95% compaction requirement was waived for these two locations.	93
94	100113-03	Slag Pile Seep Collection Sta 2+25 CL	Top of Surface	36029.6975	14830.7572	5,552.1	10/1/2013	6	19.70%	105.4	16.5%	-3.2%	102.6	97.3%	95%	PASS	--	94
95	100113-04	Slag Pile Seep Collection Sta 4+00 CL	Top of Surface	35916.7696	14704.8261	5,552.8	10/1/2013	6	19.70%	105.4	22.1%	2.4%	106.5	101.0%	95%	PASS	--	95
96	100113-05	Slag Pile Seep Collection Sta 6+50 CL	Top of Surface	35730.7061	14551.3307	5,554.2	10/1/2013	6	19.70%	105.4	17.4%	-2.3%	102.6	97.3%	95%	PASS	--	96
97	100113-06	Slag Pile Seep Collection Sta 7+25 CL	Top of Surface	35663.6937	14522.5282	5,554.6	10/1/2013	6	19.70%	105.4	16.2%	-3.5%	107.6	102.1%	95%	PASS	--	97
98	100313-01	Channel S1R3 CL Sta 18+00	Top of Subgrade	38580.7476	14893.0492	5,572.3	10/3/2013	8g	9.01%	130.4	4.9%	-4.1%	125.2	96.0%	95%	PASS	--	98
99	100313-02	Channel S1R3 CL Sta 19+50	Top of Subgrade	38431.2907	14905.8016	5,573.1	10/3/2013	8g	9.01%	130.4	8.2%	-0.8%	123.8	95.0%	95%	PASS	--	99
100	100313-03	Channel S1R3 CL Sta 22+00	Top of Subgrade	38182.1958	14927.0557	5,574.4	10/3/2013	8g	9.01%	130.4	6.4%	-2.6%	125.5	96.3%	95%	PASS	--	100
101	100313-04	Channel S1R3 CL Sta 24+50	Top of Subgrade	37935.1052	14962.8336	5,575.6	10/3/2013	8g	9.01%	130.4	5.2%	-3.8%	128.4	98.5%	95%	PASS	--	101
102	100313-05	Channel S1R3 CL Sta 27+00	Top of Subgrade	37689.5640	15009.8392	5,576.9	10/3/2013	8g	9.01%	130.4	7.1%	-1.9%	127.3	97.7%	95%	PASS	--	102
103	100513-01	Utility Corridor Sewer Drain/Channel Crossing CL, Channel Bottom	Top of Backfill	39567.0732	15393.5439	--	10/5/2013	8h	11.05%	125.6	9.5%	-1.6%	128.0	101.9%	95%	PASS	--	103
104	100513-02	Utility Corridor Sewer Drain/Channel Crossing 25-ft W of CL, Channel Crest	Top of Backfill	39560.6755	15417.5982	--	10/5/2013	8h	11.05%	125.6	7.9%	-3.2%	119.7	95.3%	95%	PASS	--	104
105	100513-03	Utility Corridor Sewer Drain/Channel Crossing 40-ft W of CL, Channel Crest	Top of Backfill	39556.6358	15431.9743	--	10/5/2013	8h	11.05%	125.6	8.8%	-2.3%	119.1	94.8%	95%	PASS	--	105
106	101013-01	Utility Corridor Crossing Sta 32+50 @ W End (Culvert Inlet)	Top of Subgrade	39511.9118	15396.9871	5,588.4	10/10/2013	8j	11.02%	125.7	7.8%	-3.2%	125.2	99.6%	95%	PASS	--	106
107	101013-02	Utility Corridor Crossing Sta 32+50 @ E End (Culvert Outlet)	Top of Subgrade	39544.6606	15315.0033	5,585.2	10/10/2013	8j	11.02%	125.7	6.7%	-4.3%	122.7	97.6%	95%	PASS	--	107
108	101513-02	Utility Corridor Crossing Sta 32+50 (CMP Culverts) 19.5-ft E of CL	Top of Subgrade, 10-ft Above Top of Pipe	39527.5915	15357.4085	5,596.3	10/15/2013	9h	9.40%	127.9	6.5%	-2.9%	127.1	99.4%	95%	PASS	--	108
109	101513-03	Utility Corridor Crossing Sta 32+50 (CMP Culverts) 1.3-ft W of CL	Top of Subgrade, 8-ft Above Top of Pipe	39519.9416	15376.7184	5,595.9	10/15/2013	9h	9.40%	127.9	8.2%	-1.2%	124.4	97.2%	95%	PASS	--	109
110	101513-04	Utility Corridor Crossing Sta 32+50 (CMP Culverts) 9.6-ft W of CL	Top of Subgrade, 6-ft Above Top of Pipe	39516.8662	15384.4814	5,594.5	10/15/2013	9h	9.40%	127.9	8.7%	-0.7%	122.5	95.8%	95%	PASS	--	110
111	101513-05	Utility Corridor Crossing Sta 32+50 (CMP Culverts) 9.6-ft W of CL	Top of Subgrade, 6-ft Above Top of Pipe	39516.8662	15384.4814	5,594.5	10/15/2013	9h	9.40%	127.9	7.9%	-1.5%	126.4	98.8%	95%	PASS	--	111
112	101513-06	Utility Corridor Crossing Sta 32+50 (CMP Culverts) 14.4-ft W of CL	Top of Subgrade, 4-ft Above Top of Pipe	39515.0946	15388.9532	5,592.9	10/15/2013	9h	9.40%	127.9	7.3%	-2.1%	125.4	98.0%	95%	PASS	--	112
113	111813-01	Utility Corridor (New 5" Concentrate Pipeline) 70-ft W of E Tie-in	Top of Bedding, 1-ft Above Pipe	34165.6820	15940.9640	5,651.2	11/18/2013	2517	7.20%	131.3	8.0%	0.8%	128.1	97.6%	95%	PASS	--	113
114	111813-02	Utility Corridor (New 5" Concentrate Pipeline) 200-ft W of E Tie-in	Top of Bedding, 1-ft Above Pipe	34059.1860	15870.7840	5,632.3	11/18/2013	2517	7.20%	131.3	8.5%	1.3%	129.5	98.6%	95%	PASS	--	114
115	111813-03	Utility Corridor (New 5" Concentrate Pipeline) 340-ft W of E Tie-in	Top of Bedding, 1-ft Above Pipe	33957.1810	15774.8940	5,613.6	11/18/2013	2517	7.20%	131.3	9.0%	1.8%	127.8	97.3%	95%	PASS	--	115
116	111813-04	Utility Corridor (New 5" Concentrate Pipeline) 470-ft W of E Tie-in	Top of Bedding, 1-ft Above Pipe	33876.6980	15679.4950	5,606.0	11/18/2013	2517	7.20%	131.3	9.0%	1.8%	125.9	95.9%	95%	PASS	--	116
117	111813-05	Utility Corridor (New 5" Concentrate Pipeline) 620-ft W of E Tie-in	Top of Bedding, 1-ft Above Pipe	33873.1330	15529.5370	5,597.6	11/18/2013	2517	7.20%	131.3	9.4%	2.2%	126.8	96.6%	95%	PASS	--	117
118	112913-01	Channel S5 CL Sta 2+29.15	Top of Subgrade	40089.4294	12923.9754	5,548.5	11/29/2013	1b	10.54%	127.9	11.3%	0.8%	123.5	96.6%	95%	PASS	--	118
119	112913-02	Channel S5 CL Sta 4+50	Top of Subgrade	39885.2737	13008.2083	5,549.9	11/29/2013	1b	10.54%	127.9	6.5%	-4.0%	123.9	96.9%	95%	PASS	--	119
120	112913-03	Channel S5 CL Sta 6+50	Top of Subgrade	39700.3920	13084.4890	5,551.5	11/29/2013	1b	10.54%	127.9	4.4%	-6.1%	126.7	99.1%	95%	PASS	--	120
121	112913-05	Utility Corridor New 5" Concentrate Pipeline 500-ft from upper end	Top of Subgrade (3-ft Above Top of Pipe)	33875.9852	15649.5032	5,606.4	11/29/2013	7b	12.95%	119.0	5.6%	-7.4%	117.8	99.0%	95%	PASS	--	121
122	112913-06	Utility Corridor New 5" Concentrate Pipeline 750-ft from upper end	Top of Subgrade (3-ft Above Top of Pipe)	33871.8794	15476.7877	5,597.8	11/29/2013	7b	12.95%	119.0	5.6%	-7.4%	115.5	97.0%	95%	PASS	--	122
123	120113-01	Channel S1R2 CL Sta 16+75	Top of Subgrade	38702.8214	14874.1651	5,571.0	12/1/2013	8l	9.87%	128.4	11.5%	1.6%	122.5	95.4%	95%	PASS	--	123
124	120113-02	Channel S1R2 CL Sta 14+25	Top of Subgrade	38919.0016	14749.2364	5,562.4	12/1/2013	8m	8.19%	132.2	7.0%	-1.2%	135.5	102.5%	95%	PASS	--	124
125	120113-03	Channel S1R2 CL Sta 11+75	Top of Subgrade	39157.7647	14684.7964	5,561.3	12/1/2013	3	20.80%	107.8	14.5%	-6.3%	107.8	100.0%	95%	PASS	--	125
126	120113-04	Channel S1R2 CL Sta 11+75	Top of Subgrade	39157.7647	14684.7964	5,561.3	12/1/2013	3	20.80%	107.8	11.2%	-9.6%	104.0	96.5%	95%	PASS	--	126
127	120113-05	Channel S1R2 CL Sta 9+25	Top of Subgrade	39405.8505	14654.2518	5,560.2	12/1/2013	8m	8.19%	132.2	6.9%	-1.3%	132.3	100.1%	95%	PASS	--	127
128	120313-01	Channel S1R1 CL Sta 1+50	Top of Subgrade	39593.6046	13946.9183	5,549.5	12/3/2013	8n	8.67%	131.1	5.0%	-3.7%	130.9	99.8%	95%	PASS	--	128
129	120313-02	Channel S1R1 CL Sta 4+00	Top of Subgrade	39556.9925	14194.2228	5,550.8	12/3/2013	8n	8.67%	131.1	5.3%	-3.4%	133.3	101.7%	95%	PASS	--	129
130	120313-03	Channel S1R1 CL Sta 6+50	Top of Subgrade	39520.3805	14441.5274	5,552.0	12/3/2013	8n	8.67%	131.1	6.8%	-1.9%	132.1	100.7%	95%	PASS	--	130
131	120313-04	Channel S1R2 CL Sta 9+00	Top of Subgrade	39430.6976	14651.4914	5,559.8	12/3/2013	8n	8.67%	131.1	6.4%	-2.3%	132.1	100.7%	95%	PASS	--	131
132	120413-01	Lower Lined Pond Northwest Corner	2-ft Grading Fill	36210.0780	14858.3610	5,557.5	12/4/2013	2b	12.64%	126.3	10.9%	-1.7%	121.6	96.3%	95%	PASS	--	132
133	120413-02	Lower Lined Pond Northeast Corner	2-ft Grading Fill	36103.1980	15071.0590	5,557.5	12/4/2013	2b	12.64%	126.3	11.8%	-0.8%	123.7	98.0%	95%	PASS	--	133
134	120413-03	Lower Lined Pond Southeast Corner	2-ft Grading Fill	36515.2100	15014.2450	5,557.5	12/4/2013	2b	12.64%	126.3	12.1%	-0.5%	122.8	97.2%	95%	PASS	--	134
135	120413-04	Pond Network Pipeline P16 Crossing 50-ft E of Channel	Top of Bedding, 1-ft Above Pipe	36876.1110	15506.9920	5,581.2	12/4/2013	2517	7.20%	131.3	10.1%	2.9%	124.7	95.0%	95%	PASS	--	135
136	120513-01	Channel S1R3 CL Sta 17+00	Top of Gila Bedding	38680.3856	14884.5475	5,574.4	12/5/2013	8o	8.74%	131.0	4.0%	-4.7%	130.5	99.6%	95%	PASS	--	136
137	120513-02	Channel S1R3 CL Sta 19+50	Top of Gila Bedding	38431.2907	14905.8016	5,573.3	12/5/2013	8o	8.74%	131.0	4.0%	-4.7%	130.7	99.8%	95%	PASS	--	137
138	120513-03	Channel S1R3 CL Sta 22+00	Top of Gila Bedding	38182.1958	14927.0557	5,574.6	12/5/2013	8o	8.74%	131.0	3.6%	-5.1%	130.2	99.4%	95%	PASS	--	138
139	120513-04	Channel S1R3 CL Sta 24+50	Top of Gila Bedding	37935.1052	14962.8336	5,575.9	12/5/2013	8o	8.74%	131.0	3.8%	-4.9%	132.0	100.8%	95%	PASS	--	139
140	120513-05	Channel S1R3 CL Sta 27+00	Top of Gila Bedding	37689.5640	15009.8392	5,577.1	12/5/2013	8o	8.74%	131.0	4.1%	-4.6%	129.8	99.1%	95%	PASS	--	140
141	121413-01	Utility Corridor Sta 17+00 Fresh 2C P22 Pipeline Channel Crossing	1-ft Below Drainage Channel Subgrade	38059.6110	15744.5071	5,628.4	12/14/2013	8q	8.71%	131.0	8.0%	-0.7%	124.5	95.0%	95%	PASS	--	141
142	121613-01	Utility Corridor Sta 34+50 Fresh McCauley P24 Pipeline Channel Crossing	Top of Pipe Bedding Foundation	39689.0301	15494.1155	5,599.8	12/16/2013	2517	7.20%	131.3	5.6%	-1.6%	125.9	95.9%	95%	PASS	--	142
143	121713-01	Utility Corridor Sta 34+00 Fresh McCauley P24 Pipeline Crossing	Top of Bedding, 1-ft Above Pipe	39658.5388	15434.2814	5,601.5	12/17/2013	2517	7.20%	131.3	5.3%	-1.9%	124.7	95.0%	95%	PASS	--	143
144	011014-01	Utility Corridor Sta 1+50 Channel CL	Bottom of Bedding, Channel Subgrade	36615.0234	15357.8120	5,568.6	1/10/2014	4g	9.00%	128.8	11.0%	2.0%	129.7	100.7%	95%	PASS	--	144
145	011014-02	Utility Corridor Sta 4+00 Channel CL	Bottom of Bedding, Channel Subgrade	36820.3870	15504.0085	5,577.3	1/10/2014	4g	9.00%	128.8	10.6%	1.6%	129.8	100.8%	95%	PASS	--	145
146	011614-01	Channel P1R3 CL Sta 37+50	Top of Subgrade	37219.6416	14568.2509	5,556.5	1/16/2014	4h	7.80%	131.7	8.7%	0.9%	130.4	99.0%	95%	PASS	--	146
147	011614-02	Channel P1R3 CL Sta 35+00	Top of Subgrade	37469.2487	14559.1739	5,555.2	1/16/2014	4h	7.80%	131.7	12.2%	4.4%	125.7	95.4%	95%	PASS	--	147
148	011614-03	Channel P1R3 CL Sta 32+50	Top of Subgrade	37714.7919	14513.4068	5,554.0	1/16/2014	4h	7.80%	131.7	11.4%	3.6%	129.2	98.1%	95%	PASS	--	148
149	011614-04	Channel P1R3 CL Sta 32+50	Top of Subgrade	37714.7919	14513.4068	5,554.0	1/16/2014	4h	7.80%	131.7	11.4%	3.6%	130.9	99.4%	95%	PASS	--	149
150	011614-05	Channel P1R3 CL Sta 30+00	Top of Subgrade	37951.4521	14433.3181	5,552.8	1/16/2014	4h	7.80%	131.7	10.9%	3.1%	128.9	97.9%	95%	PASS	--	150

EMC²

Table C-1
Earthwork CQC/CQA Summary
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Item No.	Test ID	Test Description	Elevation / Lift Description	Northing	Easting	Elevation (ft)	Test Date	Lab Proctor Test Results			Field Proctor Test Results				Required Compaction (%)	Passed?	Notes	Item No.
								Comparison Proctor Test ID	Optimum Moisture Content (%)	Maximum Dry Density (pcf)	Moisture Content (%)	Difference Optimum Moisture Content (± %)	Density (pcf)	Percent Compaction (%)				
151	011614-06	Channel P1R3 CL Sta 27+50	Top of Subgrade	38185.0351	14344.2173	5,551.6	1/16/2014	4h	7.80%	131.7	11.3%	3.5%	124.3	94.4%	95%	FAIL	Retested - see Test ID 011614-07	151
152	011614-07	Channel P1R3 CL Sta 27+50	Top of Subgrade	38185.0351	14344.2173	5,551.6	1/16/2014	4h	7.80%	131.7	11.9%	4.1%	124.1	94.2%	95%	FAIL	Retested - see Test ID 011714-01	152
153	011614-08	Channel P1R3 CL Sta 25+00	Top of Subgrade	38418.6182	14255.1165	5,550.3	1/16/2014	4h	7.80%	131.7	10.1%	2.3%	124.9	94.8%	95%	PASS	--	153
154	011714-01	Channel P1R3 CL Sta 27+50	Top of Subgrade	38185.0351	14344.2173	5,551.6	1/17/2014	4h	7.80%	131.7	11.7%	3.9%	120.7	91.6%	95%	FAIL	Retested - see Test ID 011714-02	154
155	011714-02	Channel P1R3 CL Sta 27+50	Top of Subgrade	38185.0351	14344.2173	5,551.6	1/17/2014	4h	7.80%	131.7	11.7%	3.9%	122.0	92.6%	95%	FAIL	Retested - see Test ID 012414-01	155
156	011714-03	Utility Corridor Sta 5+75 Channel CL	Top of Subgrade	36962.0584	15594.7347	5,585.1	1/17/2014	4h	7.80%	131.7	8.3%	0.5%	135.0	102.5%	95%	PASS	--	156
157	011814-01	Channel P1R3 CL Sta 28+50	Top of Subgrade	38091.6019	14379.8576	5,552.0	1/18/2014	4h	7.80%	131.7	6.6%	-1.2%	130.8	99.3%	95%	PASS	--	157
158	011814-02	Channel S2 CL Sta 6+15	Top of Subgrade	36646.2267	14948.9894	5,562.8	1/18/2014	4c	9.04%	129.6	5.8%	-3.2%	116.3	89.7%	95%	FAIL	Retested - see Test ID 011914-01	158
159	011914-01	Channel S2 CL Sta 6+15	Top of Subgrade	36646.2267	14948.9894	5,562.8	1/19/2014	4c	9.04%	129.6	9.3%	0.3%	124.6	96.1%	95%	PASS	Retest of 011814-02	159
160	012414-01	Channel P1R3 CL Sta 27+50	Top of Subgrade	38185.0351	14344.2173	5,551.6	1/24/2014	4h	7.80%	131.7	5.4%	-2.4%	129.4	98.3%	95%	PASS	Retest of 011714-02	160
161	012714-01	Channel P1R3 CL Sta 36+50	Top of Gila Bedding	37319.6238	14569.0537	5,558.1	1/27/2014	8p	8.44%	131.7	4.7%	-3.7%	133.1	101.1%	95%	PASS	--	161
162	012714-02	Channel P1R3 CL Sta 33+00	Top of Gila Bedding	37666.2681	14525.4589	5,556.3	1/27/2014	8p	8.44%	131.7	5.2%	-3.2%	129.7	98.5%	95%	PASS	--	162
163	012714-03	Channel P1R3 CL Sta 30+50	Top of Gila Bedding	37904.7355	14451.1383	5,555.1	1/27/2014	8p	8.44%	131.7	4.5%	-3.9%	130.0	98.7%	95%	PASS	--	163
164	012714-04	Channel P1R3 CL Sta 27+30	Top of Gila Bedding	38203.7218	14337.0892	5,553.5	1/27/2014	8p	8.44%	131.7	4.9%	-3.5%	130.4	99.0%	95%	PASS	--	164
165	012714-05	Channel P1R3 CL Sta 25+50	Top of Gila Bedding	38371.9016	14272.9366	5,552.6	1/27/2014	8p	8.44%	131.7	5.6%	-2.8%	130.2	98.9%	95%	PASS	--	165
166	013114-01	Channel S5 CL Sta 2+50	Top of Subgrade	40070.1554	12931.9277	5,548.7	1/31/2014	8s	9.00%	133.3	3.0%	-6.0%	129.1	96.8%	95%	PASS	--	166
167	020414-01	Channel S5 CL Sta 1+25	Top of Subgrade	40188.0195	12891.0259	5,547.6	2/4/2014	8s	9.00%	133.3	3.9%	-5.1%	131.4	98.6%	95%	PASS	--	167
168	020414-02	Channel P1R1 CL Sta 0+75	Top of Subgrade	40247.7958	12906.4848	5,546.7	2/4/2014	8s	9.00%	133.3	6.1%	-2.9%	129.3	97.0%	95%	PASS	--	168
169	020414-03	Channel P1R1 CL Sta 3+00	Top of Subgrade	40141.8104	13100.8293	5,548.0	2/4/2014	8s	9.00%	133.3	3.8%	-5.2%	135.3	101.5%	95%	PASS	--	169
170	020414-04	Channel P1R2 CL Sta 5+50 (Lined Channel)	Top of Liner Subgrade (Cover Replacement Material)	40056.8787	13335.9603	5,544.9	2/4/2014	8s	9.00%	133.3	3.8%	-5.2%	135.6	101.7%	95%	PASS	--	170
171	020414-05	Channel P1R2 CL Sta 8+00 (Lined Channel)	Top of Liner Subgrade (Cover Replacement Material)	39952.1142	13561.8336	5,544.9	2/4/2014	8s	9.00%	133.3	4.1%	-4.9%	132.0	99.0%	95%	PASS	--	171
172	020414-06	Channel P1R2 CL Sta 10+50 (Lined Channel)	Top of Liner Subgrade (Tailing Material)	39769.7406	13730.1804	5,544.9	2/4/2014	4d	11.53%	123.7	9.9%	-1.6%	119.9	96.9%	95%	PASS	--	172
173	020414-07	Channel P1R2 CL Sta 10+50 52.8-ft L of CL (Lined Channel)	Top of Liner Subgrade (Tailing Material)	39796.7543	13775.5467	5,552.0	2/4/2014	4d	11.53%	123.7	11.6%	0.1%	119.5	96.6%	95%	PASS	--	173
174	020614-01	Channel P1R2 CL Sta 12+00 (Lined Channel)	Top of Liner Subgrade (Cover Replacement Material)	39633.2500	13791.7921	5,544.8	2/6/2014	8s	9.00%	133.3	3.9%	-5.1%	129.8	97.4%	95%	PASS	--	174
175	020614-02	Channel P1R2 CL Sta 14+50 10-ft R of CL (Lined Channel)	Top of Liner Subgrade (Cover Replacement Material)	39396.1029	13871.5497	5,544.9	2/6/2014	8s	9.00%	133.3	4.6%	-4.4%	130.3	97.7%	95%	PASS	--	175
176	020614-03	Channel P1R2 CL Sta 17+00 (Lined Channel)	Top of Liner Subgrade (Tailing Material)	39166.0839	13969.9938	5,545.8	2/6/2014	4d	11.53%	123.7	4.6%	-6.9%	119.6	96.7%	95%	PASS	--	176
177	020614-04	Channel P1R2 CL Sta 17+00 30-ft L of CL (Lined Channel)	Top of Liner Subgrade (Tailing Material)	39176.7760	13998.0238	5,548.3	2/6/2014	4	12.70%	120.9	8.1%	-4.6%	116.1	96.0%	95%	PASS	--	177
178	020614-05	Channel S1R1 CL Sta 1+00 (Lined Portion)	Top of Liner Subgrade (Cover Replacement Material)	39600.9271	13897.4573	5,548.8	2/6/2014	8s	9.00%	133.3	4.6%	-4.4%	134.1	100.6%	95%	PASS	--	178
179	020614-06	Channel S1R1 CL Sta 3+00 (Lined Portion)	Top of Liner Subgrade (Cover Replacement Material)	39571.6374	14095.3010	5,549.8	2/6/2014	8s	9.00%	133.3	3.6%	-5.4%	131.4	98.6%	95%	PASS	--	179
180	020614-07	Channel S1R1 CL Sta 4+00	Top of Subgrade	39556.9925	14194.2228	5,550.8	2/6/2014	8s	9.00%	133.3	4.9%	-4.1%	133.9	100.5%	95%	PASS	--	180
181	020714-01	Channel P1R4 CL Sta 50+00	Top of Gila Bedding	36008.8117	14314.2973	5,565.3	2/7/2014	8s	9.00%	133.3	3.2%	-5.8%	132.8	99.6%	95%	PASS	--	181
182	020714-02	Channel P1R4 CL Sta 48+00	Top of Gila Bedding	36208.4447	14311.0447	5,564.2	2/7/2014	8s	9.00%	133.3	2.6%	-6.4%	134.5	100.9%	95%	PASS	--	182
183	020714-03	Channel P1R4 CL Sta 46+00	Top of Gila Bedding	36404.6641	14347.9480	5,563.2	2/7/2014	8s	9.00%	133.3	3.3%	-5.7%	130.7	98.0%	95%	PASS	--	183
184	020714-04	Channel P1R4 CL Sta 43+00	Top of Gila Bedding	36683.0170	14459.2845	5,561.7	2/7/2014	8s	9.00%	133.3	2.9%	-6.1%	136.8	102.6%	95%	PASS	--	184
185	020714-05	Channel P1R4 CL Sta 40+50	Top of Gila Bedding	36922.4244	14530.4900	5,560.5	2/7/2014	8s	9.00%	133.3	3.4%	-5.6%	129.3	97.0%	95%	PASS	--	185
186	020714-06	Channel S3 CL Sta 2+50	Top of Gila Bedding	36207.2998	14470.0782	5,564.8	2/7/2014	8s	9.00%	133.3	3.8%	-5.2%	131.9	98.9%	95%	PASS	--	186
187	020714-07	Channel S3 CL Sta 1+00	Top of Gila Bedding	36323.1130	14375.1531	5,563.8	2/7/2014	8s	9.00%	133.3	3.1%	-5.9%	135.7	101.8%	95%	PASS	--	187
188	020714-08	Channel S2 CL Sta 1+50	Top of Gila Bedding	36972.9809	14618.1584	5,560.5	2/7/2014	8s	9.00%	133.3	3.0%	-6.0%	128.5	96.4%	95%	PASS	--	188
189	020714-09	Channel S2 CL Sta 3+50	Top of Gila Bedding	36832.2772	14760.2827	5,562.6	2/7/2014	8s	9.00%	133.3	4.1%	-4.9%	132.8	99.6%	95%	PASS	--	189
190	021214-01	Channel P1R3 CL Sta 23+50 (Lined Portion)	Top of Liner Subgrade (Tailing Material)	38558.7680	14201.6560	5,549.7	2/12/2014	4h	7.80%	131.7	4.2%	-3.6%	126.3	95.9%	95%	PASS	--	190
191	021214-02	Channel P1R2 CL Sta 21+00 (Lined Portion)	Top of Liner Subgrade (Tailing Material)	38792.3510	14112.5551	5,548.5	2/12/2014	4h	7.80%	131.7	4.9%	-2.9%	124.9	94.8%	95%	PASS	--	191
192	021214-03	Channel P1R2 CL Sta 19+00 (Lined Portion)	Top of Liner Subgrade (Tailing Material)	38979.2175	14041.2745	5,547.5	2/12/2014	4h	7.80%	131.7	5.1%	-2.7%	125.6	95.4%	95%	PASS	--	192
193	021214-04	Channel S1R2 CL Sta 10+00	Top of Gila Bedding	39331.3091	14662.5328	5,563.3	2/12/2014	4h	7.80%	131.7	5.0%	-2.8%	132.1	100.3%	95%	PASS	--	193
194	021214-05	Channel S1R2 CL Sta 12+75	Top of Gila Bedding	39058.8892	14699.7505	5,564.5	2/12/2014	8r	6.90%	135.2	5.4%	-1.5%	134.7	99.6%	95%	PASS	--	194
195	021214-06	Channel S1R2 CL Sta 15+00	Top of Gila Bedding	38856.6478	14790.7237	5,565.4	2/12/2014	8r	6.90%	135.2	4.2%	-2.7%	136.2	100.7%	95%	PASS	--	195
196	021214-07	Channel S1R3 CL Sta 27+25	Top of Gila Bedding	37665.0099	15014.5398	5,579.9	2/12/2014	8r	6.90%	135.2	3.7%	-3.2%	133.3	98.6%	95%	PASS	--	196
197	022714-01	Utility Corridor Sta 32+75 Channel CL	Top of Subgrade	39528.5120	15425.4080	5,597.0	2/27/2014	4h	7.80%	131.7	5.3%	-2.5%	127.0	96.4%	95%	PASS	--	197
198	022714-02	Utility Corridor Sta 30+25 Channel CL	Top of Subgrade	39299.9743	15357.9578	5,593.1	2/27/2014	4h	7.80%	131.7	4.5%	-3.3%	127.8	97.0%	95%	PASS	--	198
199	022714-03	Utility Corridor Sta 27+75 Channel CL	Top of Subgrade	39062.0132	15384.2366	5,596.5	2/27/2014	4k	11.50%	123.4	8.5%	-3.0%	117.5	95.2%	95%	PASS	--	199
200	022714-04	Utility Corridor Sta 25+25 Channel CL	Top of Subgrade	38840.2160	15483.4193	5,604.8	2/27/2014	4i	10.30%	126.0	5.5%	-4.8%	121.1	96.1%	95%	PASS	--	200
201	022714-05	Utility Corridor Sta 22+75 Channel CL	Top of Subgrade	38619.9564	15601.6805	5,618.4	2/27/2014	4k	11.50%	123.4	9.2%	-2.3%	117.1	94.9%	95%	PASS	--	201
202	022714-06	Utility Corridor Sta 20+25 Channel CL	Top of Subgrade	38383.3122	15703.1868	5,626.9	2/27/2014	4k	11.50%	123.4	8.2%	-3.3%	116.9	94.7%	95%	PASS	--	202
203	022714-07	Utility Corridor Sta 17+75 Channel CL	Top of Subgrade	38133.7427	15733.6322	5,630.2	2/27/2014	4i	10.30%	126.0	12.7%	2.4%	123.3	97.9%	95%	PASS	--	203
204	022714-08	Utility Corridor Sta 15+00 Channel CL	Top of Subgrade	37861.6343	15773.3960	5,628.6	2/27/2014	4k	11.50%	123.4	7.7%	-3.8%	116.6	94.5%	95%	PASS	--	204
205	022714-09	Utility Corridor Sta 12+50 Channel CL	Top of Subgrade	37605.3124	15737.9874	5,608.2	2/27/2014	4j	9.60%	127.4	5.8%	-3.8%	125.1	98.2%	95%	PASS	--	205
206	022714-10	Utility Corridor Sta 9+75 Channel CL	Top of Subgrade	37347.5540	15685.8728	5,599.5	2/27/2014	4j	9.60%	127.4	5.1%	-4.5%	121.4	95.3%	95%	PASS	--	206
207	022714-11	Utility Corridor Sta 7+50 Channel CL	Top of Subgrade	37127.4505	15642.0703	5,591.8	2/27/2014	4j	9.60%	127.4	8.1%	-1.5%	120.6	94.7%	95%	PASS	--	207
208	031314-01	Utility Corridor Sta 35+50 Channel CL	Top of Subgrade	39772.0175	15534.2749	5,607.0	3/13/2014	4	12.70%	120.9	8.0%	-4.7%	114.3	94.5%	95%	PASS	--	208
209	031314-02	Utility Corridor Sta 34+00 Channel CL	Top of Subgrade	39644.3003	15465.6912	5,598.0	3/13/2014	4	12.70%	120.9	10.1%	-2.6%	114.8	95.0%	95%	PASS	--	209
210	031314-03	Utility Corridor Sta 32+50 Channel CL	Top of Subgrade	39507.9066	15414.7226	5,587.2	3/13/2014	4h	7.80%	131.7	7.2%	-0.6%	133.6	101.4%	95%	PASS	--	210
211	031314-04	Utility Corridor Sta 1+25 Channel CL	Top of Subgrade	36600.1712	15335.0227	5,568.2	3/13/2014	4h	7.80%	131.7	9.9%	2.1%	127.2	96.6%	95%	PASS	--	211
212	040114-01	Channel S5 CL Sta 1+00	Top of Gila Bedding	40212.1351	12884.4352	5,550.3	4/1/2014	8t	8.41%	131.7	4.7%	-3.7%	125.6	95.3%	95%	PASS	--	212
213	040114-02	Channel S5 CL Sta 3+50	Top of Gila Bedding	39977.7146	12970.0680	5,552.0	4/1/2014	8t	8.41%	131.7	3.8%	-4.6%	124.9	94.8%	95%	PASS	--	213
214	040214-01	Utility Corridor Outlet Drainage Channel CL Sta 3+75	Top of Subgrade	39546.2212	15308.4388	5,579.6	4/2/2014	8u	9.85%	128.4	7.0%	-2.9%	129.7	101.0%	95%	PASS	--	214
215	040214-02	Utility Corridor Outlet Drainage Channel CL Sta 2+00	Top of Subgrade	39597.5880	15141.1514	5,573.0	4/2/2014	8u	9.85%	128.4	6.9%	-3.0%	121.5	94.6%	95%	PASS	--	215
216	040414-01	Utility Corridor Outlet Drainage Channel CL Sta 0+50	Top of Subgrade	39661.1423	15009.2407	5,568.9	4/4/2014	1a	15.70%	116.6	11.3%	-4.4%	110.1	94.4%	95%	PASS	--	216
217	040814-01	Channel S2 CL Sta 5+00	Top of Gila Bedding	36726.9656	14867.0978	5,564.2	4/8/2014	8v	8.08%	132.5	2.9%	-5.2%	127.7	96.4%	95%	PASS	--	217
218	040814-02	Channel P1 CL Sta 39+00 Low Water Crossing	Top of Gila Bedding	37070.1946	14555.9697	5,559.9	4/8/2014	8v	8.08%	132.5	2.4%	-5.7%	129.5	97.7%	95%	PASS	--	218
219	040814-03	Channel S1 CL Sta 9+00	Top of Gila Bedding	39430.6976	14651.4914	5,562.3	4/8/2014	8v	8.08%	132.5	4.6%	-3.5%	133.6	100.8%	95%	PASS	--	219
220	041014-01	Channel S1 CL Sta 3+20	Top of Gila Bedding	39568.7084	14115.0854	5,552.1	4/10/2014	5b	5.88%	137.3	3.7%	-2.2%	133.6	97.3%	95%	PASS	--	220
221	041014-02	Channel S1 CL Sta 3+20	Top of Gila Bedding	39568.7084	14115.0854	5,552.1	4/10/2014	5b	5.88%	137.3	3.8%	-2.1%	131.5	95.8%	95%	PASS	--	221
222	041014-03	Channel S1 CL Sta 5+50	Top of Gila Bedding	39535.0253	14342.6056	5,553.9	4/10/2014	5b	5.88%	137.3	4.6%	-1.3%	129.8	94.5%	95%	PASS	--	222
223	050214-01	West Slag Pile Channel CL Sta 16+70.7 89.7-ft RT	Top of Gila Bedding	34775.3600	15756.3200	5,668.7	5/2/2014	8v	8.08%	132.5	5.5%	-2.6%	133.7	100.9%	95%	PASS	--	223
224	050214-02	West Slag Pile Channel CL Sta 16+70.7 89.7-ft RT	Top of Gila Bedding	34775.3600	15756.3200	5,668.7	5/2/2014	8v	8.08%	132.5	5.7%	-2.4%	128.5	97.0%	95%	PASS	--	224
225	050214-03	West Slag Pile Channel CL Sta 17+68.2 64.2-ft RT	Top of Gila Bedding	34682.7700	15796.1500	5,669.4	5/2/2014	8v	8.08%	132.5	4.8%	-3.3%	129.2	97.5%	95%	PASS	--	225

Table C-1
Earthwork CQC/CQA Summary
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

								Lab Proctor Test Results			Field Proctor Test Results							
Item No.	Test ID	Test Description	Elevation / Lift Description	Northing	Easting	Elevation (ft)	Test Date	Comparison Proctor Test ID	Optimum Moisture Content (%)	Maximum Dry Density (pcf)	Moisture Content (%)	Difference Optimum Moisture Content (± %)	Density (pcf)	Percent Compaction (%)	Required Compaction (%)	Passed?	Notes	Item No.
226	052114-01	Channel P1R1 CL Sta 3+29	Top of Gila Bedding	40131.9584	13128.1045	5,550.8	5/21/2014	8w	8.67%	131.1	5.3%	-3.4%	127.7	97.4%	95%	PASS	Test location corrected	226
227	052114-02	Channel P1R1 CL Sta 1+00	Top of Gila Bedding	40229.1872	12923.1614	5,549.7	5/21/2014	8w	8.67%	131.1	5.8%	-2.9%	125.7	95.9%	95%	PASS	--	227
228	060914-01	Slag Pile Outslope Channel O5 CL Sta 0+80	Top of Gila Bedding	34143.9801	15761.8100	5,646.2	6/9/2014	8v	8.08%	132.5	4.9%	-3.2%	138.7	104.7%	95%	PASS	High density reading may be due to rock interference. To be retested for more accurate reading.	228
229	060914-02	Slag Pile Outslope Channel O5 CL Sta 3+30	Top of Gila Bedding	34115.0374	15513.8279	5,651.3	6/9/2014	8v	8.08%	132.5	4.2%	-3.9%	127.5	96.2%	95%	PASS	--	229
230	061014-01	Channel S6 CL Sta 2+00	Top of Gila Bedding	34489.9820	15782.6560	5,669.6	6/10/2014	8v	8.08%	132.5	4.3%	-3.8%	125.9	95.0%	95%	PASS	--	230
231	061014-02	Channel S6 CL Sta 4+50	Top of Gila Bedding	34697.7153	15643.5628	5,670.8	6/10/2014	8v	8.08%	132.5	3.9%	-4.2%	127.4	96.2%	95%	PASS	--	231
232	061014-03	Channel S6 CL Sta 7+00	Top of Gila Bedding	34905.4485	15504.4697	5,672.1	6/10/2014	8v	8.08%	132.5	4.5%	-3.6%	125.9	95.0%	95%	PASS	--	232
233	061114-01	Slag Pile Outslope Channel O5 CL Sta 0+80	Top of Gila Bedding	34143.9801	15761.8100	5,646.2	6/11/2014	8v	8.08%	132.5	5.1%	-3.0%	127.3	96.1%	95%	PASS	Retest of 060914-01	233
234	061814-01	Channel S7 CL Sta 4+34	Top of Subgrade	33824.6836	15532.6152	5,603.0	6/18/2014	8v	8.08%	132.5	6.0%	-2.1%	127.1	95.9%	95%	PASS	--	234
235	061814-02	Channel S7 CL Sta 5+69	Top of Subgrade	33905.8916	15640.4589	5,607.2	6/18/2014	8v	8.08%	132.5	6.7%	-1.4%	126.8	95.7%	95%	PASS	--	235
236	063014-01	Slag Pile Outslope Channel O6 CL Sta 1+00	Top of Gila Bedding	34016.8628	15651.4953	5,618.8	6/30/2014	8v	8.08%	132.5	7.3%	-0.8%	129.8	98.0%	95%	PASS	--	236
237	063014-02	Slag Pile Outslope Channel O6 CL Sta 3+50	Top of Gila Bedding	34034.9552	15414.9157	5,624.2	6/30/2014	8v	8.08%	132.5	7.5%	-0.6%	132.5	100.0%	95%	PASS	--	237
238	070714-01	Slag Pile Outslope Channel O7 CL Sta 0+50	Top of Gila Bedding	35161.2147	14814.9440	5,654.6	7/7/2014	8v	8.08%	132.5	4.9%	-3.2%	133.5	100.8%	95%	PASS	--	238
239	070714-02	Slag Pile Outslope Channel O7 CL Sta 2+50	Top of Gila Bedding	34970.0363	14876.3558	5,659.2	7/7/2014	8v	8.08%	132.5	5.3%	-2.8%	137.4	103.7%	95%	PASS	--	239
240	070714-03	Slag Pile Outslope Channel O7 CL Sta 5+00	Top of Gila Bedding	34736.8537	14964.8477	5,665.3	7/7/2014	8v	8.08%	132.5	4.8%	-3.3%	132.5	100.0%	95%	PASS	--	240
241	070714-04	Slag Pile Outslope Channel O7 CL Sta 7+50	Top of Gila Bedding	34538.8031	15116.9072	5,671.1	7/7/2014	8v	8.08%	132.5	5.9%	-2.2%	130.0	98.1%	95%	PASS	--	241
242	070714-05	Slag Pile Outslope Channel O7 CL Sta 10+00	Top of Gila Bedding	34364.9703	15296.1561	5,676.0	7/7/2014	8v	8.08%	132.5	5.1%	-3.0%	132.3	99.9%	95%	PASS	--	242
243	070814-01	Channel S4 CL Sta 1+25	Top of Gila Bedding	35222.5033	15007.6935	5,667.6	7/8/2014	8v	8.08%	132.5	7.4%	-0.7%	132.3	99.9%	95%	PASS	--	243
244	070814-02	Channel S4 CL Sta 3+75	Top of Gila Bedding	35174.9357	15253.1264	5,671.8	7/8/2014	8v	8.08%	132.5	6.5%	-1.6%	131.1	99.0%	95%	PASS	--	244
245	070814-03	Channel S4 CL Sta 6+00	Top of Gila Bedding	35168.0547	15475.8853	5,674.3	7/8/2014	8v	8.08%	132.5	8.4%	0.3%	128.7	97.1%	95%	PASS	--	245
246	070914-01	Channel S7 CL Sta 4+50	Top of Gila Bedding	33834.3082	15545.3967	5,605.5	7/9/2014	8v	8.08%	132.5	10.9%	2.8%	128.9	97.3%	95%	PASS	--	246
247	071514-01	Slag Pile Outslope Channel O1 CL Sta 1+00	Top of Gila Bedding	35374.1382	14819.0379	5,655.6	7/15/2014	8v	8.08%	132.5	5.4%	-2.7%	130.1	98.2%	95%	PASS	--	247
248	071514-02	Slag Pile Outslope Channel O1 CL Sta 3+50	Top of Gila Bedding	35608.7735	14888.5016	5,661.4	7/15/2014	8v	8.08%	132.5	5.9%	-2.2%	127.6	96.3%	95%	PASS	--	248
249	071614-01	Slag Pile Outslope Channel O2 CL Sta 1+15	Top of Gila Bedding	35382.8807	14696.2810	5,622.1	7/16/2014	8x	7.61%	133.6	4.0%	-3.6%	131.3	98.3%	95%	PASS	--	249
250	071614-02	Slag Pile Outslope Channel O2 Sta 3+65 E Slope	Top of Gila Bedding	35618.0190	14762.2071	5,629.1	7/16/2014	8x	7.61%	133.6	3.5%	-4.1%	129.5	96.9%	95%	PASS	--	250
251	071614-03	Slag Pile Outslope Channel O2 CL Sta 3+65	Top of Gila Bedding	35623.7963	14752.8464	5,627.3	7/16/2014	8x	7.61%	133.6	4.0%	-3.6%	128.7	96.3%	95%	PASS	--	251
252	071614-04	Slag Pile Outslope Channel O2 CL Sta 6+15	Top of Gila Bedding	35761.6790	14952.8331	5,632.5	7/16/2014	8x	7.61%	133.6	4.6%	-3.0%	129.3	96.8%	95%	PASS	--	252
253	071614-05	Slag Pile Outslope Channel O2 CL Sta 8+65	Top of Gila Bedding	35791.3163	15199.6059	5,637.4	7/16/2014	8x	7.61%	133.6	4.3%	-3.3%	127.6	95.5%	95%	PASS	--	253
254	072114-01	Slag Pile Outslope Channel O8 CL Sta 1+00	Top of Gila Bedding	35107.6893	14703.8807	5,622.0	7/21/2014	8v	8.08%	132.5	2.9%	-5.2%	129.3	97.6%	95%	PASS	--	254
255	072114-02	Slag Pile Outslope Channel O8 CL Sta 3+50	Top of Gila Bedding	34869.3765	14779.3803	5,627.2	7/21/2014	8v	8.08%	132.5	3.2%	-4.9%	128.3	96.8%	95%	PASS	--	255
256	072114-03	Slag Pile Outslope Channel O8 CL Sta 6+00	Top of Gila Bedding	34641.2938	14879.3729	5,632.8	7/21/2014	8v	8.08%	132.5	3.7%	-4.4%	130.3	98.3%	95%	PASS	--	256
257	072114-04	Slag Pile Outslope Channel O8 CL Sta 8+50	Top of Gila Bedding	34446.1990	15035.4428	5,638.3	7/21/2014	8v	8.08%	132.5	2.6%	-5.5%	130.1	98.2%	95%	PASS	--	257
258	072114-05	Slag Pile Outslope Channel O8 CL Sta 11+00	Top of Gila Bedding	34275.5823	15217.7104	5,644.0	7/21/2014	8v	8.08%	132.5	2.7%	-5.4%	131.1	99.0%	95%	PASS	--	258
259	072114-06	Slag Pile Outslope Channel O8 CL Sta 12+35	Top of Gila Bedding	34197.9804	15327.1381	5,651.7	7/21/2014	8v	8.08%	132.5	4.3%	-3.8%	132.0	99.6%	95%	PASS	--	259
260	072114-07	Slag Pile Outslope Channel O9 CL Sta 1+50	Top of Gila Bedding	35054.0956	14596.5858	5,591.0	7/21/2014	8x	7.61%	133.6	2.9%	-4.7%	131.3	98.3%	95%	PASS	--	260
261	072114-08	Slag Pile Outslope Channel O9 CL Sta 4+00	Top of Gila Bedding	34815.9726	14672.7248	5,595.9	7/21/2014	8x	7.61%	133.6	3.2%	-4.4%	131.0	98.1%	95%	PASS	--	261
262	072114-09	Slag Pile Outslope Channel O9 CL Sta 6+50	Top of Gila Bedding	34588.0771	14773.4914	5,600.9	7/21/2014	8x	7.61%	133.6	3.0%	-4.6%	130.8	97.9%	95%	PASS	--	262
263	072114-10	Slag Pile Outslope Channel O9 CL Sta 9+00	Top of Gila Bedding	34390.9448	14926.9284	5,606.0	7/21/2014	8x	7.61%	133.6	2.4%	-5.2%	131.9	98.7%	95%	PASS	--	263
264	072114-11	Slag Pile Outslope Channel O9 CL Sta 11+50	Top of Gila Bedding	34215.5043	15104.6279	5,611.0	7/21/2014	8x	7.61%	133.6	2.6%	-5.0%	130.9	98.0%	95%	PASS	--	264
265	072114-12	Slag Pile Outslope Channel O9 CL Sta 14+00	Top of Gila Bedding	34061.8509	15301.7702	5,619.9	7/21/2014	8x	7.61%	133.6	2.6%	-5.0%	130.1	97.4%	95%	PASS	--	265
266	072214-01	Channel P1R5 CL Sta 71+70	Top of Gila Bedding	34066.4361	15111.4555	5,584.7	7/22/2014	8v	8.08%	132.5	4.0%	-4.1%	126.3	95.3%	95%	PASS	--	266
267	072214-02	Channel P1R5 CL Sta 69+20	Top of Gila Bedding	34233.0549	14925.1919	5,579.9	7/22/2014	8v	8.08%	132.5	3.4%	-4.7%	125.9	95.0%	95%	PASS	--	267
268	072214-03	Channel P1R5 CL Sta 66+70	Top of Gila Bedding	34421.9245	14761.6188	5,575.2	7/22/2014	8v	8.08%	132.5	3.6%	-4.5%	130.7	98.6%	95%	PASS	--	268
269	072214-04	Channel P1R5 CL Sta 64+20	Top of Gila Bedding	34633.9940	14631.4079	5,572.5	7/22/2014	8v	8.08%	132.5	2.9%	-5.2%	129.7	97.9%	95%	PASS	--	269
270	072214-05	Channel P1R5 CL Sta 61+70	Top of Gila Bedding	34872.7022	14558.0092	5,571.3	7/22/2014	8v	8.08%	132.5	4.1%	-4.0%	130.8	98.7%	95%	PASS	--	270
271	072214-06	Channel P1R5 CL Sta 59+20	Top of Gila Bedding	35110.0833	14482.4274	5,570.0	7/22/2014	8v	8.08%	132.5	2.9%	-5.2%	130.5	98.5%	95%	PASS	--	271
272	070914-02	Down Drain 1 CL Sta 6+50	Top of Gila Bedding	33954.6163	15705.1651	5,611.8	7/9/2014	8v	8.08%	132.5	8.7%	0.6%	131.2	99.0%	95%	PASS	--	272
273	072414-01	Down Drain 1 CL Sta 8+00	Top of Gila Bedding	34055.7499	15814.1621	5,627.1	7/24/2014	8y	8.01%	132.6	5.0%	-3.0%	131.0	98.8%	95%	PASS	--	273
274	072414-02	Down Drain 1 CL Sta 10+50	Top of Gila Bedding	34289.4889	15898.0115	5,667.4	7/24/2014	8y	8.01%	132.6	4.0%	-4.0%	132.1	99.6%	95%	PASS	--	274
275	072814-01	Slag Pile Outslope Channel O3 CL Sta 1+90	Top of Gila Bedding	35453.0244	14585.7418	5,591.7	7/28/2014	8v	8.08%	132.5	3.5%	-4.6%	129.1	97.4%	95%	PASS	--	275
276	072814-02	Slag Pile Outslope Channel O3 CL Sta 4+40	Top of Gila Bedding	35689.2307	14658.3274	5,596.8	7/28/2014	8v	8.08%	132.5	4.2%	-3.9%	128.1	96.7%	95%	PASS	--	276
277	072814-03	Slag Pile Outslope Channel O3 CL Sta 6+90	Top of Gila Bedding	35845.2955	14848.7934	5,601.8	7/28/2014	8v	8.08%	132.5	3.8%	-4.3%	132.7	100.2%	95%	PASS	--	277
278	072814-04	Slag Pile Outslope Channel O3 CL Sta 9+40	Top of Gila Bedding	35878.5723	15094.6581	5,606.8	7/28/2014	8v	8.08%	132.5	3.3%	-4.8%	129.6	97.8%	95%	PASS	--	278
279	072814-05	Channel P1R4 CL Sta 57+00	Top of Gila Bedding	35317.5062	14424.2102	5,568.8	7/28/2014	8v	8.08%	132.5	3.9%	-4.2%	131.6	99.3%	95%	PASS	--	279
280	072814-06	Channel P1R4 CL Sta 54+50	Top of Gila Bedding	35564.3471	14384.5924	5,567.6	7/28/2014	8v	8.08%	132.5	2.7%	-5.4%	130.6	98.6%	95%	PASS	--	280
281	072814-07	Slag Pile Outslope Channel O4 CL Sta 2+20	Top of Gila Bedding	35970.6134	15082.8691	5,584.3	7/28/2014	8z	8.52%	131.5	2.9%	-5.6%	127.2	96.8%	95%	PASS	--	281
282	072814-08	Channel S3 CL Sta 6+50	Top of Gila Bedding	35949.8636	14764.5919	5,569.7	7/28/2014	8z	8.52%	131.5	4.2%	-4.3%	132.7	100.9%	95%	PASS	--	282
283	072814-09	Channel S3 CL Sta 4+00	Top of Gila Bedding	36094.1436	14568.5449	5,565.6	7/28/2014	8z	8.52%	131.5	3.5%	-5.0%	132.3	100.6%	95%	PASS	--	283
284	073014-01	Down Drain 2 CL Sta 0+50	Top of Gila Bedding	35229.3573	14488.7584	5,568.1	7/30/2014	8v	8.08%	132.5	5.3%	-2.8%	126.3	95.3%	95%	PASS	--	284
285	073014-02	Down Drain 2 CL Sta 2+75	Top of Gila Bedding	35238.9625	14713.5533	5,623.3	7/30/2014	8v	8.08%	132.5	4.0%	-4.1%	127.9	96.5%	95%	PASS	--	285
286	073014-03	Channel P1R4 CL Sta 52+00	Top of Gila Bedding	35811.2040	14345.0748	5,566.3	7/30/2014	8v	8.08%	132.5	4.1%	-4.0%	130.6	98.6%	95%	PASS	--	286
287	081114-01	Down Drain 2 CL Sta 0+50	Top of Gila Bedding	35229.3573	14488.7584	5,568.1	8/11/2014	8x	7.61%	133.6	5.3%	-2.3%	133.4	99.9%	95%	PASS	Retest due to heavy rains.	287
288	081114-02	Down Drain 2 CL Sta 2+75	Top of Gila Bedding	35238.9625	14713.5533	5,623.3	8/11/2014	8x	7.61%	133.6	4.6%	-3.0%	130.4	97.6%	95%	PASS	Retest due to heavy rains.	288

ID = identification; ft = feet; % = percent; pcf = pounds per cubic feet; (--) = not applicable.

APPENDIX C-2

RIPRAP THICKNESS CHECKS

CONSTRUCTION QUALITY ASSURANCE REPORT
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

Table C-2
Riprap/Bedding Thickness Checks
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Item No.	Test ID	Location	Date	By	Channel ID	Station	Riprap Size (in) (D_{50})	Location		Thickness (in)	Item No.
								Northing	Easting		
1	S1R1-050214	CL	05/02/14	ASP	S1	7 + 50	Bedding	-39505.74	-14540.45	6	**1**
2	S1R1-050514	CL	05/05/14	ASP	S1	9 + 00	Bedding	-39430.7	-14651.49	6	**2**
3	S1R1-050714	CL	05/07/14	ASP	S1	4 + 50	Bedding	-39549.67	-14243.68	6	**3**
4	S1R1-050814	CL	05/08/14	ASP	S1	0 + 50	Bedding	-39608.25	-13848	6	**4**
5	P1R2-050914	CL	05/09/14	ASP	P1	3 + 45	3	-40126.52	-13143.15	11	**5**
6	P1R2-050814	CL	05/08/14	ASP	P1	3 + 64	6	-40120.07	-13161.02	12	**6**
7	P1R2-050714	Slope	05/07/14	ASP	P1	4 + 00	3	-40107.84	-13194.88	6	**7**
8	P1R2-050914	Toe	05/09/14	ASP	P1	7 + 00	3	-40002.93	-13475.84	7.5	**8**
9	P1R2-050914	Slope	05/09/14	ASP	P1	7 + 00	3	-40002.93	-13475.84	6	**9**
10	P1R2-050714	Slope	05/07/14	ASP	P1	9 + 00	3	-39887.74	-13638.21	6	**10**
11	P1R2-050914	Slope	05/09/14	ASP	P1	12 + 00	3	-39633.25	-13791.79	6	**11**
12	P1R2-050914	Toe	05/09/14	ASP	P1	12 + 00	3	-39633.25	-13791.79	8	**12**
13	P1R2-050214	CL	05/02/14	ASP	P1	17 + 00	3	-39166.08	-13969.99	6	**13**
14	P1R2R3-090214	CL	09/02/14	ASP	P1	21 + 34	3	-38760.58	-14124.67	6	**14**
15	P1R3-050214	CL	05/02/14	ASP	P1	27 + 00	3	-38231.75	-14326.4	6	**15**
16	P1R3-050214	CL	05/02/14	ASP	P1	32 + 00	3	-37762.94	-14499.92	6	**16**
17	P1R3-050214	CL	05/02/14	ASP	P1	37 + 00	3	-37629.63	-14569.39	6	**17**
18	P1R4-090214	CL	09/02/14	ASP	P1	42 + 00	3	-36777.49	-14492.01	6	**18**
19	P1R4-090214	CL	09/02/14	ASP	P1	47 + 00	3	-36307.49	-14324.53	6	**19**
20	P1R4-090214	CL	09/02/14	ASP	P1	52 +75	3	-35737.15	-14356.93	6	**20**
21	P1R4-090214	CL	09/02/14	ASP	P1	56 + 00	3	-35416.23	-14408.30	6	**21**
22	P1R5-090214	CL	09/02/14	ASP	P1	60 + 00	3	-35036.85	-14513.77	6	**22**
23	P1R5-090214	CL	09/02/14	ASP	P1	65 + 00	3	-34561.49	-14665.18	6	**23**
24	P1R5-090214	CL	09/02/14	ASP	P1	70 + 00	3	-34177.66	-14982.90	6	**24**
25	S1R1-050814	CL	05/08/14	ASP	S1	1 +00	6	-39600.93	-13897.46	12	**25**
26	S1R1-050614	CL	05/06/14	SPF	S1	4 + 50	6	-39649.67	-14243.68	12	**26**
27	S1R1-050614	CL	05/06/14	SPF	S1	8 + 50	6	-39476.29	-14633.52	12	**27**
28	S1R2-050214	CL	05/02/14	ASP	S1	13 + 00	3	-39034.17	-14703.49	6	**28**
29	S1R3-050214	CL	05/02/14	ASP	S1	18 + 00	3	-38580.75	-14893.05	6	**29**
30	S1R3-090214	CL	09/02/14	ASP	S1	23 + 00	3	-38082.56	-14935.56	6	**30**
31	S1R3-050214	CL	05/02/14	ASP	S1	27 + 00	3	-37689.56	-15009.84	6	**31**
32	S2-090214	CL	09/02/14	ASP	S2	3 + 00	3	-36832.28	-14760.28	6	**32**
33	S3-090214	CL	09/02/14	ASP	S3	3 + 75	3	-36113.00	-14552.13	6	**33**
34	S3-090214	CL	09/02/14	ASP	S3	6 + 00	3	-35963.22	-14716.51	6	**34**
35	S4-090214	CL	09/02/14	ASP	S4	1 + 00	3	-35227.26	-14983.15	6	**35**
36	S4-090214	CL	09/02/14	ASP	S4	5 + 50	3	-35163.69	-15426.08	6	**36**
37	S5-050914	CL	05/09/14	ASP	S5	2 + 00	3	-40116.38	-12912.86	6	**37**
38	S5-050914	CL	05/09/14	ASP	S5	6 + 00	3	-39746.61	-13065.42	6	**38**
39	S6-061714	CL	06/17/14	ASP	S6	1 + 00	3	-34406.89	-15838.29	6	**39**
40	S6-061714	CL	06/17/14	ASP	S6	4 + 50	3	-34697.72	-15643.56	6	**40**
41	S6-061714	CL	06/17/14	ASP	S6	7 + 00	3	-34905.45	-15504.47	6	**41**
42	S7-090214	CL	09/02/14	ASP	S7	6 + 10	8	-33930.55	-15673.2114	16	**42**
43	O1-090214	CL	09/02/14	ASP	O1	2 + 00	3	-35473.47	-14830.6148	6	**43**
44	O2-072814	CL	07/28/14	ASP	O2	1 + 50	3	-35417.65	-14700.28	6	**44**
45	O2-072814	CL	07/28/14	ASP	O2	6 + 50	3	-35766.26	-14987.51	7	**45**
46	O2-072814	CL	07/28/14	ASP	O2	9 + 00	3	-35804.35	-15232.08	6	**46**
47	O3-090214	CL	09/02/14	ASP	O3	3 + 25	3	-35585.75	-14609.01	6	**47**
48	O3-081114	CL	08/11/14	ASP	O3	7 + 50	3	-35863.76	-14905.83	7	**48**
49	O4-090214	CL	09/02/14	ASP	O4	2 + 00	3	-35967.55	-15063.02	6	**49**
50	O5-061714	CL	06/17/14	ASP	O5	0 + 20	3	-34135.61	-15819.49	6	**50**
51	O5-061714	CL	06/17/14	ASP	O5	4 + 50	3	-34180.02	-15417.35	6	**51**
52	O6-071414	CL	07/14/14	ASP	O6	2 + 00	3	-34001.75	-15552.66	6	**52**
53	O7-072314	CL	07/23/14	ASP	O7	2 + 00	3	-35017.66	-14861.13	6	**53**
54	O7-072314	CL	07/23/14	ASP	O7	7 + 00	3	-34577.32	-15085.03	6	**54**
55	O7-072314	CL	07/23/14	ASP	O7	10 + 35	3	-34358.29	-15303.6	6	**55**
56	O8-073014	CL	07/30/14	ASP	O8	2 + 00	3	-35012.23	-14733.64	6	**56**
57	O8-073014	CL	07/30/14	ASP	O8	7 + 00	3	-34561.32	-14939.30	6	**57**
58	O8-073014	CL	07/30/14	ASP	O8	12 + 00	3	-34214.89	-15297.19	6	**58**
59	O9-073014	CL	07/30/14	ASP	O9	3 + 00	3	34911.21	-14642.23	6	**59**
60	O9-073014	CL	07/30/14	ASP	O9	8 + 00	3	-34468.12	-14863.34	7	**60**
61	O9-073014	CL	07/30/14	ASP	O9	13 + 00	3	-34122.41	-15222.20	6	**61**

APPENDIX D

STATE COVER THICKNESS TABLE AND MAPS

CONSTRUCTION QUALITY ASSURANCE REPORT
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

Table D-1
Cover and Gila Bedding Thickness Summary Table
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Item No.	Test Pit ID	Thickness (inches)	Type	Tested By	Easting	Northing	Item No.
1	10	41	Cover	EMC²	-13123.91	-40305.23	**1**
2	15	38	Cover	EMC²	-14629.12	-40153.62	**2**
3	20	37	Cover	EMC²	-13880.55	-40151.19	**3**
4	23	37	Cover	EMC²	-13428.83	-40152.89	**4**
5	29	42	Cover	EMC²	-15827.81	-40002.47	**5**
6	71	40	Cover	EMC²	-14330.92	-39698.07	**6**
7	108	40	Cover	EMC²	-13577.81	-39252.47	**7**
8	127	40	Cover	EMC²	-14477.81	-38952.47	**8**
9	151	37	Cover	EMC²	-14777.81	-38652.47	**9**
10	161	38	Cover	EMC²	-15376.88	-38497.62	**10**
11	168	41	Cover	EMC²	-14327.81	-38502.47	**11**
12	193	38	Cover	EMC²	-14477.81	-38202.47	**12**
13	202	42	Cover	EMC²	-15227.81	-38052.47	**13**
14	211	42.5	Cover	EMC²	-13877.81	-38052.47	**14**
15	213	38	Cover	EMC²	-15526.35	-37898.74	**15**
16	222	42	Cover	EMC²	-14177.81	-37902.47	**16**
17	258	42	Cover	EMC²	-14477.81	-37452.47	**17**
18	264	38	Cover	EMC²	-15227.81	-37302.47	**18**
19	286	42	Cover	EMC²	-15227.81	-37002.47	**19**
20	298	40	Cover	EMC²	-14772.88	-36848.71	**20**
21	310	42	Cover	EMC²	-14327.81	-36702.47	**21**
22	321	42	Cover	EMC²	-14477.81	-36402.47	**22**
23	352	41	Cover	EMC²	-14777.81	-35802.47	**23**
24	359	38	Cover	EMC²	-15327.88	-35652.32	**24**
25	365	40	Cover	EMC²	-14477.81	-35652.47	**25**
26	385	38	Cover	EMC²	-15077.81	-35352.47	**26**
27	391	42	Cover	EMC²	-14177.81	-35352.47	**27**
28	433	43	Cover	EMC²	-14927.81	-34752.47	**28**
29	440	42	Cover	EMC²	-15527.81	-34602.47	**29**
30	462	44	Cover	EMC²	-15077.81	-34302.47	**30**
31	1	35	Gila Bedding	EMC²	-14829.64	-35481.90	**31**
32	2	39	Gila Bedding	EMC²	-14861.98	-35727.36	**32**
33	3	39	Gila Bedding	EMC²	-14723.03	-35561.35	**33**
34	4	35	Gila Bedding	EMC²	-14689.61	-35331.15	**34**
35	15	42	Gila Bedding	EMC²	-15071.75	-35766.15	**35**
36	54	20 (1)	Gila Bedding	EMC²	-14959.65	-35231.25	**36**
37	91	31	Gila Bedding	EMC²	-15233.82	-34116.21	**37**
38	92	36	Gila Bedding	EMC²	-15047.50	-34266.42	**38**
39	93	32	Gila Bedding	EMC²	-14888.22	-34437.49	**39**

Table D-1
Cover and Gila Bedding Thickness Summary Table
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Item No.	Test Pit ID	Thickness (inches)	Type	Tested By	Easting	Northing	Item No.
40	94	30	Gila Bedding	EMC²	-14751.74	-34626.13	**40**
41	95	33	Gila Bedding	EMC²	-14668.39	-34831.69	**41**
42	96	44	Gila Bedding	EMC²	-14589.82	-35087.11	**42**
43	601	29	Gila Bedding	EMC²	-15621.49	-34013.85	**43**
44	602	25.5	Gila Bedding	EMC²	-15429.54	-34020.99	**44**
45	03 01	36	Gila Bedding	EMC²	-15047.99	-35874.15	**45**
46	03 02	37	Gila Bedding	EMC²	-14825.57	-35834.25	**46**
47	03 03	38	Gila Bedding	EMC²	-14656.43	-35683.67	**47**
48	03 04	33	Gila Bedding	EMC²	-14587.51	-35471.19	**48**
49	04 01	41	Gila Bedding	EMC²	-14982.21	-35967.59	**49**
50	L1QA0801	38	Gila Bedding	EMC²	-15234.63	-34264.02	**50**
51	L1QA0802	40	Gila Bedding	EMC²	-15053.28	-34427.41	**51**
52	L1QA0803	48	Gila Bedding	EMC²	-14905.89	-34606.27	**52**
53	L1QA0804	43	Gila Bedding	EMC²	-14815.25	-34769.36	**53**
54	L1QA0805	44	Gila Bedding	EMC²	-14749.31	-34966.64	**54**
55	L1QATP 51	27	Gila Bedding	EMC²	-15669.73	-34132.56	**55**
56	L1QATP 52	28	Gila Bedding	EMC²	-15782.95	-34144.29	**56**
57	L1QATP S6-1	26.5	Gila Bedding	EMC²	-15772.91	-34502.67	**57**
58	L1QATP S6-2	28	Gila Bedding	EMC²	-15640.10	-34701.70	**58**
59	L1QATP S6-3	27	Gila Bedding	EMC²	-15502.48	-34906.35	**59**
60	P1GB 28+54	33	Gila Bedding	EMC²	-14380.29	-38087.79	**60**
61	P1GB 32+83	33	Gila Bedding	EMC²	-14520.56	-37682.64	**61**
62	P1GB 36+52	30	Gila Bedding	EMC²	-14568.56	-37318.01	**62**
63	P1GB 45+91	27	Gila Bedding	EMC²	-14349.12	-36413.71	**63**
64	P1GB 47+88	32	Gila Bedding	EMC²	-14311.78	-36220.51	**64**
65	P1GB-6	31	Gila Bedding	EMC²	-12968.18	-40193.35	**65**
66	P1GB-7	34	Gila Bedding	EMC²	-12992.77	-40181.76	**66**
67	P1GB-S5	33	Gila Bedding	EMC²	-12879.82	-40272.51	**67**
68	P1R4-1	33	Gila Bedding	EMC²	-14415.00	-35379.89	**68**
69	P1R4-2	32	Gila Bedding	EMC²	-14377.58	-35609.82	**69**
70	P1R4-3	35	Gila Bedding	EMC²	-14345.31	-35812.41	**70**
71	P1R5-1	32	Gila Bedding	EMC²	-14520.65	-35015.26	**71**
72	P1R5-2	38	Gila Bedding	EMC²	-14582.74	-34781.82	**72**
73	P1R5-3	38	Gila Bedding	EMC²	-14656.92	-34577.16	**73**
74	P1R5-4	29	Gila Bedding	EMC²	-14782.52	-34397.43	**74**
75	P1R5-5	29	Gila Bedding	EMC²	-14926.63	-34233.20	**75**
76	P1R5-6	28	Gila Bedding	EMC²	-15100.02	-34077.05	**76**
77	S1GB 17+78	27	Gila Bedding	EMC²	-14890.46	-38602.37	**77**
78	S1GB 21+58	30	Gila Bedding	EMC²	-14923.58	-38223.65	**78**
79	S1GB 25+66	29	Gila Bedding	EMC²	-14984.54	-37820.89	**79**

Table D-1
Cover and Gila Bedding Thickness Summary Table
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Item No.	Test Pit ID	Thickness (inches)	Type	Tested By	Easting	Northing	Item No.
80	S1GB-4	29	Gila Bedding	EMC²	-14794.20	-38850.98	**80**
81	S1GB-5	28	Gila Bedding	EMC²	-14703.93	-39035.87	**81**
82	S1GB-6	32.5	Gila Bedding	EMC²	-14670.39	-39262.64	**82**
83	S1GB-7	29	Gila Bedding	EMC²	-14630.45	-39479.66	**83**
84	S1GB-8	29	Gila Bedding	EMC²	-14445.52	-39520.99	**84**
85	S1GB-9	32	Gila Bedding	EMC²	-14225.28	-39558.01	**85**
86	S2GB 1+52	28	Gila Bedding	EMC²	-14619.38	-36970.71	**86**
87	S2GB-2	31	Gila Bedding	EMC²	-14917.62	-36677.63	**87**
88	S2GB-P1	32	Gila Bedding	EMC²	-14556.56	-37088.06	**88**
89	S3GB 1+10	31	Gila Bedding	EMC²	-14381.03	-36315.46	**89**
90	S5GB-1	32	Gila Bedding	EMC²	-13018.72	-39859.67	**90**
91	S5GB-2	34	Gila Bedding	EMC²	-12910.51	-40120.84	**91**
92	S3-1	35	Gila Bedding	EMC²	-14576.69	-36085.38	**92**
93	S3-2	32	Gila Bedding	EMC²	-14742.75	-35953.72	**93**
94	242	40	Cover	NMED	-13994.29	-35711.04	**94**
95	243	47	Cover	NMED	-14401.89	-36107.55	**95**
96	244	42	Cover	NMED	-14155.70	-35974.67	**96**
97	245	41	Cover	NMED	-14078.38	-36254.92	**97**
98	246	37.5	Cover	NMED	-14118.42	-36409.38	**98**
99	247	40	Cover	NMED	-14251.43	-36898.08	**99**
100	248	42	Cover	NMED	-14651.12	-36761.29	**100**
101	249	42	Cover	NMED	-14253.70	-37150.59	**101**
102	250	42	Cover	NMED	-14050.56	-37347.92	**102**
103	251	41	Cover	NMED	-13912.87	-37771.48	**103**
104	252	40	Cover	NMED	-13895.38	-38523.13	**104**
105	253	44	Cover	NMED	-13623.35	-39022.89	**105**
106	254	41	Cover	NMED	-14088.13	-39416.96	**106**
107	255	41.5	Cover	NMED	-14577.18	-38527.95	**107**
108	256	41	Cover	NMED	-14858.56	-37637.50	**108**
109	257	37.5	Cover	NMED	-14710.40	-37355.68	**109**
110	258	41	Cover	NMED	-14964.08	-38180.86	**110**
111	259	40	Cover	NMED	-15041.44	-37494.58	**111**
112	260	40	Cover	NMED	-14824.94	-38610.35	**112**
113	261	39	Cover	NMED	-13472.30	-39888.74	**113**
114	262	43	Cover	NMED	-13258.56	-39956.67	**114**
115	263	43	Cover	NMED	-13214.27	-39780.93	**115**
116	264	39	Cover	NMED	-12919.48	-39901.01	**116**
117	265	38	Cover	NMED	-15029.04	-36752.09	**117**
118	266	40	Cover	NMED	-15384.31	-37248.30	**118**
119	267	40	Cover	NMED	-15419.31	-38230.34	**119**

Table D-1
Cover and Gila Bedding Thickness Summary Table
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Item No.	Test Pit ID	Thickness (inches)	Type	Tested By	Easting	Northing	Item No.
120	268	40	Cover	NMED	-15121.19	-38761.91	**120**
121	269	37	Cover	NMED	-14511.79	-40493.28	**121**
122	270	39	Cover	NMED	-14188.04	-40171.30	**122**
123	271	45	Cover	NMED	-13098.29	-40389.47	**123**
124	272	46	Cover	NMED	-13361.07	-40412.73	**124**
125	273	43	Cover	NMED	-13693.95	-40436.39	**125**
126	274	37	Cover	NMED	-14039.47	-40471.90	**126**
127	275	40	Cover	NMED	-15944.63	-40112.77	**127**
128	276	40	Cover	NMED	-15382.25	-40020.86	**128**
129	277	40	Cover	NMED	-15225.47	-39973.60	**129**
130	278	42	Cover	NMED	-15218.49	-39852.44	**130**
131	279	40	Cover	NMED	-15219.63	-39775.38	**131**
132	280	44	Cover	NMED	-15314.58	-39675.53	**132**
133	281	44	Cover	NMED	-15119.64	-39694.57	**133**
134	282	36	Cover	NMED	-14567.61	-37173.04	**134**
135	283	36	Cover	NMED	-14030.03	-36913.08	**135**
136	284	36	Cover	NMED	-13978.18	-37156.35	**136**
137	285	37	Cover	NMED	-13908.50	-37388.25	**137**
138	286	38	Cover	NMED	-13821.31	-37626.25	**138**
139	287	37	Cover	NMED	-13326.09	-39111.54	**139**
140	288	37	Cover	NMED	-13409.68	-38848.17	**140**
141	289	44	Cover	NMED	-12820.67	-40316.19	**141**
142	290	40	Cover	NMED	-12789.51	-40208.77	**142**
143	291	38	Cover	NMED	-12800.20	-40066.79	**143**
144	292	30	Gila Bedding	NMED	-15461.71	-34136.83	**144**
145	293	28	Gila Bedding	NMED	-15435.26	-35006.75	**145**
146	294	38	Cover	NMED	-13759.83	-37851.34	**146**
147	295	38	Cover	NMED	-13692.62	-38058.29	**147**
148	296	40	Cover	NMED	-13602.75	-38274.18	**148**
149	297	40	Cover	NMED	-13522.80	-38493.17	**149**
150	298	38	Cover	NMED	-13485.74	-38608.53	**150**
151	299	43	Cover	NMED	-13298.77	-39194.65	**151**
152	300	39	Cover	NMED	-13237.71	-39398.57	**152**
153	301	43	Cover	NMED	-15675.85	-34376.70	**153**
154	302	43	Cover	NMED	-15555.71	-34986.35	**154**
155	303	41	Cover	NMED	-15388.62	-35241.09	**155**
156	304	39	Cover	NMED	-15288.27	-35393.36	**156**
157	305	43	Cover	NMED	-15072.09	-35487.50	**157**
158	306	46	Cover	NMED	-15141.57	-34961.68	**158**

Table D-1
Cover and Gila Bedding Thickness Summary Table
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Item No.	Test Pit ID	Thickness (inches)	Type	Tested By	Easting	Northing	Item No.
159	307	41	Cover	NMED	-15196.63	-34730.21	**159**
160	308	36	Cover	NMED	-15639.55	-34056.60	**160**
161	309	36	Cover	NMED	-15546.32	-34058.33	**161**
162	310	42	Cover	NMED	-15827.12	-34287.56	**162**
163	311	36	Gila Bedding	NMED	-15391.12	-35160.67	**163**
164	312	30	Gila Bedding	NMED	-15245.04	-35176.58	**164**
165	313	37	Gila Bedding	NMED	-15106.25	-35203.83	**165**
166	314	38	Gila Bedding	NMED	-14844.62	-35073.18	**166**
167	315	51	Cover	NMED	-14909.91	-34961.03	**167**
168	316	37	Gila Bedding	NMED	-14914.64	-34851.99	**168**
169	317	38	Cover	NMED	-14987.04	-34747.02	**169**
170	318	41	Gila Bedding	NMED	-15028.06	-34643.12	**170**
171	319	41	Cover	NMED	-15108.06	-34586.12	**171**
172	320	37	Gila Bedding	NMED	-15189.00	-34461.20	**172**
173	321	40	Cover	NMED	-14477.81	-36402.47	**173**
174	322_1	36	Gila Bedding	NMED	-14923.21	-35239.20	**174**
175	323	30	Gila Bedding	NMED	-15009.94	-35222.85	**175**
176	324	41	Cover	NMED	-15460.78	-35278.08	**176**
177	325	38	Cover	NMED	-15281.34	-35349.49	**177**
178	327	40	Cover	NMED	-15129.81	-35538.95	**178**
179	328	32	Gila Bedding	NMED	-14810.21	-35268.22	**179**
180	329	44	Cover	NMED	-14843.53	-35331.23	**180**
181	330	42	Cover	NMED	-14863.38	-35486.50	**181**
182	331	48	Cover	NMED	-14719.97	-35341.18	**182**
183	332	42	Cover	NMED	-14748.75	-35561.20	**183**
184	333	40	Cover	NMED	-14879.04	-35704.44	**184**
185	334	38	Cover	NMED	-15075.35	-35733.32	**185**
186	335	42	Cover	NMED	-15202.92	-35714.14	**186**
187	336	40	Cover	NMED	-15260.43	-34942.19	**187**
188	337	43	Cover	NMED	-15248.16	-34812.07	**188**
189	338	41	Cover	NMED	-15246.23	-34290.89	**189**
190	339	43	Cover	NMED	-15073.57	-34447.97	**190**
191	340	46	Cover	NMED	-14933.62	-34613.73	**191**
192	341	42	Cover	NMED	-14772.18	-34977.00	**192**
193	342	36	Cover	NMED	-15262.18	-35737.36	**193**
194	343	43	Cover	NMED	-15310.72	-35743.32	**194**
195	344	40	Cover	NMED	-15236.34	-34144.33	**195**
196	345	45	Cover	NMED	-14838.67	-34548.61	**196**

Table D-1
Cover and Gila Bedding Thickness Summary Table
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Item No.	Test Pit ID	Thickness (inches)	Type	Tested By	Easting	Northing	Item No.
197	346	38	Cover	NMED	-14729.55	-34738.44	**197**
198	347	40	Cover	NMED	-14660.60	-34955.44	**198**
199	348	44	Cover	NMED	-14817.74	-35916.36	**199**
200	349	48	Cover	NMED	-14988.72	-35935.74	**200**
201	350	41	Cover	NMED	-15119.34	-35993.74	**201**
202	351	48	Cover	NMED	-15185.89	-35957.90	**202**
203	352	51	Cover	NMED	-15230.76	-35905.08	**203**
204	353	42	Cover	NMED	-14937.66	-35836.24	**204**
205	354	43	Cover	NMED	-14634.74	-35561.55	**205**
206	355	36	Cover	NMED	-14530.46	-35470.46	**206**
207	356	37	Cover	NMED	-14557.64	-35647.37	**207**
208	357	45	Cover	NMED	-14655.37	-35809.46	**208**
209	358	36	Cover	NMED	-14580.34	-34895.24	**209**
210	359	46	Cover	NMED	-14647.48	-34684.33	**210**
211	360	43	Cover	NMED	-14721.09	-34530.93	**211**
212	361	42	Cover	NMED	-14864.58	-34346.27	**212**
213	362	31	Gila Bedding	NMED	-15599.86	-33873.41	**213**
214	363	42	Cover	NMED	-15547.67	-33930.07	**214**
215	364	43	Cover	NMED	-14992.39	-34040.82	**215**
216	365	42	Cover	NMED	-14819.09	-34203.46	**216**
217	366	38	Cover	NMED	-14690.43	-34395.21	**217**
218	367	41.6	Cover	NMED	-14492.51	-34605.71	**218**
219	368	43	Cover	NMED	-14440.03	-34887.84	**219**
220	369	43	Cover	NMED	-14230.45	-35132.09	**220**
221	370	44	Cover	NMED	-14323.34	-35218.26	**221**
222	371	41	Cover	NMED	-14320.81	-35497.16	**222**
223	372	41	Cover	NMED	-14425.65	-35807.22	**223**
224	373	43	Cover	NMED	-14548.80	-35960.68	**224**
225	374	38.6	Cover	NMED	-13734.33	-35624.99	**225**
226	375	38	Cover	NMED	-14667.40	-39663.45	**226**
227	376	40	Cover	NMED	-14756.98	-39794.39	**227**
228	377	40	Cover	NMED	-14894.39	-39892.70	**228**
229	378	39	Cover	NMED	-14723.19	-36069.11	**229**
230	379	41	Cover	NMED	-14759.01	-36158.13	**230**
231	CHNREC1	48	Cover	FMRS	-15257.82	-33973.54	**231**
232	CHNREC2	38	Cover	FMRS	-15181.29	-34038.66	**232**
233	CHNREC3	37	Cover	FMRS	-15044.84	-34153.47	**233**
234	CHNREC4	38	Cover	FMRS	-14925.32	-34259.00	**234**

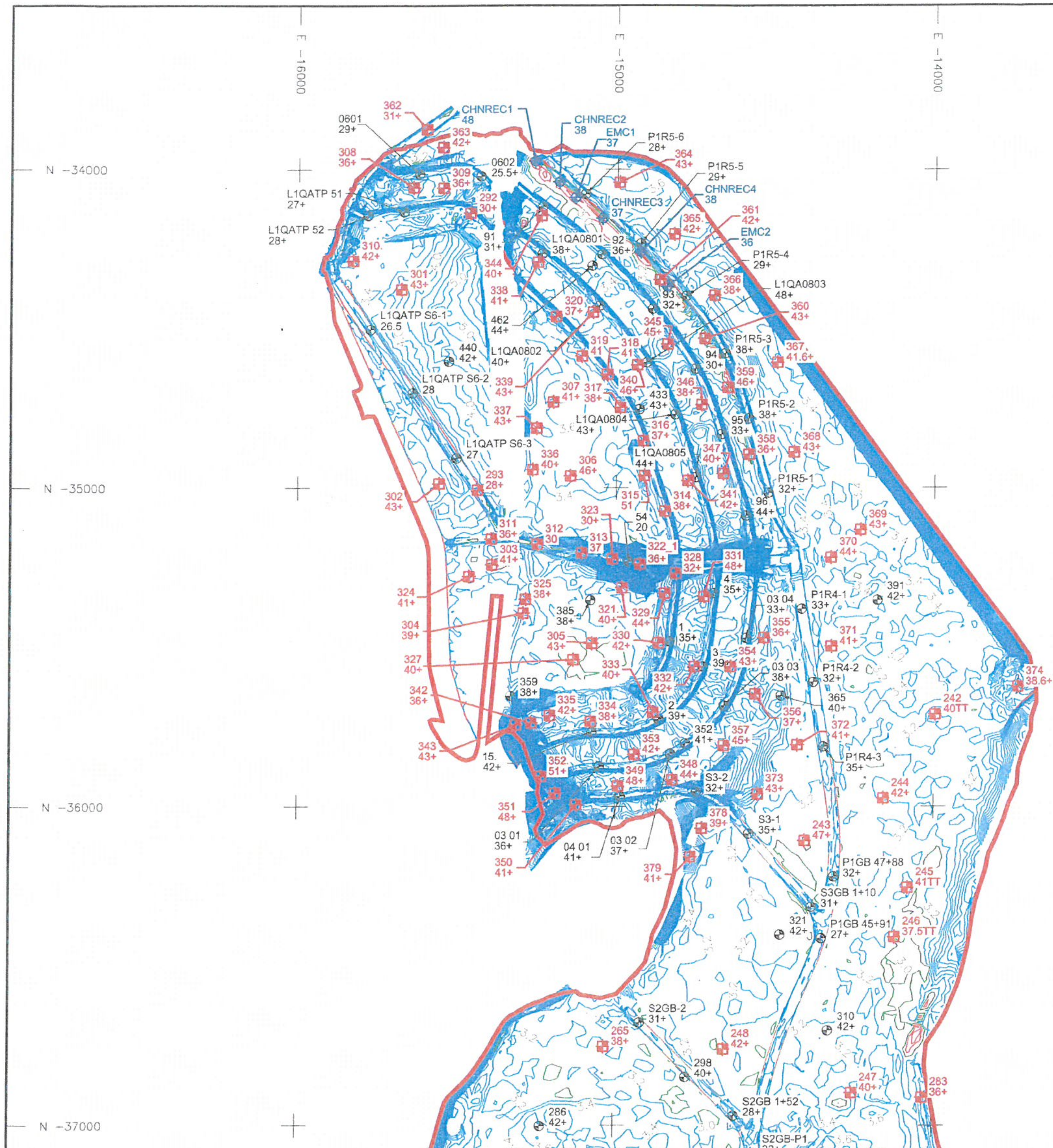
Table D-1
Cover and Gila Bedding Thickness Summary Table
Lake One Reclamation
Chino Mines Company - Hurley, New Mexico

Item No.	Test Pit ID	Thickness (inches)	Type	Tested By	Easting	Northing	Item No.
235	EMC1	37	Cover	FMRS	-15130.04	-34087.30	**235**
236	EMC2	36	Cover	FMRS	-14841.77	-34367.04	**236**
237	QC1	31	Gila Bedding	FMRS	-14802.95	-38857.30	**237**
238	QC2	28	Gila Bedding	FMRS	-14841.13	-38774.92	**238**
239	QC3	31	Gila Bedding	FMRS	-14845.95	-38778.00	**239**
240	QC4	30	Gila Bedding	FMRS	-14815.08	-38801.87	**240**
241	QC5	29	Gila Bedding	FMRS	-14810.05	-38797.89	**241**

NMED = New Mexico Environment Department; FMRS = Freeport-McMoRan Reclamation Services.

Note:

(1) Since Test Pit 54 indicated a thickness less than 24 inches, additional test pits (322_1 and 323) were performed on either side, which verified that the 24-inch thickness was met.



LEGEND

- LIMIT OF LAKE ONE REGRADING/RECLAMATION
- ISOPACH CONTOURS - INDICATES GREATER THAN 3 FEET ABOVE (2 FEET IN CHANNELS) AS-BUILT SUBGRADE
- ISOPACH CONTOURS - INDICATES 3 FEET ABOVE (2 FEET IN CHANNELS) AS-BUILT SUBGRADE
- ISOPACH CONTOURS - INDICATES LESS THAN 3 FEET ABOVE (2 FEET IN CHANNELS) AS-BUILT SUBGRADE
- 268 40 — COVER AND GILA BEDDING THICKNESS NMED QA TEST PIT LOCATION WITH THICKNESS IN INCHES
- 268 40 — COVER AND GILA BEDDING THICKNESS EMC² QA TEST PIT LOCATION WITH THICKNESS IN INCHES
- 268 40 — COVER AND GILA BEDDING THICKNESS FMRS QC TEST PIT LOCATION WITH THICKNESS IN INCHES
- TT — TO TAILING CONTACT
- \+ — NO TAILING/SLAG CONTACT

QC APPROVAL: SIGNATURE

Brian Davis 8/27/14
PRINT NAME & DATE

QA APPROVAL: SIGNATURE

Travis LaBlanc 8-26-14
PRINT NAME & DATE

STATE REP. APPROVAL: SIGNATURE

George Llewellyn 8/28/14
PRINT NAME & DATE

OWNER'S APPROVAL: SIGNATURE

Daren Albrecht 8/27/14
PRINT NAME & DATE

SCALE: 1"=400'

400 0 400

CONTOUR INTERVAL = 0.2-FT

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
0	08/26/14	DCC	ASP	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR

FREEPORT-McMoRAN COPPER & GOLD

EMC² Engineering and Environmental Solutions
1819 East Morten Avenue, Suite 100
Phoenix, AZ 85020
Tel: (602) 331-3859 Fax: (602) 331-4104

PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

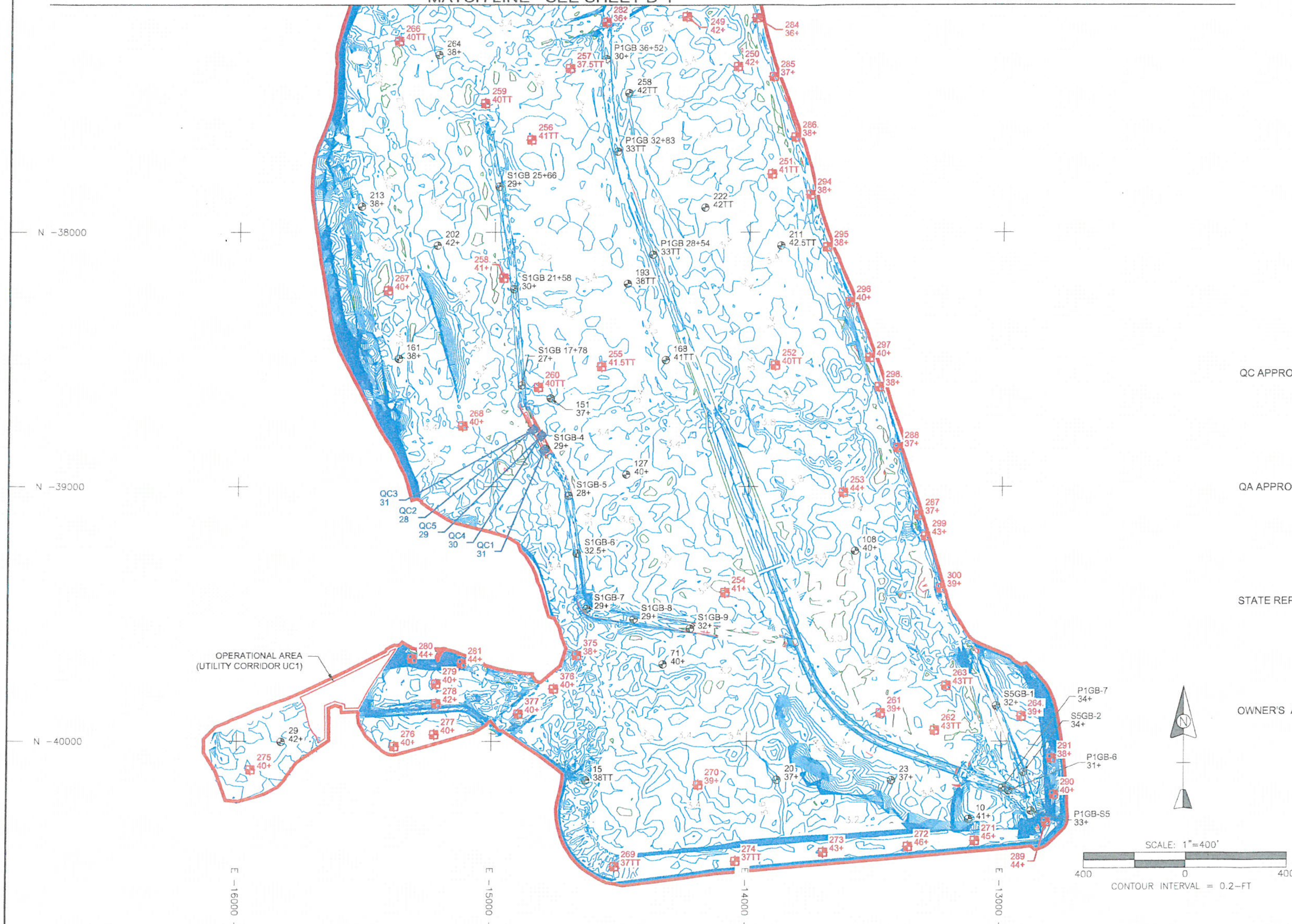
TITLE: COVER THICKNESS MAP
SHEET 1 OF 2

DRAWING NO. D-1

FILE NAME: 1287_AB-C305-TK.DWG

REV. 0

MATCH LINE - SEE SHEET D-1



LEGEND

- LIMIT OF LAKE ONE REGRADING/RECLAMATION
- ISOPACH CONTOURS - INDICATES GREATER THAN 3 FEET ABOVE (2 FEET IN CHANNELS) AS-BUILT SUBGRADE
- ISOPACH CONTOURS - INDICATES 3 FEET ABOVE (2 FEET IN CHANNELS) AS-BUILT SUBGRADE
- ISOPACH CONTOURS - INDICATES LESS THAN 3 FEET ABOVE (2 FEET IN CHANNELS) AS-BUILT SUBGRADE
- 268 40 — COVER AND GILA BEDDING THICKNESS NMED QA TEST PIT LOCATION WITH THICKNESS IN INCHES
- 268 40 — COVER AND GILA BEDDING THICKNESS EMC² QA TEST PIT LOCATION WITH THICKNESS IN INCHES
- 268 40 — COVER AND GILA BEDDING THICKNESS FMRS QC TEST PIT LOCATION WITH THICKNESS IN INCHES
- TT — TO TAILING CONTACT
- \+ — NO TAILING/SLAG CONTACT

QC APPROVAL: ________ SIGNATURE

Brian Davis 8/27/14
PRINT NAME & DATE

QA APPROVAL: ________ SIGNATURE

Travis LaBlanc 8-26-14
PRINT NAME & DATE

STATE REP. APPROVAL: ________ SIGNATURE

George Llewellyn 8/28/14
PRINT NAME & DATE

OWNER'S APPROVAL: ________ SIGNATURE

Daren Albrecht 8/27/14
PRINT NAME & DATE

NO.	DATE	CADD	CHK'D	APP'D	ISSUE / REVISION DESCRIPTION
0	08/26/14	DCC	ASP	TSL	AS-BUILT - ISSUED FOR LAKE ONE CQAR

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PROJECT: CHINO MINES COMPANY
HURLEY, NEW MEXICO
LAKE ONE RECLAMATION

TITLE: COVER THICKNESS MAP
SHEET 2 OF 2

DRAWING NO: D-2
FILE NAME: 1287_AB-C305-TK.DWG
REV: 0

APPENDIX E

COVER MATERIAL QUALITY ASSURANCE TEST RESULTS

CONSTRUCTION QUALITY ASSURANCE REPORT
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

TABLE E-1
COVER MATERIAL QUALITY ASSURANCE TEST RESULTS
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

Item No.	Field ID (1)	Date Sampled	Total Thickness (in)	Field Estimates					Laboratory Data (% wt.) (2)					Item No.
				Rock Fragments (% vol)				Clay	Sand	Silt	Clay	Coarse Fragments	Texture	
				Gravel	Cobble	Stone	Total							
Lake One Surface Samples														
1	L1QATP-211-0-6	1/15/2014	42	50%	12%	2%	64%	10%	72%	19%	9%	50%	SL	**1**
2	L1QATP-211-30-42			50%	12%	2%	64%	10%	75%	16%	9%	41%	SL	**2**
3	L1QATP-222-0-6	1/15/2014	42	50%	12%	2%	64%	12%	76%	16%	8%	53%	SL	**3**
4	L1QATP-222-30-42			50%	12%	2%	64%	12%	76%	16%	8%	52%	SL	**4**
5	L1QATP-258-0-6	1/15/2014	42	40%	12%	2%	54%	12%	76%	16%	8%	59%	SL	**5**
6	L1QATP-258-30-42			40%	12%	2%	54%	12%	80%	14%	6%	55%	LS	**6**
7	L1QATP-310-0-6	1/15/2014	42	50%	12%	3%	65%	10%	71%	19%	10%	50%	SL	**7**
8	L1QATP-310-30-42			50%	12%	3%	65%	10%	73%	17%	10%	50%	SL	**8**
9	L1QATP-321-0-6	1/15/2014	42	55%	12%	3%	70%	10%	74%	17%	9%	50%	SL	**9**
10	L1QATP-321-30-42			55%	12%	3%	70%	10%	76%	15%	9%	49%	SL	**10**
11	L1QATP-391-0-6	1/15/2014	42	55%	12%	3%	70%	12%	68%	20%	12%	48%	SL	**11**
12	L1QATP-391-30-42			55%	12%	3%	70%	12%	64%	20%	16%	56%	SL	**12**
13	L1QATP-108-0-6	2/14/2014	40	45%	15%	5%	65%	8%	81%	15%	4%	50%	LS	**13**
14	L1QATP-108-28-40			45%	15%	5%	65%	8%	75%	19%	6%	52%	SL	**14**
15	L1QATP-127-0-6	2/14/2014	41	40%	10%	5%	55%	10%	77%	17%	6%	53%	LS	**15**
16	L1QATP-127-29-41			40%	10%	5%	55%	10%	72%	19%	9%	47%	SL	**16**
17	L1QATP-151-0-6	2/14/2014	37	50%	10%	TR	60%	8%	75%	19%	6%	51%	SL	**17**
18	L1QATP-151-25-37			50%	10%	TR	60%	8%	75%	17%	8%	49%	SL	**18**
19	L1QATP-168-0-6	2/14/2014	41	50%	10%	TR	60%	6%	79%	18%	3%	50%	LS	**19**
20	L1QATP-168-29-41			50%	10%	TR	60%	6%	80%	13%	7%	49%	LS	**20**
21	L1QATP-193-0-6	2/14/2014	38	45%	10%	TR	55%	10%	77%	17%	6%	53%	LS	**21**
22	L1QATP-193-26-38			45%	10%	TR	55%	10%	76%	17%	7%	52%	SL	**22**

TABLE E-1
COVER MATERIAL QUALITY ASSURANCE TEST RESULTS
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

Item No.	Field ID (1)	Date Sampled	Total Thickness (in)	Field Estimates					Laboratory Data (% wt.) (2)					Item No.
				Rock Fragments (% vol)				Clay	Sand	Silt	Clay	Coarse Fragments	Texture	
				Gravel	Cobble	Stone	Total							
23	L1QATP-286-0-6	2/14/2014	42	55%	15%	TR	70%	10%	76%	16%	8%	48%	SL	**23**
24	L1QATP-286-30-42			55%	15%	TR	70%	8%	75%	17%	8%	49%	SL	**24**
25	L1QATP-264-0-6	2/14/2014	38	45%	10%	TR	55%	8%	77%	17%	6%	55%	LS	**25**
26	L1QATP-264-26-38			45%	10%	TR	55%	8%	79%	15%	6%	55%	LS	**26**
27	L1QATP-202-0-6	2/14/2014	42	55%	10%	5%	70%	8%	78%	16%	6%	57%	LS	**27**
28	L1QATP-202-30-42			55%	10%	5%	70%	8%	79%	17%	4%	50%	LS	**28**
29	L1QATP-298-0-6	4/30/2014	40	40%	15%	TR	55%	8%	82%	14%	4%	54%	LS	**29**
30	L1QATP-298-28-40			40%	15%	TR	55%	8%	82%	11%	7%	55%	LS	**30**
31	L1QATP-213-0-6	4/30/2014	38	40%	10%	TR	50%	10%	77%	13%	10%	54%	SL	**31**
32	L1QATP-213-26-38			40%	10%	TR	50%	10%	78%	12%	10%	58%	SL	**32**
33	L1QATP-161-0-6	4/30/2014	38	38%	10%	0%	48%	8%	74%	18%	8%	53%	SL	**33**
34	L1QATP-161-26-38			38%	10%	0%	48%	8%	74%	17%	9%	57%	SL	**34**
35	L1QATP-71-0-6	4/30/2014	40	35%	10%	5%	50%	6%	73%	15%	12%	53%	SL	**35**
36	L1QATP-71-28-40			35%	10%	5%	50%	6%	78%	11%	11%	52%	SL	**36**
37	L1QATP-15-0-6	4/30/2014	38	48%	18%	TR	66%	8%	84%	10%	6%	60%	LS	**37**
38	L1QATP-15-26-38			48%	18%	TR	66%	8%	77%	16%	7%	61%	SL	**38**
39	L1QATP-20-0-6	4/30/2014	37	44%	10%	0%	54%	8%	76%	15%	9%	58%	SL	**39**
40	L1QATP-20-25-37			44%	10%	0%	54%	8%	74%	16%	10%	56%	SL	**40**
41	L1QATP-10-0-6	4/30/2014	41	45%	12%	TR	57%	8%	73%	17%	10%	57%	SL	**41**
42	L1QATP-10-29-41			45%	12%	TR	57%	8%	74%	16%	10%	59%	SL	**42**
43	L1QATP-23-0-6	4/30/2014	37	40%	12%	TR	52%	8%	73%	16%	11%	56%	SL	**43**
44	L1QATP-23-25-37			40%	12%	TR	52%	8%	73%	17%	10%	60%	SL	**44**

TABLE E-1
COVER MATERIAL QUALITY ASSURANCE TEST RESULTS
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

Item No.	Field ID (1)	Date Sampled	Total Thickness (in)	Field Estimates					Laboratory Data (% wt.) (2)					Item No.
				Rock Fragments (% vol)				Clay	Sand	Silt	Clay	Coarse Fragments	Texture	
				Gravel	Cobble	Stone	Total							
45	L1QATP-29-0-6	5/21/2014	42	55%	15%	TR	70%	8%	78%	15%	7%	52%	LS	**45**
46	L1QATP-29-30-42			55%	15%	TR	70%	8%	82%	11%	7%	61%	LS	**46**
47	L1QATP-440-0-6	7/2/2014	42	25%	25%	5%	55%	8%	78%	13%	9%	45%	SL	**47**
48	L1QATP-440-30-42			25%	25%	5%	55%	8%	74%	15%	11%	51%	SL	**48**
49	L1QATP-385-0-6	7/17/2014	38	40%	20%	5%	65%	10%	80%	13%	7%	56%	LS	**49**
50	L1QATP-385-26-38			40%	20%	5%	65%	10%	80%	13%	7%	66%	LS	**50**
51	L1QATP-365-0-6	8/4/2014	40	38%	15%	TR	53%	10%	78%	15%	7%	52%	LS	**51**
52	L1QATP-365-28-40			38%	15%	TR	53%	10%	80%	13%	7%	58%	LS	**52**
53	L1QATP-359-0-6	8/11/2014	38	40%	12%	TR	52%	10%	78%	14%	8%	58%	SL	**53**
54	L1QATP-359-26-38			40%	12%	TR	52%	10%	76%	16%	8%	62%	SL	**54**
Slag Pile Outslope Samples														
55	L1QATP-433-0-6	7/22/2014	43	35%	18%	TR	53%	8%	79%	13%	8%	65%	LS	**55**
56	L1QATP-433-31-43			35%	18%	TR	53%	8%	81%	12%	7%	68%	LS	**56**
57	L1QATP-462-0-6	7/24/2014	44	35%	12%	TR	47%	10%	81%	12%	7%	59%	LS	**57**
58	L1QATP-462-32-44			35%	12%	TR	47%	10%	82%	11%	7%	58%	LS	**58**
59	L1QATP-352-0-6	7/29/2014	41	25%	30%	10%	65%	8%	78%	13%	9%	58%	SL	**59**
60	L1QATP-352-29-41			25%	30%	10%	65%	8%	78%	15%	7%	75%	LS	**60**

ID = identification; ft = feet; % = percent; USDA = United States Department of Agriculture; TR = trace; LS = Loamy Sand; SL = Sandy Loam.

Note:

(1) Field ID descriptions: L1 = Lake One; QA = Quality Assurance; TP = Test Pit; 211 = Test Pit ID; and 0-6, 30-42 = Sample Depth Interval (in inches).

(2) Laboratory analysis provided by Energy Laboratories, Inc.

APPENDIX F

SEEDING AND MULCHING SUMMARY REPORT

CONSTRUCTION QUALITY ASSURANCE REPORT
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

Lake One 2014 Seeding Report

Freeport-McMoRan Reclamation Services

July 18, 2014

Kenny White

Introduction:

This Lake One 2014 Seeding Report covers the re-vegetation done by Freeport-McMoRan Reclamation Services (FMRS) seeding crew from April 1, 2014 through July 1, 2014. The areas included in this report are the Lake One Reclamation area, the Razorback Borrow areas, and the A and B borrows. Included is a summary of the work completed and the materials delivered and used.

The weather during this period varied from sunny to cloudy. The temperatures throughout the seeding period ranged from 40°F to 85°F. The winds ranged from low to very high gusts. There were trace amounts of precipitation that occurred during this period.

Work Performed:

Seed Bed Preparation:

As an area was completed and approved by the Engineer of Record (EOR), the FMRS crew used bulldozers to rip the approved areas. The approved areas were then scarified to a depth of 8 to 12 inches. This process continued until all approved areas were ripped and scarified. Maintenance roads, power pole roads, and access to monitoring wells were not disturbed and will remain open for access purposes.

FMRS completed ripping and scarifying operations on June 30, 2014. Throughout the ripping operations, Quality Control Monitors (QC) periodically took random measurements of the penetration on the ripped and scarified areas for the seed bed. All measurements taken were within the 8 to 12 inch tolerance.

Mulching:

The mulch delivered was long-stem native grass hay mulch which was grown in Kansas. Deliveries started arriving for Lake One on February 6th and continued until April 30th with a total of 747 tons being delivered. FMRS has copies of all mulch certifications and scale tickets on file.

Application of the mulch began on March 11th and was completed on June 26th. The mulch was evenly applied to the ripped and scarified areas using a mulch broadcaster. After broadcasting, all mulched areas were crimped to a depth of 3-4 inches using straight coulter discs. QC performed visual inspection and daily monitoring of the mulch application.

Seeding:

The seed mix for the Lake One reclamation project consisted of approved species which is listed in the table below:

Lake One Approved Seed Mix for 2014

Species	Planting Rate (pls #'s/acre)
Blue grama (Bouteloua gracilis)	0.25
Sideoats grama (Bouteloua curtipendula)	1.25
Galleta grass (Pleuraphis jamesii)	0.40
Green sprangletop (Leptochloa dubia)	0.50
Bottlebrush squirreltail (Elymus elymoides) sub for Needle and thread	1.25
Indian ricegrass (Achnatherum hymenoides)	1.50
Sand dropseed (Sporobolus cryptandrus)	0.10
Streambank wheatgrass (Elymus lanceolatus ssp. psammophilus)	0.50
Fairy-duster (Calliandra eriophylla)	0.04
Fourwing saltbush (Atriplex canescens)	1.50
Rubber rabbitbrush (Ericameria nauseosa)	0.25
Winterfat (Krascheninnikovia lanata)	0.60
White prairie clover (Dalea candida)	0.20
Prairie coneflower (Ratibida columnifera)	0.30
Blue flax (Linum lewisii)	0.15
Total	**8.79**

Drill seeding of Lake One began on April 14th using a modified rangeland drill with depth control bands, packer wheels, agitators and augers, picker wheels, and a drag chain. The drill seeder was calibrated at the beginning of the project and monitored throughout seeding. Seeding began at the south end of the project working northwards. The seeding was completed on June 26th.

All seed was stored per the manufacturer's recommendation and in the manufacturer's original packaging until used.

The seeding and mulching operation was monitored daily by the site QC. QC visually inspected application procedures, collecting tags from the seed bags used, recorded the acres completed for the day and the amount of seed used.

Attachments:

Appendix A – Daily Mulch Delivery Log with Ticket and Certification Numbers.

Appendix B – Daily Seeding Log with Amount of Seed Applied and Acres Seeded.

Appendix C – Photographs of the Mulching and Seeding

Kenny White
Senior QC Specialist

Appendix A

Daily Mulch Delivery Log

Daily Mulch Delivery Log						
Date	**Ticket #**	**Certification #**	**Pounds**	**Tonnage**	**Bales**	**Area Staged**
2/6/2014	341821	123331	62,100	31.05	42	Lake One
2/6/2014	365851	123978	60,760	30.38	42	Lake One
2/9/2014	365813	149020	50,240	25.1	42	Lake One
2/14/2014	365758	148942	52,000	26	43	Lake One
2/19/2014	365816	148901	49,500	24.75	35	Lake One
2/20/2014	341822	142720	50,680	25.34	35	Lake One
2/20/2014	365852	123979	49,260	24.63	34	Lake One
2/21/2014	365903	148981	49,200	24.6	34	Lake One
2/26/2014	365819	148902	49,220	24.61	42	Lake One
3/18/2014	365826	148904	50,840	25.42	43	Lake One
3/18/2014	365906	148984	53,080	26.54	44	Lake One
3/19/2014	341826	142719	53,180	26.59	44	Lake One
3/21/2014	341827	142718	49,680	24.89	35	Lake One
3/21/2014	365828	148905	53,850	26.93	44	Lake One
3/25/2014	365761	148945	52,960	26.48	43	Lake One
3/27/2014	365762	148946	51,460	25.73	36	Lake One
4/2/2014	365763	148947	50,380	25.19	36	Lake One
4/3/2014	365830	148906	50,980	25.49	36	Lake One
4/4/2014	341828	142717	43,580	21.79	36	Lake One
4/4/2014	365764	148948	48,480	24.24	42	Lake One
4/6/2014	365831	148907	51,600	25.8	44	Lake One
4/9/2014	365832	148908	51,020	25.51	36	Lake One
4/10/2014	365765	148949	50,440	25.22	36	Lake One
4/12/2014	365766	148950	50,200	25.1	36	Lake One
4/15/2014	365767	148951	52,160	26.08	42	Lake One
4/15/2014	365845	148909	53,340	26.67	44	Lake One
4/17/2014	365768	148952	50,320	25.16	44	Lake One
4/17/2014	365841	148910	51,780	25.89	46	Lake One
4/30/2014	366980	148888	50,920	25.46	44	Lake One
		Totals	**1,493,210**	**746.64**	**1,160**	
			Pounds	**Tons**	**Bales**	

Appendix B

Daily Seeding Log

Daily Seeding Log with Amount of Seed Applied and Acres Seeded						
Date	Bulk (lbs.)	PLS (lbs.)	Mulch (Tons)	Acreage	Area Seeded	Bags of Seed Used
4/14/2014	101.64	87.92	2.5 per Acre	8.7	Lake One	Mix: 123464 x 2, Mix: 123465 x 2
4/15/2014	203.28	175.84	2.5 per Acre	17.6	Lake One	Mix: 123464 x 4, Mix: 123465 x 4
4/16/2014	203.28	175.84	2.5 per Acre	10.4	Lake One	Mix: 123464 x 4, Mix: 123465 x 4
4/17/2014	101.64	87.92	2.5 per Acre	16.0	Lake One	Mix: 123464 x 2, Mix: 123465 x 2
4/18/2014	203.28	175.84	2.5 per Acre	11.3	Lake One	Mix: 123464 x 4, Mix: 123465 x 4
4/27/2014	101.64	87.92	2.5 per Acre	12.1	Lake One	Mix: 123464 x 1, Mix: 123465 x 1
4/28/2014	50.82	43.96	2.5 per Acre	4.6	Lake One	Mix: 123464 x 2, Mix: 123465 x 2
4/29/2014	50.82	43.96	2.5 per Acre	2.8	Lake One	Mix: 123464 x 1, Mix: 123465 x1
4/30/2014	101.64	87.92	2.5 per Acre	7.0	Lake One	Mix: 123464 x 2, Mix: 123465 x 2
5/1/2014	101.64	87.92	2.5 per Acre	11.0	Lake One	Mix: 123464 x 2, Mix: 123465 x 2
5/2/2014	50.82	43.96	2.5 per Acre	11.1	Lake One	Mix: 123464 x 1, Mix: 123465 x 1
5/3/2014	203.28	175.84	2.5 per Acre	13.7	Lake One	Mix: 123464 x 4, Mix: 123465 x 4
5/21/2014	101.64	87.92	2.5 per Acre	11.1	Lake One	Mix: 123464 x 2, Mix: 123465 x 2
5/22/2014	101.64	87.92	2.5 per Acre	9.3	Lake One	Mix: 123464 x 2, Mix: 123465 x 2
5/26/2014	101.64	87.92	2.5 per Acre	13.9	Lake One	Mix: 123464 x 2, Mix: 123465 x 2

Daily Seeding Log with Amount of Seed Applied and Acres Seeded						
6/10/2014	101.64	87.92	2.5 per Acre	4.6	Lake One	Mix: 123464 x 2, Mix: 123465 x 2
6/11/2014	305.58	263.76	2.5 per Acre	19.9	Lake One	Mix: 123464 x 6, Mix: 123465 x 6
6/17/2014	101.64	87.92	2.5 per Acre	20.3	Lake One	Mix: 123464 x 2, Mix: 123465 x 2
6/18/2014	101.64	87.92	2.5 per Acre	10.6	Lake One	Mix: 123464 x 2, Mix: 123465 x 2
6/20/2014	203.28	175.84	2.5 per Acre	16.7	Lake One	Mix: 123464 x 4, Mix: 123465 x 4
6/23/2014	50.82	43.96	2.5 per Acre	2.4	Lake One	Mix: 123464 x 1, Mix: 123465 x 1
6/24/2014	203.28	175.84	2.5 per Acre	8.9	Lake One	Mix: 123464 x 4, Mix: 123465 x 4
6/25/2014	203.28	175.84	2.5 per Acre	23.1	Lake One	Mix: 123464 x 4, Mix: 123465 x 4
6/26/2014	101.64	87.92	2.5 per Acre	9.3	Lake One	Mix: 123464 x 2, Mix: 123465 x 2

Appendix D

Seed and Mulch Photographs

Unloading and Staging Mulch Deliveries.

Seed Bed Preparations at Lake One.

Seed Bed Preparations at Lake One.

Mulching Operations at Lake One.

Mulching Operations at Lake One.

Seeding Operations at Lake One.

Seeding Operations at Lake One.

Seeding Operations at Lake One.

APPENDIX G

PHOTOGRAPHIC DOCUMENTATION

CONSTRUCTION QUALITY ASSURANCE REPORT
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

PHOTO 1

August 16, 2013
FMRS excavating material
from the
Razorback Ridge Borrow Area.

PHOTO 2

March 28, 2014
FMRS hauling cover
material from Borrow Area B.

PHOTO 3

January 11 - January 17, 2014
FMRS excavating QA test pits for EMC2 to measure cover thicknesses within IR-018.

PHOTO 4

February 15 - February 21, 2014
FMRS scarifying the final approved cover surface in IR-018.

PHOTO 5

February 8 - February 14, 2014
Placement of cover
material in IR 027.

PHOTO 6

March 8 - March 14, 2014
FMRS crews placing cover
material in IR 032.

PHOTO 7

March 15 - March 21, 2014
FMRS crews placing
cover material in IR 033.

PHOTO 8

March 22 - March 28, 2014
FMRS crews placing
cover material in IR 033.

PHOTO 9

March 29 - April 4, 2014
FMRS crews placing cover material in IR-033.

PHOTO 10

April 12 - April 18, 2014
FMRS crews placing cover material in IR 033.

PHOTO 11

January 18 - January 24, 2014
Placing Gila Bedding from the south end of the Razorback Ridge Borrow Area in plug-dumps above Channel P1, Reach 3 in approved IR-020.

PHOTO 12

January 25 - January 31, 2014
Compaction of Gila Bedding in Channel P1, Reach 3.

PHOTO 13

January 25 - January 31, 2014
Subgrade surface preparation
in Channel P1, Reach 3.

PHOTO 14

January 25 - January 31, 2014
Removal of soft, saturated
tailing material in
Channel P1, Reach 1.

PHOTO 15

February 8 - February 14, 2014
Compaction of liner bedding surface in Channel P1, Reach 2 (Lined Channel).

PHOTO 16

February 15 - February 21, 2014
FMRS completed preparing the HDPE liner bedding surface and anchor trench construction in Channel P1, Reach 2.

PHOTO 17

February 15 -
February 21, 2014
AEG installing 60-mil
textured HDPE Liner
in Channel P1, Reach 2.

PHOTO 18

February 22 -
February 28, 2014
Destructive testing of the
liner installation in
Channel P1, Reach 2

PHOTO 19

February 22 -
February 28, 2014
Placement of
additional sandbags
in the anchor trench
to resist wind gusts.

PHOTO 20

March 8 - March 14, 2014
FMRS crews placing
fine sand bedding material
in Channel P1, Reach 2.

PHOTO 21

March 15 - March 21, 2014
FMRS crews placing
Gila bedding material in
Channel P1 Reach 2.

PHOTO 22

March 15 - March 21, 2014
FMRS placing fine sand
bedding material
in Channel P1.

PHOTO 23

July 12 - July 18, 2014
FMRS constructing
Outslope Channels 08 and 09.

PHOTO 24

July 26 - August 1, 2014
FMRS constructing Down
Drain 2.

PHOTO 25

March 1 - March 7, 2014
FMRS placing 3" D50
riprap in Channel P1, Reach 3.

PHOTO 26

April 5 - April 11, 2014
FMRS placing 3" D50
riprap in Channel S1, Reach 2.

PHOTO 27

July 19 - July 25, 2014
FMRS placing 3" D50
riprap in Outslope Channel 08.

PHOTO 28

December 27, 2013 -
January 3, 2014
Slag material from the
north end of the Slag Pile
being placed as fill on
the east crest.

PHOTO 29

April 5 - April 11, 2014
FMRS continuing
subgrade regrading operations
on the top of the Slag Pile.

PHOTO 30

December 27, 2013 -
January 3, 2014
Regrading of outslopes and channel benches on the northern slope of the Slag Pile.

PHOTO 31

January 4 - January 10, 2014
Grading the east crest and the upper channel benches and outslopes on the Slag Pile.

PHOTO 32

January 4 - January 10, 2014
Excavating slag material
from the base of the
Slag Pile and placing it
over the Slag Pile
toe seep collection system.

PHOTO 33

January 11 - January 17, 2014
FMRS dozer-pushing
slag material from the
base of the Slag Pile
to cover over the
seep collection system.

PHOTO 34

January 11 - January 17, 2014
FMRS placing cover
material in approved
IR-019 on top of the Slag Pile.

PHOTO 35

January 18 - January 24, 2014
Placing cover material
in approved IR-019 on
top of the Slag Pile.

PHOTO 36

July 12 - July 18, 2014
FMRS placing cover in approved IR-69 on the northeast outslope of the Slag Pile.

PHOTO 37

July 5 - July 11, 2014
FMRS placing cover on the east outslope of the Slag Pile.

PHOTO 38

July 12 - July 18, 2014
FMRS excavating QA
test pits for cover thickness
measurement within IR-63.

PHOTO 39

September 2, 2014
Completed Down Drain 1.

PHOTO 40

September 2, 2014
Down Drain 2 prior to
filling voids with crusher fines.

PHOTO 41

September 2, 2014
FMRS crews working on
Down Drain 2.

PHOTO 42

September 2, 2014
Outslope Channel to
Down Drain 2 transition
under construction.

PHOTO 43

January 21, 2013
(Google Image)
Slag Pile prior to reclamation, looking southwest.

PHOTO 44

September 10, 2014
Completed Slag Pile, looking southwest.

PHOTO 45

January 21, 2013
(Google Image)
Lake One prior to reclamation, looking north.

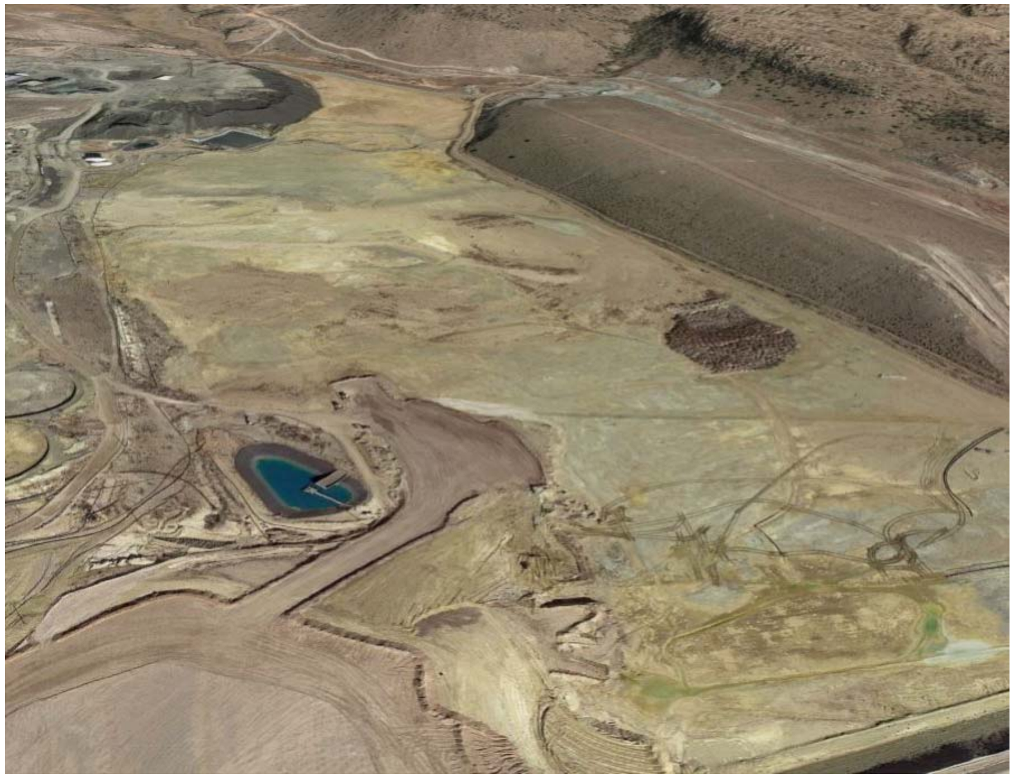


PHOTO 46

September 10, 2014
Completed Lake One Reclamation area, looking north.

PHOTO 47

January 21, 2013
North side of Slag Pile prior to reclamation, looking southeast.

PHOTO 48

September 10, 2014
North side of completed Slag Pile, looking southeast.

PHOTO 49

September 10, 2014
East side of
completed Slag Pile,
looking southwest.

PHOTO 50

September 10, 2014
Completed Slag Pile and
Lake One Reclamation area,
looking southwest.

Emc²

PHOTO 51

January 21, 2013
(Google Image)
Slag Pile and Lake One
prior to reclamation,
looking southwest.

PHOTO 52

September 10, 2014
Completed Slag Pile and
Lake One Reclamation area,
looking southwest.

APPENDIX H

ACB RECORD DOCUMENTATION

CONSTRUCTION QUALITY ASSURANCE REPORT
LAKE ONE RECLAMATION
CHINO MINES COMPANY – HURLEY, NEW MEXICO

Golder Associates

Date: September 9, 2014

Project: Contech Armorflex ACB Installation
Freeport McMoRan Miami Inc.
Lake One Project
Downdrain DD-1
Golder Project No. 140-1252

Project Certification

I, the undersigned, as a representative of Golder Associates Inc., certify that the contractor has satisfactorily completed the Armorflex ACB installation for downdrain DD-1 in accordance with the Contech construction plans (Contech Project No. 495786) from the geotextile (above the prepared subgrade) to the Armorflex concrete mattress (including the block infill, grout seams, and anchor trenches).

Signed: B Bronson
Brent Bronson

Title: Principal

BRENT R. BRONSON
NEW MEXICO
18543
PROFESSIONAL ENGINEER
9-9-14

Golder Associates Inc.
44 Union Boulevard, Suite 300
Lakewood, CO 80228 USA
Tel: (303) 980-0540 Fax: (303) 985-2080 www.golder.com

Golder Associates

Date: September 9, 2014

Project: Contech Armorflex ACB Installation
Freeport McMoRan Miami Inc.
Lake One Project
Downdrain DD-2
Golder Project No. 140-1252

Project Certification

I, the undersigned, as a representative of Golder Associates Inc., certify that the contractor has satisfactorily completed the Armorflex ACB installation for downdrain DD-2 in accordance with the Contech construction plans (Contech Project No. 495786) from the geotextile (above the prepared subgrade) to the Armorflex concrete mattress (including the block infill, grout seams, and anchor trenches).

Signed: B Bronson
Brent Bronson

Title: Principal

BRENT R. BRONSON
NEW MEXICO
18543
PROFESSIONAL ENGINEER
9-9-14

Golder Associates Inc.
44 Union Boulevard, Suite 300
Lakewood, CO 80228 USA
Tel: (303) 980-0540 Fax: (303) 985-2080 www.golder.com

NOTES:

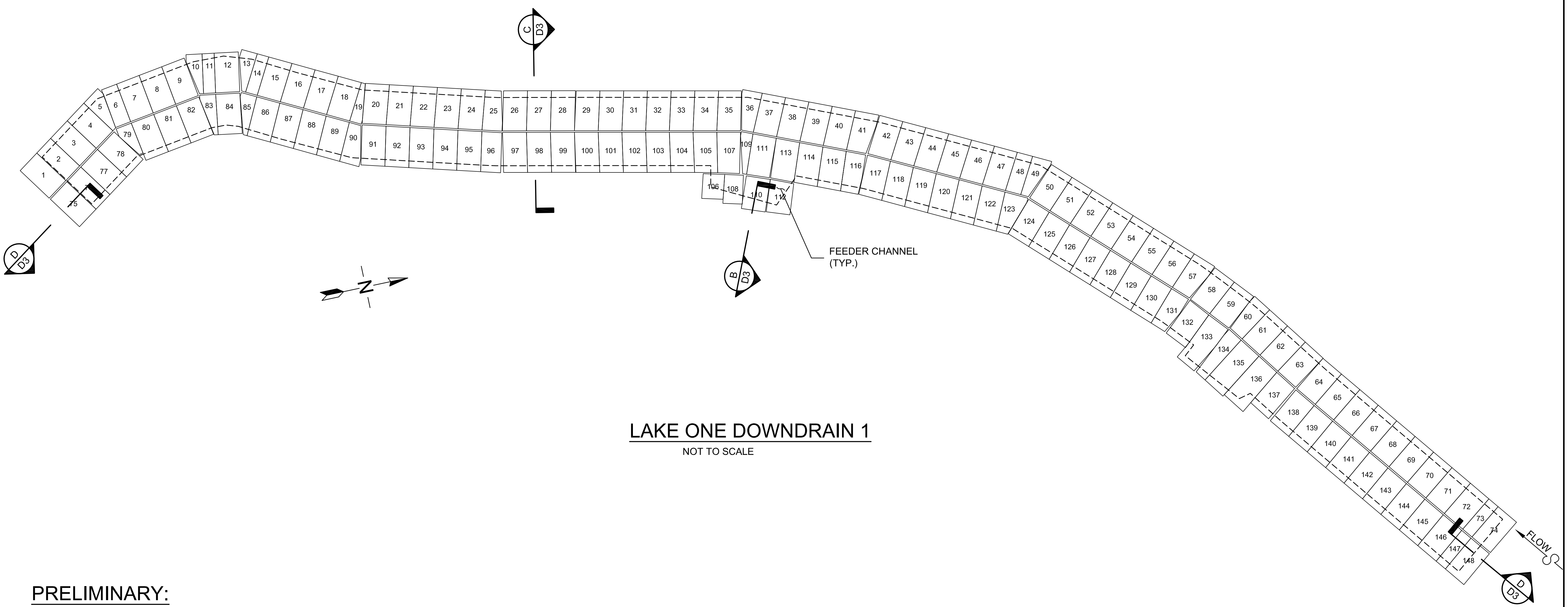
1. ALL MAT LENGTHS ARE AS SPECIFIED ON THE SPREADSHEET.
2. ALL MAT WIDTHS ARE AS SPECIFIED ON THE SPREADSHEET.
3. TOE ANCHORS AND SLOPE FACTORS HAVE BEEN ADDED TO LENGTHS OF ALL MATS.
4. ALL VOIDS GREATER THAN 2" BETWEEN MATS SHALL BE FILLED WITH 4,000PSI CONCRETE.

CHINO LAKE ONE
DOWNDRAIN 1

MAT QUANTITIES:

CL 40TSS REGULAR	13,040 SQ. FT.
CL 40TSS SPECIAL	1,258 SQ. FT.
CL 40TSS TOTAL	14,298 SQ. FT.

HURLEY, NEW MEXICO



LAKE ONE DOWNDRAIN 1

NOT TO SCALE

PRELIMINARY:

INFORMATION CONTAINED IN THIS DRAWING IS TO BE USED ONLY AS AN AID TO THE BUYER AND IS NOT TO BE CONSTRUED AS ENGINEERING ADVICE OR AS A WARRANTY AS TO THE QUANTITY REQUIRED OR THE SUITABILITY OF THE FABRIC OR BLOCK FOR A PARTICULAR USE. AUTHORIZATION TO SHIP FABRIC OR BLOCK DESCRIBED HERE EITHER WRITTEN OR VERBAL WILL BE RECOGNIZED AS BUYER'S CONFIRMATION OF THE ACCURACY OF THESE DRAWINGS. NO CREDIT WILL BE ALLOWED FOR ERROR AFTER REVIEW AND ACCEPTANCE BY CLIENT.

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ARMORTEC
Erosion Control Solutions

CONTECH
CONTRACT
DRAWING

CHINO LAKE ONE
DOWNDRAIN 1

HURLEY, NEW MEXICO

PROJECT No.:	SEQ. No.:	DATE:
472051	10	3/11/2014
DESIGNED: MBS		DRAWN: MAH
CHECKED: MBS		APPROVED: ----
SHEET NO.: CT1 OF CT1		

NOTES:

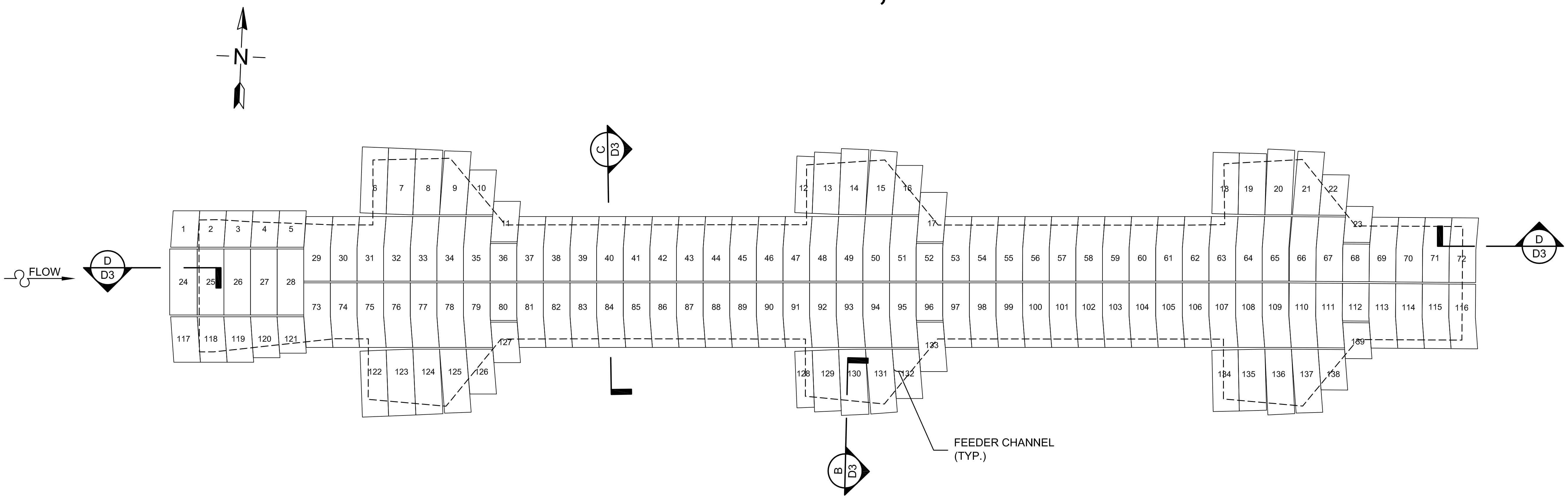
1. ALL MAT LENGTHS ARE AS SPECIFIED ON THE SPREADSHEET.
2. ALL MAT WIDTHS ARE AS SPECIFIED ON THE SPREADSHEET.
3. TOE ANCHORS AND SLOPE FACTORS HAVE BEEN ADDED TO LENGTHS OF ALL MATS.
4. ALL VOIDS GREATER THAN 2" BETWEEN MATS SHALL BE FILLED WITH 4,000PSI CONCRETE.

CHINO LAKE ONE
DOWNDRAIN 2

HURLEY, NEW MEXICO

MAT QUANTITIES:

CL 40TSS TOTAL 18,515 SQ. FT.



LAKE ONE DOWNDRAIN 2
NOT TO SCALE

PRELIMINARY:

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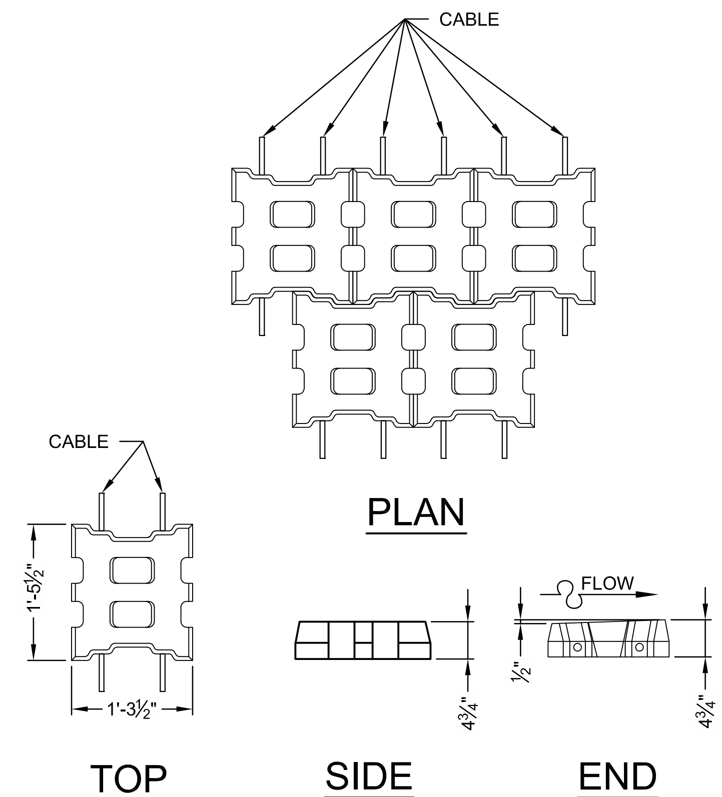
CHINO LAKE ONE
DOWNDRAIN 2

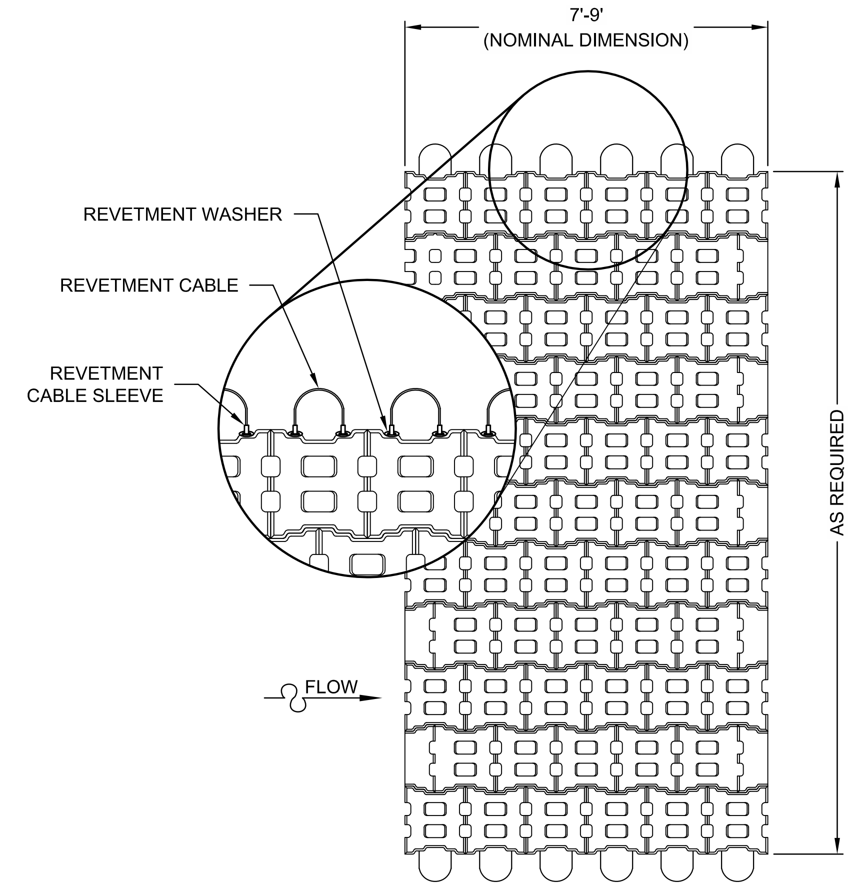
HURLEY, NEW MEXICO

PROJECT No.: 472051	SEQ. No.: 20	DATE: 3/11/2014
DESIGNED: MBS		DRAWN: MAH
CHECKED: MBS		APPROVED: ----
SHEET No.: CT1 OF CT1		



TYP. 40T SIDE TAPER BLOCK (1)

NOT TO SCALE



TYP. 40TSS MAT (2)

NOT TO SCALE

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CHINO LAKE ONE
DOWNDRAINS 1 & 2
STANDARD DETAILS
HURLEY, NEW MEXICO

PROJECT No.:	SEQ. No.:	DATE:
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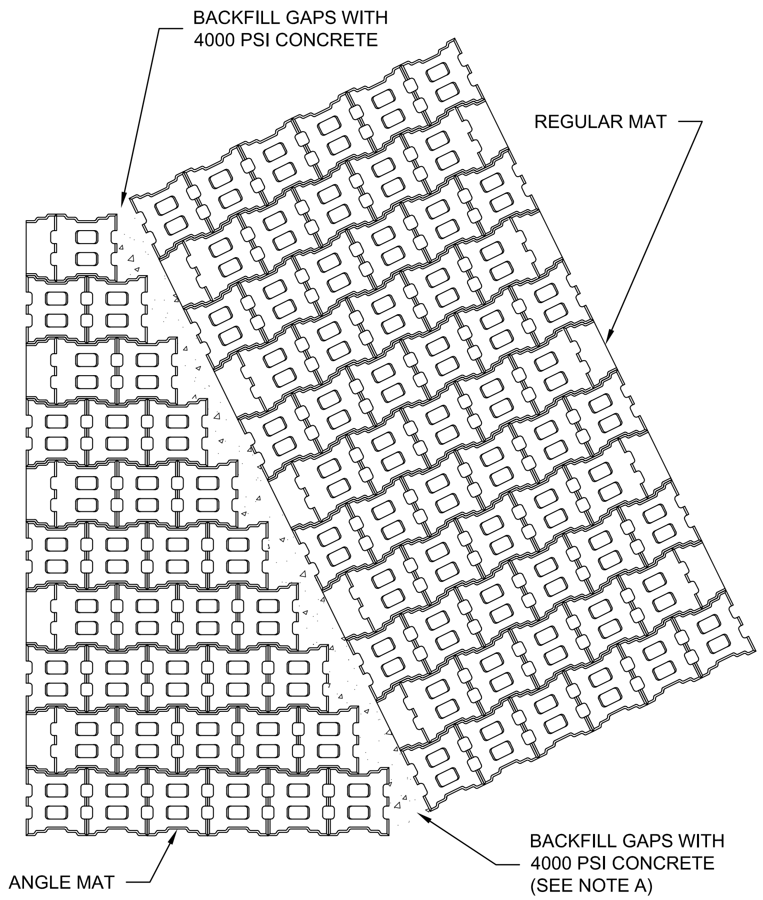
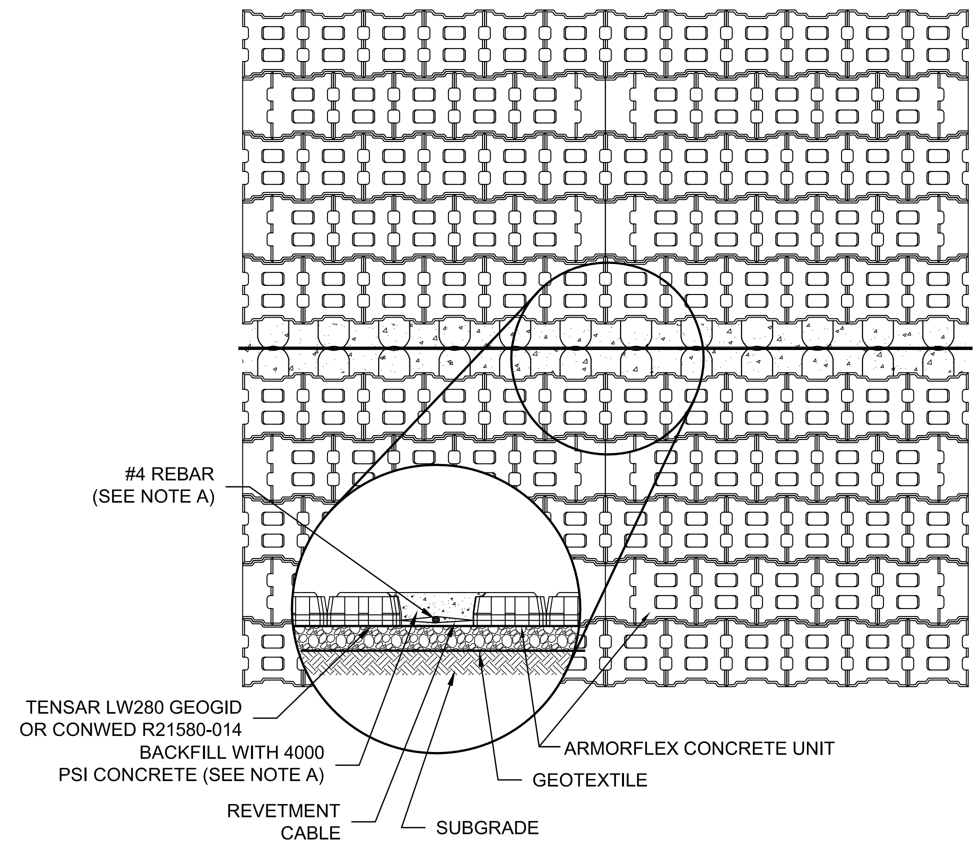
DESIGNED: MBS		DRAWN: MAH
CHECKED: MBS		APPROVED: ----
SHEET NO.: D1 OF D3		



NOTE:
ANGLE MATS WILL BE CONSTRUCTED
BY OMITTING THE REQUIRED UNITS SO THE
REQUIRED MAT DIMENSIONS CAN BE OBTAINED.

TYP. ANGLE MAT (5)

NOT TO SCALE



TYP. MAT TO MAT W/ DRAINAGE LAYER (6A)

NOT TO SCALE

NOTE A:
FOR MAT TO MAT CLOSURE DETAIL AND ANGLE MATTRESS, IF VOID SPACE IS LESS THAN 12", PLACE ONE #4 REBAR (MIN. SIZE) INTO VOID AND BACKFILL WITH 4000PSI CONCRETE. ENSURE FINISHED CONCRETE IS LEVEL WITH SURROUNDING UNITS. (VOID SPACES GREATER THAN 12" REQUIRE 2 - #4 BARS @ EQUAL SPACING).

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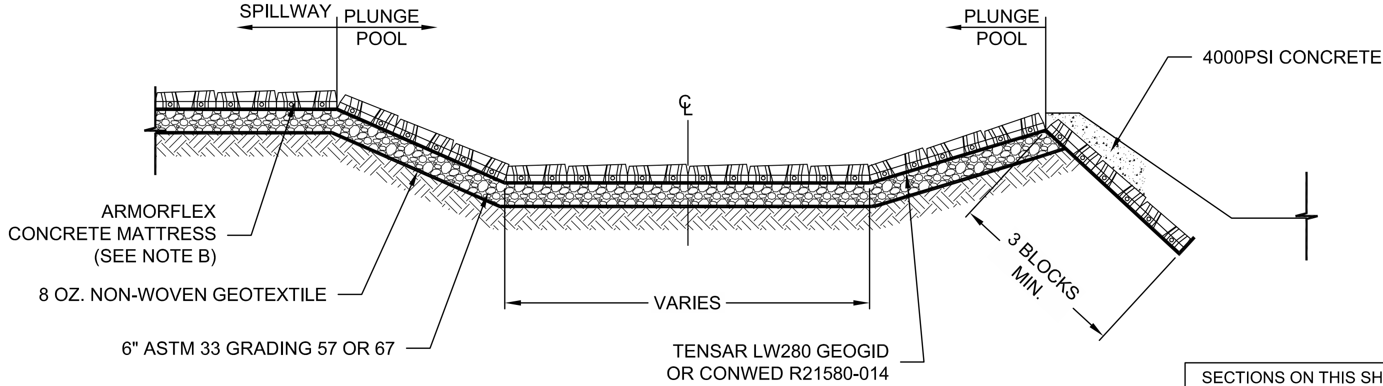
CONTRACT
DRAWING

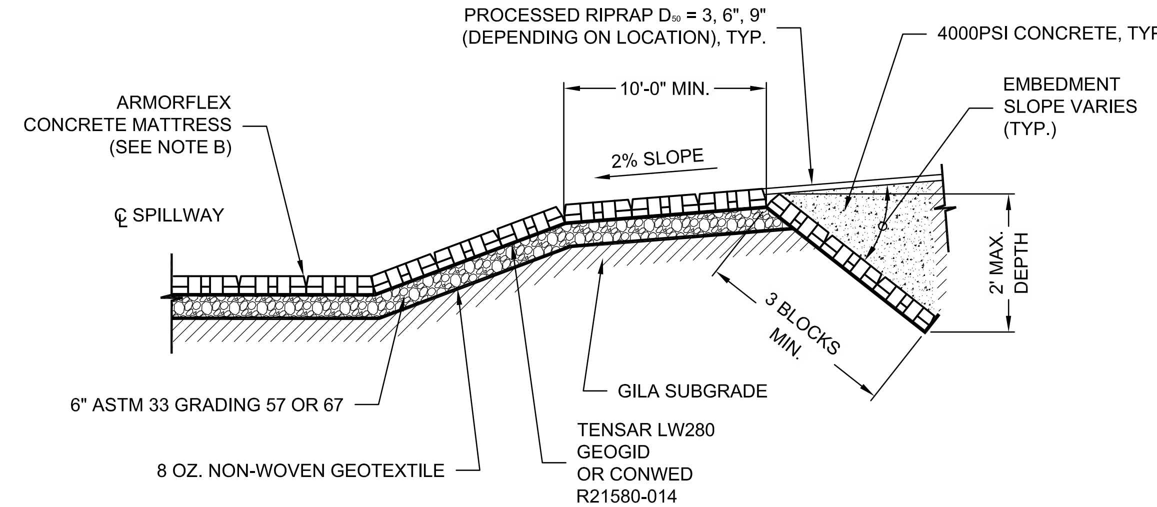
CHINO LAKE ONE
DOWNDRAINS 1 & 2
STANDARD DETAILS
HURLEY, NEW MEXICO

PROJECT No.: 495786	SEQ. No.: 10	DATE: 3/11/2014
DESIGNED: MBS		DRAWN: MAH
CHECKED: MBS		APPROVED: ----
SHEET NO.: D2 OF D3		



SECTIONS ON THIS SHEET SHOWN WITH DRAINAGE LAYER AND GEOGRID

SECTION A
NOT TO SCALE



SECTION B
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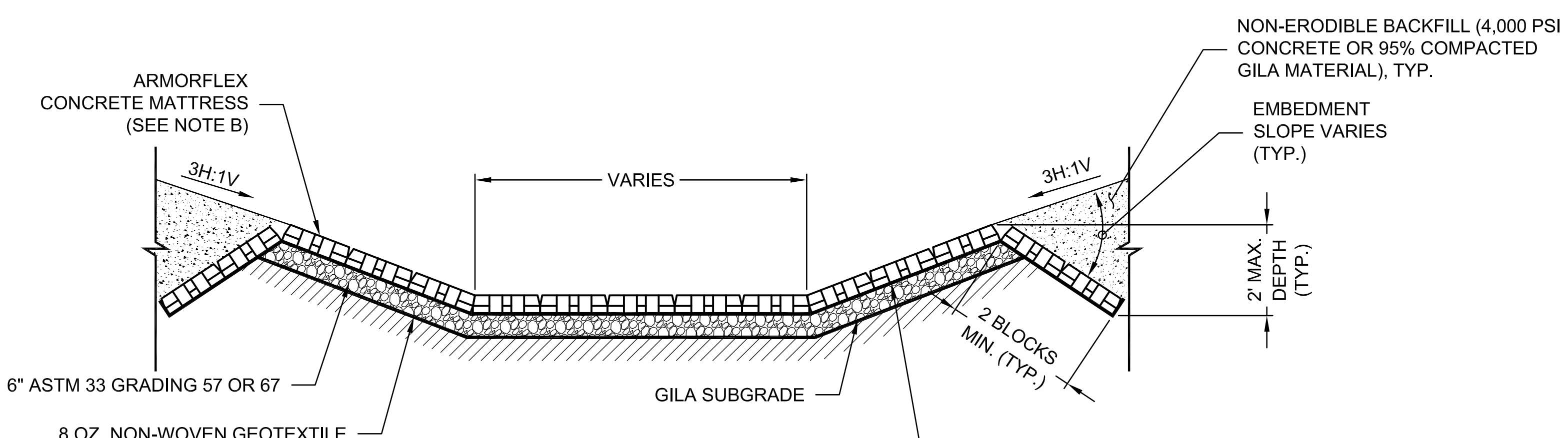
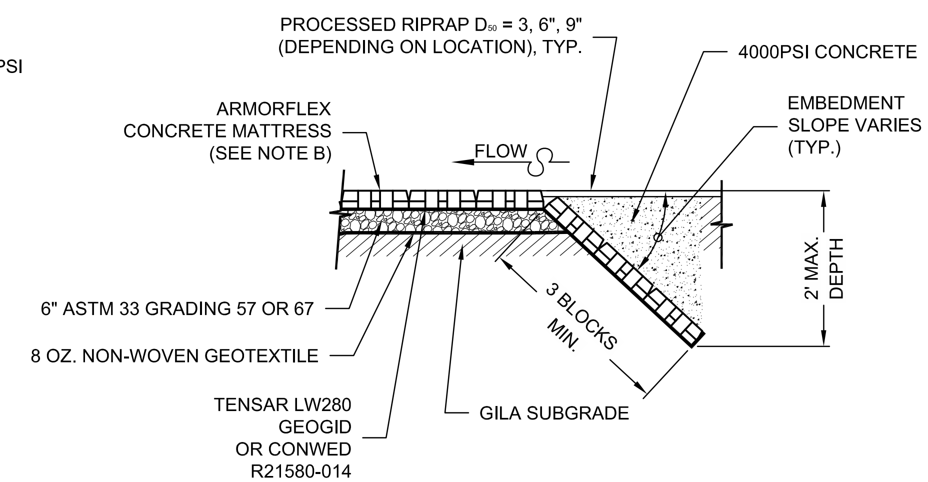


SECTION C
NOT TO SCALE



SECTION D
NOT TO SCALE

NOTE B:
BACKFILL OPEN CELL UNITS WITH NATIVE MATERIAL .
MINIMUM BACKFILL DEPTH 1½".

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CONTECH CONTRACT DRAWING

CHINO LAKE ONE DOWNDRAINS 1 & 2 STANDARD DETAILS HURLEY, NEW MEXICO

PROJECT No.:	SEQ. No.:	DATE:
495786	10	3/11/2014
DESIGNED: MBS		DRAWN: MAH
CHECKED: MBS		APPROVED: ----
SHEET NO.: D3 OF D3		