

FLORENCE COPPER, INC.
UIC PERMIT APPLICATION
FLORENCE COPPER PROJECT – PRODUCTION TEST FACILITY

**ATTACHMENT F – MAPS & CROSS SECTIONS OF
GEOLOGIC LITHOLOGY**

Table of Contents

Table of Contents 1
List of Figures..... 1
F.1 Introduction..... 2

List of Figures

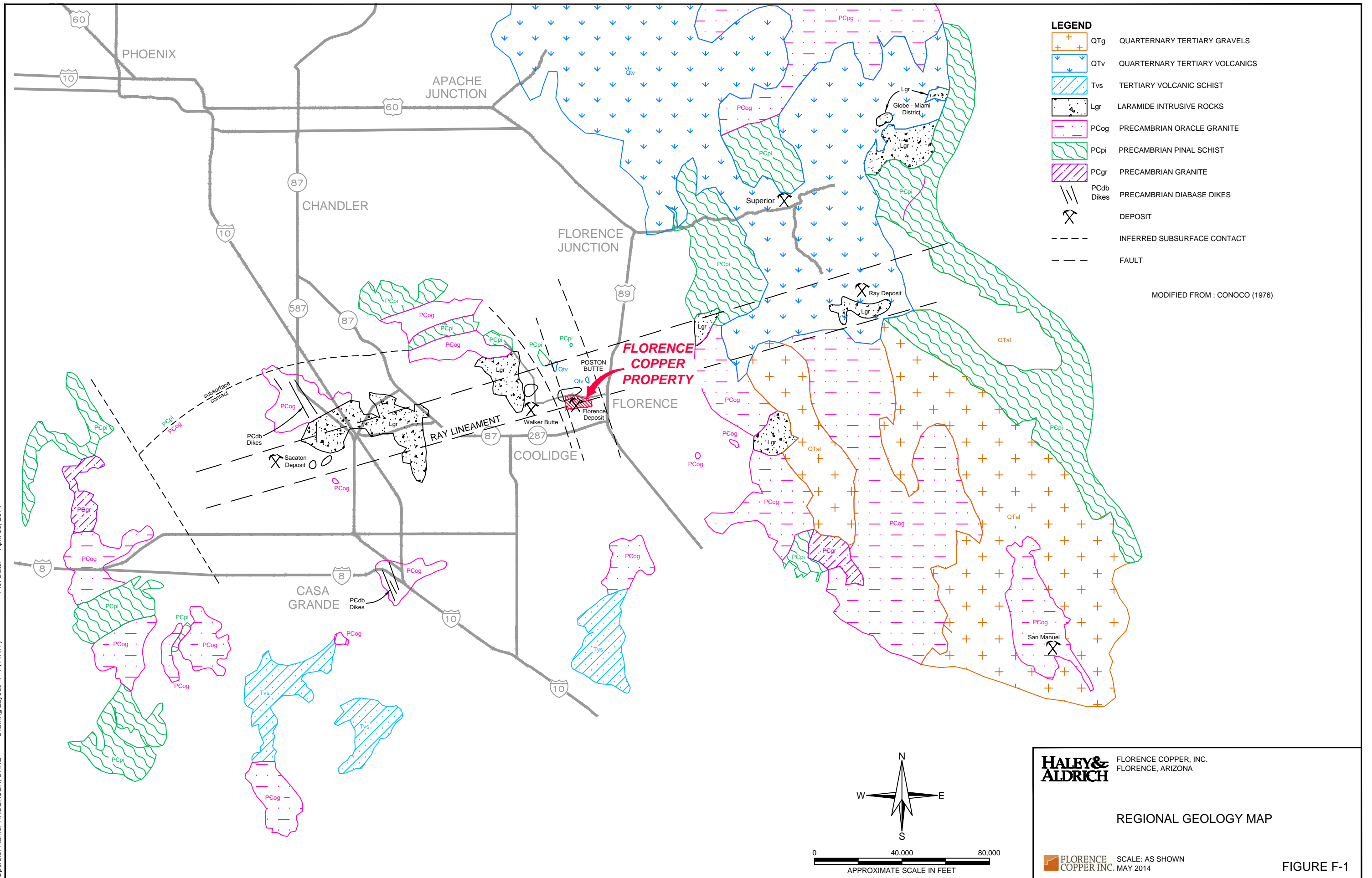
- Figure F-1 Regional Geology Map
- Figure F-2 Regional Cross-Section Location Map
- Figure F-3 Florence Copper Site Cross-Section Location Map
- Figure F-4 Generalized Regional Geologic Cross Section A-A'
- Figure F-5 Generalized Regional Geologic Cross Section B-B'
- Figure F-6 Generalized Geologic Cross Section B''-B'''
- Figure F-7 Generalized Geologic Cross Section C-C'
- Figure F-8 Generalized Geologic Cross Section D-D'
- Figure F-9 Generalized Geologic Cross Section E-E'
- Figure F-10 Generalized Geologic Cross Section F-F'
- Figure F-11 Plan map showing location of Geologic cross-sections
- Figure F-12 EW Geologic Cross-Section 746167 N Looking North
- Figure F-13 NS Geologic Cross-Section 647900 E Looking East

F.1 Introduction

This Attachment F has been prepared in support of an Application by Florence Copper, Inc. (Florence Copper) to the United States Environmental Protection Agency (USEPA) for issuance of an Underground Injection Control Class III (Area) Permit (UIC Permit) for the planned Production Test Facility (PTF), to be located at the Florence Copper Project (FCP) property in Pinal County, Arizona. As required for Attachment F of USEPA Form 7520-6, this Attachment includes maps and cross sections depicting the geologic structure in the area of the PTF and the FCP site.

Figure F-1 shows the regional geologic structure in the vicinity of the FCP property. Figures F-2 and F-3 show the locations of regional and site scale cross sections depicted on Figures F-4 through F-10. Figure F-11 is a cross-section location map showing the location of two cross sections that transect the PTF well field. Figures F-12 and F-13 are site scale cross sections that transect the PTF well field.

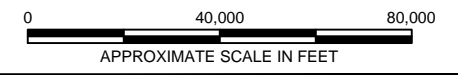
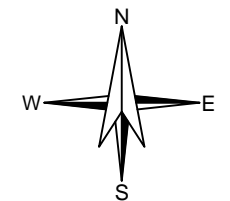
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 Plot Date: April 30, 2014
 Drawing Layout: F-1 (11X17)



LEGEND

	QTg	QUATERNARY TERTIARY GRAVELS
	QTV	QUATERNARY TERTIARY VOLCANICS
	Tvs	TERTIARY VOLCANIC SCHIST
	Lgr	LARAMIDE INTRUSIVE ROCKS
	PCog	PRECAMBRIAN ORACLE GRANITE
	PCpi	PRECAMBRIAN PINAL SCHIST
	PCgr	PRECAMBRIAN GRANITE
	PCdb	PRECAMBRIAN DIABASE DIKES
		DEPOSIT
		INFERRED SUBSURFACE CONTACT
		FAULT

MODIFIED FROM : CONOCO (1976)



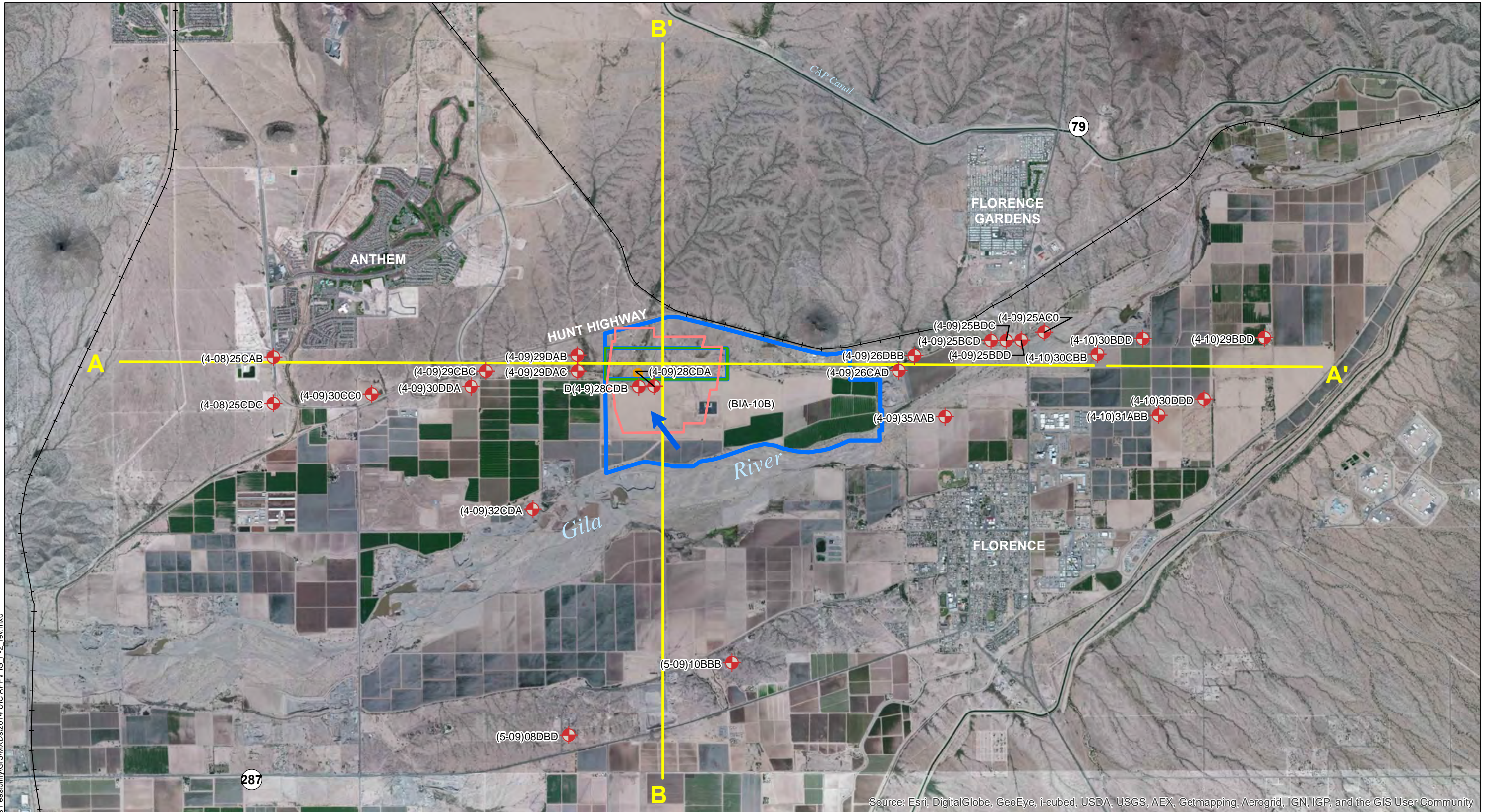
HALEY & ALDRICH

FLORENCE COPPER, INC.
 FLORENCE, ARIZONA

REGIONAL GEOLOGY MAP

FLORENCE COPPER INC. SCALE: AS SHOWN
 MAY 2014

FIGURE F-1

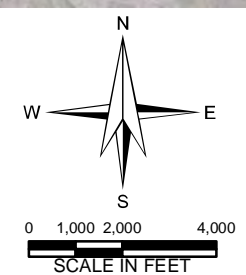


Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

G:\Projects\Curis_Resources\38706-Curis_Feasibility\GIS\MXDs\2014 UIC APP\FIG_F-2_rev.mxd

Legend

- AQUIFER EXEMPTION BOUNDARY
- PTF WELL FIELD
- CURIS PROPERTY BOUNDARY
- STATE MINERAL LEASE BOUNDARY
- REGIONAL CROSS SECTION LOCATION LINE
- + LOCATION OF WELL REPRESENTED IN CROSS SECTIONS A-A' AND B-B'
- TYPICAL GROUNDWATER FLOW DIRECTION IN USDWs WITHIN THE AREA OF REVIEW

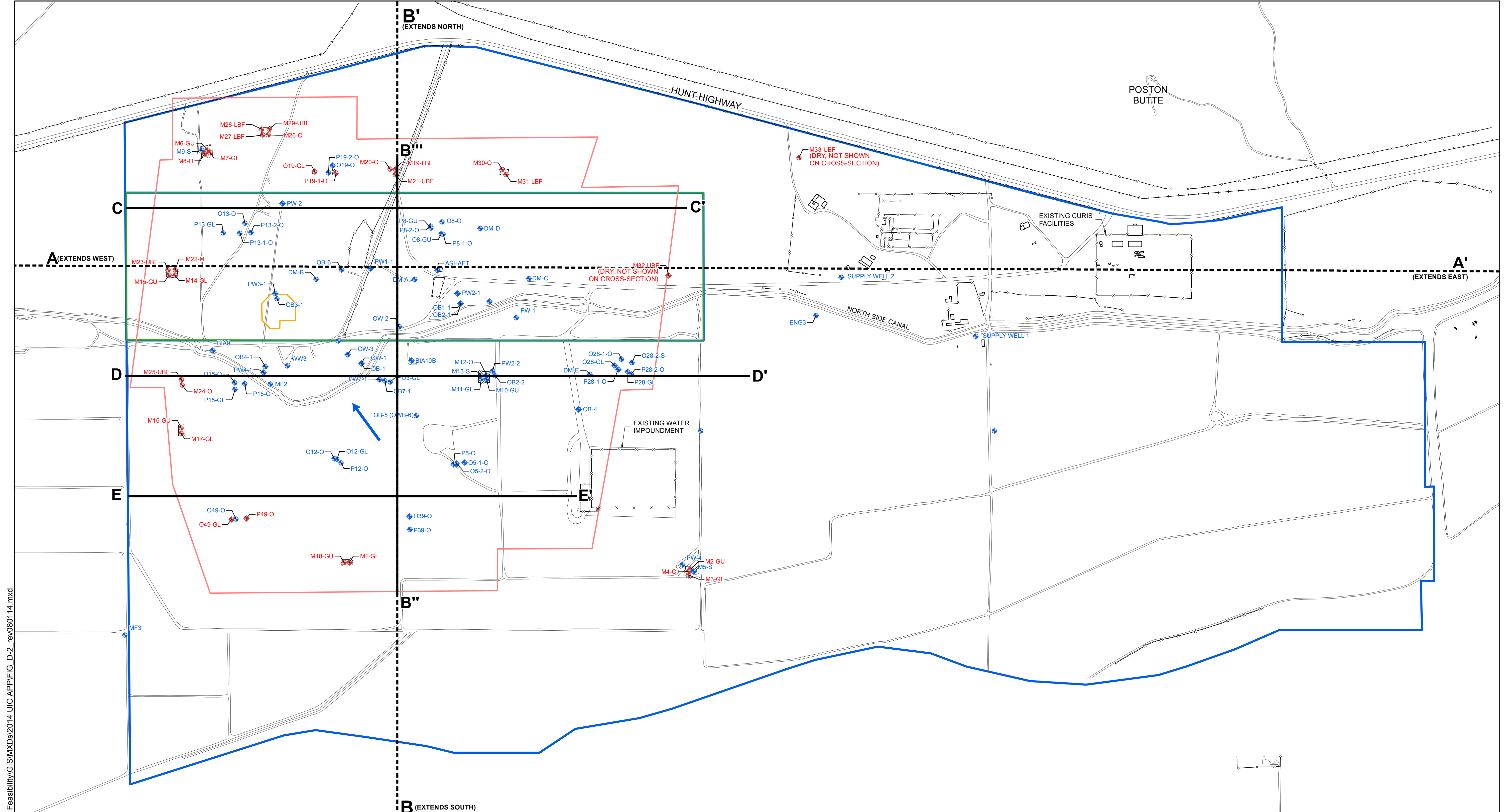


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FLORENCE, ARIZONA

REGIONAL CROSS SECTION LOCATION MAP

FLORENCE COPPER INC. MAY 2014

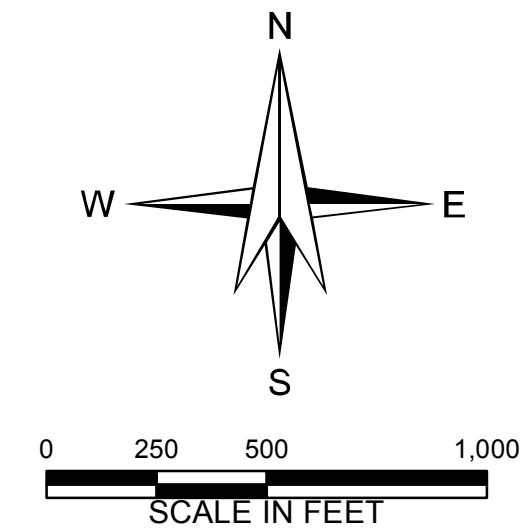
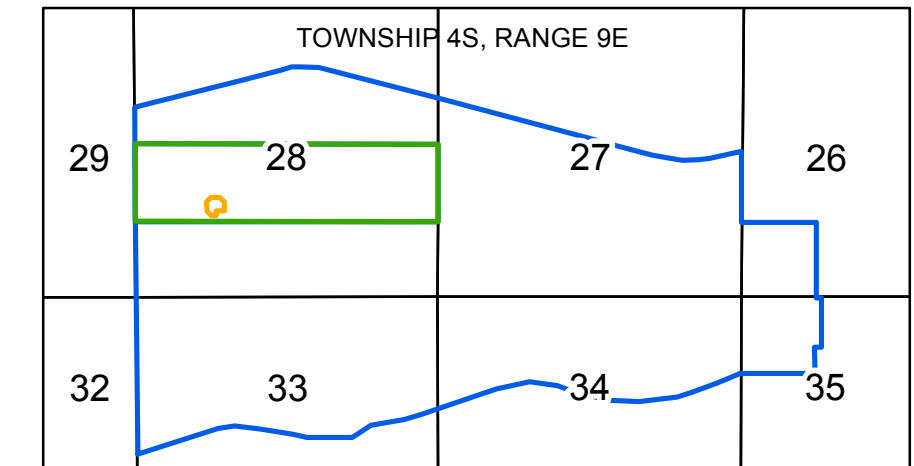
FIGURE F-2



G:\Projects\Curis Resources\38706-Curis Feasibility\GIS\MXDs\2014 UIC APP\FIG_D-2_rev080114.mxd

Legend

- ◆ POC WELL
- ◆ NON POC WELL
- ▭ PTF WELL FIELD
- ▭ STATE MINERAL LEASE BOUNDARY
- ▭ CURIS PROPERTY BOUNDARY
- ▭ AQUIFER EXEMPTION BOUNDARY
- REGIONAL CROSS SECTION LOCATION LINES A-A' AND B-B'
- SITE CROSS SECTION LOCATION LINES B''-B'', C-C', D-D' AND E-E'
- ➔ TYPICAL GROUNDWATER FLOW DIRECTION IN USDW's WITHIN THE AREA OF REVIEW



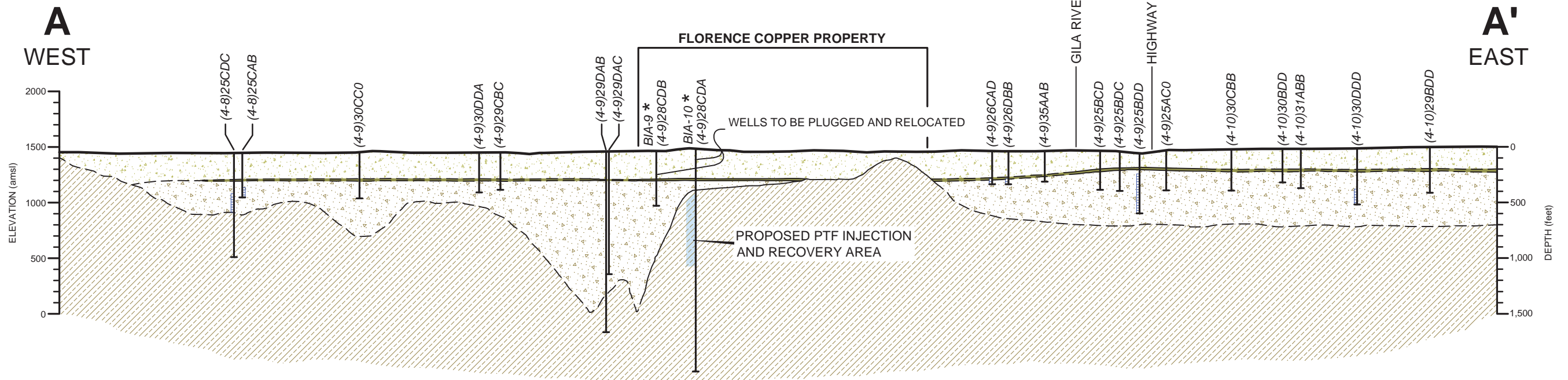
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FLORENCE, ARIZONA

**FLORENCE COPPER SITE
CROSS SECTION
LOCATION MAP**

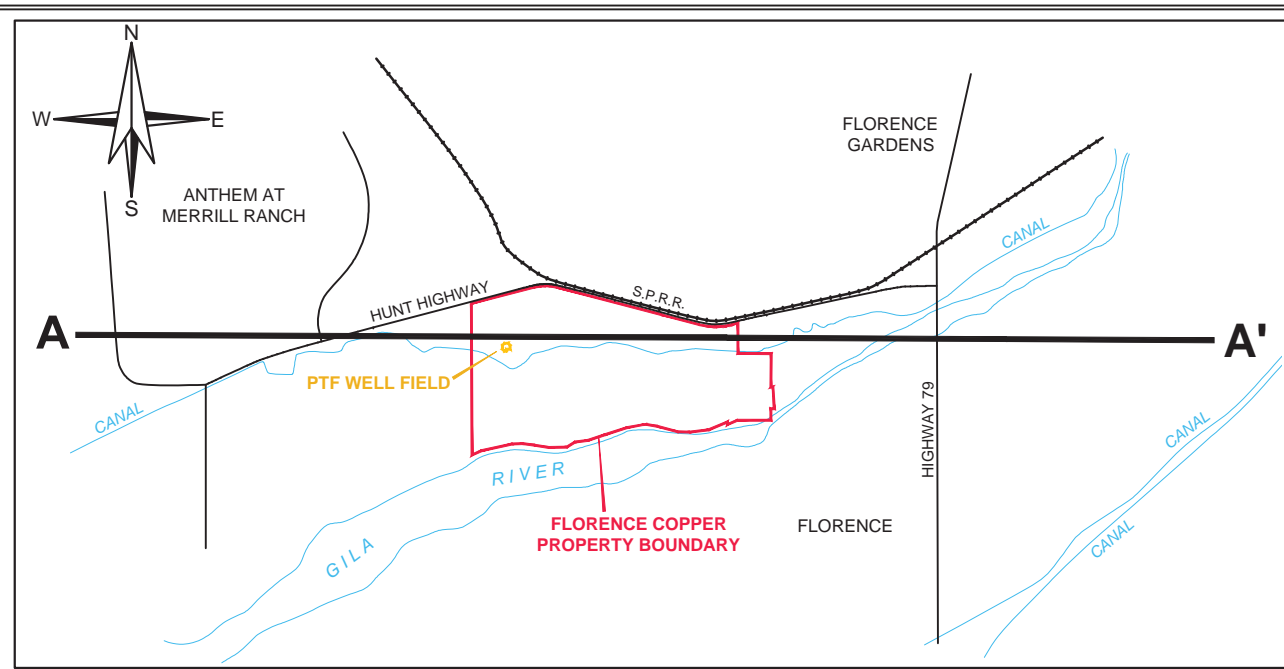
FLORENCE COPPER INC. JULY 2014

FIGURE F-3

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 Operator Name: CANDREVA, LAUREN Drawing Layout: ES-STD (11X17) Plot Date: August 1, 2014



KEYMAP



LEGEND

- UPPER BASIN FILL ALLUVIAL UNIT
- MIDDLE FINE-GRAINED UNIT
- LOWER BASIN FILL ALLUVIAL UNIT
- BEDROCK

APPROXIMATE WELL LOCATION
 (GENERALLY PROJECTED ONTO CROSS SECTION)

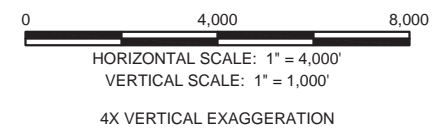
- SCREENED INTERVAL (WHERE DATA IS AVAILABLE)
- TOTAL DEPTH OF BOREHOLE

NOTES: BEDROCK SURFACE TOPOGRAPHY COMPILED BY BROWN AND CALDWELL FROM EXISTING WATER WELL LOGS, EXPLORATORY COREHOLE LOGS AND REGIONAL GRAVITY SURVEYS (BHP COPPER INC. APP APPLICATION, VOLUME II FIGURES 3.4-2 (II) AND 3.4-3 (II), 1996).

* WELLS BIA-9 AND BIA-10B WILL BE PLUGGED AND RELOCATED PRIOR TO COMMERCIAL OPERATIONS.

UNIT CONTACTS DASHED WHERE INFERRED.

ADAPTED FROM BROWN AND CALDWELL 2012.



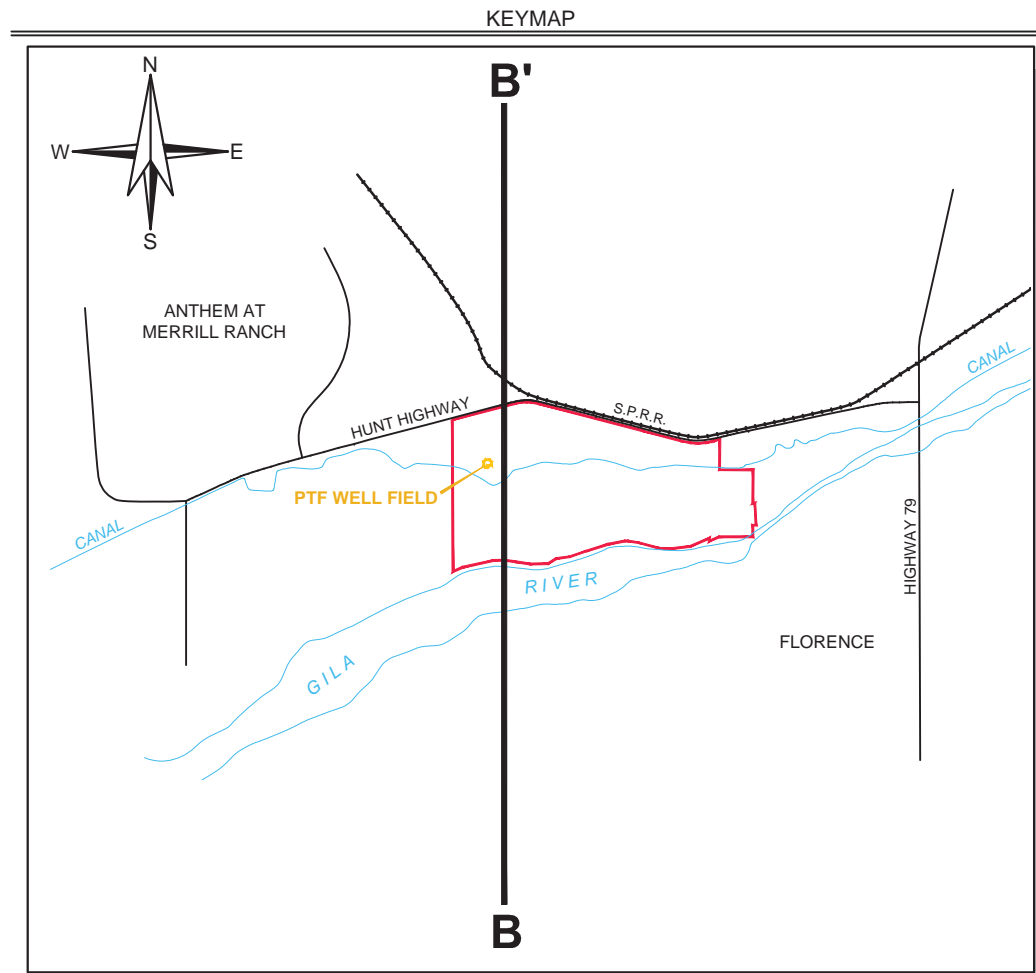
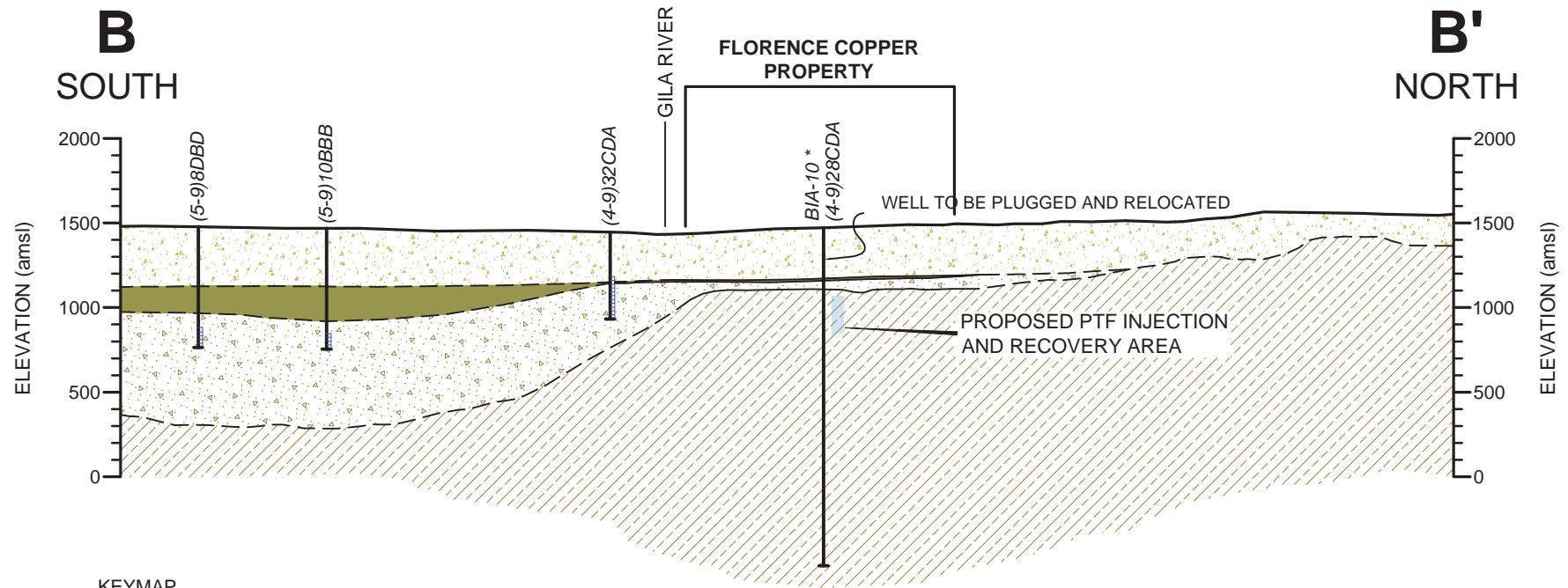
HALEY & ALDRICH FLORENCE COPPER, INC.
 FLORENCE, AZ

GENERALIZED REGIONAL GEOLOGIC CROSS SECTION A-A'





FLORENCE COPPER INC. SCALE: AS SHOWN

FIGURE F-4



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 Operator Name: CANDREVA, LAUREN Drawing Layout: ES-STD (11X17) Plot Date: August 1, 2014



LEGEND

-  UPPER BASIN FILL ALLUVIAL UNIT
-  MIDDLE FINE-GRAINED UNIT
-  LOWER BASIN FILL ALLUVIAL UNIT
-  BEDROCK

**APPROXIMATE WELL LOCATION
(GENERALLY PROJECTED ONTO CROSS SECTION)**

-  SCREENED INTERVAL (WHERE DATA IS AVAILABLE)
-  TOTAL DEPTH OF BOREHOLE

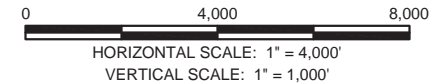
NOTES: BEDROCK SURFACE TOPOGRAPHY COMPILED BY BROWN AND CALDWELL FROM EXISTING WATER WELL LOGS, EXPLORATORY COREHOLE LOGS AND REGIONAL GRAVITY SURVEYS (BHP COPPER INC. APP APPLICATION, VOLUME II FIGURES 3.4-2 (II) AND 3.4-3 (II), 1996).

*WELL BIA-10B WILL BE PLUGGED AND RELOCATED PRIOR TO COMMERCIAL OPERATIONS.

MIDDLE FINE-GRAINED UNIT SHOWN AT WELLS (5-9)8DBD, (5-9)10BBB AND (4-9)32CDA ESTIMATED FROM ADWR WELL REPORTS.

UNIT CONTACTS DASHED WHERE INFERRED.

ADAPTED FROM BROWN AND CALDWELL 2012.

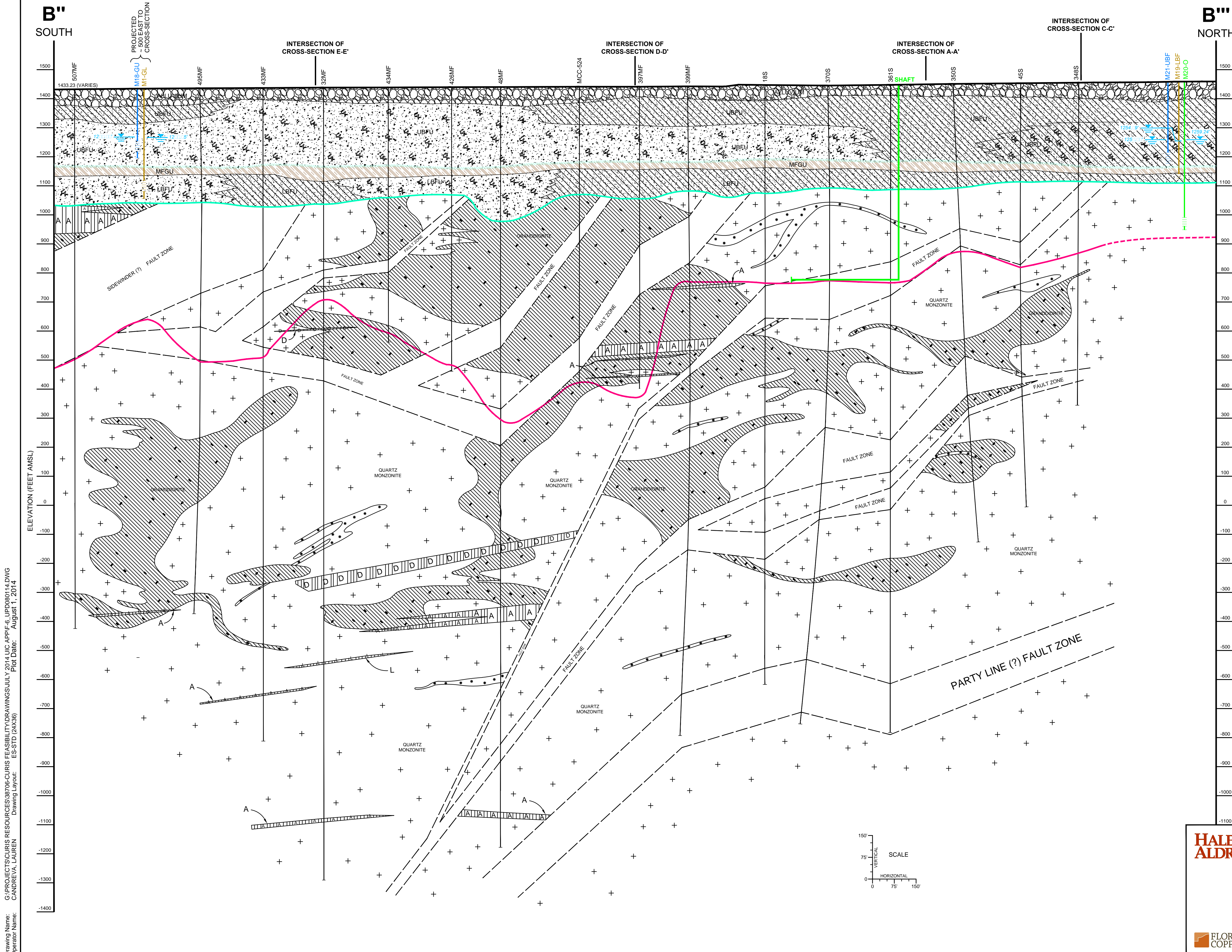


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FLORENCE, AZ

**GENERALIZED REGIONAL GEOLOGIC
CROSS SECTION B-B'**

 FLORENCE COPPER INC. SCALE: AS SHOWN

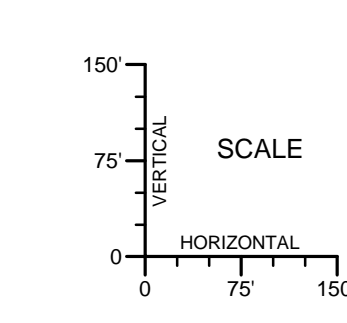
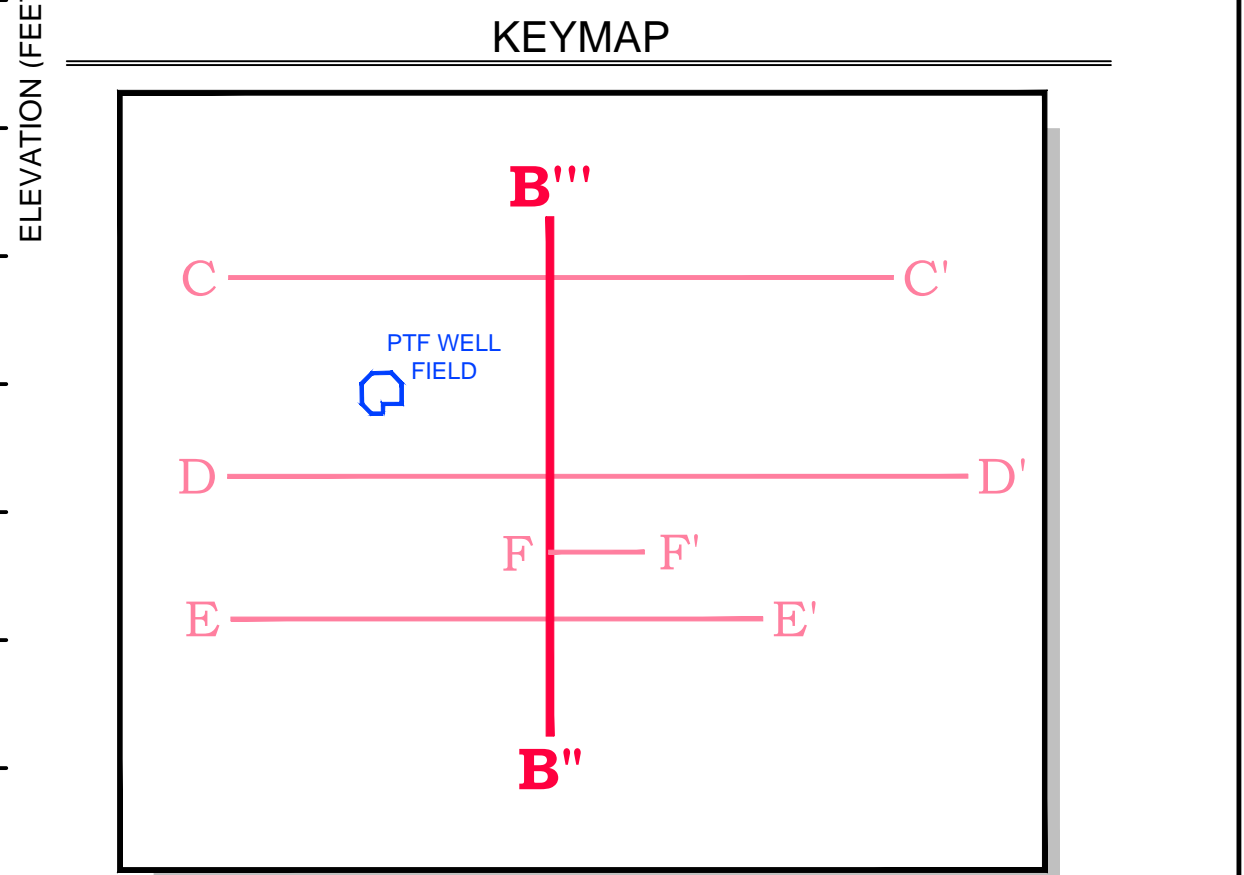


LEGEND

	ALLUVIUM		GRANODIORITE PORPHYRY
	SAND, SILT AND CLAY		QUARTZ MONZONITE PORPHYRY
	SAND, BOULDERS AND CLAY		DIABASE / DIORITE
	SAND, GRAVEL AND BOULDERS		ANDESITE
	SAND AND GRAVEL		DACITE
	SAND, GRAVEL AND CLAY		QUARTZ LATITE
	SILT AND CLAY		INTERPRETED UNCONFORMITY
	BASALT		LBFU/OXIDE CONTACT
	UBFU UPPER BASIN FILL UNIT		OXIDE/SULFIDE CONTACT (DASHED WHERE INFERRED)
	MFGU MIDDLE FINE-GRAINED UNIT (CONFINING FORMATION)		COREHOLE ID EXISTING COREHOLES
	LBFU LOWER BASIN FILL UNIT		CONOCO UNDERGROUND WORKINGS
	WATER LEVEL ELEVATION (MEASURED SEPTEMBER 2011)		SCREENED INTERVAL OF POC WELL
			TOTAL DEPTH OF BOREHOLE

NOTE: UNIT CONTACT AND GEOLOGY WAS DEVELOPED BY BHP COPPER (1995) AND IS BASED ON COREHOLE DATA.

ADAPTED FROM BROWN AND CALDWELL 2012



Drawing Name: G:\PROJECTS\CURIS RESOURCES\38706-CURIS FEASIBILITY\DRAWINGS\JULY 2014 UIC APP\F-6_UIC080114.DWG
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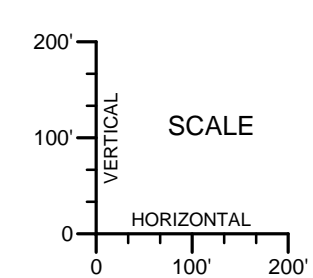
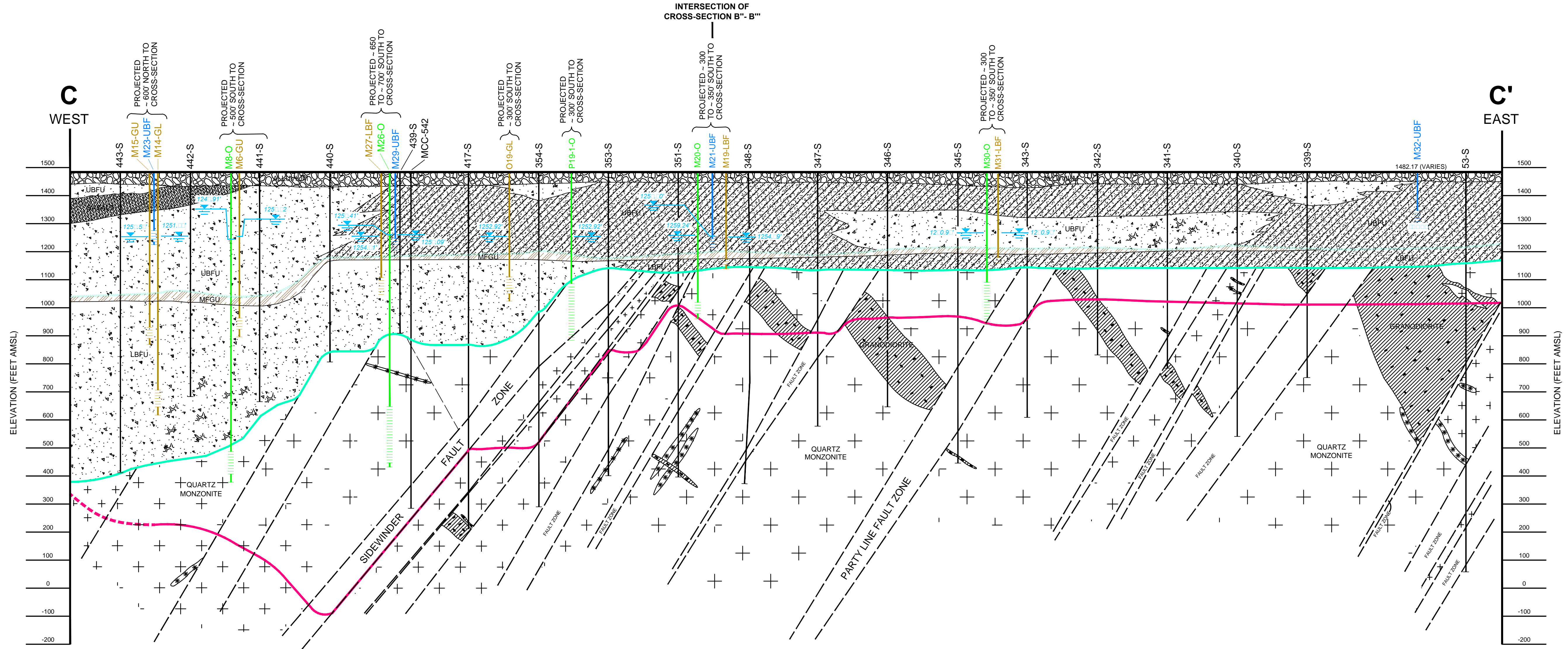
HALEY & ALDRICH FLORENCE COPPER, INC.
FLORENCE, ARIZONA

GEOLOGIC CROSS SECTION B''-B'''

FLORENCE COPPER INC. SCALE: AS SHOWN

FIGURE F-6

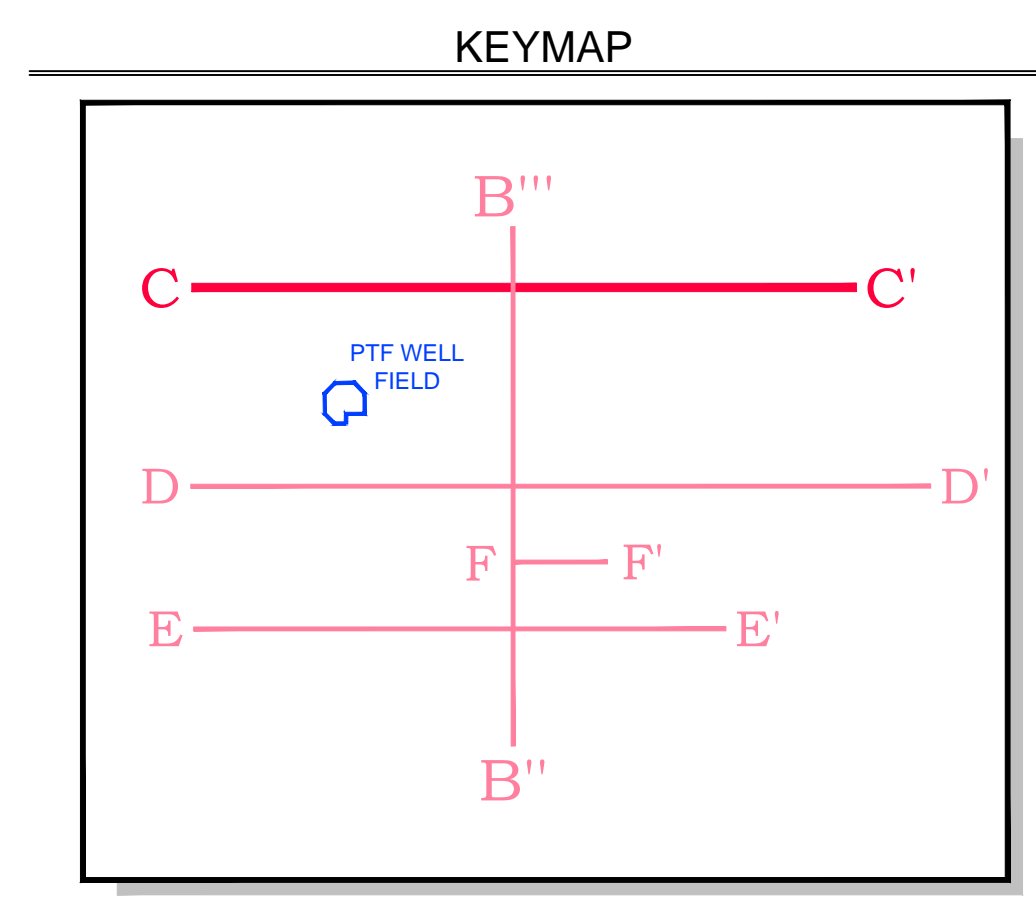
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 Operator Name: ANDREVA, LAUREN
 ES-STD (24x36)
 Plot Date: August 1, 2014
 Drawing Layout:



LEGEND

	ALLUVIUM		GRANODIORITE PORPHYRY
	SAND, SILT AND CLAY		QUARTZ MONZONITE PORPHYRY
	SAND, BOULDERS AND CLAY		DIABASE / DIORITE
	SAND, GRAVEL AND BOULDERS		INTERPRETED UNCONFORMITY
	SAND AND GRAVEL		LBFU/OXIDE CONTACT
	SAND, GRAVEL AND CLAY		OXIDE/SULFIDE CONTACT (DASHED WHERE INFERRED)
	SILT AND CLAY		COREHOLE ID
	BASALT		EXISTING COREHOLES
	UBFU UPPER BASIN FILL UNIT		POC WELL SCREENED IN THE UBFU
	MFGU MIDDLE FINE-GRAINED UNIT (CONFINING FORMATION)		POC WELL SCREENED IN THE LBFU
	LBFU LOWER BASIN FILL UNIT		POC WELL SCREENED IN THE OXIDE UNIT
	WATER LEVEL ELEVATION (MEASURED SEPTEMBER 2011)		SCREENED INTERVAL OF POC WELL
			TOTAL DEPTH OF BOREHOLE

NOTE: UNIT CONTACT AND GEOLOGY WAS DEVELOPED BY BHP COPPER (1995) AND IS BASED ON COREHOLE DATA.
ADAPTED FROM BROWN AND CALDWELL 2012

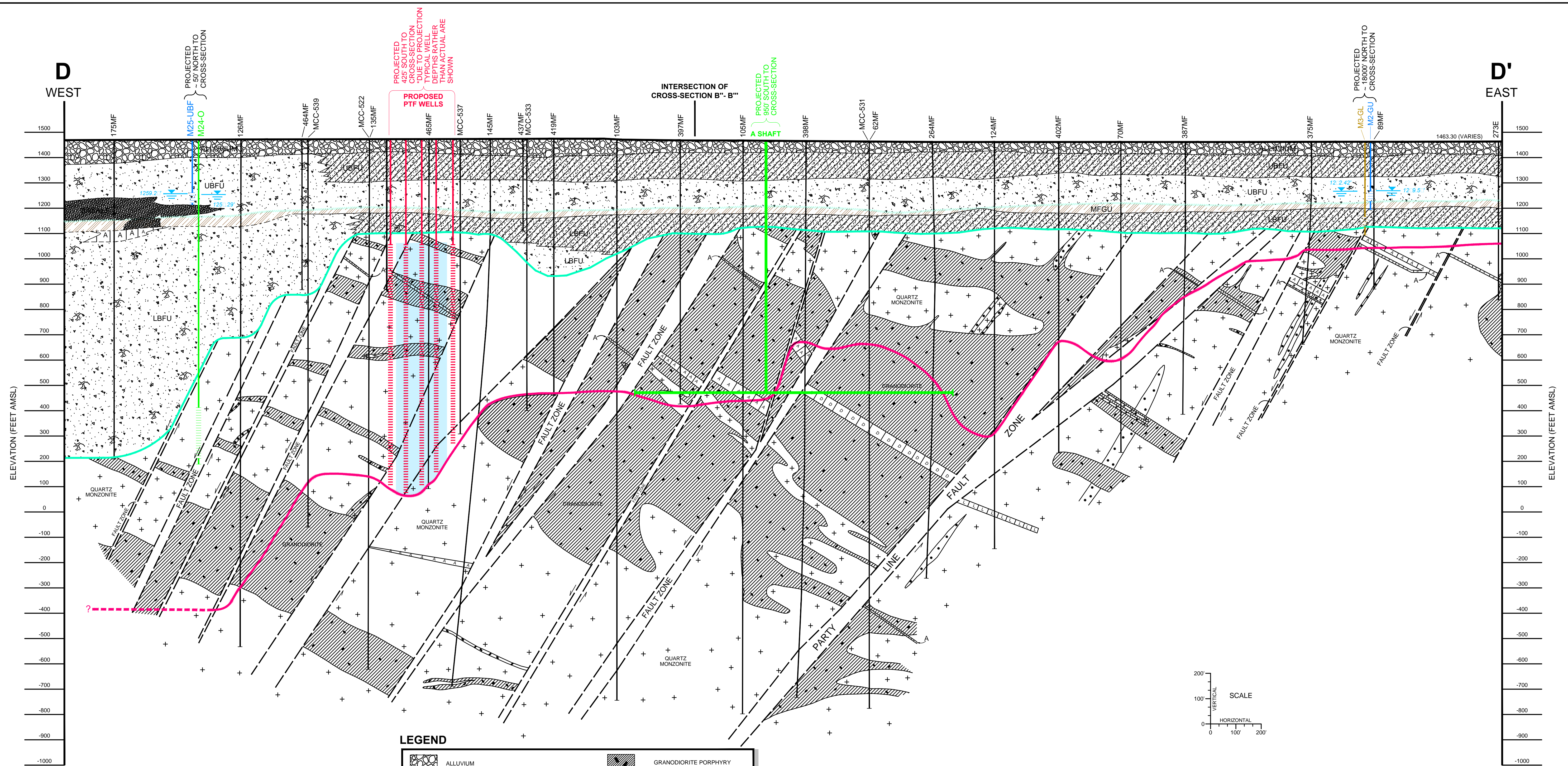


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 FLORENCE, ARIZONA

GEOLOGIC CROSS SECTION C-C'
 SCALE: AS SHOWN
FLORENCE COPPER INC.

FIGURE F-7

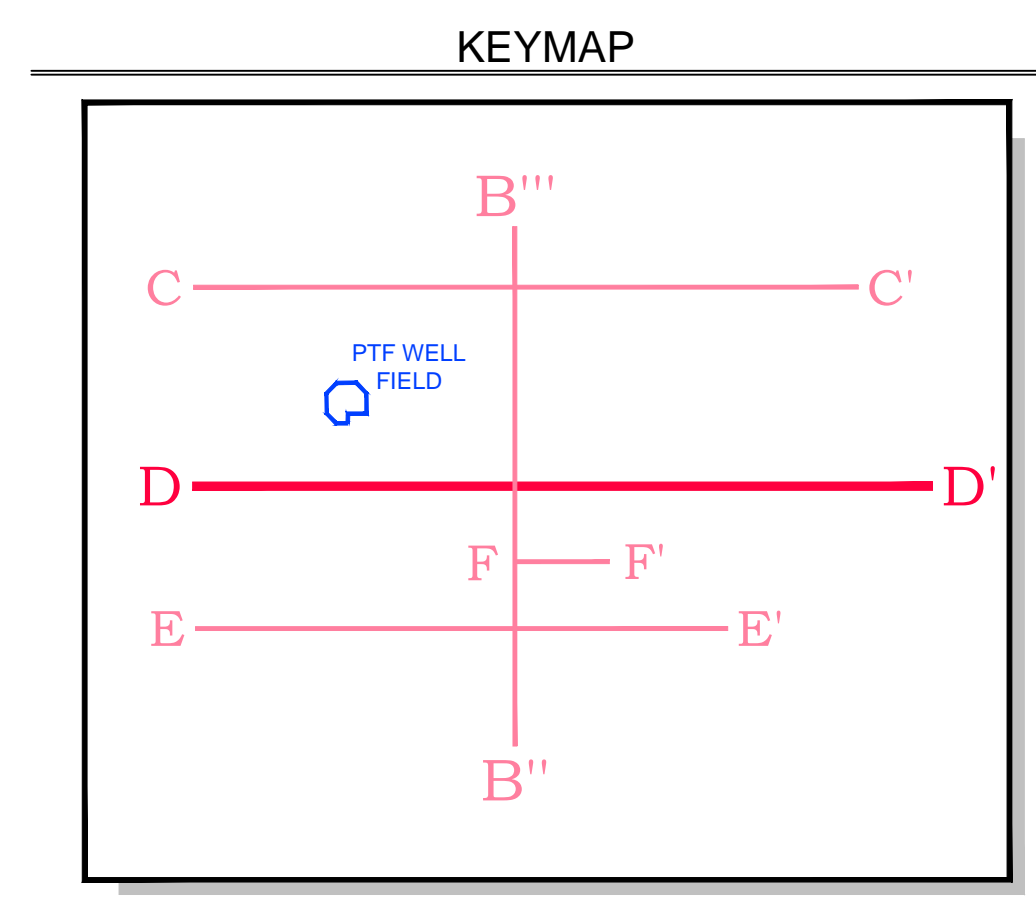
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 Operator Name: CANDREVA, LAUREN
 Plot Date: August 1, 2014
 Drawing Layout: ES-STD (24X36)



LEGEND

	ALLUVIUM		GRANODIORITE PORPHYRY
	SAND, SILT AND CLAY		QUARTZ MONZONITE PORPHYRY
	SAND, BOULDERS AND CLAY		DIABASE / DIORITE
	SAND, GRAVEL AND BOULDERS		ANDESITE
	SAND AND GRAVEL		DACITE
	SAND, GRAVEL AND CLAY		QUARTZ LATITE
	SILT AND CLAY		INTERPRETED UNCONFORMITY
	BASALT		LBFU/OXIDE CONTACT
	UBFU UPPER BASIN FILL UNIT		OXIDE/SULFIDE CONTACT (DASHED WHERE INFERRED)
	MFGU MIDDLE FINE-GRAINED UNIT (CONFINING FORMATION)		COREHOLE ID
	LBFU LOWER BASIN FILL UNIT		EXISTING COREHOLES
	PROPOSED INJECTION ZONE		CONOCO UNDERGROUND WORKINGS
	WATER LEVEL ELEVATION (MEASURED SEPTEMBER 2011)		POC WELL SCREENED IN THE UBFU
			POC WELL SCREENED IN THE LBFU
			POC WELL SCREENED IN THE OXIDE UNIT
			SCREENED INTERVAL OF POC WELL
			TOTAL DEPTH OF BOREHOLE

NOTES:
 UNIT CONTACT AND GEOLOGY WAS DEVELOPED BY BHP COPPER (1995) AND IS BASED ON COREHOLE DATA.
 DUE TO PROJECTION EFFECTS INTERSECTIONS OF STRUCTURES WITH PTF WELLS OCCUR AT APPARENT DEPTHS RATHER THAN ACTUAL DEPTHS. INFERRED ACTUAL STRUCTURE INTERSECTIONS ARE SHOWN ON FIGURES D-2 AND D-3.
 ADAPTED FROM BROWN AND CALDWELL 2012



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 FLORENCE, ARIZONA

GEOLOGIC CROSS SECTION D-D'

FLORENCE COPPER INC. SCALE: AS SHOWN

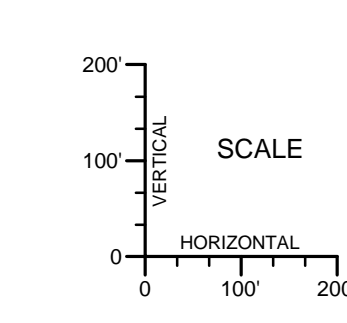
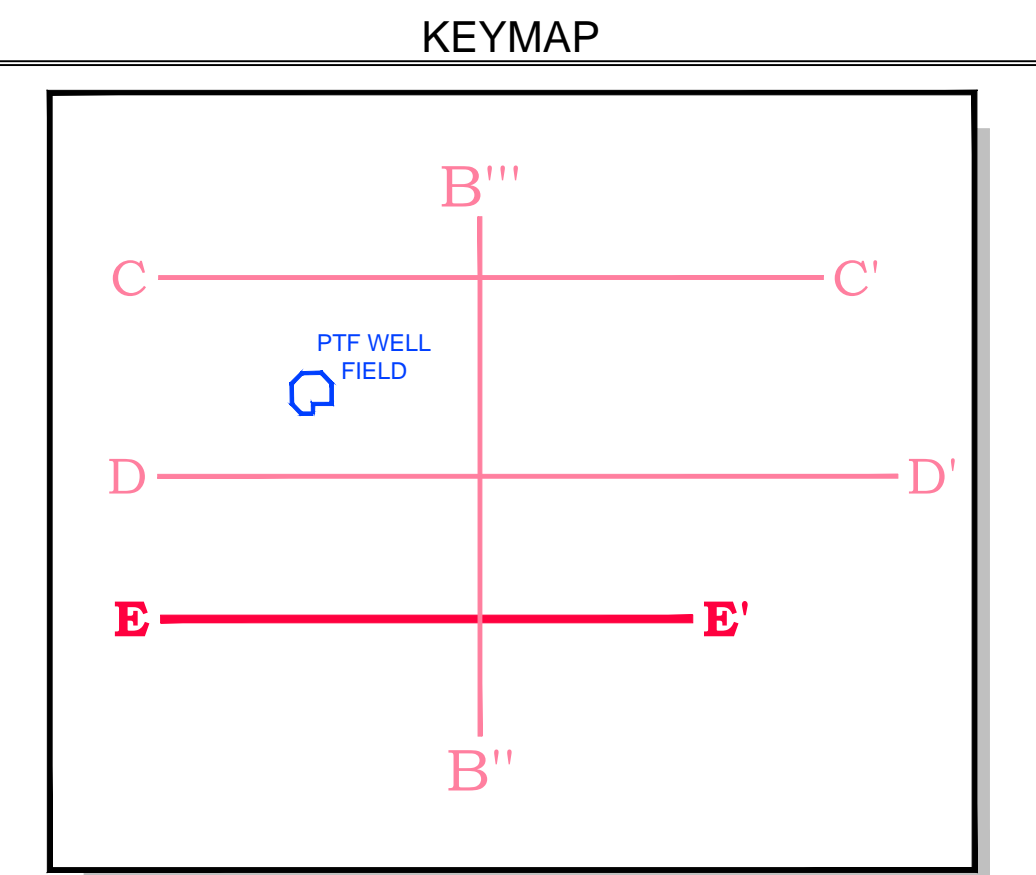
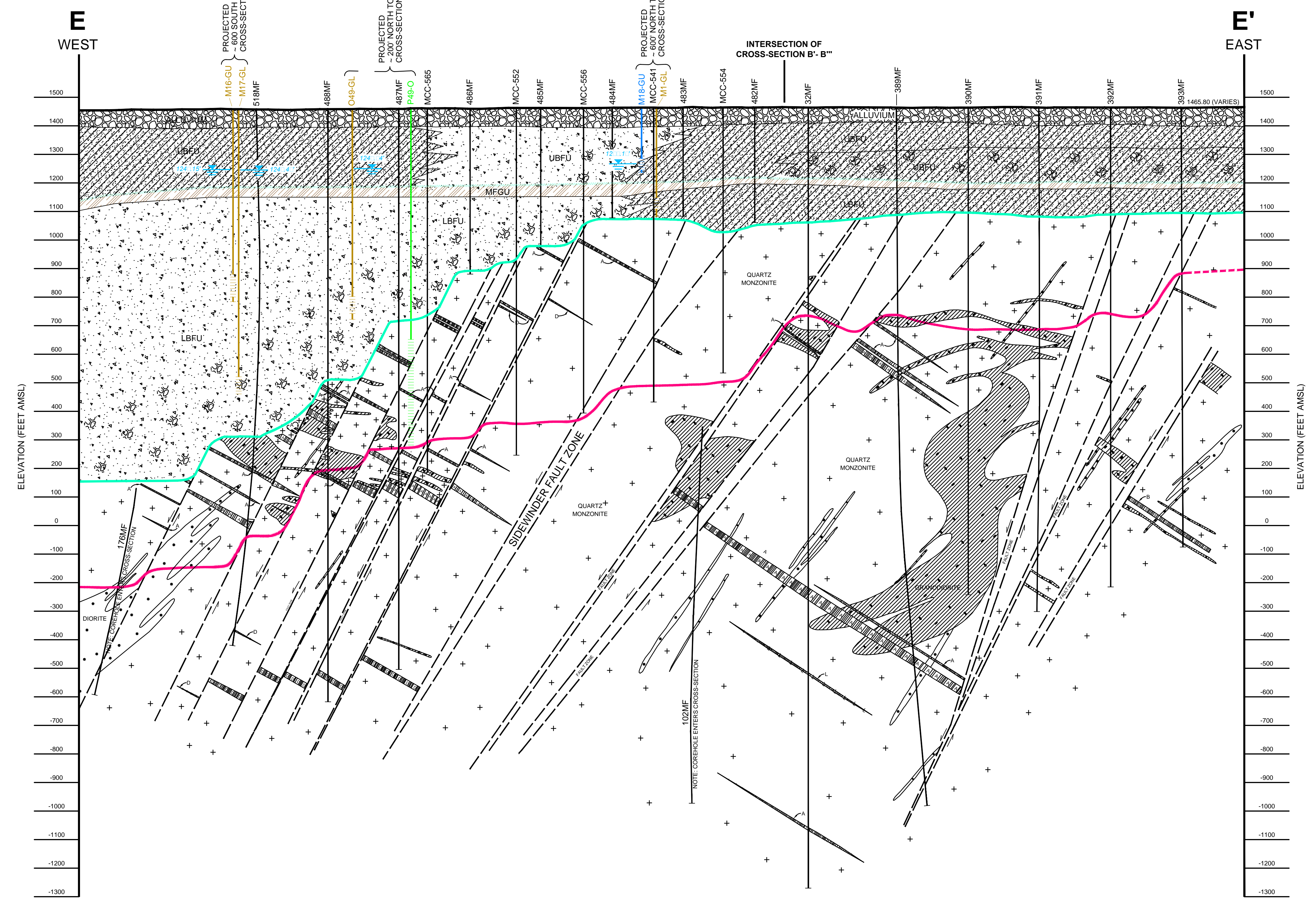
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 Drawing Layout: ES-STD (24x36)

LEGEND

	ALLUVIUM		GRANODIORITE PORPHYRY
	SAND, SILT AND CLAY		QUARTZ MONZONITE PORPHYRY
	SAND, BOULDERS AND CLAY		DIABASE / DIORITE
	SAND, GRAVEL AND BOULDERS		ANDESITE
	SAND AND GRAVEL		DACITE
	SILT AND CLAY		QUARTZ LATITE
	BASALT		INTERPRETED UNCONFORMITY
	UBFU UPPER BASIN FILL UNIT		LBFU/OXIDE CONTACT
	MFGU MIDDLE FINE-GRAINED UNIT (CONFINING FORMATION)		OXIDE/SULFIDE CONTACT (DASHED WHERE INFERRED)
	LBFU LOWER BASIN FILL UNIT		COREHOLE ID
	WATER LEVEL ELEVATION (MEASURED SEPTEMBER 2011)		EXISTING COREHOLES
	POC WELL SCREENED IN THE LBFU		POC WELL SCREENED IN THE LBFU
	POC WELL SCREENED IN THE OXIDE UNIT		SCREENED INTERVAL OF POC WELL
			TOTAL DEPTH OF BOREHOLE

NOTE: UNIT CONTACT AND GEOLOGY WAS DEVELOPED BY BHP COPPER (1995) AND IS BASED ON COREHOLE DATA.
 ADAPTED FROM BROWN AND CALDWELL 2012



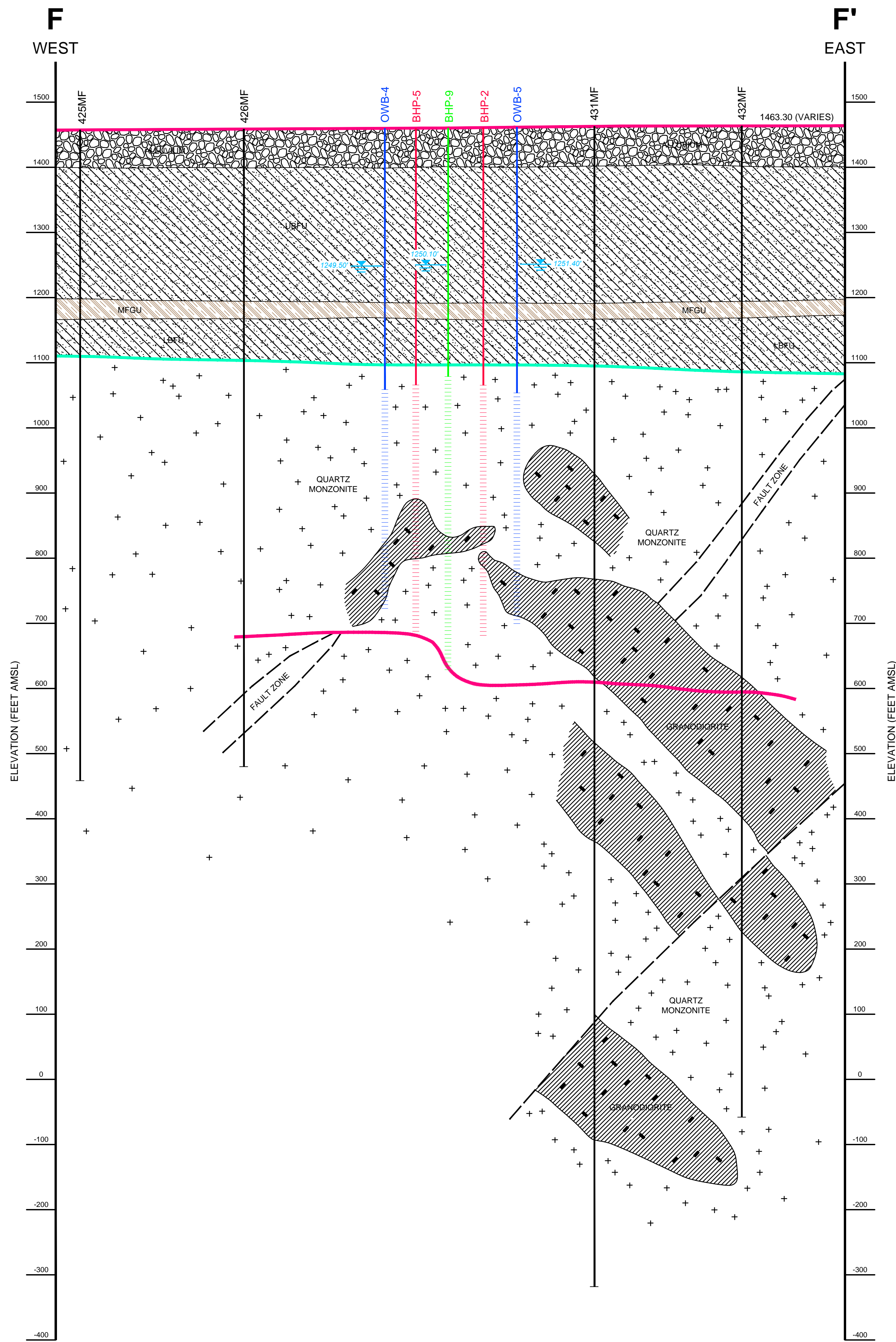
HALEY & ALDRICH FLORENCE COPPER, INC.
 FLORENCE, ARIZONA

GEOLOGIC CROSS SECTION E-E'

FLORENCE COPPER INC. SCALE: AS SHOWN

FIGURE F-9

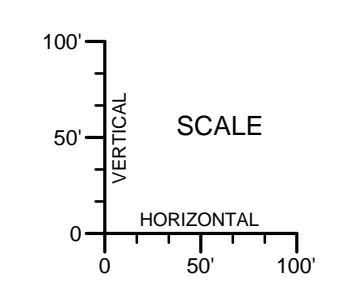
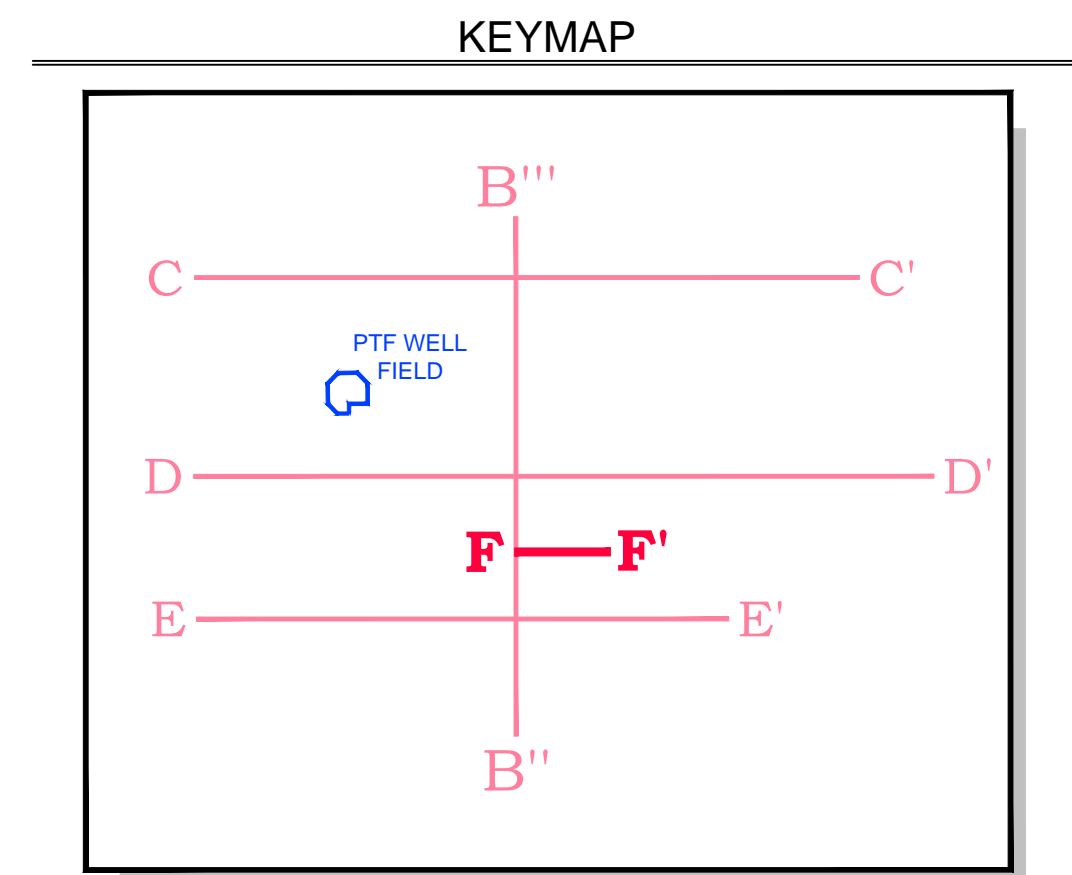
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 ES-STD (24X36)
 Drawing Layout:



LEGEND

	ALLUVIUM		GRANODIORITE PORPHYRY
	SAND, SILT AND CLAY		QUARTZ MONZONITE PORPHYRY
	SILT AND CLAY		COREHOLE ID
UBFU	UPPER BASIN FILL UNIT		EXISTING COREHOLES
MFGU	MIDDLE FINE-GRAINED UNIT (CONFINING FORMATION)		WATER LEVEL ELEVATION (MEASURED SEPTEMBER 2011)
LBFU	LOWER BASIN FILL UNIT		
			OBSERVATION WELL
			RECOVERY WELL
			INJECTION WELL
			SCREENED INTERVAL OF WELL
			TOTAL DEPTH OF BOREHOLE
			LBFU/OXIDE CONTACT
			OXIDE/SULFIDE CONTACT (DASHED WHERE INFERRED)

NOTE: UNIT CONTACT AND GEOLOGY WAS DEVELOPED BY BHP COPPER (1995) AND IS BASED ON COREHOLE DATA.
 ADAPTED FROM BROWN AND CALDWELL 2012

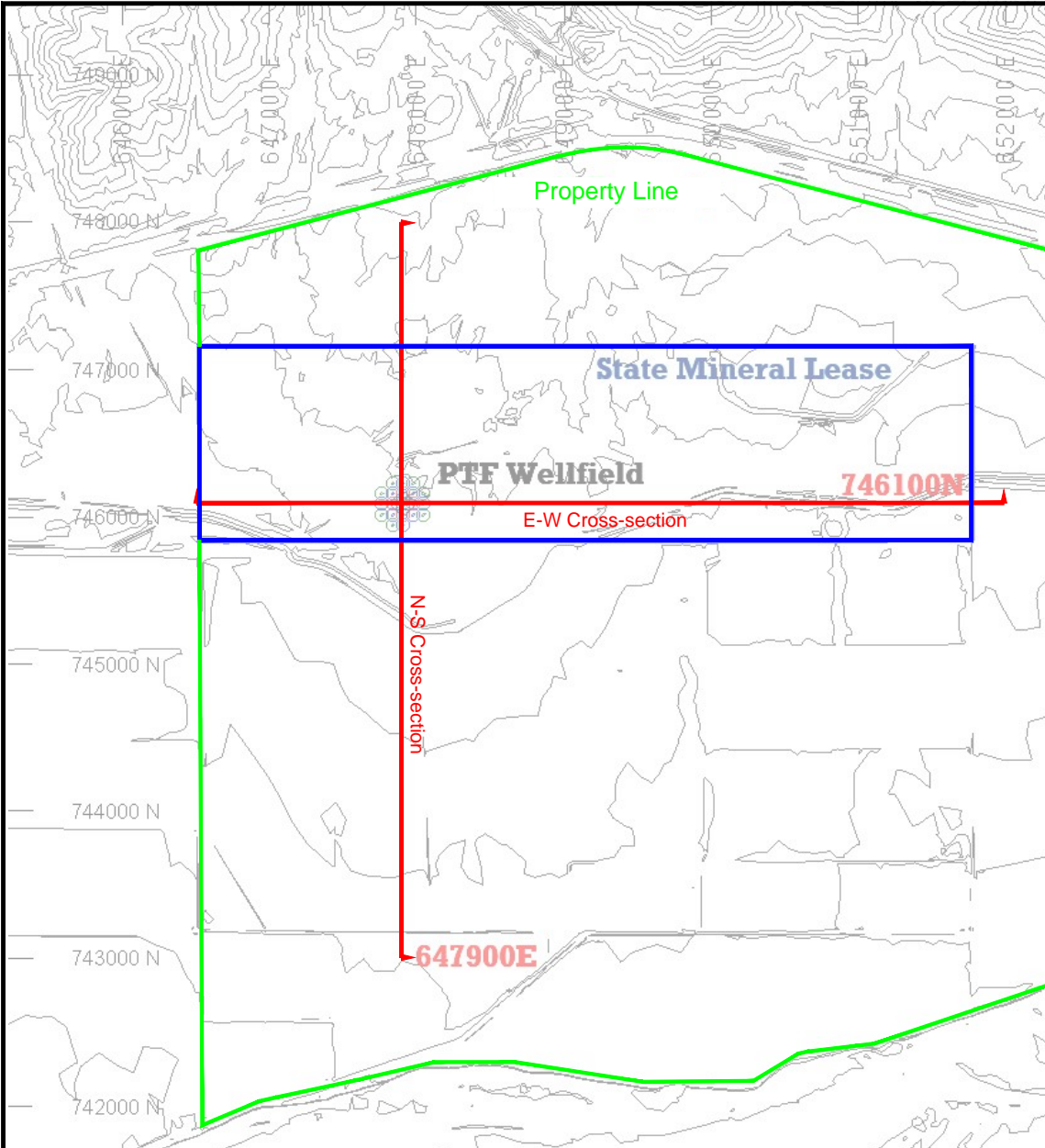


HALEY & ALDRICH FLORENCE COPPER, INC.
 FLORENCE, ARIZONA





GEOLOGIC CROSS SECTION F-F'

FLORENCE COPPER INC. SCALE: AS SHOWN

FIGURE F-10



Explanation

-  Cross-section lines
-  Property line
-  State mineral lease
-  PTF wellfield

General Notes

1. For illustrative purposes only. Not to scale
2. Coordinates shown are Arizona Central State Plane (ft.)

References

1. Cross-Section locations by SRK





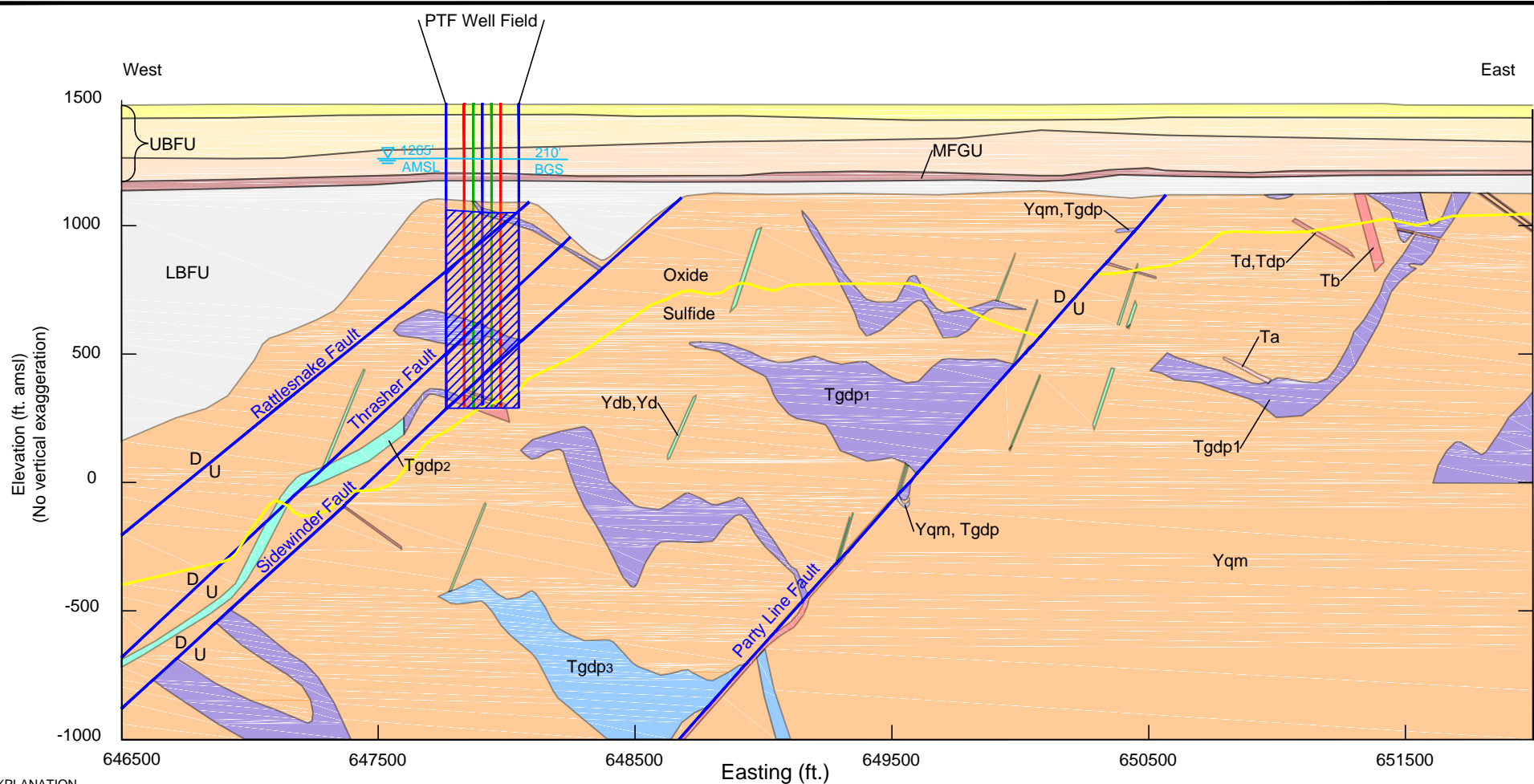
SRK JOB NO.: 204400.02 Task 800

FILE NAME: Fig_F-2_Plan_FlorenceXSection_746166.7_Rev2_jb_nc



Environmental Support

UIC Application			
Plan map showing location of Geologic cross-sections			
DATE: MAY 2014	APPROVED: CKH	FIGURE: F-11	REVISION NO. 1



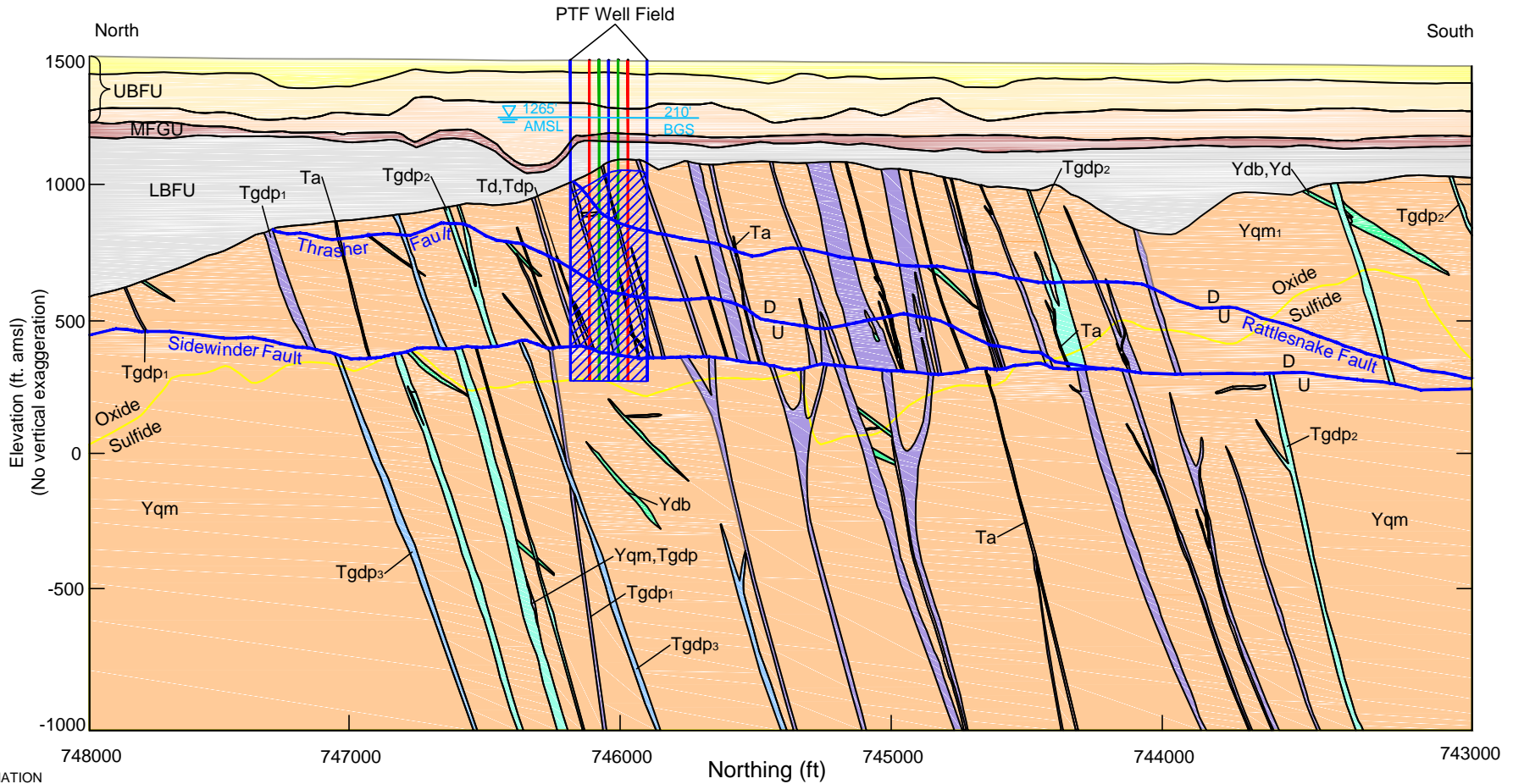
EXPLANATION

- | | | |
|---|---|--------------------------------------|
| Quaternary Alluvium - UBFU | Tertiary granodiorite porphyry, Type 1 (Tgdp 1) | Precambrian quartz monzonite (Yqm) |
| Upper loose conglomerate - UBFU | Mixed Precambrian quartz monzonite and Tertiary granodiorite porphyry (Yqm), (Tgdp) | Oxide-Sulfide Line |
| Upper Cemented conglomerate - UBFU | Tertiary granodiorite porphyry, Type 2 (Tgdp 2) | Injection Wells |
| Clay - MFGU | Tertiary granodiorite porphyry, Type 3 (Tgdp 3) | Recovery Wells |
| Lower Cemented conglomerate - LBFU | Precambrian diabase and diorite (Ydb, Yd) | Westbay Wells |
| Tertiary dacite and Tertiary dacite porphyry (Td) (Tdp) | | D on downthrown block |
| Tertiary andesite (Ta) | | Proposed Injection and Recovery Zone |
| Tertiary basalt (Tb) | | |

REFERENCES

1. Geology prepared by BHP Copper (1997), modified by SRK (2010, 2012).

		UIC Application			
		EW Geologic cross-section 746167 N Looking North			
SRK JOB NO.: 204400.03 / Task 700 FILE NAME: Fig_F-3_E-W_FlorenceXSection_746166.7_Rev2_jb_nc	Environmental Support	DATE: MAY 2014	APPROVED: CKH	FIGURE: F-12	REVISION NO. 1



EXPLANATION

- | | | |
|---|---|--------------------------------------|
| Quaternary Alluvium - UBFU | Mixed Precambrian quartz monzonite and Tertiary granodiorite porphyry (Yqm), (Tgdp) | Faults |
| Upper loose conglomerate - UBFU | Tertiary granodiorite porphyry, Type 2 (Tgdp 2) | Oxide-Sulfide Line |
| Upper Cemented conglomerate - UBFU | Tertiary granodiorite porphyry, Type 3 (Tgdp 3) | Injection Wells |
| Clay - MFGU | Precambrian diabase and diorite (Ydb, Yd) | Recovery Wells |
| Lower Cemented conglomerate - LBFU | Precambrian quartz monzonite (Yqm) | Westbay Wells |
| Tertiary dacite and Tertiary dacite porphyry (Td) (Tdp) | | D/U D on downthrown block |
| Tertiary andesite (Ta) | | Proposed Injection and Recovery Zone |
| Tertiary granodiorite porphyry, Type 1 (Tgdp 1) | | |

REFERENCES

1. Geology prepared by BHP Copper (1997), modified by SRK (2010, 2012).

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FILE NAME: Fig_F-4_N-S_FlorenceXSection_647905.56_Rev2_jb_nc

Environmental Support

UIC Application

NS Geologic cross-section 647900 E Looking East

DATE: MAY 2014	APPROVED: CKH	FIGURE: F-13	REVISION NO. 1
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