

Exhibit J



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

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<http://www.epa.gov/region08>

June 7, 2007

Mr. Kelly Payne
Kennecott Utah Copper Company
P.O. Box 6001
Magna, Utah 84044-6001

Re: Kennecott South Zone Site, Operable Unit 2
South Facilities Groundwater
Construction Completion Report

Dear Kelly:

The purpose of this letter is to accept the South Facilities Groundwater Construction Completion Report, as submitted in December 2006, as final. This acceptance is based on our review of the document and the Post Construction Completion Inspection of the constructed facilities on February 16, 2006 and associated Inspection Report (December 2006), conducted by the Utah Department of Environmental Quality.

We sincerely appreciate your efforts on this project to date, and look forward to the successful implementation of the Operation, Maintenance, and Replacement program.

Sincerely,

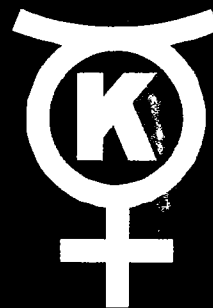
Rebecca J. Thomas
EPA Project Manager

Doug Bacon
UDEQ Project Officer



KENNECOTT UTAH COPPER CORPORATION
SOUTH FACILITIES GROUNDWATER
CONCENTRATION COMPLETION REPORT

DECEMBER 2006



STATEMENTS

Kennecott Utah Copper Corporation has completed the Remedial Action in full satisfaction of the Final Design for Remedial Action, December 2002.

12/20/06
Date

Kelly L. Payne
Kelly L. Payne, P.G.
CERCLA Project Coordinator
Kennecott Utah Copper Corporation

To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate, and complete.

12-20-06
Date

Scott P. Lawson
Scott P. Lawson
Vice President and General Manager,
Engineering & Technical Services
Kennecott Utah Copper Corporation

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1. INTRODUCTION

Kennecott Utah Copper Corporation (KUCC) is conducting groundwater remediation at Operable Unit 2 (OU2) of the Kennecott South Zone Site as selected by the U.S. Environmental Protection Agency (EPA) and the Utah Department of Environmental Quality (DEQ) in a Record of Decision (ROD) dated December 13, 2000. In response to the ROD, KUCC submitted a Final Design for Remedial Action (RDRA) for the groundwater remediation in December 2002. EPA and DEQ approved the RDRA and issued an Explanation of Significant Differences (ESD) in June 2003.

The RDRA described construction activities that KUCC would complete in order to fully implement the remedy selected by EPA and DEQ. KUCC has completed those construction activities and is providing this final report and requesting a Certification of Construction Completion from EPA and DEQ.

DEQ completed a Post Construction Completion Inspection of the constructed facilities on February 16, 2006 and issued an inspection report and completeness determination in December 2006.

2. CONSTRUCTED COMPONENTS

KUCC has completed construction of groundwater extraction, treatment, and monitoring necessary to implement the remedy. This includes:

- A barrier well extraction system consisting of three wells, B2G1193, BFG1200, and LTG1147, and conveyance lines to deliver water to a reverse osmosis (RO) treatment plant.
- A reverse osmosis treatment plant capable of producing 3,500 acre feet of drinking water per year using feed water from the barrier wells.
- An acid well extraction system comprised of two wells, ECG1146 and BSG1201, and conveyance to the beginning of the tailings pipeline at the Copperton Concentrator.
- An acid plume water treatment system which relies on operating KUCC milling facilities, specifically a) the tailings pipeline, which serves as a 17-mile treatment reactor; b) the Copperton Concentrator lime plant, which has ability to add hydrated lime directly to the tailings line as needed, and c) the North Tailings Impoundment, which provides a repository for non-hazardous treatment residuals.
- A network of over 300 individual or nested monitoring wells in and on the margin of the Zone A plume.

These facilities are indicated on Figure 2-1 and described in greater detail below.

2.1 Barrier Well Extraction and Conveyance

The barrier well water extraction and conveyance system includes well LTG1147, installed in 1995, B2G1193¹, installed in 1998, and BFG1200², installed in 2001. Each of the three wells has conveyance lines to the RO Plant. The pipeline from LTG1147 has a booster pump station (LTG1147BPS) near the Large Bingham Reservoir.

¹ Well B2G1193 replaced, and is often referred to informally as, well K60, which was installed in 1962.

² Well BFG1200 replaced, and is often referred to informally as, well K109, which was installed in 1968.

Kennecott Utah Copper Corporation

2-1 Groundwater Extraction and Management Facilities

2.2 Barrier Wells Construction and Equipping

Geologic logs and as built construction drawings for the barrier wells are included in Appendix A. The typical sulfate-well design includes an 18-inch nominal diameter stainless steel screen and a steel casing (Figure 2-2). Each well has a submersible pump and a booster pump at the surface adjacent to the well head. As-built construction drawings of well houses and booster pump stations are provided in Appendix B. The combined production capacity is capable of meeting the required feed rate in order to meet the annual drinking water production commitment.

LTG1147 is a 16-inch diameter well screened from 400 to 590 feet below ground surface with 0.05 inch stainless continuous wire wrap screen. B2G1193 is screened at 451 to 571 feet and at 591 to 881 feet with 18-inch diameter stainless 0.08 inch slot continuous wire wrap screen. In addition B2G1193 has a 12-inch diameter stainless wire wrap screen with 0.08 inch slots from 900 to 1060 feet below ground surface. BFG1200 is an 18-inch diameter well screened from 421 to 801 feet below ground surface with a stainless continuous wire wrap 0.05 inch screen.

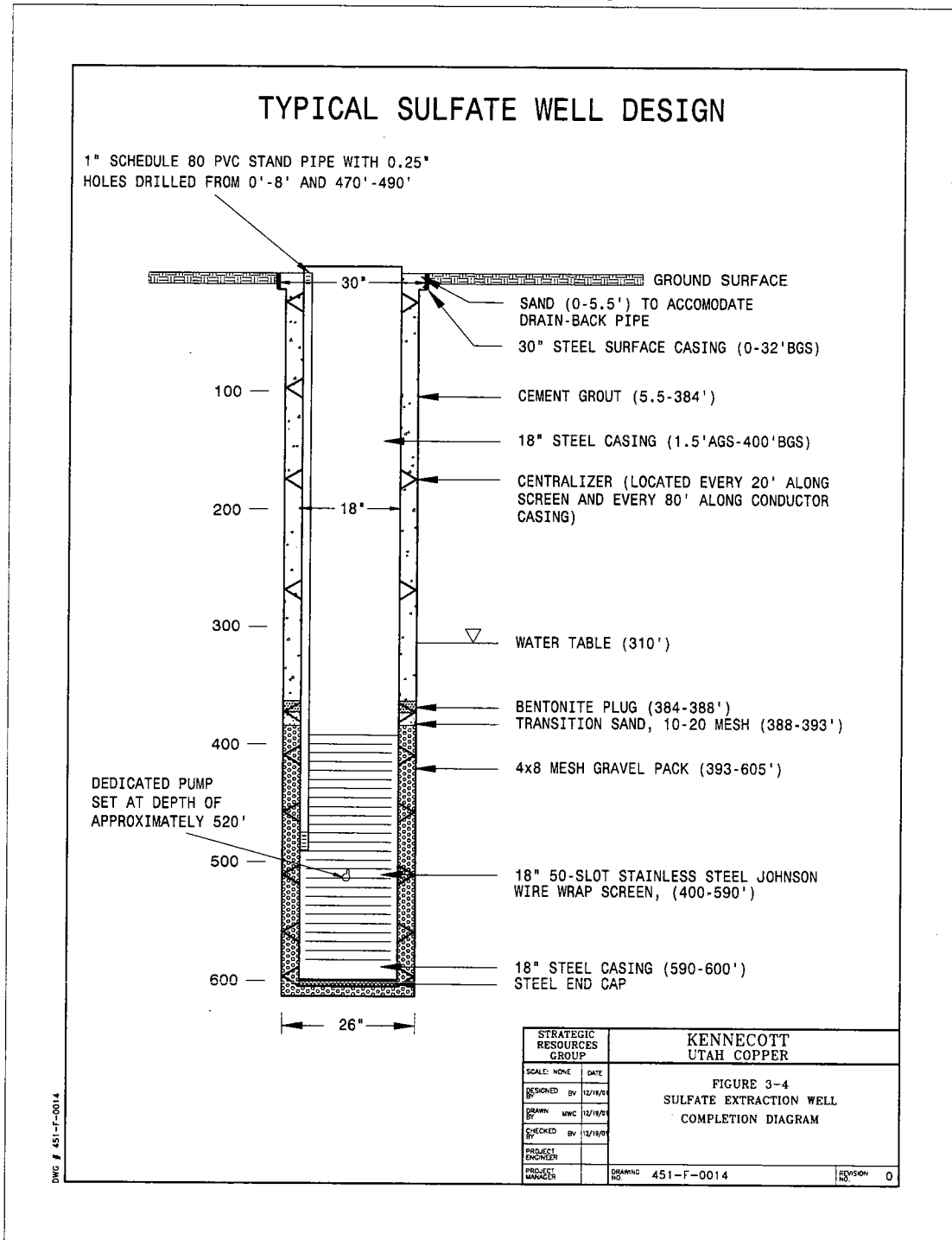
Drinking Water Source Protection Plans (DWSPs) have been prepared for each of these three barrier wells and have been approved by Division of Drinking Water (DDW). Well and well house construction and materials have also been approved by DDW as part of operational permitting of the RO plant.

2.2.1 Barrier Well Piping and Routing

Pipelines from barrier wells convey water from the extraction location to the RO plant. Pipeline design and routing can be viewed in Figure 2-4. As-built construction drawings are included in Appendix C. Each of the lines from the well sites is designed to convey maximum flow from each well. Pipelines are installed per manufacture's instructions.

Beginning at BFG1200, which is the most distant barrier well from the RO Plant, the pipeline consists of: 3,308 feet of 12 inch ductile iron pipe to B2G1193 where the water commingles with water pumped from B2G1193. From B2G1193, the carrier line consists of a 16 inch ductile iron line extending 15,253 feet to a point where it ties into 1,862 feet of 20-inch SDR 11 HDPE pipe. This pipe then ties into 3,120 feet of 20-inch SDR 17 HDPE pipe which terminates at the RO Plant.

Figure 2-2 Typical Sulfate Extraction Well Design



The pipeline from LTG1147 consists of: 1893 feet of 16-inch SDR 9 HDPE pipe to 5400 feet of 16-inch SDR 11 HDPE pipe to 1800 feet of 16-inch SDR 17 HDPE pipe to 2150 feet of 16-inch SDR 26 pipe to the Sulfate Booster Pump Station. Then through 1800 feet of 12-inch SDR 11 pipe to 945 feet of SDR 17 pipe to the Reverse Osmosis Plant.

2.3 Barrier Well Water Treatment

KUCC has completed construction of a reverse osmosis water treatment plant near Copperton. An operating permit from the Utah Division of Drinking Water was issued on May 26, 2006 for this facility (System 18160).

A final description of the plant and treatment process, which was submitted to DDW as part of the permit application package, is included as Appendix D. As-built drawings for the plant are included in Appendix E.

The concentrate by-product from the RO plant is conveyed by system pressure to KUCC's Eastside Reservoir or Large Reservoir Desilting Basin. The concentrate is managed with barren meteoric leach water and reports to the Wastewater Disposal Pump Station, from where it is pumped to the Tailings Line at Copperton.

2.4 Acid Plume Water Extraction and Conveyance

The acid plume water extraction and conveyance system includes well ECG1146, installed in 1995, and well BSG1201, installed in 2003, and a pipeline delivery system to the Wastewater Disposal Pump Station (WDPS). Both wells are located where the maximum acid-water extraction is likely based on current groundwater monitoring and modeling results.

2.4.1 Acid Extraction Wells Construction and Equipping

Geologic logs and as built construction drawings for the acid wells are included in Appendix F. Both acid wells were drilled and installed in a similar manner. Typical acid-well design includes an 18-inch nominal diameter stainless steel casing and screen (Figure 2-3). Screen intervals include all portions of the aquifer identified during monitoring as containing low pH water (<3.5 pH s.u.). Well ECG1146 is screened from 500 to 750 feet below ground surface with 0.08 inch slot Johnson wire-wrap screen. BSG1201 is screened from 500 to 740 feet below ground surface with a 0.1 inch slot Johnson wire-wrap screen.

Submersible stainless steel pumps and motors have been installed at depth within the casing. The well, pump, and appurtenances in contact with low

pH water are stainless steel and designed to withstand the water pumping pressure for each specific well. As-built construction drawings of well houses are provided in Appendix G.

2.4.2 Acid Plume Piping

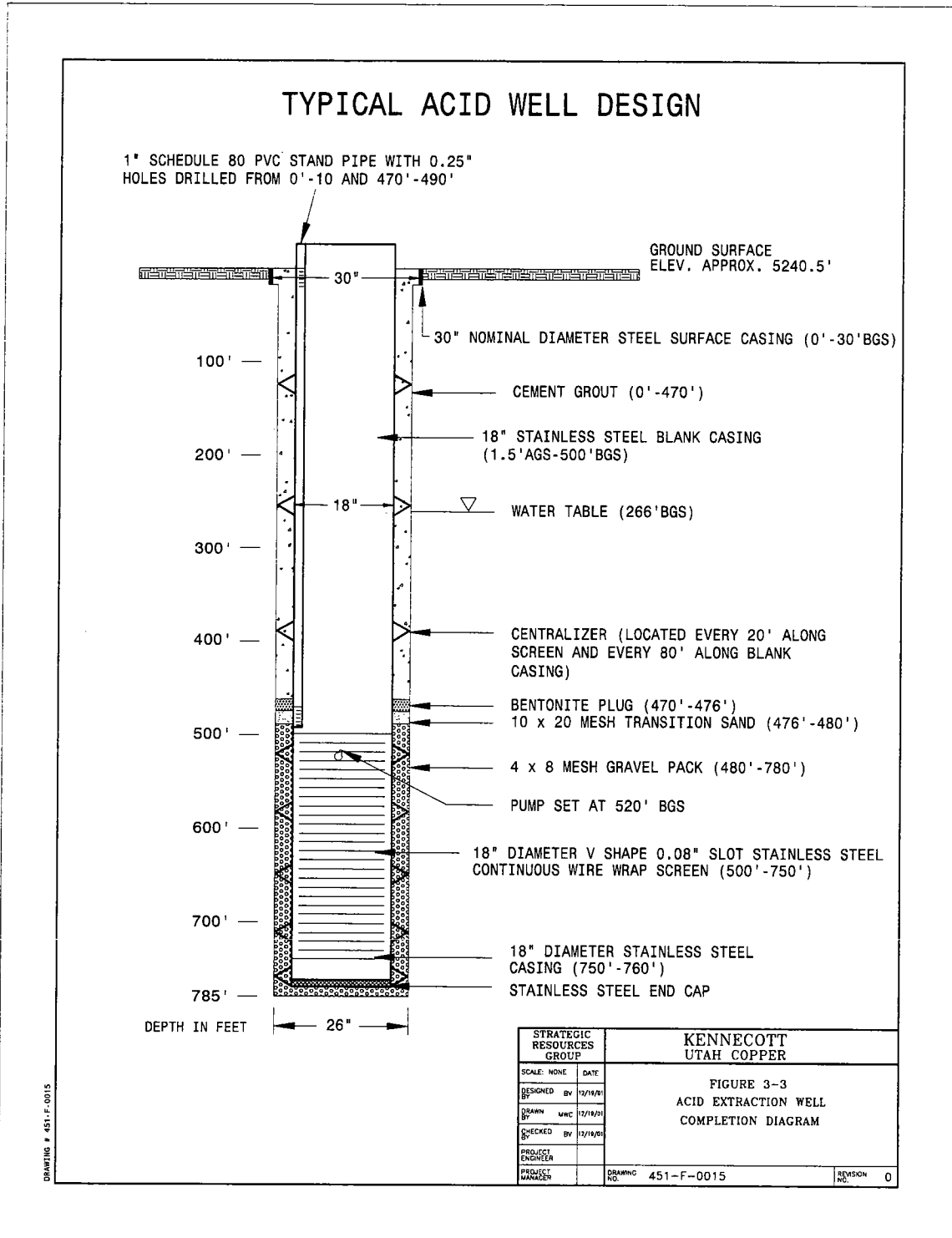
Acid-well water is piped from the extraction wells through a 12-inch to 14-inch high density polyethylene (HDPE) pipe encased in a 16-inch to 18-inch secondary HDPE containment pipe. As built pipeline construction drawings are included in Appendix H. Specifically, beginning at BSG1201, the carrier pipe is 14 inch diameter with a standard dimension ratio (SDR) of 9, and it continues 2,400 feet, at which point the pipe changes to an SDR 11. This SDR 11, 14-inch HDPE pipe continues 2,402 feet to well ECG146. Water from BSG1201 is commingled with ECG1146 water at ECG1146 in the pipeline and proceeds through a 12-inch SDR 9 pipe for 1,900 feet and then into 1,700 feet of 12-inch SDR17 pipe. The water can then be diverted to KUCC's Lower Cement Lined Canal collection system which leads to Bingham Large Reservoir or it continues in 2,610 feet of 12-inch SDR17 pipe to the WWDPS.

The carrier pipe is encased in 4,802 feet of SDR 32.5 HDPE containment pipe from BSG1201 to ECG1146 and encased in 6,210 feet of 16-inch diameter SDR 17 HDPE containment pipe from ECG1146 to the WWDPS. These lines have been sized to facilitate the possibility of maximum volume extraction in the acid plume.

Each of the respective acid wells has been designed with monitoring devices to ensure proper pump operation, flow metering and depth to water. These devices are also programmed to shut down the well if any one parameter is not within the tolerance allowed. The secondary containment pipe is monitored at each of the down gradient well locations. If any flow is detected in the secondary pipe at any of the acid well sites by the continuous-reading conductance probes, the conductance signal will be conveyed to the South Area Water Control Room so that the incident can be investigated and resolved.

Discharge from the WDPs is piped to the beginning of the tailings line. If the WDPs station needs repair and down time is scheduled, the flow from the acid wells can either be shut down until repairs are complete or diverted to the Bingham Reservoir.

Figure 2-3 Typical Acid Extraction Well Design



2.5 Acid Plume Water Treatment and Monitoring

While the Bingham Canyon Mine is operating, KUCC manages acid plume water, RO concentrate, and other mining-impacted waters in the tailings pipeline. These waters are commingled at the WDPS and conveyed to the beginning of the tailings pipeline. Solid treatment residuals from neutralization of acid plume water are co-deposited in the North Tailings Impoundment near Magna.

KUCC monitors the solid and aqueous chemistry in the tailings system to assure that acid plume waters and other mining-affected waters which are managed in the tailings line do not adversely impact the process water system chemistry or the long-term acid-generating potential of the tailings.

Monitoring of the solid and aqueous phases of the tailings slurry and discharged water to the tailings slurry is conducted by sampling at two locations in the tailings system. Composite samples for solid and aqueous phase monitoring are collected once a month over a 24-hour period 1) at the GMT (general mill tailings; BCP1483) entering the Tailings Thickeners Distribution Box and 2) at the NSB (North Splitter Box; MCP2536). The GMT sample is collected from the automated sample cutters that sample Copperton Concentrator tailings. The GMT sampler automatically samples the waste stream every 20 to 30 minutes. The NSB composite sample is collected using a peristaltic sampling pump on the tailings line approximately 200 feet upstream of the NSB. The pump is programmed to sample every 20 minutes.

The aqueous pH of tailings is monitored continuously at the North Splitter Box.

2.6 Monitoring Well Network

Over 300 individual or nested monitoring wells are available for monitoring groundwater quality and elevation within and on the perimeter of the Zone A plume. A listing of these wells is provided in Table 2-1; locations are shown on Figure 2-4. Geologic logs and construction records for these wells are available in KUCC's project files for all monitoring wells. For this report, KUCC is providing geologic and construction details for six well locations (B1G951, ECG1115, BSG1180, P248A, BFG1195, and BSG1148) which were pre-selected by DEQ for inspection. These details are included in Appendix I.

APPENDIX A

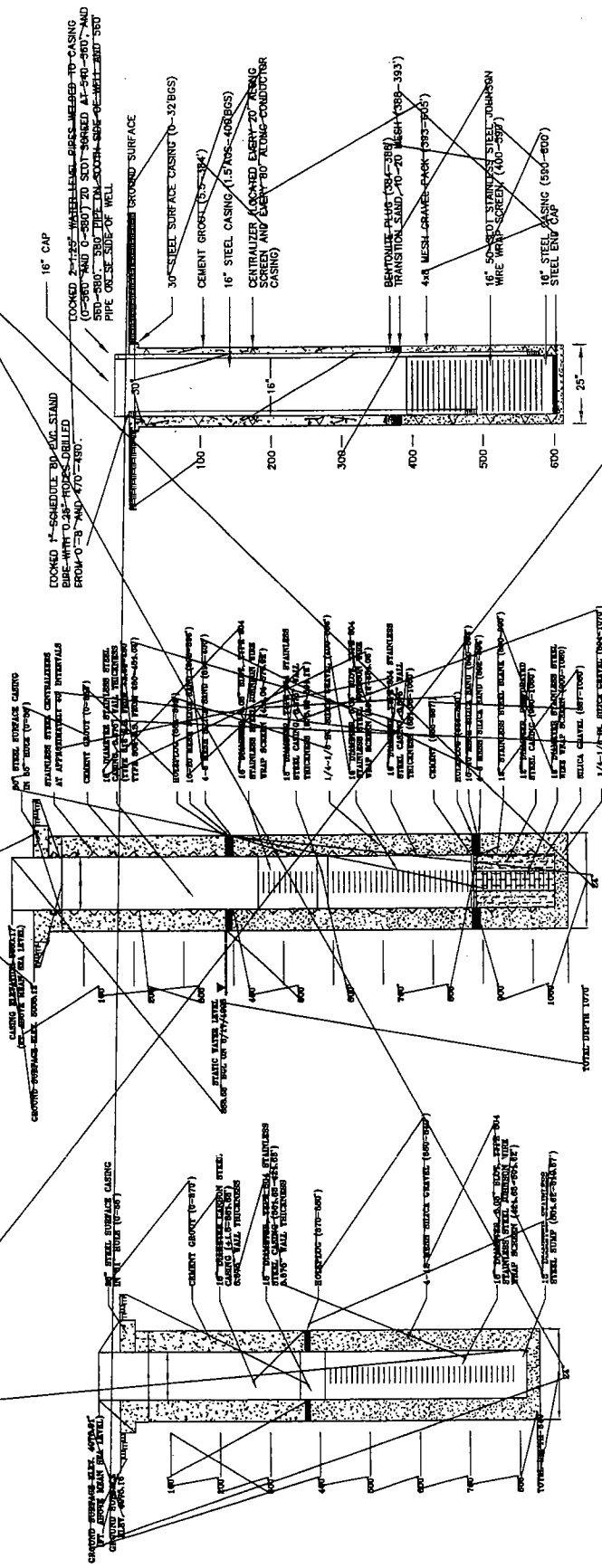
Barrier Wells

Geologic and Construction Drawings

Well BEG-1800
Well K169 Replacement

Well B&G-198
Well K60 Replacement

Well LTG-1147
Sulfate Extraction



STRATEGIC RESOURCES GROUP		KENNECOTT UTAH COPPER	
SCALE	DATE	FIGURE NO.	WELL NO.
1/4" = 1'-0"	JUL 79	2	BEG-1800
1/4" = 1'-0"	JUL 79	2	B&G-198
1/4" = 1'-0"	JUL 79	2	LTG-1147
DRAWN BY: J. W. ...		CHECKED BY: ...	
DATE: ...		SCALE: ...	

FIGURE 2
CONSTRUCTION DIAGRAMS FOR
WELLS BEG-1800, B&G-198, LTG-1147
SHEET NO. 458-1-0200 REV.

WELL ID: B2G1193 Replacement Well for K60 Production Well

NOTE: This well was completed as a replacement well for K60. K60 is a 12" diameter well and the water level has dropped in recent years which has rendered the well inadequate to extract enough water. B2G1193 was drilled deeper and completed with stainless steel casing and screen. There was a blank (unscreened) section below the screen to facilitate perforation if the need arises at a later date. The lower blank section was perforated and a 12" diameter screen was installed from 900 to 1060 ft. The water is piped into the K60 well house and through the Deep Well pipeline to the Reverse Osmosis Plant.

LOCATION:

GENERAL LOCATION: Bingham Creek, east of Trans Jordan Landfill and south of Old Bingham Hwy. Approximately 35 ft south and 10 feet west of existing K60 well head.

KENNECOTT GRID:

NORTHING: 15377.83
EASTING: 33484.97

U.S.G.S: 2385 ft. south, 1142 ft. east from northwest corner of Section 14, T3S, R2W, SLBM

U.S. PUBLIC LAND SURVEY GRID: SE1/4, SW1/4, NW1/4 of Section 14, T3S, R2W, SLBM

CADASTRAL COORDINATES: (C32) 14 bcd SLBM

ELEVATIONS (KENNECOTT):

NATURAL GROUND: 5006.12
TOP OF STEEL CASING: 5008.00
TOP OF WATER LEVEL MEASURING STANDPIPE: 5008.17

TOTAL DEPTH OF COMPLETED WELL: 1060' bgl

START DATE: 06-03-98

COMPLETION DATE: 06-12-98

DRILLING COMPANY: Lang Exploratory Drilling

DRILLING METHOD, BIT DIAMETER/TYPE (BOREHOLE DIAMETER), AND DRILLING FLUID:

0-36': Conventional Mud Rotary, 35" tricone, mud.
36-115': Conventional Mud Rotary, 24" tricone, mud.
115-1070': Flooded Dual Wall Reverse Circulation, 24" tricone, mud.

SURFACE CASING:

TYPE: Steel DIAMETER: 30" DEPTH: 1.5' agl - 36' bgl

CASING:

TYPE: Stainless Steel DIAMETER: 18" DEPTH: 2' agl - 451.04' bgl
TYPE: Stainless Steel DIAMETER: 18" DEPTH: 570.92' bgl - 591.12'
bgl
TYPE: Stainless Steel DIAMETER: 18" DEPTH: 881.06' bgl - 1060' bgl

SCREEN:

TYPE: Stainless Steel, 0.08" slot DIAMETER: 18" DEPTH: 451.04' bgl - 570.92'
bgl
TYPE: Stainless Steel, 0.08" slot DIAMETER: 18" DEPTH: 591.12' bgl - 881.06'
bgl
TYPE: Stainless Steel, 0.08" slot DIAMETER: 12" DEPTH: 900 - 1060' bgl

Note: Stainless steel centralizers welded onto 18" casing and screen at 40' intervals.

WELL ID: B2G1193

COMPLETION MATERIALS:

1/4" - 1/8" SILICA SAND: 894' bgl - 1070' bgl
4-8 MESH SILICA SAND: 892' bgl - 894' bgl
10-20 MESH SILICA SAND: 890' bgl - 892' bgl
HOLEPLUG: 886' bgl - 890' bgl
1/4" - 1/8" SILICA SAND: 400' bgl - 886' bgl
4-8 MESH SILICA SAND: 396' bgl - 400' bgl
10-20 MESH SILICA SAND: 392' bgl - 396' bgl
HOLEPLUG: 384' bgl - 392' bgl
CEMENT GROUT SURFACE SEAL: 0 - 384' bgl

STATIC WATER LEVEL IN OPEN BOREHOLE: Unknown due to drilling with mud.

STATIC WATER LEVEL AFTER WELL COMPLETION: 390.63' TOP

DATE: 08-17-

98

WATER QUALITY AFTER WELL DEVELOPMENT:

WELL	DATE	pH	Cond. (μ mho/cm)	SO ₄ ²⁻ (mg/L)	Cl (mg/L)	T.D.S. (mg/L)	Cu (mg/L)
B2G1193	9-1-98	6.8	2710	1430	154	2650	>.02

BOREHOLE LITHOLOGY:

0' - 355': QUARTZITIC GRAVEL
355' - 390': SANDY QUARTZITIC GRAVEL
390' - 405': QUARTZITIC GRAVEL
405' - 512': SILTY QUARTZITIC GRAVEL
512' - 557': QUARTZITIC GRAVEL, COARSE
557' - 583': SILTY QUARTZITIC GRAVEL
583' - 597': QUARTZITIC GRAVEL
597' - 632': SANDY QUARTZITIC GRAVEL
632' - 639': SILTY QUARTZITIC SAND
639' - 645': QUARTZITIC GRAVEL
645' - 651': SILTY QUARTZITIC SAND
651' - 668': QUARTZITIC GRAVEL
668' - 670': SILTY CLAYEY QUARTZITIC GRAVEL
670' - 715': SILTY QUARTZITIC GRAVEL
715' - 721': CLAY
721' - 801': SANDY QUARTZITIC GRAVEL
801' - 858': CLAYEY QUARTZITIC GRAVEL
858' - 915': GRAVELLY QUARTZITIC SAND
915' - 925': CLAYEY QUARTZITIC GRAVEL
925' - 952': SILTY QUARTZITIC GRAVEL
952' - 960': CLAYEY QUARTZITIC GRAVEL
960' - 975': SANDY QUARTZITIC GRAVEL
975' - 1015': CLAYEY QUARTZITIC GRAVEL
1015' - 1053': SANDY QUARTZITIC GRAVEL
1053' - 1070': CLAYEY QUARTZITIC GRAVEL

GEOPHYSICAL LOGS: 8", 16", 32", and 64" (partial) normal resistivity, natural gamma, spontaneous potential (partial), single point resistance.

WELL ID: BFG1200 Replacement Well for K109 Production Well

NOTE: This well was completed as a replacement well for K109. K109 was inefficient and unable to extract enough elevated-sulfate water to reach remediation goals. BFG1200 was drilled deeper and completed with stainless steel screen.

LOCATION:

GENERAL LOCATION: Bingham Creek, east of Trans Jordan Landfill and south of Old Bingham Hwy. Approximately 100 ft south and of existing K109 well head.

KENNECOTT GRID:

NORTHING: 17569.98

EASTING: 34841.25

U.S.G.S: 194 ft. south, 2498 ft. east from northwest corner of Section 14, T3S, R2W, SLBM

U.S. PUBLIC LAND SURVEY GRID: NE1/4, NE1/4, NW1/4 of Section 14, T3S, R2W, SLBM

CADASTRAL COORDINATES: (C32) 14 baa SLBM

ELEVATIONS (KENNECOTT):

NATURAL GROUND: 4975.16

TOP OF STEEL CASING: 4976.91

TOP OF WATER LEVEL MEASURING STANDPIPE: none

TOTAL DEPTH OF COMPLETED WELL: 840' bgl

START DATE: 01-29-01

COMPLETION DATE: 02-06-01

DRILLING COMPANY: Lang Exploratory Drilling

DRILLING METHOD, BIT DIAMETER/TYPE (BOREHOLE DIAMETER), AND DRILLING FLUID:

0-38': Conventional Mud Rotary, 31" tricone, mud.

38-210': Conventional Mud Rotary, 24" tricone, mud.

210-840': Flooded Dual Wall Reverse Circulation, 24" tricone, mud.

SURFACE CASING:

TYPE: Steel

DIAMETER: 26"

DEPTH: 0' bgl - 38' bgl

CASING:

TYPE: Carbon Steel

DIAMETER: 18"

DEPTH: 1.5' agl - 361.83' bgl

TYPE: Stainless Steel

DIAMETER: 18"

DEPTH: 361.83' bgl - 421.63'

bgl

TYPE: Stainless Steel

DIAMETER: 18"

DEPTH: 801.62' bgl - 819.87'

bgl

SCREEN:

TYPE: 304 Stainless Steel, 0.08" slot

DIAMETER: 18"

DEPTH: 421.63' bgl - 801.62'

bgl

Johnson Wire Wrap

COMPLETION MATERIALS:

4-8 MESH SILICA SAND: 380' bgl - 840' bgl

HOLEPLUG: 370' bgl - 380' bgl

CEMENT GROUT SURFACE SEAL: 0 - 370' bgl

WELL ID: BFG1200

STATIC WATER LEVEL IN OPEN BOREHOLE: Unknown due to drilling with mud.

STATIC WATER LEVEL AFTER WELL COMPLETION: 377.45' TOC

DATE: 02-16-01

WATER QUALITY AFTER WELL DEVELOPMENT:

WELL	DATE	pH	Cond. (μ mho/cm)	SO ₄ ²⁻ (mg/L)	Cl (mg/L)	T.D.S. (mg/L)	Cu (mg/L)
BFG1200	2-16-01	6.66	2080	864	138	1630	>.02

BOREHOLE LITHOLOGY:

0' - 25': SILT

25' - 47': SILTY QUARTZITIC GRAVEL

47' - 76': MIXED SILTY QUARTZITIC/VOLCANIC GRAVEL

76' - 660': INTERBEDDED CLAY AND VOLCANIC GRAVEL

660' - 790': VOLCANIC GRAVEL

790' - 840': CLAYEY VOLCANIC GRAVEL

WELL ID: LTG1147 SULFATE EXTRACTION WELL

LOCATION:

GENERAL LOCATION: Lark Tailings, at intersection of Hwy U111 and 11800 S. Street

KENNECOTT GRID:

NORTHING: 7067.2

EASTING: 29725.2

U.S.G.S: 115 ft. south, 2647 ft. west from northeast corner of Section 27, T3S, R2W,
SLBM

U.S. PUBLIC LAND SURVEY GRID: NE1/4, NE1/4, NW1/4 of section 27, T3S, R2W,
SLBM

CADASTRAL COORDINATES: (C32) 27 baa SLBM

ELEVATIONS: (KENNECOTT)

NATURAL GROUND: N/A

TOP OF STEEL CASING: N/A

TOP OF SOUNDER TUBES: A) 5059.33 B) 5059.37

TOTAL DEPTH OF COMPLETED WELL: 602' TOP

START DATE: 8-17-95

COMPLETION DATE: 8-27-95

DRILLING COMPANY: Longyear Exploration Drilling

DRILLING METHOD, BIT DIAMETER/TYPE (BOREHOLE DIAMETER), AND DRILLING FLUID:

0-33': Dry Auger, 36" auger.

33-605': Dual Wall Flooded Reverse, 25" tricone, mud.

SURFACE CASING:

TYPE: Steel DIAMETER: 29.25" DEPTH: 1.5' agl - 33' bgl

CASING:

TYPE: Steel DIAMETER: 16" DEPTH: 1.5' agl - 400' bgl and
590' bgl - 600' bgl

SCREEN:

TYPE: Johnson Wire-Wrap, Stainless-Steel, 50 slot

DIAMETER: 16" DEPTH: 400' bgl- 590' bgl

WATER LEVEL SOUNDING TUBES:

A (SE) TYPE: Steel DIAMETER: 1.25" DEPTH: 0' - 560' with 0.02" slots from
540' - 560'

B (S) TYPE: Steel DIAMETER: 1.25" DEPTH: 0' - 580' with 0.02" slots from
560' - 580'

C* TYPE: Sch. 80 PVC DIAMETER: 1" DEPTH: +3' - 490' with 0.25" hand drilled
holes from 0' - 10' and from
470' - 490'

* Installed inside 18" well casing in March 1996

COMPLETION MATERIALS: LTG1147

0' - 5': 4-8 Mesh Silica Sand

5' - 382': Cement

WELL ID: LTG1147

382' - 388': Benseal
388' - 393': 10-20 Mesh Silica Sand
393' - 605': 4-8 Mesh Silica Sand

STATIC WATER LEVEL IN OPEN BOREHOLE: Unknown due to drilling with mud.
STATIC WATER LEVEL AFTER WELL COMPLETION: 311.35 TOP DATE: 8-29-95

WATER QUALITY AFTER WELL DEVELOPMENT:

DATE	pH	Cond. (μ mho/cm)	SO ₄ ²⁻ (mg/L)	Cl ⁻ (mg/L)	T.D.S. (mg/L)	Cu (mg/L)
9-5-95	7.47	2160	678	230	1550	N/A

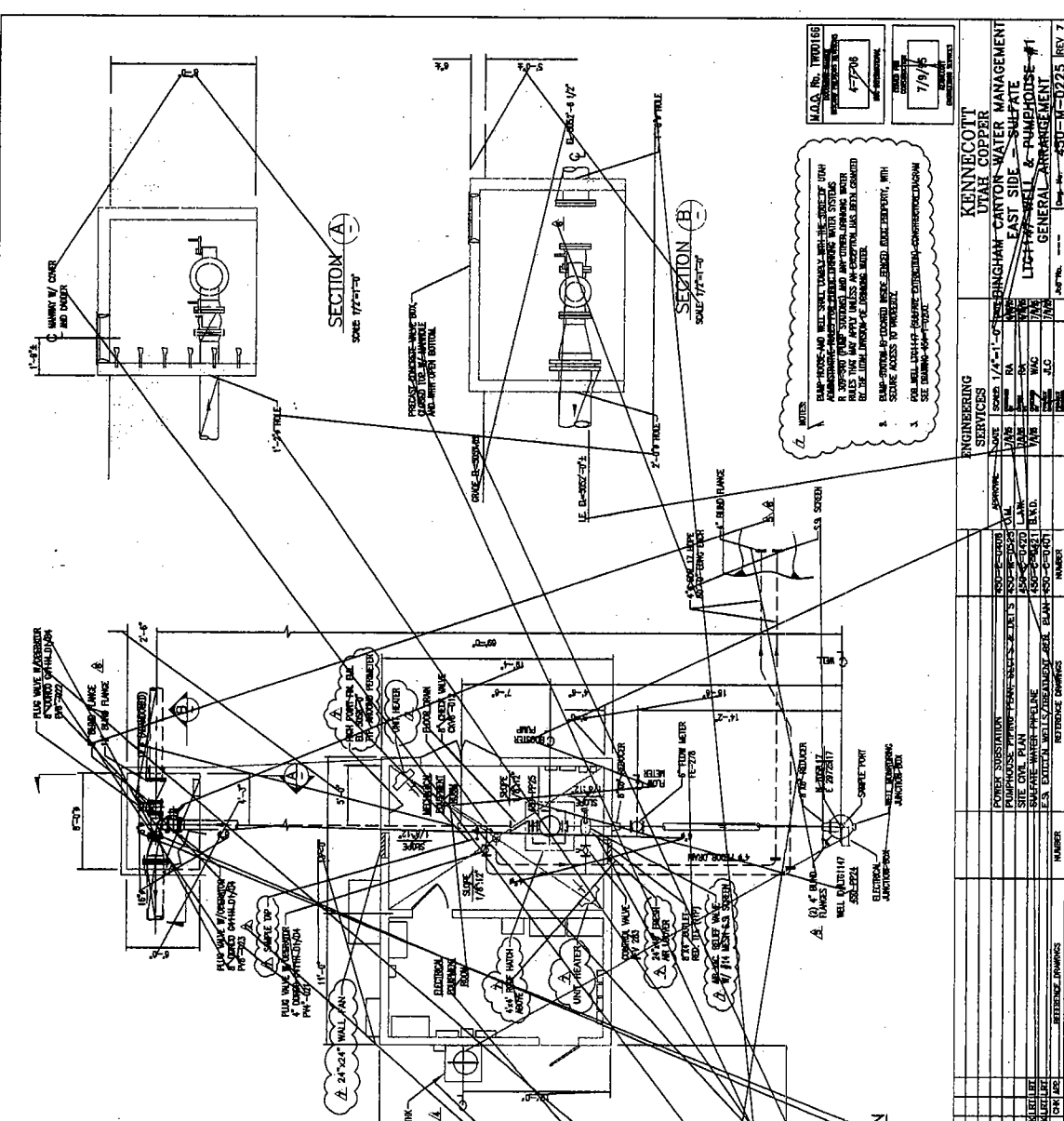
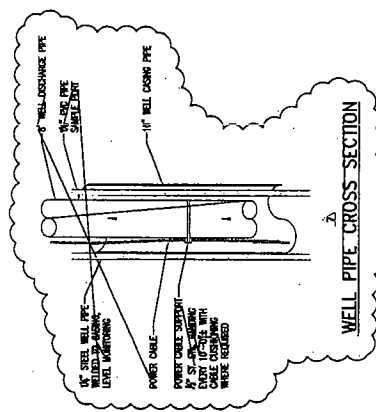
BOREHOLE LITHOLOGY:

0 - 66': SILTY QUARTZITIC GRAVEL
66' - 128': INTERMIXED SILTY CLAY AND SILTY QUARTZITIC GRAVEL
128' - 142': CLAYEY QUARTZITIC GRAVEL AND VOLCANIC GRAVEL
142' - 170': SILTY QUARTZITIC GRAVEL
170' - 268': SILTY AND CLAYEY VOLCANIC GRAVEL
268' - 298': SILTY QUARTZITIC GRAVEL
298' - 605': SILTY VOLCANIC GRAVEL WITH SILT AND CLAY INCREASING WITH DEPTH

APPENDIX B

Barrier Wells

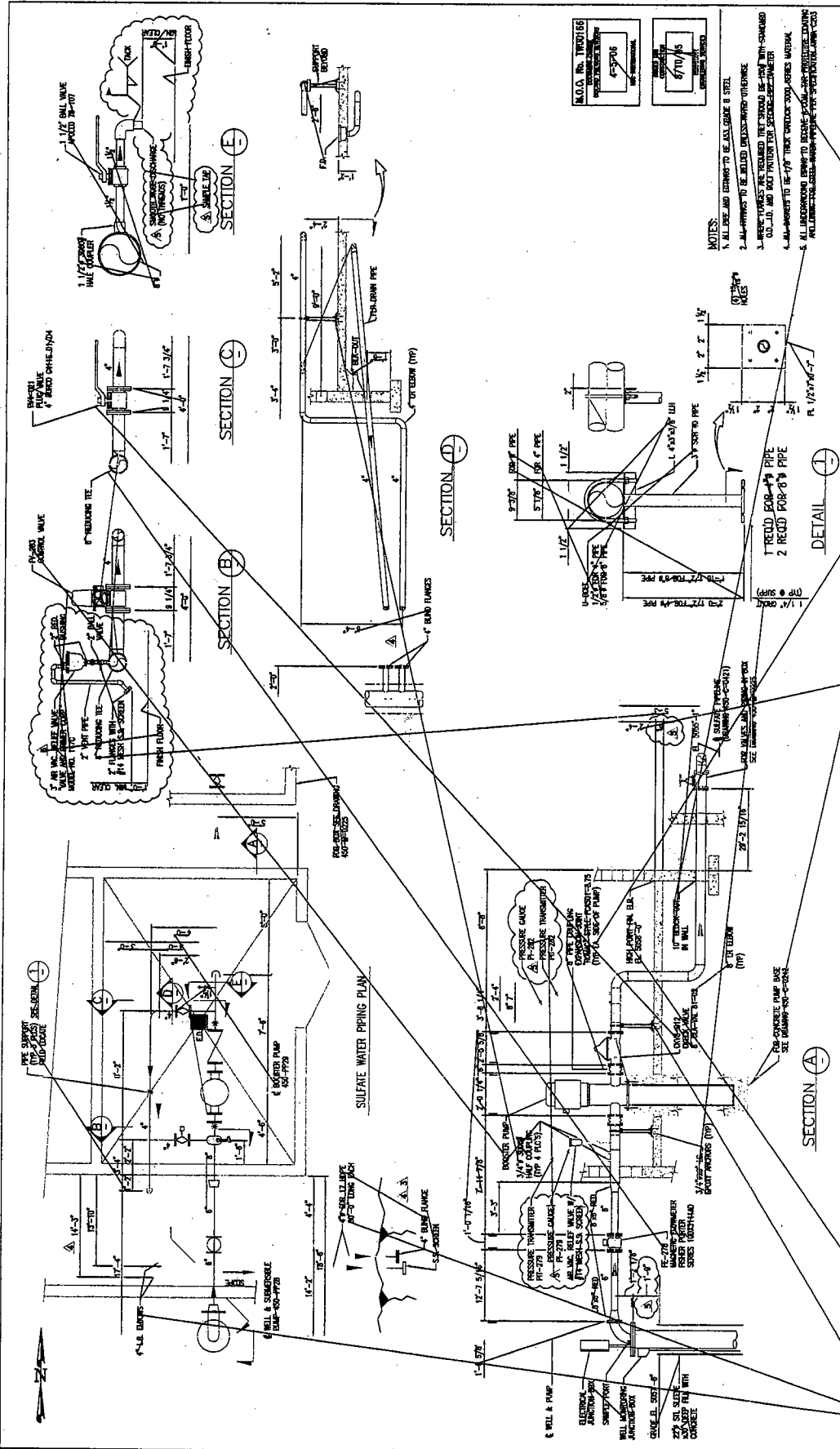
Well House and Pump Station Construction Drawings



NOTES

1. RAMP-CONTROLLED TRUCKS MUST BE USED TO ACCESS THE WELLS. WITH SOME ACCESS TO THE WELLS.
2. RAMP-CONTROLLED TRUCKS MUST BE USED TO ACCESS THE WELLS. WITH SOME ACCESS TO THE WELLS.
3. RAMP-CONTROLLED TRUCKS MUST BE USED TO ACCESS THE WELLS. WITH SOME ACCESS TO THE WELLS.

KENNEBECOTT		UTAH COPPER	
RICHMOND-CANTON WATER MANAGEMENT			
EAST SIDE SULFATE			
LIFT-TRUCKS & RAMPHOUSE #1			
GENERAL ARRANGEMENT			
NO.	DATE	BY	CHKD.
1	7/9/68	J.C.	J.C.
2			
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100			



NO.	REVISION	DATE	BY	CHKD.	DESCRIPTION
1	AS SHOWN				
2	REVISION				
3	REVISION				
4	REVISION				
5	REVISION				
6	REVISION				
7	REVISION				
8	REVISION				
9	REVISION				
10	REVISION				

ENGINEERING SERVICES

KENNECOTT
 BIRCHMOUNT CANYON WATER MANAGEMENT
 EASTSIDE SULFATE WATER EXTRACTION
 LEACHING TANKS & SUMMPHOUSE #1
 PIPING PLAN - SECTIONS AND DETAILS

REVISIONS

NO.	DATE	BY	CHKD.	DESCRIPTION
1	6/7/70	RA	RA	ISSUED FOR CONSTRUCTION
2	6/7/70	RA	RA	ISSUED FOR CONSTRUCTION
3	6/7/70	RA	RA	ISSUED FOR CONSTRUCTION
4	6/7/70	RA	RA	ISSUED FOR CONSTRUCTION
5	6/7/70	RA	RA	ISSUED FOR CONSTRUCTION
6	6/7/70	RA	RA	ISSUED FOR CONSTRUCTION
7	6/7/70	RA	RA	ISSUED FOR CONSTRUCTION
8	6/7/70	RA	RA	ISSUED FOR CONSTRUCTION
9	6/7/70	RA	RA	ISSUED FOR CONSTRUCTION
10	6/7/70	RA	RA	ISSUED FOR CONSTRUCTION

NOTES:

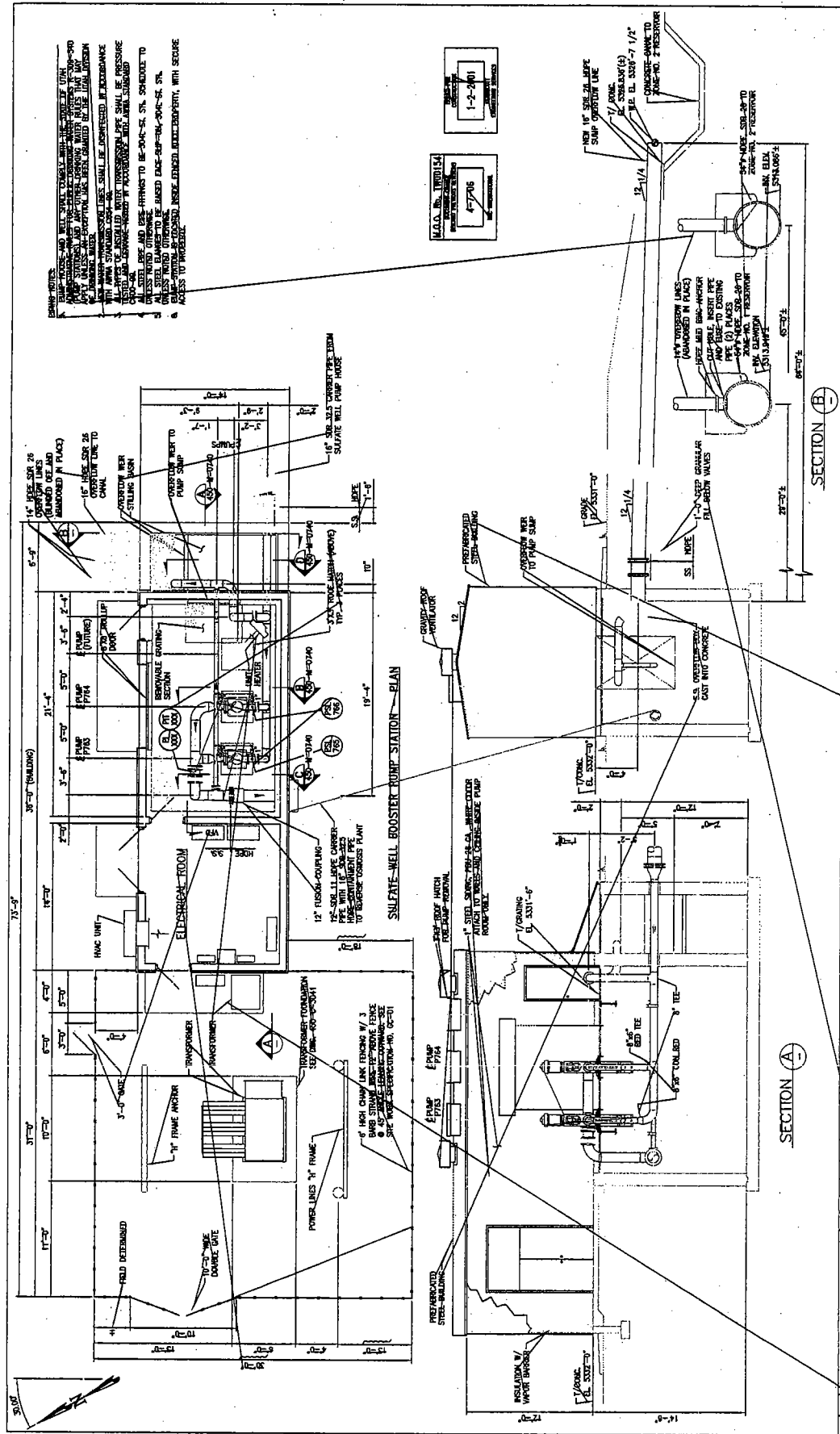
- ALL STEEL WORK SHALL BE AS SHOWN & WELDED.
- ALL WELDS SHALL BE TO THE STANDARD OF THE AMERICAN WELDED INSTITUTE (AWS).
- ALL WELDS SHALL BE TO THE STANDARD OF THE AMERICAN WELDED INSTITUTE (AWS).
- ALL WELDS SHALL BE TO THE STANDARD OF THE AMERICAN WELDED INSTITUTE (AWS).
- ALL WELDS SHALL BE TO THE STANDARD OF THE AMERICAN WELDED INSTITUTE (AWS).
- ALL WELDS SHALL BE TO THE STANDARD OF THE AMERICAN WELDED INSTITUTE (AWS).
- ALL WELDS SHALL BE TO THE STANDARD OF THE AMERICAN WELDED INSTITUTE (AWS).
- ALL WELDS SHALL BE TO THE STANDARD OF THE AMERICAN WELDED INSTITUTE (AWS).
- ALL WELDS SHALL BE TO THE STANDARD OF THE AMERICAN WELDED INSTITUTE (AWS).
- ALL WELDS SHALL BE TO THE STANDARD OF THE AMERICAN WELDED INSTITUTE (AWS).

SCALE: AS SHOWN

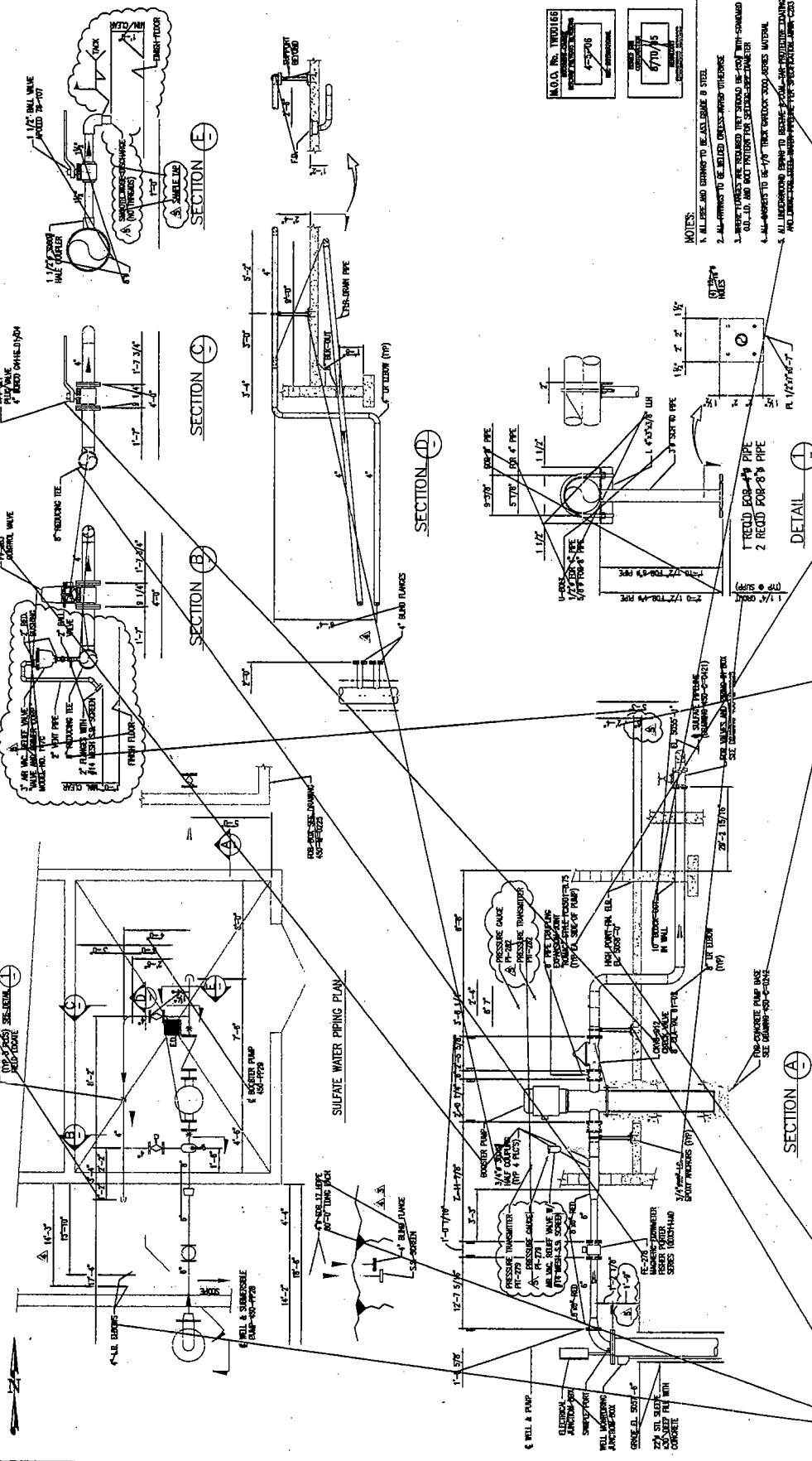
DATE: 6/7/70

BY: RA

CHKD.: RA



KENNECOTT UTAH COPPER				
BINGHAM-CANTON WATER MANAGEMENT				
ZEPHYRUS REVERSE OSMOSIS PLANT				
SULFATE WELL BOOSTER PUMP STATION				
GENERAL ARRANGEMENT PLAN & SECTIONS				
NO.	DESCRIPTION	DATE	BY	CHKD.
1	MUSELAINERS TRANSMISSION SCHEMATIC	02-23-12	...	...
2	SULFATE WATER PIPING TO R.O. PLANT	02-23-12	...	...
3	SULFATE & CLEAN WATER LINES (S&C)	02-23-12	...	...
4	SULFATE WATER PIPING (SHEET 1 OF 2)	02-23-12	...	...
5	SULFATE WATER PIPING (SHEET 2 OF 2)	02-23-12	...	...
6	BOOSTER PUMP STATION SITE PLAN	02-23-12	...	...
7	BOOSTER PUMP STATION SERVICES	02-23-12	...	...
8	...	...	...	...



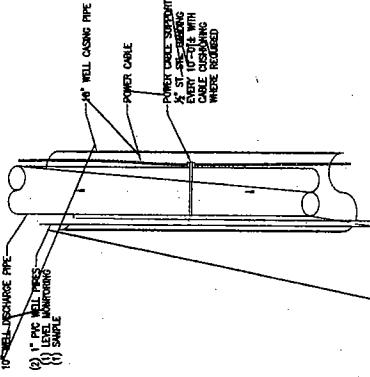
NO. 1001	DATE	BY	CHKD.	APP'VD.	REVISION
1001	11/20/58	REED	REED	REED	ISSUED FOR ESTIMATE
1002	12/18/58	REED	REED	REED	ISSUED FOR PERMITS
1003	1/15/59	REED	REED	REED	ISSUED FOR BIDDING
1004	1/15/59	REED	REED	REED	ISSUED FOR CONSTRUCTION
1005	1/15/59	REED	REED	REED	ISSUED FOR RECORDS
1006	1/15/59	REED	REED	REED	ISSUED FOR AS-BUILT

DATE	BY	CHKD.	APP'VD.
11/20/58	REED	REED	REED
12/18/58	REED	REED	REED
1/15/59	REED	REED	REED
1/15/59	REED	REED	REED
1/15/59	REED	REED	REED
1/15/59	REED	REED	REED

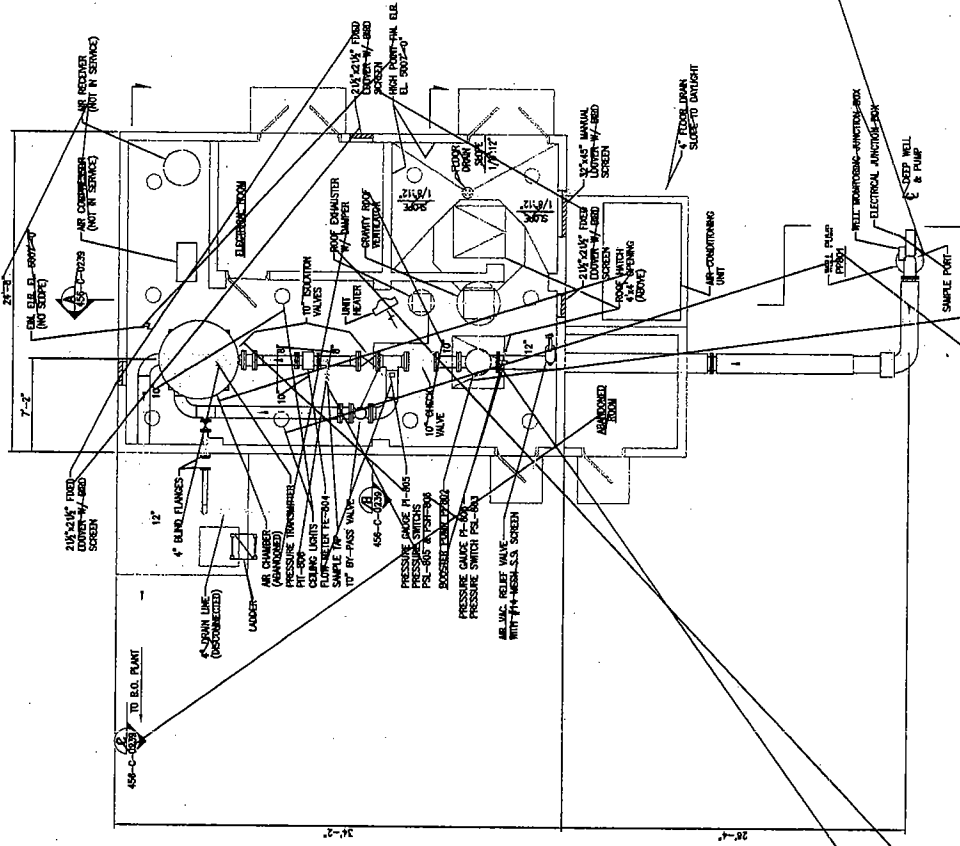
PROJECT	BINGHAM CANYON WATER MANAGEMENT EASTSIDE SULFATE WATER EXTRACTOR
CLIENT	UTAH WATER SUPPLY
LOCATION	BINGHAM CANYON, UTAH
DRAWN BY	REED
CHECKED BY	REED
APP'D BY	REED
SCALE	AS SHOWN

NOTES:

- ALL PIPE AND FITTINGS TO BE 8 INCH SCHEDULE 40 STEEL.
- ALL FITTINGS TO BE BELL END CONNECTIONS.
- PIPE JOINTS ARE TO BE BELL END CONNECTIONS.
- ALL WELDS TO BE 1/4" THICK ELECTRODE POS. WELD.
- ALL UNDERGROUND PIPING TO BE 10' MIN. DEPTH UNLESS OTHERWISE SPECIFIED.



WELL PIPE CROSS SECTION



WELLS
 PUMP HOUSE AND WELL SHALL COMPLY WITH THE SECTION OF UTAH COMPASSIONATE CARE ACT AND THE PROVISIONS OF THE WATER SYSTEMS ACT. THE PUMP HOUSE SHALL BE CONSTRUCTION AND SHALL BE GRADED TO THE FINAL FINISHED FLOORING LEVEL.
 PUMP STATION IS TO BE GRADED TO THE FINISHED FLOORING LEVEL, WITH A SECURE ACCESS TO THE PUMP.
 FOR WELL EQUIPMENT AND ACCESSORY EQUIPMENT, SEE DRAWING 456-C-0236



KENNECOTT
 WATER PURCHASE STATION

DATE	BY	CHKD	APP	REV
02/05/16	JK			1
				2

8421135 (N80) DEEP WELL
 GENERAL ARRANGEMENT PLAN
 456-C-0236 REV 2

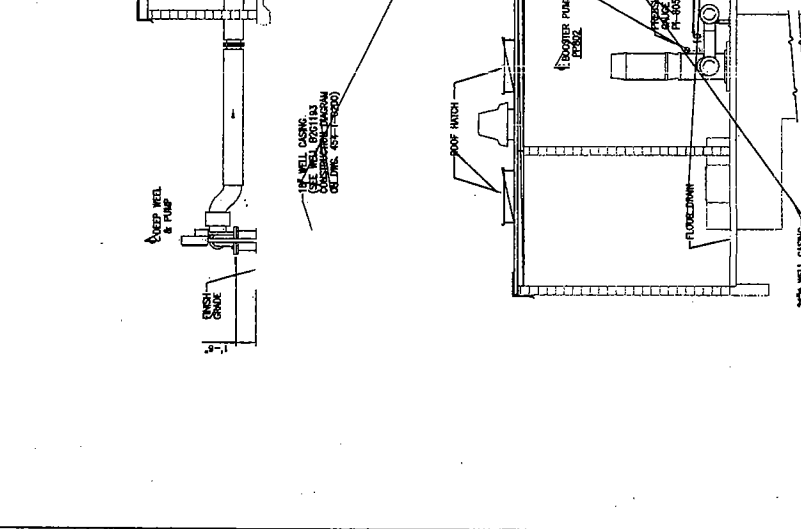
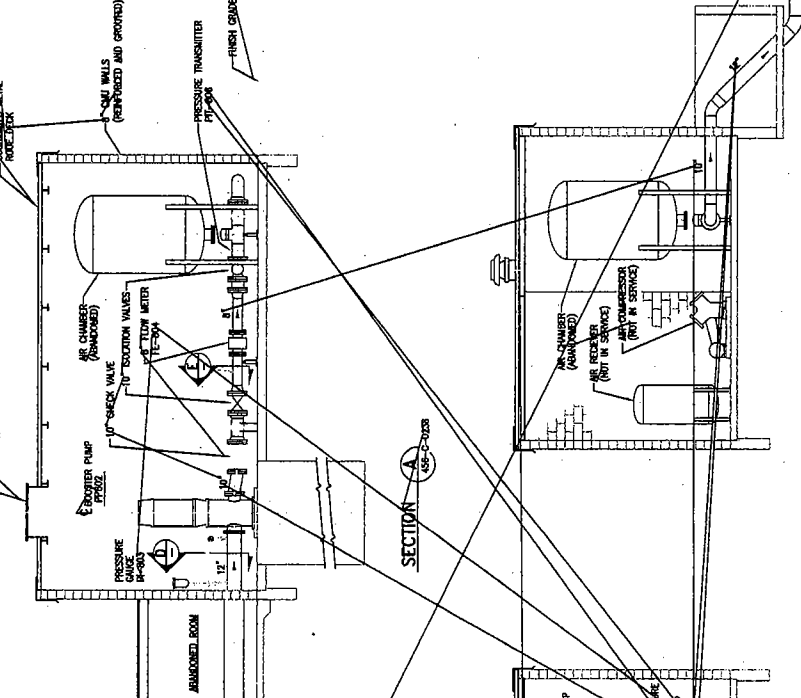
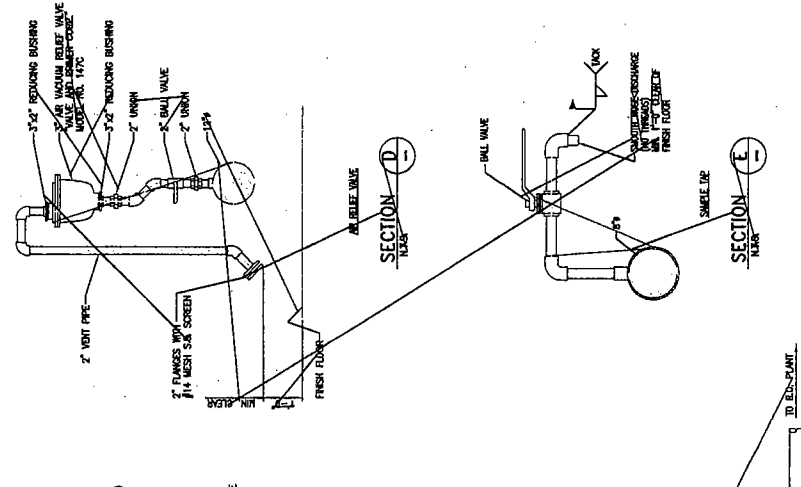
APPROVAL
 HBC International

NOT TO SCALE

REVISIONS

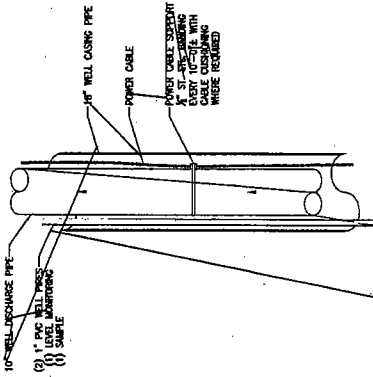
DATE
 BY
 CHECKED BY
 IN CHARGE

REVISIONS
 DATE
 BY
 CHECKED BY
 IN CHARGE



W.A.A. RD. 1170168
 4396
 11/10/18

HBC International		KENNECOTT LUTAH COPPER	
DATE	APPROVED	PROJECT	DESCRIPTION
11/10/18	[Signature]	CLARK W. WATER SYSTEM	B201153 (801) BEER WELL
			PUMPING STATION
			GENERAL MECHANICAL SECTIONS
			REV 2
			458-C-0239
NO.	DATE	BY	REVISIONS
1	11/10/18	[Initials]	ISSUED FOR PERMIT
2	11/10/18	[Initials]	REVISIONS
3	11/10/18	[Initials]	REVISIONS
4	11/10/18	[Initials]	REVISIONS
5	11/10/18	[Initials]	REVISIONS
6	11/10/18	[Initials]	REVISIONS
7	11/10/18	[Initials]	REVISIONS
8	11/10/18	[Initials]	REVISIONS
9	11/10/18	[Initials]	REVISIONS
10	11/10/18	[Initials]	REVISIONS
11	11/10/18	[Initials]	REVISIONS
12	11/10/18	[Initials]	REVISIONS
13	11/10/18	[Initials]	REVISIONS
14	11/10/18	[Initials]	REVISIONS
15	11/10/18	[Initials]	REVISIONS
16	11/10/18	[Initials]	REVISIONS
17	11/10/18	[Initials]	REVISIONS
18	11/10/18	[Initials]	REVISIONS
19	11/10/18	[Initials]	REVISIONS
20	11/10/18	[Initials]	REVISIONS

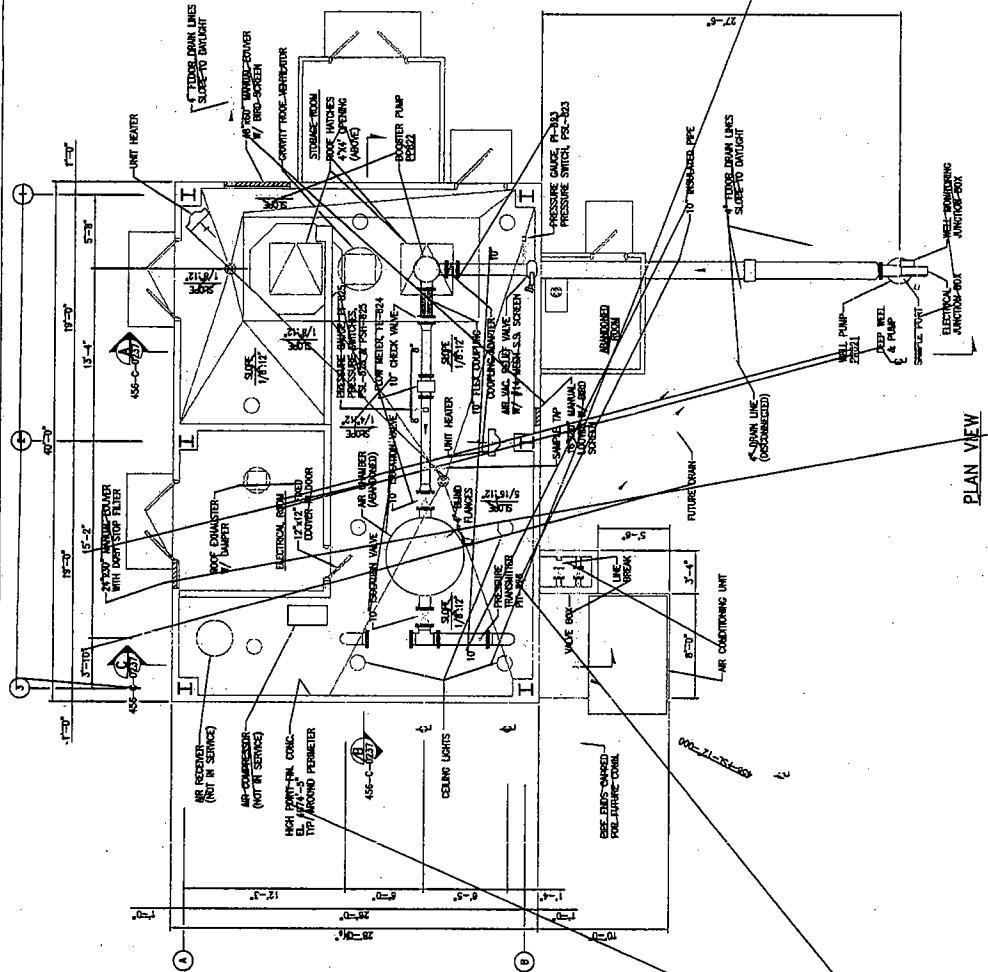


WELL PIPE CROSS SECTION

- NOTES
1. PUMP HOUSE AND WELL SHALL COMPLY WITH THE STATE OF UTAH REGULATIONS AND THE UTAH DEPARTMENT OF HERITAGE AND ARTS DIVISION REGULATIONS. ALL REGULATIONS SHALL BE OBTAINED FROM THE UTAH DEPARTMENT OF HERITAGE AND ARTS DIVISION. ALL REGULATIONS SHALL BE OBTAINED FROM THE UTAH DEPARTMENT OF HERITAGE AND ARTS DIVISION.
 2. PUMP HOUSE SHALL BE CONCRETE REINFORCED BLOCK CONSTRUCTION, WITH SECURE ACCESS TO PROHIBIT.
 3. FOR WELL-DEPTH (RTP) - 100 FT. SEE DRAWING 456-C-0736.

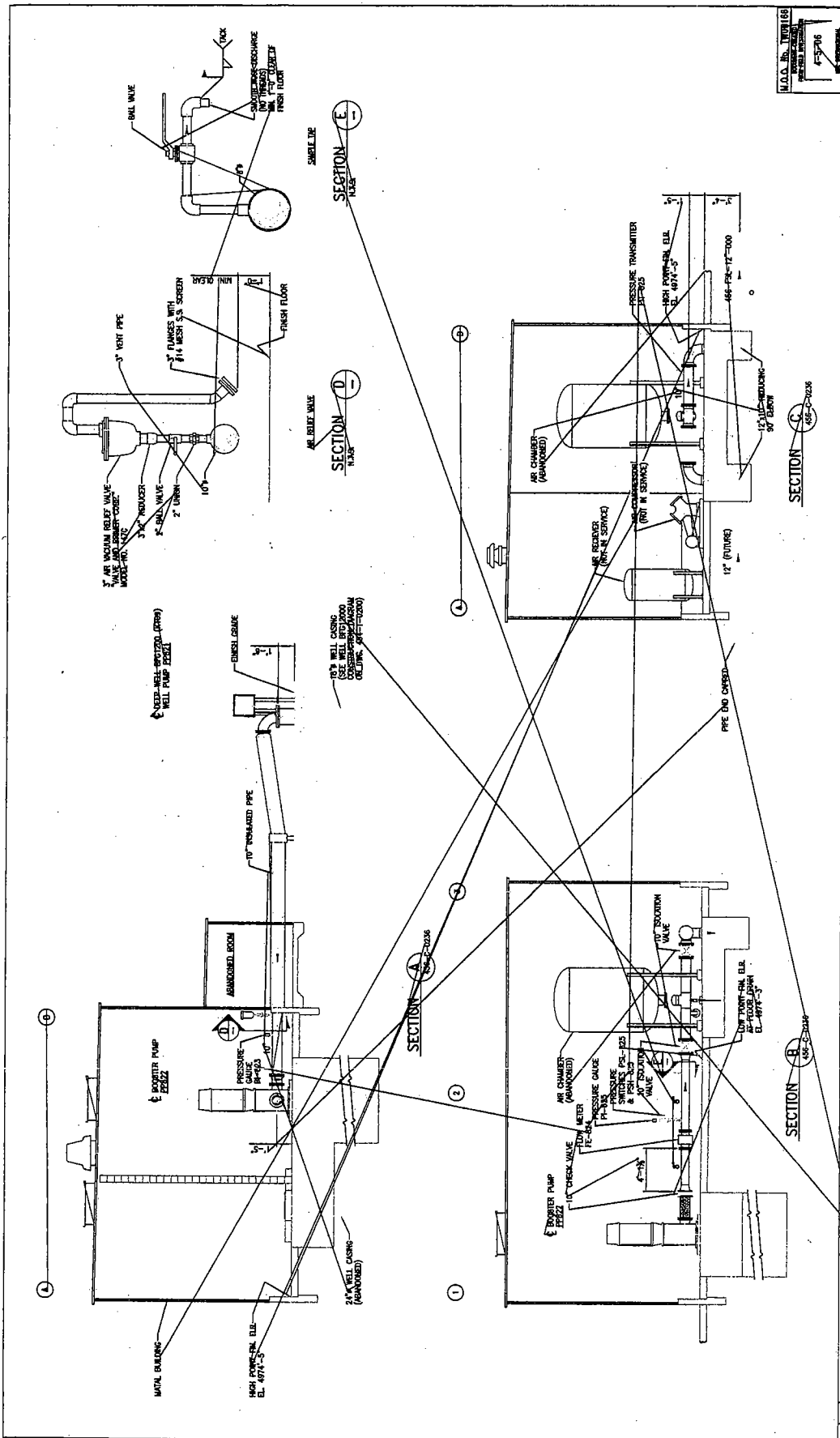
U.D.A. No. W01188
 UTAH DEPARTMENT OF HERITAGE AND ARTS
 DIVISION OF HERITAGE AND ARTS
 4796
 PROFESSIONAL

KENNEDY
 UTAH COPPER
 CULINARY WATER SYSTEM
 BEGLIARDI-KITTO-LEIGH-WELL
 PUMPING STATION
 GENERAL ARRANGEMENT PLAN



PLAN VIEW

ABC International		KENNEDY		UTAH COPPER		CULINARY WATER SYSTEM		BEGLIARDI-KITTO-LEIGH-WELL		PUMPING STATION		GENERAL ARRANGEMENT PLAN	
NO.	DATE	BY	CHK	APP	REV	DATE	BY	CHK	APP	REV	DATE	BY	CHK
1	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
2	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
3	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
4	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
5	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
6	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
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9	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
10	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
11	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
12	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
13	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
14	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
15	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
16	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
17	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
18	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
19	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									
20	10-07-79	J. K. JONES	J. K. JONES	J. K. JONES									



KENNECOTT UTAH COPPER		ABC International	
DATE	APPROVED	DATE	APPROVED
10/20/00	[Signature]	10/20/00	[Signature]
CULINARY WATER SYSTEM		BEGS 2ND (T09)-BESH WELL	
GENERAL ARRANGEMENTS - SECTIONS		GENERAL ARRANGEMENTS - SECTIONS	
PROJECT NO. 455-C-0257		PROJECT NO. 455-C-0257	
REV. 2		REV. 2	
BY: [Name]		BY: [Name]	
CHECKED: [Name]		CHECKED: [Name]	
DESIGNED: [Name]		DESIGNED: [Name]	
DRAWN: [Name]		DRAWN: [Name]	
SCALE: AS SHOWN		SCALE: AS SHOWN	
SHEET NO. 1		SHEET NO. 1	
TOTAL SHEETS: 1		TOTAL SHEETS: 1	

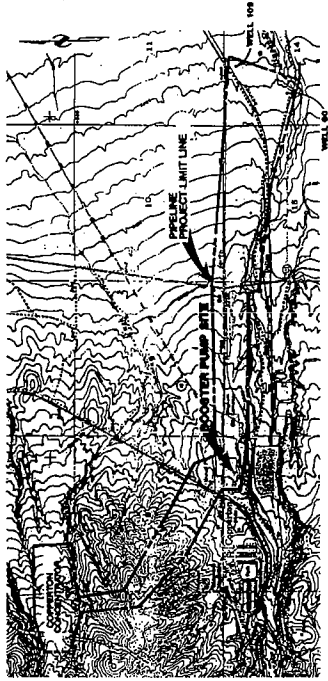
APPENDIX C

Barrier Wells

Pipeline Construction Drawings

KENNECOTT

4th LINE EXPANSION DEEP WELLS PIPELINE PROJECT



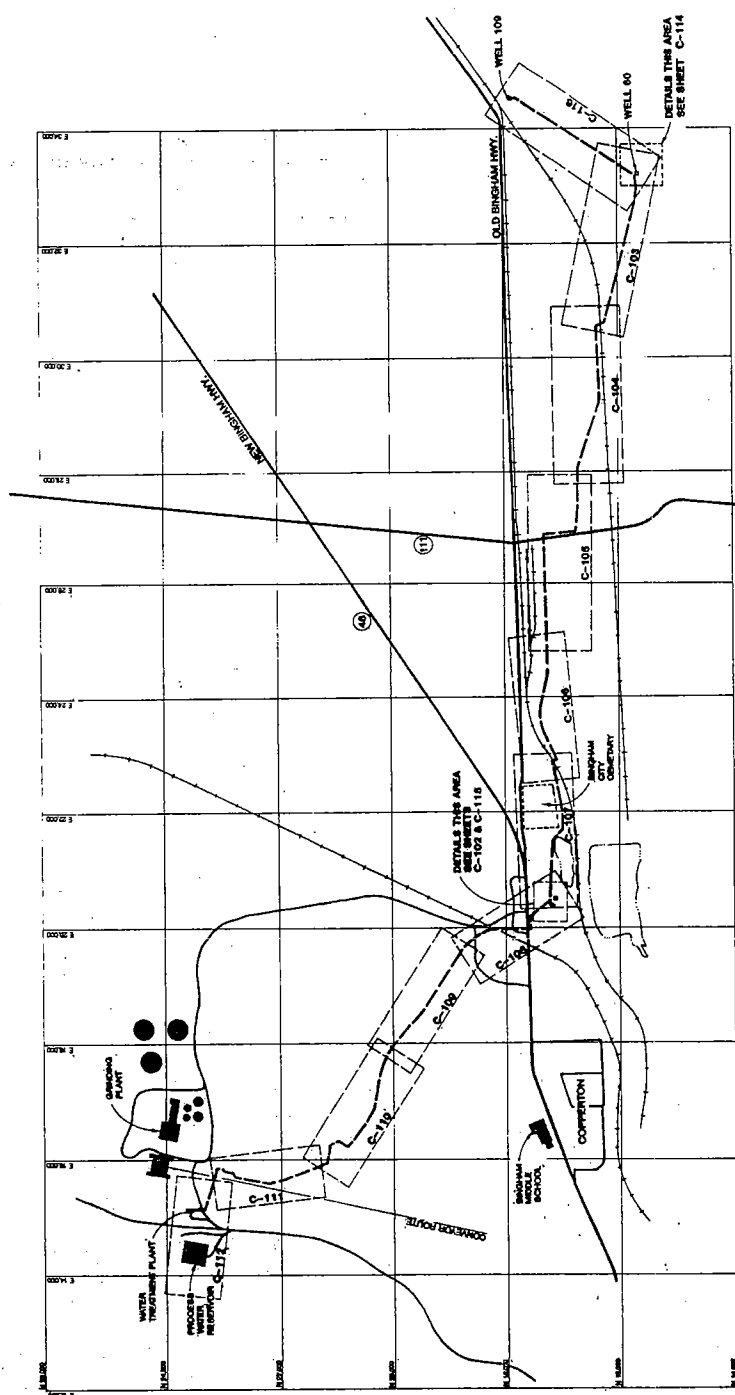
LOCATION MAP
Scale in Feet

- | | |
|-------------------------------|--|
| DRAWING # | DESCRIPTION |
| CIVIL / CONCRETE / STRUCTURAL | |
| 2470-C-100 | COVER SHEET |
| 2470-C-101 | PROJECT OVERVIEW & KEY MAP |
| 2470-C-102 | LOCATION MAP & SITE PLAN |
| 2470-C-103 | WELL PIPELINE - PLAN & PROFILE STA. 1+31 TO 26+00 |
| 2470-C-104 | WELL PIPELINE - PLAN & PROFILE STA. 26+00 TO 54+00 |
| 2470-C-105 | WELL PIPELINE - PLAN & PROFILE STA. 54+00 TO 85+00 |
| 2470-C-106 | WELL PIPELINE - PLAN & PROFILE STA. 85+00 TO 111+00 |
| 2470-C-107 | WELL PIPELINE - PLAN & PROFILE STA. 111+00 TO 137+94 |
| 2470-C-108 | BOOSTER PIPELINE PLAN & PROFILE STA. 0+40 TO 17+00 |
| 2470-C-109 | BOOSTER PIPELINE PLAN & PROFILE STA. 17+00 TO 41+00 |
| 2470-C-110 | BOOSTER PIPELINE PLAN & PROFILE STA. 41+00 TO 67+00 |
| 2470-C-112 | BOOSTER PIPELINE PLAN & PROFILE STA. 67+00 TO 92+00 |
| 2470-C-113 | BOOSTER PIPELINE PLAN & PROFILE STA. 92+00 TO 98+80 |
| 2470-C-114 | WELL AND BOOSTER PIPELINE DETAILS |
| 2470-C-115 | WELL PIPELINE 60/109 JUNCTION |
| 2470-C-203 | DELETED |
| 2470-C-204 | BOOSTER PUMP STATION FOUNDATION & FLOOR DETAILS |
| 2470-C-205 | BOOSTER PUMP STATION SUMP REINFORCING DETAILS |
| 2470-C-206 | BOOSTER PUMP STATION INLET PIPING DETAIL |
| 2470-C-207 | BOOSTER PUMP STATION ROOF WALKWAY DETAILS |
| ARCHITECTURAL | |
| 2470-A-401 | BOOSTER PUMP STATION ELEVATIONS |
| MECHANICAL / PIPING | |
| 2470-M-101 | PIPING & INSTRUMENTATION DIAGRAM |
| 2470-M-102 | PIPING & INSTRUMENTATION DIAGRAM |
| 2470-M-103 | PIPING & INSTRUMENTATION DIAGRAM |
| 2470-M-201 | BOOSTER PUMP STATION PLAN |
| 2470-M-202 | BOOSTER PUMP STATION SECTIONS A & B |
| 2470-M-501 | BOOSTER PUMP STATION PIPING PLAN & SECTIONS |
| 2470-M-502 | BOOSTER PUMP STATION PIPE SUPPORT DETAILS |

PRINT RECORD
DATE: 11/11/03
BY: [Signature]
CHECKED: [Signature]
SCALE: AS SHOWN

KENNECOTT CORPORATION 1515 WEST 1000 SOUTH SALT LAKE CITY, UTAH 84117		KENNECOTT CORPORATION 4th LINE EXPANSION DEEP WELLS PIPELINE	
DATE: 11/11/03	BY: [Signature]	DATE: 11/11/03	BY: [Signature]
CHECKED: [Signature]	SCALE: AS SHOWN	CHECKED: [Signature]	SCALE: AS SHOWN
PROJECT NO. 2470-C-100	REVISION NO. B	PROJECT NO. 2470-C-100	REVISION NO. B
DRAWING TITLE: COVER SHEET		DRAWING TITLE: COVER SHEET	

2470-C-101



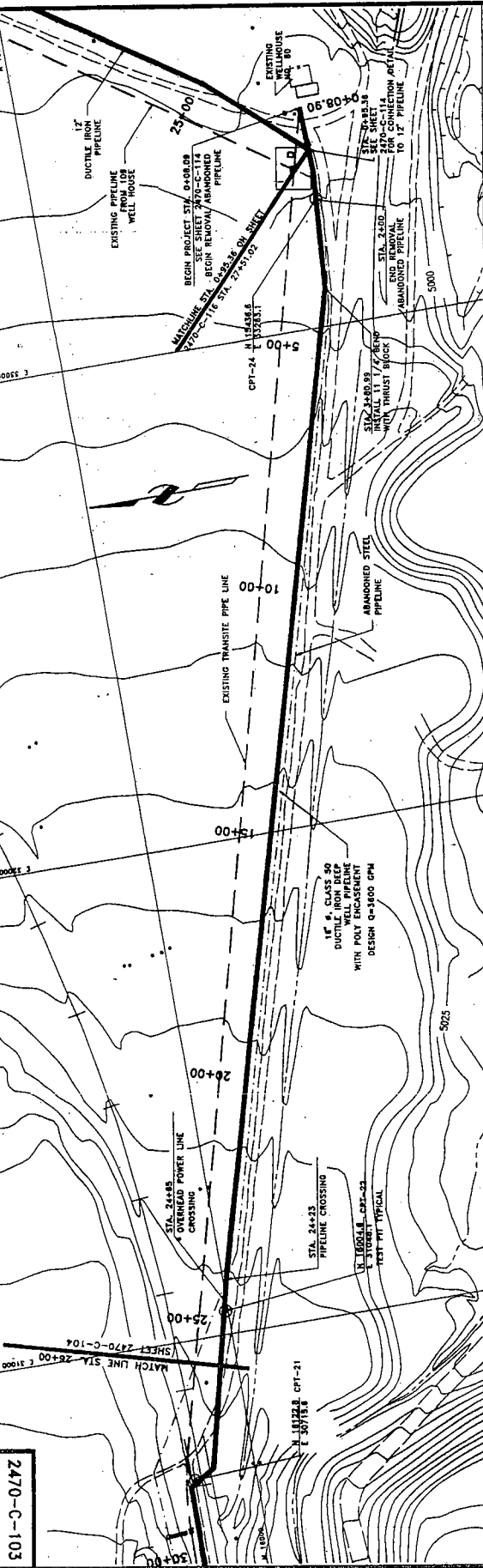
PRINT RECORD

DATE	01/23/24
BY	W. J. [unclear]
CHECKED	[unclear]
SCALE	AS SHOWN

Bligham Engineering		KENNECOTT	
PROJECT NO.	2470-C-101	PROJECT OVERVIEW	KEY MAP
DATE	01/23/24	KENNECOTT CORPORATION	
BY	W. J. [unclear]	1515 MINERAL SQUARE	
CHECKED	[unclear]	SALT LAKE CITY, UTAH	
SCALE	AS SHOWN	SHEET	

PROJECT OVERVIEW

NO.	DATE	DESCRIPTION	BY	DATE	NO.	DATE	DESCRIPTION	BY	DATE	NO.	DATE	DESCRIPTION	BY	DATE	NO.	DATE	DESCRIPTION	BY	DATE	
1					1	01/23/24	ISSUED FOR CONSTRUCTION	W. J. [unclear]		2										
2					3		ISSUED FOR APPROVAL	W. J. [unclear]												



2470-C-103

**DEEP WELL PIPELINE
AS-BUILT BY CRS
1-31-92**

EXISTING GROUND
COVER

1" CLASS NO DUCTILE IRON DEEP WELL PIPELINE WITH POLY ENCASEMENT DESIGN Q-3600 CPM

PIPELINE CROSSING
STA. 25+11
OVERHEAD POWER LINE
STA. 25+59

MATCH LINE STA. 28+00 SHEET 2470-C-104
5000
5020
5040
5060

RECEIVED
APR 23 1992
URAG-CATALYTIC
KEMSCOTT

RECEIVED
APR 23 1992
URAG-CATALYTIC
KEMSCOTT

PRINT RECORD

DATE	CITY	BY
1/31/92	CRS	CRS

NO.	DATE	BY
1	1/31/92	CRS
2	2/15/92	CRS
3	3/15/92	CRS

NO.	DATE	BY
1	1/31/92	CRS
2	2/15/92	CRS
3	3/15/92	CRS

NO.	DATE	BY
1	1/31/92	CRS
2	2/15/92	CRS
3	3/15/92	CRS

NO.	DATE	BY
1	1/31/92	CRS
2	2/15/92	CRS
3	3/15/92	CRS

NO.	DATE	BY
1	1/31/92	CRS
2	2/15/92	CRS
3	3/15/92	CRS

Bingham Engineering
Salt Lake City, Utah

KEMSCOTT CORPORATION
REC'D - URAG
SALT LAKE CITY, UTAH
84147

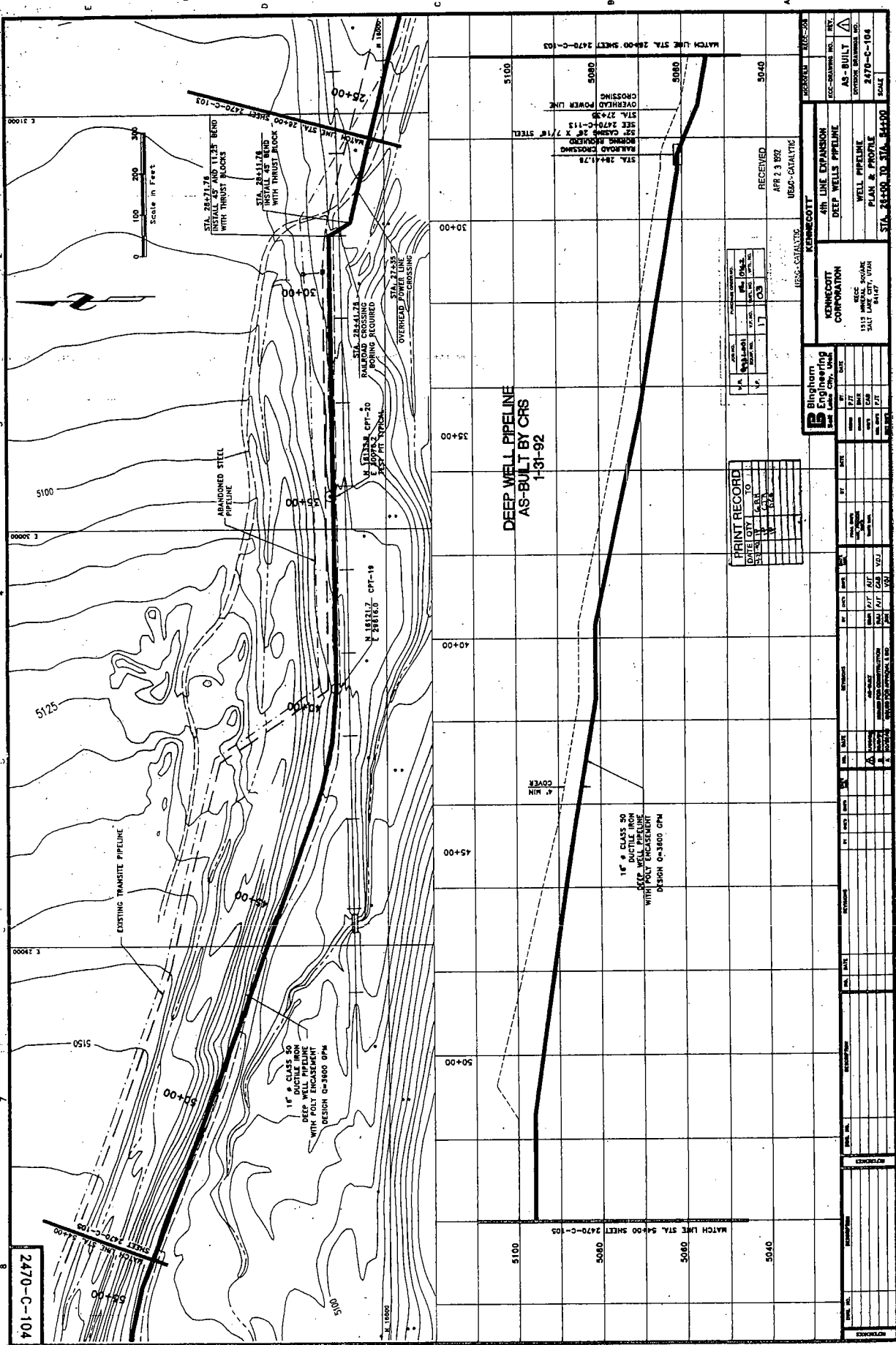
**AIR LINE EXPANSION
DEEP WELLS PIPELINE
PLAN & PROFILE**

2470-C-103

NO.	DATE	BY
1	1/31/92	CRS
2	2/15/92	CRS
3	3/15/92	CRS

NO.	DATE	BY
1	1/31/92	CRS
2	2/15/92	CRS
3	3/15/92	CRS

STA. 0+00 TO 28+00



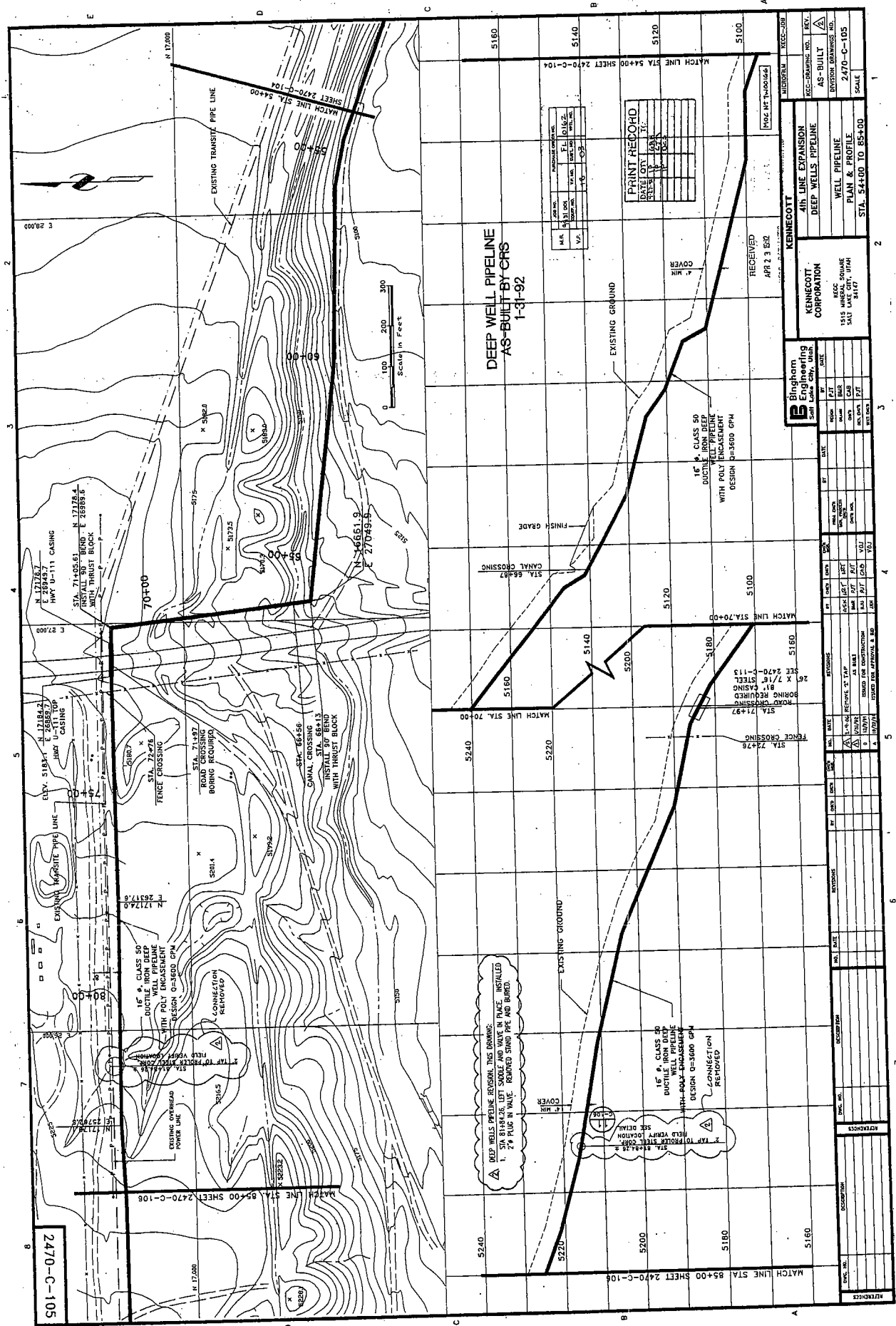
**DEEP WELL PIPELINE
AS-BUILT BY CRS
1-31-92**

PRINT RECORD

NO.	DATE	BY	DESCRIPTION
1	1-31-92	CRS	AS-BUILT
2	1-31-92	CRS	REVISION

DATE	BY	DESCRIPTION
APR 23 1992	CRS	RECEIVED

Bingham Engineering Corporation 1315 ARCADE SQUARE SALT LAKE CITY, UTAH 84102		Kennecott Corporation 4TH LINE EXPANSION DEEP WELLS PIPELINE
PROJECT NO. 2470-C-104 SHEET NO. 0105 OF 0105	RECEIVED APR 23 1992 URS-CATALYTIC	AS-BUILT URS-CATALYTIC 2470-C-104

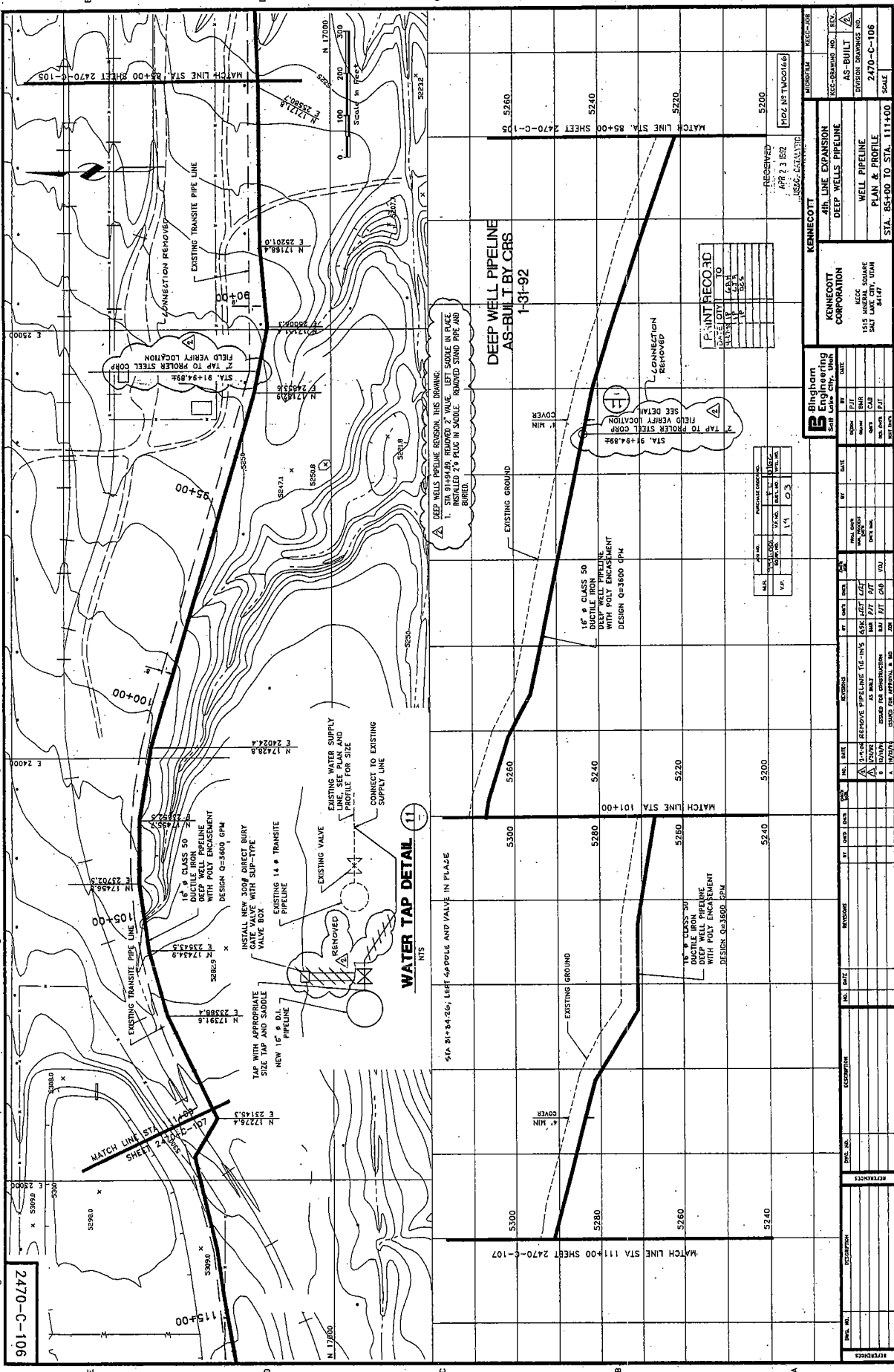


DEEP WELL PIPELINE
AS-BUILT BY CRS
1-31-92

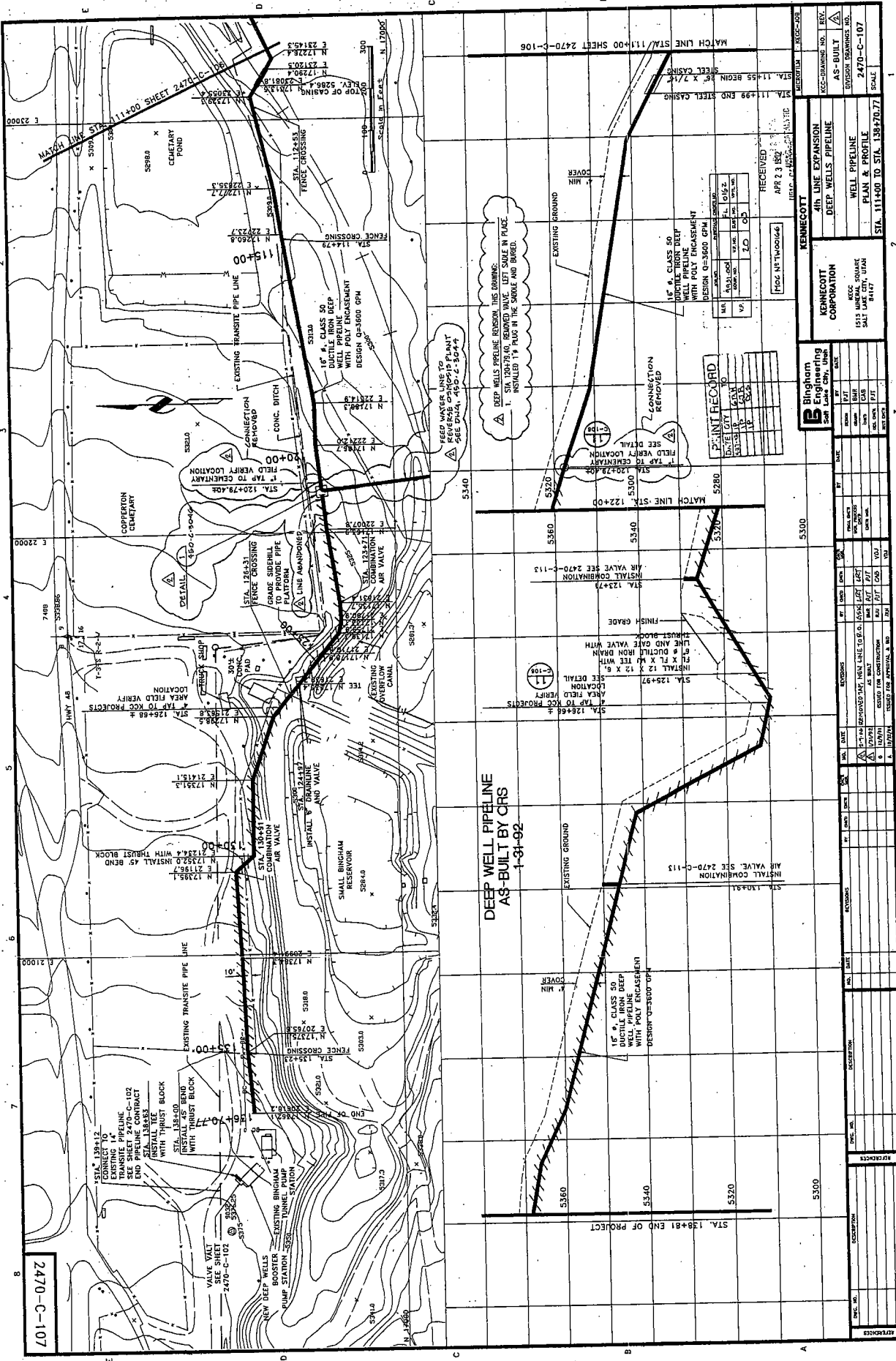
PRINT RECORD

NO.	DATE	BY	DESCRIPTION
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5	1-31-92	CRS	AS-BUILT
6	1-31-92	CRS	AS-BUILT
7	1-31-92	CRS	AS-BUILT
8	1-31-92	CRS	AS-BUILT
9	1-31-92	CRS	AS-BUILT
10	1-31-92	CRS	AS-BUILT

Singhony Engineering Corporation 1515 WINDSOR SQUARE SUITE 100, WINDSOR, CO 80550 TEL: 303-438-3147		KENNECOTT CORPORATION 4th LINE EXPANSION DEEP WELLS PIPELINE WELL PIPELINE PLAN & PROFILE STA. 2470-00 TO 85+00	
RECEIVED APR 23 1992 PROJECT NO. 74001664	SHEET NO. 1 OF 1	SCALE 1" = 40'	DRAWN BY CHECKED BY DESIGNED BY DATE
PROJECT NO. 74001664 SHEET NO. 1 OF 1	DATE BY DATE BY DATE BY	DATE BY DATE BY DATE BY	DATE BY DATE BY DATE BY



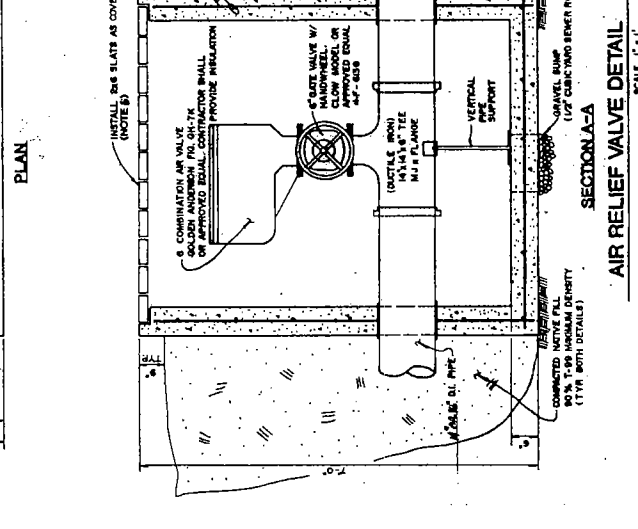
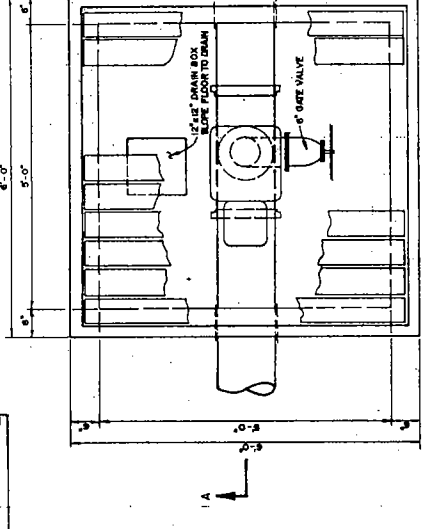
Bingham Engineering 1515 Mineral Square Salt Lake City, Utah 84107		Kennecott Corporation 1515 Mineral Square Salt Lake City, Utah 84107	
PROJECT NO. 1403 SHEET NO. 2470-C-106	PROJECT NAME DEEP WELLS PIPELINE EXPANSION	DATE APR 23 1992	SCALE AS-BUILT
DESIGNER J. L. ANDERSON	CHECKER J. L. ANDERSON	DATE APR 23 1992	PROJECT NO. 1403
DRAWN BY J. L. ANDERSON	DATE APR 23 1992	PROJECT NO. 1403	SHEET NO. 2470-C-106
APPROVED J. L. ANDERSON	DATE APR 23 1992	PROJECT NO. 1403	SHEET NO. 2470-C-106
REVIEWED J. L. ANDERSON	DATE APR 23 1992	PROJECT NO. 1403	SHEET NO. 2470-C-106



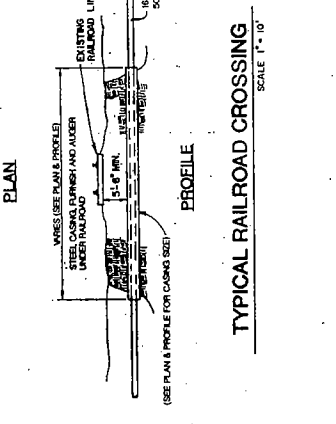
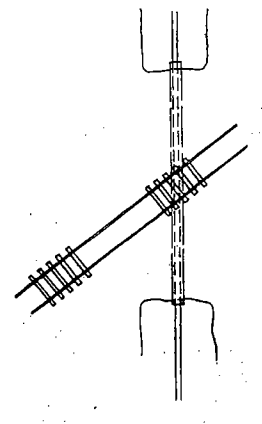
**DEEP WELL PIPELINE
AS-BUILT BY CRS
1-31-92**

KENNECOTT Bingham Engineering Corporation 1915 MAIN ST. SUITE 200 BIRMGHAM, UTAH 84302		RECEIVED APR 23 1992 MOD N-THOUGHT
DESCRIPTION 4th LINE EXPANSION DEEP WELLS PIPELINE		KCC-DRAWING NO. 2470-C-107 AS-BUILT ENDSHEET DRAWING NO. 2470-C-107 SCALE
REVISIONS NO. DATE BY DESCRIPTION 1 1-31-92 CRS AS-BUILT BY CRS	PROJECT RECORD DATE OF PLAN 1-31-92 DATE OF FIELD VERIFICATION 1-31-92 DATE OF AS-BUILT 1-31-92	STA 114+99 END STEEL CASING STA 114+55 BEGIN 8" X 7 1/2" STEEL CASING STA 114+00 TO STA 118+81

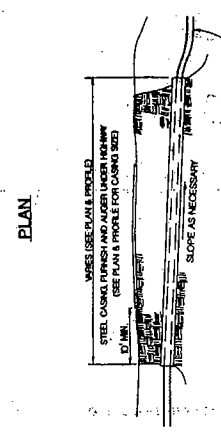
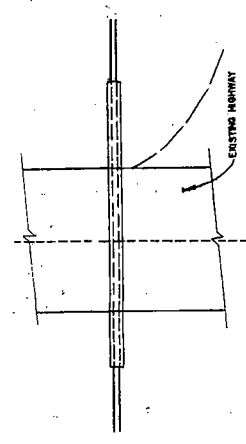
2470-C-113



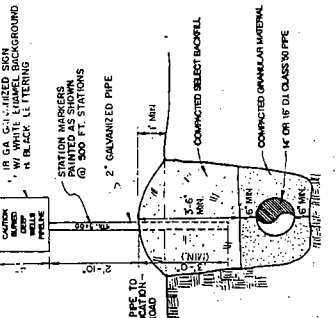
SECTION A-A
AIR RELIEF VALVE DETAIL
SCALE 1" = 1'



PROFILE
TYPICAL TRENCH DETAIL
SCALE 1" = 2'



PROFILE
TYPICAL HIGHWAY CROSSING
SCALE 1" = 10'



PROFILE
TYPICAL RAILROAD CROSSING
SCALE 1" = 10'

- NOTES:
1. KENNECOTT SHALL ACQUIRE ALL PERMITS REQUIRED TO CROSS RAILROADS AND HIGHWAYS AS SHOWN.
 2. PIPELINE INSTALLATION PROCEDURES SHALL CONFORM TO GENERAL SPECIFICATION 2002-GC-200, "INSTALLATION OF UNDERGROUND PIPES."
 3. ALL CASING JOINTS SHALL BE FILLED WITH ORY-BAND AFTER PLACING OF PIPE.
 4. ALL BURIED PIPE SHALL HAVE A LEASE-WEAR-AND-TEAR COVER.
 5. ALL PERMITS REQUIRED SHALL BE OBTAINED PRIOR TO CONSTRUCTION AND ALL CONDITIONS AT LOCATIONS AS DIRECTED BY THE ENGINEER WHERE WORKING WOULD INTERFERE WITH THE EXISTING ROAD COVERS SHALL BE PRESERVED, TREATED (VOLCANIZED), REPAIR, SELECT STRUCTURAL GRADE, DOUGLAR FRANCH (NORTH).

PRINT RECORD

DATE	BY	CHK'D BY

Bingham Engineering
SALT LAKE CITY, UTAH

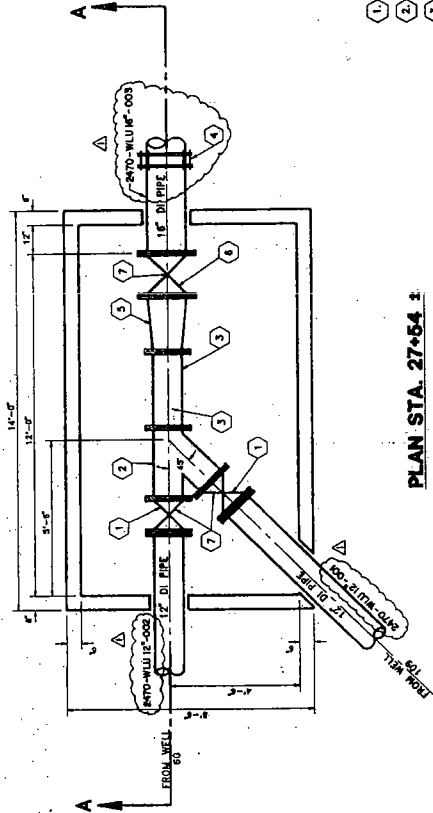
DATE: 1/2/91
BY: J. J. KENNEDY
CHK'D BY: J. J. KENNEDY

NO.	DESCRIPTION	DATE	BY
01	ISSUED FOR CONSTRUCTION	1/2/91	J. J. KENNEDY
02	ISSUED FOR APPROVAL & BID	1/2/91	J. J. KENNEDY

KENNECOTT
AIR LINE EXPANSION
DEEP WELLS PIPELINE
WELL AND BOOSTER
PIPELINE DETAILS

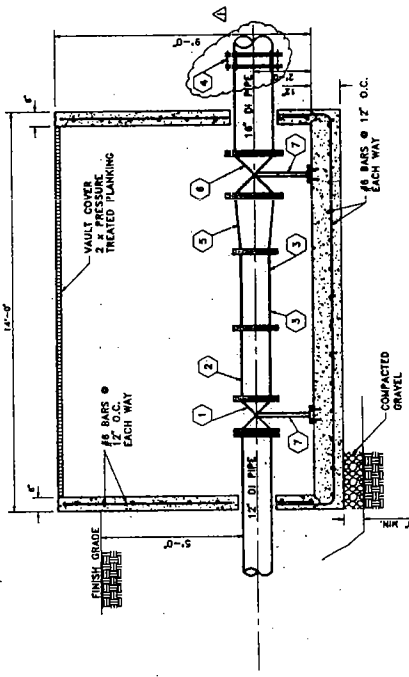
KENNECOTT CORPORATION
1515 WINDY HILLS, UTAH
SALT LAKE CITY, UTAH
84147

NO.	DESCRIPTION	DATE	BY



PLAN STA. 27+54.3

Scale in Feet



SECTION A-A

Scale in Feet

- ① 12" GATE VALVE, MJ x FL
- ② 12" C. STL., SCH. 40, 300 # ANSI, OR A53 B WYE FL x FL x FL
- ③ 12" C. STL., SCH. 40, 300 # ANSI, OR A53 B SPOOL FL x FE
- ④ 12" DRESSER TYPE COUPLING
- ⑤ 12 x 15" C. STL., SCH. 40, 300 # ANSI, OR A53 B REDUCER FL x F
- ⑥ 16" GATE VALVE, FL x MJ
- ⑦ BOLT DOWNPIPE SUPPORT

PRINT RECORD

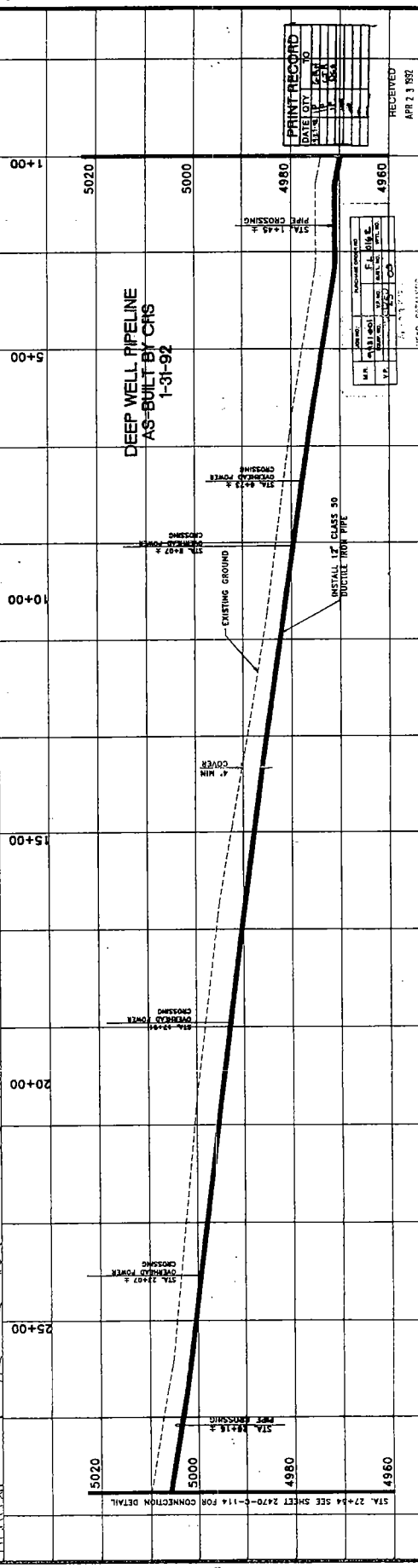
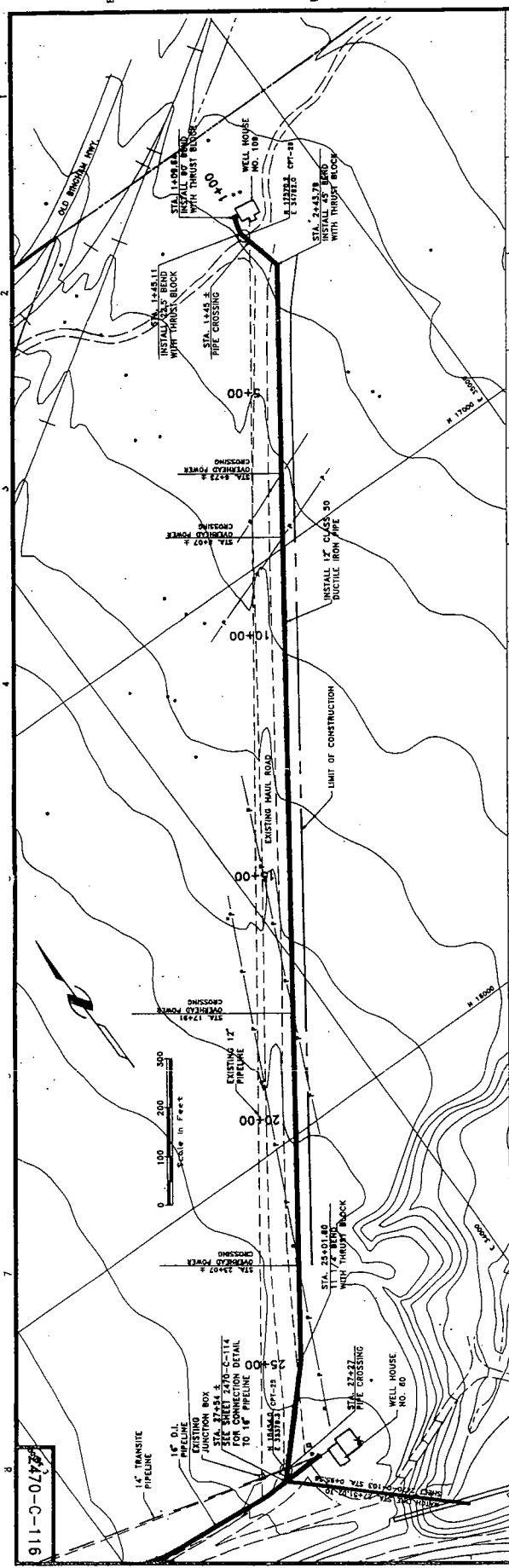
DATE	BY	TO
11/11/83	DLG	DLG

DATE	BY	TO
11/11/83	DLG	DLG

RECEIVED
APR 23 1980
USCG-CATALYTIC USCG-CATALYTIC

B Bingham Engineering Salt Lake City, Utah	PROJECT NO. 2470-C-114	SHEET NO. 1 OF 1
	CLIENT KERNACOTT CORPORATION	DATE APR 23 1980
DRAWN BY DLG	CHECKED BY DLG	SCALE 1/2" = 1'-0"
PROJECT TITLE 4th LINE EXPANSION DEEP WELLS PIPELINE	SHEET TITLE WELL PIPELINE	DRAWING NO. 2470-C-114

91-C-0-116



**DEEP WELL PIPELINE
AS-BUILT BY CHS
1-31-92**

PRINT RECORD

DATE	BY

RECEIVED
APR 23 1992
MERCANTILE

NO.	DATE	BY	REVISION

KENNESCOTT
5540 CANTON
KENNESCOTT ME 04943

Bingham Engineering
1515 NORTON SQUARE
SALT LAKE CITY, UTAH 84147

KENNESOTT CORPORATION
1515 NORTON SQUARE
SALT LAKE CITY, UTAH 84147

4th LINE EXPANSION
DEEP WELLS PIPELINE

WELL PIPELINE
PLAN & PROFILE

WELL 100 TO WELL 100

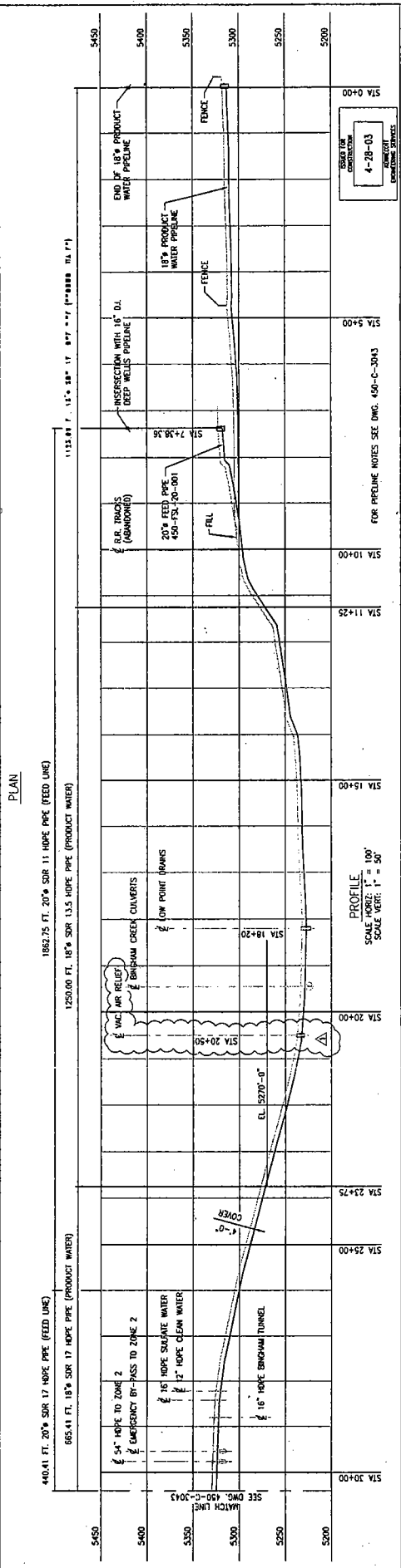
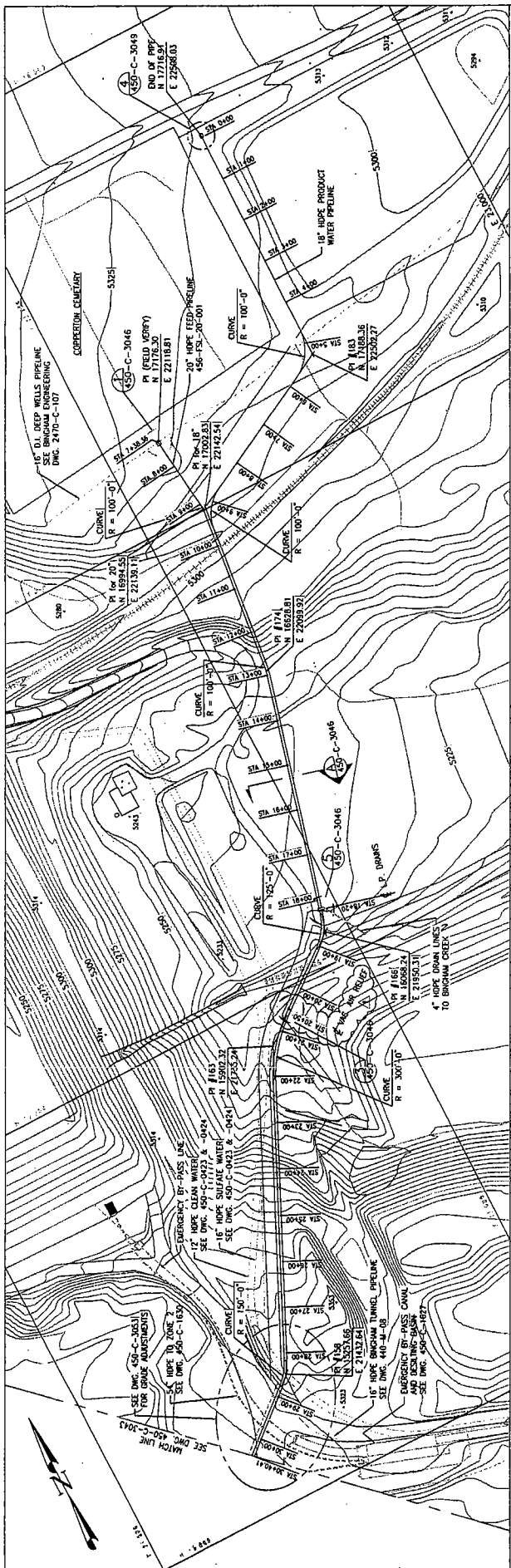
NO.	DATE	BY	REVISION

NO.	DATE	BY	REVISION

NO.	DATE	BY	REVISION

NO.	DATE	BY	REVISION

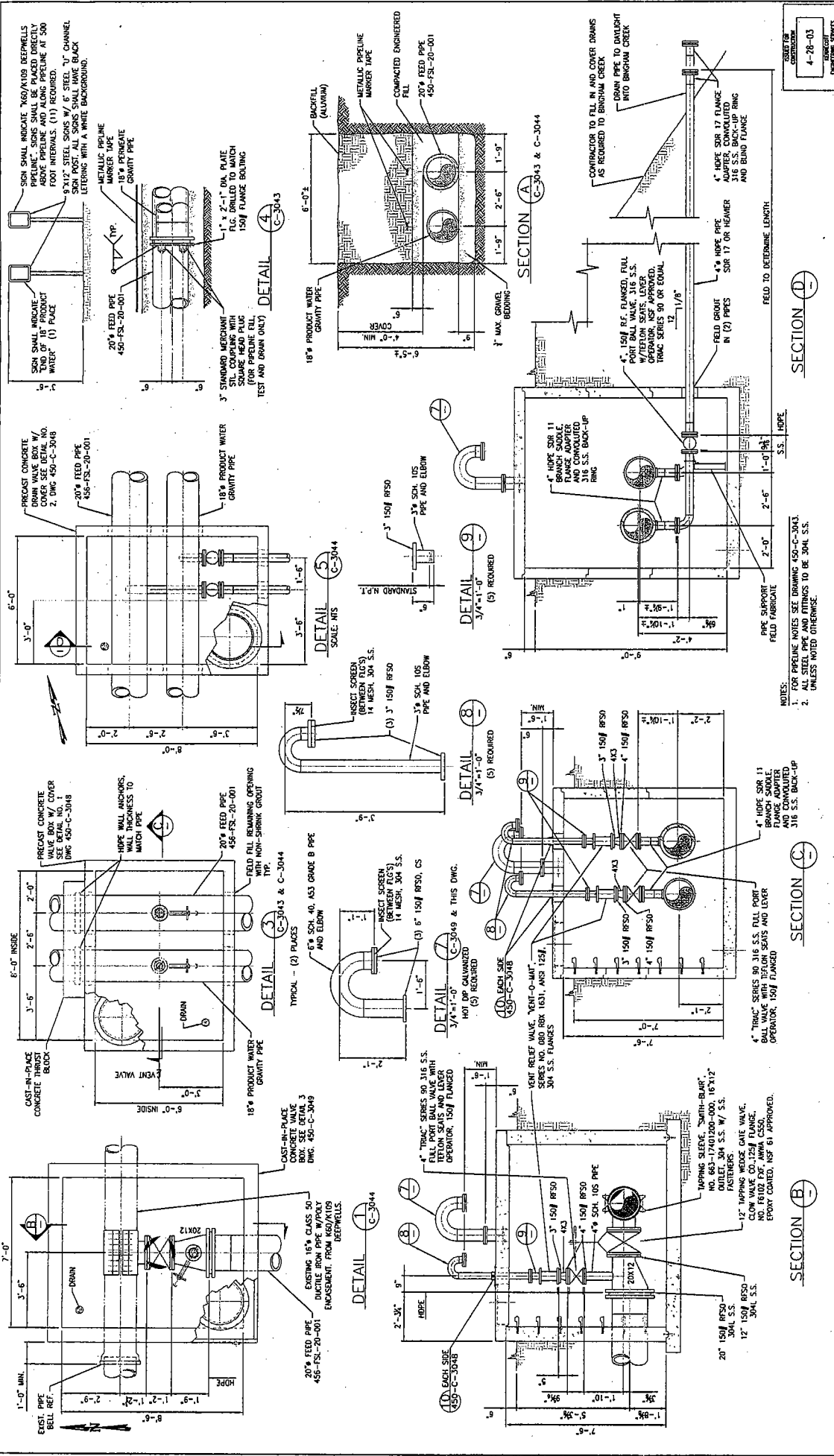
NO.	DATE	BY	REVISION



ENGINEERING SERVICES		APPROVAL	
DATE	SCALE: 1" = 100'	DATE	SCALE: 1" = 100'
BY	FOR	DATE	SCALE: 1" = 100'
BY	FOR	DATE	SCALE: 1" = 100'
BY	FOR	DATE	SCALE: 1" = 100'
BY	FOR	DATE	SCALE: 1" = 100'
BY	FOR	DATE	SCALE: 1" = 100'

REVISION	DATE	BY	CHKD	APP'D	DESCRIPTION
1					

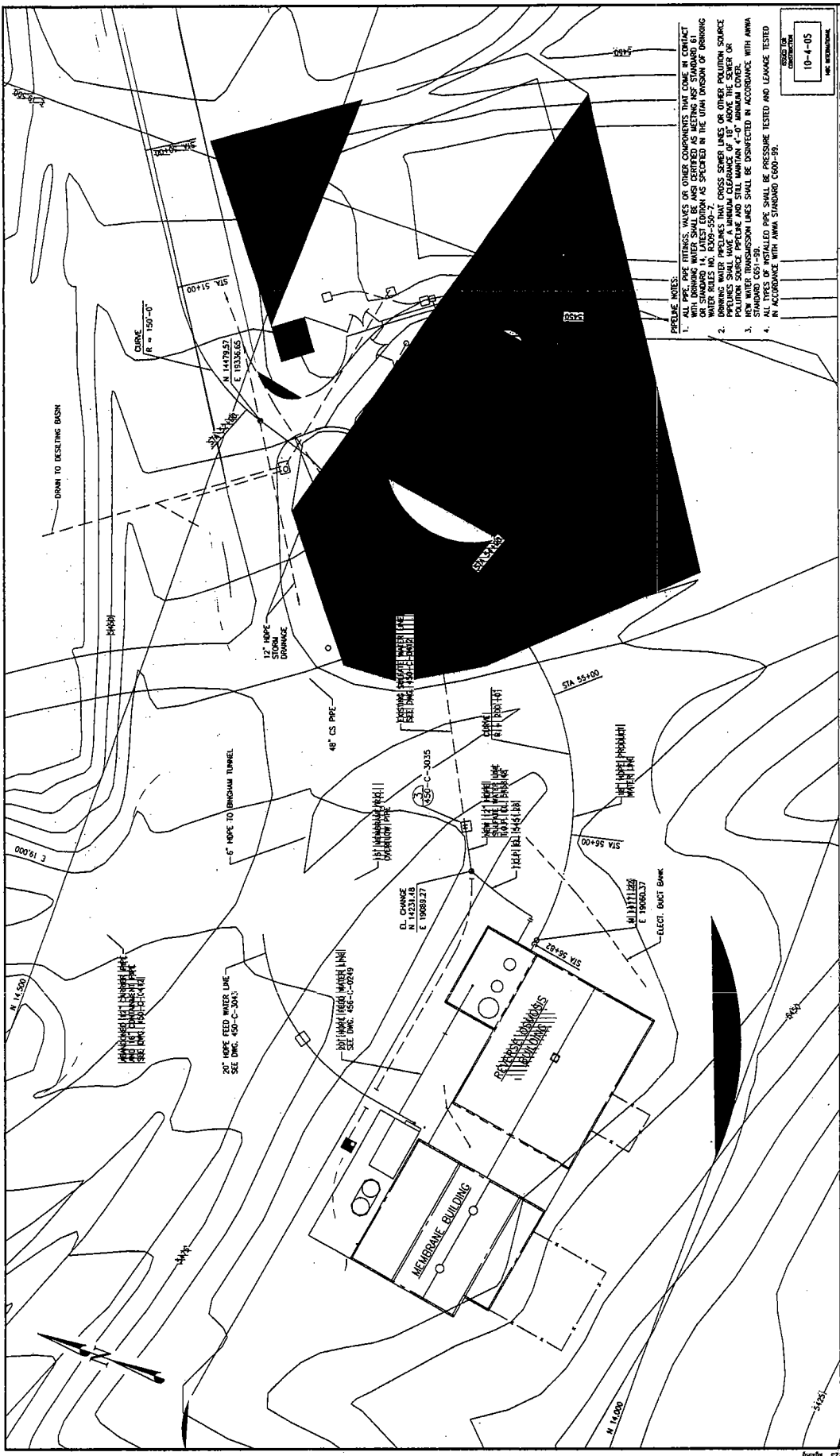
ENGINEERING SERVICES		APPROVAL	
DATE	SCALE: 1" = 100'	DATE	SCALE: 1" = 100'
BY	FOR	DATE	SCALE: 1" = 100'
BY	FOR	DATE	SCALE: 1" = 100'
BY	FOR	DATE	SCALE: 1" = 100'
BY	FOR	DATE	SCALE: 1" = 100'
BY	FOR	DATE	SCALE: 1" = 100'



ISSUED FOR CONSTRUCTION		REVISION		REVISION		REVISION		REVISION		REVISION	
NO.	DATE	BY	CHK APP	NO.	DATE	BY	CHK APP	NO.	DATE	BY	CHK APP
1	2-28-84										

ENGINEERING SERVICES		APPROVAL		REVISION		REVISION		REVISION		REVISION	
SCALE	DATE	BY	CHK	NO.	DATE	BY	CHK	NO.	DATE	BY	CHK
1/2"=1'-0"	2-28-84										

KENNEDY-COTT UTAH COPPER		BINGHAM CANYON WATER MANAGEMENT		ZONE "A" REVERSE OSMOSIS PLANT		K60/K109 FEED PIPE TO MEMBRANE		SECTIONS AND DETAILS			
NO.	DATE	BY	CHK	NO.	DATE	BY	CHK	NO.	DATE	BY	CHK
1	2-28-84										



PRELIMINARY NOTES:

1. ALL PIPE, PIPE FITTINGS, VALVES OR OTHER COMPONENTS THAT COME IN CONTACT WITH DRINKING WATER SHALL BE AMS CERTIFIED AS MEETING NSF STANDARD 61. REFER TO THE APPROPRIATE AWWA STANDARD FOR DETAILS AS SPECIFIED IN THE UTILITY DIVISION OF DRINKING WATER RULES NO. 6209-559.7.
2. DRINKING WATER PRELIMINARIES THAT CROSS SINKER LINES OR OTHER POLLUTION SOURCE ARE TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE AMWA STANDARD C601-99.
3. NEW WATER TRANSMISSION LINES SHALL BE DISINFECTED IN ACCORDANCE WITH AMWA STANDARD C601-99.
4. ALL NEW 48\"/>

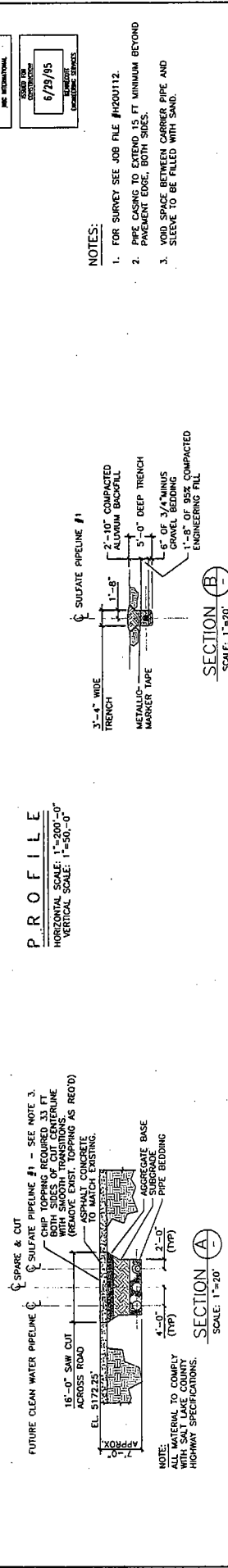
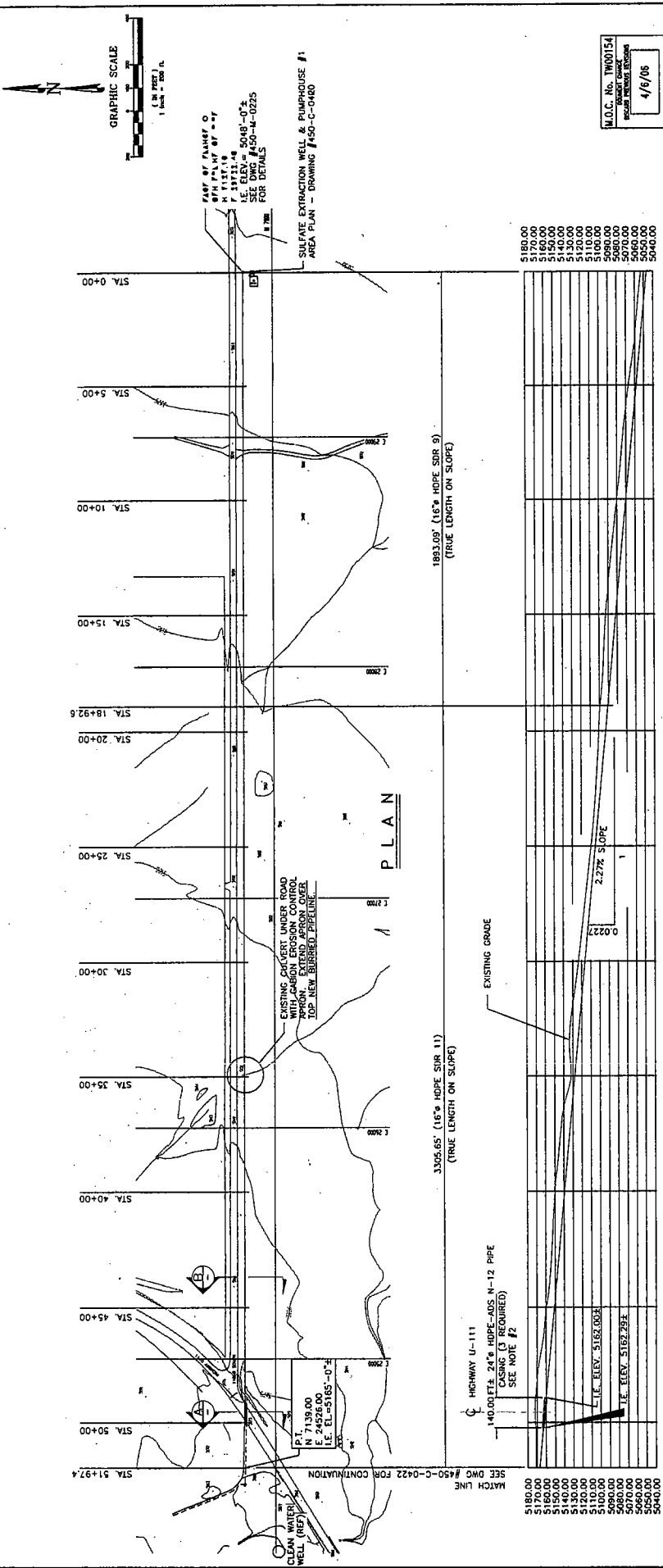
KENNECOTT
UTAH COPPER

DATE	SCALE	DATE
10-4-05	AS SHOWN	10-4-05
BIMBHAM CANYON WATER MANAGEMENT		
ZONE "A" REVERSE OSMOSIS PLANT		
AREA PIPING AROUND R.O. BUILDING		
PLAN		
JOB NO. 10-00759		REV. NO. 450-C-3062

NO.	DATE	ISSUED FOR	BY	CHK APP	NO.	DATE	REVISION
1		FOR CONSTRUCTION					

BT	CHK APP	NUMBER	REFERENCE DRAWINGS
		450-C-0412	SULFATE WATER PIPELINE
		450-C-3043	FEED AND PRODUCT WATER PIPELINES
		450-C-3043	FEED WATER PIPELINE EXTENSION
		450-C-0255	FEED / DISTRIBUTION - PLAN
		450-C-0255	REFERENCE DRAWINGS

450C3062.dwg 10/20/05 13:25 sghs



NOTES:

- FOR SURVEY SEE JOB FILE #H200112.
- PIPE CASING TO EXTEND 15 FT MINIMUM BEYOND PAVEMENT EDGE, BOTH SIDES.
- VOID SPACE BETWEEN CARRIER PIPE AND SLEEVE TO BE FILLED WITH SAND.

SECTION A
SCALE: 1"=20'

SECTION B
SCALE: 1"=20'

NO.	DATE	BY	CHK	APP	NO.	DATE	REVISION
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

ENGINEERING SERVICES

DATE	SCALE	PROJECT	APPROVAL
6/29/95	1"=200'	450-C-0422	BA
6/29/95	1"=200'	450-C-0423	BA
6/29/95	1"=200'	450-C-0424	BA
6/29/95	1"=200'	450-C-0425	BA
6/29/95	1"=200'	450-C-0426	BA
6/29/95	1"=200'	450-C-0427	BA
6/29/95	1"=200'	450-C-0428	BA
6/29/95	1"=200'	450-C-0429	BA
6/29/95	1"=200'	450-C-0430	BA
6/29/95	1"=200'	450-C-0431	BA
6/29/95	1"=200'	450-C-0432	BA
6/29/95	1"=200'	450-C-0433	BA
6/29/95	1"=200'	450-C-0434	BA
6/29/95	1"=200'	450-C-0435	BA
6/29/95	1"=200'	450-C-0436	BA
6/29/95	1"=200'	450-C-0437	BA
6/29/95	1"=200'	450-C-0438	BA
6/29/95	1"=200'	450-C-0439	BA
6/29/95	1"=200'	450-C-0440	BA
6/29/95	1"=200'	450-C-0441	BA
6/29/95	1"=200'	450-C-0442	BA
6/29/95	1"=200'	450-C-0443	BA
6/29/95	1"=200'	450-C-0444	BA
6/29/95	1"=200'	450-C-0445	BA
6/29/95	1"=200'	450-C-0446	BA
6/29/95	1"=200'	450-C-0447	BA
6/29/95	1"=200'	450-C-0448	BA
6/29/95	1"=200'	450-C-0449	BA
6/29/95	1"=200'	450-C-0450	BA

REVISIONS

NO.	DATE	BY	CHK	APP	NO.	DATE	REVISION
1							
2							
3							
4							
5							
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7							
8							
9							
10							

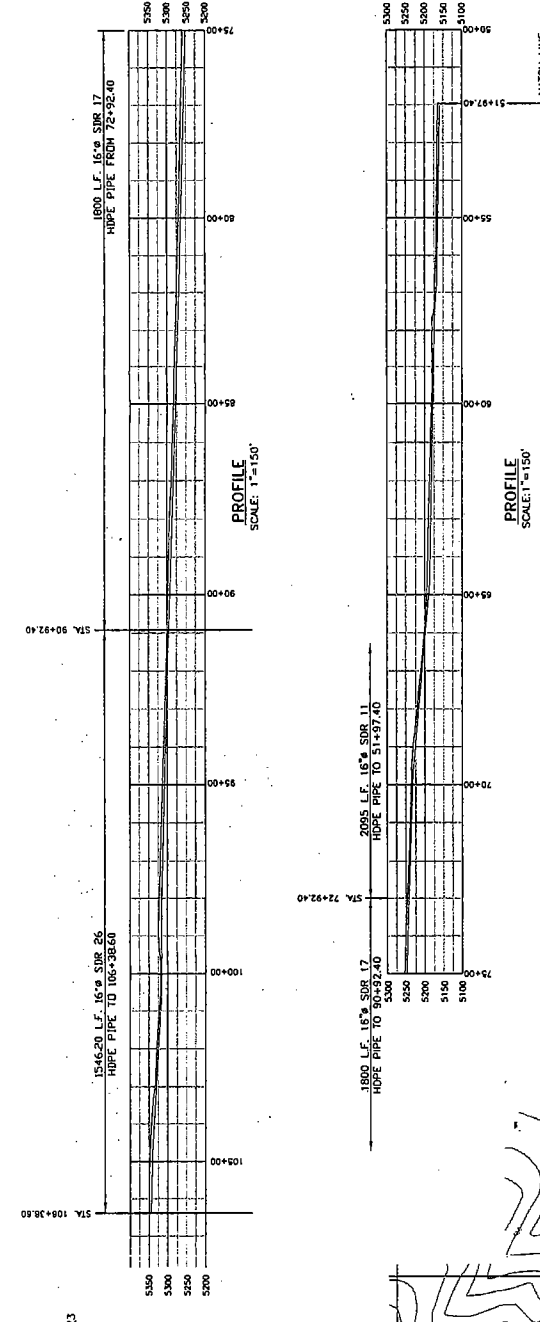
ENGINEERING SERVICES

DATE	SCALE	PROJECT	APPROVAL
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6/29/95	1"=200'	450-C-0423	BA
6/29/95	1"=200'	450-C-0424	BA
6/29/95	1"=200'	450-C-0425	BA
6/29/95	1"=200'	450-C-0426	BA
6/29/95	1"=200'	450-C-0427	BA
6/29/95	1"=200'	450-C-0428	BA
6/29/95	1"=200'	450-C-0429	BA
6/29/95	1"=200'	450-C-0430	BA
6/29/95	1"=200'	450-C-0431	BA
6/29/95	1"=200'	450-C-0432	BA
6/29/95	1"=200'	450-C-0433	BA
6/29/95	1"=200'	450-C-0434	BA
6/29/95	1"=200'	450-C-0435	BA
6/29/95	1"=200'	450-C-0436	BA
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6/29/95	1"=200'	450-C-0438	BA
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6/29/95	1"=200'	450-C-0440	BA
6/29/95	1"=200'	450-C-0441	BA
6/29/95	1"=200'	450-C-0442	BA
6/29/95	1"=200'	450-C-0443	BA
6/29/95	1"=200'	450-C-0444	BA
6/29/95	1"=200'	450-C-0445	BA
6/29/95	1"=200'	450-C-0446	BA
6/29/95	1"=200'	450-C-0447	BA
6/29/95	1"=200'	450-C-0448	BA
6/29/95	1"=200'	450-C-0449	BA
6/29/95	1"=200'	450-C-0450	BA

W.C. No. TW00154
DESIGNER: [Signature]
DATE: 4/6/06

ROAD FOR CONSTRUCTION
DATE: 6/29/95
DESIGNER: [Signature]

UTAH COPPER
BINGHAM CANYON WATER MANAGEMENT
EAST SIDE - SULFATE WATER PIPELINE #1
PLAN & PROFILE (SHEET 1 OF 3)
Job No. 450-C-0421 REV 2

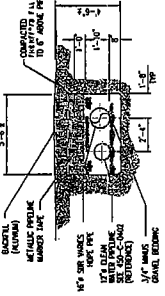


PROFILE
SCALE: 1"=150'

1800 L.F. 18" SDR 17
HDPE PIPE FROM 72+92.40
MATCH LINE
SEE DWG #450-C-042T

PROFILE
SCALE: 1"=150'

2095 L.F. 18" SDR 11
HDPE PIPE TO 51+97.40



NOTE: COMPACTION SPECIFICATIONS
AS PER SPEC. NO. 02200.5

SECTION A
N.T.S.

M.O.C. No. TW00154
ISSUANCE DATE: 8-1-95
PROJECT NUMBER: 4-7-06
AS SHOWN

DESIGN FOR CONSTRUCTION: 8-1-95
CHECKED BY: KENNEDY
DATE: 8-1-95

KENNEDY
UTAH COPPER
BINGHAM CANYON WATER MANAGEMENT
EASTSIDE
SULFATE WATER PIPELINE
PLAN AND PROFILE (SHEET 2 OF 3)
Job No. 450-C-0422 REV 2

DATE	SCALE	BY	CHK	APP	REVISION	NUMBER
8/1/95	1"=300'	JA	JA	CM	BRINHAM TUNNEL PIPELINE SULFATE WATER PIPELINE TO R.O. CLEAN WATER PIPELINE TO DEEP WELLS B.P.S. SULFATE & CLEAN WATER PIPELINE (SHEET 3 OF 3) SULFATE WATER PIPELINE (SHEET 2 OF 3) CLEAN WATER PIPELINE (SHEET 1 OF 3) CLEAN WATER PIPELINE PLAN & PROFILE GENERAL PLAN REFERENCE DRAWINGS	450-M-02 TO 08 450-C-0412 450-C-0413 450-C-0423 450-C-0424

NO.	DATE	BY	CHK	APP	REVISION	NUMBER
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

PLAN
SCALE: 1"=400'

