RHINO
CASTLE VALLEY MINING LLC

Received 4/2/19
C/015/0025
Task #5913

Mr. Steve Christensen
Division of Oil, Gas & Mining
1594 West North Temple, Suite 1210
P. O. Box 145801
Salt Lake City, UT 84114-5801

RE: Addition of Air Jig System at Bear Creek Mine for Castle Valley Mining, LLC
C/015/0025

Dear Sir:

Castle Valley Mine, LLC has decided to add an air jig coal clean system at Bear Canyon Mine. The air jig system is a FGX-24 Dry Coal Separator and is designed at tonnage rate of 240 tons per hour. The installation of the air jig will increase to bond from $2,934,000 to $3,046,000. We are submitting C1 and C2 forms and redline/strikeout pages for the bond cost to reflect this additional equipment. Also Plates included showing the proximity of the new proposed facility.

Your prompt attention in this matter would be greatly apricated.

Sincerely,

JAREN JORGENSEN

Jaren Jorgensen
Engineer

P.O. Box 475 • Huntington, UT 84528
Phone (435) 687-5454 • Fax (435) 687-5037

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change ☒ New Permit ☐ Renewal ☐ Exploration ☐ Bond Release ☐ Transfer ☐

Permittee: Castle Valley Mining, LLC
Mine: Bear Canyon Mine **Permit Number:** ACT 015/0025
Title: Air Jig Addition

Description, Include reason for application and timing required to implement:
The addition of a permanent refuse pile located at the Ball Park area.

Instructions: If you answer yes to any of the first eight questions, this application may require Public Notice publication.

☐ Yes ☒ No 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ ☐ increase ☐ decrease.
☐ Yes ☒ No 2. Is the application submitted as a result of a Division Order? DO# _____
☐ Yes ☒ No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
☐ Yes ☒ No 4. Does the application include operations in hydrologic basins other than as currently approved?
☒ Yes ☐ No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
☐ Yes ☒ No 6. Does the application require or include public notice publication?
☐ Yes ☒ No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
☐ Yes ☒ No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
☐ Yes ☒ No 9. Is the application submitted as a result of a Violation? NOV # _____
☐ Yes ☒ No 10. Is the application submitted as a result of other laws or regulations or policies?
Explain: _____
☐ Yes ☒ No 11. Does the application affect the surface landowner or change the post mining land use?
☐ Yes ☒ No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
☐ Yes ☒ No 13. Does the application require or include collection and reporting of any baseline information?
☐ Yes ☒ No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
☐ Yes ☒ No 15. Does the application require or include soil removal, storage or placement?
☐ Yes ☒ No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
☒ Yes ☐ No 17. Does the application require or include construction, modification, or removal of surface facilities?
☐ Yes ☒ No 18. Does the application require or include water monitoring, sediment or drainage control measures?
☒ Yes ☐ No 19. Does the application require or include certified designs, maps or calculation?
☐ Yes ☒ No 20. Does the application require or include subsidence control or monitoring?
☒ Yes ☐ No 21. Have reclamation costs for bonding been provided?
☐ Yes ☒ No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
☐ Yes ☒ No 23. Does the application affect permits issued by other agencies or permits issued to other entities?
☐ Yes ☒ No 24. Does the application include confidential information and is it clearly marked and separated in the plan?

Please attach three (3) review copies of the application. If the mine is on or adjacent to Forest Service land please submit four (4) copies, thank you. (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

JAREN JORGENSEN	ENGINEER	03/28/2019	JAREN JORGENSEN
Print Name	Position	Date	Signature (Right-click above choose certify then have notary sign below)

Subscribed and sworn to before me this 28th day of March, 2019

Notary Public: Stacey Leigh Conover, state of Utah.

My commission Expires: November 13, 2022
Commission Number: 703300
Address: 110 E Main
City: Castle Dale State: UT Zip: 84513

} ss:

NOTARY PUBLIC
Stacey Leigh Conover
703300
Commission Expires
November 13, 2022
STATE OF UTAH

For Office Use Only:	Assigned Tracking Number:	Received by Oil, Gas & Mining

Form DOGM- C1 (Revised December 10, 2007)

APPLICATION FOR COAL PERMIT PROCESSING
Detailed Schedule Of Changes to the Mining And Reclamation Plan

Permittee: Castle Valley Mining, LLC
Mine: Bear Canyon Mine
Permit Number: ACT 015/0025
Title: Air Jig Addition

Provide a detailed listing of all changes to the Mining and Reclamation Plan, which is required as a result of this proposed permit application. Individually list all maps and drawings that are added, replaced, or removed from the plan. Include changes to the table of contents, section of the plan, or other information as needed to specifically locate, identify and revise the existing Mining and Reclamation Plan. Include page, section and drawing number as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED
☐ Add	☒ Replace	☐ Remove	Redline Chapter 8, Appendix A, Page 8-1
☐ Add	☒ Replace	☐ Remove	Redline Chapter 8, Appendix A, Page 8-3
☐ Add	☒ Replace	☐ Remove	Redline Chapter 8, Appendix A, Page 8-4
☒ Add	☐ Replace	☐ Remove	Redline Chapter 8, Appendix A, Page 8-39A
☐ Add	☒ Replace	☐ Remove	Plate 2-3C Reclamation Area
☐ Add	☒ Replace	☐ Remove	Plate 5-2C Surface Facility
☐ Add	☒ Replace	☐ Remove	Plate 5-6C Post Mine Topography
☐ Add	☒ Replace	☐ Remove	Plate 7-1C Hydrology
☐ Add	☒ Replace	☐ Remove	Plate 7-5 Water Shed
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
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☐ Add	☐ Replace	☐ Remove	

Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.	**Received by Oil, Gas & Mining**

Bonding Calculations
Castle Valley Mining, LLC

Bond Summary

Direct Costs

Subtotal Demolition and Removal	~~$816,501.00~~	$ 897,927.00	
Subtotal Backfilling and Grading	$863,467.00		
Subtotal Revegetation	$438,173.00		
Direct Costs	~~$2,118,141.00~~	$ 2,199,567.00	
Indirect Costs			
Mob/Demob	~~$211,814.10~~	10.0%	$219,956.70
Contingency	~~$105,907.05~~	5.0%	$109,978.35
Engineering Redesign	~~$52,953.53~~	2.5%	$54,989.18
Main Office Expense	~~$144,033.59~~	6.8%	$149,570.56
Project Mainagement Fee	~~$52,953.53~~	2.5%	$54,989.18
Subtotal Indirect Costs	~~$567,661.79~~	26.8%	$589,483.96
Total Cost	~~$2,685,802.79~~		$2,789,050.96
Escalation factor		0.0178	
Number of years		5	
Escalation	~~$247,699.00~~		$257,221.00
Reclamation Cost	~~$2,933,501.79~~		$3,046,271.96
Bond Amount (rounded to nearest $1,000)	~~$2,934,000.00~~		$3,046,000.00
2023 dollars			

Ref.	Description		Cost
	Scale House 01		25388
	Scalehouse Pavement 02		10854
	Shower House 03		177905
	Shop 04		33906
	Machine Shop 05		10107
	WHR Shop 06		7731
	Tipple 07		27220
	Substation 08		24370
	Coal Storage Bin 09		17224
	Lump Coal 10		10326
	Coal Recovery Bin 11		1170
	WHR Surge Bin 12		28482
	Ditch D 8D 13		1943
	Lump Coal Storage Pad 14		17886
	Equipment Wash Pad 15		3698
	Transformer Pad Shop 16		396
	Water Tanks 17		2228
	Fuel Tanks 18		3470
	Fuel Lines 19		4840
	Fans 20		11566
	Conveyor 21		122229
	Bld Tank Seam 22		0
	Septic Tanks 23		1355
	Culverts 24		15728
	Watchman Trailer 25		0
	Cap and Powder Mag 26		173
	Conveyor Tunnel 27		50733
	Plug Well 28		14304
	Seal Portals 29		44121
	Power Lines and Poles 30		91440
	Portals AM02A No 31		0
	Culvert Removal No 32		5270
	Portals No 33		44121
	Hilfiker Retaining Wall No. 34		5740
	Sampling Station No. 35		577
	Air Jig 36		81426
			897927
	Total		~~816501~~

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
	Air Jig 36																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16.13 0020	0.36	C.F.	62.87	47.67	38.5								FT		115385	C.F.	41539
	Structure's Vol. Demolished																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
	Subtotal																			41539
	Conveyors																			
	Feed Conveyor	Steel Bld. Large	02 41 16.13 0020	0.36	C.F.	120	6	4								FT		2880	C.F.	1037
	High Ash	Steel Bld. Large	02 41 16.13 0020	0.36	C.F.	104	6	4								FT		2496	C.F.	899
	Clean Coal	Steel Bld. Large	02 41 16.13 0020	0.36	C.F.	240	6	4								FT		5760	C.F.	2074
	Subtotal																			4010
	Air Jig and Conveyor Foundations																			
	Concrete Demolition																			
	Demolition Cost Air Jig	Demolition, Concrete, Reinforcing	03 05 05.10 0060	169.00	/CY	82.84	48.23	1								FT		148	CY	25012
	Demolition Cost Clean Coal	Demolition, Concrete, Reinforcing	03 05 05.10 0060	169.00	/CY	8	5	2							4	FT		8	CY	1352
	Demolition Cost Feed	Demolition, Concrete, Reinforcing	03 05 05.10 0060	169.00	/CY	8	5	2							2	FT		5	CY	845
	Demoliton Cost High Ash	Demolition, Concrete, Reinforcing	03 05 05.10 0060	169.00	/CY	8	5	2								FT		2	CY	338
	Concrete's Vol. Demolished				/CY												1.3	163	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1300	2.13	/CY													212	CY	452
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 1020	6.40	/CY													212	CY	1357
	Disposal Costs	Disposal on site	02 41 16 17 4200	10.95	/CF													212	CY	2321
	Subtotal																			31677
	Power Station																			
	Dismantley Cost	Mechanical equipment heavy	23 05 05.10 3600	1250.00	Ton	40	9	9				2				TON		2	TON	2500
	Demolition Cost	Demolition, Concrete, Reinforcing	03 05 05.10 0060	169.00	/CY	40	9	0.5								FT		7	CY	1183
	Loading Cost	Front end loader 3 CY	31 23 16 42 1300	2.13	/CY												1.3	9	CY	19
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 1020	6.40	/CY													9	CY	58
	Disposal Costs	Disposal on site	02 41 16 17 4200	10.95	/CF													9	CY	99
	Subtotal																			3859
	Concrete Barriers																			
	Concrete Demolition																			
	Demolition Cost	Precast concrete 3'-6" high x 2' wide	02 41 13.20 0850	7.75	L.F.	44										FT		44	FT	341
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			341
	Total																			81426

CASTLE VALLEY MINING, LLC
HUNTINGTON, UTAH

RECLAMATION AREA

SCALE:	DRAWN BY:	DATE:
1"= 50'	J.JORGENSEN	3/28/19

PLATE 2-3C

REV.	DATE	REMARKS	APPR.
1	10/22/93	Tank Seam Road, TS-10 Added (93B)	7/22/94
2	8/01/94	Lamphouses Removed/Portal Pad Recontoured	8/17/94
3	5/30/95	Tipple Structure Expansion/Rock Crusher Conveyor (95G)	9/12/95
4	9/13/95	Ditch D-10D Route Modification (95K)	9/18/95
5	12/02/95	Dist. Boundary Modified/Coal Recovery Bin Removed (95N)	12/18/95
6	2/23/96	Plate Updated With Tank Seam As-Builts	7/05/96
7	5/31/98	Wild Horse Ridge Disturbance Added	6/25/01
8	10/13/01	Added TS-4, TS-5 boundary and cross-sections, moved road (01A) Corrected Disturbed Boundary and Reclamation Boundary	11/13/01
9	8/01/02	Changed name from 8-5C to 2-3C	12/8/05
10	1/16/07	Loadout Expansion	8/07/07
11	9/09/13	Reclaimed Area	11/25/13
12	2/04/16	Change Disturbed Boundary	12/16/15
13	3/28/19	ADDED AIR JIG PLANT	
14			

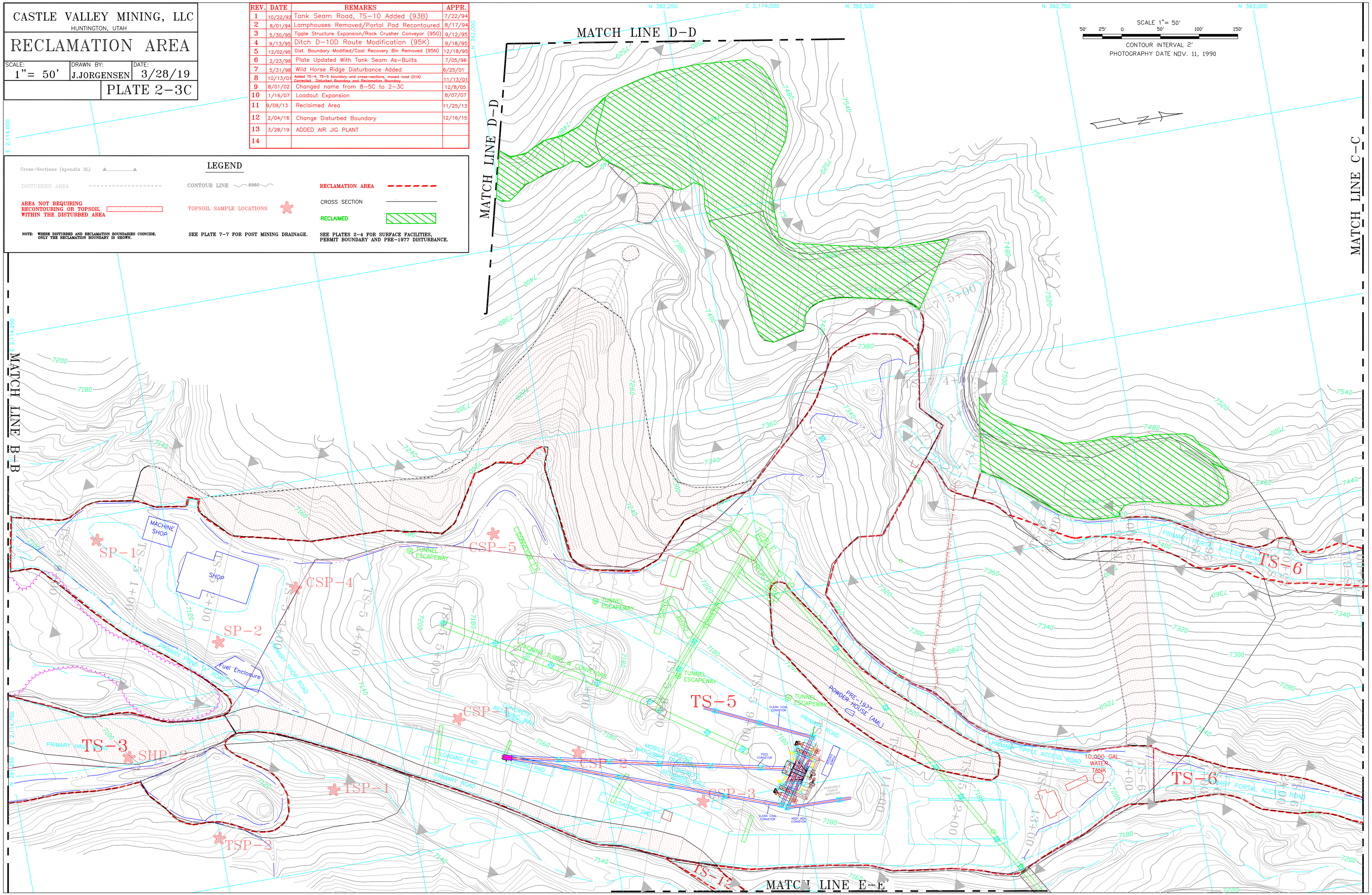
LEGEND

Cross-Sections (Apendix 3L)
DISTURBED AREA
CONTOUR LINE 6980
RECLAMATION AREA
AREA NOT REQUIRING RECONTOURING OR TOPSOIL WITHIN THE DISTURBED AREA
TOPSOIL SAMPLE LOCATIONS
CROSS SECTION
RECLAIMED

NOTE: WHERE DISTURBED AND RECLAMATION BOUNDARIES COINCIDE, ONLY THE RECLAMATION BOUNDARY IS SHOWN.

SEE PLATE 7-7 FOR POST MINING DRAINAGE.

SEE PLATES 2-4 FOR SURFACE FACILITIES, PERMIT BOUNDARY AND PRE-1977 DISTURBANCE.



CASTLE VALLEY MINING, LLC

HUNTINGTON, UTAH

SURFACE FACILITIES

SCALE:	DRAWN BY:	DATE:
1" = 50'	J.JORGENSEN	3/28/19

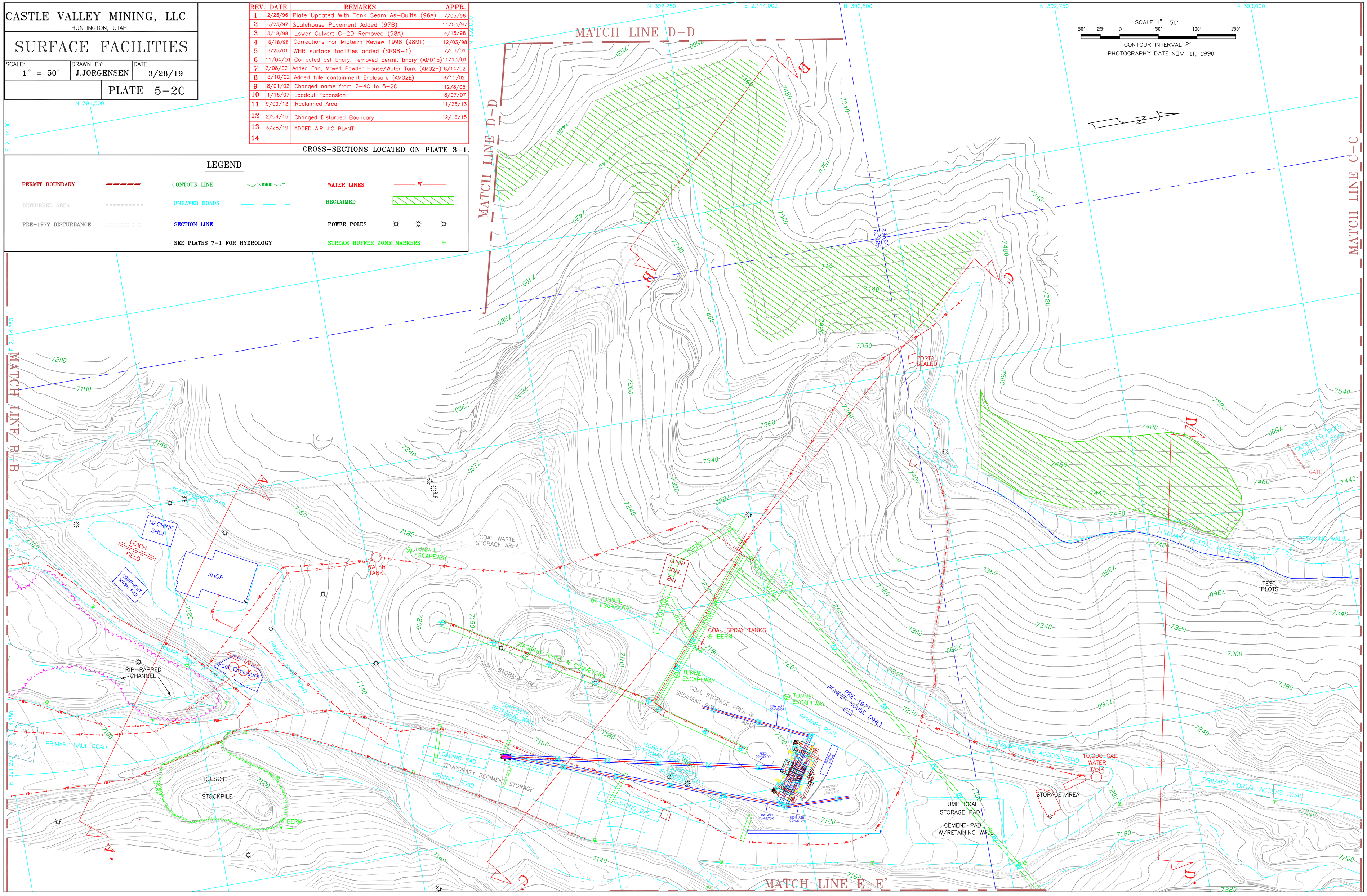
PLATE 5-2C

REV.	DATE	REMARKS	APPR.
1	2/23/96	Plate Updated With Tank Seam As-Builts (96A)	7/05/96
2	6/23/97	Scalehouse Pavement Added (97B)	11/03/97
3	3/18/98	Lower Culvert C-2D Removed (98A)	4/15/98
4	6/18/98	Corrections For Midterm Review 1998 (98MT)	12/03/98
5	6/25/01	WHR surface facilities added (SR98-1)	7/03/01
6	11/04/01	Corrected dst bndry, removed permit bndry (AM01a)	11/13/01
7	7/08/02	Added Fan, Moved Powder House/Water Tank (AM02H)	8/14/02
8	5/10/02	Added fule containment Enclosure (AM02E)	8/15/02
9	8/01/02	Changed name from 2-4C to 5-2C	12/8/05
10	1/16/07	Loadout Expansion	8/07/07
11	9/09/13	Reclaimed Area	11/25/13
12	2/04/16	Changed Disturbed Boundary	12/16/15
13	3/28/19	ADDED AIR JIG PLANT	
14			

CROSS-SECTIONS LOCATED ON PLATE 3-1.

LEGEND

PERMIT BOUNDARY
DISTURBED AREA
PRE-1977 DISTURBANCE
CONTOUR LINE (6980)
UNPAVED ROADS
SECTION LINE
SEE PLATES 7-1 FOR HYDROLOGY
WATER LINES (W)
RECLAIMED
POWER POLES
STREAM BUFFER ZONE MARKERS



CASTLE VALLEY MINING, LLC

HUNTINGTON, UTAH

POST-MINING TOPOGRAPHY

SCALE:	DRAWN BY:	DATE:
1" = 50'	J.JORGENSEN	3/28/2019

PLATE 5-6C

REV.	DATE	REMARKS	APPR.
1	4/30/92	DIST. BOUND. MOD. (DO-92C,NOV 91-35-8-1)	7/22/92
2	7/29/92	LOADOUT TUNNEL ADDED	7/06/92
3	7/12/93	Discharge Line Dist. Area/Pre-Law Structure Added (93E)	9/16/93
4	10/22/93	Tank Seam Access Road Dist. Area Added (93B)	7/22/94
5	12/02/95	Fuel Line Disturbed Boundary Added (95N)	12/18/95
6	2/23/96	Plate Updated With Tank Seam As-Builts	7/05/96
7	6/25/01	Post-Mining Access Road Added (SR98-1)	7/03/01
8	10/13/01	Added X-Sections, Cuts to Remain. Corrected contours and dst bndry (01A) Removed Permit Boundary	11/13/01
9	8/01/02	Changed name from 3-2C to 5-6C	12/8/05
10	9/09/13	Reclaimed Area	11/25/13
11	2/04/16	Changed Disturbed Boundary	12/16/15
12	3/28/19	ADDED AIR JIG PLANT	
13			

LEGEND

TS Cross-Sections

DISTURBED AREA

CROSS SECTION

SECTION LINE

RECONTOURED AREAS ARE DRAWN TYPICALLY AT 5 FT. AND 10 FT. CONTOUR INTERVALS

CONTOUR LINE 6980

RECLAIMED ROADS

POST-MINING ROADS

RECLAIM AREA

SEE PLATE 7-7 FOR POST-MINING DRAINAGE

RECLAIN AREA

DRAINAGE

CULVERTS

POST-MINING CUT SLOPES TO REMAIN IN PLACE

SEE PLATES 2-4 FOR PRE-1977 DISTURBANCE

SEE APPENDIX 7-K FOR BTCA DESIGNS

CASTEL VALLEY MINING, LLC
HUNTINGTON, UTAH

HYDROLOGY MAP

SCALE:	DRAWN BY:	DATE:
1" = 50'	J.JORGENSEN	3/28/2019

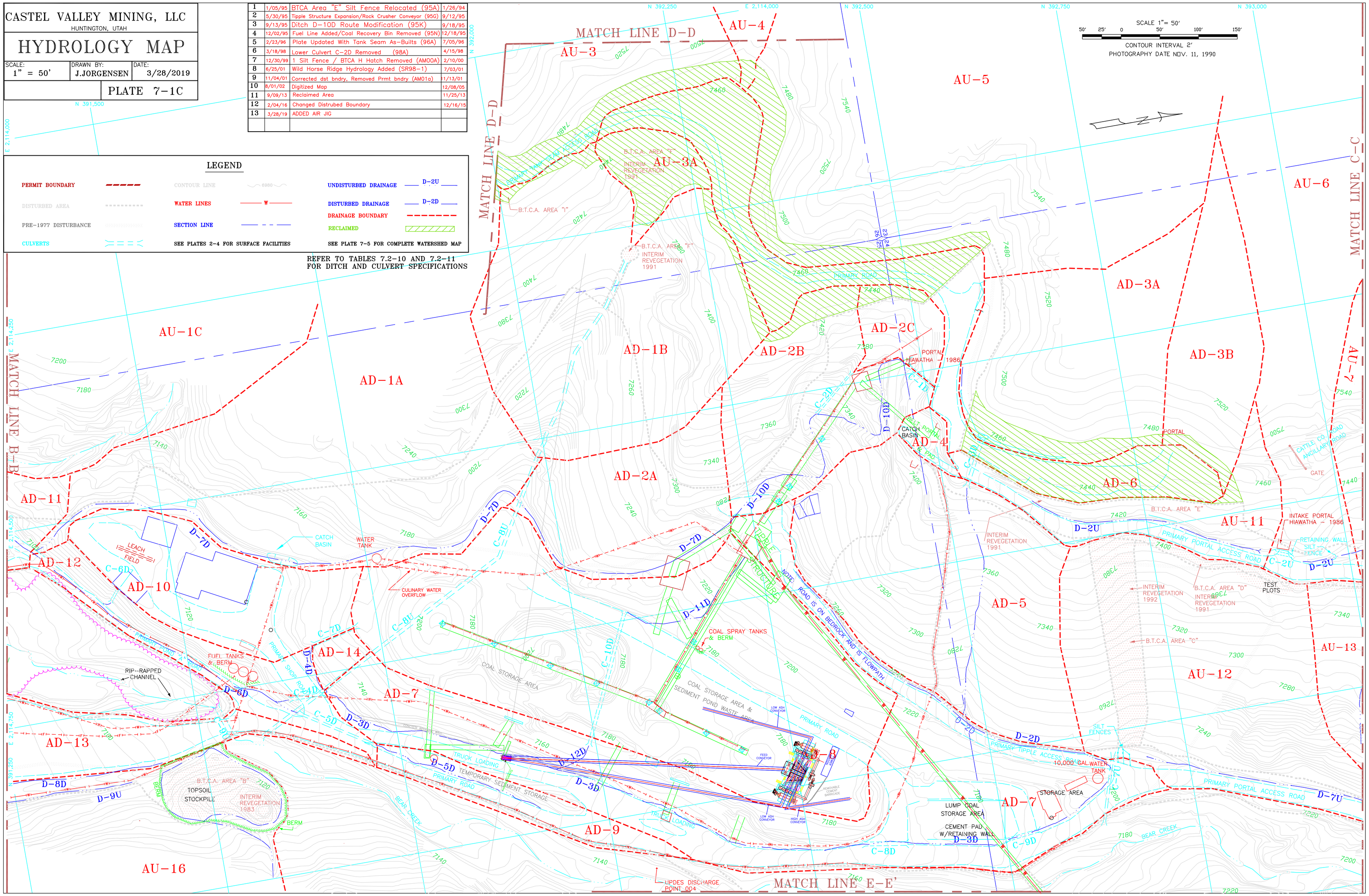
PLATE 7-1C

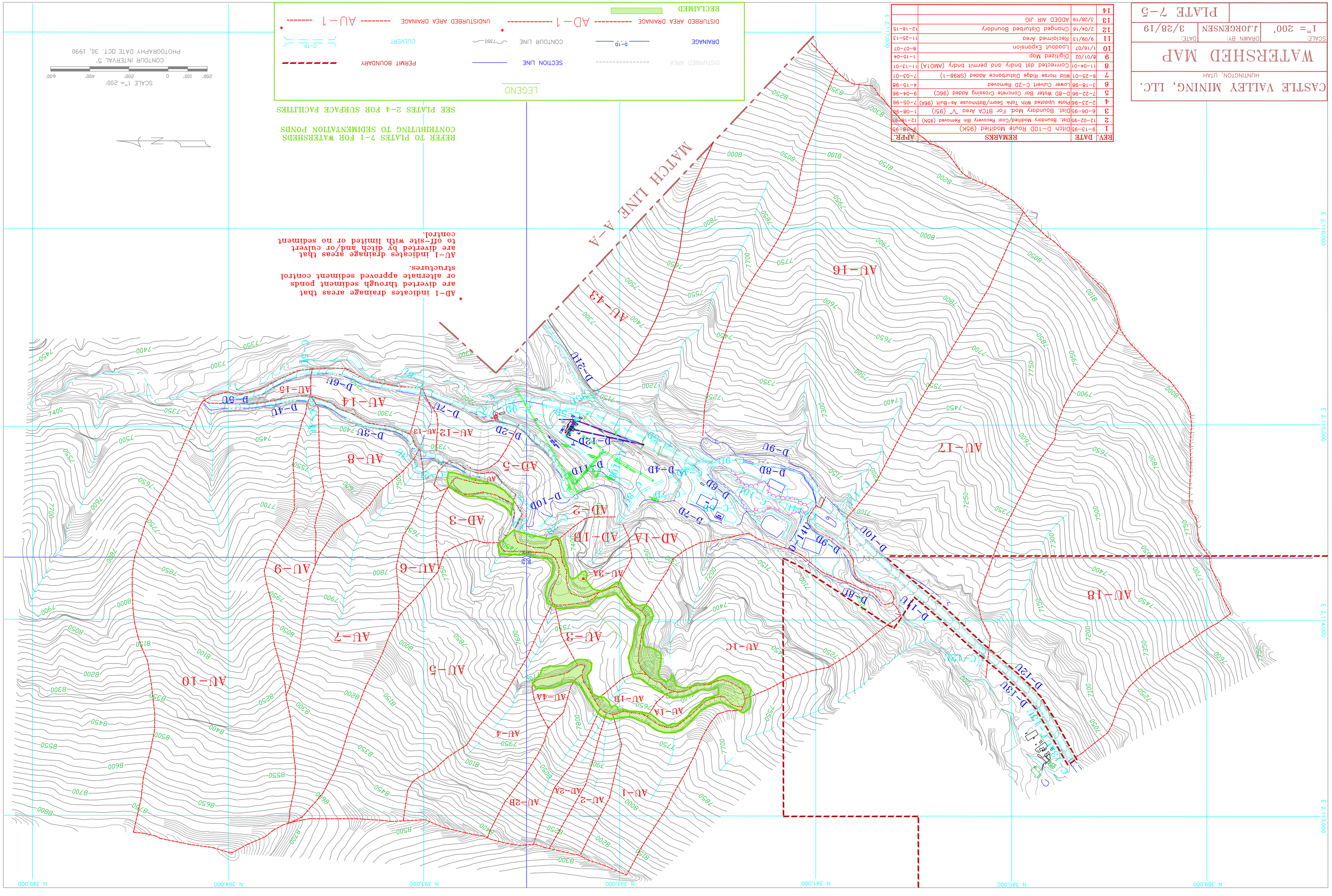
1	1/05/95	BTCA Area "E" Silt Fence Relocated (95A)	1/26/94
2	5/30/95	Tipple Structure Expansion/Rock Crusher Conveyor (95C)	9/12/95
3	9/13/95	Ditch D-10D Route Modification (95K)	9/18/95
4	12/02/95	Fuel Line Added/Coal Recovery Bin Removed (95N)	12/18/95
5	2/23/96	Plate Updated With Tank Seam As-Builts (96A)	7/05/96
6	3/18/98	Lower Culvert C-2D Removed (98A)	4/15/98
7	12/30/99	1 Silt Fence / BTCA H Hatch Removed (AM00A)	2/10/00
8	6/25/01	Wild Horse Ridge Hydrology Added (SR98-1)	7/03/01
9	11/04/01	Corrected dst bndry, Removed Prmt bndry (AM01a)	11/13/01
10	8/01/02	Digitized Map	12/08/05
11	9/09/13	Reclaimed Area	11/25/13
12	2/04/16	Changed Distrubed Boundary	12/16/15
13	3/28/19	ADDED AIR JIG	

LEGEND

PERMIT BOUNDARY
DISTURBED AREA
PRE-1977 DISTURBANCE
CULVERTS
CONTOUR LINE
WATER LINES
SECTION LINE
SEE PLATES 2-4 FOR SURFACE FACILITIES
UNDISTURBED DRAINAGE
DISTURBED DRAINAGE
DRAINAGE BOUNDARY
RECLAIMED
SEE PLATE 7-5 FOR COMPLETE WATERSHED MAP

REFER TO TABLES 7.2-10 AND 7.2-11
FOR DITCH AND CULVERT SPECIFICATIONS





REFER TO PLATES 7-1 FOR WATERSHEDS CONTRIBUTING TO SEDIMENTATION PONDS

SEE PLATES 2-4 FOR SURFACE FACILITIES

* AD-1 indicates drainage areas that are diverted through sediment ponds or alternate approved sediment control structures.

AU-1 indicates drainage areas that are diverted by ditch and/or culvert to off-site with limited or no sediment control.

SCALE 1"= 200'

CONTOUR INTERVAL 5'

PHOTOGRAPHY DATE OCT. 30, 1990

LEGEND

DISTURBED AREA	SECTION LINE
DRAINAGE	CONTOUR LINE
DISTURBED AREA DRAINAGE	UNDISTURBED AREA DRAINAGE
RECLAIMED	PERMIT BOUNDARY
CULVERT	

REV.	DATE	REMARKS	APPR.
1	9-13-95	Ditch D-10D Route Modified (95K)	9-18-95
2	12-02-95	Dist. Boundary Modified/Coal Recovery Bin Removed (95N)	12-18-95
3	6-06-95	Dist. Boundary Mod. For BTCA Area "V" (95I)	1-08-96
4	2-23-96	Plate Updated With Tank Seam/Bathhouse As-Built (96A)	7-05-96
5	7-22-96	D-8D Water Bar Concrete Crossing Added (96C)	9-04-96
6	3-18-96	Lower Culvert C-2D Removed	4-15-96
7	6-25-01	Wild Horse Ridge Disturbance Added (SR98-1)	7-03-01
8	11-04-01	Corrected dst bndry and permit bndry (AM01A)	11-13-01
9	8/01/02	Digitized Map	1-15-04
10	1/16/07	Loadout Expansion	8-07-07
11	9/09/13	Reclaimed Area	11-25-13
12	2/04/16	Changed Disturbed Boundary	12-16-15
13	3/28/19	ADDED AIR JIG	
14			

CASTLE VALLEY MINING, LLC.

HUNTINGTON, UTAH

WATERSHED MAP

SCALE: 1"= 200'

DRAWN BY: J.JORGENSEN

DATE: 3/28/19

PLATE 7-5