

**Velvet-Wood Mine
Plan of Operations**

**Anfield Energy Inc.
April 2025**

Table of Contents

Introduction.....	5
I. Rule R647-4-104 - Operator(s), Surface and Mineral Owners.....	6
104.1 - Mine Name	6
104.2 - Operator Information.....	6
104.3 - Permanent Address	6
104.4 - Contact Person(s).....	7
104.5 - Location of Operation.....	7
104.6 - Ownership of Land Surface.....	7
104.7 - Owner(s) of Record of the Minerals to be Mined	7
104.8 - BLM Lease or Project File Number(s).....	8
104.9 - Adjacent Landowners	8
104.10 - Notification of Landowners.....	8
104.11 - Legal Right	8
II. Rule R647-1-105 - Maps, Drawings & Photographs.....	8
105.1 - Topographic Base Map.....	8
105.2 – Surface Facilities and Mine Development Maps	8
105.3 – Additional Maps, Drawings, and Cross Sections.....	8
105.4 – Photographs.....	9
105.5 – Underground and Surface Mine Development Maps	12
III. Rule R647-4-106 - Operation Plan	12
106.1 - Minerals Mined.....	12
106.2 - Type of Operations Conducted, Mining Method, Processing etc.....	12
106.3 - Estimated Acreages Disturbed.....	25
106.4 - Nature of Materials Mined, Waste, & Estimated Tonnage	26
106.5 - Existing Soil Types, Locations, & Amount.....	27
106.6 - Plan for Protecting & Re-depositing Soils	28
106.7- Existing Vegetative Communities to Establish Revegetation Success	30
106.8 - Depth to Groundwater, Extent of Overburden, & Geologic Setting	36
106.9 - Location & Size of Ore, Waste, and Tailings.....	39
106.10 – Amounts of Material Extracted or Moved	40
IV. Rule R647-4-108 - Hole Plugging Requirements	40
V. Rule R647-4-109 - Impact Assessment	41
109.1 - Impacts to Surface & Groundwater Systems.....	41

109.2 - Impacts to Threatened & Endangered Wildlife/Habitat	41
109.3 - Impacts on Existing Soils Resources.....	41
109.4 - Slope Stability, Erosion Control, Air Quality, & Safety	42
109.5 – Actions to Mitigate any Impacts	43
VI. Rule R647-4-110 - Reclamation Plan	43
110.1 - Current & Post Mining Land Use.....	43
110.2 - Roads, Highwalls, Slopes, Drainages, Pits, etc., Reclaimed	43
110.3 – Facilities Left for Post Mining Land Use	46
110.4 – Treatment & Disposition of Deleterious and/or Acid Forming Material	46
110.5 - Revegetation Planting Program.....	47
VII. Rule R647-4-112 - Variance.....	49

Figures

Figure LM-1	Overall Location and Access
Figure OP-1	Ownership & Claim Map
Figure OP-2	Existing Disturbance
Figure OP-3	Overall Mine Plan
Figure OP-4	Topsoil Strip Estimate
Figure OP-5	Overall Surface Facility Map
Figure OP-6	Geologic Map
Figure DET-1	Velvet Surface Facilities
Figure DET-2	Velvet Water Treatment
Figure DET-3	Wood Water Treatment
Figure DET-4	Cross Sections
Figure DET-5	Stormwater Ponds
Figure DET-6	Production Surface Isopach
Figure DET-7	Reclamation Surface Isopach
Figure RP-1	Reclamation Plan
Figure RP-2	Reclamation Details

Tables

Table 1	Utah Water Discharge Standards
Table 2	Personnel Requirements
Table 3	Preliminary Mine Equipment List
Table 4	Generator Specifications
Table 5	Mine Disturbance Acres
Table 6	Summary of Existing Monitor Well Construction and Static Water Levels

Appendices

Appendix I:	Figures
Attachment A:	Land Ownership BRS
Attachment B:	Baseline Wildlife, Vegetation and Soils Survey
Attachment C:	Hydrogeology Report
Attachment D:	Baseline Radiological Survey Report
Attachment E:	Air Quality Authorization Approval
Attachment F:	Reclamation Plan and Bond Estimate
Attachment G:	Storm Water Pollution Prevention Plan (SWPPP)
Attachment H:	Spill Prevention, Control, and Countermeasure Plans
Attachment I:	Monitoring Plan
Attachment J:	UPDES Permit Application
Attachment K:	Request to Appropriate Water
Attachment L:	Interim Management Plan
Attachment M:	Pilot Treatment Plan
Attachment N:	CONFIDENTIAL

Introduction

This Plan of Operation addresses mining operations at the Velvet-Wood Mine in San Juan County, Utah located in T31S R25E Sections 1, 2, 3, 4, 10, 11, 12, 13, and 14, and T31S R26E Sections 6 and 7 (see Figure LM-1). The Velvet Mine was permitted as a 22-acre Large Mine under Mine Permit M370040. This Plan of Operations, submitted by Anfield Resources Holding Corp (ARHC), is an update to the existing Plan of Operations submitted by Atlas Minerals, the previous operator, and has been formatted to address specific regulatory items identified in the Utah Administrative Code R346-4 and Bureau of Land Management (BLM) guidance.

This Plan of Operation includes specific operating actions and controls, reclamation actions, an estimate of reclamation surety based on third party costs and technical bases for how the actions meet the regulatory requirements of the State of Utah and the BLM.

Reclamation of the Velvet Mine was initiated in the early 1990's by Umetco and by Uranium One in the early 2010's. A return to operation requires that the mine portal and underground workings be rehabilitated with the partially flooded mine workings being dewatered and surface facilities restored. The restoration of operations under Anfield will occur primarily on existing mine permit areas and within areas of previous disturbance. The total mine area proposed in this plan is approximately 28 acres. Within 200 ft of the proposed new mine disturbance, a total of 73 acres has been previously disturbed by previous mining, which has been reclaimed and released from the bond.

Dewatering of the mine will occur in the same manner originally permitted, with water being pumped from vent shaft C with a submersible pump, treated at the surface and discharged to the adjacent ephemeral drainage under UPDES permit UT0025810 (See Attachment J). Initial mine water treatment will be performed using a pilot treatment plant authorized by UDWQ without a Ground Water Discharge Permit. The application to UDWQ for this pilot treatment plant is currently under review. During this phase, additional hydrogeologic characterization will be performed to support a Ground Water Discharge Permit application to the UDWQ for the long-term water treatment system.

Mine ores and waste will be brought to the surface and deposited in existing waste rock storage areas. Significant quantities of mine waste (unclassified and mineralized waste rock) will also be backstowed in the exhausted workings and not brought to the surface. Ore will be stockpiled and loaded in an area on top of the work pad expansion constructed with unclassified waste from constructing declines. All mine portal and surface facilities drainage will be captured in storm water control structures designed to contain all site runoff without discharge. Storm water retained in the structures will be hauled via truck to the mine dewatering treatment facility for treatment and discharged under the UPDES permit or will be used in the underground mining process. These waters will then return to the lower vent shaft area of the mine where they will be pumped to the surface with the mine dewatering flows for treatment and permitted discharge.

I. Rule R647-4-104 - Operator(s), Surface and Mineral Owners

Provide the name, address, and telephone number of the individual or company who will be responsible for the proposed operation. **Business entities listed as the Permittee / Operator, must include names and titles of the corporate officers on a separate attachment.**

104.1 - Mine Name

Mine Name: Velvet – Wood Mine

104.2 - Operator Information

Operator Name: ANFIELD RESOURCES HOLDING CORP.
Mailing Address: 10808 S RIVER FRONT PARKWAY, SUITE 321
City, State, Zip: SOUTH JORDAN, UT 84095
Phone: 801-984-3359 Fax: 801-984-4302
E-mail Address: _____
Taxpayer Identification Number: 90-1072322

Type of Business: Corporation (☒) LLC (☐) Sole Proprietorship (dba) (☐)
Partnership (☐) General _____ or _____ limited **or:** Individual (☐)

Entity must be registered (and maintain registration) with the State of Utah, Division of Corporations (DOC) www.commerce.utah.gov.

Are you currently registered to do business in the State of Utah? (☒) Yes (☐) No

Entity # 8804532-0142

If no, contact www.commerce.utah.gov to renew or apply.

Local Business License # _____ (if required)

Issued by: County _____ or City _____

Registered Utah Agent (as identified with the Utah Department of Commerce) *(Leave blank if the operator is an individual):*

Name: INCorp SERVICES INC.
Address: 285 W TABERNACLE ST STE 201
City, State, Zip: SAINT GEORGE, UT 84770-3794
Phone: _____ Fax: _____
E-mail Address: _____

Serial Number of Existing PoO Replaced by This PoO: UTU-68060

104.3 - Permanent Address

Permanent Address: 10808 S RIVER FRONT PARKWAY, SUITE 321
SOUTH JORDAN, UT 84095
Phone: 801-984-3359 Fax: 801-984-4302

104.4 - Contact Person(s)

Please provide as many contacts as necessary.

Name: JOSHUA BLEAK Title: DIRECTOR

Address: 10808 S RIVER FRONT PARKWAY, SUITE 321

City, State, Zip: SOUTH JORDAN, UT 84095

Phone: 480-809-5982 Fax: 801-984-4302

Emergency, Weekend, or Holiday Phone: 480-809-5982

E-mail Address: josh.bleak@gmail.com

Contact person to be notified for: permitting (X) surety (X) Notices (X) (please check all that apply)

104.5 - Location of Operation

County: San Juan (see Figures OP-1 and Attachment A for locations and claim blocks)

T31S, R25E

Section 1

SE $\frac{1}{4}$ of SE $\frac{1}{4}$

SW $\frac{1}{4}$ of SE $\frac{1}{4}$

Section 2

NW $\frac{1}{4}$

SW $\frac{1}{4}$

NE $\frac{1}{4}$

SE $\frac{1}{4}$

Section 3

Entirety of Section 3

Except for

N $\frac{1}{2}$ of NW $\frac{1}{4}$ of NW $\frac{1}{4}$

Section 4

NE $\frac{1}{4}$ of SE $\frac{1}{4}$

SE $\frac{1}{4}$ of SE $\frac{1}{4}$

NE $\frac{1}{4}$ of NE $\frac{1}{4}$

SE $\frac{1}{4}$ of NE $\frac{1}{4}$

Section 10

NW $\frac{1}{4}$ of NW $\frac{1}{4}$

NE $\frac{1}{4}$ of NW $\frac{1}{4}$

NW $\frac{1}{4}$ of NE $\frac{1}{4}$

NE $\frac{1}{4}$ of NE $\frac{1}{4}$

Section 11

NE $\frac{1}{4}$ of NW $\frac{1}{4}$

NE $\frac{1}{4}$ of NE $\frac{1}{4}$

NW $\frac{1}{4}$ of NE $\frac{1}{4}$

Section 12

N $\frac{1}{2}$ of NW $\frac{1}{4}$

N $\frac{1}{2}$ of NE $\frac{1}{4}$

SE $\frac{1}{4}$ of NE $\frac{1}{4}$

NE $\frac{1}{4}$ of SE $\frac{1}{4}$

SE $\frac{1}{4}$ of SE $\frac{1}{4}$

Section 13

NE $\frac{1}{4}$ of NE $\frac{1}{4}$

T31S, R26E

Section 6

S $\frac{1}{2}$ of SW $\frac{1}{4}$

SW $\frac{1}{4}$ of SE $\frac{1}{4}$

Section 7

NW $\frac{1}{4}$

W $\frac{1}{2}$ of NE $\frac{1}{4}$

SW $\frac{1}{4}$

NW $\frac{1}{4}$ of SE $\frac{1}{4}$

104.6 - Ownership of Land Surface

Land ownership is BLM and UTLA (See Attachment A)

104.7 - Owner(s) of Record of the Minerals to be Mined

Mineral ownership is controlled by unpatented BLM claims and Utah Trust Lands Administration (UTLA, formerly SITLA) lease (See Attachment A)

104.8 - BLM Lease or Project File Number(s)

BLM Claim Numbers: (See Attachment A)

Utah State Lease Number(s): ML 54557, (See Attachment A)

Name of Lessee(s): (See Attachment A)

104.9 - Adjacent Landowners

BLM and UTLA (See Figure OP-1)

Lisbon Valley Mining Co. LLC
920 S County Road 313
Lasal, UT 84530

Robinson Livestock Inc.
264 North 100 West
PO Box 224
Monticello, UT 84535

104.10 - Notification of Landowners

BLM and State landowners will be notified with submittal.

Notification of Lisbon Valley Mining and Robinson Livestock is in progress.

104.11 - Legal Right

Does the Permittee / Operator have the legal right to enter and conduct mining operations on the land covered by this notice? Yes

II. Rule R647-1-105 - Maps, Drawings & Photographs

105.1 - Topographic Base Map

Figure OP- 1 Ownership and Claim Map includes a topographic base. Figure OP-2 Existing Disturbance presents the current state of the land. Figure LM-1 Overall Location and Access shows the nearby towns and access routes to the site. These figures are located in Appendix I.

105.2 – Surface Facilities and Mine Development Maps

Figure OP-5 Overall Surface Facility Map, Figure DET-1 Velvet Surface Facilities, Figure DET-2 Velvet Water Treatment, and Figure DET-3 Wood Water Treatment are the relevant figures for this section. These figures are located in Appendix I.

105.3 – Additional Maps, Drawings, and Cross Sections

Figure OP-4 Topsoil Strip Estimate is provided to explain the potential topsoil removal for

surface facilities and is located in Appendix I. RP-1 Reclamation Plan and RP-2 Reclamation Details are provided as figures for the written reclamation plan and are located in Attachment F, Reclamation Plan and Bond Estimates.

105.4 – Photographs

Photographs of the site on undisturbed and disturbed ground taken in May of 2023 are provided below.



5/18/23, 9:49:02 AM

UTM 665147 4220122
286 deg(T) 2019 m

ACCURACY 5 m
DATUM NAD83



Velvet Mine

Sagebrush

Plateau

5/17/23, 9:44:47 AM

UTM 661124 4220357
200 deg(T) 2017 m

ACCURACY 5 m
DATUM NAD83



Velvet Mine

RockyPJ

Overview





105.5 – Underground and Surface Mine Development Maps

Figure OP-3 Overall Mine Map provides the planned layout of the underground mine development drifts.

III. Rule R647-4-106 - Operation Plan

106.1 - Minerals Mined

The minerals being mined are uranium and vanadium.

106.2 - Type of Operations Conducted, Mining Method, Processing etc.

The Velvet Mine Uranium Project was initially drilled during the 1970's with the principal exploratory work and drilling completed by Gulf Minerals Corporation. Gulf sold the property to Atlas in the late 1970's. Atlas' Velvet Mine commenced operations in 1979 in Section 3 and advanced to the boundary with Section 2. Atlas completed feasibility studies for mining Section 2 mineral resources including hoisting and haulage of ores to their Moab mill for processing in 1980. These plans were never executed due to low uranium prices in the 1980's and the property was sold by Atlas Minerals. Minerals Recovery Corporation (MRC) of Lakewood, Colorado purchased the property from Atlas. MRC was the operating arm of Wisconsin Public Service Company. Additional drill holes were completed in 1981 and 1984 by MRC. A feasibility study was completed by Minerals Recovery Corp. in 1983. Subsequently, Wisconsin Public Service Company exited the uranium business. The Velvet Mine in Section 3 closed in 1984. The Velvet

Mine property was acquired by Umetco Minerals Corp. in 1989. Umetco was interested in the property due to the vanadium content of the remaining reserves. Umetco held the Section 3 property until the mid-1990's at which time the property was transferred to US Energy (USE). Through the acquisition of the uranium assets of USE and Energy Metals Corporation (EMC), Uranium One controlled the mineral rights to those portions of Section 2, T32S, R25E; and mineral rights for Section 3 and 4 of T31S, R25E, totaling approximately 494 acres. The property was then sold and transferred to Anfield Energy Inc. in 2015, who then published a preliminary economic assessment in 2023.

The Wood mineralization was discovered in 1975 by Atlas in Section 6, Township 31 South, Range 26 East (Chenoweth, 1990). Uranerz U.S.A. Inc. (Uranerz) controlled the Wood area of the project during the 1980s when most of the initial exploration took place. A total of 120 known historic rotary drill holes were completed by Uranerz from 1985 through 1991. The exploration resulted in the discovery of three mineralized zones in the Cutler Formation. The most important of these, the Wood mineralized body, was outlined in 14 holes that intercepted high grade material. In the 1990s Uranerz's mining claims were allowed to lapse.

In 2004, Energy Metals Corporation staked new mining claims over the Wood area. Uranium One gained control of the property through the purchase of Energy Metals Corporation in 2007. No production has ever occurred in the Wood area of the Project. Refer to Figure OP-1, Ownership and Claim Map.

Anfield plans to access the old Velvet Mine workings and begin development on the Velvet-Wood mineralization. The Velvet-Wood Mine mineralization is located within the Lisbon Valley physiographic province in San Juan County, Utah. The project is approximately 10 miles south of La Sal, Utah (see Figure LM-1) and is located at approximate Latitude 38° 07' North and Longitude 109° 09' West. The project area is located primarily on a dipping bench above the Lisbon Valley, with elevations averaging 6,800 feet above sea level.

Figure OP-2, Existing Disturbances, shows:

- Known areas which have been previously impacted by mining or exploration activities within the project area;
 - Including a total of 73 acres of previously disturbed area including roads, buildings, landing strips, electrical transmission lines, water wells, oil, and gas pipelines, and/or other surface and subsurface facilities within 200 feet of the proposed mining operations.
- The Planned Mine Disturbance; totaling approximately 28 acres of re-disturbance and new disturbance

Underground Mine Plan

Figure OP-3, Overall Mine Plan, shows the existing workings, existing wells, overall mine plan and ventilation holes. Most of the planned surface disturbances will be within the disturbance footprint of the existing mine permit.

Initial activities will focus on the dewatering of the Velvet decline. The water treatment area will encompass the same previously disturbed water treatment footprint and will utilize the same mine vent (Vent C) for installation of dewatering pump(s). It is assumed that approximately 50,000,000

gallons of water will need to be removed and treated initially. Mine water will be treated on site and discharged under a UPDES permit. Recent water sampling indicates the water contains 15.7 pCi/l combined radium-226 and radium-228, and 1.84 mg/l natural uranium with a pH of 8.3.

Table 1. Utah Water Discharge Standards

Parameter	CASRN	GWQS	Unit
Combined Radium-226 and Radium-228	7440-14-4	5	pCi/l
Gross alpha particle activity, including Radium-226 but excluding Radon and Uranium		15	pCi/l
pH		6.5-8.5	

Based on current Utah discharge standards (shown above) it is anticipated that mine water will need to be treated with barium chloride to remove the radium and with pH adjustment to remove uranium. Current testing indicates that the optimal treatment plan is mixing 0.03 g/L BaCl with mine water for 10-12 minutes, followed by a 40-minute settling time. This will take place initially in the pilot water plant constructed in the water treatment facility, which will be downsized after the first phase of dewatering is complete.

This treatment facility will be located directly above the historic mine water treatment ponds and will disturb a fraction of the previously disturbed area. Initial mine dewatering rates (6-month period) will be approximately 250 gallons per minute (gpm) to remove water stored in the mine. During this first phase of dewatering, a pilot treatment plant will be established, consisting of a 15,000 gallon mixing tank and two 40 cubic yard frac tanks for settling, at which point the treated water will be discharged. Once the initial mine dewatering is completed it is anticipated, based on historical records, that the rates to sustain the dewatering will be approximately 25 gpm. This, in conjunction with water from the frac tanks, will amount to approximately 16,500,000 gallons to be treated on an annual basis. At this time, the pilot treatment plant will be retired, and the permanent plant will be utilized. Water from mine dewatering will be used for non-potable needs at the mine site including dust control, sanitation, and underground drilling.

Precipitates from barium chloride treatment will be disposed of at an outside licensed facility. The barium chloride treatment will produce approximately 2.7 cubic yards of precipitate (20,350 pounds) in the initial mine dewatering. An additional 0.75 cubic yards (5,700 lbs) will be produced annually from mining activities. The precipitate is anticipated to have an activity level of 30,475 pCi/g.

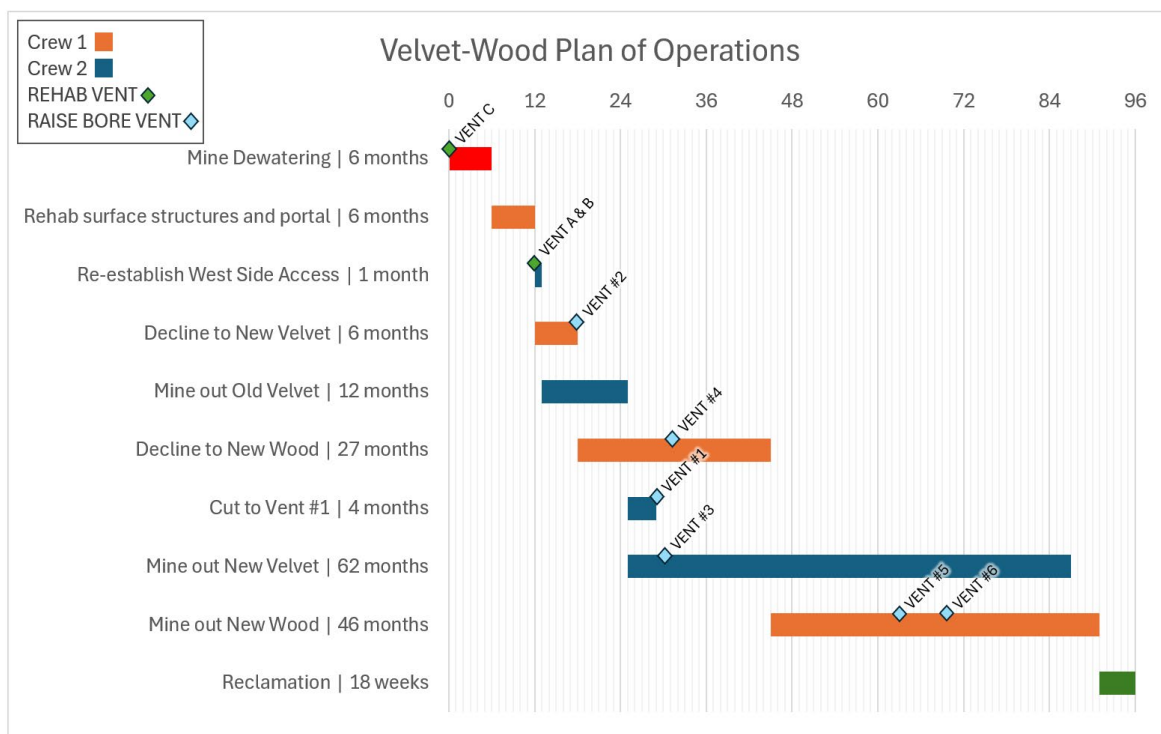
Once the initial mine dewatering is completed, the focus will shift to rehabilitating the portal. As the water levels lower in the main decline, rehabilitation of the Old Velvet access will begin. The main decline system, shown on Figure OP-3, utilizes the original portal and decline to access the Old Velvet workings and remaining unmined reserves within that location. Vents A and B will be rehabilitated for use when work is proceeding in the Old Velvet portion of the mine. Two crews will be brought on to simultaneously rehabilitate and develop access to Old Velvet production areas and develop a new decline down to the New Velvet. The main decline extension will be constructed 12 feet wide and 9 feet high and will extend some 3,000 feet to the northeast from the

portal. From the decline haulage mains, 12 feet wide and 8 feet high drifts will be driven to the three planned vent locations. The new vents will be established by up-reaming in the same manner as previously employed for existing vents. The new vents will be 72 inches in diameter or less. Once these aspects are in place, production can begin on the New and Old Velvet drifts.

The main decline extension will generate approximately 12,000 to 14,000 bank cubic yards of materials from non-mineralized stratigraphic units consisting of sandstone, shale, and clay from the Chinle and Mossback formations. This material, as well as that from the drifts being driven to the vents, will be utilized to create a shelf to expand the work pad (labelled in DET-1 as the Work Pad Expansion), on which the truck loadout area will be placed.

A decline from New Velvet will be developed to access the Wood mineralization. The Wood decline will be constructed at 12 feet wide and 9 feet high and will extend approximately 12,050 feet. The new vents will be established by up-reaming in the same manner as previously employed for existing vents. The new vents will be 72 inches in diameter or less. An additional water treatment plant will be placed near the Wood mineralization, with sustained dewatering rates of approximately 25 gpm. The following figure details the activities of the crews over the 8-year operating time from dewatering to revegetation.

Figure 1. Velvet-Wood Plan of Operations Chart



These timeframes are based on a mining rate of 7,345 tons material per month from the western/Old Velvet area; a mining rate of 6,585 tons material per month from the New Velvet area; and a mining rate of 6,930 tons/month from the New Wood area.

Production

The mine will be developed to ultimately support an average ore production rate of up to 500 tons per day, with an average waste to ore ratio of 0.2 tons of waste per ton of ore mined. Upon completion of main haulages and ventilation shafts, laterals will be driven along strike. The laterals will be driven through known ore-bearing zones to provide access for production mining. The laterals also provide access for geologic mapping, long-hole drilling, rib scanning and collecting samples. This geologic data will be used to develop detailed mine planning and stope development for each lateral. Mining will generally proceed from the laterals up dip, beginning at the farthest extents of the mine and retreating back to the main decline.

The ore will be mined using a modified room-and-pillar system and retreat mining. This mining method is common for mining in uranium-bearing sandstone and is designed to follow the irregular configuration of the individual ore bodies. Where possible, mined-out areas will be back-stowed with waste from adjacent mining. Once a room is fully mined and back-stowing is unpractical or unsafe, the roof will be collapsed to relieve stress on adjacent rooms and haulages.

The ore seams vary in height but average 6.7 feet or approximately equivalent to the full-face mining height of 7 feet. The minimum mining thickness, including dilution, is 4 feet. In instances with lower mine thicknesses, split shooting methods will be employed.

The mine will be operated using 2, 10-hour shifts and will consist of 2 mining crews and 1 utility crew. An additional crew will be available to rotate, totaling 3 shifts on an annual basis. Personnel requirements are summarized in the following table.

Table 2. Personnel Requirements

Hourly Labor Requirements	Per shift	Shifts/year	Total
Jumbo Miners	2	3	6
Jumbo Helper	2	3	6
Utility Miners (Const., Utilities, etc.)	1	3	3
UG Laborer	1	3	3
LHD Operators	1	3	3
UG Truck Operators	2	3	6
Surface Operators	1	3	3
Exploration Drillers	2	1	2
Electricians	1	3	3
Mechanics	1	3	3
Control Room Operator (Dispatcher)	1	3	3
Warehouse Laborer	1	3	3
Total Hourly	16		44
Salaried Personnel Requirements	Per shift	Shifts/year	Total
Manager/ Chief Engineer	1	1	1
Mine Foreman	1	1	1
Foreman/Shifter	1	3	3
Engineers and surveyors	2	1	2
Chief Geologist	1	1	1
Geologists	1	3	3
Safety Manager/ Personnel Manager	1	1	1
Maintenance Supt.	1	1	1
Technicians	2	1	2
Accountants – Clerk	1	1	1
Purchasing Agent	1	1	1
Total Salary	13		18
Total Annual Personnel	29		76

The anticipated equipment list for the underground operations is presented in the following table.

Table 3. Preliminary Mine Equipment List

Equipment Requirements	Quantity
Development Jumbo - single boom	2
Drifter, Hydraulic	3
Drifter Feeds	3
Jackleg drills w/ legs	4
Compressor 350 cfm	2
LHD 2 cy	2
Trucks 10 ton	3
Cat 973C track loader/dozer	1
Pumps	4
ANFO Loaders	3
Service Vehicles	1
Scissor Lift Truck	1
Main Ventilation Fans 63"	6
Electric Motor 350 HP	6
Accessories for 63" Fan	6
Auxiliary Fans 14000 cfm (each drill needs 3 faces)	15
Exploration Drills	2
Water Truck 4,000 gallons	1
Refuge Chambers	2
Safety Equipment	1
Portable Power Center 150 Kva	4

Jumbo drills operating on compressed air will be utilized to drill the blast holes and rock-bolt holes in the declines and laterals. Air-jacklegs will be utilized in production areas. All blasting operations will be conducted in accordance with MSHA regulations (30 CFR Parts 56 and 57). Blast holes will be loaded with an electric blasting cap, chemical booster, and a mixture of ammonium nitrate and fuel oil (ANFO) prills. The blasts will be initiated electronically with the hole pattern, firing sequence and delays designed to allow for optimum breakage. Explosives and detonators will be stored in underground magazines and transported from the magazines to the working face in accordance with MSHA regulations (30 CFR Part 56 and 27 CFR Part 55).

The ore and waste rock will be mucked out using 2 cubic yard low-profile diesel loaders (LHD's). Ore will be hauled to the surface ore stockpile toe using low-profile diesel haul trucks with capacities of ten tons. During initial decline and lateral development, the unclassified waste rock will be hauled to the surface and placed in the work pad expansion area. Waste produced during subsequent development and production will be disposed of both on the surface and underground in mined out areas whenever possible to minimize waste rock volumes at the surface. Backstowing will be used preferentially, and waste will only be disposed of on the surface if ground conditions (such as unstable workings) prevent underground disposal. It is anticipated that at minimum 60% of mined waste will be able to be backstowed. The surface waste stockpiles are capable of accommodating approximately 40% of the maximum production of waste rock over the life of the mine; the reclamation surface can accommodate approximately 50% if necessary.

Roof support will consist of metal roof mats anchored into the roof using eight-foot-long resin roof bolts. Bolting will be performed as necessary with the spacing varying according to roof conditions and the size of the opening. The size of the mine openings will depend on roof conditions but will typically be 14-feet or less in width based on the experience of similar mining operations conducted in the same formation. Ten-foot-long mats will be installed diagonally on the ribs when additional rib support is required. The underground area will also include maintenance and storage areas. Routine maintenance and minor repairs will generally be done underground with more extensive repairs and maintenance completed in the surface shop. Roof support materials, blasting supplies, lubricants and the smaller and more commonly used equipment parts will be stored in designated locations underground. These locations are expected to change as the mine workings are advanced.

Mined Material Handling

Based on the available data, recommended clean-up criteria, and applicable standards and/or criteria, mine spoil has been subdivided into the following categories:

- **Interburden/unclassified waste rock** - Material which is radiometrically equivalent to background, is not acid forming, and does not contain concentrations of metals or other constituents in excess of DOGM criteria. This material can be used for most construction purposes and will be used to form the work surface on the work wad expansion area. It may additionally be stowed in the surface waste rock area or underground. This material will be produced from development headings including the main declines.
- **Subgrade ore/mineralized waste rock** - Material which contains at least 0.03 weight percent U_3O_8 but is not economically retrievable. This material is slightly elevated in radionuclides, less than 10 pCi/g radium-226, and may have the potential to be acid forming and/or contain metals in excess of DOGM criteria. During operation, this material will be stockpiled in mined-out areas away from the groundwater table, but in such a manner that it may be retrieved should it become economically viable over the course of operations. At the conclusion of operations, the material will be backstowed. This will occur either above the groundwater table or deep enough below the groundwater table to be reasonably expected to be anoxic. In either case, the metals and radionuclides will be rendered immobile. If backstowing is not possible, then it will be placed in the center of the surface waste rock pile beneath a minimum of 10 feet of interburden waste cover upon mine closure.
- **Ore** - Material which contains above currently economically retrievable grades of uranium/vanadium mineral. This material will be brought to the surface and stowed in the ore stockpile bins before being hauled offsite to the Shootaring Canyon Uranium Facility. In the event of an economic downturn in the uranium market, ore may become subgrade. In this case, the subgrade material will be backstowed above the groundwater table into the existing underground workings or buried in the waste rock final reclamation surface at a depth equal to or greater than 10 feet.

The majority of material will be sourced from the upper and lower Chinle formations, which is not anticipated to be acid-generating.

Surface Facilities

The proposed surface facilities are shown on Figure DET-1, Velvet Surface Facilities. In no case will any surface facilities or stockpile areas be located above the decline to the mine. These facilities include the following:

- Waste rock pile
- Ore stockpile and truck loadout area
- Topsoil stockpile areas
- Storm water/surface drainage control structures
- Fuel and oil storage areas
- Office & Employee Facility
- Maintenance shop & warehouse
- Designated parking and lay down areas
- Mine access roads
- Air compressor
- Mine Vents
- Water Supply System
- Fenced leach field
- Solid waste storage (trash, scrap metal, batteries)
- Propane tank

Mine dewatering, treatment and discharge facilities are discussed in and includes:

- Dewatering vent
- Waterline corridor
- Water treatment facility
- Access roads

Surface support equipment will be limited and will include:

- Light vehicles for the maintenance, engineering, and safety departments.
- ATV's for use in areas with limited access and/or during inclement weather conditions.
- One track loader/dozer for use dressing stockpiles and loading ore.
- Ore will be transported from the site using commercial over the road trucks with pup trailers and approved covers. A typical haul truck, trailer, and 2-axle pup will have a tare weight of approximately 47,500 pounds and a gross vehicle weight of approximately 124,000 pounds.

Figure OP-3, Overall Mine Plan, shows existing and proposed ventilation shafts. Access to the mine portal will utilize the existing haul road from the county road which passes through the area. Access to the mine vents and dewatering facility will utilize existing access and/or exploration drill roads.

Minor changes may be made to the proposed layouts during construction with BLM and DOGM approval; however, construction activities, unless otherwise noted, will be confined to the previously disturbed and reclaimed areas of the project site.

Waste Rock Pile – Where possible, waste rock will be disposed of underground. However, when brought to the surface, waste rock storage will be restricted to the existing disturbance footprint as

shown on Figure DET-1, Velvet Surface Facilities. A total volume of 147,000 in-situ cubic yards of unclassified and mineralized waste rock will be generated over the life of the mine. Applying an average swelling factor of 30% to that total means that a total of up to 191,000 cubic yards of unclassified and mineralized waste rock is anticipated based on the detailed mine schedule. As shown on Figure DET-1, the operational design capacity is 74,000 cubic yards of material including the waste rock pile and work pad expansion. The final reclamation capacity of the disturbance footprint can accommodate a total of 75,000-115,000 cubic yards of waste rock. This is due to the ability to adjust the contours of the final design to match the actual production of waste rock from the mine. As such, raising or lowering the final contour designs 5ft or less can adjust up to +/- 40,000 cubic yards while staying within the disturbance footprint and final slope gradients.

The general configuration of the waste rock pile is planned to slope upward from the portal at a 15% grade, which is slightly flatter than the 17% decline grade. The waste dump will be constructed in lifts, beginning with the maximum overall footprint. Side dumping underground 10-ton mine trucks will exit the portal, and run a right-handed traffic pattern, dumping each lift from the east edge to the west. Following completion of each lift, it will be leveled, and the next lift begun until the pile is completed. The maximum stockpile height will be 40 feet or less. Waste rock will be placed at slopes of 1.5 H:1V or less for operational conditions and will be regraded to lesser slopes for reclamation. Waste rock will be segregated based on quality and/or character. Waste from the decline extension is expected to be clean interburden material consisting of sandstone, shale, and clay. This material will be segregated for use in constructing an expansion to the work platform. Waste from the ore bearing horizon will be separated into subgrade ore (material falling below current economic cutoff but containing more than 0.03 weight percent U_3O_8) and unclassified waste rock, with subgrade ore being preferentially stowed underground for potential retrieval in the case that economic conditions allow for processing. If this is not the case, the material will be treated as mineralized waste rock at the time of reclamation and isolated and buried in the waste rock area. The unclassified waste rock will be backstowed wherever possible, and hauled to the waste rock area on the surface where not. The waste rock pile will be covered with the clean interburden material used to construct the work pad expansion prior to application of available topsoil and revegetation. The total area of waste rock storage is planned to be approximately 2.5 acres. See the subheading “Mined Material Handling” on page 14 above for information on waste rock characterization.

Ore Stockpile and Truck Loadout Area – Ore will be stockpiled adjacent to the main decline on top of the historical mine waste rock area and contained within a concrete ore bin, refer to Figure DET-1, Velvet Surface Facilities. The location of the ore loading station is labeled Truck Loadout Area as shown in Figure DET-1. Mined ore will be transported from the site for processing shortly following mining. It is anticipated that no more than 2 months’ worth of ore (24,000 tons) will be present in stockpile at any given time and that the ore stockpile area will not exceed one acre in surface extent. Ores will be continuously trucked from the site to the Shootaring Canyon Uranium Facility near Ticaboo, Utah. In the event that the Shootaring Mill is unavailable, ore will instead be hauled to the Energy Fuels Blanding Mill.

Topsoil Stockpile Areas – The mine area was disturbed by historic mining and exploration activities that occurred prior to the implementation of state and federal reclamation laws. As a result, little topsoil was salvaged prior to initial mine development and the majority of the mine

site was later reclaimed using the soils and unclassified waste rock that existed on the disturbed areas at the time of reclamation. Available topsoil will be salvaged from all excavation areas including reclaimed areas, provided that the topsoil has not been degraded by historic mine wastes. Topsoil will be tested for baseline properties prior to stockpiling. All topsoil stockpiles will be neatly dressed and identified with signage clearly identifying the stockpile as topsoil. The topsoil stockpiles will be limited to no more than 16 feet in height and equipment travel over the piles will be prevented so that compaction is minimized. The stockpile locations are placed to minimize contributing drainage areas and erosion losses and are uphill from the fueling station.

The topsoil stockpiles will be contoured, furrowed, and broadcast seeded with the seed mixture presented in Attachment F, Reclamation Plan and Bond Estimates, in the soonest late fall season once the stockpiles are at their ultimate configuration. Reasonable efforts and management practices will be used to minimize topsoil erosion from the stockpile areas. If excessive erosion is observed during regular monitoring, silt fences and/or snow fencing may be placed around the perimeter and on the surface of the stockpiles to mitigate soil loss. Prior to being removed from the stockpile for reclamation, topsoil will be re-tested and amended as needed.

Storm Water/Surface Drainage Control Structures – No disturbances to existing drainage systems are planned or proposed. Surface facilities will be contained within existing disturbance areas which are located outside of the ephemeral drainages in the mine area. All storm water runoff contacting the ore stockpiles, waste rock stockpiles, and other disturbed areas will be routed to storm water catchment ponds sized to contain 10-year 24-hour precipitation events. This contact storm water from the mine portal area will be transported by water truck to the mine dewatering treatment area for treatment and subsequent discharge under a UPDES permit. Some of the treated water may be trucked to a storage tank located near the employee facility and workshop to provide non-potable water to these facilities (Figure DET-1). Non-contact storm water up gradient of the facilities will be routed away and/or around the mine facilities.

The historical mine water treatment area, located adjacent to the unnamed drainage to the southeast of the portal (see Figure OP-5), will be used for the new mine water treatment facility. Construction disturbance will be limited to the northern margins of the area to avoid impacting drainage. Silt fencing will be utilized to limit migration of sediment. Temporary diversion structures will accommodate the runoff generated from over 98 percent of the storms expected during the potential mine life and will be maintained by the mine operator as needed. As best management for implementation of the UPDES permit, sediment control measures including undisturbed buffer areas, stormwater catchment ponds, earthen berms, and/or sediment control fences will also be placed down gradient from disturbed areas to minimize the volume of sediment impacting the drainage system.

Fuel and Oil Storage Areas – Diesel fuel and other petroleum products will be stored on-site in tanks, drums, and smaller containers. The fuel storage area is shown on Figure DET-1, Velvet Surface Facilities. The fuel storage containment area will be surrounded with earthen berms and covered with a synthetic HDPE or equivalent liner to contain any fuel spills or leaks. The synthetic liner will be covered with a protective layer of road base. The berms will be established at the height necessary to contain the total volume of the largest tank within the containment area plus an additional ten percent. The fueling areas will be sloped so that any spills during equipment fueling or fuel delivery to the site will flow into the containment area, which will be able to contain

the total volume held within the berm plus an additional ten percent.

Diesel fuel will be stored in two 10,000-gallon tanks which will be painted a neutral color. The mine will use an estimated 1,500 gallons of diesel per day. Approximately 10,000 gallons of diesel will be kept on-hand; therefore, 10,000 gallons of diesel will be delivered every 5-7 days.

In the interest of reducing emissions, connecting the facility to line power will be pursued in the long term and an amendment for the power line disturbance made at that time. For the immediate term, diesel generators will be utilized. A 20' by 50' concrete pad will be installed to support electrical utilities, upon which up to 4 generators will be placed. A generator type like the Volvo Triton Tier 4 Final diesel generator will be used for this purpose, with the following specifications:

Table 4. Generator Specifications

Model	TWD1673GE
Engine Speed	1800 RPM
Engine Power Output at Rated RPM	655 kWm/878 HP
Cooling	Radiator cooled
Fuel Consumption (Full Load)	128.9 L/hr
Fuel Consumption (75% Load)	97.7 L/hr
Fuel Consumption (50% Load)	67.8 L/hr

Mine Office – A 48'x60'x8' building will be used to house the mine office and employee facility. It will be a prefabricated metal building with a 6-inch slab on grade foundation. The location of the office along the access road serves a separate function of providing site access control to limit public access. Figure DET-1 shows the location of the mine office. Vendors and site visitors can be stopped with signage and a gate, directed to the office, and provided with site specific safety training prior to entering the site. The building will be painted neutral colors to better blend in with the surrounding natural features. Upon completion of mining, the facility will be removed from the site.

Employee Facility– The employee facility will be in the same building as the mine office. Employee parking will be located on an existing small disturbance on the east side of the main access road. The employee facility will include a lunch/meeting area, toilet and shower facilities,

and laundry area. Non-potable water will be supplied from the mine water treatment system effluent released under UPDES permit UT0025810. Treated water will be trucked from the treatment area to a holding tank (see Figure DET-1). Black and gray water from onsite facilities will be pumped to the leach field to be treated. Potable water will be provided from an approved commercial source.

Maintenance Shop and Warehouse – A 40'x80' shop and warehouse with attached wash bay will be constructed as shown on Figure DET-1. These facilities will consist of prefabricated metal buildings on 6-inch concrete slab on grade foundations and will be painted neutral colors to blend in with the surrounding natural features. All drainage from the shop floor and wash facility will be collected for reuse and/or treatment and disposal. This will include a lined sump and oil water separator, with water pumped to storm water drainage control structures for treatment. Oil wastes from a separator will be contained in drums on palettes and removed by a qualified third-party vendor for recycling. Waste oil and other petroleum-based products will be collected for recycling by a qualified vendor. Upon completion of mining these buildings will be removed from the site. Concrete pads will be demolished, and the waste concrete used for bulkhead material in the closure of the mine decline and/or disposed of at a licensed landfill.

Designated Parking and Lay Down Areas – Designated parking and laydown areas are shown on Figure DET-1. These areas will not be paved but will be graveled utilizing clean interburden waste materials from the decline extension.

Mine Access Roads– The primary road into the site is a county road that continues past the mine.

Air Compressor– An air compressor will be located on the south end of the shop. The air compressor will be used to supply compressed air for pneumatic drills and other equipment both on the surface and underground.

Mine Vents - As shown on Figure OP-3, nine mine vents are planned: one pre-existing for dewatering and two pre-existing for ventilation; and six newly constructed for ventilation. Mine ventilation will be of sufficient volume to maintain radon, exhaust, and other fumes and gases to safe working levels as required by MSHA. It is anticipated that this will require the movement of 200,000 CFM of air through the mine. Each vent will have a maximum of 14 ft wide by 14 ft long and 8-inch-thick concrete slab base.

Vent 4 will be equipped with 8ft long, 8ft wide and 6ft high emergency escapeway shack that will sit on a larger vent pad than the typical 14ftx14ft. Rather, the emergency escapeway and the vent will occupy an 8-inch concrete pad up to 24ft long by 14 ft wide. One vent out of vents A, B, C and 1, 2, 3 will be equipped with an emergency escape way for the Velvet side of the complex. One vent out of vents 5 and 6 will be equipped with an emergency escape way for the Wood side of the complex.

Water Supply System – Water for bathrooms, showers, washing equipment, and other general uses will be supplied by recycling the treated mine water. The treated water will be pumped from the mine dewatering water treatment facility to an elevated tank, from which water will flow by gravity to the surface facilities. The pipeline will follow existing roads, and the tank pad will be placed on a previously disturbed area as shown on Figure DET-1. The treated water is not potable, and

drinking water will be supplied by the mine from an approved commercial source.

Fenced Leach Field – An industrial septic tank and leach field utilizing high-capacity leaching chambers in a mounded system will be located down gradient from the site and fenced to prevent mine traffic from travel on the leaching chambers. The septic system will be designed and installed to meet current state and local regulations. The septic system will be pumped out, as needed, on a routine basis. See DET-1

Solid Waste Storage – A roll off container for disposal of trash will be located next to the Maintenance Shop and Warehouse. The trash will be picked up on a routine basis by a service company and disposed of at an approved landfill. No landfills will be constructed on site. Scrap metal will be stored in a bin and/or on pallets near the Maintenance Shop and Warehouse until it can be picked up for recycling. Used batteries and tires will be stored in the same area and will be picked up and recycled by vendors. See DET-1.

Propane Tank– Propane will be used to heat buildings. The tank will be located in a fenced area near the buildings. The propane will be stored in a 2,000-gallon tank and will need refilled 2 to 3 times per year depending on the shop and office demands. See DET-1.

Water Treatment Systems – Water treatment facilities are described in detail in Figures DET-2 and DET-3. The Velvet facility will be constructed within the previously existing disturbance area of the historical water treatment area and will be fenced to prevent intrusion by livestock. The Wood facility will be located adjacent to existing road disturbances. Liquid effluent will be discharged at the velvet facility under UPDES permit UT0025810. All solid water treatment wastes will be characterized and disposed of in an appropriate offsite permitted disposal facility to be determined based on the solid waste characteristics. Upon completion of mining, the water treatment systems will be removed. Any contaminated soils or materials, including the synthetic liner, will be transported off site for permanent disposal at a duly permitted facility.

Waterline Corridor – Water will be pumped from the mine workings via Vent C, shown on Figure OP-5. The water will be pumped through a nominal 6-inch schedule 80 HDPE line following the same route as historically utilized for mine dewatering. This line will be installed on the surface and covered with at least 42 inches of soil to prevent potential freezing during cold weather.

Powder Magazine – Details are confidential. See Attachment N.

Temporary Closure

In the event that market conditions or other circumstances require a temporary cessation of mine operations, Anfield Energy, Inc will provide notice to the BLM in accordance with requirements of Part 3802.4.7, Title 43 of the Code of Federal Regulations (CFR) and to DOGM in accordance with Utah Rule R647-4-117. The Interim Management Plan is described in detail in Attachment L.

106.3 - Estimated Acreages Disturbed

The complete mine disturbance area is compared to the previously disturbed areas that are included in the current mine permit as shown on Figure OP-2. The total area to be disturbed by the proposed mine permit, including both areas that were previously disturbed and undisturbed ground, is

approximately 28 acres. A breakdown of the disturbance areas and their bond release status is given in Table 5 below and on Figure OP-5 Overall Surface Facility Map.

Table 5. Mine Disturbance Acres

AREA	MINE ACRES	PREVIOUSLY DISTURBED ACRES
VELVET SURFACE FACILITIES	11.4	9.2
VELVET WATER TREATMENT PLANT	1.9	1.7
WOOD WATER TREATMENT PLANT	0.5	0
ROADS	14.2	60.36
VENTS A,B,C	0.01	1.7
VENTS 1,2,3,4,5,6	0.02	0.04
TOTAL	28.02	73.00

106.4 - Nature of Materials Mined, Waste, & Estimated Tonnage

Thickness of overburden:	800 to 1,500 ft.
Thickness of mineral deposit:	Avg. of 6 ft.
Estimated annual volume of waste rock:	11,000 to 28,000 cu.yds.
Estimated annual volume of tailings/reject materials:	0 cu.yds.
Estimated annual volume of ore mined:	31,000 to 100,000 cu.yds.

Interburden waste rock will be generated from the development of a new decline to access the ore in Section 2 and from mined inter-burden from the ore zone. The interburden waste rock is comprised of a fine to very coarse-grained quartz, feldspar, lithic, arkosic sandstone. Based on field observations of the existing reclaimed waste rock area, the waste is not acid-generating, nor does it contain mineral concentrations that are toxic to vegetation. The interburden waste rock originates from the unconformity between the Cutler Formation and the Moss Back Member of the Chinle Formation. The blasted arkosic sandstone waste will range in size from fine-grained sand to a maximum of two feet in diameter.

Note: The estimated 31,000 to 100,000 cubic yards of ore is based on escalating mining rates and waste-to-ore ratio over the course of production. Production rates are estimated to start at approximately 60,000 tons per year during decline and lateral development based on the detailed mine schedule utilizing two crews working 10-hour shifts daily. During this time, an average waste to ore ratio of 1/1 is expected with a density of 100 lbs/ft³, producing approximately 31,000 cubic yards of ore. During later production, after declines are completed and the mine has expanded, the production rate is expected to increase to approximately 120,000 tons per year. The waste to ore ratio is expected to decrease significantly during later production (i.e., 0.5 or lower) resulting in the generation of proportionately less waste as full production is reached, allowing for ore

production around 100,000 cubic yards. An ore stockpile density of 90 pounds per cubic foot (lbs/ft³) was used to convert tonnage to cubic yards and is inclusive of an approximate average swell of 50% from in-situ to stockpile.

106.5 - Existing Soil Types, Locations, & Amount

A baseline soil resources assessment update was conducted for the Velvet-Wood project area and is included as Attachment B to this NOI/POO. Field data collection was not conducted with an approach consistent with a Soil Order III baseline soil survey necessary to meet requirements of Rules R647-4-106.5, 106.6, and 109.3 of the Utah Administrative Code but was meant to update the existing resources assessment for the Mine area. The survey is described in detail in Attachment B. The objectives of the soil resources assessment were to:

- Survey and document soil map units in the project area;
- Establish soil reference areas.

The soil survey was conducted concurrently with vegetation resource surveys (see Attachment B). Vegetation surveys were accomplished on foot and focused on disturbed and undisturbed portions of the site.

The project area includes four major soil map units, as determined by the U.S. Department of Agriculture, Soil Conservation Service (USDA SCS): Rock outcrop-Rizno complex, Rizno-Rock outcrop complex, Begay fine sandy loam and Bond-Rizno fine sandy loam (see soil map in Attachment B). These broad soil map units are defined as unique natural landscapes and may consist of one or more major and/or minor taxonomic soil classifications. Soil map units are based on landscape-scale similarities observed in parent material, general soil characteristics, elevation, precipitation, position within the landscape, and vegetation, among others. Finer variations in these parameters further define these broad map units into a mosaic of taxonomic classifications.

The project area has been impacted extensively by past mining and exploration activities, both historic and more recent. Mining activity has resulted in the creation of soil types that are different in character from the surrounding mapped units. These mining-related soil types include the rock waste rock pile located in the portal area. These rock and clay soils were reclaimed in-place by the previous mine operator without benefit of native topsoil. The waste rock pile and the water treatment area will be re-disturbed by the proposed project. These areas are shown on Figure OP-5.

The four major soil units identified will not be impacted by proposed mining operations. Detailed information on these soil units is provided in Attachment B. The portal area is located within the Mining-Related soils unit.

Rizno Series

The Rizno series consists of very shallow and shallow, well drained soils that formed in residuum, colluvium, and eolian material derived from sandstone, siltstone, and limestone. Rizno soils are on structural benches on cuestras, mesas, and ridges. Slopes range from 2 to 60 percent. The mean annual precipitation is about 11 inches, and the mean annual temperature is about 51 degrees F. This soil can be found at elevation of 4,000 to 8,000 feet AMSL. Vegetation on this series generally consists of blackbrush, Mormon-tea, Utah juniper and pinyon. This soil is used mainly for rangeland and can be found throughout Southeast Utah, northern Arizona, Western Colorado, and

northwest New Mexico. This series is of substantial extent. The Rizno-Rock outcrop complex represents the primary soil resource within the general portal area.

Begay Series

The Begay series consists of very deep, well drained, moderately rapidly permeable soils that formed in eolian deposits and alluvium, derived mainly from sandstone. Begay soils are on structural benches, broad mesas, fan remnants and have slopes of 0 to 30 percent. The mean annual precipitation is about 12 inches, and the mean annual temperature is about 48 degrees F. Elevation for this soil ranges from 4,700 to 7,400 feet AMSL. Typical vegetation found on this soil consists of needle and thread, big sagebrush, blue grama, and Indian ricegrass. This soil is used only as rangeland and is associated with semidesert regions throughout southeastern Utah and northwestern Colorado. Begay soils are moderately extensive.

Bond Series

The Bond series consists of very shallow and shallow, well drained, moderately permeable soils that formed in alluvium, slope alluvium, and eolian deposits derived from sandstone on cuestas, mesas, hills, and ridges. Slopes range from 0 to 50 percent. The mean annual precipitation is about 11 inches, and the mean annual temperature is about 51 degrees F. This soil can be found at elevations ranging from 5,600 to 7,200 feet ASL. The present vegetation is blue grama, sideoats grama, New Mexico feather grass, Indian ricegrass, scattered one seed juniper, and winter fat. The major use of this soil is for livestock grazing. The series is of moderate extent and can be found throughout west-central New Mexico, northern Arizona, southwestern Colorado, and southern Utah.

Mining-Related Soil Units

Soils located in the immediate vicinity of the mine portal consist of a pink, gray and white, sandy unclassified waste rock. The area is situated above a narrowing floodplain/canyon bottom that was not disturbed by previous mining operations. Samples will be taken in this location to evaluate the physical and chemical soils properties of the waste rock pile. The reclaimed evaporation pond is predominantly made up of local material and rock from the initial leveling of the pad. These soils are rocky and thin but support limited vegetation.

Soil samples will be collected for laboratory analysis from the soil map units that will be impacted by mining operations. Samples will also be collected from the reclaimed waste rock area, ore stockpiles, and the evaporation pond area. Field parameters will include location and thickness and any structures that have developed. Laboratory parameters analyzed will include pH, electrical conductivity, calcium, magnesium, sodium, potassium, soil adsorption ratio, cation exchange capacity, percent organic matter, total nitrogen, available nitrate, phosphorus, and potassium, composition of sand, silt, and clay, texture, percent coarse fragments, percent total sulfur, neutralization potential and acid/base potential.

106.6 - Plan for Protecting & Re-depositing Soils

Soils Available for Salvage and Potential Salvageable Quantities

The primary areas that will be disturbed within the project area are the surface facilities and portal area.

Figure OP-4 presents the topsoil stripping estimates for the portal area and nearby surface facilities.

As shown, the southern and northern portions of the proposed disturbed portal area has between 2 and 6 inches of strippable soil and the central portion has between 0 and 5 inches of strippable soils. Most of these soils are of the past revegetation of the waste rock areas. The revegetated waste rock material from previous mining (the central portal area) is marked as a Potential Topsoil Strip Area in Figure OP-4. It is not as good a resource as the native soils; however, it does support vegetation, as evidenced by the limited revegetation success to date. Soil depths of 2.5 inches and 6 inches are assumed in the central portal disturbance and the remaining portal disturbance respectively. A soil depth of 6 inches is also assumed in the nearby surface facility area to the north. All stripping will result in a total of 2,190 bank cubic yards (byc) of soil. Topsoil will not be stripped from buffer areas next to the drainages, the leach field, or the topsoil stockpile areas. Soil stripping efficiencies will also be relatively low in those areas where the soil is thinner or intermixed with gravel and rock. The stripped soils will be placed in a topsoil stockpile for the portal area and windrowed for the facility area to the north (see Figure OP-4). The stockpile height was driven by land area limitations. The topsoil stockpile will have a maximum height of about 16 feet and an average height of 8 feet due to land area limitations. A total of approximately 1,030 cubic yards of topsoil will be stripped from the two water treatment areas and windrowed to the side. See Figures DET-2 and DET-3 for locations of topsoil windrows.

Topsoil Stockpiles

Most soil stripping will be performed using a tracked dozer, although a front-end loader and/or motor grader may also be used. Stockpiles will range from 8 to 16 feet in depth. Equipment will not be allowed to cross over the piles so that compaction is minimized. The topsoil pile locations shown on Figure OP-4 were placed outside of drainage areas to minimize erosion losses.

Topsoil piles will be contoured, furrowed, and broadcast seeded in late fall with the following approved seed mix:

Topsoil Stockpiles Seed Mix		
Common Name	Species Name	Rate lbs/ac (PLS)
Thickspike wheatgrass	<i>Elymus lanceolatus</i>	3.0
Slender wheatgrass	<i>Elymus trachycaulus</i>	3.0
Crested wheatgrass	<i>Agropyron cristatum</i>	2.0
Yellow sweet clover	<i>Melilotus officinalis</i>	0.5

In the event that vegetation is difficult to establish, the stockpiles will be blended to match the surrounding terrain as much as possible. Please refer to Section 110.5 for specific revegetation methods that will be used. Sediment controls (i.e., grass buffer areas, earthen berms, straw bales, etc.) will be installed and maintained as necessary, to prevent surface run-off from mine operational areas and roads from intersecting the topsoil piles within the surface facilities area. Vegetation success on the stockpiles will be monitored and stockpiles will be reseeded where vegetation is sparse.

Anfield will sample sediments from storm water control structures following mining activities. These samples will be analyzed for metals and radionuclides, as well as sulfates and selenium. Based on the results of the sediment analysis following mining activities and their comparison to baseline conditions at the pond site, Anfield will remove contaminated sediments and bury them with the mineralized waste material in the waste rock pile. This commitment will eliminate concerns about contaminated sediments being left behind and their potential to become airborne.

106.7- Existing Vegetative Communities to Establish Revegetation Success

The project area is dominated by pinyon-juniper woodland, sagebrush shrubland, mixed bedrock canyonlands, and disturbed plant communities. There are no wetlands or perennial streams present within the Velvet-Wood project area. Although the national wetland inventory displays two wetland areas with the code PUBFx in the area of the dewatering ponds, this is historic data that is not reflective of current conditions. The wetlands in the area were mapped using 1986 imagery when man-made settling ponds established for the previous mine were no longer in use but were still present. These ponds and their outlets were reclaimed after 1986 and no longer exist. A small stretch of land between the ponds is marked as permanently flooded, but this was only true when the ponds were present and used to discharge mine water. This no longer the case. Remaining streambeds in the area are intermittently flooded, not perennial streams. In the area of the Wood project a few very small intermittently or seasonally flooded wetlands are mapped. However, these wetlands are outside of proposed disturbance areas.

Of the 105 BLM Sensitive species for Utah, 12 species are listed as being potentially present or have been found on lands in San Juan County, Utah. See Table C1 in Attachment B. Four of these species have potential to occur within the project area. None of the other eight rare plants listed for San Juan County are known from or have habitat within the project area.

NRCS ecological site descriptions (ESD) were obtained for the area of the Velvet Wood surface facilities, the Velvet water treatment area, and the Wood water treatment area. NRCS mapping classifies the Velvet Wood surface facilities area and the Velvet water treatment area as Upland Shallow Loam, and the Wood water treatment area as Upland Stony Loam and Talus Slope. See Appendix B for full ESD descriptions taken from the NRCS.

The Upland Shallow Loam ESD, covering the Velvet Wood surface facilities and the Velvet water treatment areas, gives a percent coverage for grasses, shrubs, and forbs of 2-21%. The following images were taken on undisturbed ground north of the disturbance where the surface facilities will be located.





The following images were taken on undisturbed ground north of the disturbance where the Velvet water treatment facilities will be located.





The area around the Wood water treatment plant in the NCRS mapping includes both the Upland Stony Loam and the Talus Slope ESDs. The Upland Stony Loam ESD describes two types of communities, one with pinyon and juniper trees and perennial grasses in the understory and one dominated by pinion and juniper trees. The first community in the ESD has a plant density without trees of 4-18% and the second a density of 0-15%. The Talus Slope ESD occurs on talus slopes, escarpments, landslides, steep hillslopes, steep mountain slopes, and ledges. The plant density given excluding trees is 67-73%. The majority of the area around the planned treatment plant is in line with the Upland Stony Loam ESD, not the Talus slope ESD. The following images were taken near the area to be disturbed for the Wood water treatment plant. The images given below appear to show both types of Upland Stony Loam communities.

5/18/23, 8:27:05 AM

UTM 665695 4220106
234 deg(T) 2010 m

ACCURACY 5 m
DATUM NAD83



Velvet Mine

RockyPJ

EastEntranceRd



An approximate average value of the ranges given in the Upland Shallow Loam and Upland Stony Loam ESDs and in line with the images would be 10% ground cover. Although the Talus Slope has a much higher plant coverage in the ESD, its occurrence is low compared to the other communities. In light of this, it will be weighed much less in an overall plant coverage value to be used for pre-disturbance vegetative coverage. A value of 15% coverage prior to disturbance will be used in order to gauge revegetation success.

106.8 - Depth to Groundwater, Extent of Overburden, & Geologic Setting

Updated surveys have been conducted though reports have not been compiled and received.

Depth to groundwater: Approximately 400 ft.

Two site ground water monitoring wells (CL-34T-08A and V-6-08B) have been installed (Figure OP-2) and water level measurements have been collected from the upper and lower vent shafts. The uppermost aquifer was encountered near the contact of the Moss Back Member of the Chinle Formation and the uppermost sandstone in the Cutler Formation. Based on the depth of the Moss

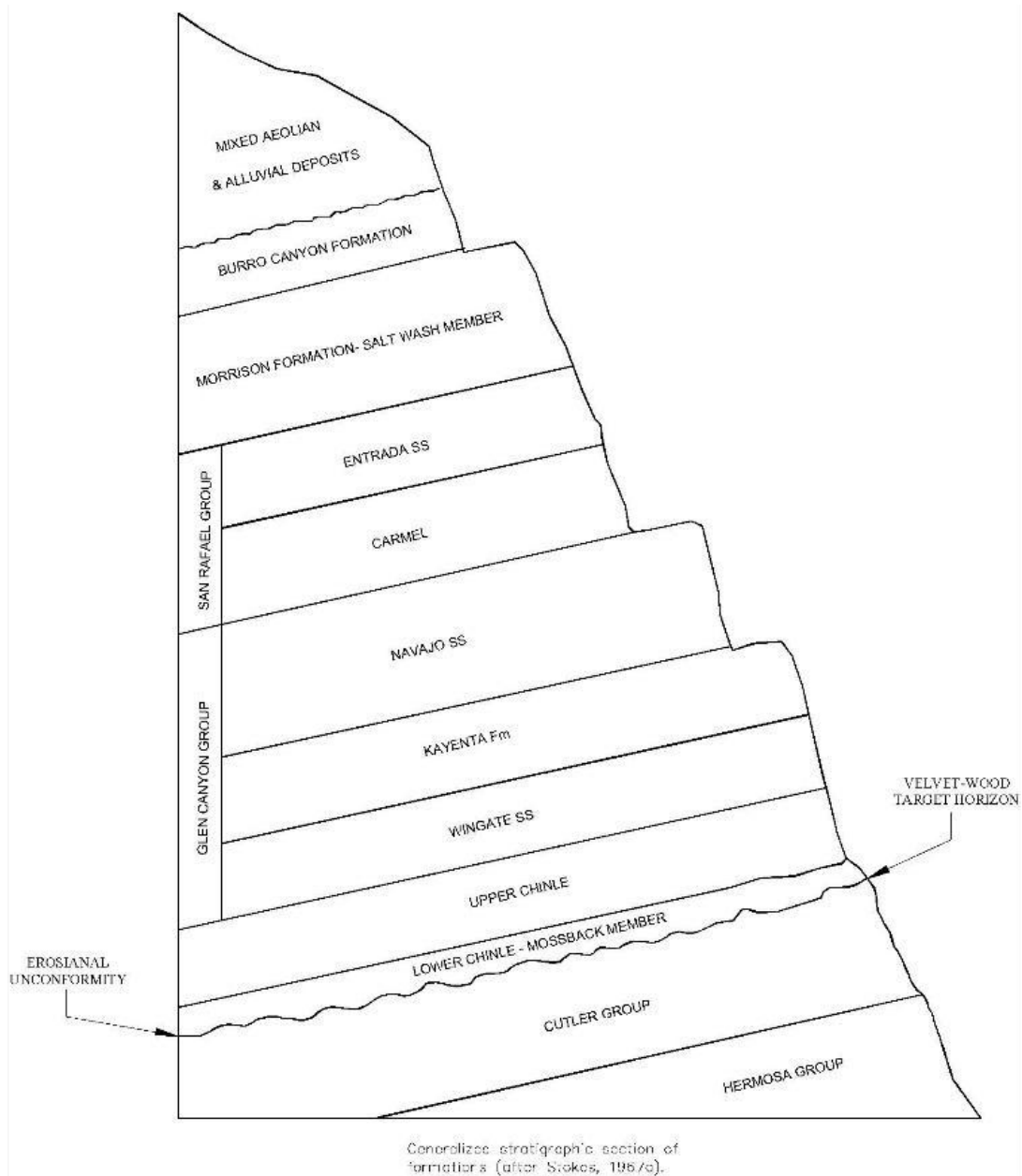
Back Member and the measured water levels, water within the Moss Back Member is confined. A summary of the construction details of the existing monitoring wells and ground water depths and elevations is provided in Table 6. A hydrogeology report is included in Attachment C as part of the submittal for approval to implement a pilot treatment system during initial mine dewatering.

Table 6. Summary of Existing Monitor Well Construction and Static Water Levels

Monitor Well ID	Total Depth, ft bgs	Screened Interval, ft	Collar Elevation, ft asl	Depth to Water, ft bgs	Groundwater Elevation, ft asl	Mossback Mbr Upper Contact Elevation ft asl
CL-34T08A	840	736 to 836	6649.20	395.0	6254.2	5871.0
V-06-08A	980	880 to 980	6648.13	433.0	6215.1	5747.5
Upper Vent Shaft	Unknown	NA	6701.60	545.5	6156.1	Unknown
Lower Vent Shaft	778	NA	6552.02	395	6157.02	Unknown

The dominant geologic feature in the Velvet-Wood area is the Lisbon Valley Anticline. The Lisbon Valley Anticline is a northwest/southeast feature about 20 miles long that was formed when salt in the Paradox Formation was mobilized. The up-warping and subsequent erosion of the anticline has exposed Pennsylvanian to Cretaceous age rocks along the length of the anticline. Consolidated rocks that crop out in the Lisbon Valley area range in age from Late Pennsylvanian to early Pleistocene. The oldest, the Pennsylvanian Honaker Trail Formation, is exposed in the interior of the anticline with successively younger rocks exposed in the faces of three mesas along the flanks of the anticline. In the Velvet-Wood area the mesa recedes southward stepwise away from the center of the anticline and is known as Three Step Hill. Among the rock units exposed along the Lisbon Valley Anticline are the Permian Cutler Formation, the Triassic Chinle Formation (Moss Back Member) and the Morrison Formation (Salt Wash Member) that contain uranium deposits.

Three Step Hill is composed of three mesas, each progressively higher than the last. The Velvet-Wood Deposit is under the lowest mesa and on the margin of the second. The top of the mesa is a dip slope primarily on the top of the Wingate Sandstone. Low mesas of Kayenta Formation rocks are preserved near the southern base of the dip slope. The dip slope of the middle mesa is composed of resistant sandstone units of the Salt Wash Member of the Morrison Formation. The Brushy Basin Member has been stripped from the plateau but is exposed near the base of the slope of the third mesa. The highest mesa is capped by the Burro Canyon Formation. Some remnants of Dakota Sandstone are exposed on the upper plateau. The dips of the rocks are progressively shallower toward the south. The dips on the lower plateau are about 6-8 degrees and dips on the upper plateau are about 3-5 degrees. Faulting and folding are the major structural features of the Velvet-Wood area. The host rocks of the Velvet-Wood Area are truncated by the faulting on the southwest side of the Lisbon Valley graben. The faults are northeastward dipping normal faults. Displacement on the faults ranges from a few feet to as much as 700 feet. The mineralization of the Velvet-Wood Deposit appears to be fault bounded on the northeast side of the deposit. There are two major faults in the Velvet-Wood area. The rocks between the two faults are folded downward to the northeast (see OP-6 Geology Map). The rocks in the Velvet-Wood area exhibit jointing parallel to the Lisbon Valley anticline and are thought to be tensional joints.



Velvet-Wood Project Stratigraphic Column (Chenowith, 1990)

Uranium mineral resources within and in the vicinity of the Velvet-Wood Project are found in the upper Permian Cutler formation. Many of the other mines in the district were hosted in the basal Moss Back member of the Triassic Age Chinle Formation overlying the Cutler Formation. As shown in the Velvet-Wood Project Stratigraphic Column above there is an erosional unconformity between the Permian and Triassic aged beds where the Triassic Moenkopi formation was eroded away before the placement of the Moss Back Member of the Chinle Formation. Observations from the 2007 and 2008 coring program on the Velvet project has developed the model that mineralization in both formations is related to the unconformity, although the location of mineralization with respect to the contact varies from location to location within the district. Most of the mineral resources in the Cutler occur within six feet of the unconformity. Due to the roughly southward dip of the bedding in the Velvet-Wood project

the depth of overburden is greater in the Wood than the Velvet. As such the typical overburden at the Velvet will be approximately 800 to 1,200 ft and the Wood approximately 1,000 to 1,400 ft.

106.9 - Location & Size of Ore, Waste, and Tailings

Waste rock from underground development, when not able to be stowed underground, will be placed in the waste rock stockpile area located immediately southeast of the portal (see Figure OP-5). The waste rock pile will be located on top of the previously reclaimed waste rock area and will encompass approximately 2.5 acres. The waste rock pile will be constructed in lifts, beginning with the maximum overall footprint. Side dumping underground 10-ton mine trucks will exit the portal, and run a right-handed traffic pattern, dumping each lift from the east edge to the west. Following completion of each lift, it will be leveled, and the next lift begun until the pile is completed. The maximum stockpile height will be 40 feet or less. Unclassified waste rock will be placed at slopes of 1.5 H:1V or less for operational conditions. Mineralized waste rock will be placed in the center of the waste rock pile. Whenever possible, once the mine enters the production stage, waste rock will be disposed of in mined-out areas of the underground workings.

The ore stockpile area will be located roughly south of the mine portal as shown on Figure OP-5. This ore stockpile area encompasses approximately 0.5 acres and can accommodate up to 12,000 cubic yards or 15 tons of stockpiled ore assuming an average stockpile height of 15 feet, a stockpile density of 90 lbs/ft³, and up to seven separate stockpiles.

A water treatment system will be constructed near the mine dewatering vent and settling tanks will be placed within the footprint of the previous evaporation pond, see Figures DET-2 and OP-5. The combined water treatment facilities will encompass less than 3 acres. Steel frac tanks will be placed in all water treatment facilities and will be sized to contain the maximum contents of the water treatment facilities plus ten percent plus one foot of freeboard. Treated water will be used as non-potable water at the surface facilities and no discharge is anticipated at this time.

No on-site processing or tailings areas are proposed.

The underground mine will be accessed through the existing portal; however, the new decline to mineralization will require the removal of interburden waste material. The interburden waste material will be used to increase the size of the work pad and construct the truck loadout area. The six proposed new vent holes will be drilled through the overburden by first drilling a small pilot hole from the surface. A larger diameter head will then be attached at the bottom of the drill string within the mine workings and the vent hole will be reamed from the bottom up with the cuttings falling into the mine. This waste material will be hauled to the waste rock pile or disposed of underground in mined out areas.

There will be no on-site processing (physical or chemical) of ore; accordingly, there will be no tailings or rejected material (e.g., crusher fines). Waste rock will be disposed of in the waste rock pile and in mined-out areas of the underground workings as described above.

Figure DET-1 shows the location and configuration of the proposed waste rock area. The waste rock pile and work pad expansion combined have a maximum projected disturbance area of 2.5 acres and a maximum capacity of 74,000 cubic yards, assuming an in-place waste rock density of about 100 lbs/ft³. A total volume of 147,000 in-situ cubic yards of waste rock will be generated

over the life of the mine. Applying an average swelling factor of 30% to that total means that a total of up to 191,000 cubic yards of unclassified and mineralized waste rock is anticipated based on the detailed mine schedule. As shown on Figure DET-1, the operational design capacity is 74,000 cubic yards of material. The final reclamation capacity of the disturbance footprint can accommodate a total of 75,000-115,000 cubic yards of waste rock. This is due to the ability to adjust the contours of the final design to match the actual production of waste rock from the mine. As such, raising or lowering the final contour designs 5ft or less can adjust up to +/- 40,000 cubic yards while staying within the disturbance footprint and final slope gradients.

The actual amount of waste disposed of in the waste rock pile will depend on the ratio of decline and lateral development to production mining. This ratio could vary considerably on an annual basis depending on market conditions. For example, if production mining is limited during Year 1, most of the waste material mined would have to be hauled to the waste rock pile. Conversely, if production mining is initiated early in Year 2, underground areas will be mined out relatively quickly allowing for their use in waste rock disposal.

There will be no tailings ponds at the Velvet-Wood Mine. There will be no water storage ponds at the Velvet-Wood Mine.

Effluent discharge is planned under the UPDES. All mine water will be treated at the water treatment facilities. Treated mine water will then be used as non-potable water by the surface facilities or discharged down Dry Wash. The storm water catchment ponds are located along the south-western margin of the mine facility's work pad extension. The stormwater catchment emergency overflow is located in the southeast corner of the lower pond, see DET-5. No discharge from the storm water catchment ponds is anticipated at this time.

106.10 – Amounts of Material Extracted or Moved

A detailed discussion of the expected volumes of ore and waste rock to be mined is given in Section 106.4. A total of 2,190 cubic yards of topsoil will be stripped for the portal area, surface facilities, and water treatment plants. Details concerning topsoil stripping are given in Section 106.6.

IV. Rule R647-4-108 - Hole Plugging Requirements

Vent holes will be plugged in accordance with the requirements of R647-4-108. The concrete collar will be broken and removed, and an area extending a minimum of 4 feet from the edge of the vent in every direction will be excavated three feet below the surface. The casing will be cut off and a polyurethane foam (PUF) plug will be installed 12 feet below the excavated lip. A 16-inch reinforced concrete slab will be laid overtop the plug extending four feet from the vent in every direction. The concrete will be covered with a minimum of 12" cover material with a minimum of 3" topsoil so that revegetation can take place (see AMRP Master Construction Specifications, Drawing 41 in Attachment F).

Exploration drilling will be conducted under separately approved NOI/POOs. Drill hole reclamation will include setting a nonmetallic perma-plug at a minimum of five feet below the surface and filling the hole above with concrete. Holes that encounter non-artesian water will be

plugged by placing a 50-foot cement plug immediately above and below the aquifer(s) or filling the hole from the bottom up with a high-grade bentonite/slurry mixture. No artesian water sources have been identified within the project area.

V. Rule R647-4-109 - Impact Assessment

109.1 - Impacts to Surface & Groundwater Systems

Groundwater will be pumped from the underground workings to a water treatment plant located near the vent and the reclaimed evaporation pond area. The groundwater is of marginal quality with elevated concentrations of dissolved solids and sulfate and elevated radionuclide activity levels. Dewatering operations will cause a temporary cone of depression to form in the mine area. The aquifer is not used as a water source; therefore, there will be no impact on water well users. Groundwater levels are expected to return to their pre-mining levels after dewatering operations are discontinued. The Request for Ground Water Discharge Permit by Rule will be provided upon completion. This request also includes groundwater quality data, geotechnical analysis, and a review of the local geology and groundwater.

The storm water catchment ponds have been designed as a zero-discharge facility. The ponds, which will have a clay liner of low hydraulic conductivity, will be situated on top of alternating fill layers of shale/claystone and sandstone. Seepage is expected to be minimal and no impacts to groundwater are projected. The formation being dewatered is approximately 300 feet below the storm water catchment ponds and is the closest aquifer.

Surface water within the project area is limited to ephemeral drainages. These drainages will be protected as described in Section VI and in Attachment G, the Stormwater Pollution Prevention Plan.

109.2 - Impacts to Threatened & Endangered Wildlife/Habitat

There is the potential for four of these species to occur within the project area. Table C2 in Attachment B, Baseline Wildlife, Vegetation, and Soils Survey Report provides more information on the basic habitat requirements and known distributions of these species.

109.3 - Impacts on Existing Soils Resources

Incremental impacts on soil and plant resources will be minimal, as the majority of the areas to be disturbed were disturbed by previous mining activity and have been reclaimed. DOGM still retains a revegetation bond for much of the reclaimed area. No wetlands or threatened, endangered, and sensitive plant species were identified as being within or adjacent to the project. Although the national wetland inventory shows wetlands in the area of the dewatering ponds, they do not exist as discussed in Section 106.7. Other mapped wetlands are outside the proposed disturbance areas. Impacts to ephemeral drainages and associated riparian areas will be limited to maintaining the existing road culverts that are installed within drainages.

Soil and plant mitigation measures will include salvaging the available topsoil and any suitable subsoil material prior to re-disturbing an area. Erosion and sediment control measures will be

implemented, as described in Attachment G, to minimize loss of soil resources. Vegetation resources will be mitigated by seeding topsoil stockpiles and any reclaimed areas during the fall planting season. Upon mine closure, the disturbed areas will be revegetated as described in Section VII below.

109.4 - Slope Stability, Erosion Control, Air Quality, & Safety

Slope Stability: Surface excavations with attendant highwalls are not proposed, as all mining will be done using underground methods. Natural highwalls exist in the project area. Constructed slopes include the waste rock pile and work pad expansion. The waste rock pile will have one bench and a maximum bench height of 40 feet, which is about the same height as the previous waste rock pile that was constructed and reclaimed in the same location. Given the relatively small vertical height of the proposed benches and the apparent stability of the previous waste rock pile, the storage area is expected to be stable during mine operations. The waste rock pile and work pad expansion will be regraded to achieve final slopes of 3H:1V or less steep.

Erosion: Areas of potential erosion include the waterline corridor, topsoil stockpiles, waste rock pile slope, work pad expansion slope, vents, and the ore stockpiles. The remaining areas are relatively flat with low potential for erosion. The downslope portions of the waterline corridor will be stabilized by broadcast seeding the disturbed areas after construction is complete. Topsoil stockpiles will be seeded during the first fall planting season after the soil is stockpiled. Some erosion will occur on the waste rock slopes and the sides of the ore stockpiles as they will be in a state of continual change and disturbance during operations.

The impact from erosion will be minimized by installing sediment control measures. Erosion from the waste rock pile, work pad expansion, ore stockpile area, and topsoil stockpiles will be captured by drainage ditches located along the access roads. This ditch will discharge into stormwater catchment ponds, which have been designed to not overflow under the 10-year 24-hour storm event. Stormwater catchment ponds will be mucked out prior to capacity being reduced to a point where the 10-year 24-hour event could not be retained. Undisturbed buffer zones, earthen berms, or concrete barriers will be installed between the remaining areas of proposed disturbance (i.e., mine buildings, storage yards, and parking areas). Earthen berms and/or straw-bale barriers may also be installed in areas prone to erosion.

Air Quality: The Air Authorization Approval Order is located in Attachment E. The principal source of project emissions is from mining equipment. These vehicles will be equipped with engines and air filters that meet state emissions standards. Fugitive dust on mine roads will be controlled through enforcement of speed limits and treatment of the roads with magnesium chloride or a similar compound. A water truck will also be used to spray the mine roads, waste rock pile, and ore stockpiles within the permit area, as needed.

Public Health and Safety: The mine, which is located in a remote area, experiences low levels of vehicle traffic from ranchers and all-terrain vehicles (ATVs). Warning and speed limit signs will be posted along the county road to control speeds and warn drivers of the proximity of mine equipment. When not in active use, portals, adits, buildings, and gates will be locked to preclude unauthorized access.

109.5 – Actions to Mitigate any Impacts

The storm water catchment ponds have been designed as a zero-discharge facility with a clay liner of low hydraulic conductivity. Seepage from the ponds is expected to be minimal and no impacts to groundwater are projected. Further discussion of the ponds can be found in Section 109.1.

Surface water within the project area is limited to ephemeral drainages. These drainages will be protected as described in Section VI and in Attachment G, the Stormwater Pollution Prevention Plan. Erosion on the site will be controlled through broadcast seeding the downslope portions of the waterline corridor and topsoil piles, and with the use of sediment controls. Further details on mitigation related to surface hydrology are given in Section 109.4.

Groundwater is anticipated to be impacted during mine dewatering as a cone of depression develops around the mine workings. These levels will return to their original static level following the cessation of mine dewatering activities as they have in the previous mining operations.

In the Base case scenario, the majority of waste rock will be back-stowed underground in mined out areas to minimize the footprint of the waste rock pile on the surface. The reclamation plan described herein is a geomorphically stable surface that approximates native ground and runoff patterns. Alternative disposal of up to an additional 40,000 cubic yards of material in the reclaimed waste rock pile is possible while keeping the reclamation contours within 5ft of the original design.

VI. Rule R647-4-110 - Reclamation Plan

110.1 - Current & Post Mining Land Use

Pre-mining and current land use include livestock grazing, wildlife habitat, and recreation.

The proposed post-mine land use is livestock grazing, wildlife habitat, and recreation.

110.2 - Roads, Highwalls, Slopes, Drainages, Pits, etc., Reclaimed

Immediately following cessation of mining and dewatering activities it is anticipated that the ground water level will begin to recover towards its original level. Ground water monitoring will be ongoing during reclamation as during mining and will continue after reclamation until sufficient equilibrium is maintained and the monitoring wells removed.

Reclamation treatments are shown on Figures RP-1 and RP-2 and described in more detail below.

Reclamation design contours are shown on Figure RP-1. The reclamation plan is subsequently described in detail. Revegetation will adhere to the specifications provided in Attachment F, Reclamation, and mine closure details are shown on Figure RP-2.

Roads to be reclaimed are identified on Figure RP-1. These roads are pre-existing and incorporated either within the existing permit or recent exploration notices. The main access road from the country road to the portal will be surveyed for any deleterious material. If deleterious material is

found, it will be excavated and placed in the central portion of the waste rock pile and isolated. For roads which are located on bedrock where natural vegetation did not exist, closures will be created utilizing on site boulders to prevent future access. For roads which occur in areas of alluvium and/or native topsoil materials with attendant natural vegetation, the roads will be reclaimed by:

1. Regrading any cuts and fills to reestablish the original ground contours and drainages.
2. Ripping the roads to a depth of 18 to 24 inches.
3. Placing a minimum 3-inches of loose topsoil in locations where topsoil was removed.
4. Revegetation will adhere to the specifications as provided in Attachment F.

No highwalls exist or will be created through the planned operations.

Slopes will generally be regraded to approximately original contours. Where this is not possible, such as the waste rock pile, the maximum reclamation slope shall be 3:1 (horizontal to vertical) with most slopes at 4:1 or less. Slopes will be variable, to promote vegetative diversity, and to promote a more natural appearance. Revegetation will adhere to the specifications as provided in Attachment F.

Liners will be present underneath water treatment tanks and fuel storage tanks. After removal of the tanks, the liners and any sediment that has accumulated on them over time will be folded up and taken to the City of Monticello Landfill or Lisbon Valley Mining Solid Waste for disposal. The berms will be knocked down and the area regraded to match the surrounding topography.

Existing and planned disturbances generally do not impact drainages. As shown on Figure RP-1, the proposed reclamation surface exists on a ridge between natural drainages, and the earthworks design for the reclamation of the waste rock pile includes drainages which will divert runoff from the native ground away from the reclamation surface. In areas where drainage reclamation is necessary, such as along the access road, the areas would be returned to approximate original contours and revegetated in accordance with the specifications provided in Attachment F.

Although existing and planned disturbances generally do not impact existing drainages, second and third order drainages will be constructed in the re-graded production area. These constructed drainages are designed to be geomorphically stable and mimic the function of natural ground. Figure RP-2 provides typical profile and cross-sectional views of these channels.

Reclamation design contours are shown on Figure RP-1. The final regraded surface will be designed to be geomorphically stable utilizing a Natural Regrade™ design. The final reclamation surface as shown is based upon the estimated maximum volume of waste brought to the surface without back-stowing as described in the discussion of ore and waste stockpiling in the Operation Plan. The reclamation design presented herein is of the maximum height and steepest likely slopes on site yet is geomorphically stable and based upon conservative hydrologic parameters. As it is anticipated that a certain amount of the waste materials can be safely stowed underground, the actual final reclamation surface is anticipated to be lower and flatter than the current design, thus inherently more stable. The hydrologic input parameters, design criteria, and reclamation design results are provided in, Attachment F.

Prior to final reclamation, all ore stockpiled on site will be hauled to the mill. The superblocs,

liner, and concrete footer will be cleaned and removed from the site to be disposed of at a licensed facility. The eastern edge of the waste stockpile will be reduced and placed along the southern toe of the waste stockpile. The waste stockpile will be graded to elevations approximately 8 feet below the anticipated final reclamation surface. The unclassified materials from the initial decline development, previously stockpiled and utilized to expand the work area pad, will then be placed to the lines and grades shown in Figure RP-1. Rock materials exceeding a D50 of 6 inches will be placed in the drainage channels on the reclamation surface to ensure that the surface will remain non-erosive, exceeding the design parameters. This will prevent exposure and potential off-site transportation of the mine waste and associated radiometrically elevated materials encapsulated below the final reclamation surface.

Topsoil material will be placed on the reclaimed surface at a minimum depth of three inches. If sufficient topsoil is not located within the Project Area for the three-inch minimum coverage depth, it will be imported. The source is not known at this time, however, should the need for imported topsoil arise a source will be identified and approved by the Division prior to importing it to the site. Revegetation of the site will be completed utilizing an approved seed mixture containing drought resistant native plant species as described in Attachment F.

Mine portal closure details are shown on Figure RP-2. Permanent mine closure will employ a grouted rock bulkhead to be constructed in the decline at a location where a sufficient thickness of competent roof rock exists to prevent future subsidence of the mine void which may report to the surface. The bulkhead shall extend a minimum of 2 mine heights length down the decline (approximately 24 ft) and consist of waste concrete from building, ore stockpile, and unclassified materials. This bulkhead material will be grouted in following placement using cementitious grout using tremmie or other piping from the portal to the face of the bulkhead and pumped until refusal. The remaining decline upslope of the bulkhead will be shot down and the surface regraded for positive drainage away from the reclaimed portal.

Permanent closure of mine vents will be done in accordance with DOGM preapproved specifications for a concrete slab closure with PUF (polyurethane foam) shoring (Drawing 41, AMRP Master Construction Specifications in Attachment F). After surface structures have been uninstalled and appropriately disposed of, a 12-foot PUF plug shall be installed according to manufacturer specifications with a 2" diameter steel drainage pipe down the center. The PUF plug will be allowed to cure for at least one hour before being overlaid with a reinforced concrete slab of minimum 16" thickness in accordance with DOGM preapproved specifications for a reinforced structural slab with a drain (Drawing 46, AMRP Master Construction Specifications in Attachment F). This slab will extend a minimum of four feet from the edge in every direction and will slope inward towards the drainage pipe. An impermeable membrane shall be utilized overtop the concrete slab in order to facilitate groundwater movement to the drain. A minimum of 12" fill will overlay the concrete slab, sloped to direct surface water away from the closure.

Exploration and geotechnical drill holes are not included in the NOI/PO, but rather are addressed in separate, stand-alone exploration notices. Unless approved otherwise, drill holes will be abandoned in accordance with Utah Administrative Code (UAC) Rule R647-4-108 (See Section V). Drill pad areas will be reclaimed by replacing salvaged topsoil, regrading, and ripping the disturbed area, and broadcast seeding with the approved seed mix.

The project does not include a tailings facility.

The project does not include leach pads.

All available stockpiled topsoil will be utilized for site reclamation. Any remaining ore stockpiles and/or low-grade ore stockpiles will be shipped to the mill for processing if market conditions are favorable. If the ore stockpiles cannot be shipped to the mill due to economic or other conditions, they will be treated as marginal material and disposed of with other such material within the waste rock pile or hauled and backstowed underground as described above. After regrading and redistribution of salvaged topsoil, revegetation will adhere to the specifications as provided in Attachment F.

110.3 – Facilities Left for Post Mining Land Use

No surface facilities will remain on site after demolition and reclamation. No power poles exist onsite at the time of this Plan of Operations. Any power utilities such as buried lines or poles owned by the operator within the permit boundary will be removed. Power poles or lines that lay outside the permit boundary will be owned by the power company and may remain.

110.4 – Treatment & Disposition of Deleterious and/or Acid Forming Material

Waste rock materials remaining at the surface upon completion of mining will be sampled and tested for acid base potential as previously described. At the time of mine closure, the remaining petroleum products on site will be used for their intended purpose, transported to another facility, or returned to the vendor. The used oil will be picked up by a certified hydrocarbon recycler, such as Rock Canyon Oil. After removal of their contents, the tanks will be shipped to another facility, sold, or properly decommissioned and recycled at the Canyonlands Transfer Station. The liner underneath the fuel station will be exposed, cut into sections, and hauled to the City of Monticello Landfill for disposal. Any soil found to have petroleum/oil contamination would be characterized, removed from the site, and taken to the City of Monticello Landfill. The solvent station and any remaining solvent will be returned to the vendor. The road stabilizing products will be used to control dust during reclamation and the tanks will be removed and shipped off site.

Trailers will be hauled to another facility, sold, or hauled to the City of Monticello Landfill for disposal. Prefabricated buildings will be disassembled and reassembled at another facility, sold, or disposed of at the City of Monticello Landfill. Solid waste meeting the definition of “inert waste” under UAC Rule R315-301-2 (e.g., concrete, blocks, brick, incidental rebar, and glass) will be removed from public lands and disposed of at the City of Monticello Landfill. All concrete foundations and pads will be broken, using a hydraulic excavator with a concrete breaker (or equivalent) to dimensions of five feet or less. The broken concrete will be removed from public lands and disposed of at the City of Monticello Landfill.

The mine site will be provided with storm water drainage control structures, however, it is anticipated that these facilities will not be receiving appreciable sediment from either the waste rock or the ore stockpile due to physical conditions and controls at those locations. Accordingly, it is most likely that cleanup will not be necessary at these locations. However, any sediment contained within the stormwater catchment ponds will be identified by gamma-survey following mining activities. If the sediments are found to be contaminated, they will be removed and placed

within the mine workings. In addition, during mine operations the stormwater catchment ponds will be inspected periodically for sediment buildup and, as necessary, sediment removal and in-mine disposal would be completed to maintain the integrity and size of the ponds.

110.5 - Revegetation Planting Program

All available topsoil will be utilized for revegetation of disturbed areas following treatment of the subgrade for acid forming materials. After regrading is complete and topsoil is placed, agricultural ripping will be done on any compacted topsoil areas to a minimum of 3" depth at a 12" spacing. Soil amendments will then be spread on the surface as needed. The type and application rate of amendments will be determined by the results of soil sampling. Agricultural disking of the amended surface will be completed to a depth of 8". Pitting and seeding will then be done with the following approved seed mix:

Recommended Revegetation Species List		
Common Name	Species Name	*Rate lbs/ac (PLS)
Grasses (Choose 4)		
*Indian ricegrass	Achnatherum hymenoides	2.5
*Galleta grass	Pleuraphis jamesii	2.0
Blue grama	Bouteloua gracilis	0.2
Purple three-awn	Aristida purpurea	2.0
Sand dropseed	Sporobolus cryptandrus	0.10
Saline wildrye	Leymus salinus	3.0
Forbs (Choose 2)		
Annual sunflower	Helianthus annus	1.0
*Scarlet globemallow	Sphaeralcea coccinea	1.0
Pacific aster	Aster chilensis	0.10
Shrubs (Choose 3)		
Utah serviceberry	Amelanchier utahensis	2.0
Fourwing saltbush	Atriplex canescens	2.5
*Black sagebrush	Artemisia nova	0.25

*Mormon tea	<i>Ephedra viridis</i>	2.0
Yellow rabbitbrush	<i>Chrysothamnus viscidiflorus</i>	0.20

*Division preferred

Successful revegetation will consist of 70% of pre-mining vegetation coverage across the revegetated area.

Prior to topsoil placement the unclassified final graded surface will be sampled for acid/base potential and other factors that may affect topsoil contamination and plant growth. Areas that are determined to be unsuitable for topsoil placement will be sub excavated and then backfilled with clean interburden waste material or treated with lime or other amendments prior to topsoil placement.

I.Rule R647-4-112 - Variance

Anfield is not requesting any variances at this time.

XI. SIGNATURE REQUIREMENT

I hereby certify that the foregoing is true and correct. (Note: This form must be signed by the owner or officer of the company/corporation who is authorized to bind the company/corporation).



Signature of Permittee / Operator/Applicant: _____

Name (typed or print): _____ Joshua Bleak

Title/Position (if applicable): President

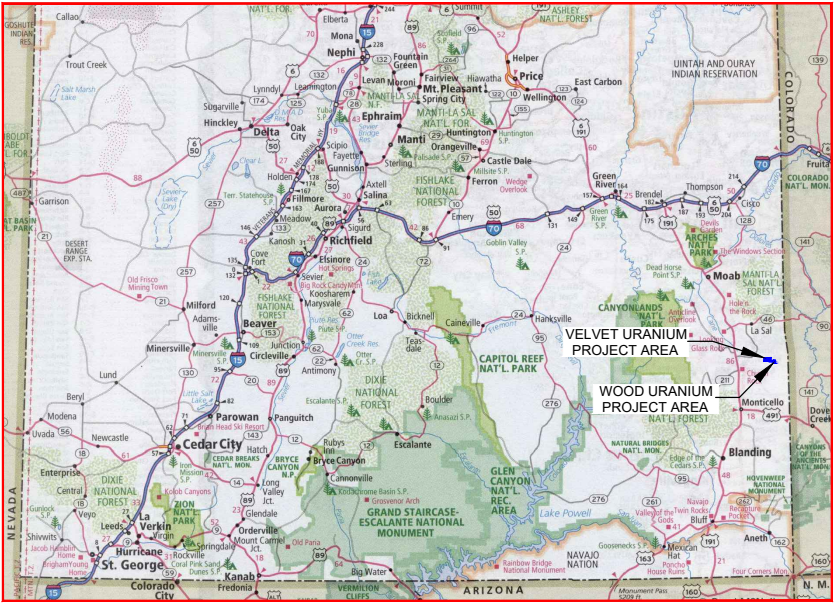
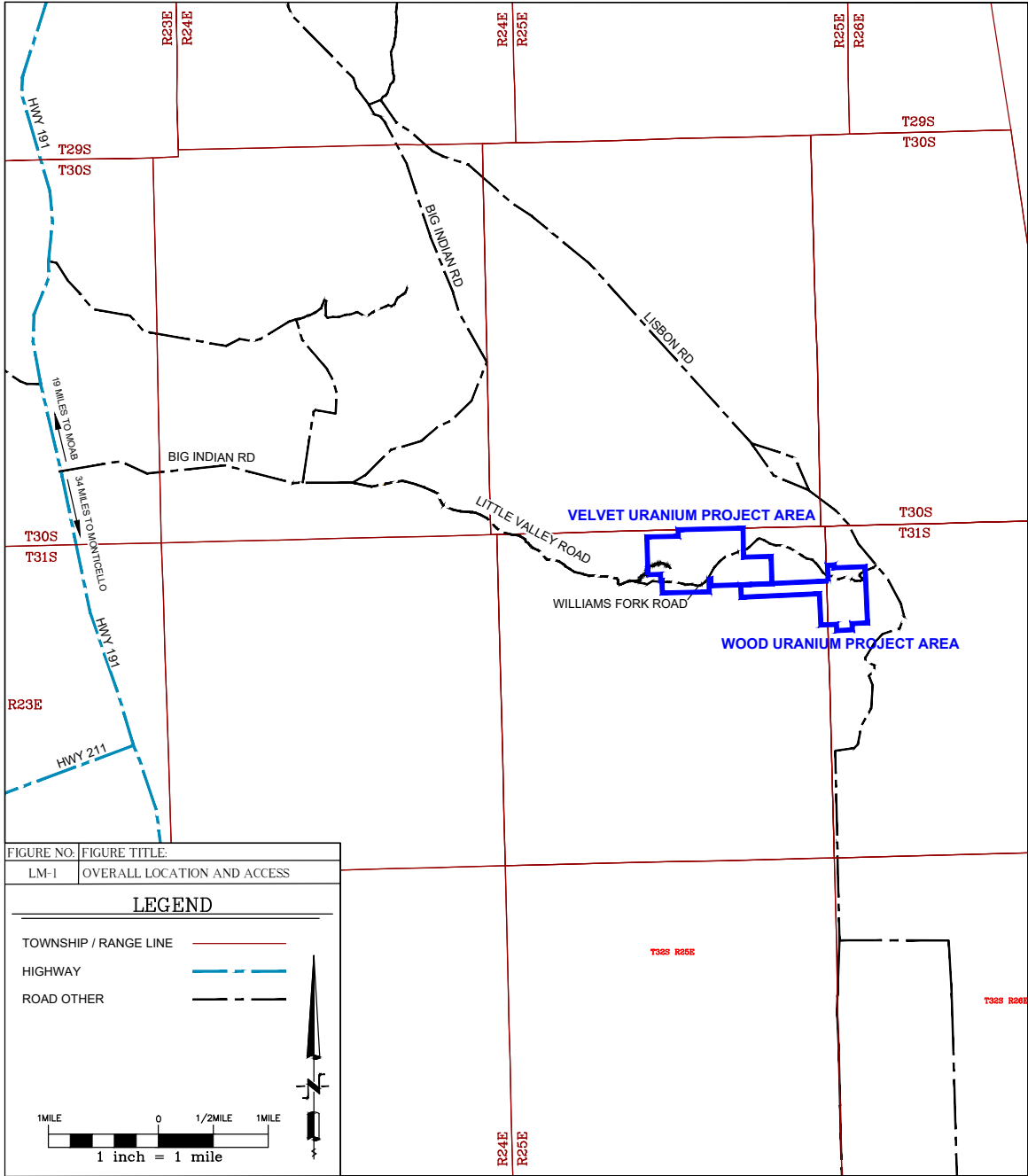
Date: March 27, 2025

PLEASE NOTE:

Section 40-8-13(2) of the Mined Land Reclamation Act provides for maintenance of confidentiality concerning certain portions of this report. Please check to see that any information desired to be held confidential is so labeled and included on separate sheets or maps. Only information relating to the location, size or nature of the deposit may be protected as confidential.

Confidential Information Enclosed: (X) Yes () No

APPENDIX I - FIGURES



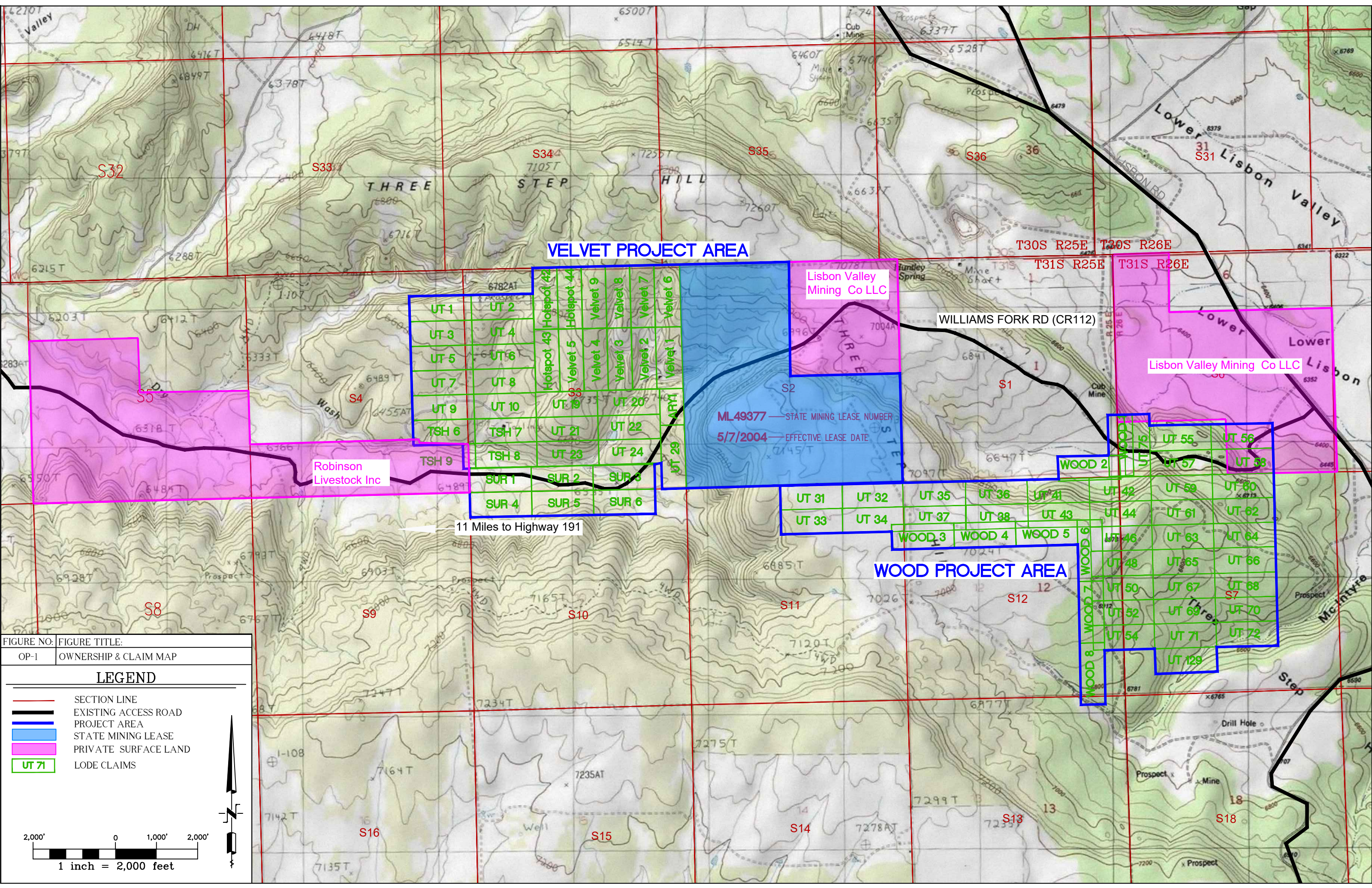


FIGURE NO: OP-1

FIGURE TITLE: OWNERSHIP & CLAIM MAP

LEGEND

SECTION LINE

EXISTING ACCESS ROAD

PROJECT AREA

STATE MINING LEASE

PRIVATE SURFACE LAND

UT 71

LODE CLAIMS

2,000'

0

1,000'

2,000'

1 inch = 2,000 feet

VELVET PROJECT AREA

WOOD PROJECT AREA

Lisbon Valley Mining Co LLC

Lisbon Valley Mining Co LLC

Robinson Livestock Inc

ML49377 — STATE MINING LEASE NUMBER
5/7/2004 — EFFECTIVE LEASE DATE

WILLIAMS FORK RD (CR112)

11 Miles to Highway 191

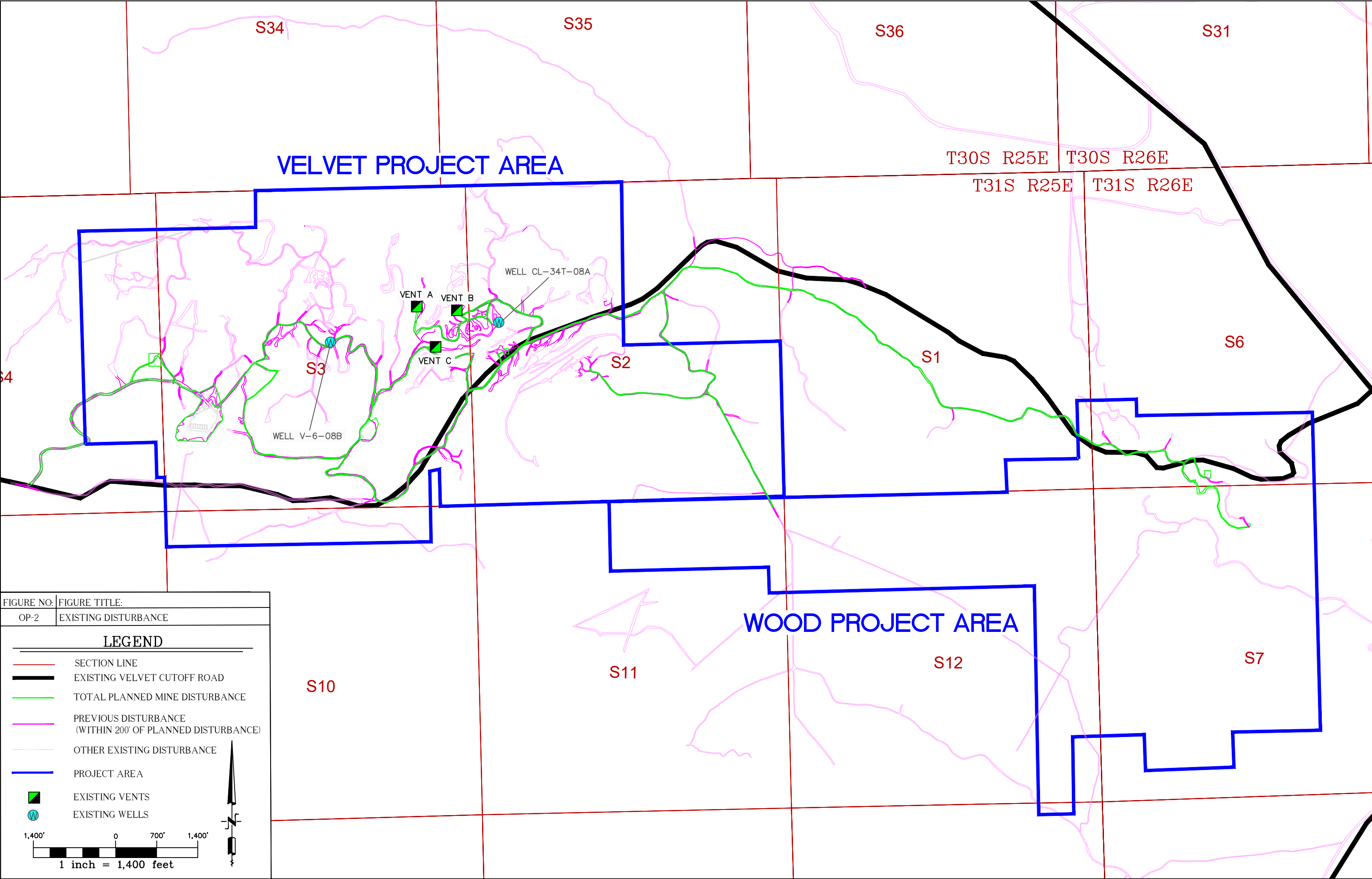


FIGURE NO:	FIGURE TITLE:
OP-2	EXISTING DISTURBANCE

LEGEND	
	SECTION LINE
	EXISTING VELVET CUTOFF ROAD
	TOTAL PLANNED MINE DISTURBANCE
	PREVIOUS DISTURBANCE (WITHIN 200' OF PLANNED DISTURBANCE)
	OTHER EXISTING DISTURBANCE
	PROJECT AREA
	EXISTING VENTS
	EXISTING WELLS

1,400' 0 700' 1,400'

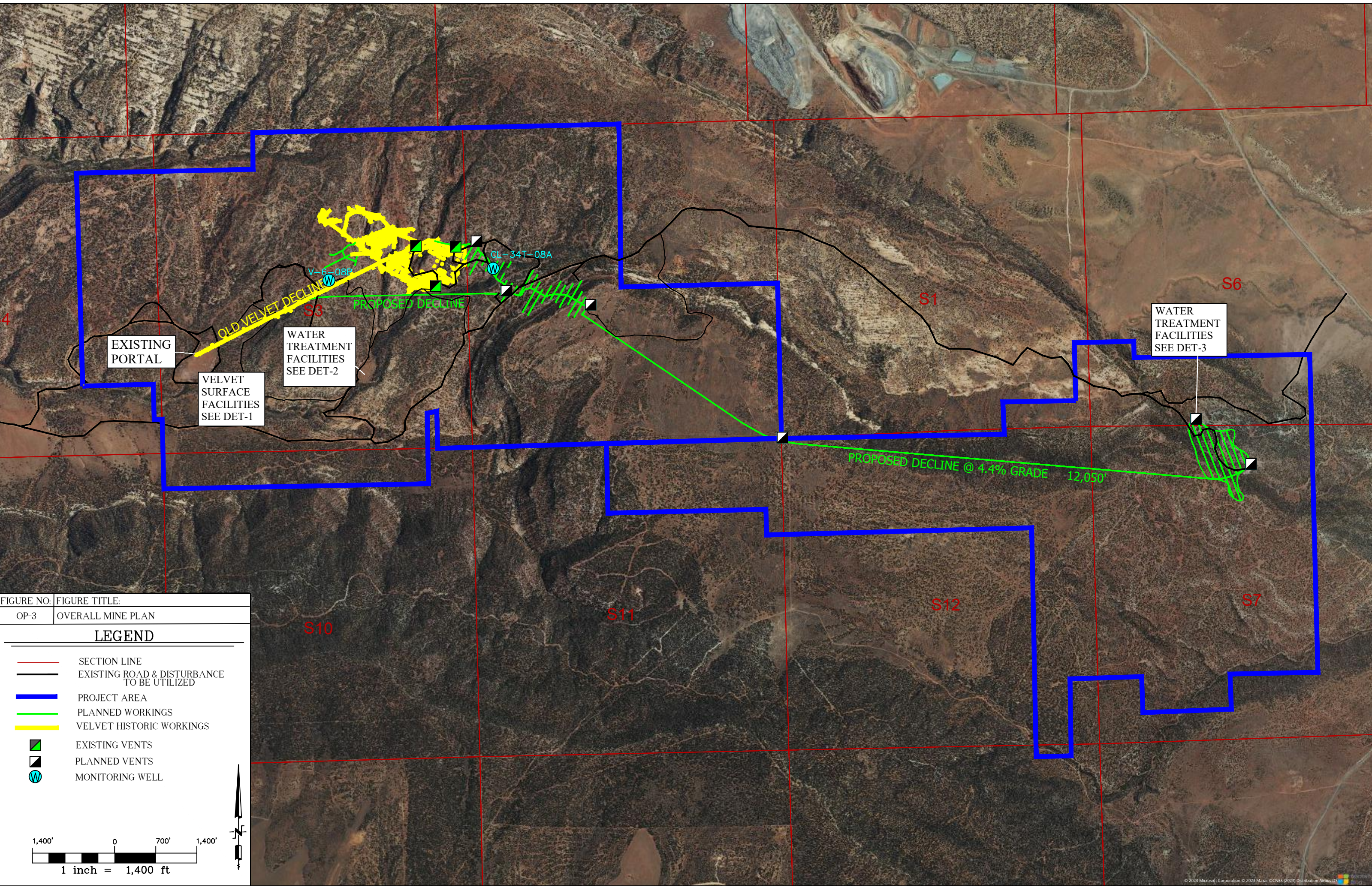
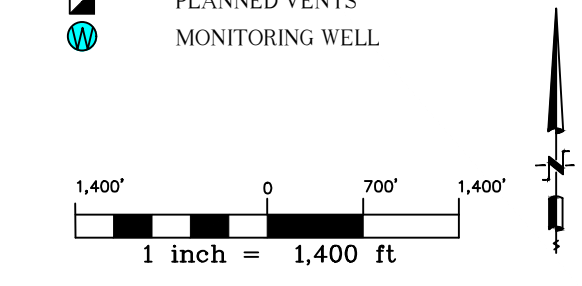
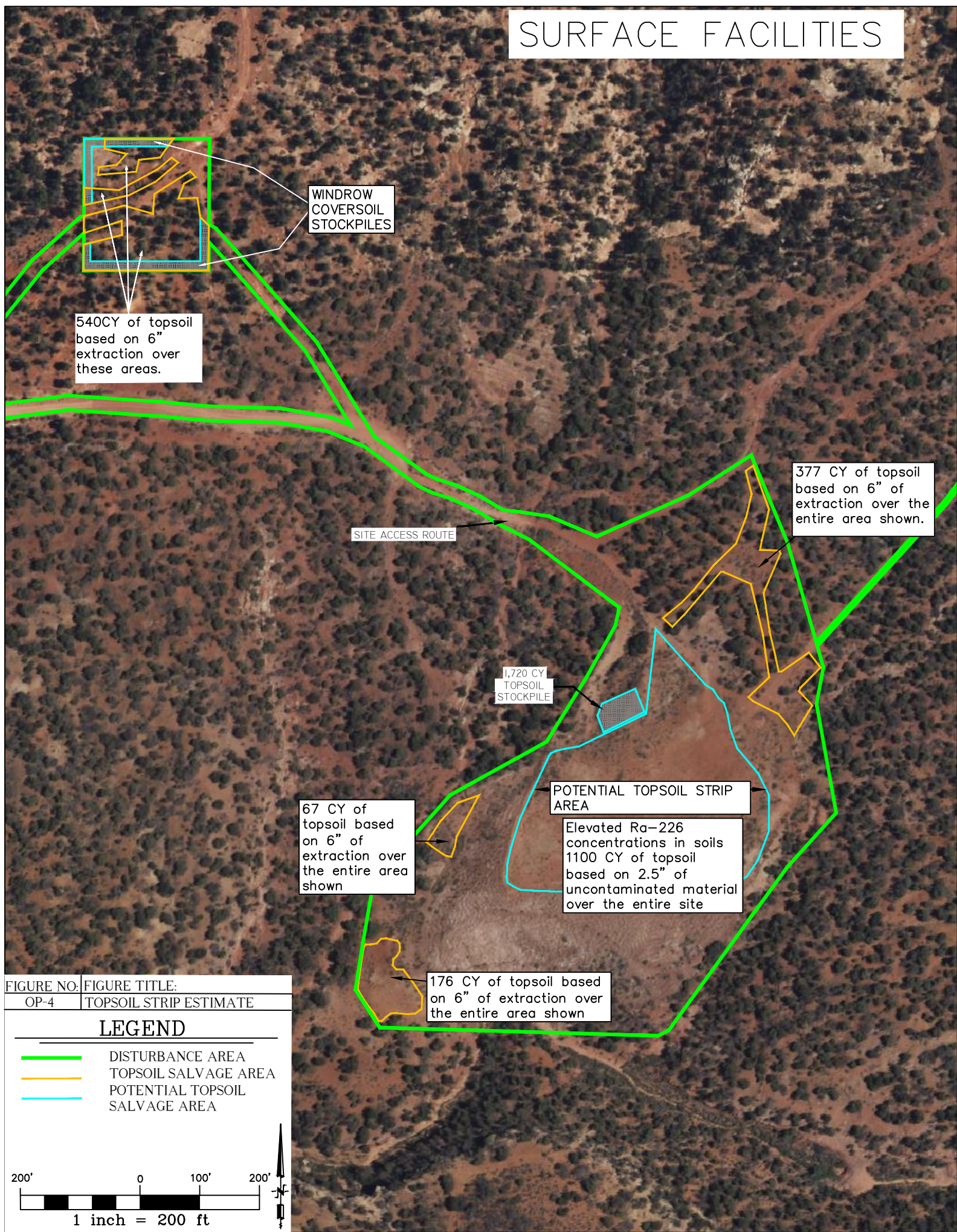


FIGURE NO:	FIGURE TITLE:
OP-3	OVERALL MINE PLAN

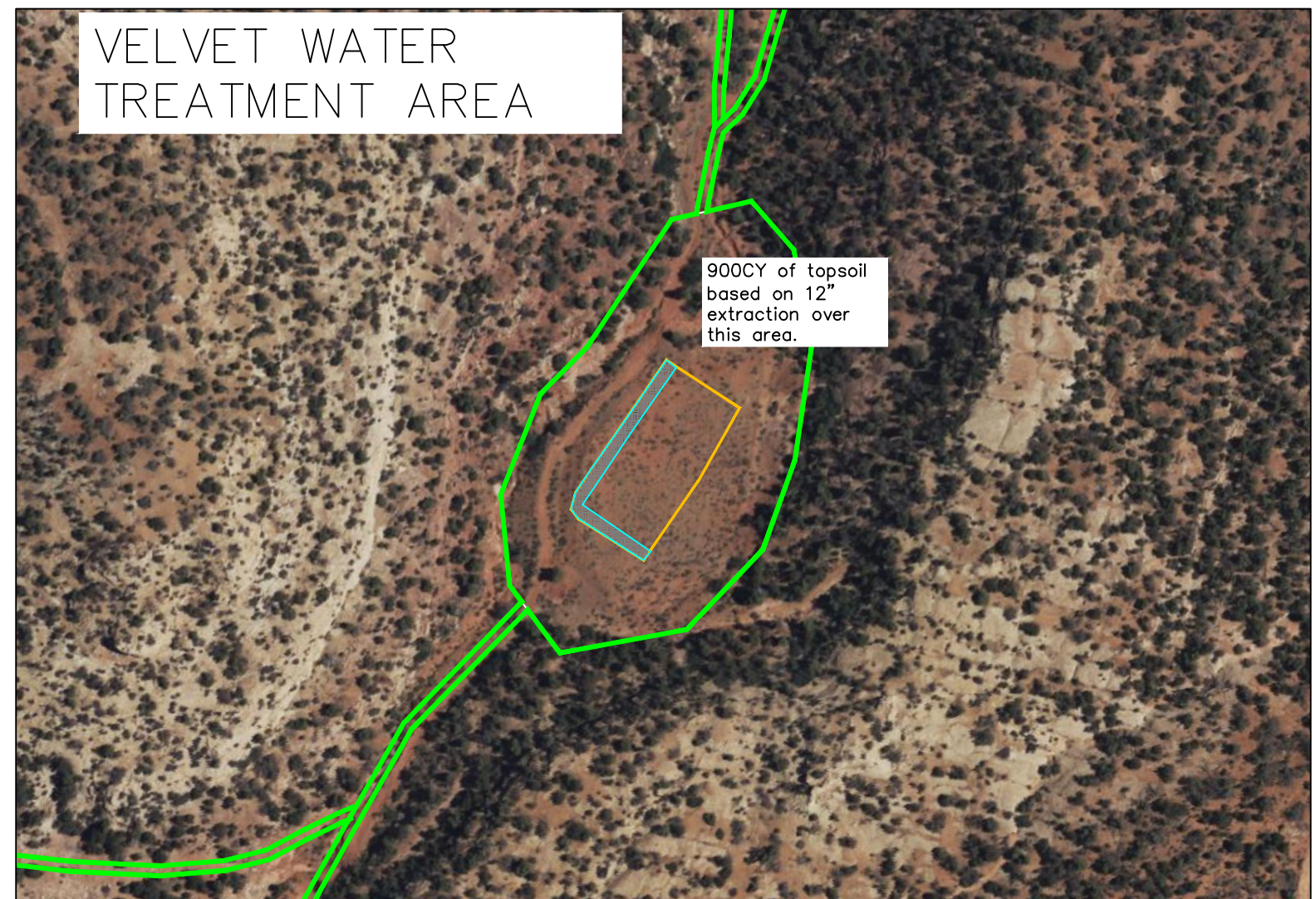
LEGEND	
	SECTION LINE
	EXISTING ROAD & DISTURBANCE TO BE UTILIZED
	PROJECT AREA
	PLANNED WORKINGS
	VELVET HISTORIC WORKINGS
	EXISTING VENTS
	PLANNED VENTS
	MONITORING WELL



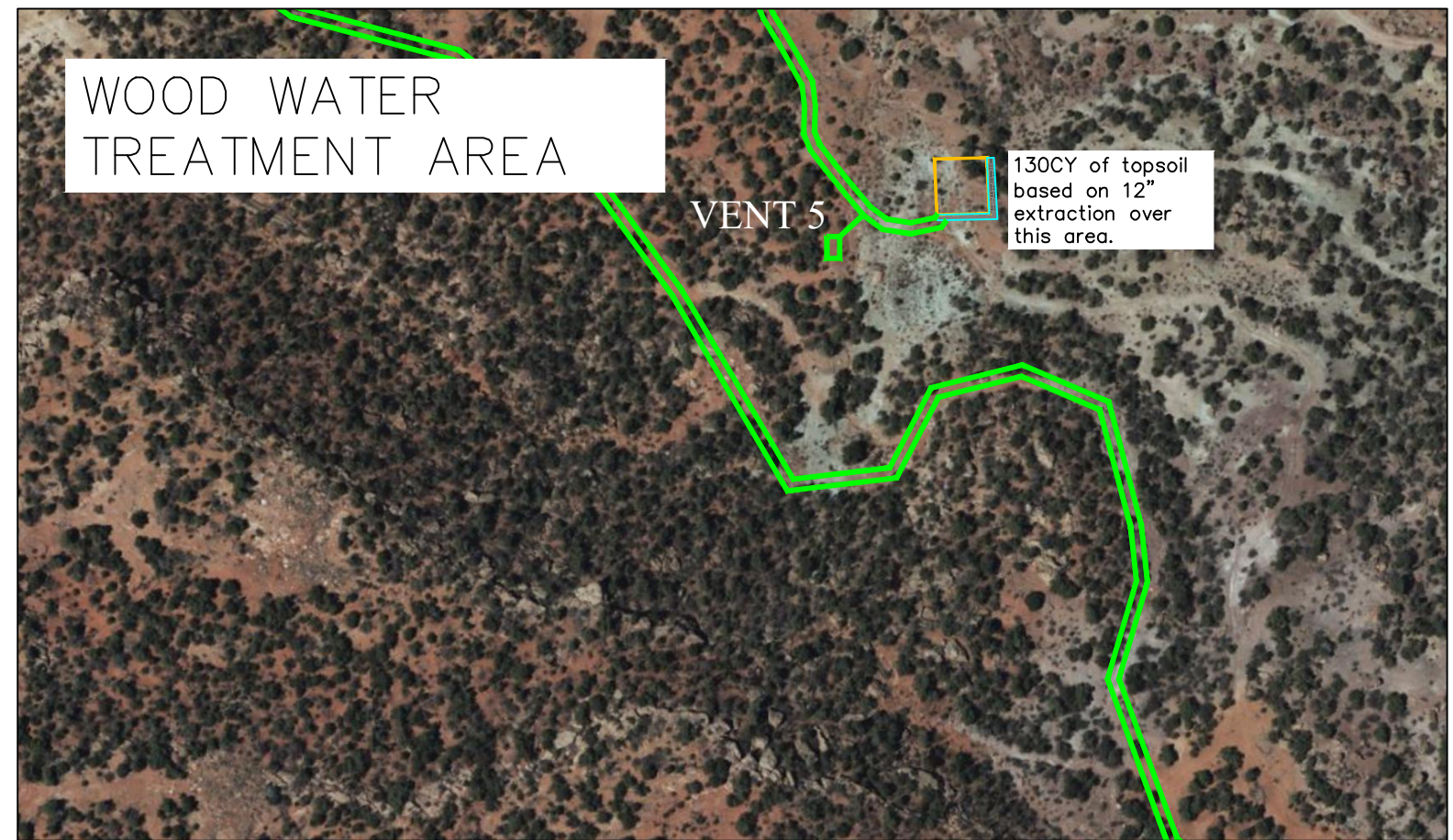
SURFACE FACILITIES



VELVET WATER TREATMENT AREA



WOOD WATER TREATMENT AREA



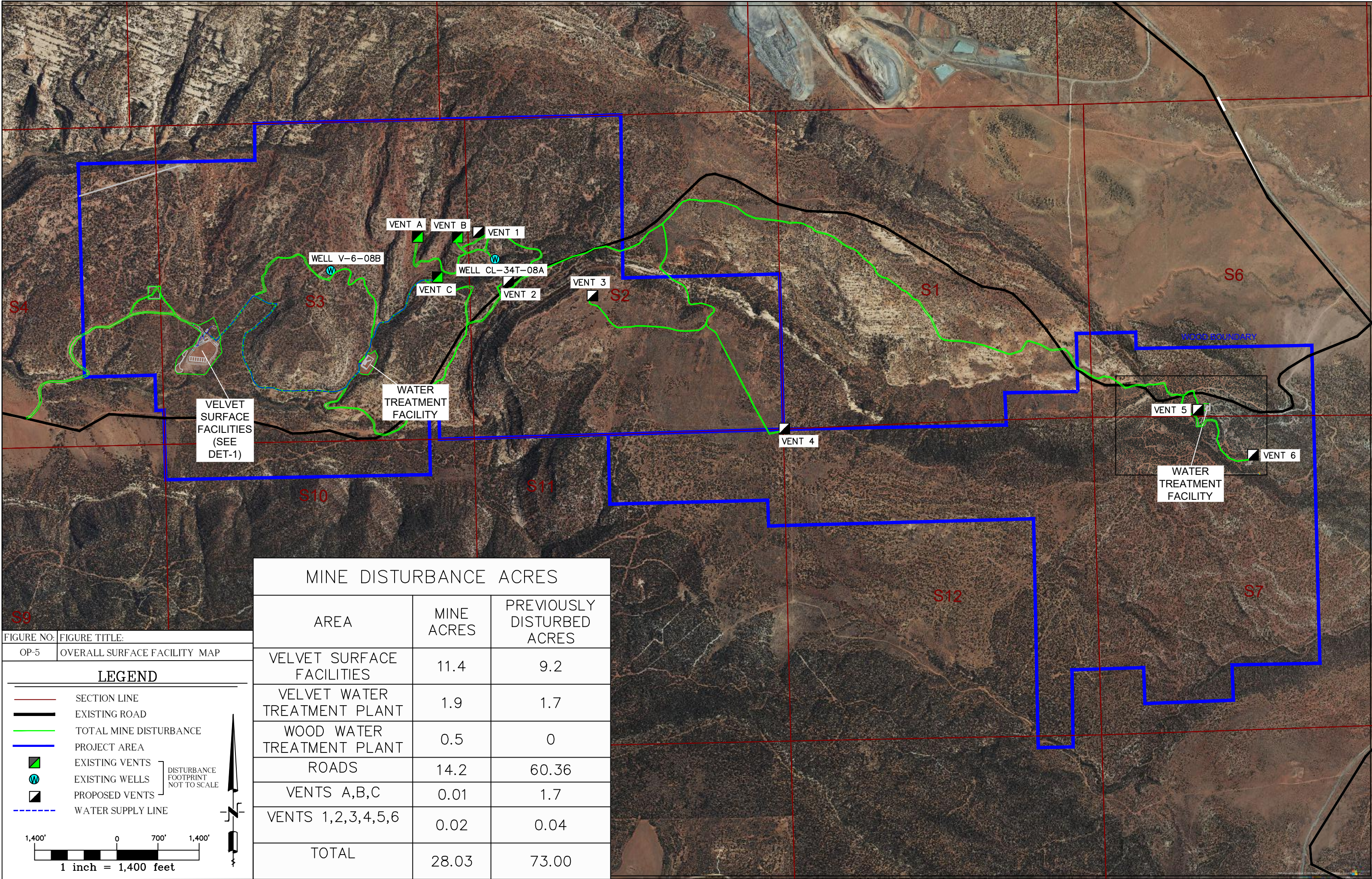


FIGURE NO: OP-5
FIGURE TITLE: OVERALL SURFACE FACILITY MAP

LEGEND

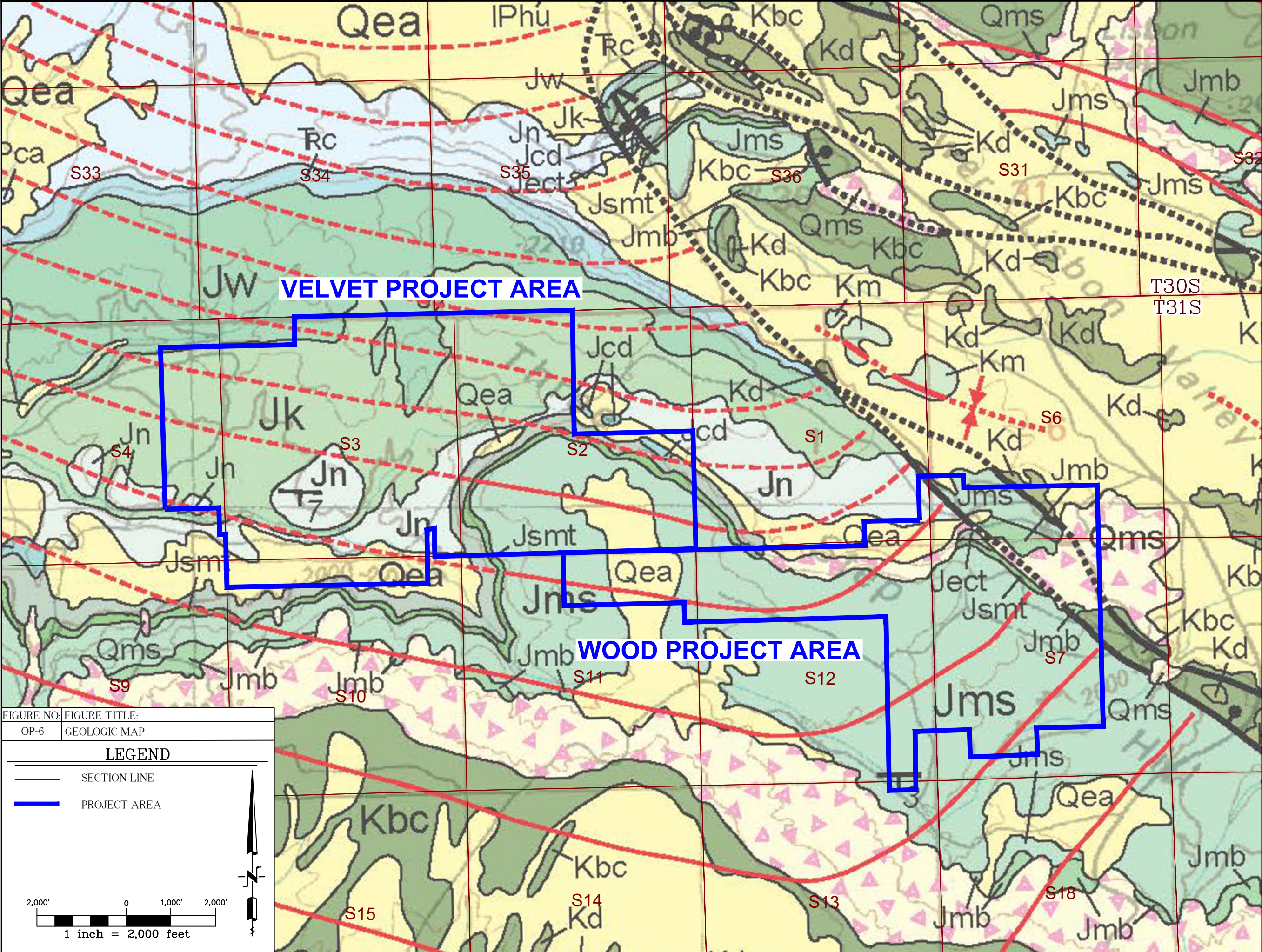
- SECTION LINE
- EXISTING ROAD
- TOTAL MINE DISTURBANCE
- PROJECT AREA
- EXISTING VENTS
- EXISTING WELLS
- PROPOSED VENTS
- WATER SUPPLY LINE

DISTURBANCE FOOTPRINT NOT TO SCALE

1,400' 0 700' 1,400'

1 inch = 1,400 feet

MINE DISTURBANCE ACRES		
AREA	MINE ACRES	PREVIOUSLY DISTURBED ACRES
VELVET SURFACE FACILITIES	11.4	9.2
VELVET WATER TREATMENT PLANT	1.9	1.7
WOOD WATER TREATMENT PLANT	0.5	0
ROADS	14.2	60.36
VENTS A,B,C	0.01	1.7
VENTS 1,2,3,4,5,6	0.02	0.04
TOTAL	28.03	73.00



- Mixed eolian and alluvial deposits**
- Qea** Mixed eolian and alluvial deposits: Light-brown, red, and gray-yellow wind-blown sand and silt in thin sheet-like deposits covering tops of mesas and plateaus or as thicker deposits filling broad valleys, hollows, and other basins; locally interspersed with silt, sand and gravel of alluvial origin; generally dominated by eolian deposits; grades into stream-deposited sand and silt along washes and includes some modern alluvium; commonly displays a well-developed caliche soil horizon near the top; as much as 12 meters (40 ft) thick; Holocene to middle Pleistocene.
- Qms** Slumps and landslides: Irregular hummocky deposits of rotated and slumped material made up of small to large blocks of sandstone foundering in thick smectitic clays and silts; moved downslope due to gravity; most common on slopes of the Jurassic Morrison Formation and to a lesser extent on the Triassic Chinle Formation and other formations; variable in thickness and extent; Holocene to upper Pleistocene.
- Jmb** Brushy Basin Member of Morrison Formation: Variegated siltstone, mudstone, smectitic clay, and lesser amounts of calcareous sandstone and conglomerate, locally with thin lenses of dense limestone; siltstone and mudstone are principally maroon, light purple, grayish red, and light to medium gray; crops out as gentle slopes and steep rounded hills, locally in steep slopes with slight ledges; sandstones range from poorly sorted, conglomeratic, and coarse-grained to well sorted, very fine grained to silty; locally has lenticular conglomeratic sandstone at base with bright-colored chert pebbles and cobbles; lower contact is generally a poorly exposed transition zone of frothy-weathering variegated mudstone and thin light-brown sandstone between the basal conglomeratic sandstone of the Brushy Basin Member and the uppermost sandstone lens of the Salt Wash Member; locally contains petrified dinosaur bone and wood; 76 to 150 meters (250-500 ft) thick; Upper Jurassic.
- Jms** Salt Wash Member of Morrison Formation: Interbedded lenses of light-brown, white, yellow-gray, and very pale-orange sandstone and medium red-brown and green-gray siltstone and mudstone; has local minor gray limestone and conglomeratic sandstone; sandstones are mostly medium grained with moderate sorting, however, some are fine grained and silty, others are conglomeratic; some are well sorted and others poorly sorted; conglomeratic sandstone is common at the base of the thick lenticular sandstone beds; sandstone lenses are thick and resistant, siltstone and mudstone form slopes or recesses between sandstone lenses; upper sandstone lens is generally mineralized with uranium and vanadium; 58 to 120 meters (190-400 ft) thick, thickening to the south; Upper Jurassic.
- Jsm** Tidwell Member of Morrison Formation and Summerville Formation, undivided: These two units form a red ledgy slope between the Salt Wash Member of the Morrison and the Moab Tongue of the Curtis Sandstone; the entire ledgy slope was mapped as the Summerville Formation on previous geologic maps (see "Primary Map Sources" references); the lower part of the ledgy slope is the Summerville Formation, equivalent to the Summerville Formation of the San Rafael Swell (some investigators have called this interval the Wanakah Formation); the upper part of the ledgy slope is the Tidwell Member of the Morrison Formation; the Tidwell (Upper Jurassic) and Summerville (Middle Jurassic) are separated by the J-5 unconformity.
- Ject** Slick Rock Member of Entrada Sandstone and Moab Member of Curtis Formation, undivided: Mapped in poorly exposed and structurally complex areas where units are not mapped separately at this scale; Middle Jurassic.
- Jn** Navajo Sandstone, limestone beds in Navajo Sandstone: Pale-yellowish-gray, very light-brown, and pinkish gray, fine- to medium-grained, massive, cross-bedded sandstone; grains are subrounded to subangular, well-sorted and equant, frosted quartz; conspicuously cross-bedded with cross-bed sets that range from 1.5 to 7.5 meters (5-25 ft) in thickness; contains sparse thin lenses of gray sandy limestone and, near the base, lenses of reddish-brown siltstone; lower contact gradational and intertonguing; forms rounded knobs, buttes, and mesa rims marked by a checkered pattern of grooved cross-strata and weathering joints; 24 to 150 meters (80-500 ft) thick, thinning eastward; Lower Jurassic.
- JK** Kayenta Formation: Light-brown, red, and reddish-brown, lenticular, cross-bedded, fine- to medium-grained, poorly to moderately sorted sandstone with partings and thin beds of medium reddish-brown siltstone, fine-grained sandstone, and claystone; sand grains are mostly subangular and cement is mostly calcareous; locally contains beds of intraformational pebble conglomerate with pebbles of sandstone, siltstone and claystone; medium- to thick-bedded, forms thick ledges; locally contains sparse fossil wood and thin beds of pinkish-gray limestone; upper and lower contacts gradational and intertonguing with Wingate-like beds extending 3 to 6 meters (10-20 ft) into the Kayenta Sandstone; 18 to 110 meters (60-360 ft) thick; Lower Jurassic.

GEOLOGIC MAP SOURCE:
GEOLOGIC MAP OF THE LA SAL 30'x60' QUADRANGLE, SAN JUAN, WAYNE, AND GARFIELD COUNTIES, UTAH, AND MONTROSE AND SAN MIGUEL COUNTIES, COLORADO
compiled by
Hellmut H. Doelling
2004

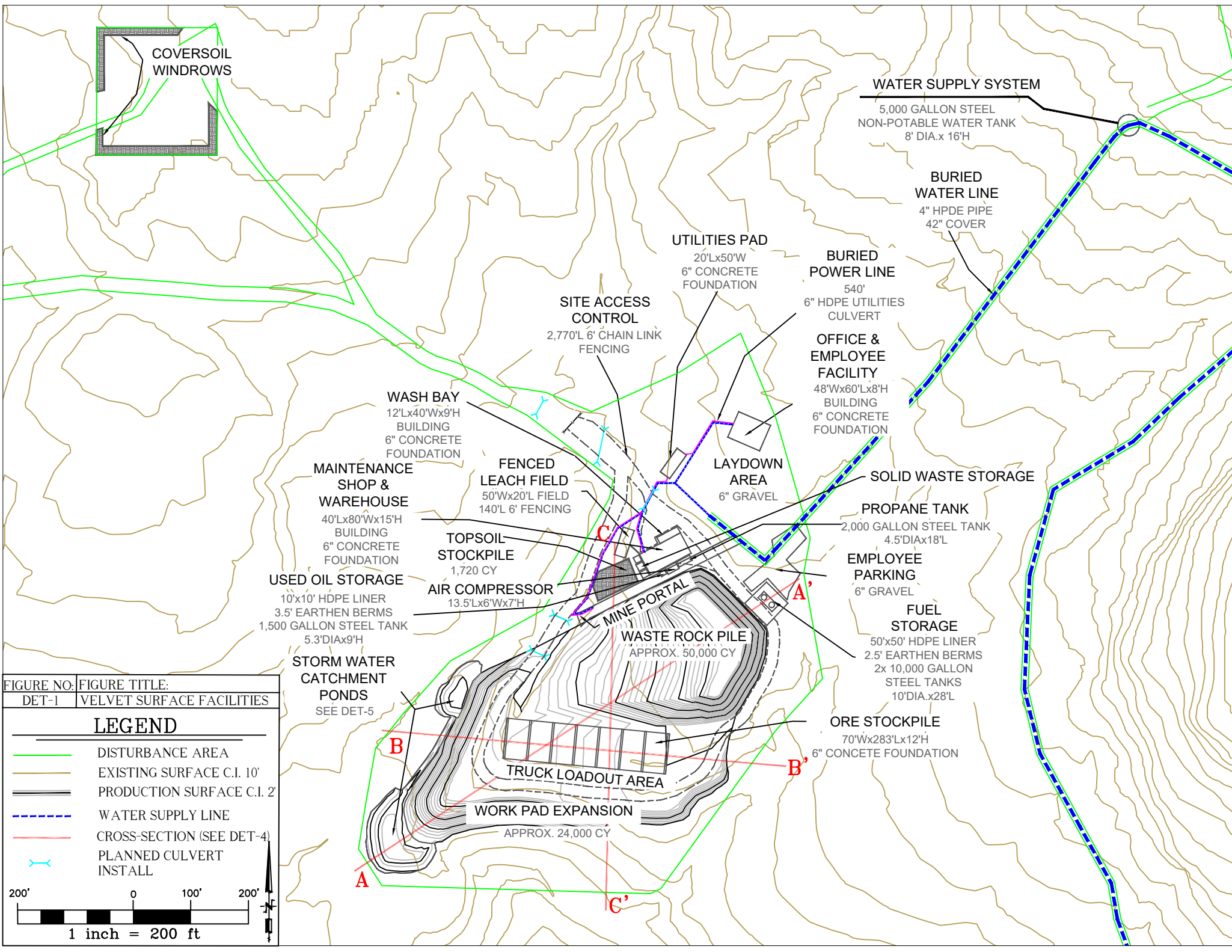
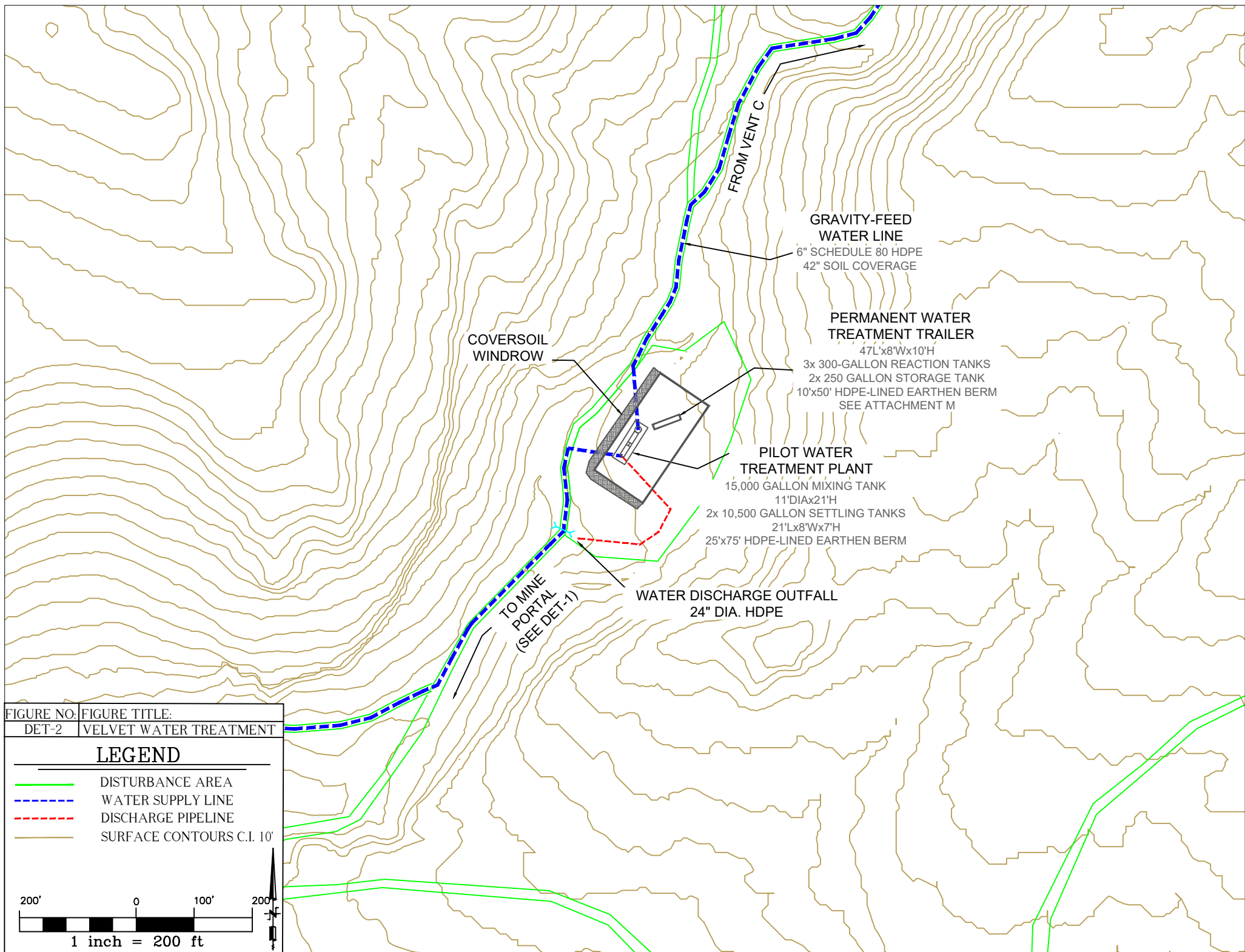


FIGURE NO:	FIGURE TITLE:
DET-1	VELVET SURFACE FACILITIES

LEGEND	
	DISTURBANCE AREA
	EXISTING SURFACE C.I. 10'
	PRODUCTION SURFACE C.I. 2'
	WATER SUPPLY LINE
	CROSS-SECTION (SEE DET-4)
	PLANNED CULVERT INSTALL

1 inch = 200 ft



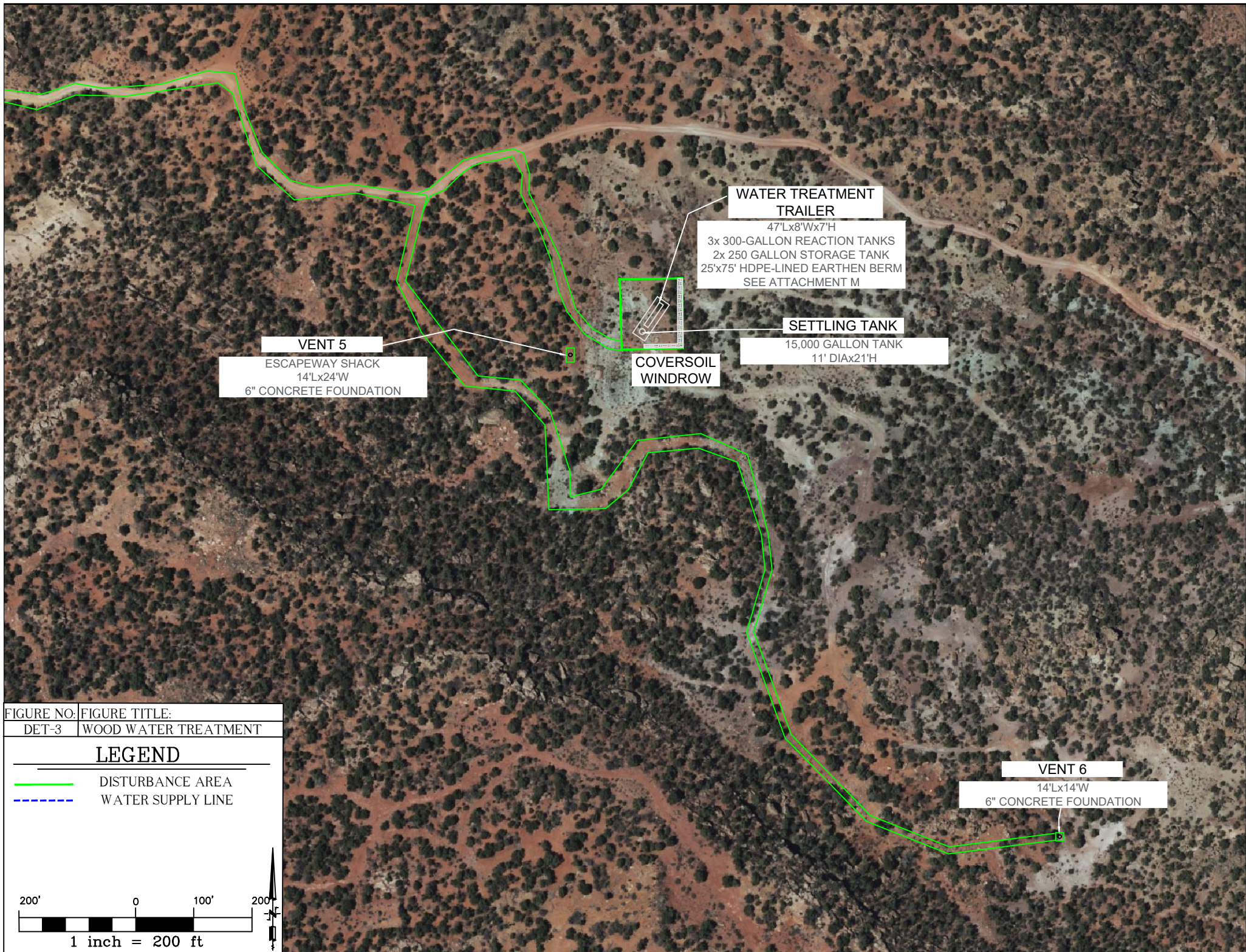
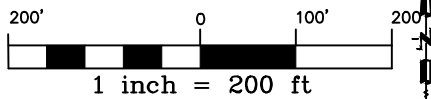
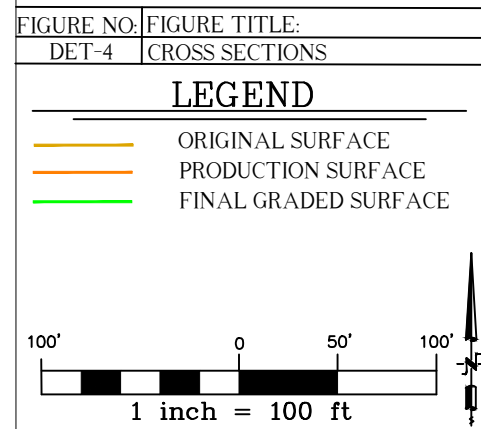
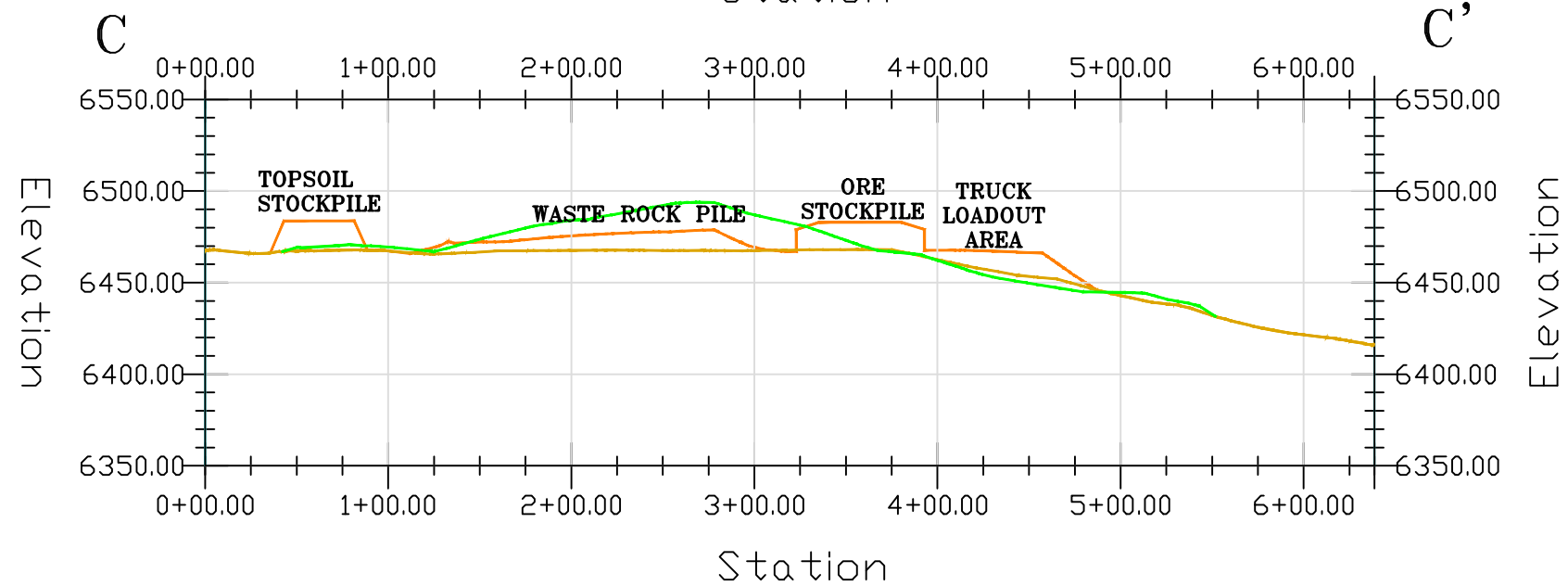
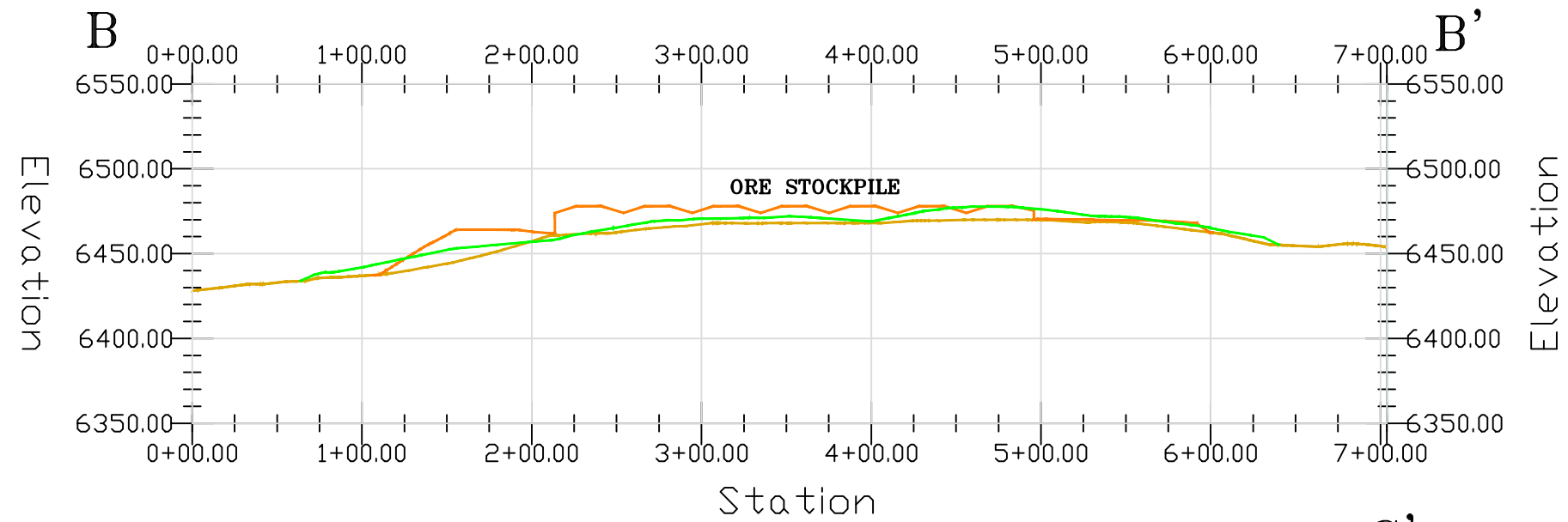
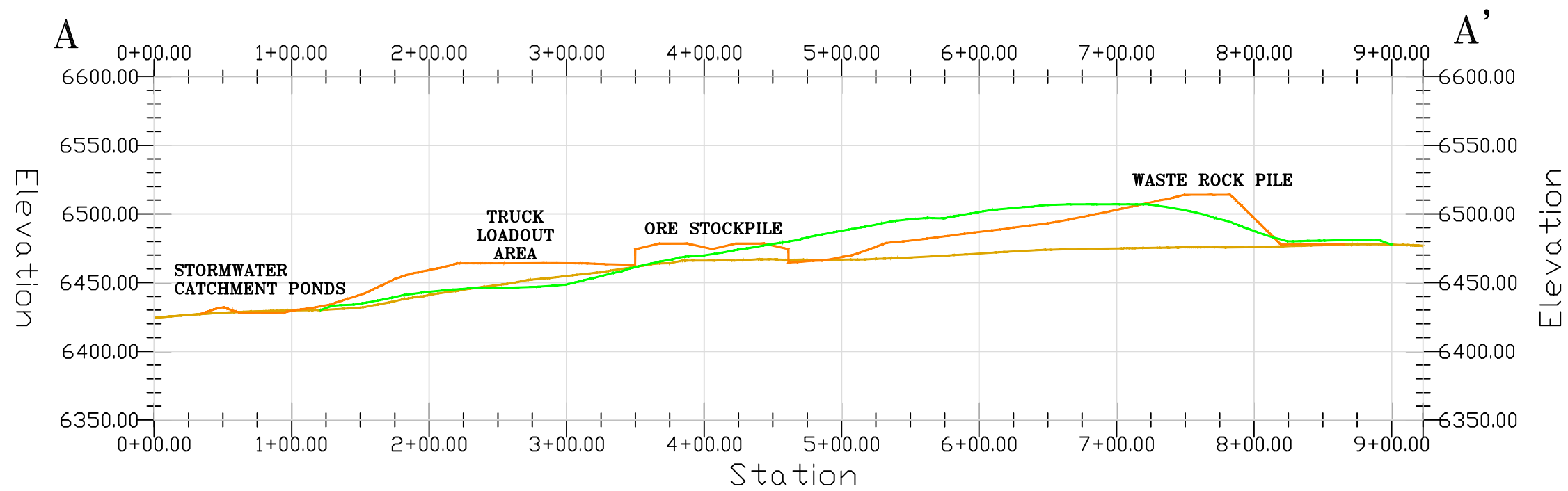


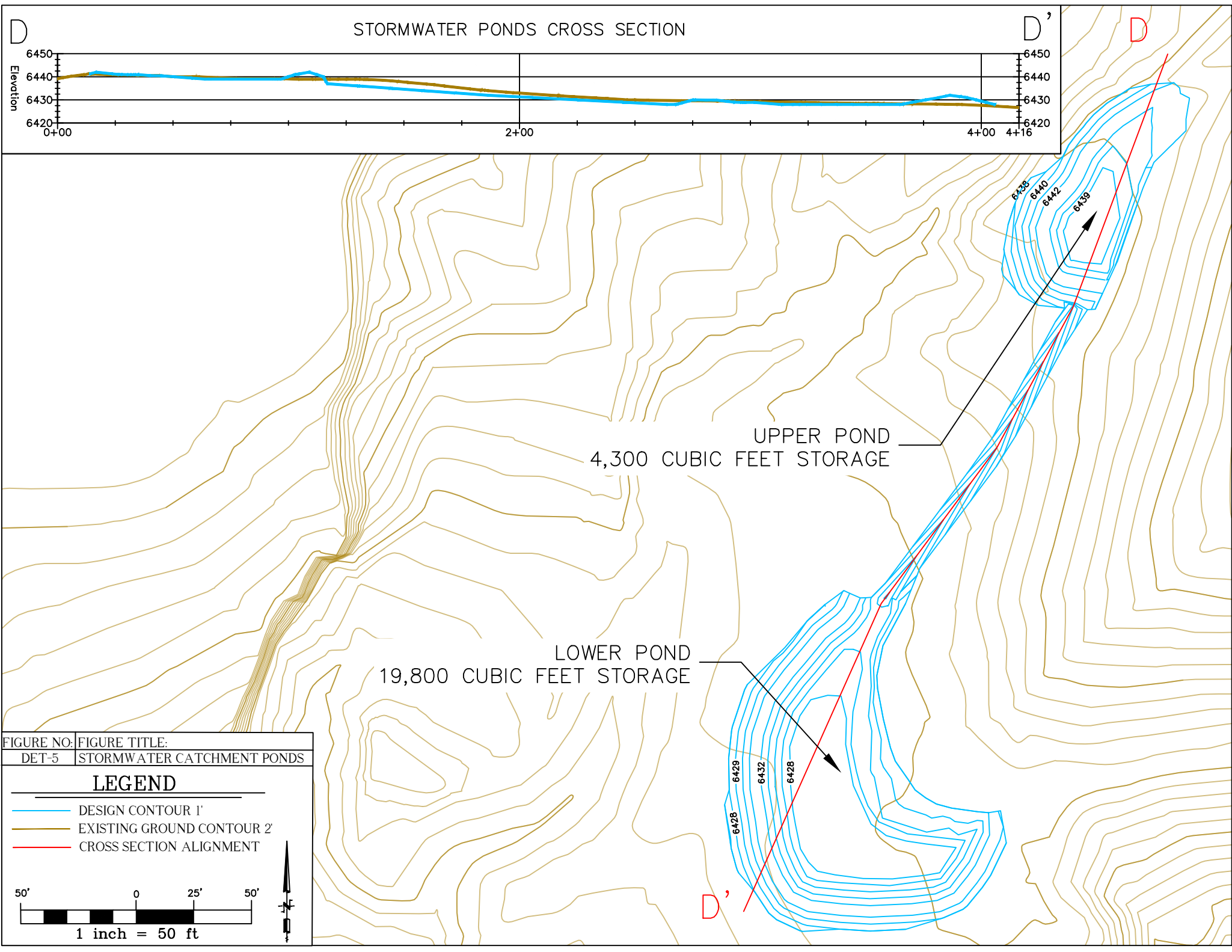
FIGURE NO:	FIGURE TITLE:
DET-3	WOOD WATER TREATMENT

LEGEND

- DISTURBANCE AREA
- WATER SUPPLY LINE







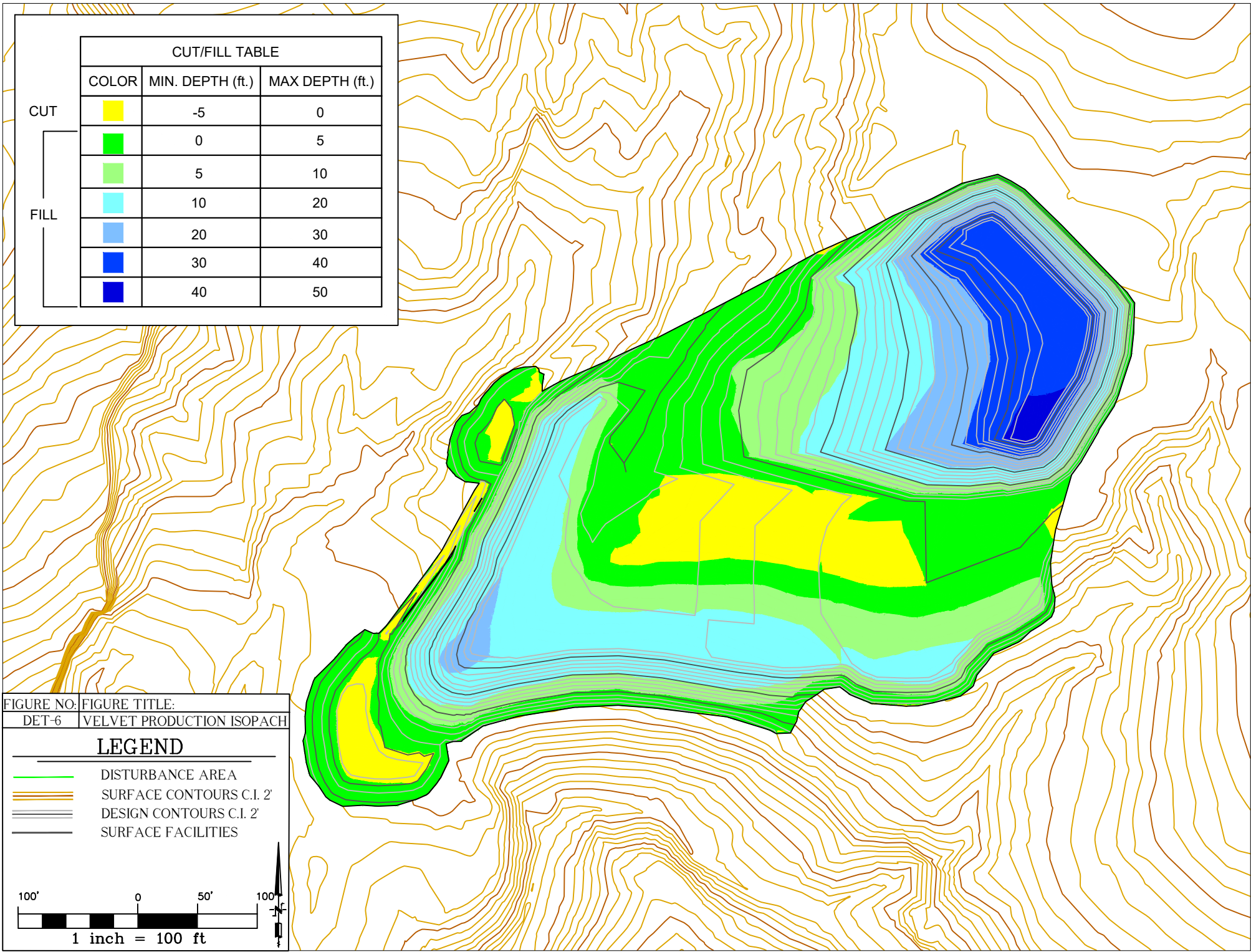









FIGURE NO: DET-6
FIGURE TITLE: VELVET PRODUCTION ISOPACH

CUT/FILL TABLE			
	COLOR	MIN. DEPTH (ft.)	MAX DEPTH (ft.)
CUT		-30.5	-20
		-20	-10
		-10	-5
		-5	0
FILL		0	5
		5	10
		10	19.9

CUT/FILL FROM
INTERIM SURFACE

CUT: -37,291 C.Y.

FILL: 35,243 C.Y.

NET: -2,048 C.Y.


FIGURE NO:


DET-7


FIGURE TITLE:

VELVET RECLAMATION
ISOPACH

LEGEND

 DISTURBANCE AREA

 SURFACE CONTOURS C.I. 2'

 DESIGN CONTOURS C.I. 2'

100'

0

50'

100'

1 inch = 100 ft

