

Montana Resources

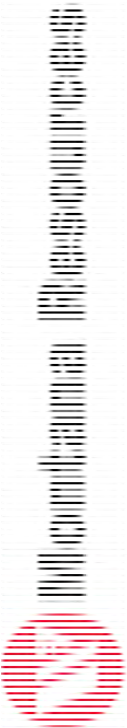
Conceptual Plans for Permitting Continued Mining Through 2040

May 2016



Existing Permit

- Open pit currently permitted to produce ore in excess of 20 years;
- Sufficient non-ore (waste) rock storage available for 20-year mine plan;
- Tailings impoundment embankment permitted to 6400 elevation (AMC datum);
- Maximum operating tailing impoundment water level is 6360 elevation;



Current Conditions

- Tailings impoundment;
 - Current water level elevation 6338;
 - Tailings rise is approximately 5-feet per year;
 - Permitted impoundment water level reached in 2020;
 - Must start embankment construction above 6400 in 2019.
 - Amendment to Operating Permits for Continued Mining must be in effect in 2019.
 - Amendment will match tailings impoundment with permitted reserves and non-ore rock storage.

YDTI Embankment Construction: Concepts

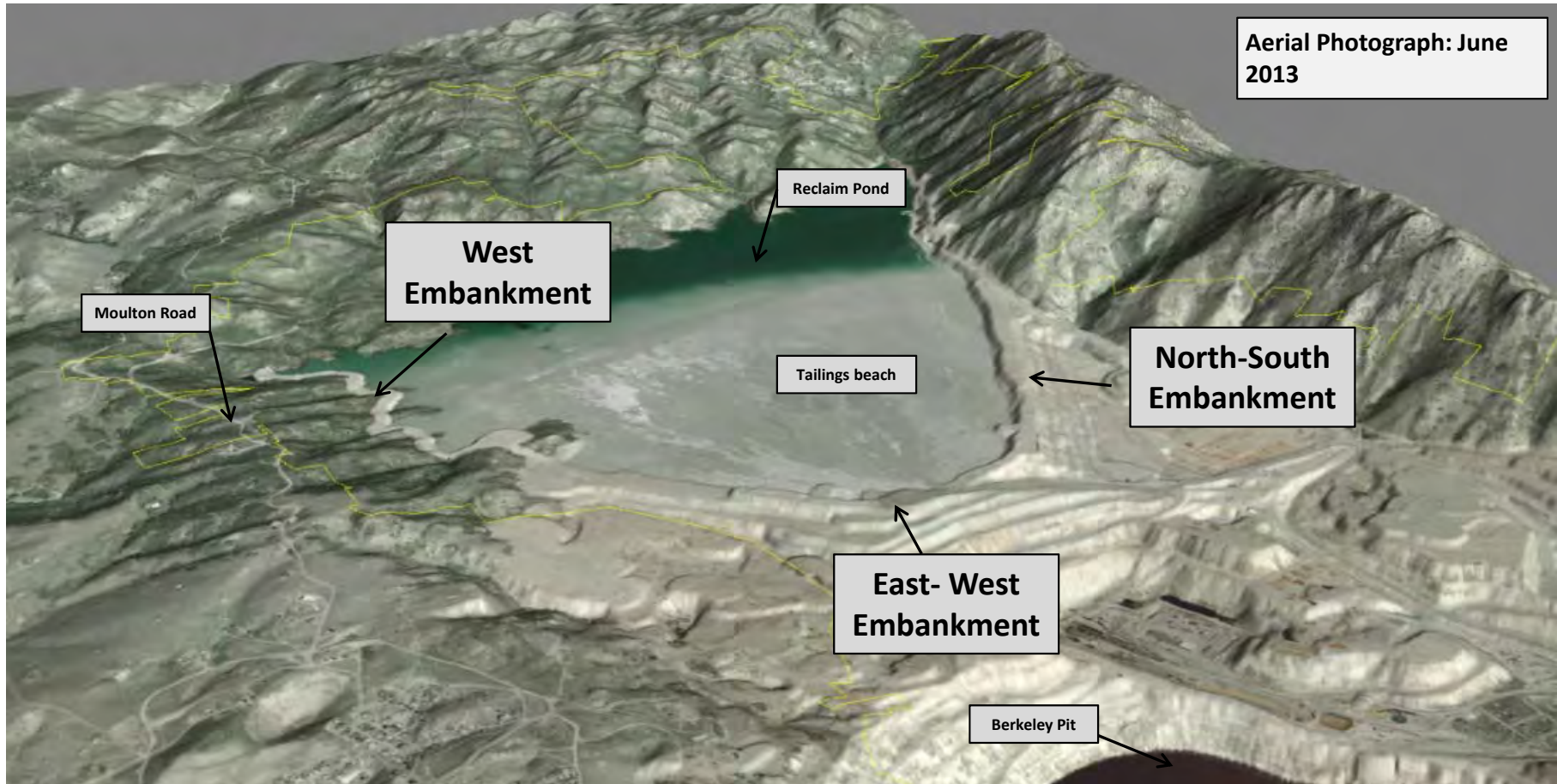


www.embankment.com



Existing 6400 Embankment

General Arrangement



Aerial Photograph: June 2013

Moulton Road

West Embankment

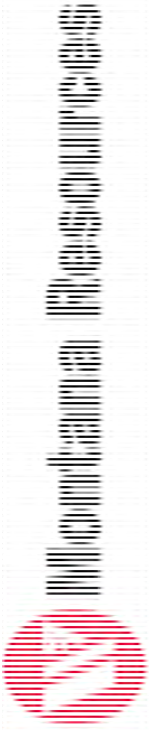
Reclaim Pond

Tailings beach

North-South Embankment

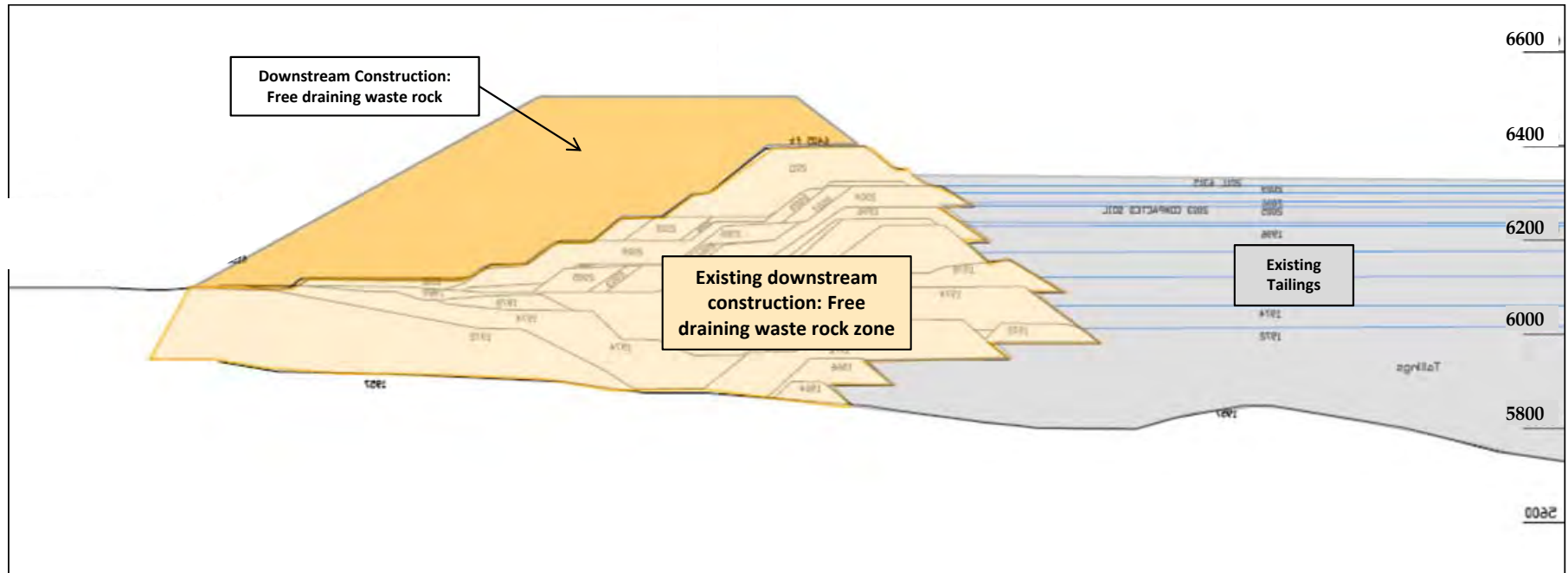
East-West Embankment

Berkeley Pit



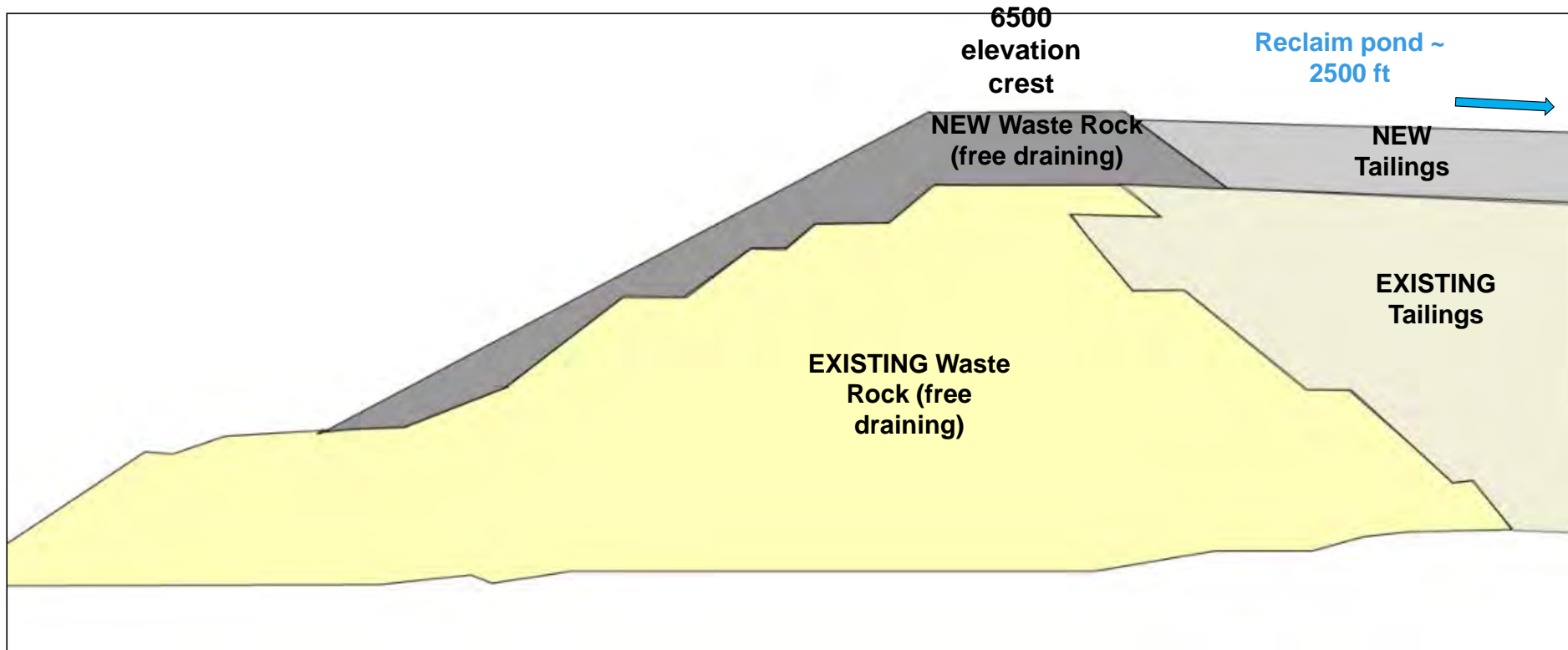
Embankment Raise Concepts

Typical Embankment N-S Section



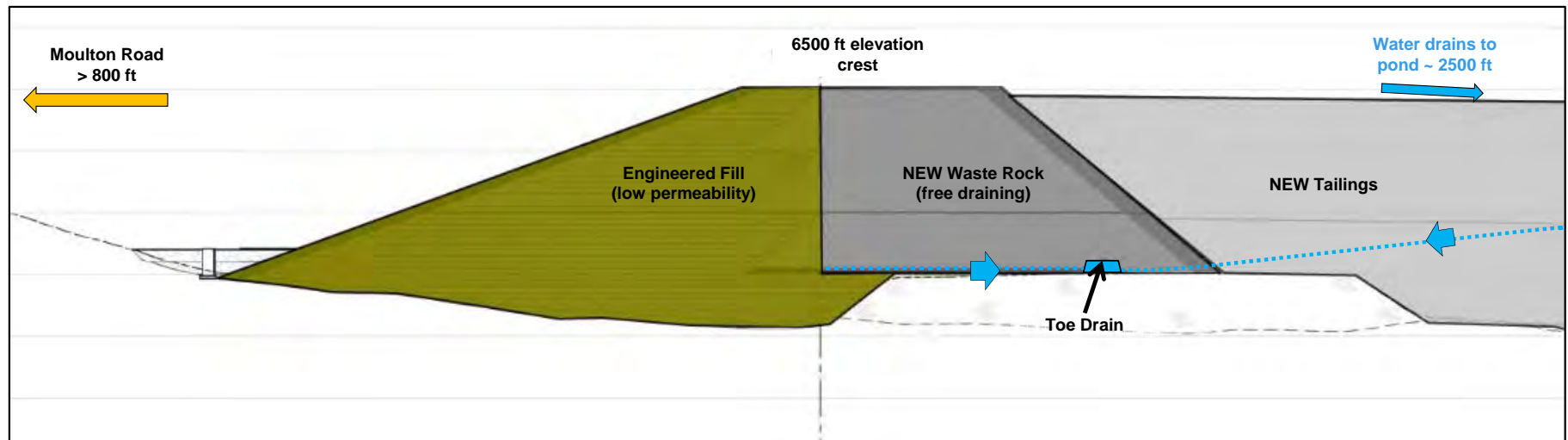
Embankment Raise Concepts

Embankment Configuration – Typical East – West Section



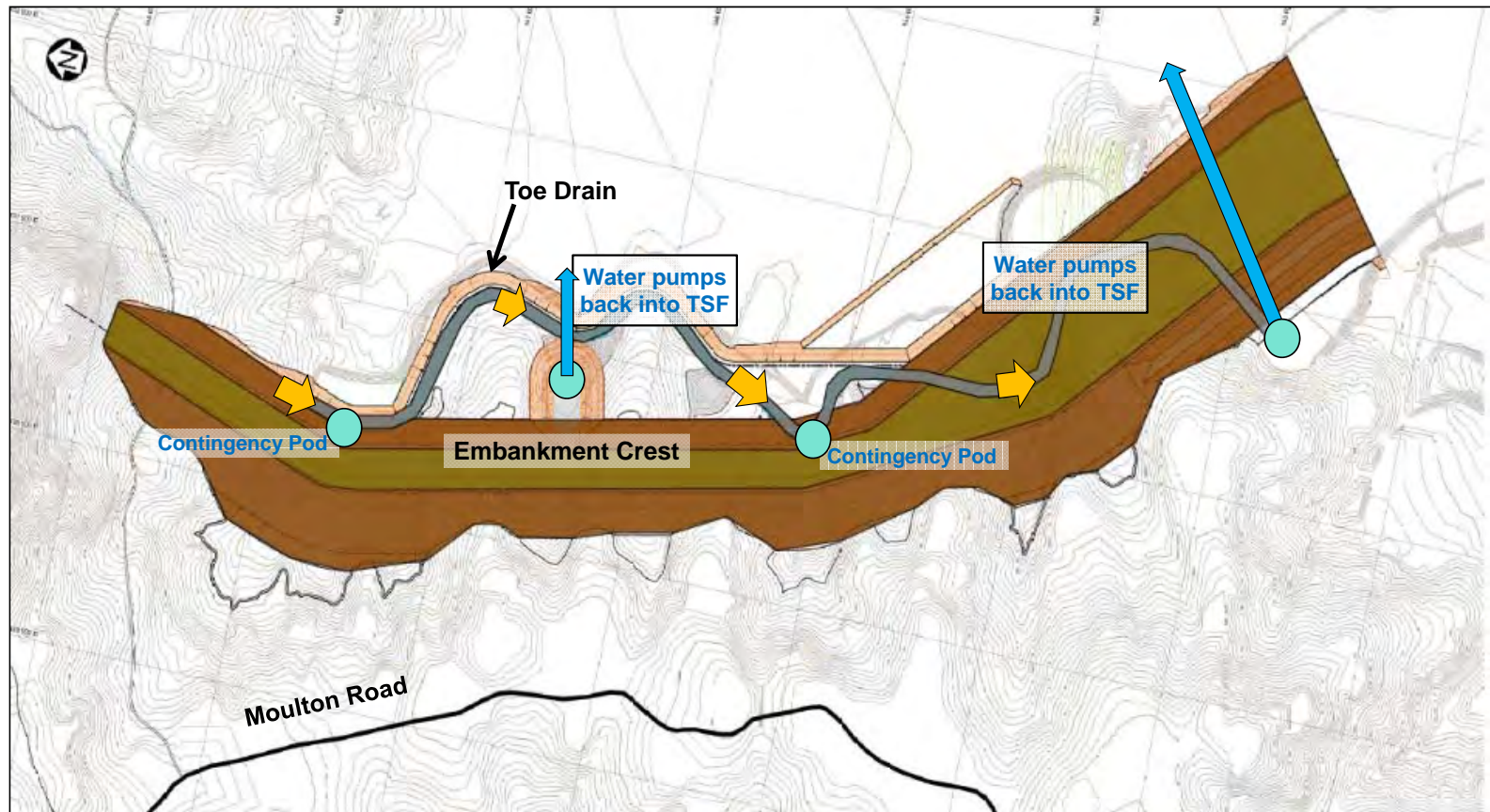
Embankment Design Concepts

West Embankment – Construction Section



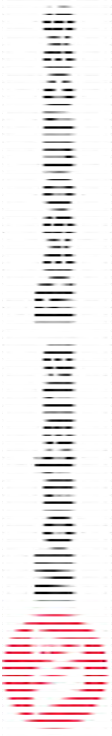
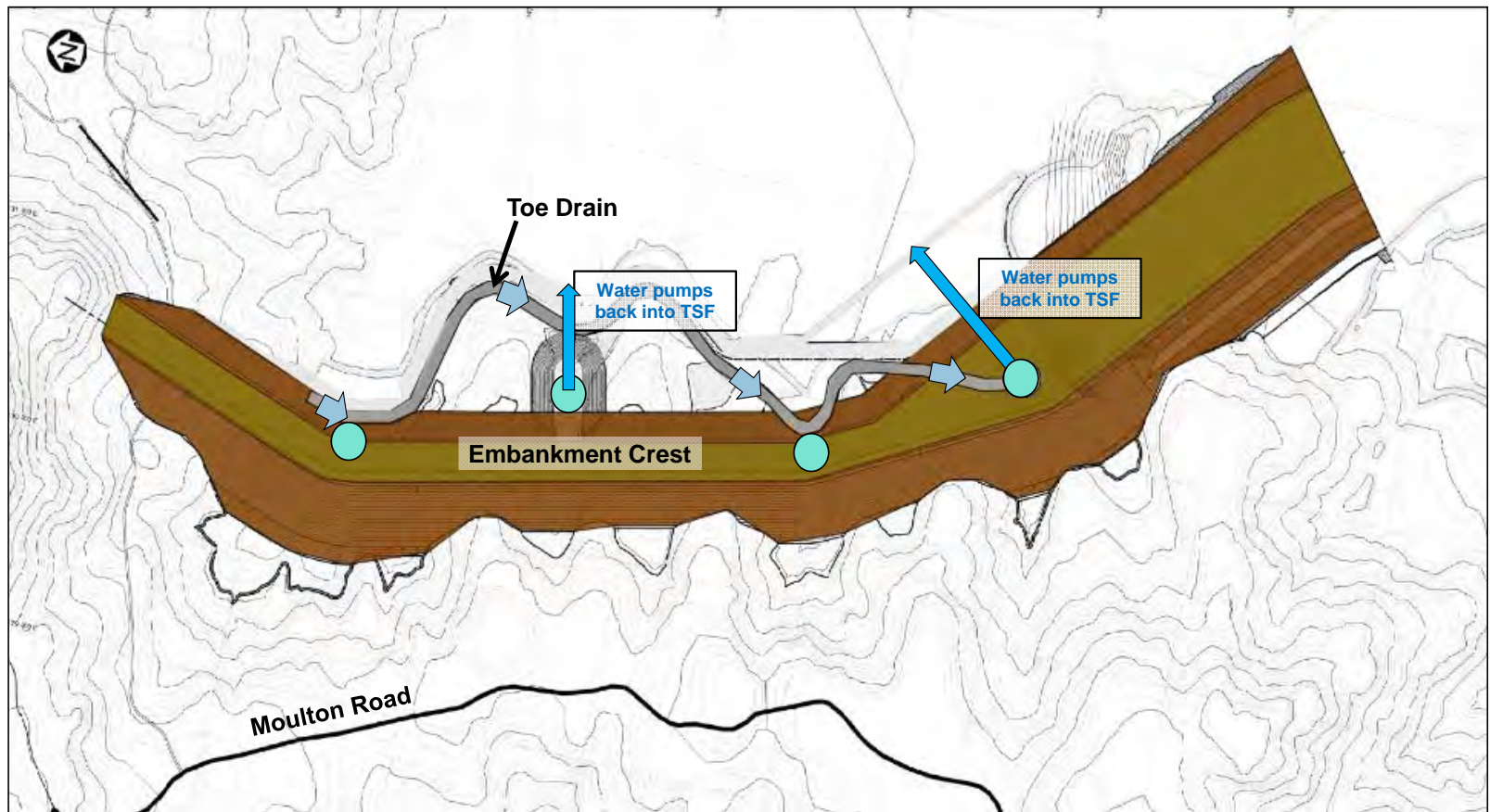
Embankment Design Concepts

Embankment Extension – General Arrangement



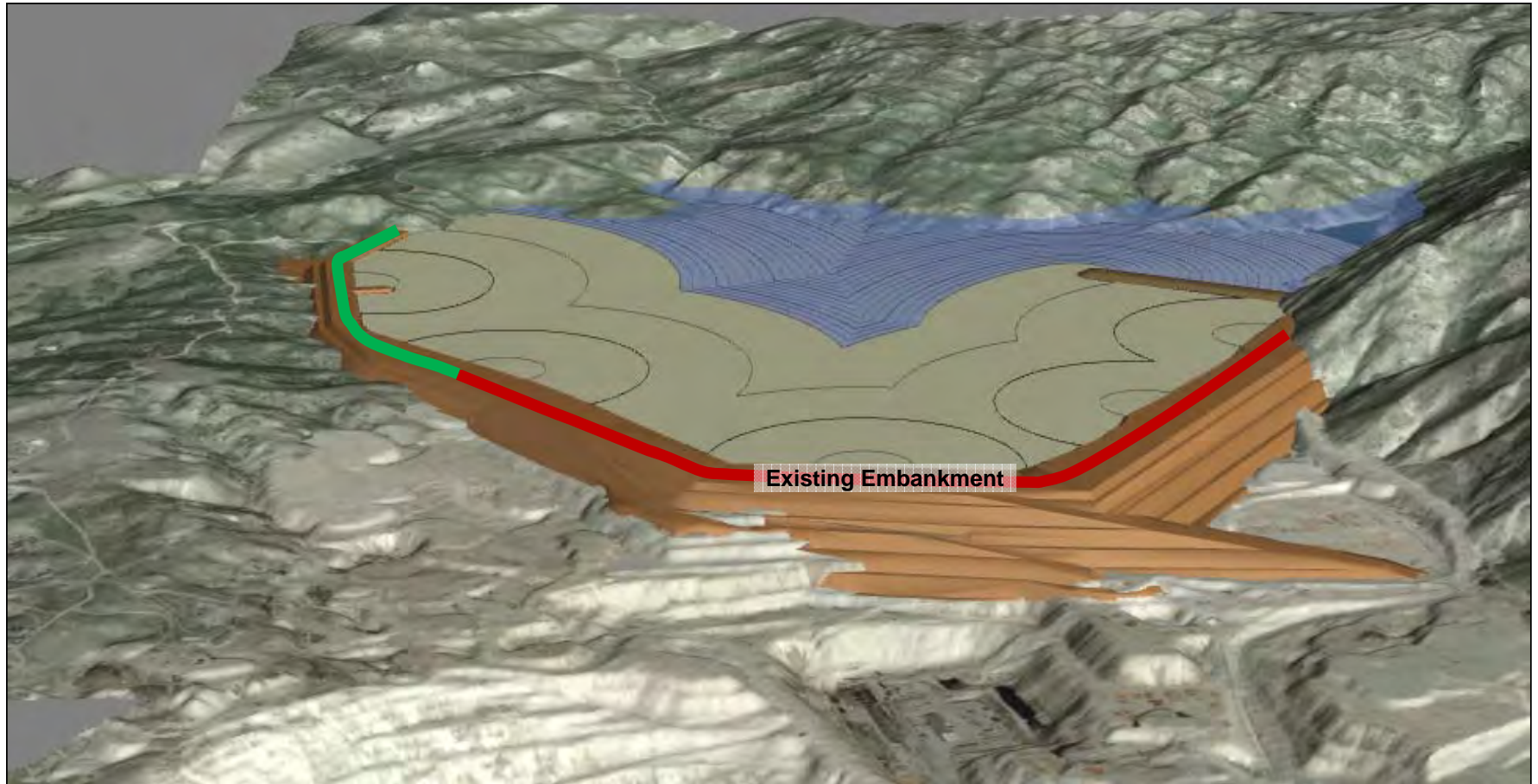
Embankment Design Concepts

Embankment Extension – General Arrangement



Proposed 6500 Embankment – Configuration

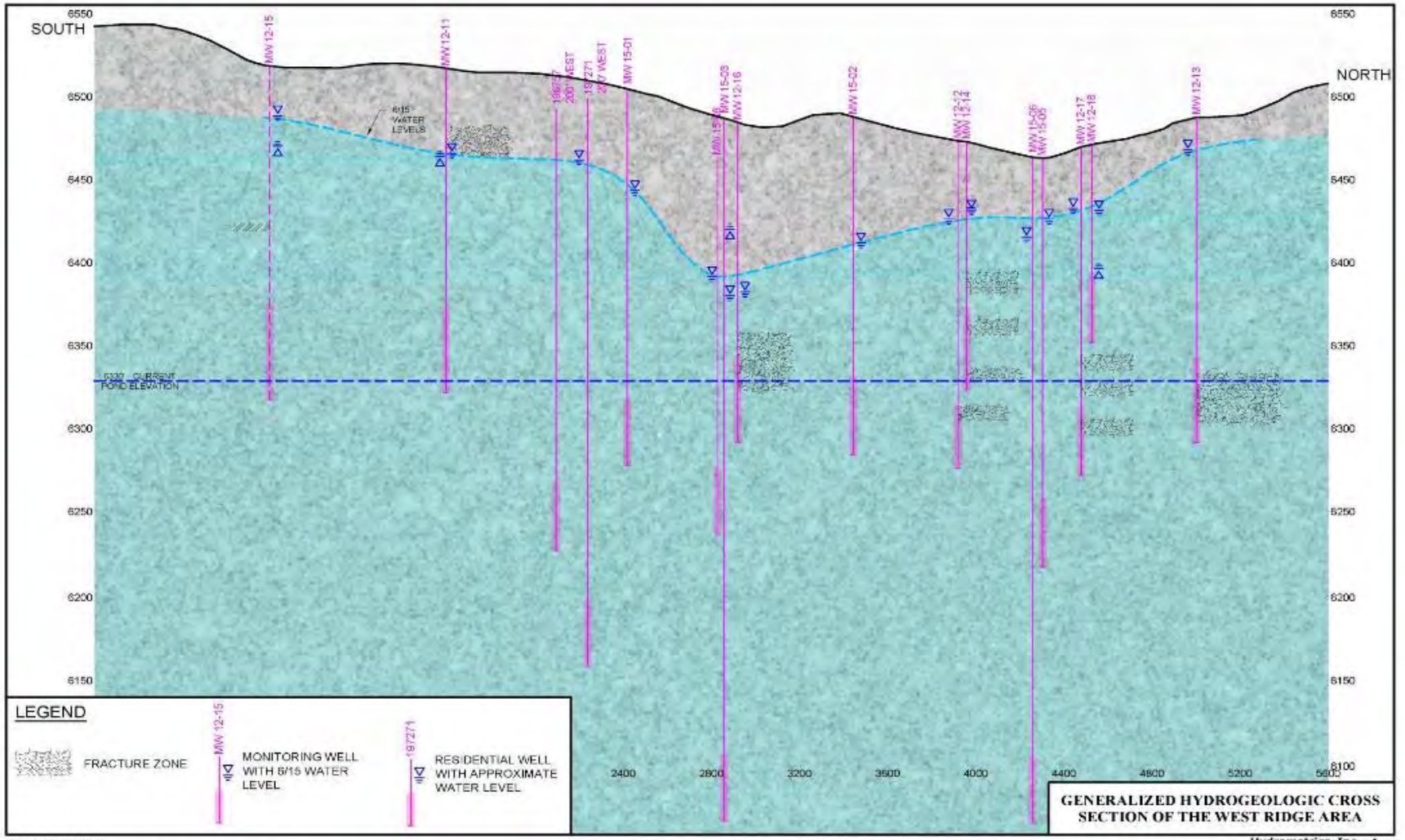
Multiple Spigot Points





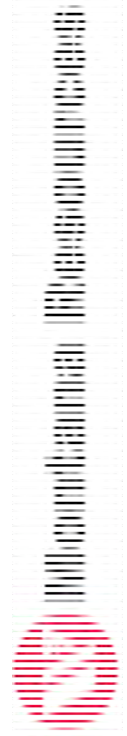
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Hydrometrics, Inc.
Consulting Scientists and Engineers



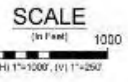
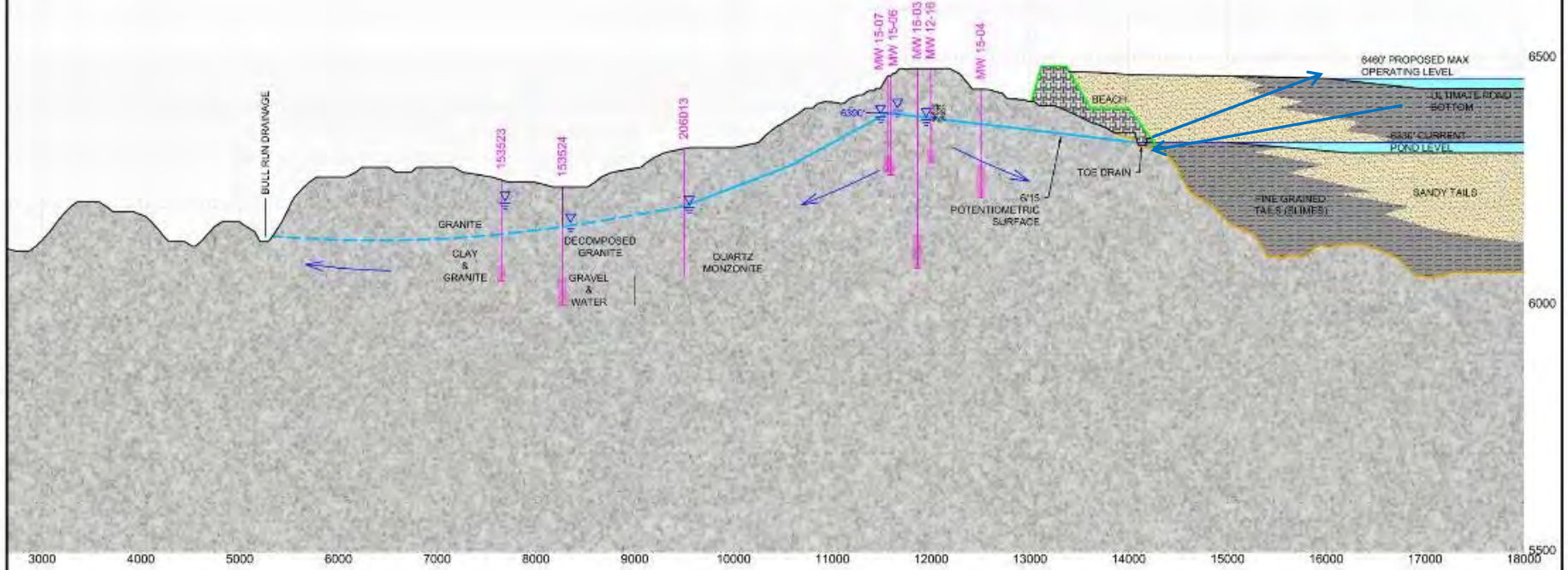
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GENERALIZED HYDROGEOLOGIC CROSS SECTION OF THE WEST RIDGE AREA



WEST

EAST

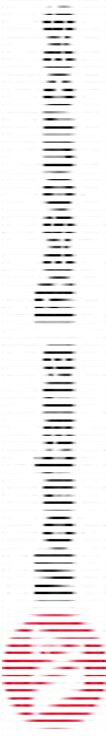


LEGEND

-  FRACTURE ZONE
-  MONITORING WELL
-  RESIDENTIAL WELL

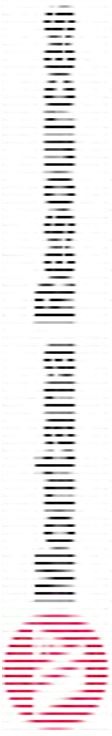
GENERALIZED HYDROGEOLOGIC CROSS SECTION OF THE WEST RIDGE AREA

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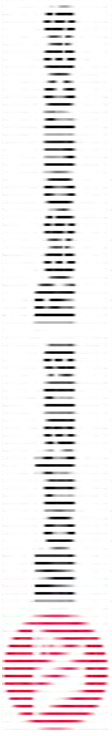
Current Activities

- Topsoil and overburden stripping and stockpiling;
 - Stockpiles located adjacent to Mouton Reservoir Road;
 - Foundation preparation; placement of D1 material in draws.
- Site investigation:
 - Over 45 test pits and trenches;
 - 14 drillholes – SPT, core and packer tests – foundation for west embankment;
 - 3 deep angle core holes in area around low point in west ridge water table to understand geologic structure at depth;
 - 7 sonic drill holes through east-west embankment to verify foundation strengths;
 - 8 cone penetration holes to verify tailings characteristics.
- Preparation for construction of toe drain.



Tailings Impoundment Permitting

- Applicant must submit a design document detailing how the facility design will address over 32 specific requirements, including:
 - Analysis showing that the TSF will withstand a 1 in 10,000 year earthquake event or maximum credible earthquake, whichever is larger;
 - Design criteria to manage the probable maximum flood event;
- Design document must be reviewed by a panel of three independent experts.



Tailings Impoundment Permitting

- The independent experts have been selected and approved by MDEQ:
 - Dr. Dirk van Zyl, PE – Professor Geotechnical Engineering, UBC
 - Dr. Leslie Smith – Professor Hydrogeology, UBC
 - James R. Swaisgood, PE, PG
- All three experts must sign design document prior to submittal to MDEQ.
- MR's Engineer of Record is Ken Brouwer, Knight Piésold Ltd.

Permit Schedule

- Submit permit application – Q2 2016
- Submit design document – Q2 2016
- MDEQ declare the application complete and compliant and issue draft permit – Q4 2016
- Initiate MEPA review – Q1 2017
 - Select MEPA contractor
 - Public scoping – comments - public meeting
 - Draft MEPA document
 - Public comment – public meeting
 - Final MEPA document
- Issue Record of Decision and final permit – Q2 2018



Alternatives

- Berkeley Pit
 - RoD for BMFOU already issued;
 - CD for BMFOU already signed;
 - 14 years of storage in Pit;
 - Would need to operate pit and YDTI concurrently for an extended period of time;
 - Significant technical and logistical challenges.

Community Engagement

- Employees
- Moulton Road Residents
- Montana Standard
- City Commissioners
- Major Employers Group
- State Legislative Delegation
- Federal Legislators
- Butte Local Development
- MERDI
- School Board
- MDEQ
- Butte Chief Executive
- Butte Planning Director
- Lt Governor
- Chamber of Commerce
- Butte Kwanis
- Butte Public Works Director

