SHEEP MOUNTAIN URANIUM PROJECT
CROOKS GAP, WYOMING

TITAN
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NRC Quarterly Update
February 22, 2011

TSX-V : TUE OTCBB : TUE FRANKFURT : TUE

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Introductions

Chris Healey – President & CEO

Greg Adams – VP Development

Doug Beahm – BRS Engineering

Toby Wright – Wright Env. Services

Chris Pugsley - Thompson & Pugsley

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- Introductions
- Project Overview
- Status of Baseline Studies
- Status of BLM\State Permit Applications & NEPA
- Status of NRC Application
  - Development and Submittal Schedule
  - Preliminary Date for Pre-Application Site Visit & Pre-Application Review
- Discussion Items
  - Overview of Heap Leach Design & Operations
  - 40 CFR Part 61; Coordinated Approach with EPA
  - Application of Site-Specific and Regional Meteorological Data

PROJECT OVERVIEW

- Location
- Project Scope

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Sheep Mountain Project Location

PROJECT OVERVIEW

- Site Location
  - Fremont , Wyoming
- Entirely w/in Existing Uranium Mine Permit 381C
  - Western Nuclear Sheep Mountain Project
    - Mined 1956 – 1988, processed at Split Rock Mill
    - Historic Production
      - Mill: 27.5 Million Pounds U_3O_8
      - Sheep Mountain Mine: 20 Million Pounds U_3O_8
    - Previous NRC License for Green Mountain IX, mine dewatering
- Adjacent Sites
  - Sweetwater Mill
  - UR Energy Lost Creek
  - Gas Hills

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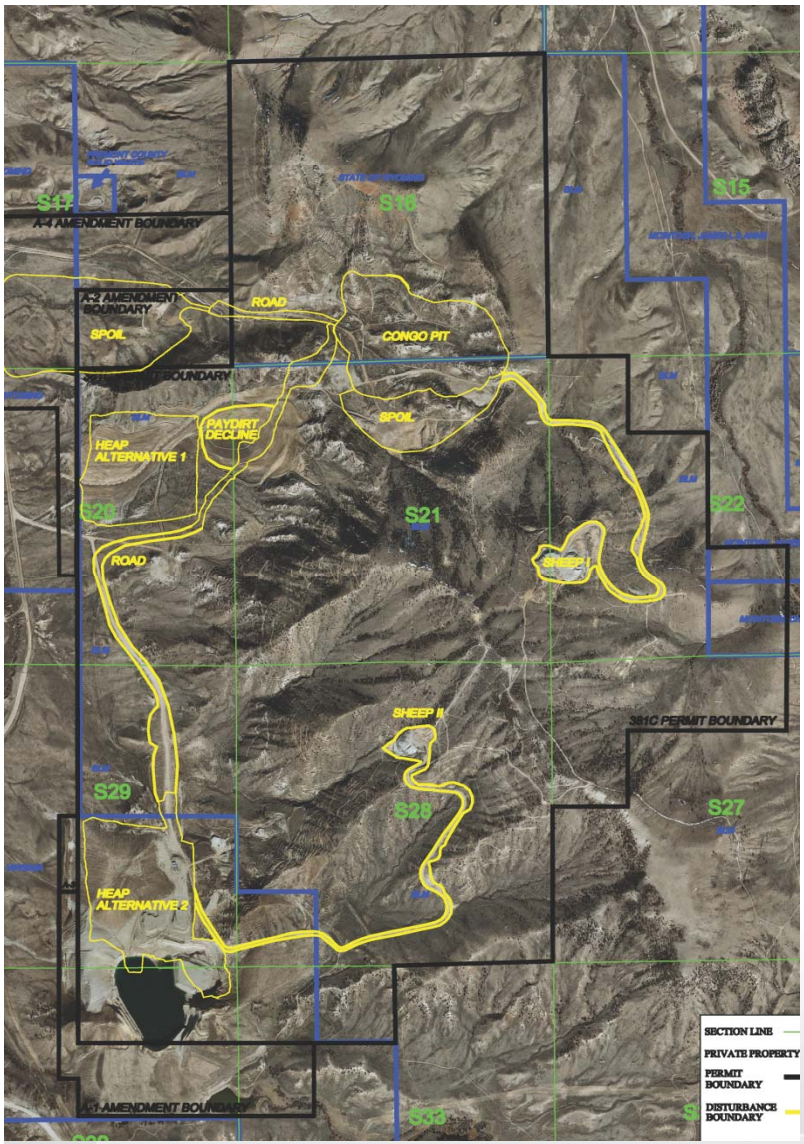
Adjacent Properties



- **Existing Mine Permit 381C**
  - 3,625 acres total area
- **Proposed Disturbance (667 acres)**
  - Mine: 457 acres (258 Disturbed)
    - Congo/North Gap Pits
    - Sheep Mtn. Underground
    - Waste Rock/Topsoil Storage
    - Buildings & Infrastructure
    - All proposed mine disturbance on previously disturbed land
  - Licensed Area: 210 acres (161 Disturbed)
    - Heap Leach Pads
    - Process/Waste Ponds
    - Central Processing Plant

Project Scope:

- Mine
  - Underground and Open Pit Mining
  - Current Mine Permit (381C)
    - Updating POO, Reclamation Plan & Bond
- Uranium Recovery
  - Heap Leach with Central Processing Plant
  - Within existing WDEQ Mine Permit (381C)

Project Scope:

- Mine
  - Congo Pit
    - Mine waste trucked to South and West waste piles
    - All mine waste to be returned to pit or used in reclamation
  - Sheep Mountain Underground
    - All wastes reclaimed in old mine workings
    - Ore transported to the heap from underground via conveyors
  - Mine pit and underground dewatering to be discharged to McIntosh Pit, with BaCl pretreatment for Radium.
    - Regulated by WDEQ/WQD & EPA

Project Scope:

- Mill
  - Heap Leach Pads
    - Double lined pads with leak detection
    - 20 acre phases
    - 25ft Lifts
    - Potentially 2 lifts
    - Sulfuric Acid Lixiviant
  - Double lined ponds with leak detection
    - Barren/Pregnant/Waste ponds
  - Central Processing Plant
    - Solvent Extraction
    - Vacuum Driers
    - Final Product is drummed yellow cake

Status of Baseline Studies

Pre-Operational Baseline Studies Status

- Cultural Resources
- Wildlife
- Vegetation & Soils
- Surface Water
- Groundwater
- Radiological Characterization

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Topic Area	Status	Actions Pending
Cultural Resources	• Reviewed existing surveys • Consulted with BLM on scope of additional surveys • Completed additional surveys • Submitted findings to BLM	• BLM Review • SHPO Review • Incorporate results into ER
Wild Life	• Raptor surveys complete • Songbird surveys complete • Waterfowl surveys complete • Small mammal surveys complete	• Incorporate results into ER
Vegetation	• Vegetation surveys complete • No T&E Species present • One BLM sensitive species found o Limber Pine o No impacted by proposed disturbance • Completed 3 rounds of veg. sampling as per Reg Guide 4.14	• Incorporate results into ER
Soils & Sediment	• Collected soil samples as per Reg. Guide 4.14 (surface & subsurface) • Collected sediment samples as per Reg. Guide 4.14 @ SW sampling locations	• Incorporate results into ER
Surface Water	• Quarterly SW flow measurements • Monthly flowing SW quality sampling • Quarterly Pit Lake quality sampling	• Data analysis • Incorporate results into ER
Groundwater	• Quarterly Sampling • Reg. Guide 4.14 and WDEQ parameters	• Data analysis • Incorporate results into ER
Meteorological	• Continuous data since July 2010 • 2 m & 10 m instrumentation • Instrumentation meets most Reg. Guide 3.36 requirements	• MILDOSE Modeling • Update with 4 quarters of data
Air Quality	• Quarterly sampling from 5 locations since July 2010 • All parameters and reporting limits as per Reg. Guide 4.14	• Data analysis • Incorporate results into ER
Socio\Env. Justice	• Ongoing	• Complete analysis • Incorporate results into ER

Geology and Hydrology

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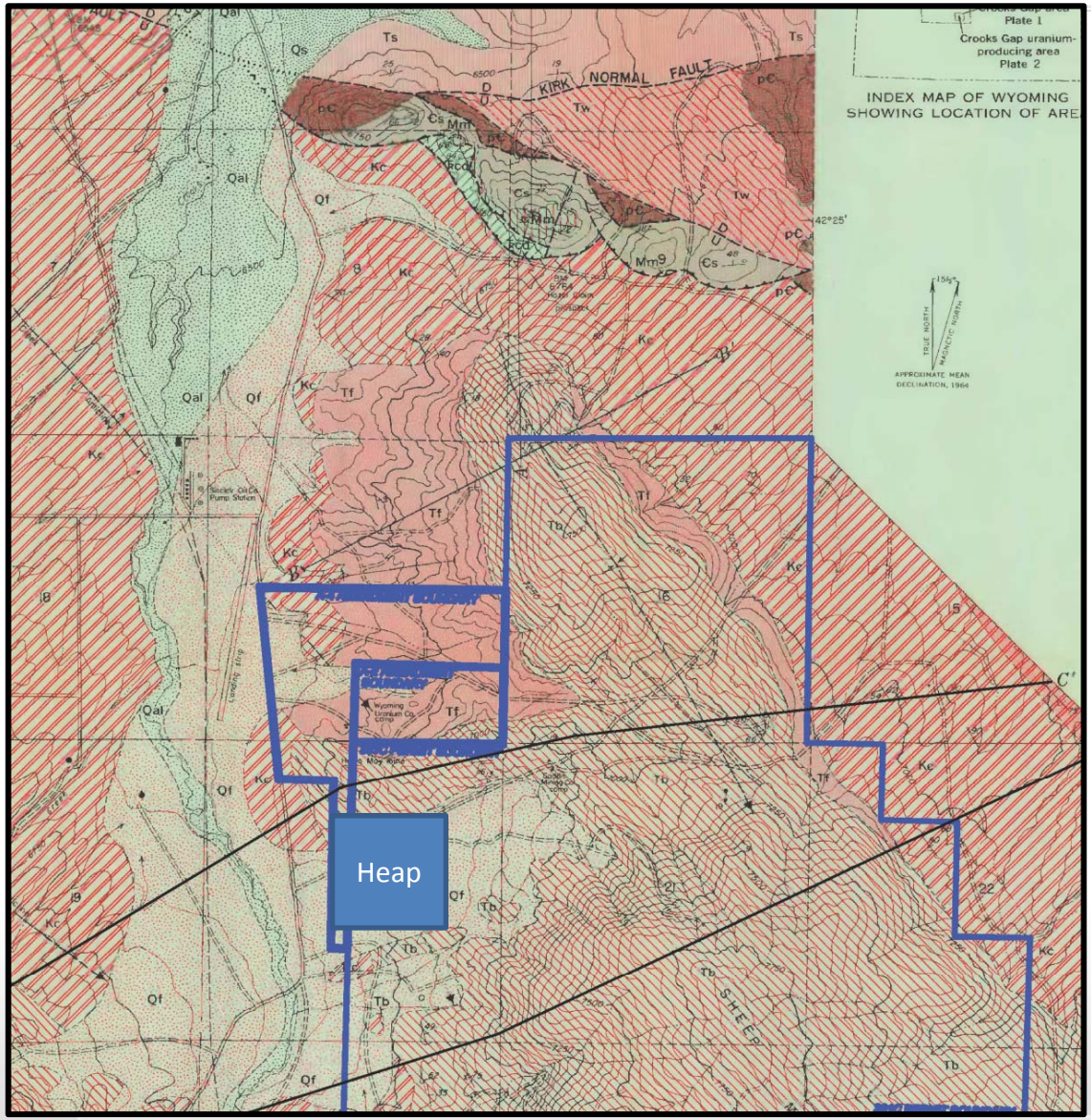


Regional Geology

Geologic History

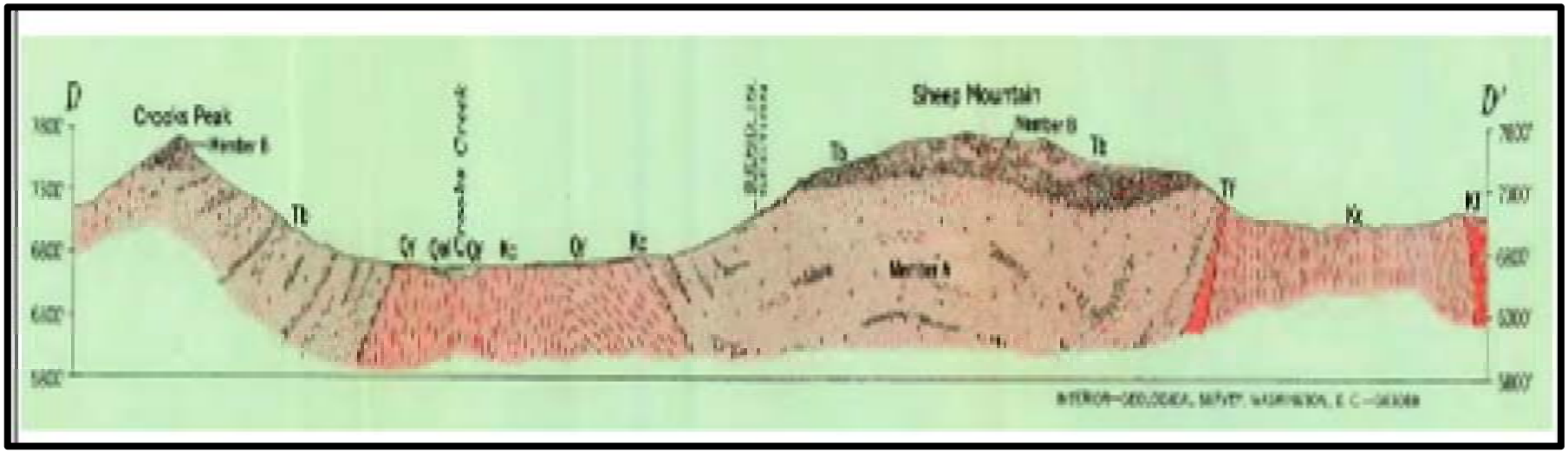
- Laramide Orogeny
  - Formation of Granite Mountains
  - Emigrant Thrust Fault Active; 20,000 ft Displacement
  - Paleocene and Older Formations Folded
- Tertiary Battle Springs **Host Formation**
  - Sediment Sourced from Granite Mountains
  - Unconformable Deposition on Erosional Landscape
  - Early Streams Follow Synclinal Valleys
- Continued Deposition
  - White River and Wagon Bed Formations

Geologic History

- Collapse of Granite Mountains
  - Normal Faulting Regionally
  - Within Battle Springs Minimal Faulting
  - Battle Springs Folded and Plunging to South
  - Erosion Exposes Battle Springs at Site
- Present Geologic Setting
  - Battle Springs Bounded by Fort Union and Cody, 3 Sides
  - Geohydrologic Setting Focused Uranium Bearing Ground Waters and;
  - Controls Current Ground Water Flow

Cross Sectional View

East/West Looking North



Surface Geology

- Quaternary alluvial and colluvial deposits mapped as;
  - Qal - Quaternary Alluvium
  - Qf –Quaternary Floodplain
- Tertiary Battle Springs Formation (Eocene);
  - Tb Member B (Upper)
  - Tb Member A (Lower) **HOST UNIT**
- Tf - Tertiary Fort Union (Paleocene)
- Kc – Cretaceous Cody Shale

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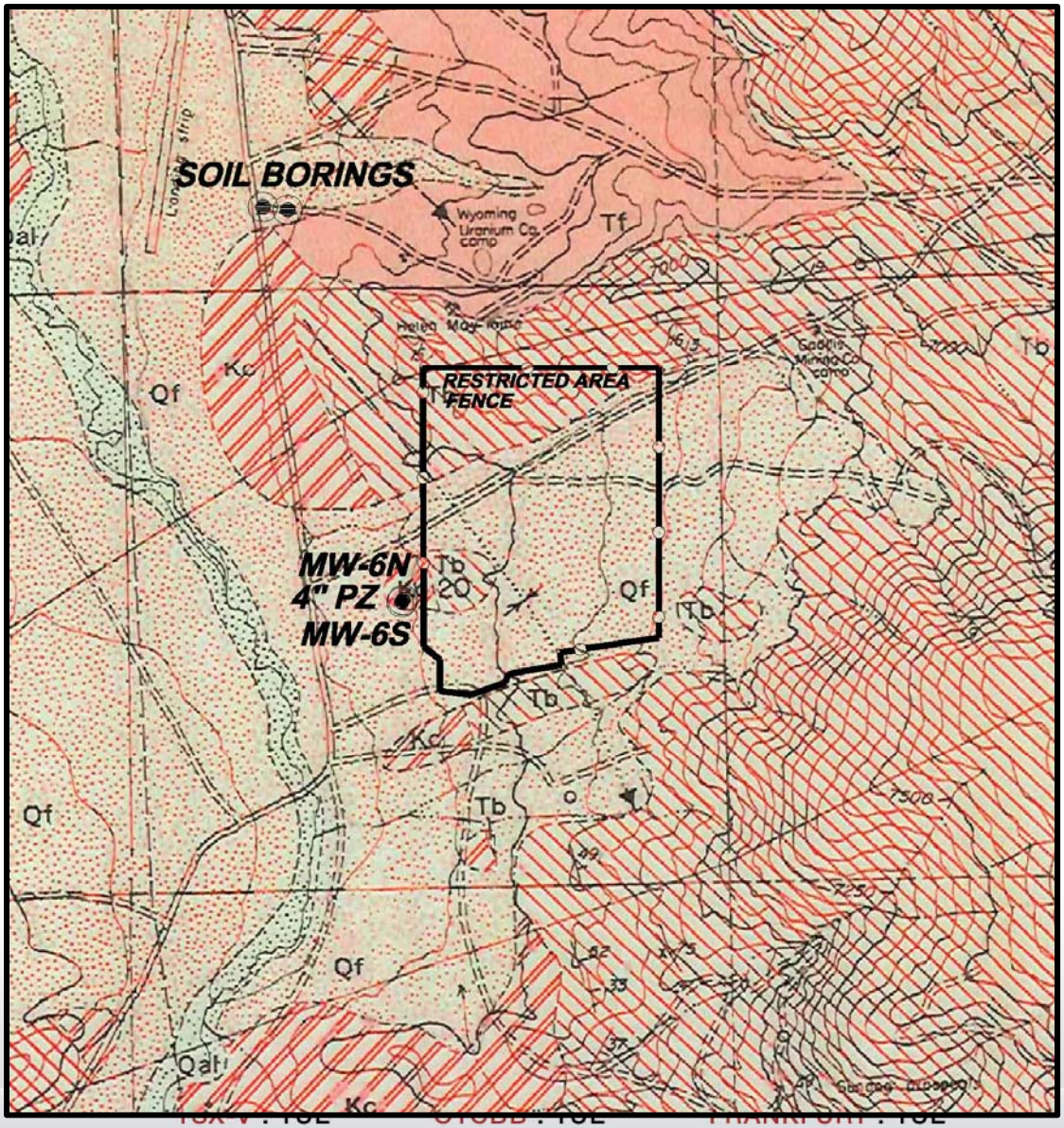
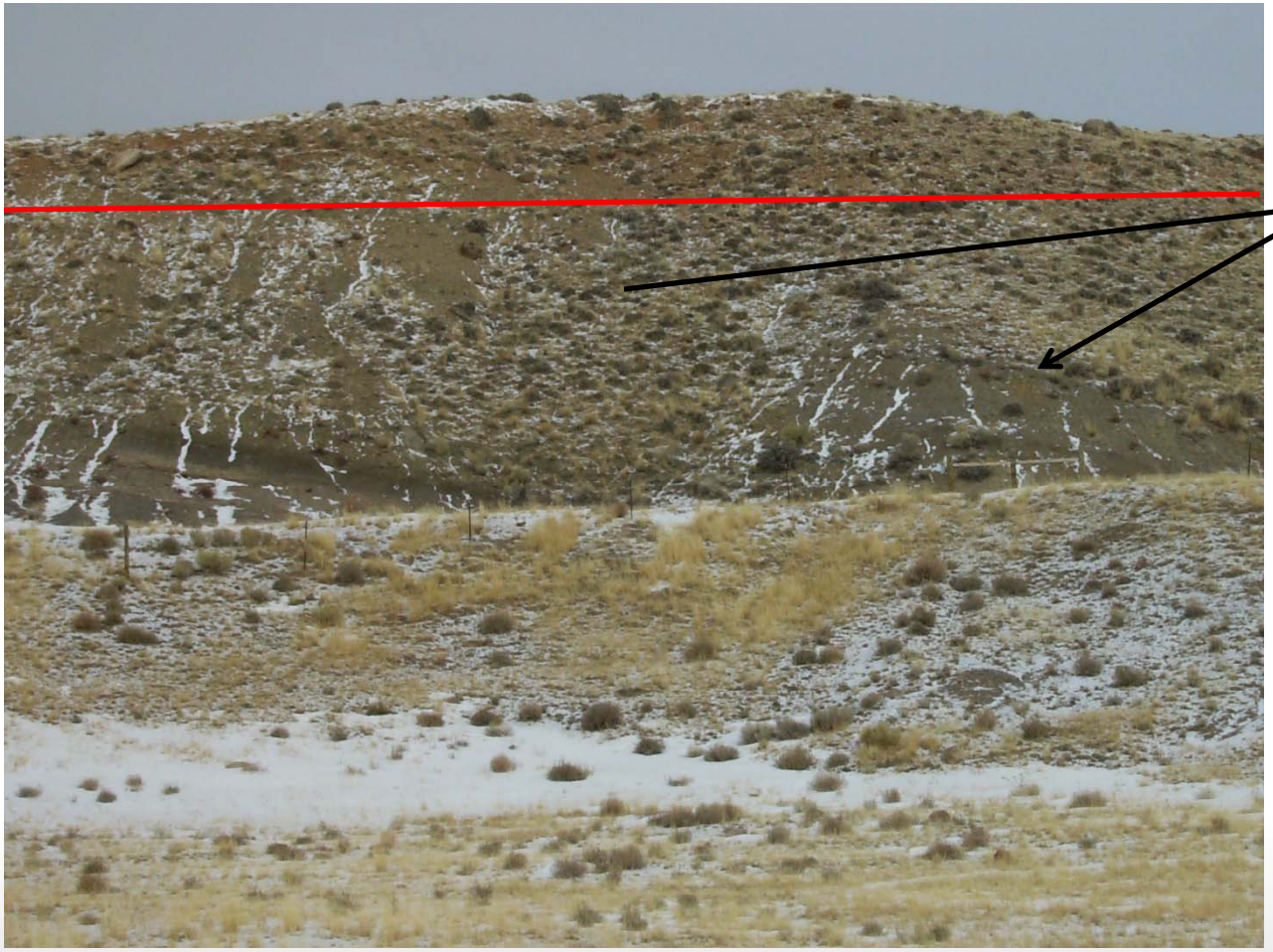


Site Geology

Depth to Cody Shale
PZ/MW6; 118 feet
Soil Borings;
- **35 feet**
- **60 feet**

Dip Cody Shale 8^{o} to East

Alluvium/Weathered Battle Springs Formation-Cody Shale Contact



Cody Shale Outcrop

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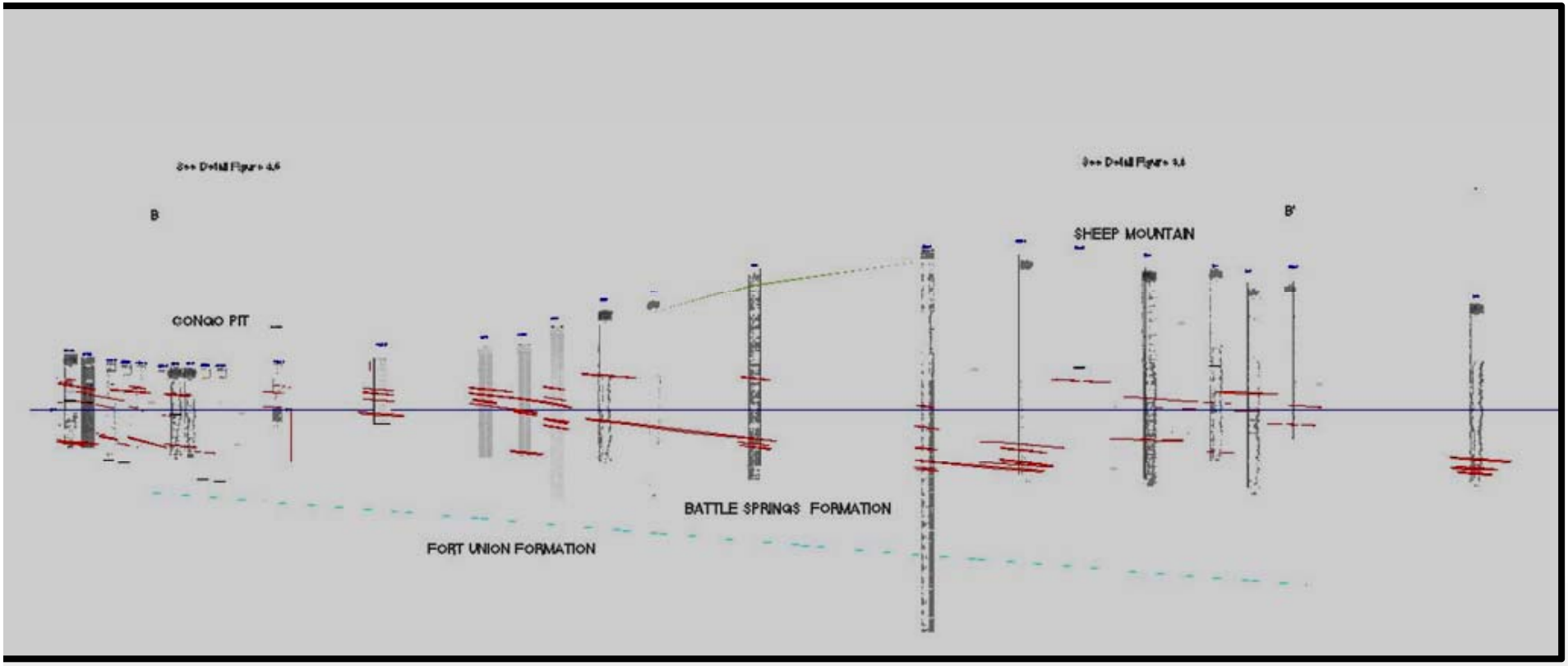
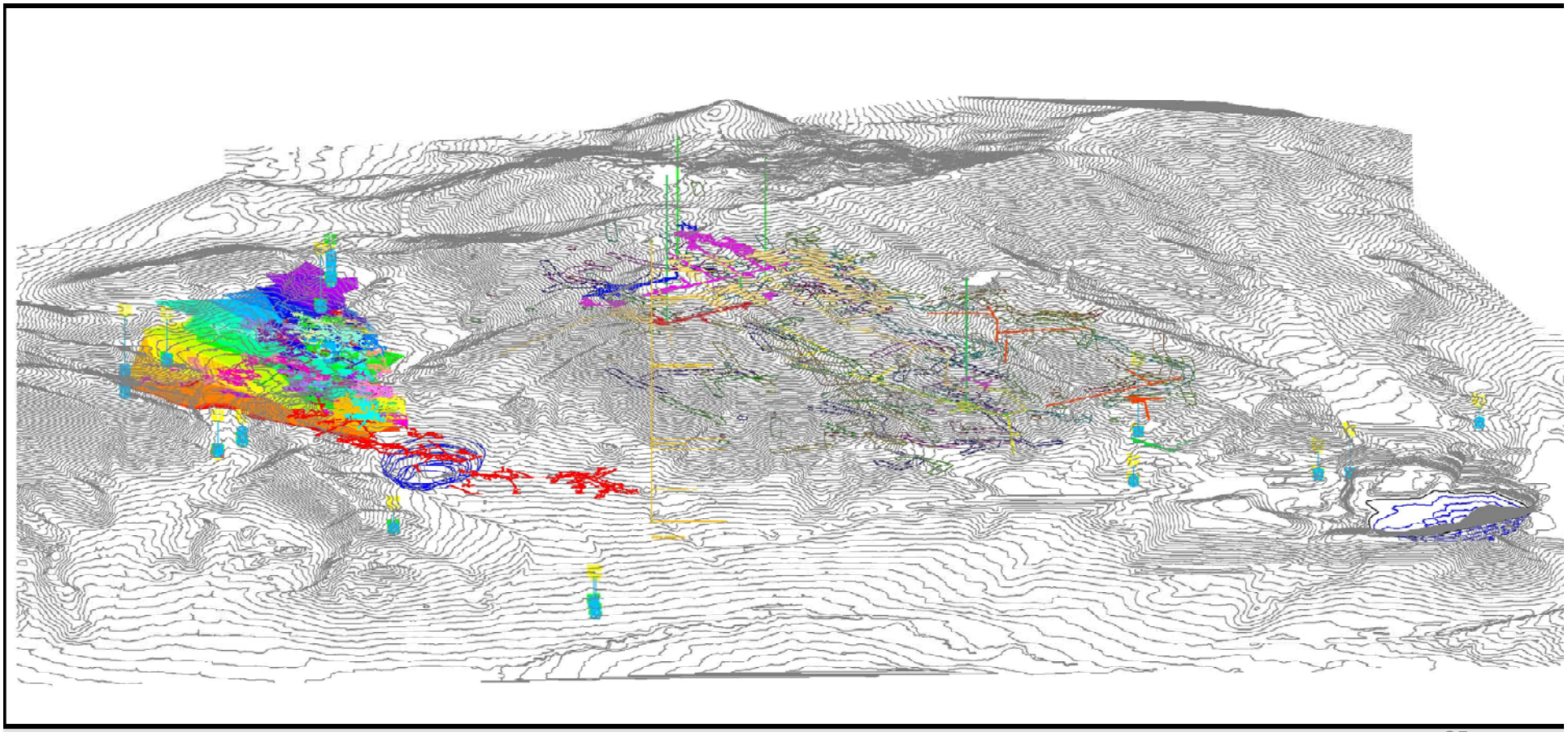
Sectional View Looking East



3D View Mining and Monitor Wells

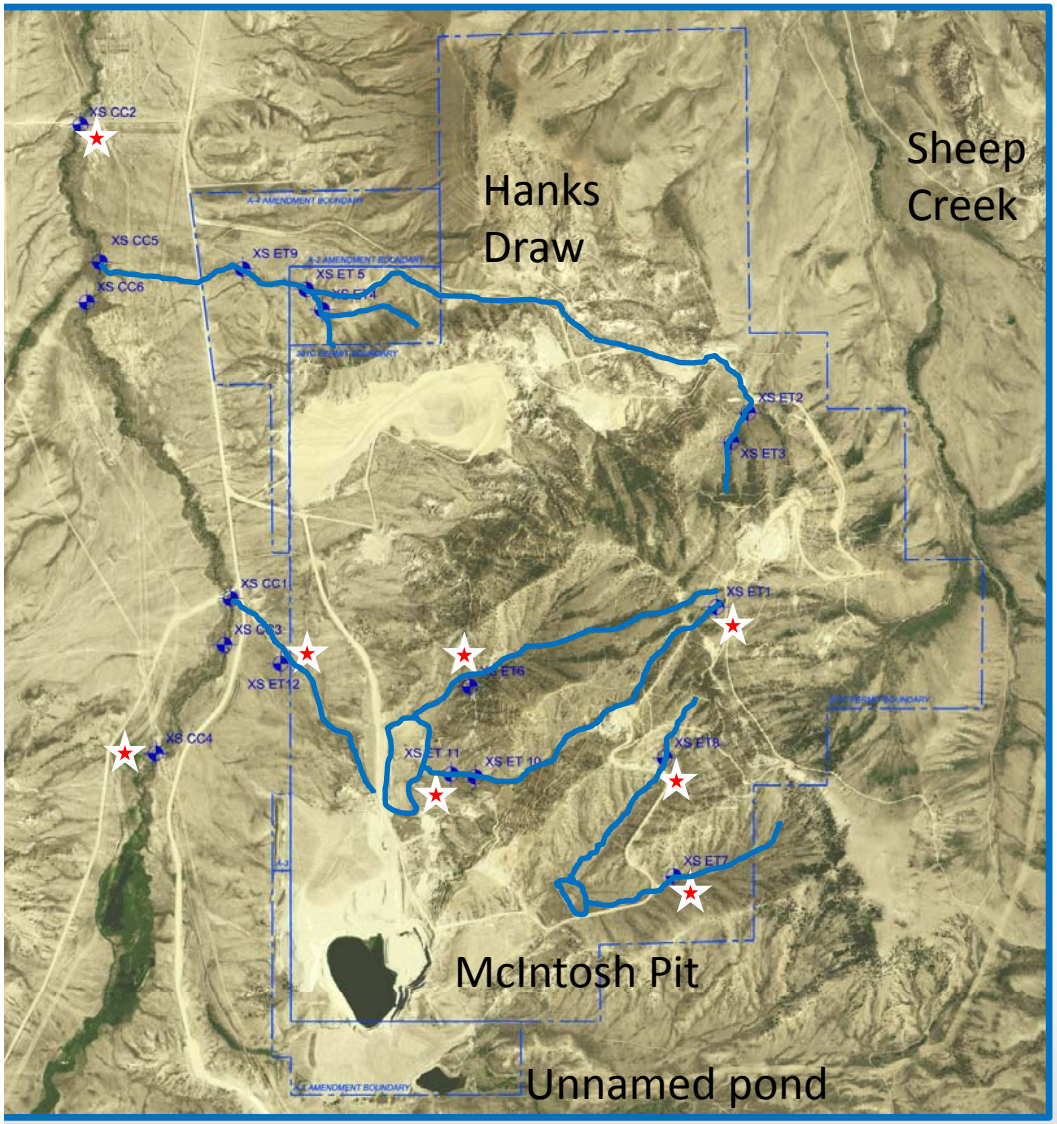


Groundwater Hydrogeology

- Historical Conceptual model
  - Battle Spring Fm. hosts upper most aquifer
    - Fine to coarse grained sandstone with discontinuous siltstone and claystone lenses
    - Unconfined aquifer
  - Recharge from north
  - Regional discharge to south
- New Studies Ongoing
  - Sampling existing wells in place since 1988
  - Replacing historical wells abandoned in 2001
  - Evaluating aquifer properties

Surface Water & Sediment Characterization

- Crooks Creek
  - Monthly surface water quality samples
  - Quarterly flow measurement, will install permanent weir & gauging instrumentation
  - Sediment sampling complete
- McIntosh Pit Lake
  - Quarterly sampling
- Ephemeral Drainages
  - Surveyed numerous X-sections
  - Opportunistic surface water sampling of impoundments & ephemeral drainages when flowing



Surface Water Characterization Field Study Locations

- Surface Water and Sediment Sampling Locations
- Drainage X-section Survey Locations
- Major Site Drainages

NRC SEDIMENT SAMPLE

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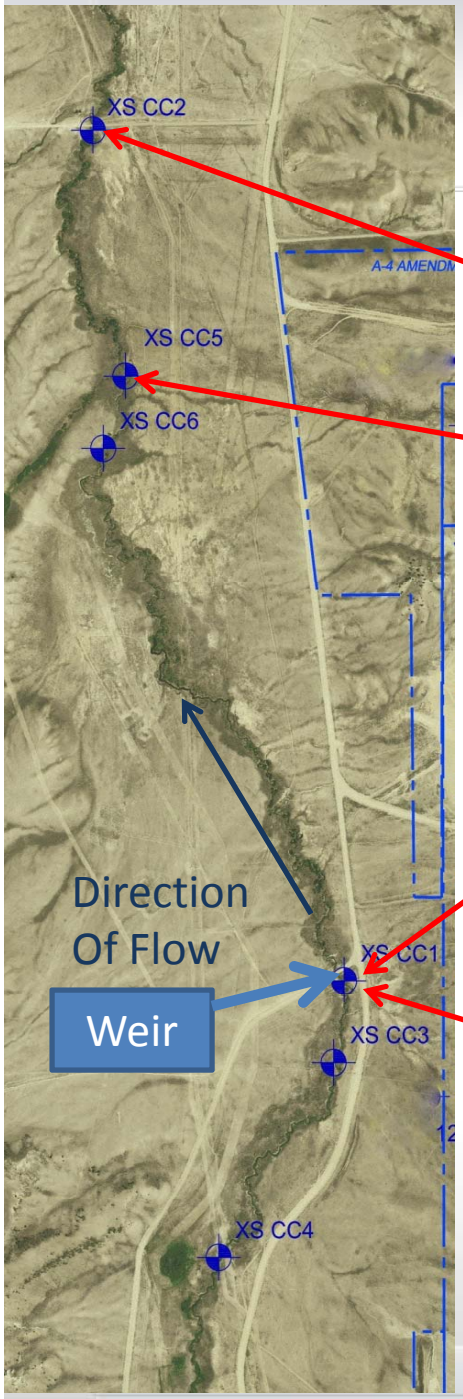
Crooks Creek



Cross Section	Date	Flow (cfs)
CC1	5/24/2010	6.8
CC1	6/16/2010	4.6
CC1	8/17/2010*	5.5
CC5	6/16/2010	4.8
CC2	6/16/2010	5.4
CC2	8/17/2010*	5.7

*Less than24 hours after a storm.

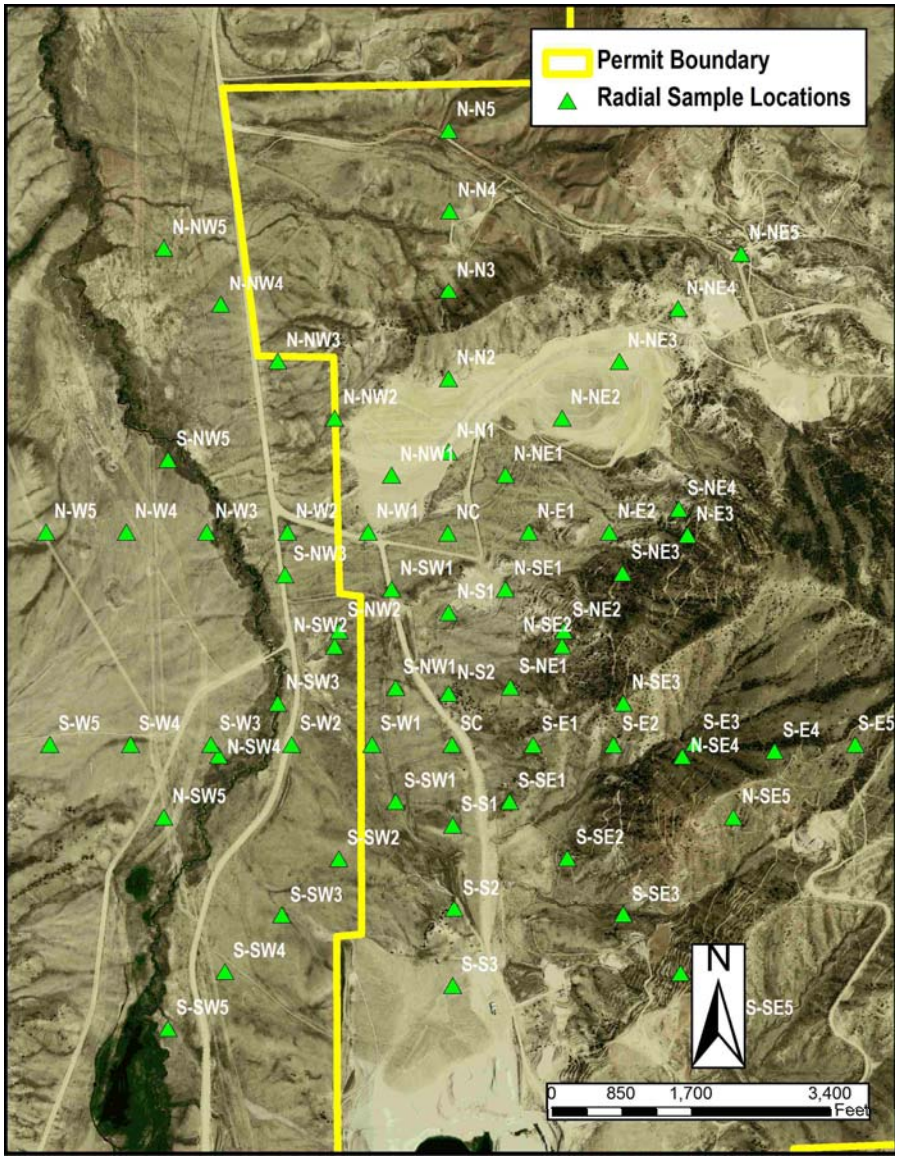
Baseline Radiological Characterization

- Soils
- Gamma Scan with Correlation to Radium
- Air Monitoring
  - Meteorological
    - Centrally located 10m tower
    - Temp, RH, pyrometer @ 2m and 10m
    - Wind speed, wind direction @ 10m
  - 5 High volume air samplers
    - Radioparticulates
    - Rn-222
    - Gamma radiation
    - Continuous data starting July 2010

Radial Soil Sample Locations

Radium-226 (pCi/g) of Radial Soil Summary Statistics (All Samples					
Count	Mean	Minimum	Maximum	Median	Standard Deviation
68	5.2	0.7	58.0	3.3	7.8

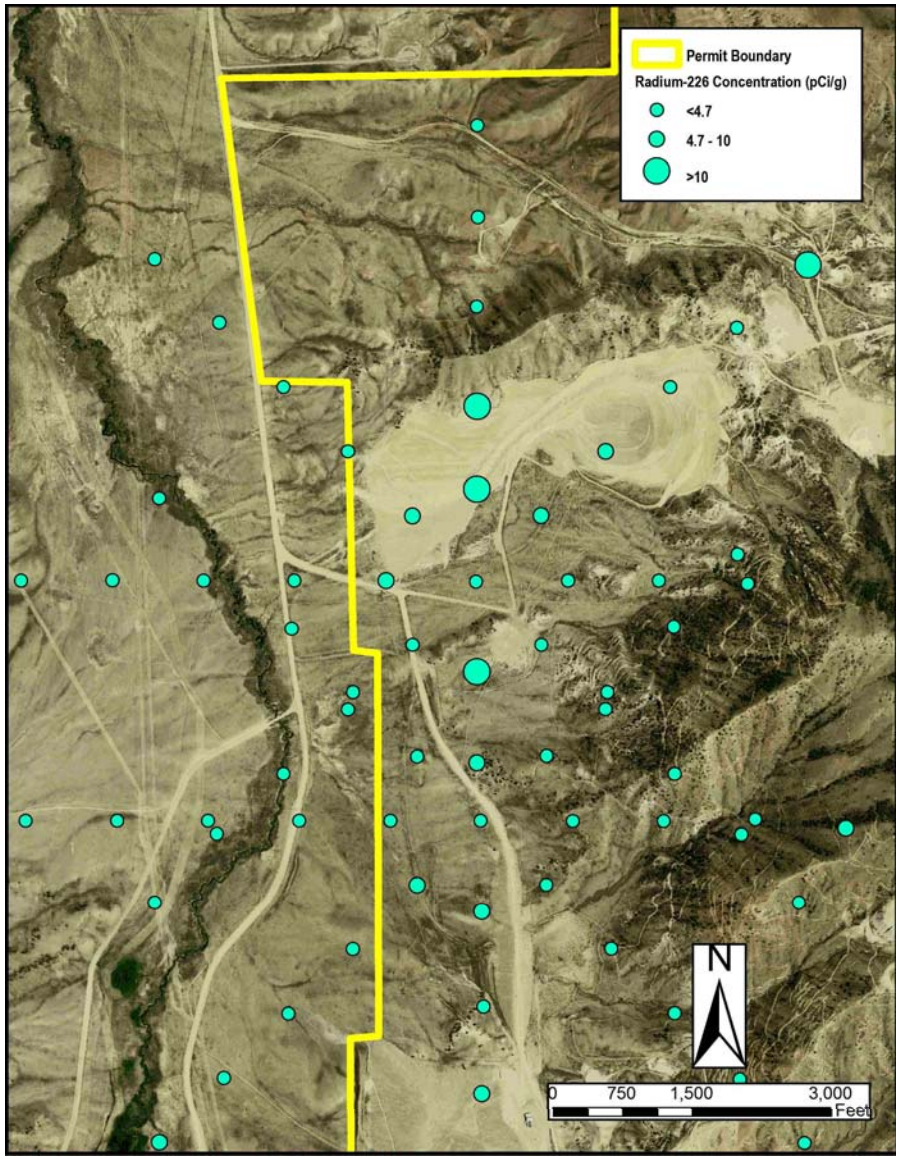
Radium-226 (pCi/g) of Radial Soil Summary Statistics (North Transect)					
Count	Mean	Minimum	Maximum	Median	Standard Deviation
36	6.7	1.2	58.0	3.3	10.5
Radium-226 (pCi/g) of Radial Soil Summary Statistics (SouthTransect)					
Count	Mean	Minimum	Maximum	Median	Standard Deviation
32	3.6	0.7	8.6	3.3	1.4



Radial Soil Samples

Distribution of Radium-226 Concentration

All units in pCi/g



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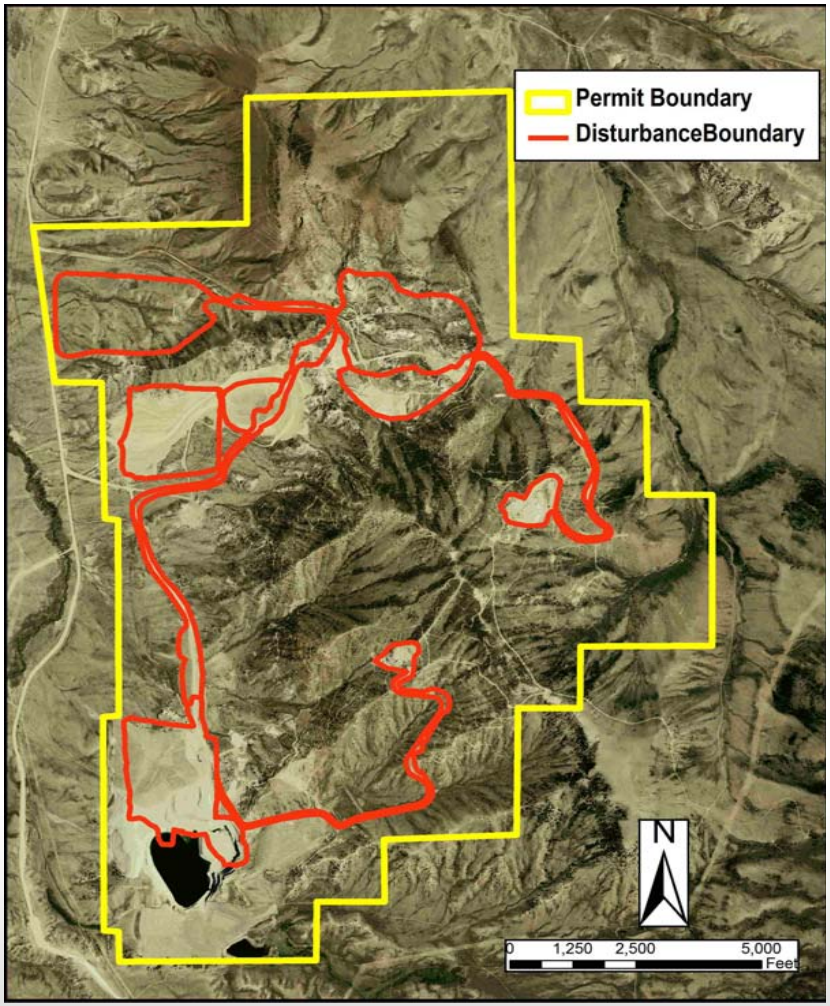
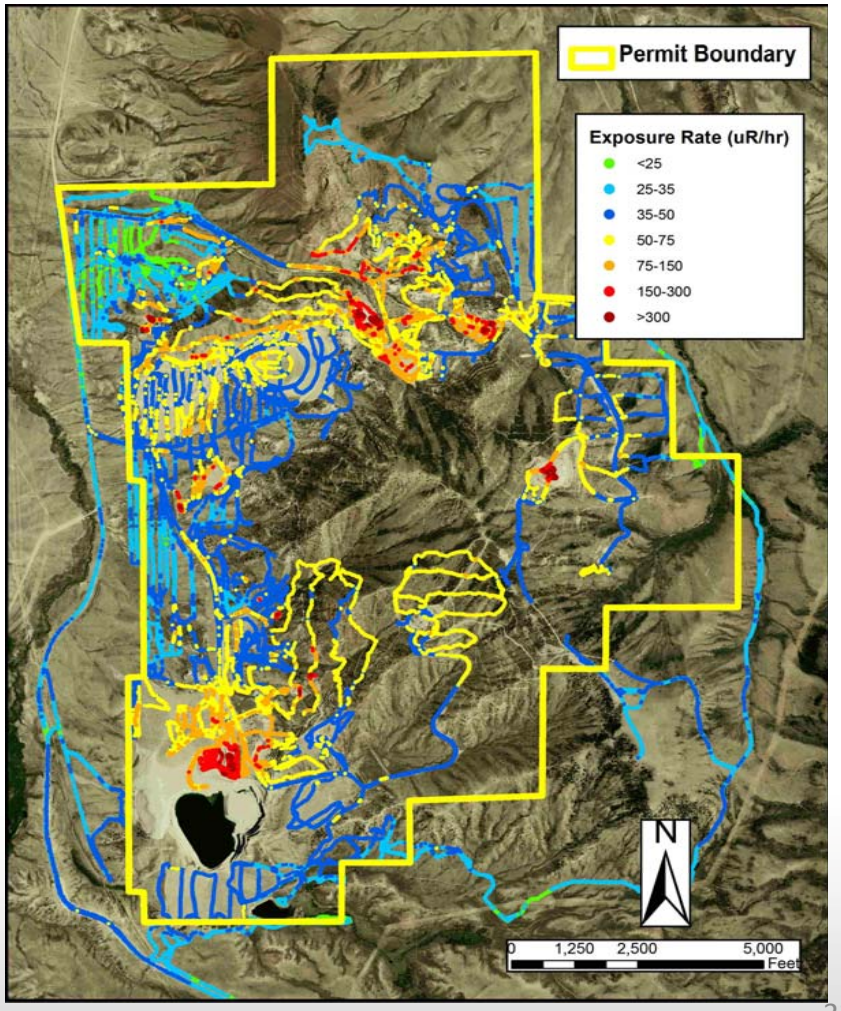
2010 Gamma Radiation Survey

Permit Area & Proposed Disturbance



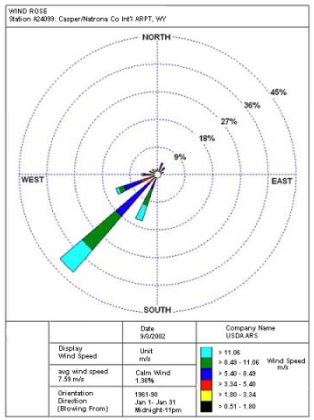
Gamma Radiation Scan



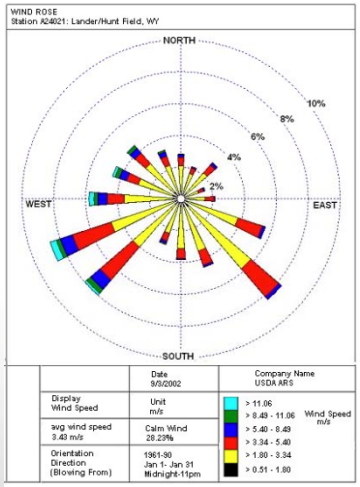
Nearest Resident

Air sampler locations:

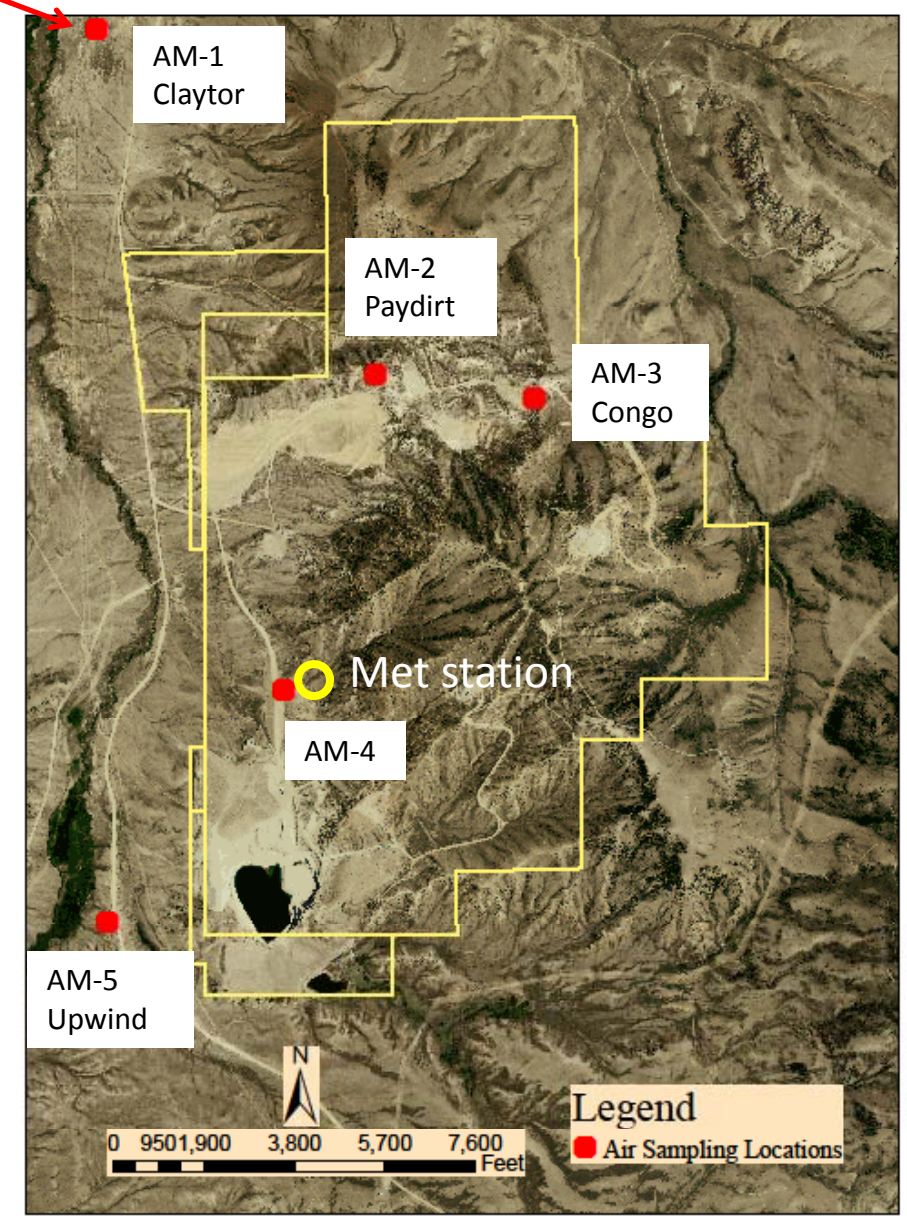
Additional monitoring locations once facilities location is finalized



Casper, Wyoming
January wind rose,
1961-90.



Lander, Wyoming
January wind rose,
1961-90.



Status of BLM/State Permit Applications & NEPA

BLM Permitting & NEPA

- BLM will pursue its own NEPA Process for this permitting action
  - Titan has funded 25% of BLM NEPA Cost Recovery Cost Estimate
  - BLM has Draft NOI, anticipate publication in Q3 2011
  - Working with BLM to identify mechanisms for providing additional NEPA support resources
  - Titan has submitted to BLM a draft cost recovery MOU for 3rd Party NEPA Contractor
  - Draft RFP for procurement of 3rd Party NEPA Contractor in process
    - Anticipate NEPA Contractor selection in Q2 2011

Coordinating Permitting & Licensing

- Planning on parallel BLM & NRC submittals in Q3 2011
  - WDEQ-LQD/BLM
    - Plan of Ops, Rec. Plan & Bond Estimate, Env. Report
  - NRC
    - Application with Technical Report & Environmental Report
- Coordinating communications w/ NRC, BLM and State

NEPA Process

Scope of NRC EIS Encompasses:

- Milling: Heap Leach & Central Processing Plant
- Mining is a ***Connected Action***
  - NRC can reference BLM impacts analyses for mining rather than duplicate analyses for impacts addressed in the BLM NEPA process
  - BLM would be a Cooperating Agency

Separate or combined NEPA processes require coordination and communication

NEPA Process

Scope of BLM EIS Encompasses:

- Mine: open pit and underground, mine dewatering, operations, reclamation
- Milling: Heap Leach & Central Processing Plant
  - Includes long-term disposal of 11e.(2) byproduct material, land transfer
  - BLM has indicated that they will reference rather than duplicate as much as possible NEPA analyses for impacts addressed in the NRC NEPA process
  - NRC would be Cooperating Agency

Separate or combined NEPA processes require coordination and communication

NRC Licensing

May-June 2011

- Side Bar @ NMA\NRC Meeting
- Site visit after NRC\NMA Meeting
- Pre-Application submittal audit
- Coordination meeting with BLM-Lander/State
  - Cooperating Agency status
  - Establish direct lines of communication
  - Discuss process by which agencies can find efficiencies by not duplicating analyses
- Q3 2011 Application Submittal

Discussion Items

Heap Leach Process

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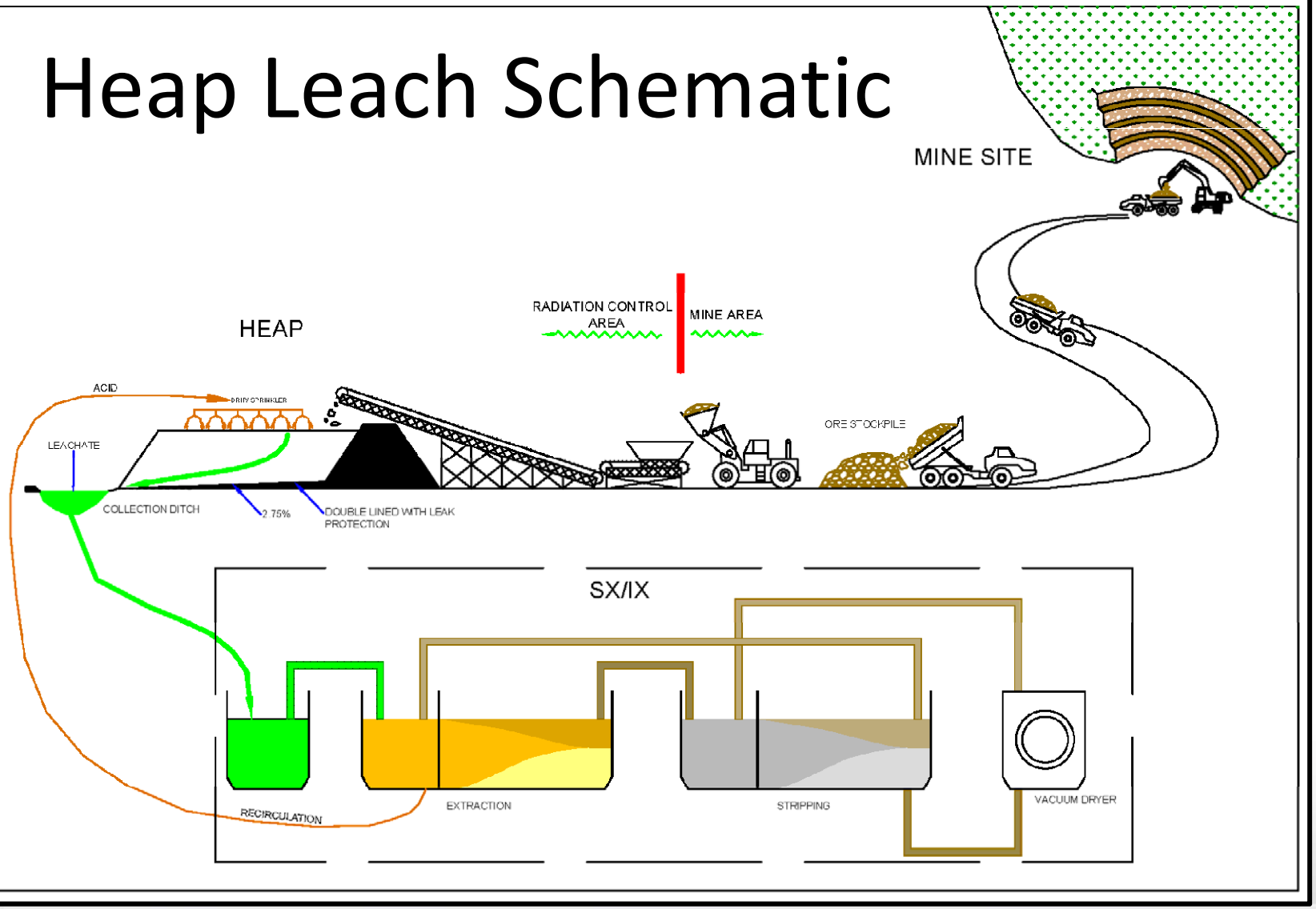
Heap Leach Schematic



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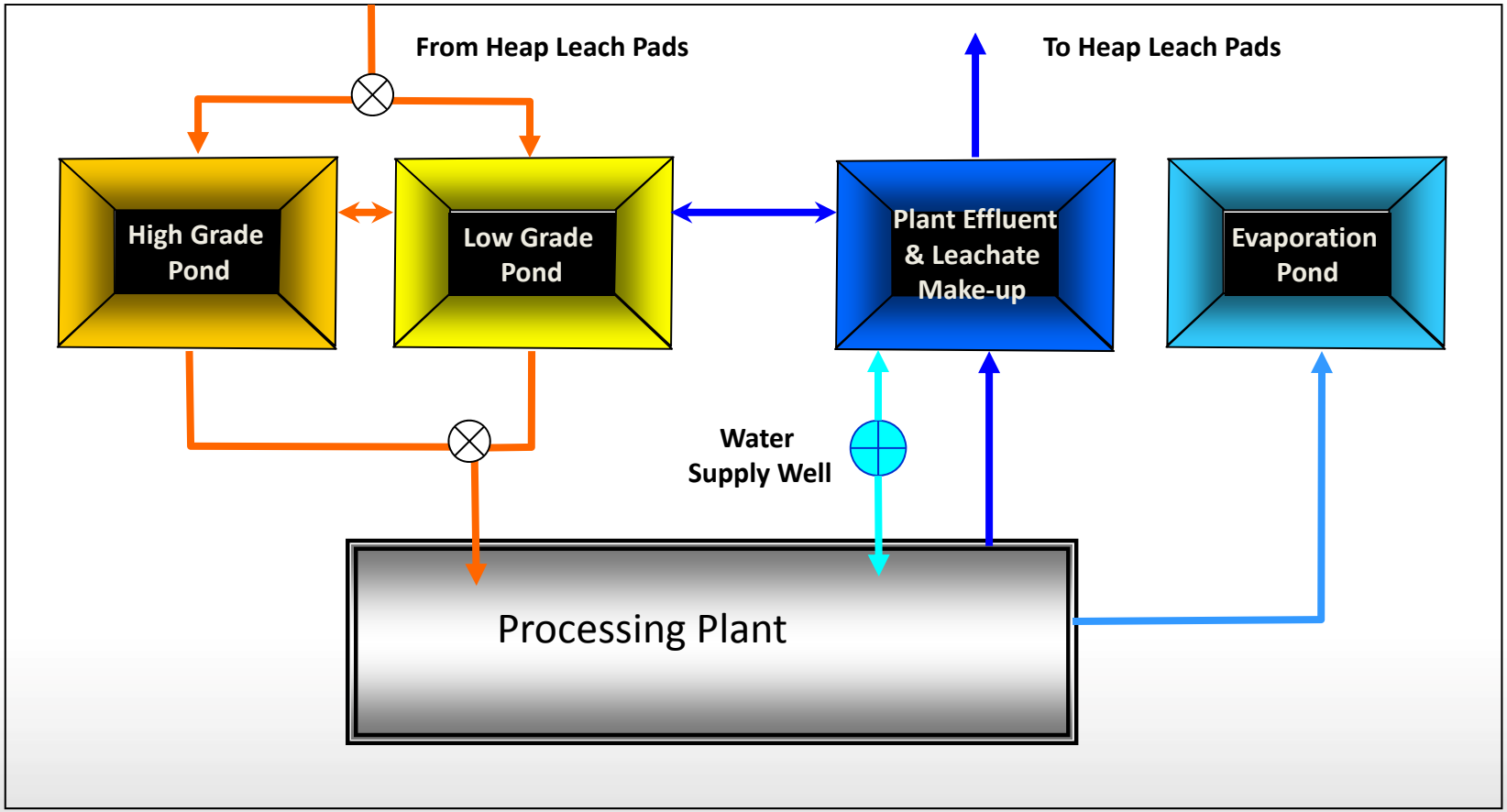
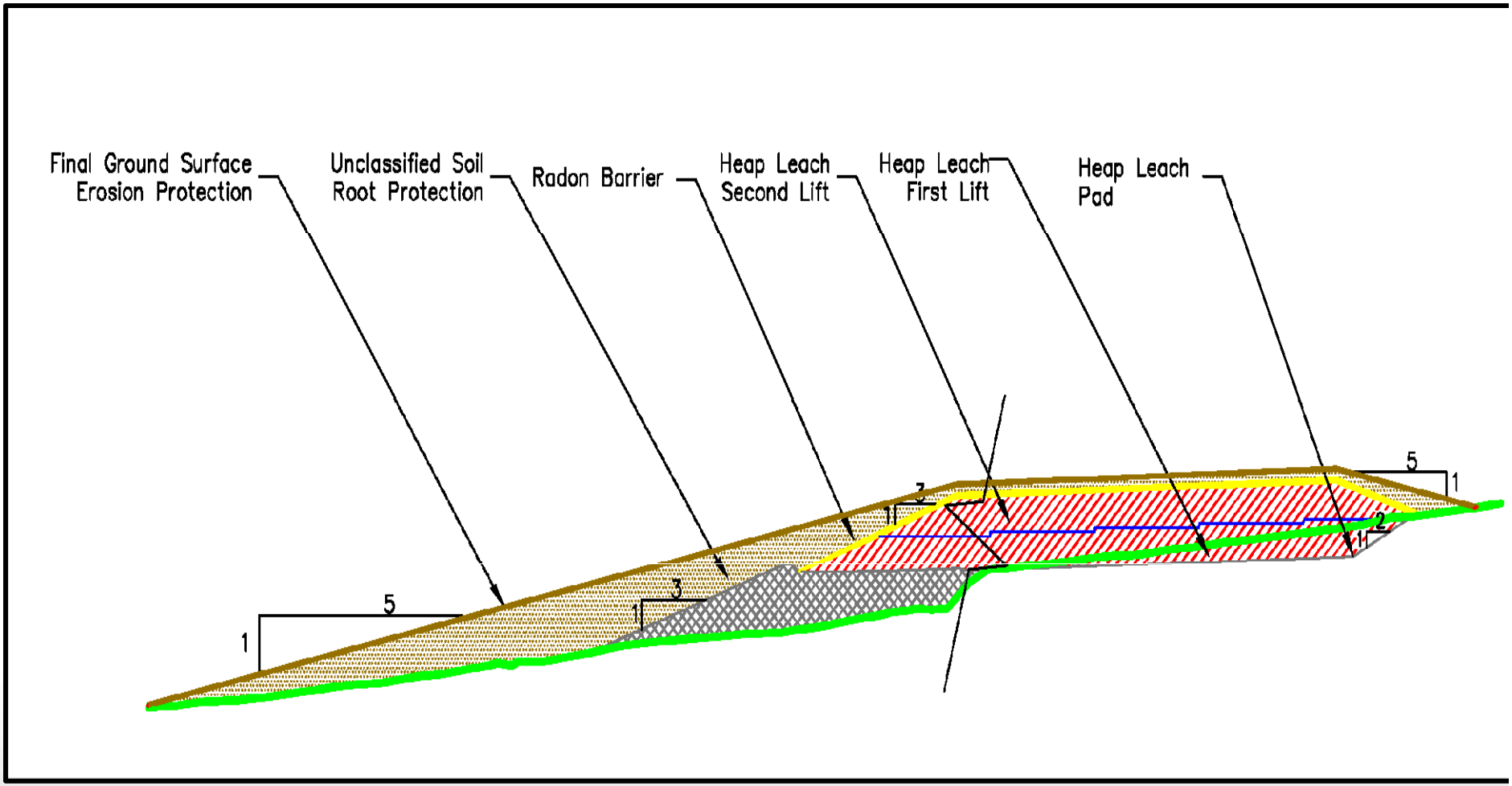
Conceptual Recovery System Layout

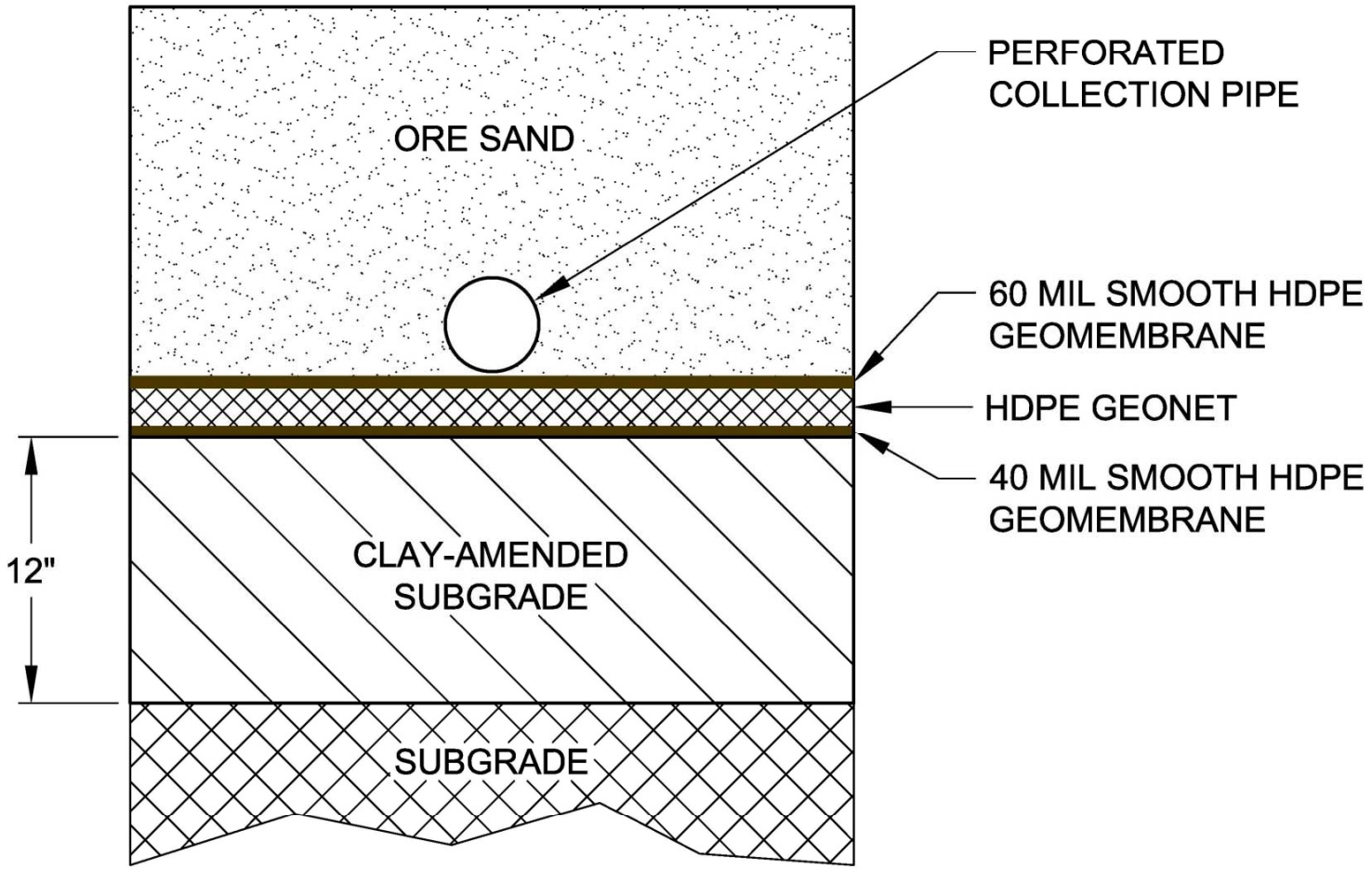


Heap Details

Heap Liner Details

Heap Cap and Cover


Final Ground Surface
Erosion Protection
Unclassified Soil
Root Protection
Radon Barrier
Heap Leach
Second Lift
Heap Leach
First Lift
Heap Leach
Pad
5
1
3
1
5
1
3
1
2
1


ORE SAND
PERFORATED
COLLECTION PIPE
60 MIL SMOOTH HDPE
GEOMEMBRANE
HDPE GEONET
40 MIL SMOOTH HDPE
GEOMEMBRANE
12"
CLAY-AMENDED
SUBGRADE
SUBGRADE

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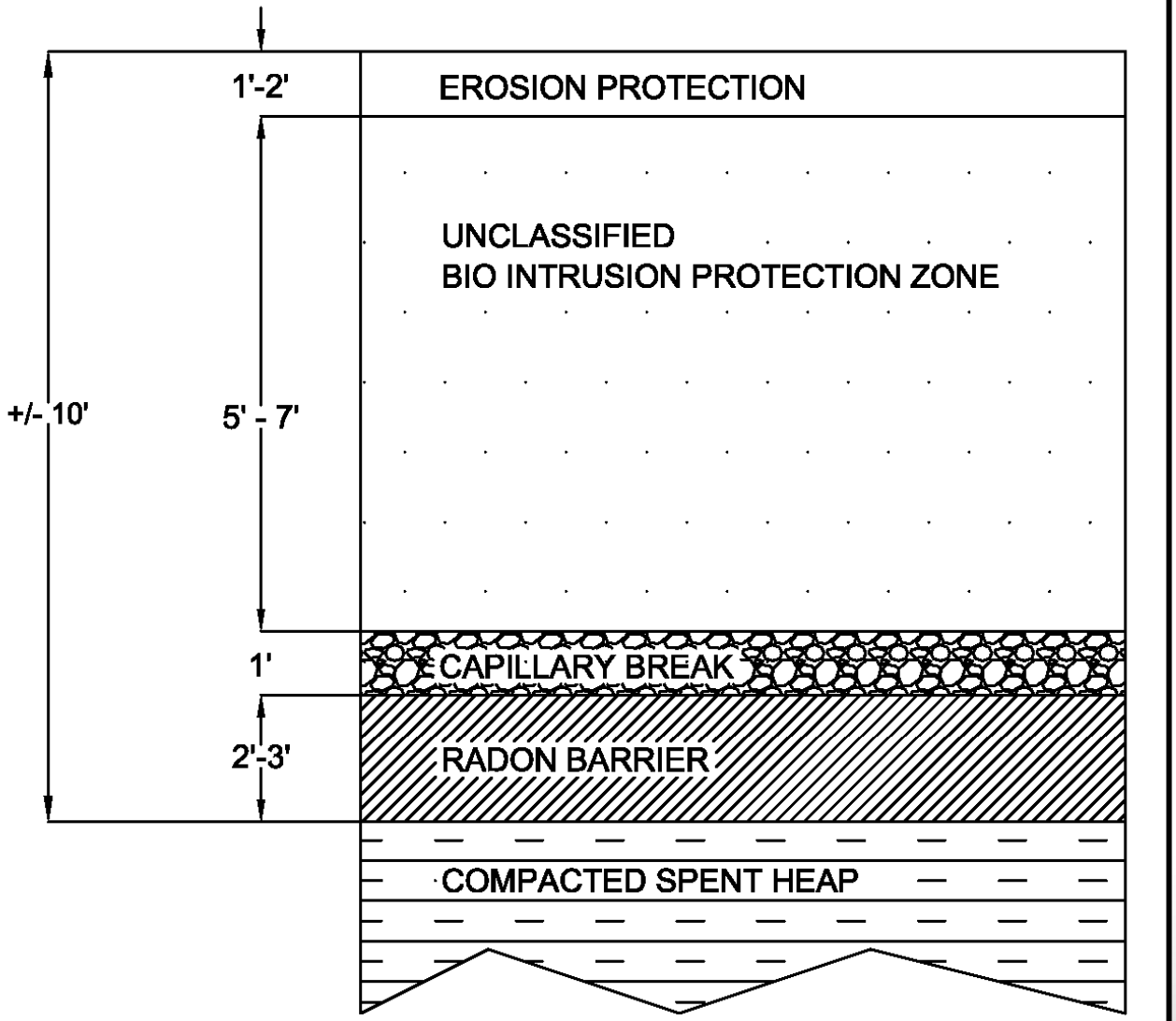
Heap Cap and Cover Detail



Typical Heap Construction and Operation

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Under Drain Collection Piping

Mobile Grasshopper / Radial Stacking

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Ore Stacker

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Heap Drip Lines

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Drip System – Winter Operations

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Lined Solution Conveyance

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Solution Collection Ponds

Closure and Reclamation

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Western Nuclear Tailings

Riprap on Face of Reclaimed Impoundment

Current Heap and Plant Layout

Table 1. Summary of Preliminary Slope Stability Analyses - Heap Leach Pad

Slope	Factor of Safety for Static Analysis (F_s)	Factor of Safety for Pseudo-Static Analysis (F_s)
1.5 : 1	1.01	0.64
2.0 : 1	1.35	0.82
2.5 : 1	1.69	0.98
3.0 : 1	2.03	1.11

Notes: A horizontal seismic coefficient (k_h) of 0.23 was used for the pseudo-static analyses. This value is based on an earthquake with a 2% probability of exceedance in 50 years.

The analyses are based on a single 30-foot high lift of spent ore material.

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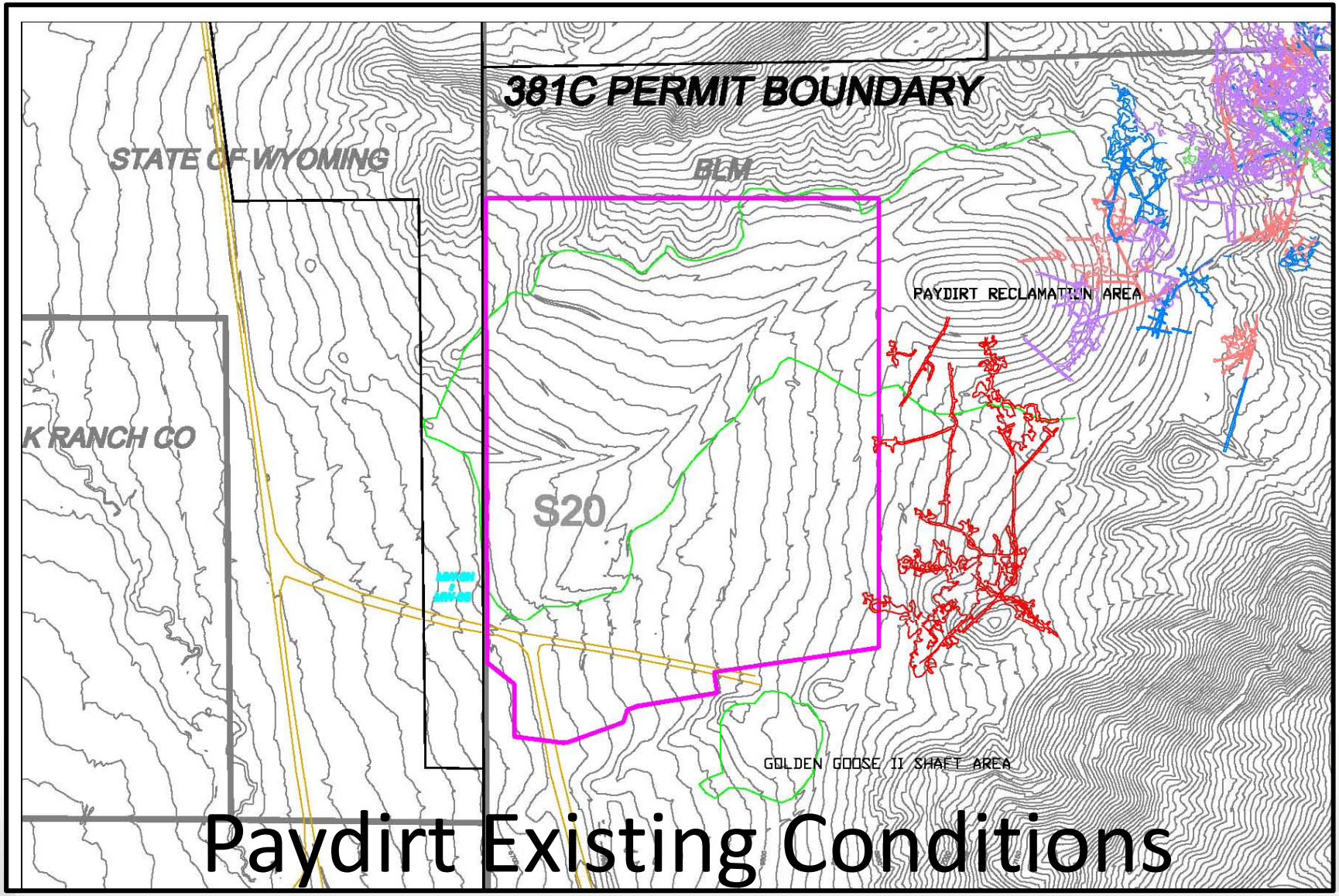

Paydirt Existing Conditions

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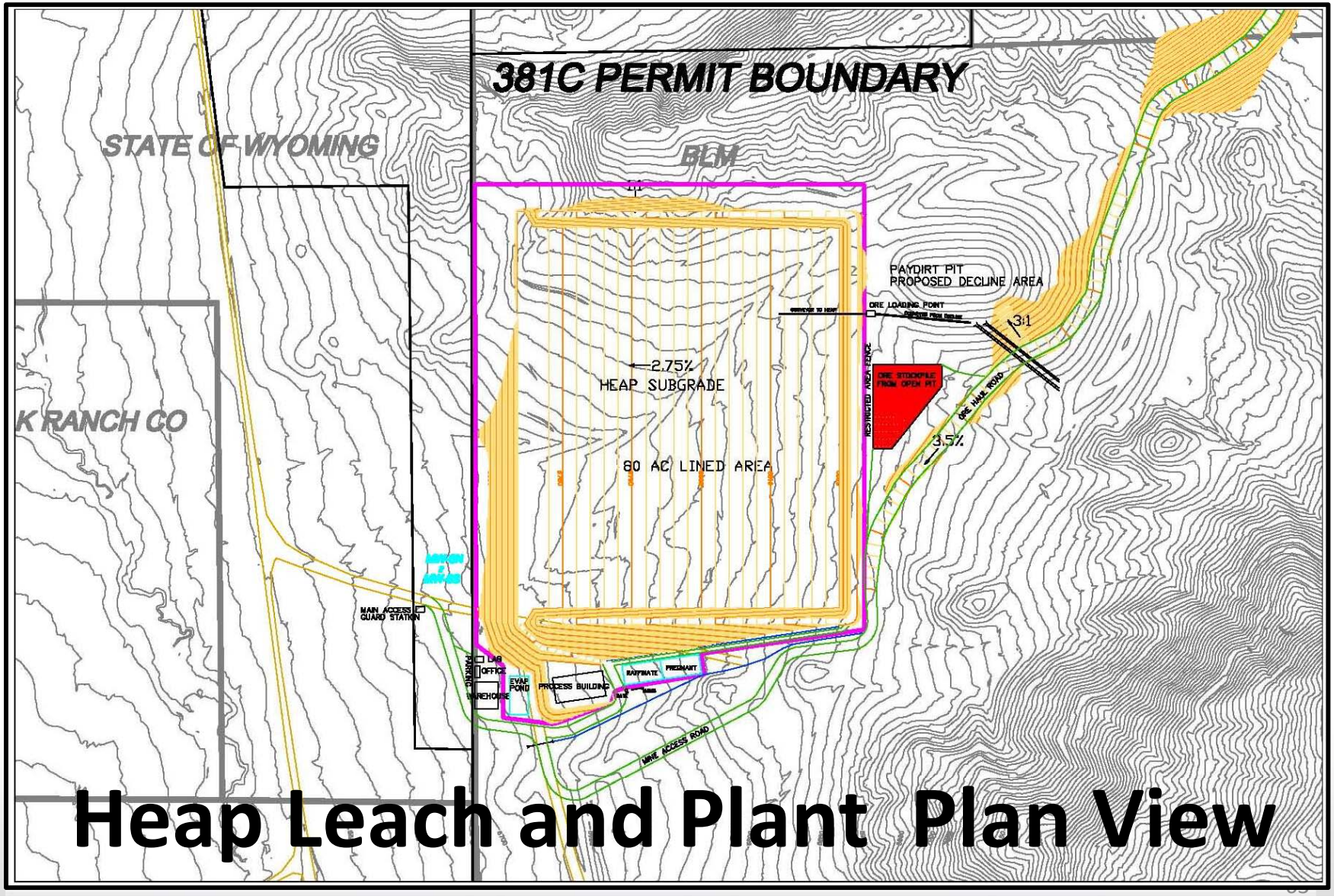

Heap Leach and Plant Plan View

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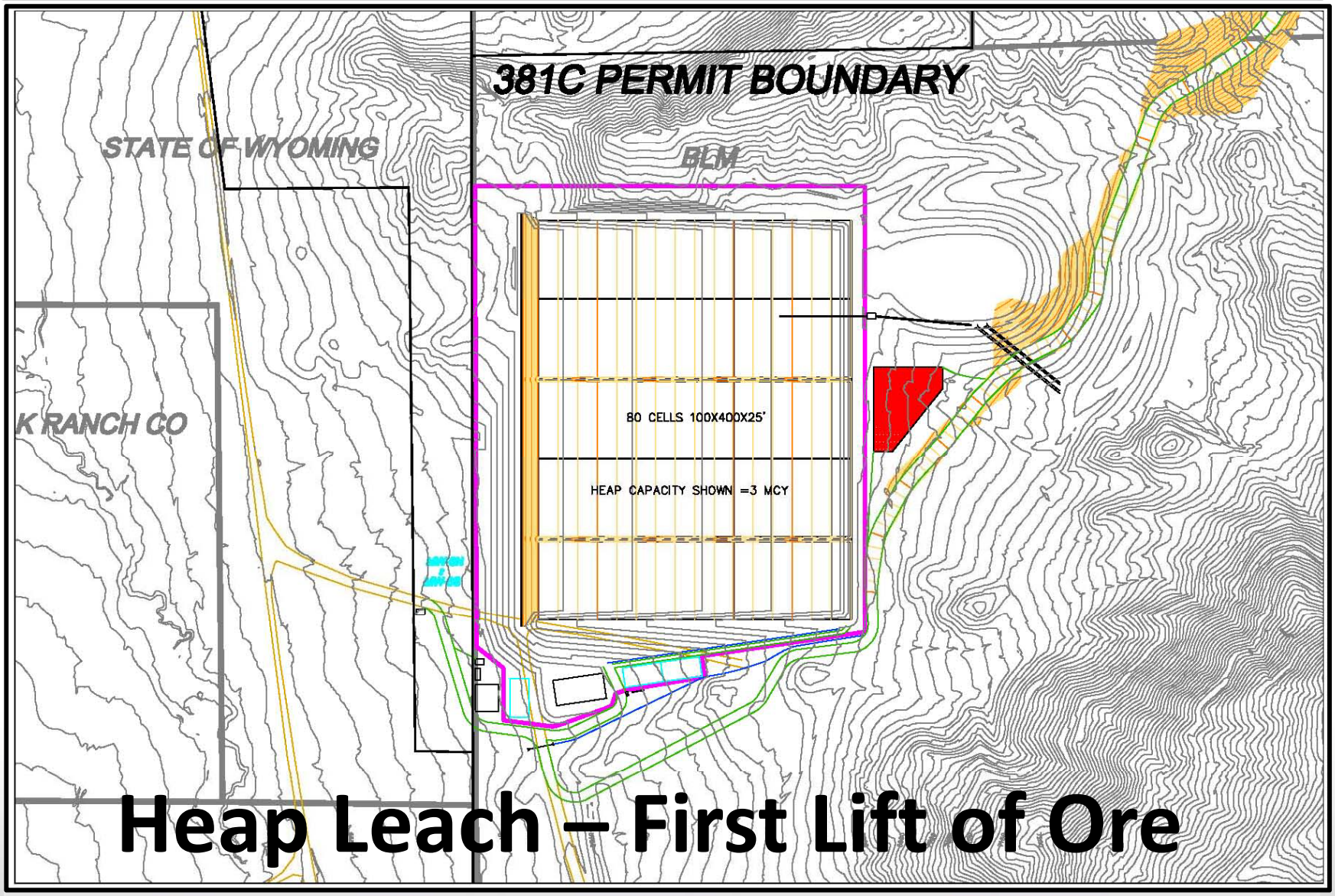

Heap Leach – First Lift of Ore

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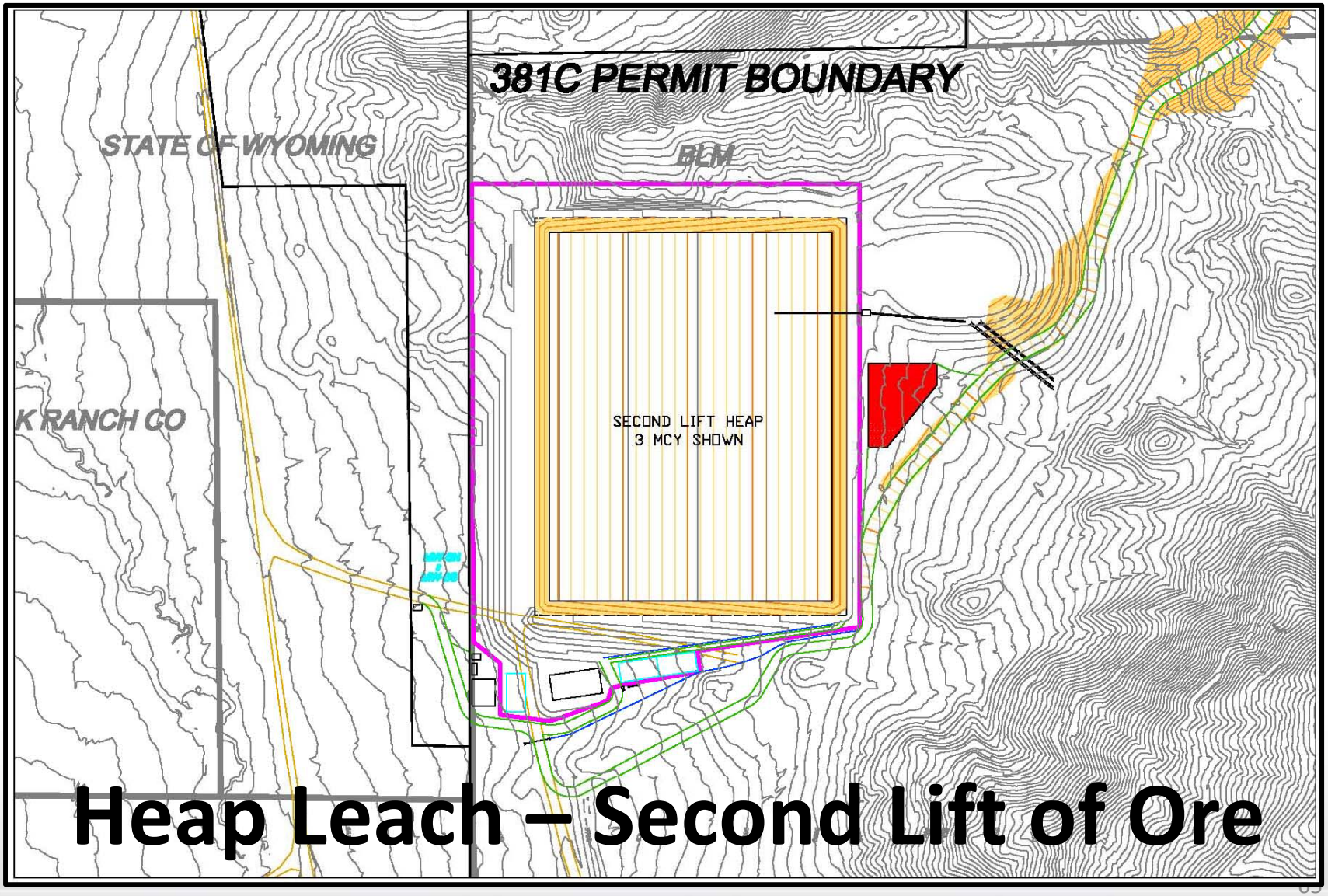

Heap Leach – Second Lift of Ore

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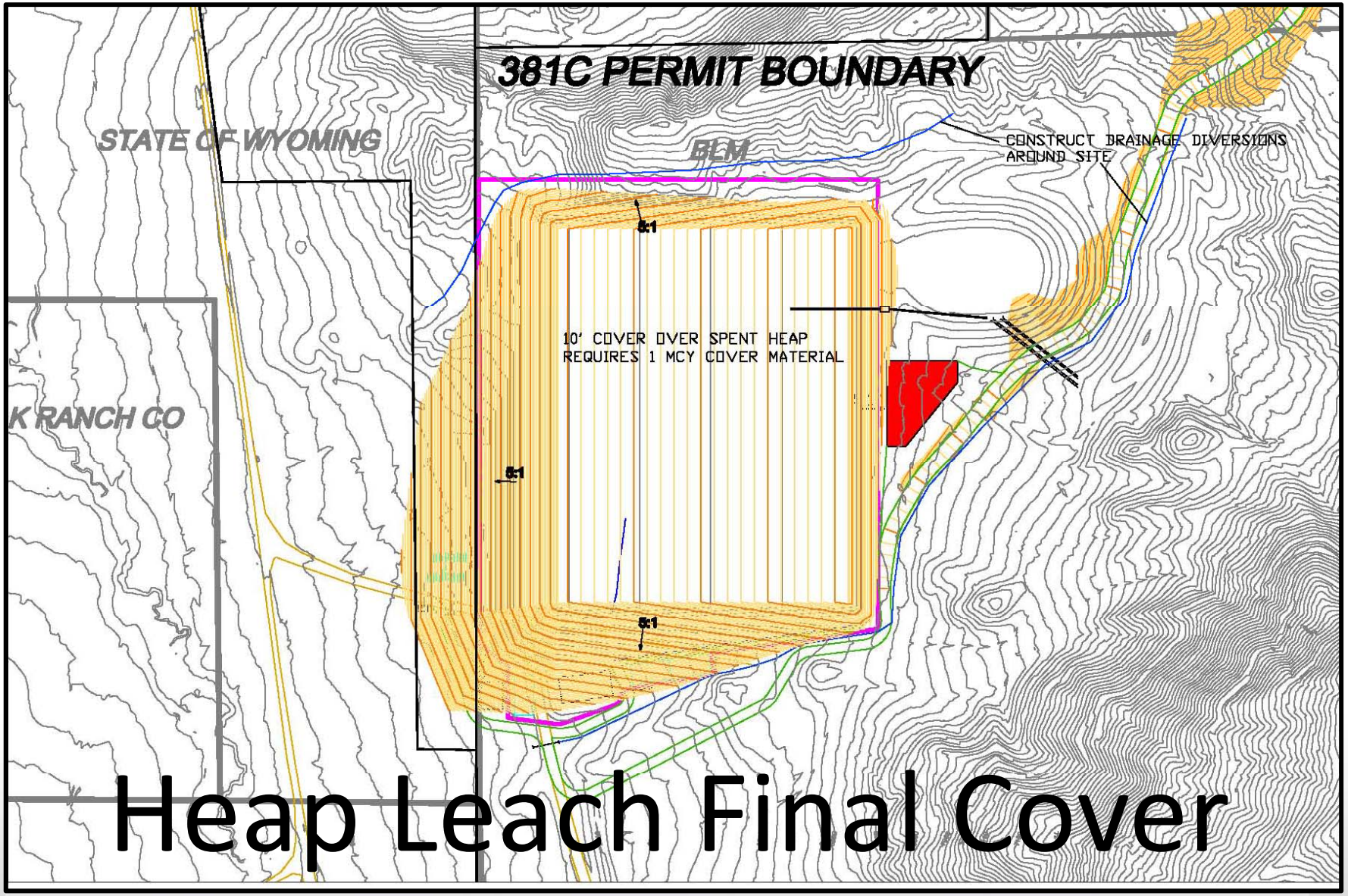

Heap Leach Final Cover

Column Leach Testing

Loaded Columns

- 15 ft Columns
- 12 ft Ore
- Six Inch Diameter

Ion eXchange (IX) Recovery

Uranium Rich Solution

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Summary of Results

Column #	1	2	3
Specific Gravity (tested)	1.50 g/cm^3	1.36 g/cm^3	1.46 g/cm^3
Ore % Moisture	8.5 %	8.5 %	4.3 %
Sulfuric Acid Required from Column Tests	1.68 lb/st	1.62 lb/st	3.90 lb/st
Lixiviate [H_2SO_4]	10 g/L	10 g/L	10 g/L
Sodium Chlorate Addition Rate	3 lb/st	3 lb/st	3 lb/st
Ore Grade Assayed % U_3O_8	0.077%	0.077%	0.1039%
Tails Grade Assayed mg/kg U_3O_8	0.0001%	0.0001%	0.0029%
Tails % Moisture	13.7 %	14.7 %	17.0 %
Ore Grade % U_3O_8	0.0763%	0.0729%	0.1128%
% Uranium Recovery	99.87%	99.86%	97.47%

Constituent	Initial Grade	Tails	Recovery	Leachate
	mg/Kg	mg/Kg		mg/L or pCi/L
Aluminum	2,920	2,810	4%	203
Arsenic	3.0	1.8	40%	1.1
Barium	10.0	10.4	-4%	0.1
Boron	4.0	3.6	10%	0.9
Cadmium	0.2	0.2	30%	0.3
Calcium	499.0	275.0	45%	445
Chromium	3.5	3.0	14%	1.1
Copper	6.0	3.4	43%	3.9
Iron	5,010	3,910	22%	498
Lead	15.0	10.9	27%	2.8
Magnesium	533	420	21%	250
Manganese	31.4	19.1	39%	10.5
Molybdenum	2.7	2.0	26%	0.0
Nickel	1.1	0.2	82%	0.8
Potassium	857	783	9%	58.0
Selenium	6.2	5.4	13%	0.0
Uranium	894	21	98%	1,047
Vanadium	4.8	3.6	25%	3
Zinc	11.3	8.6	24%	5
226Radium	237	233	2%	6,700
230Thorium	570	37	94%	587,290
210Lead	169	114	33%	29,400

Heap/ISR Comparison

- **ISR**
  - Processing brings Formation Ground Water with elevated Radon into CPP.
  - Flow rates 3,500 – 7,000 gpm

- **HEAP LEACH**
  - 98% of Radium remains in the Heap
  - Average Flow Rate @ Sheep 350 gpm
  - Low Radon levels expected in leachate sent to plant

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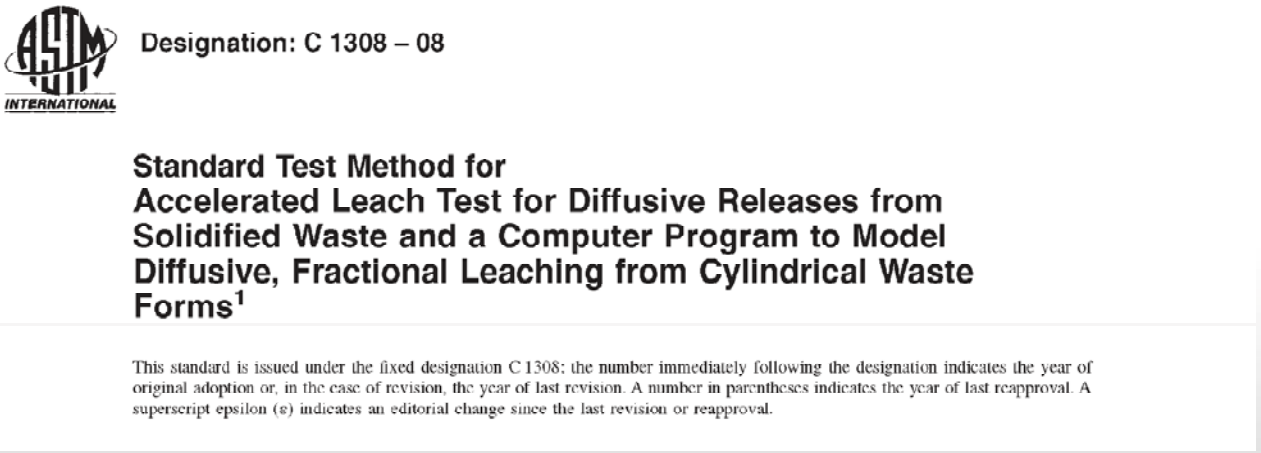
Heap/Conventional Comparison

- **CONVENTIONAL MILLING PHYSICALLY ALTERS ORE**
  - Processing brings **Ore** and associated **Radium** into Mill
  - Grinding reduces grain size
  - Milling process separates sands and slimes
  - Slimes concentrate **Radium**, retain moisture, are low strength
  - Resulting in lengthy process (decades) to stabilize and reclaim
- **HEAP LEACH DOES NOT PHYSICALLY ALTER ORE**
  - 98% of Radium remains in the Heap
  - Heap remains comingled
    - No Grinding; No Sand Slime separation; No concentration of Radium
  - Built on a liner with a positive drain
  - Reclamation can proceed efficiently

Continuing Work

- Waste Characterization
- Options for Stabilizing Spent Heap
- Proposed Long Term Testing



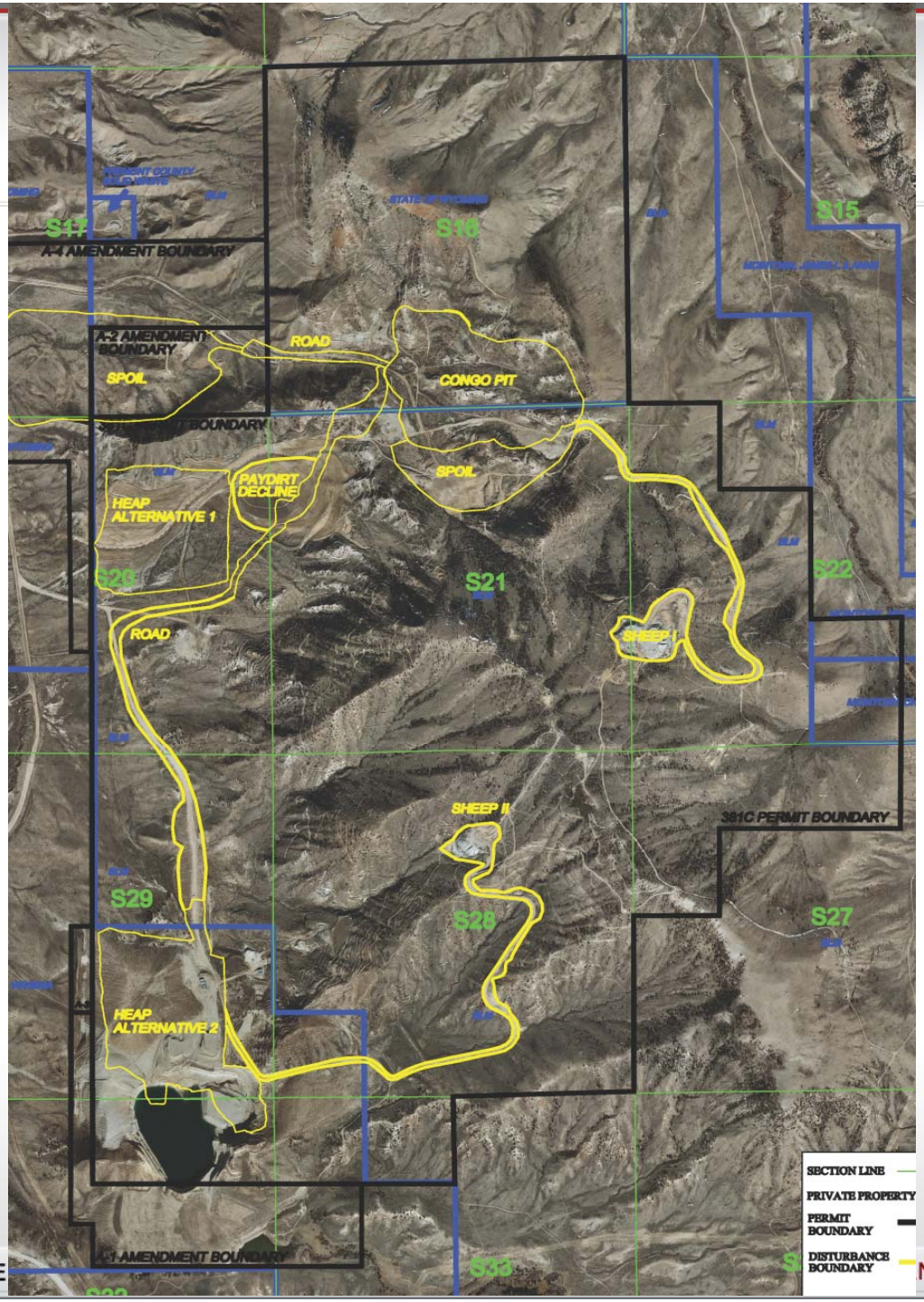
Designation: C 1308 – 08

Standard Test Method for Accelerated Leach Test for Diffusive Releases from Solidified Waste and a Computer Program to Model Diffusive, Fractional Leaching from Cylindrical Waste Forms[1]

This standard is issued under the fixed designation C 1308; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

Licensing Approach

- Base Application
  - Single Heap Location Adequate for Current Reserves
  - Reclaim In-place
- EIS (Fully Bounding)
  - Address Alternatives for Possible Expansion
  - Toll Processing


S17
A-4 AMENDMENT BOUNDARY
S16
S15
A-2 AMENDMENT BOUNDARY
SPOIL
ROAD
CONGO PIT
SPOIL
PAYDIRT DECLINE
HEAP ALTERNATIVE 1
S20
S21
S22
ROAD
SHEEP I
SHEEP II
381C PERMIT BOUNDARY
S29
S28
S27
HEAP ALTERNATIVE 2
A-1 AMENDMENT BOUNDARY
S33
SECTION LINE
PRIVATE PROPERTY
PERMIT BOUNDARY
DISTURBANCE BOUNDARY

Coordinated Approach with EPA

- When does heap become 11e.(2) byproduct material or tailings?
- Milling process includes:
  - "Resting" the heap (temporary cessation of applying leach solution) for several months to allow natural oxidation
  - Final drain down of heap solutions.
  - Possible rinsing of heap.

When does heap become 11e.(2) byproduct material?

- ***After*** uranium recovery from heap is completed
  - After primary lixiviants cease to be applied
  - After heap rinsates are applied
    - Uranium recovery is continuing through rinse phase

Discussion Items

- Consensus with NRC regarding milling nomenclature and jurisdiction with respect to 40 CFR Part 61.
- Subpart T (Operational)
  - *means a uranium mill tailings pile that is licensed to accept additional tailings, and those tailings can be added without violating subpart W or any other Federal, state or local rule or law. A pile cannot be considered operational if it is filled to capacity or the mill it accepts tailings from has been dismantled or otherwise decommissioned.*
- Subpart W (Operating Tailings)
  - Operation:.. *an impoundment is being used for the continued placement of new tailings or is in standby status for such placement. An impoundment is in operation from the day that tailings are first placed in the impoundment until the day that final closure begins.*

Discussion Items

- MILDOSE & Meteorological Data
  - Initial application submittal on three quarters of site-specific meteorological data
  - Supplement application with at least 4 quarters of site-specific met data once a full 12 months of data are acquired.
  - Reg. Guide 4.14: *A complete pre-operational report with 12 consecutive months of data should be submitted prior to beginning milling operations.*
  - Not required for initial license application completeness review or initiating technical review