



PUBLIC NOTICE **March 18th, 2015**

Intrepid HB AMAX Extension Solution Mining Project

The Bureau of Land Management (BLM) Carlsbad Field Office is initializing public scoping for Intrepid Potash New Mexico for the proposed HB AMAX Extension project to solution mine the abandoned AMAX Potash mine. An Environmental Assessment (EA) is being prepared to assess the potential effects upon environmental resources in the area of the proposed HB AMAX Extension project.

Scoping gives the public a chance to tell the BLM what issues and concerns they think should be addressed in an EA. Public scoping is now underway for the Purpose and Need and Proposed Action sections of the EA (see below). Comments must be received within 30 days from the date of this notice.

This project is a connected action of the existing HB In-Situ Solution Mine Project. The EA for this project will reference the Environment Impact Statement (EIS) completed for the HB in Situ Solution Mining Project (DOI-BLM-NM-P020-2011-498-EIS). The complete EIS with supporting information can be found at the link below.

<http://www.nm.blm.gov/cfo/HBIS/finalEIS.html>

There will also be a public comment period for this project on the EA in its entirety. The anticipated dates of the EA public comment period are May 4th through June 3rd, 2015. Public comments will be requested via a public notice and all associated documents will be posted in this same location.

Please address any comments to:

BLM Carlsbad Field Office
Attn: Jessie Hubbling
620 East Greene St.
Carlsbad, NM 88220
Phone: 575-234-5912
Fax: 575-885-9264
Email: jhubbling@blm.gov

Before including your address, phone number, e-mail address, or other personal identifying information in your comment be advised that your entire comment – including your personal identifying information – may be made publicly available at any time. While we will work to meet any request that personal identifying information be withheld from public review, we cannot guarantee that we will be able to do so.

1. PURPOSE AND NEED FOR ACTION

Background

Intrepid Potash – New Mexico, LLC (Intrepid) is proposing to extract potash, a potassium compound commonly used in fertilizer, which remains in abandoned underground mine workings using solution mining. The proposed HB AMAX Project would be an extension to Intrepid's existing HB Solar Solution Mine located in Eddy County approximately 20 miles east of Carlsbad, New Mexico (see **Map 1 – Project Location and Vicinity Map**) The AMAX Mine is a closed conventional mine that lies to the north of the HB Solar Solution Mine. This project is designed to recover and process potassium chloride (KCl) ore from the abandoned underground mine workings of the AMAX mine.

The HB AMAX Project would tie directly into Intrepid's existing HB Solar Solution Mine and would expand the size and extend the life of the HB solution mine. The Bureau of Land Management (BLM) evaluated the Solar Solution Mine project by preparing an Environmental Impact Statement (EIS), DOI-BLM-NM-P020-2011-498-EIS. A Final EIS (FEIS) was published in January 2012 and a Record of Decision (ROD) followed in March 2012.

The BLM Carlsbad Field Office is evaluating the proposed HB AMAX project with this Environmental Assessment (EA) tiered to the HB Solar Solution Mine EIS. A brief project description follows which details how the proposed HB AMAX project would use existing infrastructure and employ techniques that would minimize impacts. A more detailed description of the project and associated infrastructure can be found in the Proposed Action.

Brief Project Description

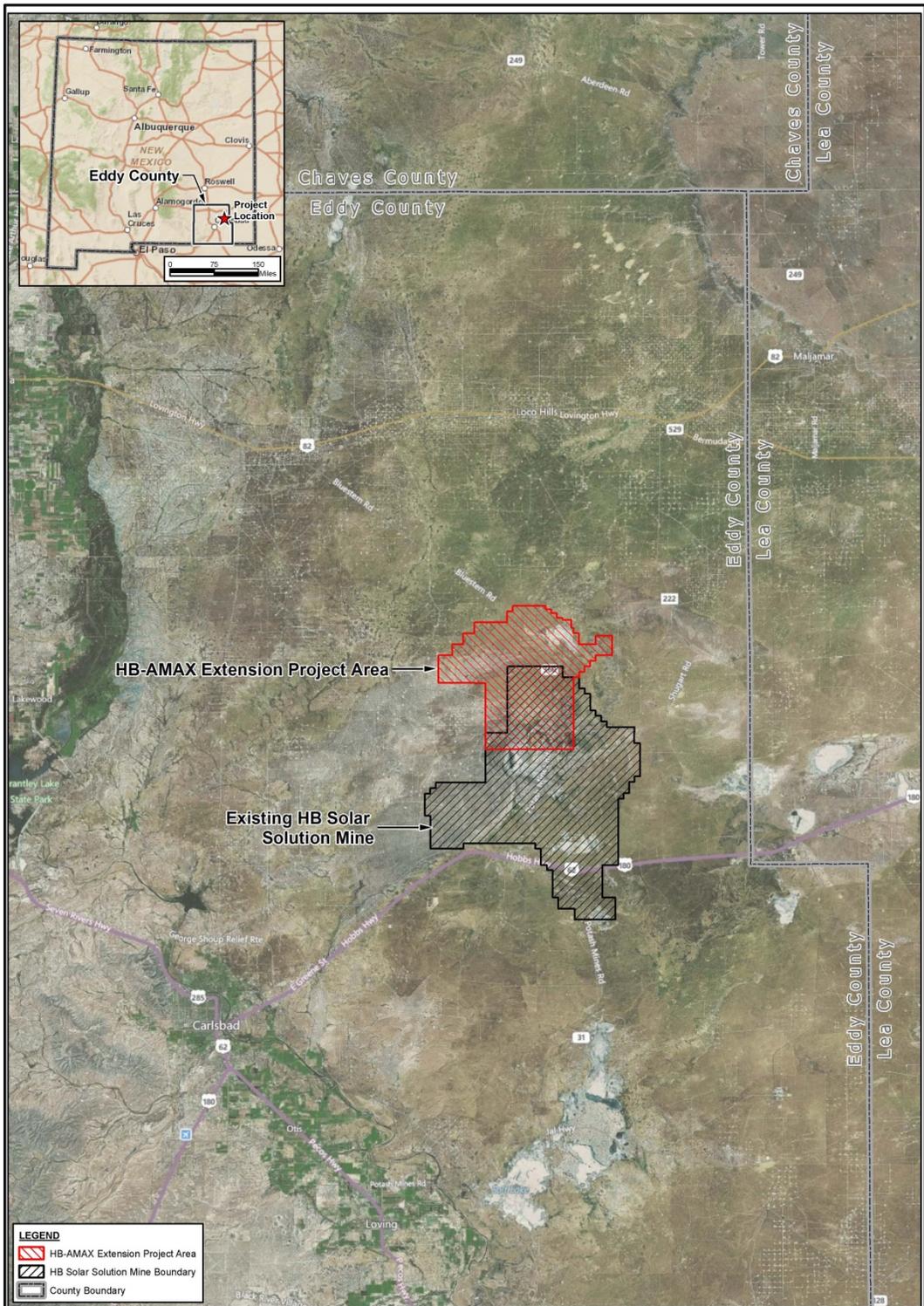
Intrepid holds the federal, state, and private potassium leases for the area of proposed potash extraction. Surface disturbance would occur on BLM, State, and fee lands depending upon the final alignment. The HB AMAX Mine would provide approximately 14 years of solution mine reserves beyond the 28-year HB Solar Solution Mine life.

To the maximum extent practicable, it is proposed that the HB AMAX extension would utilize existing HB Solar Solution Mine facilities and infrastructure to minimize environmental impacts. The solution mining process would be identical to that of the existing HB Solar Solution Mine with injection of salt (NaCl) saturated brine into the workings and extraction of a KCl (potash) enriched (pregnant) brine. Potash recovered from the HB AMAX Mine would be pumped to the existing HB Solar Solution Mine solar evaporation ponds. Once the solution evaporates in the ponds and precipitates out KCl and NaCl solids, the salts would be harvested and transported to the existing HB Mill for ore refinement.

Purpose and Need for Action

The purpose of this action is to modify Intrepid's HB Solar Solution Mine workings to include the AMAX mine in order to recover potash resources.

The BLM is required to evaluate and respond to Intrepid's proposal, described in the Proposed Action, to construct, operate, maintain, and decommission an in-situ solution mining operation. This includes analyzing the impacts of the proposed mine plan modification and the lease conversion from conventional mining to solution mining leases. The need for this project is established by the BLM responsibility to promote the orderly and efficient development and maximum recovery of leasable minerals, including potash, as specified under 30 United States Code (USC) Chapter 2 §21a, the Mineral Leasing Act of 1920 as amended, the Federal Land Policy and Management Act (FLPMA) of 1976 (43 USC 1761), and the Secretary of the Interior's 1986 Potash Order (51 Federal Register 39425, October 28, 1986).



LEGEND	
	HB-AMAX Extension Project Area
	HB Solar Solution Mine Boundary
	County Boundary

NOTES:
 1. Aerial imagery from esri.
 2. Horizontal coordinate system is NAD 1983 New Mexico State Plane East, units in feet.



Foth Infrastructure & Environment, LLC			
REVISED	DATE	BY	DESCRIPTION

PREPARED BY: NMG1	DATE MAR '15
REVIEWED BY: JMH6	DATE MAR '15
APPROVED BY: JMH6	DATE MAR '15

INTREPID POTASH - NEW MEXICO, LLC	
MAP 1	
PROJECT LOCATION AND VICINITY MAP	
Environmental Assessment HB Solar Solution Mine - AMAX Extension	
Scale:	Date: MARCH 18, 2015
Drafted by: BJW1	Project No: 00141016-07

The BLM is responsible for the balanced management of the public lands and resources and its various values in a fashion that will best serve the needs of the American people. Potash is an important industrial mineral in wide demand in the U.S. The BLM has the duty to allow and encourage a federal leaseholder to develop their leases subject to reasonable restrictions. The proposed project will fulfil the BLM mission and responsibilities by allowing Intrepid to mine potash and associated minerals for which they hold federal leases.

Conformance with Applicable Land Use Plan(s)

The Proposed Action is in conformance with the 1988 Carlsbad Resource Management Plan, as amended by the 1997 Carlsbad Resource Management Plan Amendment for Oil and Gas, and the 2008 Special Status Species Resource Management Plan Amendment.

Relationship to Statutes, Regulations or Other Plans

The BLM authority for land management derives from the Federal Land Policy and Management Act. General BLM regulations are described in 43 CFR, Subtitle B—Regulations Relating to Public Lands, Chapter II—BLM, USDI. BLM regulations for the management of mining on federal potash leases are included in 43 CFR Subpart 3590, Solid Minerals (Other Than Coal) Exploration and Mining Operations—General. Subpart 3592.1, Operating Plans, specifies that before any operations are conducted under any lease, the operator must submit a detailed mine and reclamation plan to the BLM, which the BLM must approve before operations can begin. These regulations contain specific criteria that the mine and reclamation plan must address to assure the protection of non-mineral resources and the reclamation of the lands affected by the operations. It also requires coordination with state agencies.

Potash is a solid leasable mineral that is managed by the BLM under the authority of the Mineral Leasing Act of 1920, as amended, the Potash Leasing Act of 1927, and, in southeastern New Mexico, the 2012 Order. The Mineral Leasing Act establishes qualifications for mineral lessees, defines maximum limits on the total acres of a mineral that can be held by a lessee, and authorizes the BLM to grant these leases. Federal regulations that pertain to leasing these minerals are contained in 43 CFR Part 3500, Leasing of Solid Minerals Other than Coal and Oil Shale.

The State of New Mexico's Order No. R-111-P applies to state lands and minerals in the area. While the BLM may incorporate elements of R-111-P into its management of the Secretary's Potash Area, the BLM is not mandated to follow it. In particular, Life of Mine Reserves, as defined in R-111-P, is not used for management of federal lands and minerals.

The Mining and Mineral Policy Act of 1970 (MMPA) mandates that federal agencies ensure that closure and reclamation of mine operations be completed in an environmentally responsible manner. The MMPA states that the federal government should promote the "development of methods for the disposal, control, and reclamation of mineral waste products, and the reclamation of mined lands, so as to lessen any adverse impact of mineral extraction and processing upon the physical environment that may result from mining mineral activities."

Other major federal and state regulations and permits that are relevant to the proposed project include those listed below:

- NEPA (P.L. 91-190) and CEQ – Regulations for implementing NEPA (40 CFR Parts 1500 – 1508).
- Clean Water Act (CWA) and Federal Water Pollution Control Act Amendments.
- New Mexico Water Quality Act, New Mexico Statutes Annotated (NMSA) 1978, §§74- 6-1 et seq.

- Federal Safe Drinking Water Act, 40 CFR Parts 144 and 147; New Mexico Ground and Surface Water Protection, New Mexico Administrative Code (NMAC) Part 20.6.2, 2005.
- Underground Water, NMSA 1978, §§72-12-1 et seq.
- Endangered Species Act (ESA) of 1973, as amended (P.L. 93- 205).
- Migratory Bird Treaty Act (MBTA) of 1918, as amended; Bald and Golden Eagle Protection Act of 1940.
- Clean Air Act (CAA); delegated to the State of New Mexico under Air Quality Control Act, NMSA 1978, §§74-2-1 through 74-2-17.
- National Historic Preservation Act (NHPA) (36 CFR Part 800); New Mexico Cultural Properties Act, NMSA 1978, §§18-6-1 through 18-6-17.
- Federal Cave Resources Protection Act of 1988, 16 USC 4301 – 4309.
- P. L. 111-011 Omnibus Public Land Management Act, Subtitle D – Paleontological Resources Preservation.
- NMSA 1978 Sections 19-1-1 and 19-7-57.
- NMAC Part 14.5.2.

This EA is tiered to the HB In-Situ Project (now referred to as the HB Solar Solution Mine EIS, DOI-BLM-NM-P020-2011-498-EIS. The FEIS was published in January 2012 and the ROD followed in March 2012. The analyses contained in this EIS are incorporated into this EA by reference. The analyses can be found on pages 3-1 through 3-129 and 4-1 through 4-125 in the EIS.

Decision to be Made

The decision to be made is whether or not to approve Intrepid's application to extend the existing HB Solar Solution Mine workings to include the AMAX mine, and, if to approve, under what terms and conditions.

2. PROPOSED ACTION

Introduction

Intrepid is proposing to expand solution mining activities permitted for the HB Solar Solution Mine to include portions of the abandoned AMAX Horizon Mine. The HB Solar Solution Mine and the proposed HB AMAX Extension are located in Eddy County approximately 20 miles east of Carlsbad, New Mexico.

The HB AMAX Extension Project would expand Intrepid's existing HB Solar Solution Mine and is proposed as a Mine Plan Modification of Intrepid's existing HB Solar Solution Mine Operations and Closure Plan, dated March 9, 2012. The proposed extension project lies completely on potassium leases held by Intrepid and thus can be permitted as a mine plan modification. No separate Rights-of-Way (ROW) in addition to the mine modification are proposed for in this project.

The proposed HB AMAX Extension is located within state, federal, and private leases that Intrepid currently holds. As part of this Proposed Action all federal potassium leases associated with the proposed HB AMAX Extension would be converted from conventional mining leases to solution mining leases. The

same conversion of lease type was analyzed for the existing HB Solar Solution Mine EIS (see Record of Decision). Four federal potash leases are to be converted from conventional mining leases to solution mining leases. These leases are listed in **Table 1 – Existing and Proposed HB Solar Solution Mine Facilities** below and shown on **Map 2 – Mineral Lease**.

Table 1 – Existing and Proposed HB Solar Solution Mine Facilities

Lease Number	Total Lease Acreage
NMLC-046729-D	2,560.0
NMNM-113455	2,400.8
NMNM-113456	2,480.0
NMNM-113457	560.6

The AMAX Mine ceased production in 1993 and has been closed as per applicable regulatory requirements. The shafts have been sealed and the surface restoration and reclamation activities have been completed by the former owner. The remaining ore is located in the pillars and fringe areas of the underground mine workings.

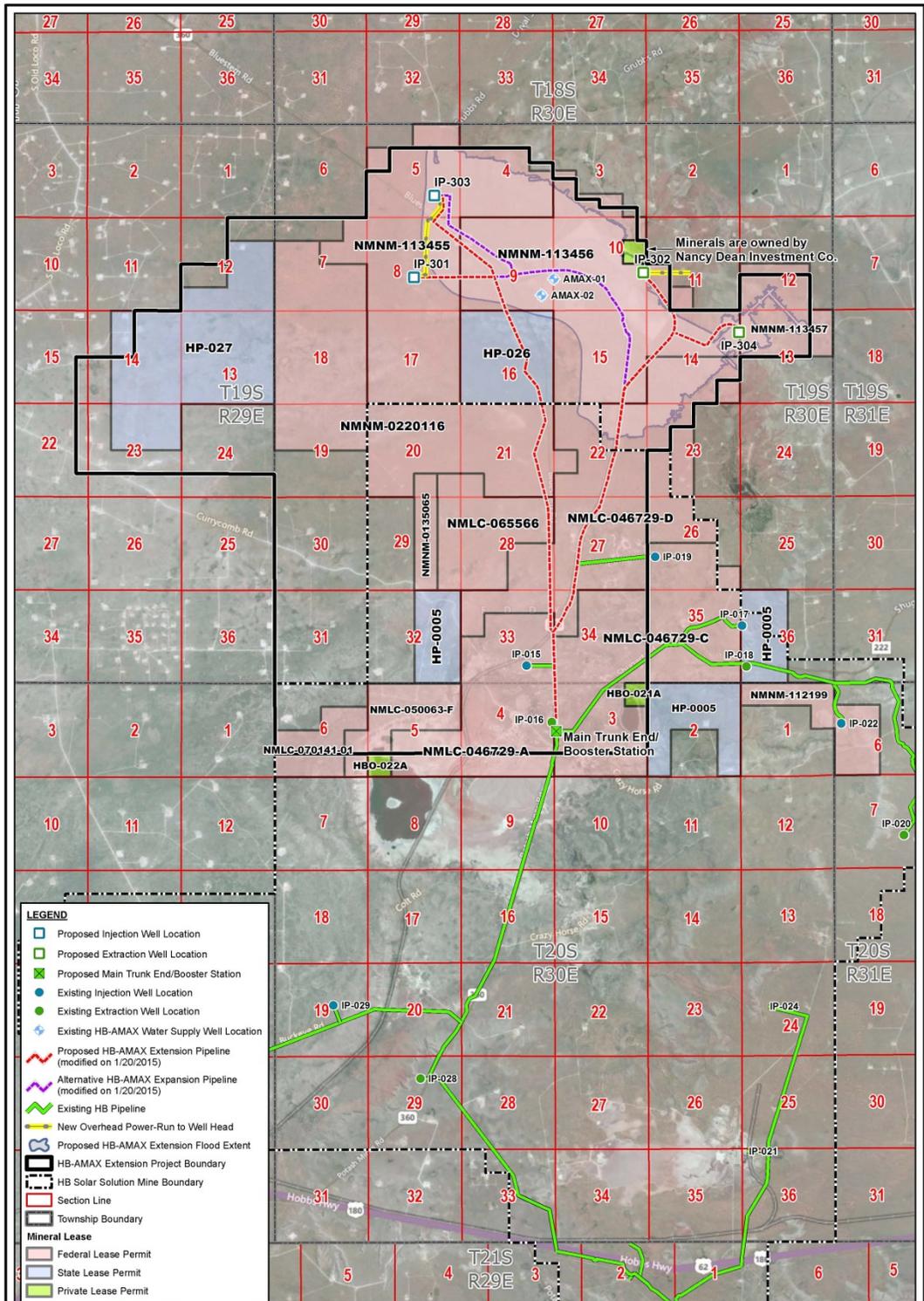
Conventional mining at the AMAX property occurred on the First and Third Ore Zones. The Third Ore Zone lies stratigraphically above the First Ore Zone with roughly 30 feet of separation between them. The two Ore Zones are connected by several slopes and stopes that would allow injected brine to move vertically providing contact to ore in pillars and fringe areas from both ore zones.

The HB AMAX Extension would utilize existing facilities wherever possible. The infrastructure associated with the HB Solar Solution Mine and the proposed HB AMAX Extension is shown on **Map 3 – Existing and Proposed HB Solar Solution Mine Facilities**. All existing infrastructure for the HB Solar Solution Mine that would be also used by the HB AMAX Extension was previously analyzed in the HB In-Situ Solution Mine EIS.

As shown on Map 3, new construction for the HB AMAX Extension would include:

- Two injection wells with 80 feet by 80 feet operational areas.
- Two extraction wells with 80 feet by 80 feet operational areas.
- Two Pilot/Testing/Instrumentation (PTI) wells (one PTI well immediately adjacent to each extraction well and contained within each 80 feet by 80 feet operational area).
- 12.4 miles of 50-foot wide utility corridor that will include buried pipelines of various diameters (4 to 18 inches) and 12-foot wide access roads.
- One booster pump station.
- 1.6 miles of overhead electric lines.
- One additional source of injectate brine make-up water from the Intrepid North plant scrubber recycle system.

The HB Solar Solution Mine currently employs several monitoring systems and networks to verify and document operational conditions as required by the New Mexico Environment Department and the BLM. All existing monitoring systems would be utilized for the proposed HB AMAX Extension and are summarized as follows:



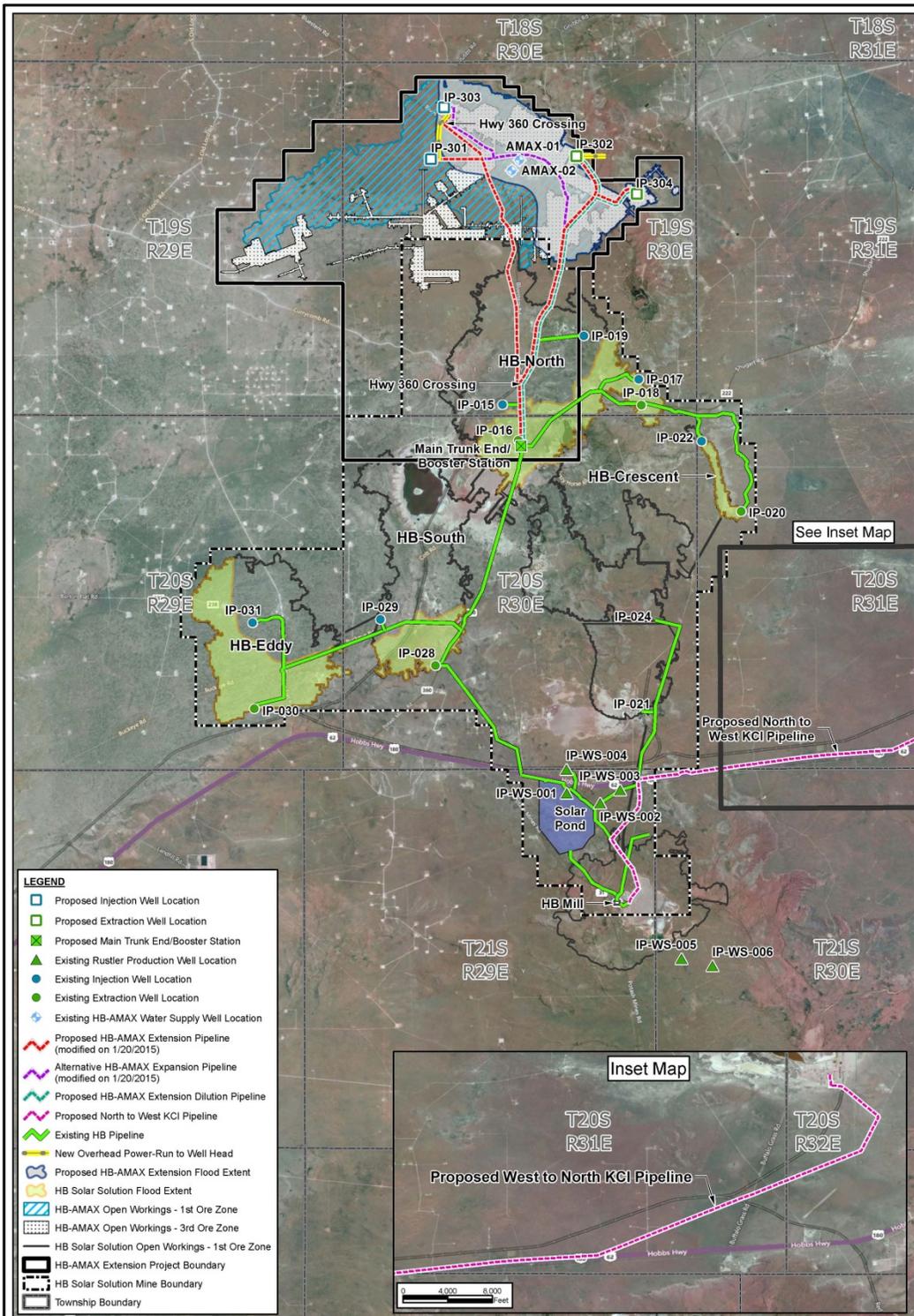
- NOTES:**
1. Aerial imagery from esri.
 2. Locations of existing pipelines, existing wells, proposed HB-AMAX pipelines, and proposed HB-AMAX wells provided by Intrepid Potash, LLC and further defined through field surveys.
 3. Final pipeline route to be surveyed upon regulatory approval.
 4. Horizontal coordinate system is NAD 1983 New Mexico State Plane East, units in feet.



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REVISED	DATE	BY	DESCRIPTION

PREPARED BY: NMG1	DATE: MAR '15
REVIEWED BY: JMHG	DATE: MAR '15
APPROVED BY: JMHG	DATE: MAR '15

INTREPID POTASH - NEW MEXICO, LLC	
MAP 2	
MINERAL LEASE	
Environmental Assessment	
HB Solar Solution Mine - AMAX Extension	
Scale: 0 2500 5000 Feet	Date: MARCH 18, 2015
Drafted by: BJW1	Project No: 0014016-07



LEGEND

- Proposed Injection Well Location
- Proposed Extraction Well Location
- Proposed Main Trunk End/Booster Station
- Existing Rustler Production Well Location
- Existing Injection Well Location
- Existing Extraction Well Location
- Existing HB-AMAX Water Supply Well Location
- Proposed HB-AMAX Extension Pipeline (modified on 1/20/2015)
- Alternative HB-AMAX Expansion Pipeline (modified on 1/20/2015)
- Proposed HB-AMAX Extension Dilution Pipeline
- Proposed North to West KCI Pipeline
- Existing HB Pipeline
- New Overhead Power-Run to Well Head
- Proposed HB-AMAX Extension Flood Extent
- HB Solar Solution Flood Extent
- HB-AMAX Open Workings - 1st Ore Zone
- HB-AMAX Open Workings - 3rd Ore Zone
- HB Solar Solution Open Workings - 1st Ore Zone
- HB-AMAX Extension Project Boundary
- HB Solar Solution Mine Boundary
- Township Boundary

- NOTES:**
- Aerial imagery from esri.
 - Locations of existing pipelines, existing wells, proposed HB-AMAX pipelines, and proposed HB-AMAX wells provided by Intrepid Potash, LLC and further defined through field surveys.
 - Final pipeline route to be surveyed upon regulatory approval.
 - Horizontal coordinate system is NAD 1983 New Mexico State Plane East, units in feet.



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INTREPID POTASH - NEW MEXICO, LLC	
MAP 3	
EXISTING AND PROPOSED HB SOLAR SOLUTION MINE FACILITIES	
Environmental Assessment	
HB Solar Solution Mine - AMAX Extension	
Scale: 0 4,000 8,000 Feet	Date: MARCH 18, 2015
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- A groundwater monitoring well network used to collect regular water level and water quality data throughout the area influenced by Rustler groundwater withdrawal.
- A groundwater monitoring well network used to collect regular water level, water quality, and electrical conductivity data to define baseline characteristics of the groundwater beneath the solar evaporation ponds and monitor for potential releases of solar pond brine.
- Regular water level measurements collected continuously or monthly to monitor water levels specified karst and cave resources.
- Regular pipeline inspections by mine personnel and pipeline instrumentation that monitors pressure and flow rate to monitor for potential pipeline leaks.
- Down-hole instrumentation to guide extraction well and injection well operation and control flood elevations.
- Monitoring wells to detect potential brine excursions to down-gradient portions of the mine workings outside of flood zones.

Map 3 shows the existing infrastructure associated with the HB Solar Solution Mine and the proposed HB AMAX Extension.

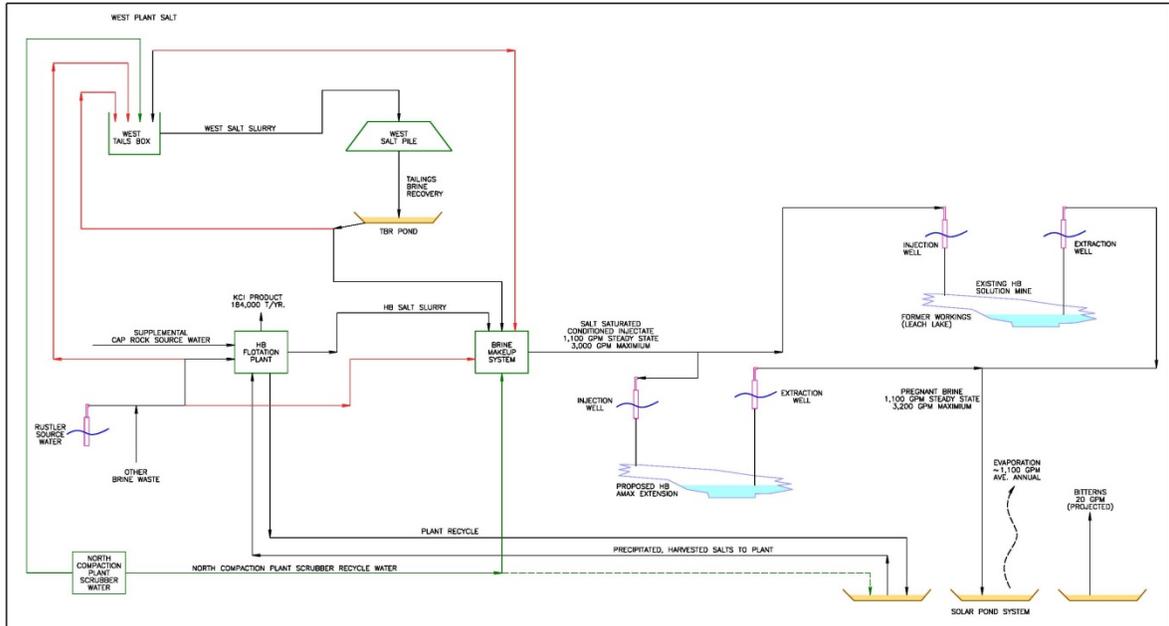
HB AMAX Extension Mine Operation

The solution mining process at the proposed HB AMAX extension would be identical to that employed at the existing HB Solar Solution Mine. The proposed HB AMAX solution mining process is to inject a salt (NaCl) saturated brine into the AMAX workings. The brine would remain in place to allow an ion exchange to occur between KCl in the mine ore body and sodium in the brine (KCl in the ore body is dissolved and an equivalent amount of NaCl precipitates out from the brine). The result would be a potassium-rich (pregnant) brine to be extracted from the mine after a desired concentration of potassium is reached. Pregnant brine would be pumped to the existing HB solar evaporation ponds. Water in the pregnant brine would evaporate in the ponds and KCl and NaCl would precipitate out as solids. The precipitated salts would be harvested from the ponds and transported to the existing HB Mill for ore refinement. This process is described in detail in the HB EIS (Section 2.4.2.2).

Salt conditioned injectate brine would be pumped to injection wells located in upper elevations of the HB AMAX Mine and would flow to the lower areas of the flood zone. As injectate brine is added, a leach lake would form and rise to the maximum control elevation. After the brine is injected it would flow via advection (gravity induced, downhill flow) and dispersion (driven by density gradients developed as the brine becomes increasingly saturated with KCl). Although it would take time to fill the HB AMAX Mine (over two years at the maximum injection rate of 3,000 gpm), KCl dissolution is expected to occur quickly but may take several month to concentrate to the desired pregnant brine KCl grade. The in-situ process would leave behind insolubles (clay slimes) in the former workings eliminating the need for separation and disposal on the surface. Once the cavern is filled to the control level, long term production would become a relatively steady-state operation where injection roughly equals extraction. **Figure 1 - Proposed HB Operational Diagram** summarizes the cumulative HB solar solution mine processes including the proposed HB AMAX Extension.

Proposed Construction

The proposed new construction required for the HB AMAX Extension includes new injection wells, extraction wells (with associated PTI wells), well head components, conveyance pipelines, booster station, power distribution facilities, and access roads. The following subsections present details of the proposed infrastructure and the design features related to environmental protection.



- INJECTATE MAKE-UP OPTIONS:**
1. RUSTLER PLANT + WEST PLANT OR HB PLANT SALT
 2. WEST PLANT TBR
 3. CAPROCK WATER + WEST PLANT OR HB PLANT SALT
 4. NORTH COMPACTION SCRUBBER RECYCLE
 5. COMBINATIONS OF OPTIONS 1-4



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REVISED	DATE	BY	DESCRIPTION	
PREPARED BY:	RWS3	DATE:	MAR '15	
REVIEWED BY:	JMH6	DATE:	MAR '15	
APPROVED BY:	JMH6	DATE:	MAR '15	
Score:			NOT TO SCALE	
Drafted By:			JOW	
Date:			MARCH 18, 2015	
Project No.:			141016	

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Injection/Extraction Well Locations

Two injection and two extraction wells are proposed to provide conduits to flood the target ore zones as follows:

- **IP-301** 1st Ore Zone Injection Well
NW ¼, SE ¼, Section 8, T19S, R30E
- **IP-302** 1st Ore Zone Extraction Well
NE ¼, SE ¼, Section 10, T19S, R30E
- **IP-303** 3rd Ore Zone Injection Well
SE ¼, SE ¼, Section 5, T19S, R30E
- **IP-304** 3rd Ore Zone Extraction Well
NE ¼, NE ¼, Section 14, T19S, R30E

The injection and extraction wells are classified as Class V injection wells for in-situ mineral processing and would be constructed using a similar design as the injection and extraction wells approved and installed for the HB Solar Solution Mine (See Section 2.4.2.1 of the HB EIS). The following figures illustrate the injection and extraction well design:

- **Figure 2 – Injection Well General Design**
- **Figure 3 – Extraction Well General Design**

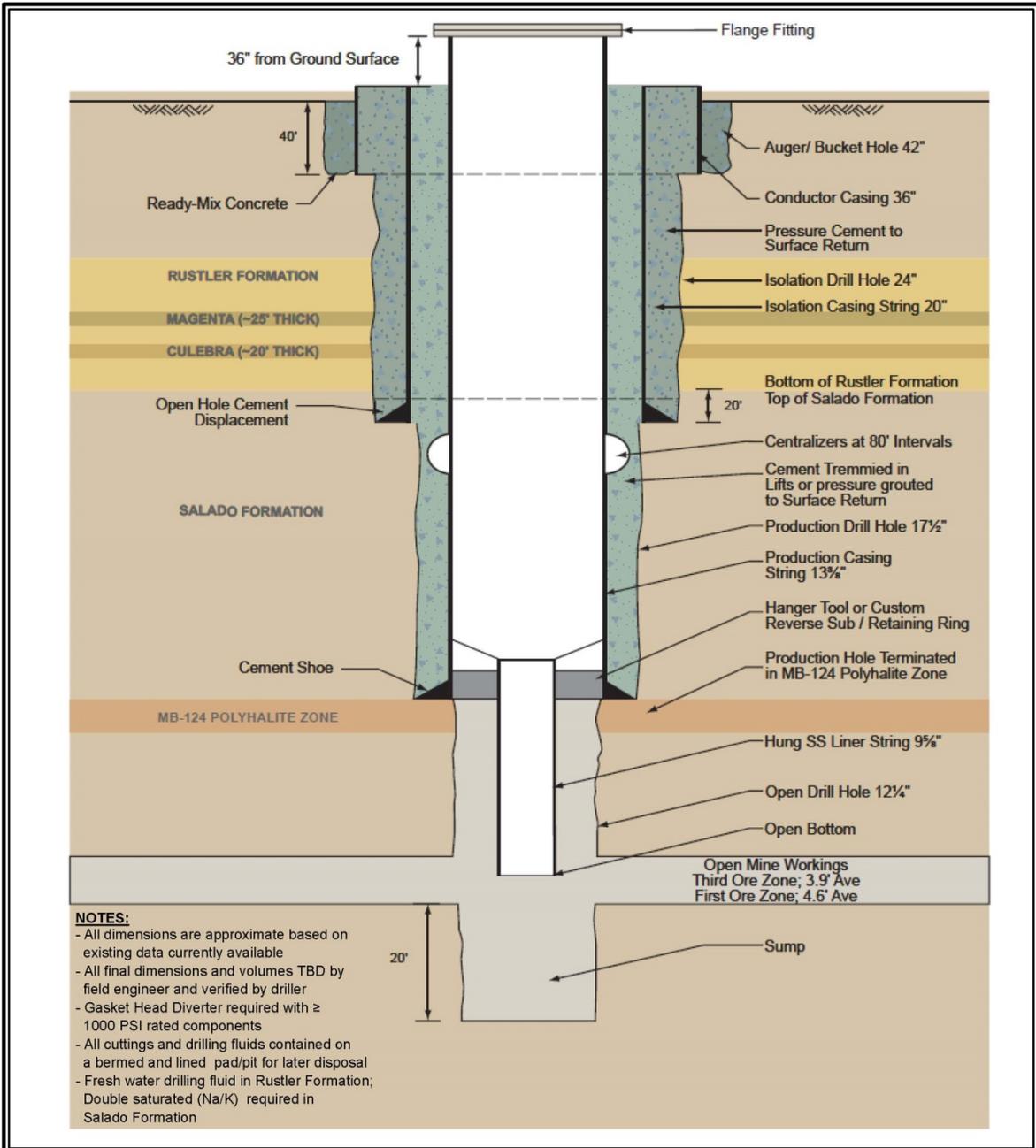
Proposed wells IP-301 and IP-302 may require modifications to the drilling and well completion design based on the occurrence and condition of the Third Ore Zone as drilling passes through it. Any modification to an approved plan would be notified to the BLM prior to construction.

Injection and Extraction Well Access and Drill Pads

Access routes to the injection and extraction well locations shall be via the pipeline routes which include an inspection/maintenance road within the utility corridor. The drill pad would be cleared and grubbed of vegetation and graded to facilitate well installation. Cleared vegetation would be randomly scattered outside the drill pad and not left in piles or rows. The disturbance area would be graded to the degree necessary to allow drilling and well construction activities. In the event that graded surface materials cannot support drilling and support equipment, a lift of caliche may be applied. The caliche would be supplied by an area contractor/supplier from sources controlled by that contractor. The drill pad and associated disturbance area would be 150 feet by 250 feet and would contain all drilling equipment, drilling material storage, subcontracted services such as drilling fluid supply and delivery, cementing, casing installation, geophysical logging, fueling, etc. The site would contain bermed and lined pits, tanks, and other components to manage drill cuttings and drilling fluids. The sites would also be bermed and equipped with straw booms on the down-slope edges to serve as secondary containment.

All fuels and lubricants would be contained in secondary containment facilities. Drilling and well construction would be performed on a 24/7 shift rotation and the location would contain portable sanitary facilities, office/maintenance trailers, and light plants. Once drilling activities are complete, all well construction equipment, left over materials, and waste would be removed from the site. Following well head construction associated with the surface control facilities, which would be contained within an 80-foot by 80-foot fenced area within the drill pad, the well pad would be graded and seeded with a seed/fertilizer mix as specified by the BLM. If caliche was used to stabilize the pad, all caliche would be removed from the site prior to reclamation.

Figure 4 – General Drill Pad Layout illustrates the drill pad configuration for the injection and extraction wells. All pad, drilling and well construction activities would be overseen and directed by qualified personnel. The technical site representative would be responsible for all decisions regarding drill depths and well completion details.



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INTREPID POTASH - NEW MEXICO, LLC

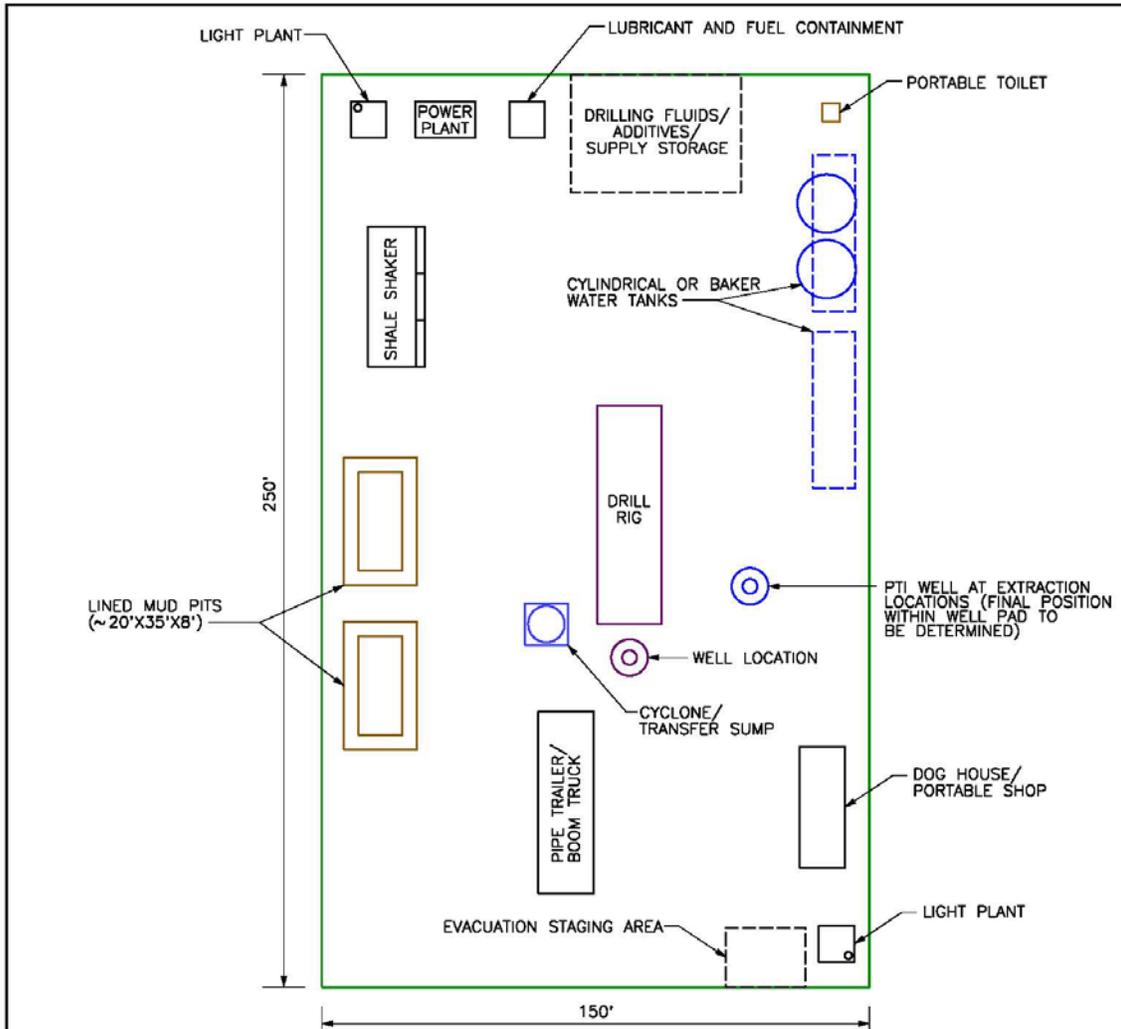
FIGURE 2

INJECTION WELL GENERAL DESIGN

Environmental Assessment
HB Solar Solution Mine - AMAX Extension

Scale: NOT TO SCALE Date: MARCH 18, 2015

Drafted by: DAT Project No: 0014I016-05



NOTES:

1. 150' X 250' WORKING SURFACE.
2. TO BE RECLAIMED BACK TO A 80'X80' OPERATING SURFACE.
3. PADS TO BE GRUBBED AND GRADED LEVEL.
4. SMALL BERM AND STRAW WATTLES PLACED ALONG EXTERIOR BOUNDARY.
5. DRILLING FLUIDS, DRILLING MUDDS, AND CUTTINGS TO BE DISPOSED OF WITHIN THE TAILINGS AREA OF THE FORMER PCA FACILITY.
6. PAD CORNERS STAKED WITH STEEL POSTS.
7. THE PAD MAY BE SURFACED WITH A CALICHE BASE AS SITE CONDITIONS DICTATE.



Foth Infrastructure & Environment, LLC				INTREPID POTASH - NEW MEXICO, LLC	
REVISED	DATE	BY	DESCRIPTION	FIGURE 4 GENERAL WELL PAD LAYOUT <small>Environmental Assessment HB Solar Solution Mine - AMAX Extension</small>	
PREPARED BY:		RWS3	DATE:	MAR.'15	Scale: NOT TO SCALE Date: MARCH 18, 2015 Drafted By: JOW Project No. 141016
REVIEWED BY:		JMH6	DATE:	MAR.'15	
APPROVED BY:		JMH6	DATE:	MAR.'15	

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Well Head Infrastructure

Each of the four well locations would be equipped with operating infrastructure to facilitate brine injection and extraction as follows:

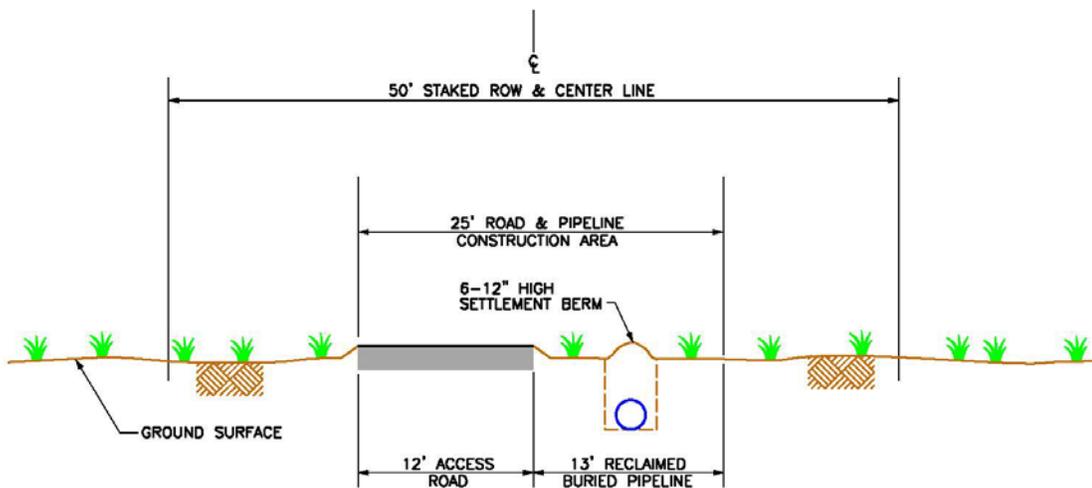
- Well head manifold and valving.
- Power transformation and motor control components.
- Well head security and fencing.
- Down-hole equipment.

All four well head areas would utilize an 80 feet by 80 feet operational area for the life of the operation. All equipment would be contained within the 80 foot by 80 foot area. The working area would contain various electrical cabinets for instrumentation, motor control/variable frequency drive, and power transformation/distribution mounted on concrete pads. Manifold piping inclusive of various vents, valves, sample ports, and instrumentation would be connected from the well to the distribution piping via flanged fittings to facilitate future maintenance. The operational area would also include telemetry and distributed control system equipment to transfer data and allow remote operation of the well site. The telemetry system is anticipated to consist of a radio-based network that would tie into the existing HB Solar Solution Mine telemetry system and would require small antennas at each of the well heads. Key control and instrumentation would include manifold and pipeline pressure monitoring, injection and extraction flow rates, mine flood level elevations, site security features, and various power parameters such as voltage, amperage, pump speed, etc. Any area within the 80 foot by 80 foot operating area that falls outside of concrete pad footprints would feature a gravel base and be fenced with a 4 strand wire fence with access gates as per BLM stipulations. The immediate area containing the extraction or injection well, the wellhead piping manifold, and the electrical cabinetry would be surrounded by a shaded, chain link fence with locking gates. Power would be brought to the site via overhead service terminating adjacent to the operating area. Power would be transformed to three phase 480 volt and then run underground to electrical transforming cabinetry within the operating area and distributed to various components within the operating area.

Access Piping and Roads

Injection brine would be transported from the northern extent of the existing HB Solar Solution Mine main trunk injection line to injection wells IP-301 and IP-303 (see Map 3). The new high density polyethylene (HDPE) injection pipelines would be designed to provide sufficient diameter and strength to convey up to 3,000 gpm at 228 PSI. The injection pipelines would be constructed with extrusion welded and/or flanged 18-inch diameter, SDR-9 HDPE pipe. The pipeline would be equipped with manual isolation valving, vent and vacuum relief valves, and pressure monitoring points as needed to monitor brine flow, as part of the leak detection system. All injection lines would be buried with a minimum of 2 feet of fill over the pipe. During construction open trenches would be limited to ½ mile in length or escape ramps would be installed every ¼ mile. Once backfilled, a 6 to 12-inch mound would be left over the pipeline to allow for settlement. Blinded wyes would be installed approximately every 1,500 feet to provide access for maintenance. All pipeline access points for instrumentation, monitoring or control would be within vaults or small areas of pipeline surface exposure.

The injection line would cross State Highway (STH) 360 at one new location as shown in Map 3. The STH 360 crossings would be facilitated by boring and jacking beneath the highway as described in Section 2.4.2.1 of the HB EIS. A New Mexico Department of Transportation (NMDOT) permit would be obtained for these crossings. The ROW area of construction disturbance would be 50-foot wide. Within the 50-foot ROW containing the buried pipeline, a 12-foot wide access road would be established to allow the pipeline to be inspected on a regular basis. The access road would also provide access for maintenance and routine monitoring of the instrumentation. **Figure 5 – Typical Pipeline ROW Section** illustrates the pipeline footprint. Upon completion of pipeline and access road construction all disturbance within the 50-foot ROW would be seeded, fertilized, and mulched as per BLM requirements and Conditions of Approval.



NOTES:

1. ALL ACCESS & DISTURBANCE CONFINED TO 50' ROW.
2. 12' ACCESS ROAD FOR PIPELINE INSPECTION TO BE OPERATIONAL FOR THE LIFE OF THE PROJECT.
3. ALL PIPELINES BURIED & BEDDED AS PER SPECIFICATIONS.
4. CERTAIN SECTIONS OF ACCESS ROAD MAY REQUIRE CALICHE SURFACE AS OPERATIONAL CONDITIONS DICTATES.
5. ALL DISTURBED SURFACES SHALL BE GRADED, FERTILIZED, SEEDED & MULCHED AS PER SPECIFICATIONS.



Foth Infrastructure & Environment, LLC				INTREPID POTASH - NEW MEXICO, LLC	
REVISED	DATE	BY	DESCRIPTION	FIGURE 5 TYPICAL PIPELINE ROW SECTION <small>Environmental Assessment HB Solar Solution Mine - AMAX Extension</small>	
PREPARED BY:		RWS3	DATE:	MAR.'15	Scale: NOT TO SCALE Date: MARCH 18, 2015 Drafted By: JOW Project No. 141016
REVIEWED BY:		JMH6	DATE:	MAR.'15	
APPROVED BY:		JMH6	DATE:	MAR.'15	

The brine extraction pipeline and associated dilution water line would be extended from the existing HB Solar Solution Mine pipeline network to each HB AMAX extraction well as detailed in Section 2.4.2.1 of the HB EIS. The extraction and dilution lines would be buried together for their entire length. The pipeline bundle would cross STH 360 at the location (see Map 3) of the existing HB Solar Solution Mine injection line crossing in Section 33 to minimize disturbance areas. The extraction pipeline has been designed to convey up to 2,000 gpm at 160 PSI. The extraction line would consist of 12-inch and 16-inch diameter, SDR-11 HDPE pipe and the dilution line would be composed of 4-inch and 6-inch diameter, SDR-9 HDPE pipe. The new pipelines installed as part of the proposed HB AMAX extension would be buried with a minimum 2 feet of cover.

The pipeline leak detection system consists of routine inspections by Intrepid personnel to observe for potential pipeline leaks and monitoring with automated instrumentation to minimize the potential for unauthorized discharges of the transport brine.

Booster Pump Station

Hydraulic analysis of the proposed HB AMAX injection pipelines indicates that a pump station would be required to achieve maximum desired flow rates within prescribed operating of the pipeline. Accordingly, a booster pump station is proposed to be installed where the new HB AMAX injection line connects to the existing HB Solar Solution Mine injection line main trunk. **Figure 6 – Booster Pump Station Plan** illustrates the booster pump station location. The pump station would require a graded footprint of 130 feet by 100 feet and would contain a primary pump, standby/back-up pump, a building to house the pumps, power transformation, and motor controls. The site would also include instrumentation, data acquisition, and automated controls connected by radio repeater to the adjacent HB Solar Solution Mine well facilities which would be routed to the HB control center. The booster pump station is estimated to require 350 HP driven operations. Power would be supplied by the existing overhead power line to well IP-016. The booster station would be fenced with a 4 strand wire fence and access gates would be installed along the access pipeline roadway per BLM requirements. Figure 6 shows the booster station location, configuration, and how the maintenance access road would be constructed and maintained.

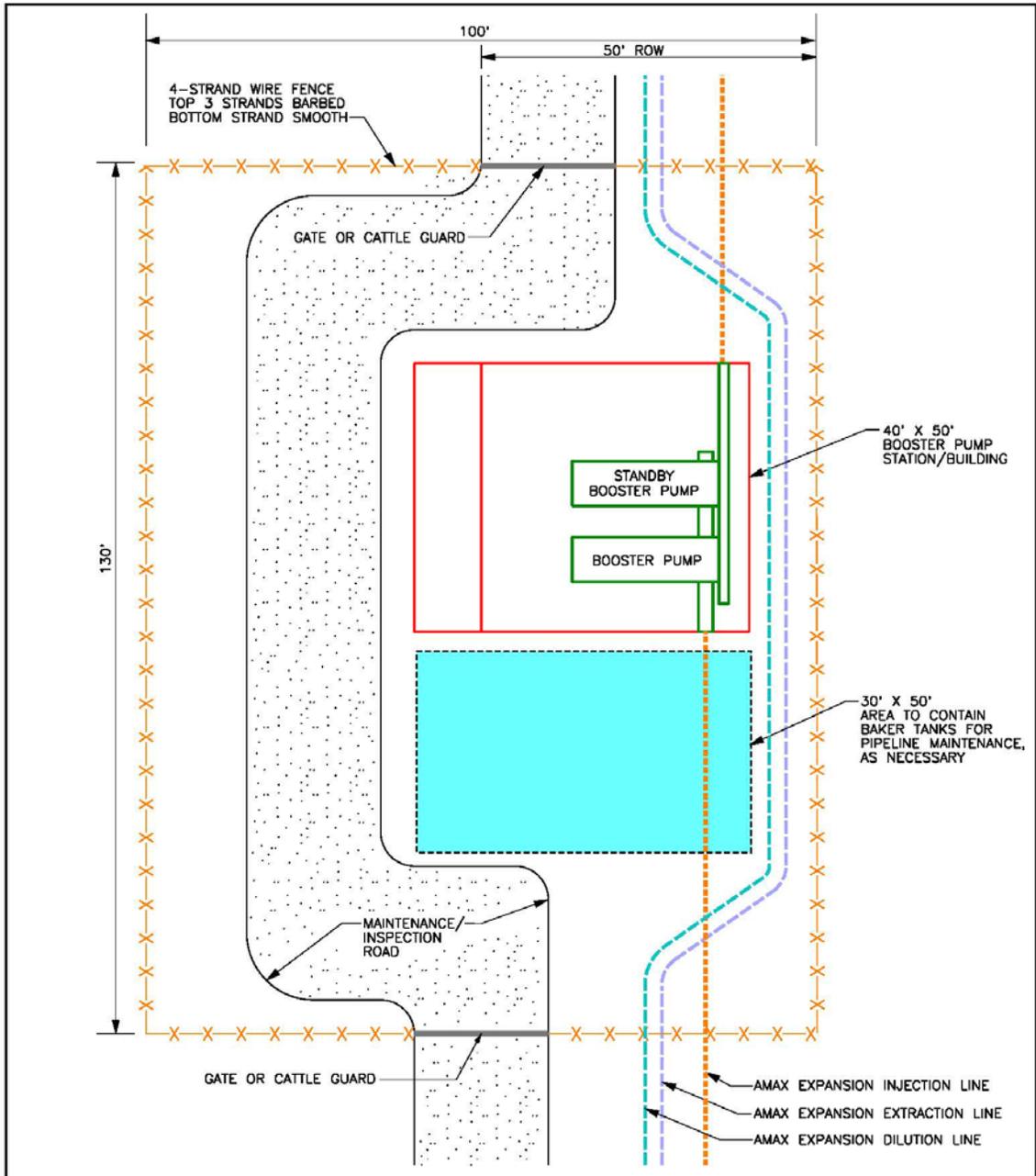
Power Distribution

Power would be required at each of the four well sites and the booster pump station. Overhead power has been previously supplied to existing extraction well IP-016 by Xcel. The same line that distributes power to IP-016 is routed immediately adjacent to the proposed booster station location. It is anticipated that Xcel would be able to modify the existing power service to support the requirements at the booster station and the only new infrastructure required may be an additional pole and associated underground service from the pole to the booster station. Central Valley Electric Cooperative (CVEC) operates an existing power line ROW located between Sections 4/5 and Sections 8 /9, T19S, R30E. New overhead power service is expected to proceed north from this existing ROW approximately ¼ mile to IP-303 along the proposed pipeline alignment and south from this existing ROW approximately ¾ mile to the south to IP-301. CVEC also operates an overhead power line in the middle of Section 11, T19S, R30E and another power ROW running immediately adjacent to IP-304. It is anticipated that the ROW adjacent in Section 11 would be extended approximately ¾ mile west to IP-302 and that the ROW to IP-304 would provide power directly to IP-304. Since the proposed power distribution is a connected action of the HB AMAX extension, the environmental analysis for the proposed power distribution is contained in this EA.

Map 3 illustrates the power ROWs and assumed distribution routes. The referenced power supply logistics above would be verified with Xcel and CVEC.

Existing Infrastructure

The existing HB Solar Solution Mine infrastructure that would be utilized with the proposed HB AMAX extension would include: groundwater supply wells, HB Mill facility, solar evaporations ponds, and portions of the existing pipeline network. Details pertaining to each of these components can be found in Section 2.4.2 of the HB EIS. Specifically, Section 2.4.2.1 details construction and layout and Section 2.4.2.2 describes the mining process.



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REVIEWED BY:	JMH6	DATE:	MAR.'15
APPROVED BY:	JMH6	DATE:	MAR.'15

INTREPID POTASH - NEW MEXICO, LLC	
FIGURE 6	
BOOSTER PUMP SYSTEM DETAIL	
Environmental Assessment HB Solar Solution Mine - AMAX Extension	
Scale: NOT TO SCALE	Date: MARCH 18, 2015
Drafted By: JOW	Project No. 141016

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Final Restoration and Reclamation

Upon completion of solution mining activities, all above ground infrastructure associated with the proposed HB AMAX extension project would be removed and recycled or properly disposed of at a licensed off-site facility. The extraction, injection, and PTI wells would be abandoned as per state of New Mexico requirements. All sections of buried pipeline would be evacuated, flushed and abandoned in place. The power runs would be the responsibility of the utility and would be abandoned or used by other power users. Caliche and concrete pads would be removed from the well head operating areas, booster pump station area, and access road where applied. All disturbed surfaces would be graded or scarified, seeded, fertilized, and mulched as per BLM requirements. Restoration, reclamation, and financial assurance quantification of all other HB Solar Solution Mine components used separately or in conjunction with the proposed HB AMAX extension are specifically addressed in the Discharge Permit Mine Modification submittal *Discharge Permit Renewal Modification Request - HB Solar Solution Mine NMED DP-1681 – HB AMAX Extension* dated February 12, 2015.

Construction and mitigation measures for the proposed project components would be the same as those as described in the HB In-situ Solution Mine Project documents, including:

- HB In-situ Project Mine Operations and Closure Plan, Revised March 9, 2012
- HB In-situ Project Final Environmental Impact Statement, January 2012
- HB Pipeline Right-of-Way Grant, Serial Number NM-121815, April 11, 2012
- HB In-Situ Solution Mine Project Record of Decision, March 19, 2012 (HB ROD)