

No.	Nominee	Activity	Category	Site Name/Location	Nominator
1	Compass Minerals Ogden Inc.	Minerals	Environmental improvement to active mine site, drilling or recovery site, or field	Great Salt Lake Mine	Mike Bradley, Division of Oil, Gas and Mining
2	Red Leaf Resources	Minerals	Environmental improvement to active mine site, drilling or recovery site, or field	Seep Ridge Road	Utah Office of Energy Development
3	Conoco Phillips	Oil and Gas	Other: Donation of funds for habitat improvement project	Hiawatha Pinyon/Juniper Removal	Utah Division of Wildlife Resources
4	North American Exploration Inc.	Minerals	Environmental improvement to active mine site, drilling or recovery site, or field	Green Diamond	April Abate, Division of Oil, Gas and Mining
5	Ash Grove Cement Co.	Minerals	Outstanding final reclamation or site restoration	Grouse Creek Clay	Lynn Kunzler, Division of Oil, Gas and Mining
6	Canyon Fuel Company, LLC - Sufco Mine	Coal	Environmental improvement to active mine site, drilling or recovery site, or field	Manti La Sal National Forest	John Byars
7	Questar Pipeline	Oil and Gas	Outstanding results following applications of innovative environmental technology	Mainline 3 Replacement Project	Questar Pipeline
8	Ultradent Products	Minerals	Outstanding final reclamation or site restoration	Ultradent S/045/0057	Leslie Heppler, Division of Oil, Gas and Mining
9	Simplot Phosphates LLC	Minerals	Other: Environmental sustainability	Vernal Phosphate Operation	John Spencer

#1



Utah Department of Natural Resources
Oil, Gas & Mining

2016 UTAH BOARD OF OIL, GAS AND MINING EARTH DAY AWARDS

Nomination Form

Nominee Information:

Company Name Compass Minerals Ogden, Inc
 Address 765 N. 10500 W.
 City, State, Zip Ogden, UT
 Contact Person Joe Hevasi
 Phone 913-344-9252
 Site Name Great Salt Lake Mine
 Location Weber County, Utah

Activity and Category (Please check one activity and one category):

Activity:

- Oil and Gas
- Minerals
- Coal

Category:

- Environmental improvement to an active mine site, drilling or recovery site, or field
- Outstanding results following applications of innovative environmental technology
- Outstanding final reclamation or site restoration
- Other: _____

Received
12-15-15
HJ





Utah Department of Natural Resources
Oil, Gas & Mining

Nominated By:

Name Mike Bradley
Address DOGm
City, State, Zip SLC, UT
Phone 801-538-5332

Nomination Summary (attach additional information, photos, etc., as necessary)

See attached. Joe Havaši has a Power Point presentation that describes the West Ponds Amendment and we have asked him to expand on it a bit to present to the BOARD, if the nomination is accepted

Return by January 31, 2016 to:

**Earth Day Awards
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210, P.O. Box 145801
Salt Lake City, Utah 84114-5801
Phone 801-538-5340; Fax 801-359-3940
oilgasmining@utah.gov**



Summary of Compass Minerals Ogden (CMO) environmental initiatives:

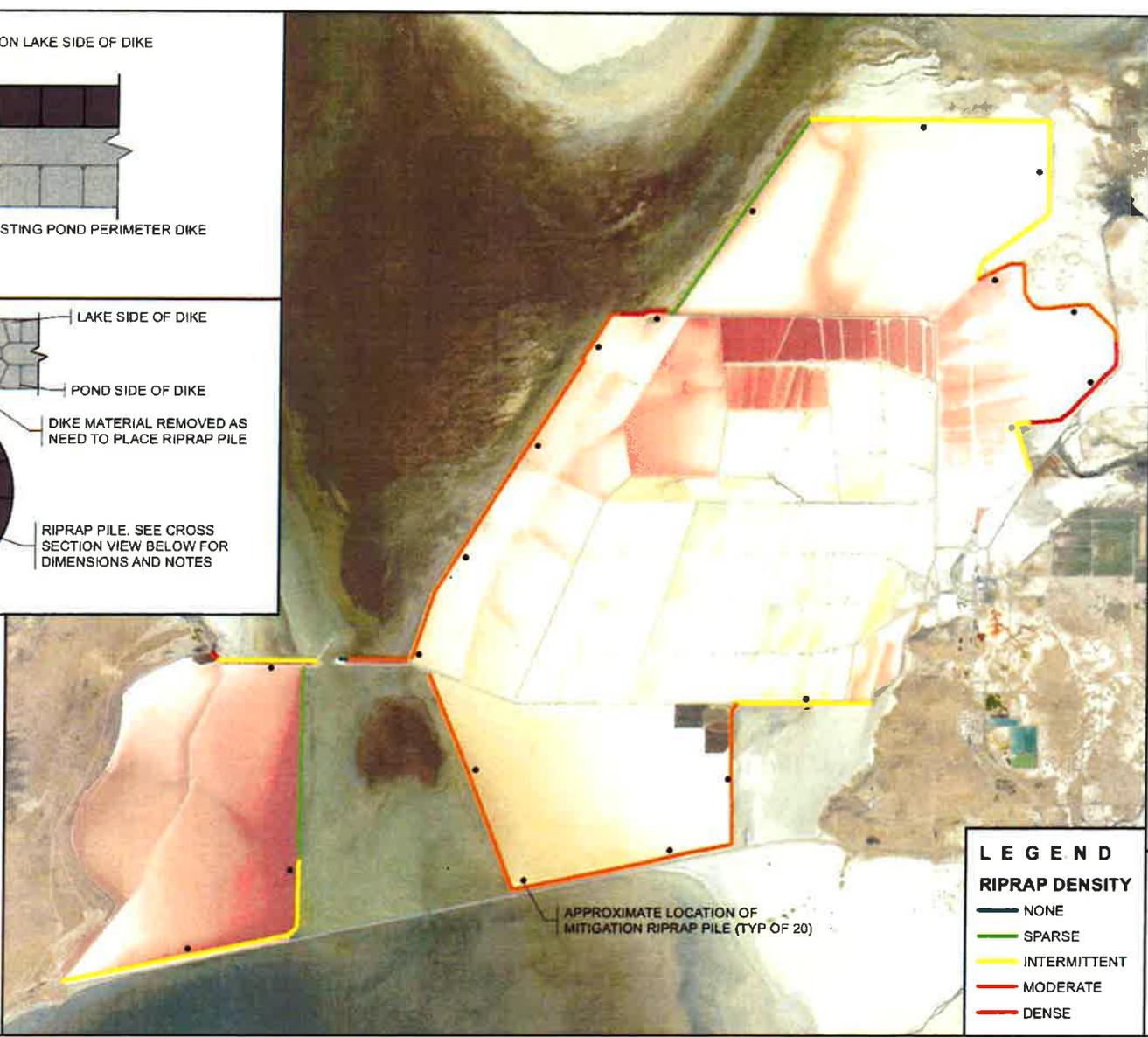
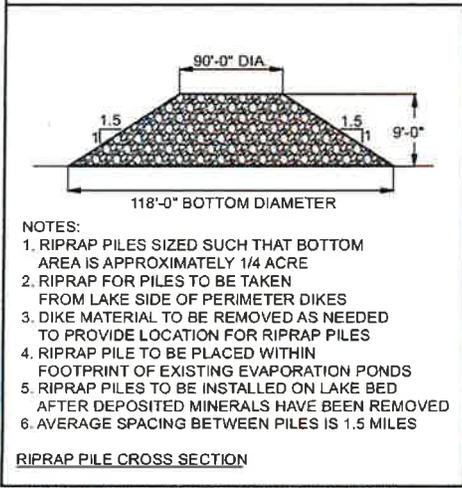
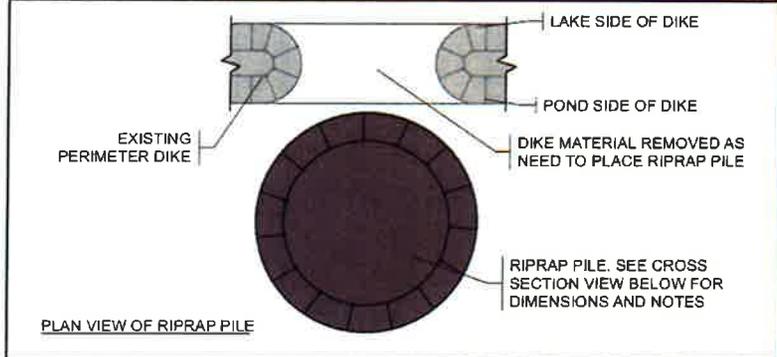
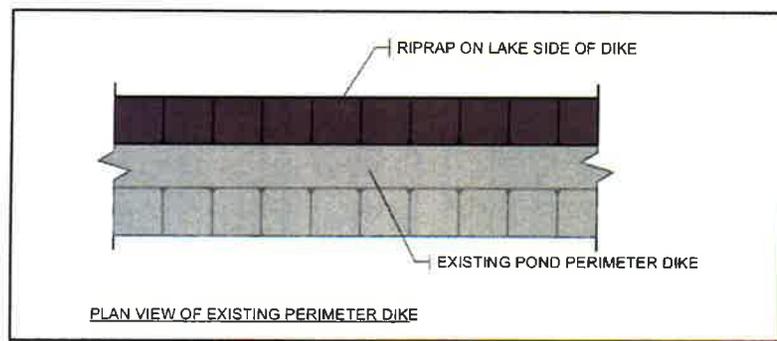
- 1) CMO engaged in cooperative communications with stakeholders around the Great Salt Lake to greatly improve the level of environmental stewardship into their plans for pond expansion. This was undertaken proactively to address concerns from stakeholders expressed during public comment periods to their proposed revisions. Stakeholders included organizations like Friends of the Great Salt Lake, the Division of Oil, Gas and Mining, Division of Forestry, Fire and State Lands, U.S. Fish and Wildlife Service, the Army Corps of Engineers (ACOE), Utah Division of Water Resources, and others.
- 2) Cooperative discussions with these groups resulted in the revision of their NOI and reclamation plan. Reclamation of the pond dikes will now be done by breaching the dikes at periodic intervals to allow lake water to flow through them and flush the remaining salts back into the lake. The riprap material excavated from the dike breaches would be used to construct migratory bird and waterfowl habitat islands in the lake that would be away from shore and secluded from predators during breeding. This would be done at both the east and west ponds.
- 3) The revision to the reclamation plan in item #2 would be more costly to undertake vs. the previously approved dike reclamation, resulting in higher surety requirements. CMO has subsequently increased its surety from approximately \$500K to \$4.2M to cover the additional costs.
- 3) Redesigned expansion of the east ponds to require less consumption of the Willard Bay area. Redesigned expansion of the west ponds to require less lake shoreline area by moving the expansion area to more inland sites determined not to be jurisdictional wetlands by the ACOE.
- 4) Designed the flows through the west ponds to take advantage of natural spring upwelling within the pond perimeters to flush out unwanted salts and replenish the mineral content of the Great Salt Lake.

Waterbird Island Construction Objectives

1. Construct potential nesting habitat for waterbird species within the area
2. Avoid potential hazards to navigation

Waterbird Island Construction

- Construct approximately 20 one-quarter acre islands spaced 1.5 miles apart
- Island spacing will allow for water traffic to pass within greater than one mile distances when area is flooded
- Island spacing will allow for pedestrian and vehicle traffic to pass within greater than one mile distances when area is dry
- Islands would be a minimum of 9 feet tall to allow for watercraft visibility during high water periods



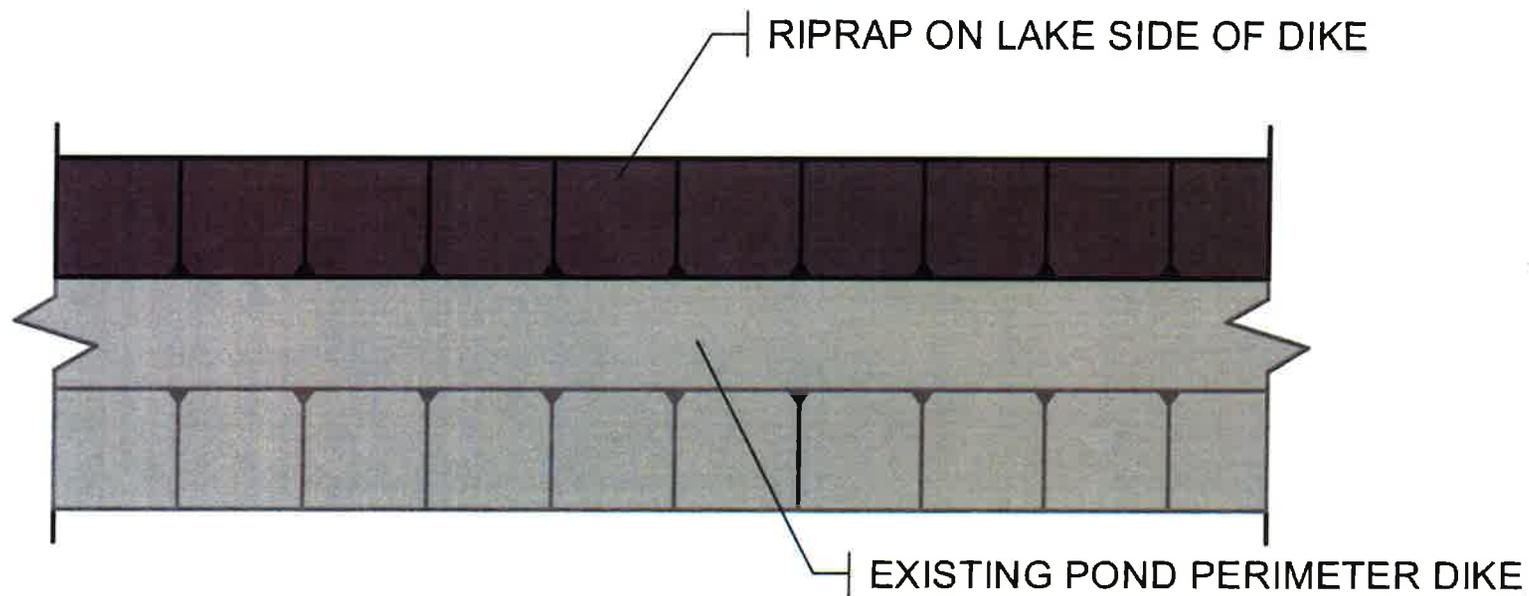
LEGEND

RIPRAP DENSITY

- NONE
- SPARSE
- INTERMITTENT
- MODERATE
- DENSE

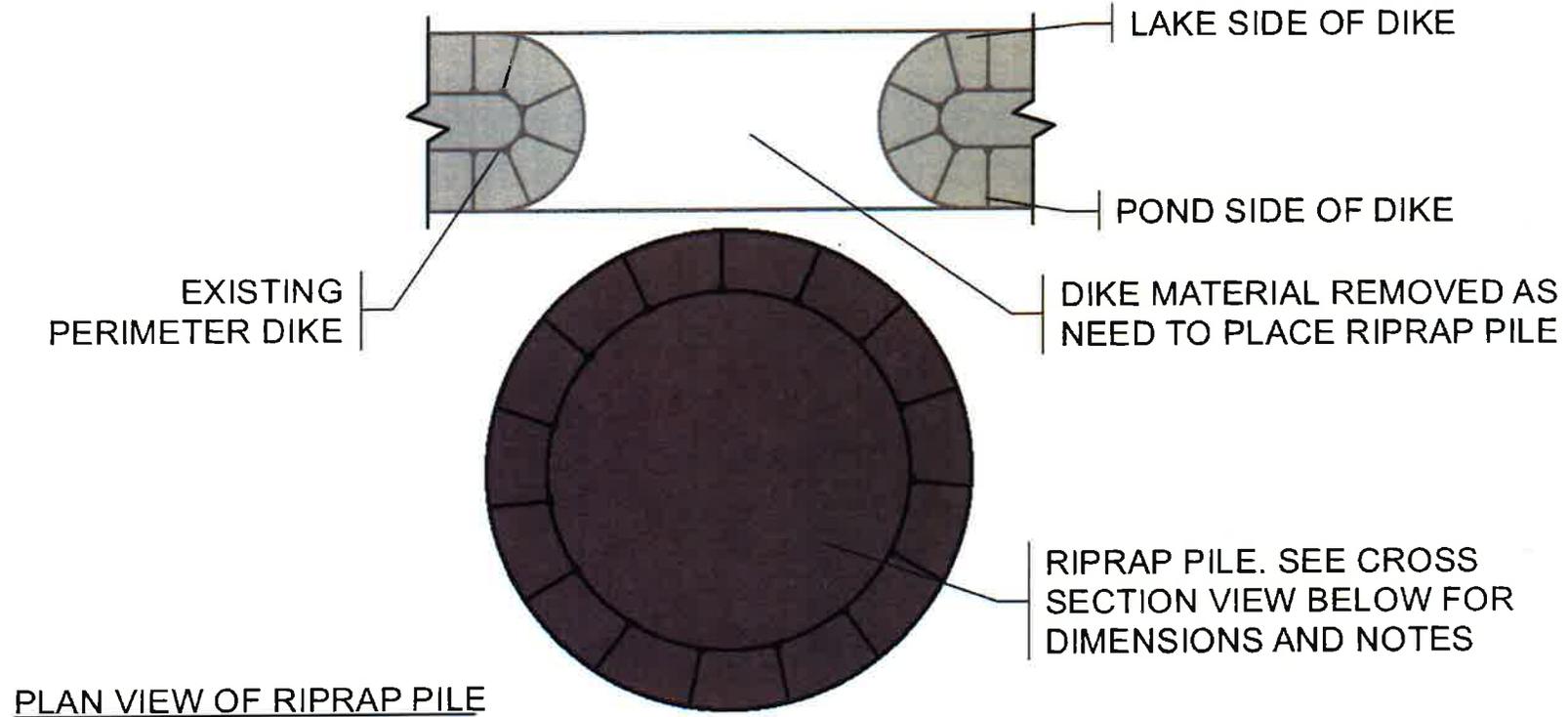
Project: Salt Lake Minerals (2002) Final EIS approved 07-05-07 Project: 0204 Model: Riprap Survey.mxd Date: 1/11/2011

- Islands would be constructed using rock rip-rap taken from de-constructed levees

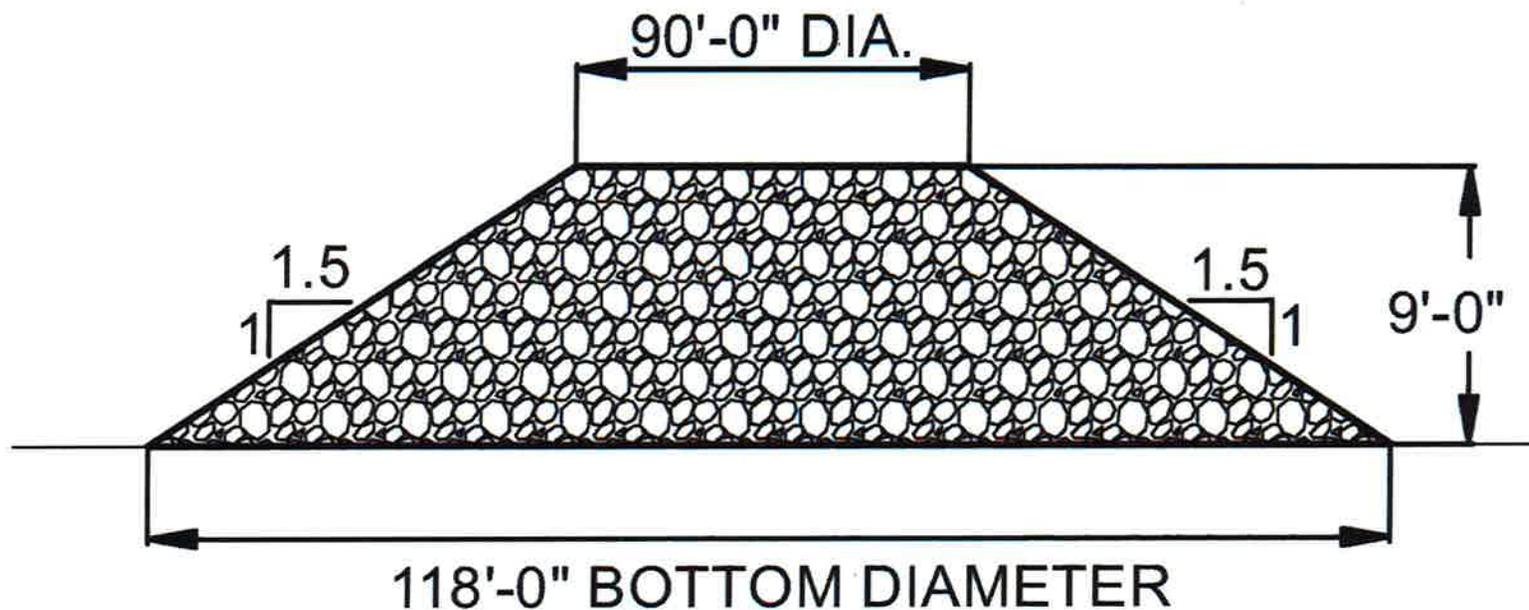


PLAN VIEW OF EXISTING PERIMETER DIKE

- Island would be located near levee breaches

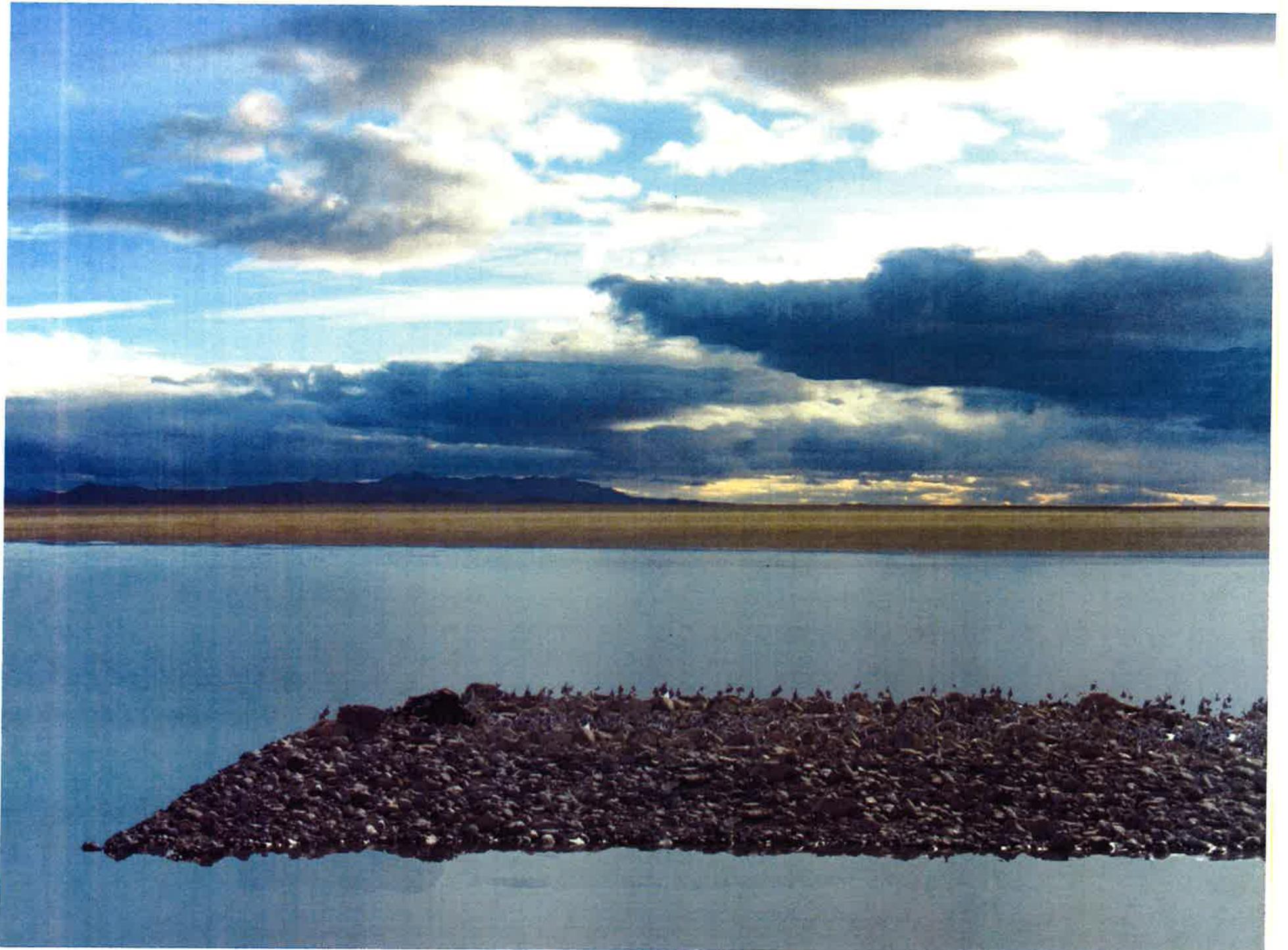


- Tops of the islands would be approximately 90 feet in diameter



Waterbird Island Construction

- The majority of island top and side slopes would consist of rocky surfaces with spaces between the rock left open
- Tops of 20% of the constructed islands would be loosely filled with levee material consisting of a varied mix of silts, clays, sands, and gravel
- All island side slopes would consist of rocky surfaces with spaces between the rock left open





Compass Minerals Ogden, Inc.
765 North 10500 West
Ogden, Utah 84404
www.compassminerals.com
913-344-92520

Notice of Intent to Amend Consolidated Mine Plan
Compass Minerals Ogden, Inc.
Ogden, Utah

1. General Information

- a. Name of Operator / Applicant: Joseph Havasi
- b. Name of Applicant: Compass Minerals Ogden, Inc.
- c. Address: 765 North 10500 West, Ogden, Utah 84404
- d. Phone: 913-344-9252
- e. Name of Project: West Ponds Sustainability
- f. Permit Number: M/057/002
- g. Location of Project: Box Elder County, Utah
T6N R5W
T6N R4W
T7N R4W
T7N R3W
- h. Ownership of Land Surface: State of Utah
- i. Ownership of Minerals: State of Utah
- j. Utah Mining Claim: There are no mining claims. Mining by solar evaporation is authorized by Royalty Agreement # 19024 dated September 1, 1962 and by various related leases from the State of Utah
- k. Utah State Leases: West Ponds Sustainability project situated in multiple lease holdings with State of Utah DNR Division of Fire, Forestry and State Lands, including:
ML 44607-SV
SULA 1267

2. Location of West Ponds Sustainability Project (Attachment A)

3. Operation Plan

GSL operates solar ponds in Clyman Bay in the North Arm of Great Salt Lake, and Bear River Bay in the South Arm of the Great Salt Lake. Various salts are harvested from the ponds as raw material for production of Sulfate of Potash, Sodium Chloride, and Magnesium Chloride. The installation of pond technology enhancements (PTE) in the Main Dike of the West Ponds in Clyman Bay (Pond 113 East Perimeter Dike) is designed to reduce leakage of refined brines from existing ponds back to the Great Salt Lake. PTE is designed to improve the functionality of existing dikes, and is fully encapsulated within the dikes. A typical cross section of a PTE integrated dike is provided in Attachment B. PTE is installed by excavating a 24-inch trench in the centerline of the outer dikes. The open trench in the existing dikes is then backfilled with an inert, cement / bentonite slurry mix. The water for the slurry is purchased from Dove Creek LLC. Once the cement / bentonite slurry cures, the top of the PTE-enhanced dikes are



Compass Minerals Ogden, Inc.
765 North 10500 West
Ogden, Utah 84404
www.compassminerals.com
913-344-92520

Construction of Pond 115 will also result in an additional pump station, which will be removed, as will all others at the completion of mineral extraction activities.

6. Variance R647 -4-107 -1. 1. 1 1 Operation Practice

Surface evaporation operations do not have mine shafts and/or tunnels. CMO is under OSHA regulatory jurisdiction so the MSHA regulatory reference is not applicable.

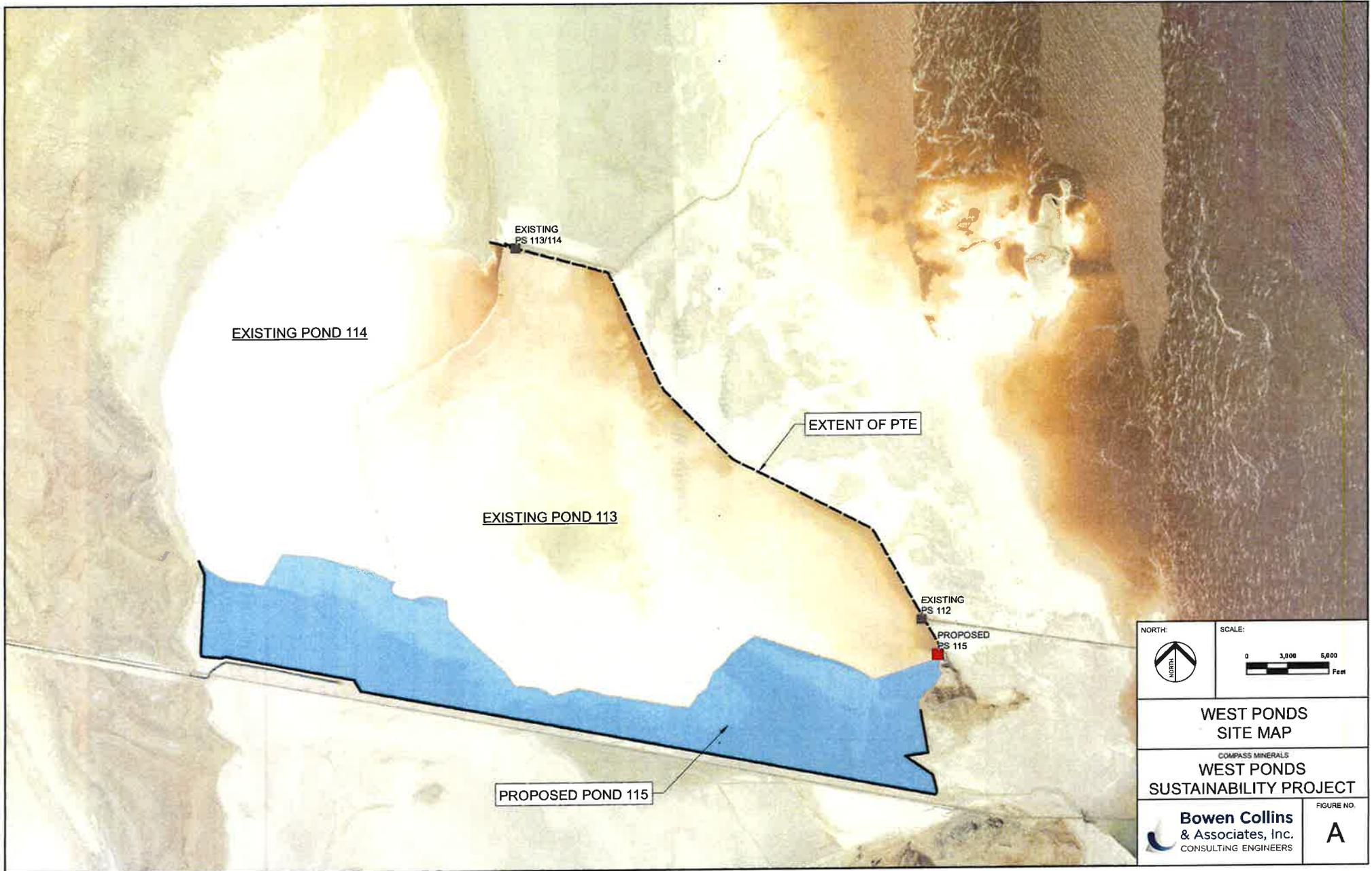
7. Surety

The construction of Pond 115 increases CMO's surety obligation by \$1,176,802. The installation of PTE does not add any incremental surety.

8. Signatory Requirement

I hereby certify that the foregoing is true and correct.

Mr. Joseph R. Havasi
Director, Natural Resources – Compass Minerals Ogden, Inc.



EXISTING POND 114

EXISTING POND 113

PROPOSED POND 115

EXISTING
PS 113/114

EXTENT OF PTE

EXISTING
PS 112

PROPOSED
PS 115

NORTH:



SCALE:



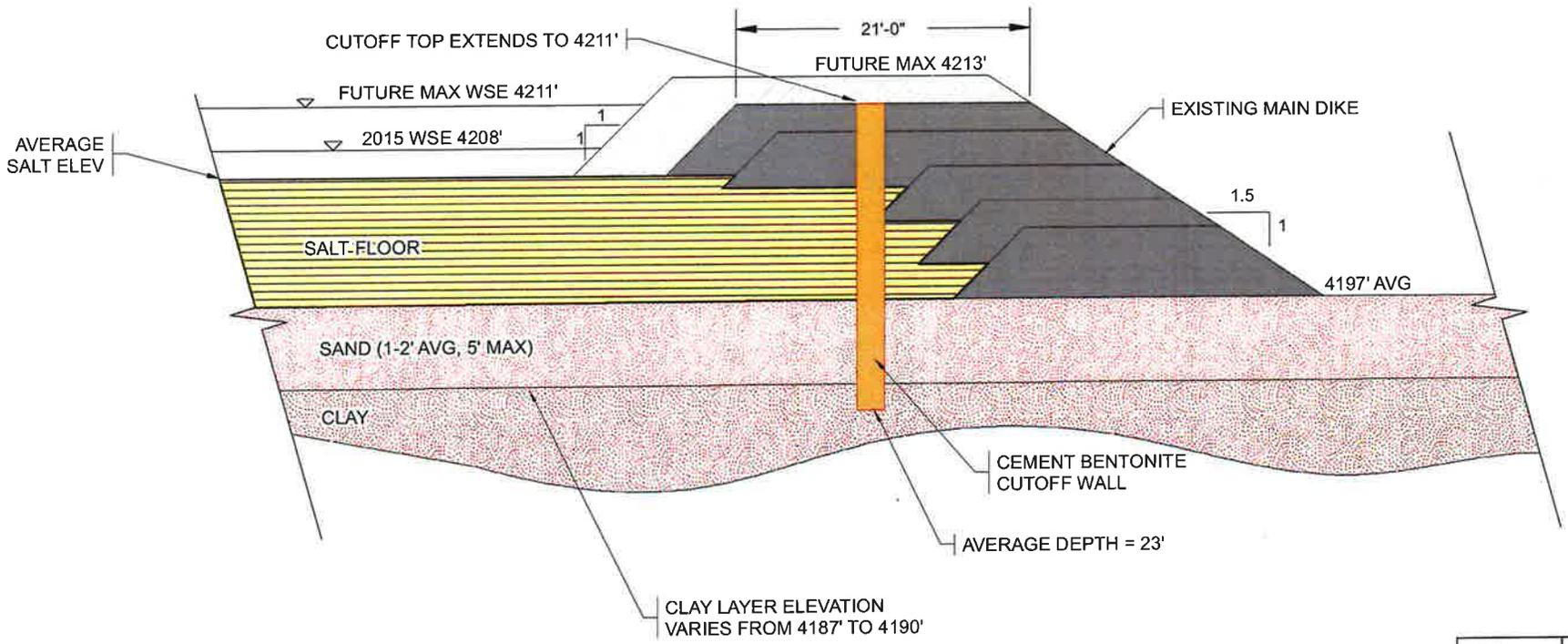
WEST PONDS
SITE MAP

COMPASS MINERALS
WEST PONDS
SUSTAINABILITY PROJECT

**Bowen Collins
& Associates, Inc.**
CONSULTING ENGINEERS

FIGURE NO.

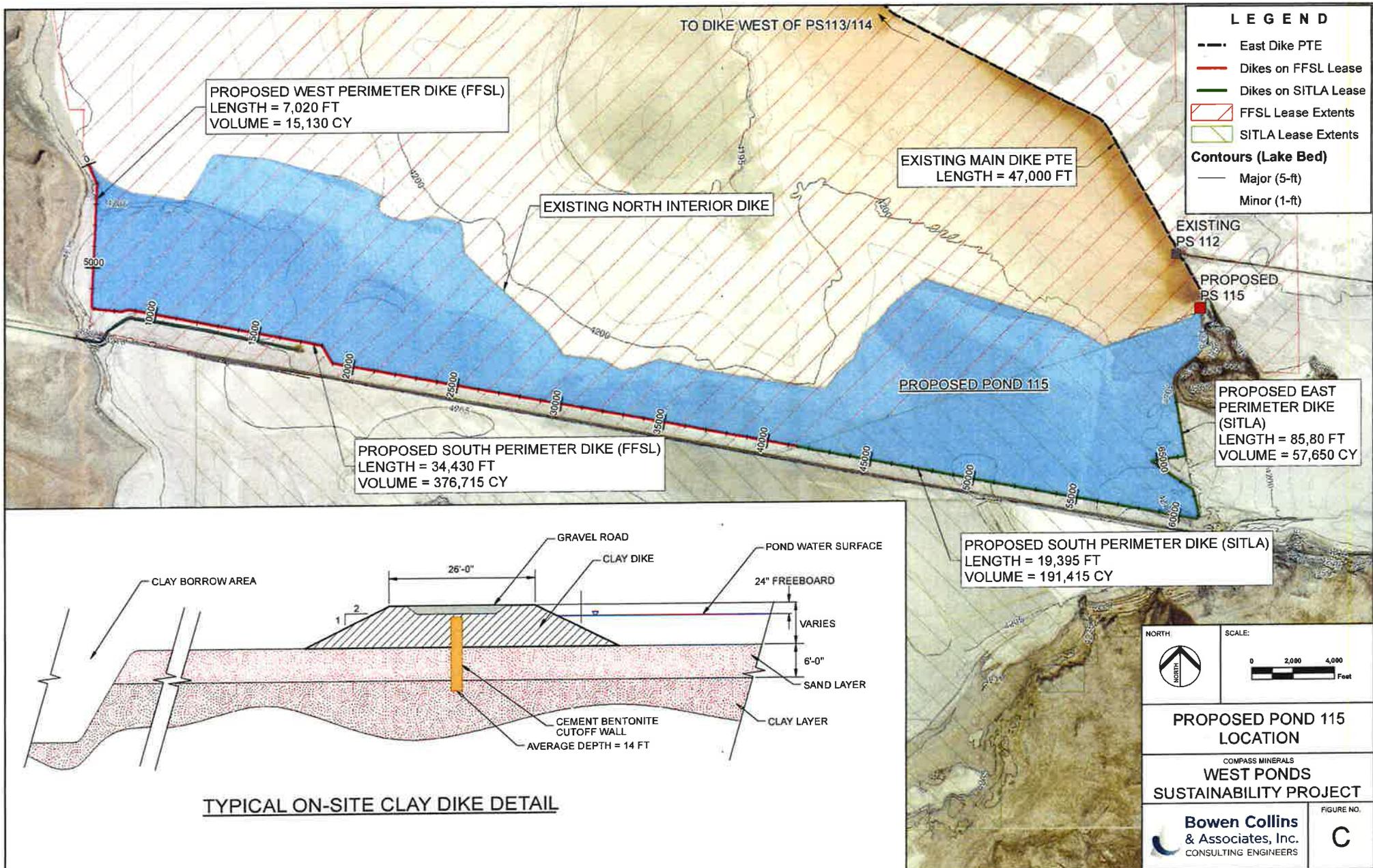
A



POND 113 MAIN DIKE - PTE

<p>NORTH</p>	<p>SCALE:</p> <p>0 4 8 Feet</p>
<p>EXISTING MAIN DIKE PTE</p>	
<p>COMPASS MINERALS WEST PONDS SUSTAINABILITY PROJECT</p>	
<p>Bowen Collins & Associates, Inc. CONSULTING ENGINEERS</p>	<p>FIGURE NO. B</p>

P:\2014\Sub-Lake-Monitoring\Cymer-Rev-5-Expansions\2-Design-Phase\2.13-03\Project\DDCM_Any_2013\04_Cutting Wall O&M P1L.mxd c:\ncthe 9/20/13





**Bowen Collins
& Associates, Inc.**
CONSULTING ENGINEERS



GERHART COLE INC.
GEO TECHNICAL ENGINEERS

MEMORANDUM

TO: Joseph Havasi
Natural Resource Manager
Compass Minerals
9900 West 109th Street, Suite 600
Overland Park, KS 66210

COPIES: File

FROM: Thayne Clark, P.E. - Bowen Collins & Associates
154 E 14000 S
Draper, UT 84020
and
Ryan Cole, P.E. – Gerhart Cole Inc.
668 E. 12225 S.
Draper, UT 84020

DATE: November 9, 2011

SUBJECT: Great Salt Lake Minerals, East Pond Sealing Project CB Wall Design

JOB NO.: 268-10-02

The purpose of this memorandum is to provide a summary of design information for the Cement Bentonite (CB) wall being constructed for Great Salt Lake Minerals as part of their ongoing East Pond Sealing Project, located near Ogden, Utah.

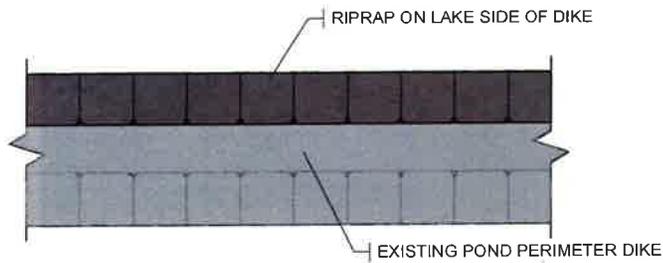
The CB wall is being constructed for the purpose of reducing leakage from the existing brine ponds. The specialty contractor, GeoSolutions Inc., has developed the CB mix design and they are also performing construction services in mixing the CB into a slurry, overseeing installation, and quality control. Quality assurance and full time field observation is being performed by Bowen, Collins & Associates and Gerhart Cole Inc.

The CB mix design is summarized in Table 1. The cured strength of the CB wall ranges from 5 psi to 20 psi, which is similar in strength to the Lake bed materials. Typical compressive strength of structural concrete, for comparison, is 4,000 – 5,000 psi.

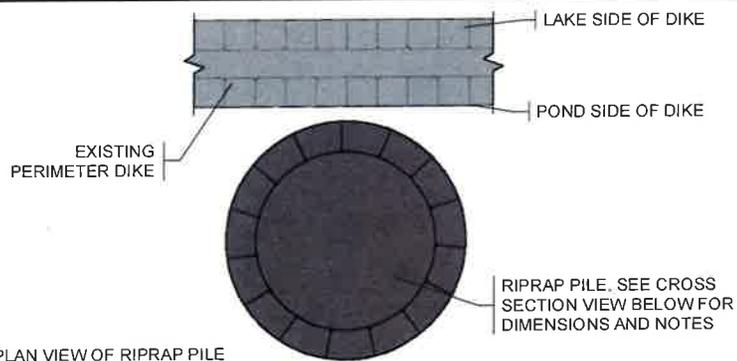


Compass Minerals Ogden, Inc.
765 North 10500 West
Ogden, Utah 84404
www.compassminerals.com
913-344-92520

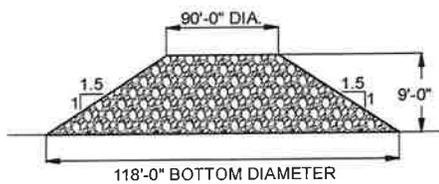
Attachment E
West Pond Reclamation



PLAN VIEW OF EXISTING PERIMETER DIKE



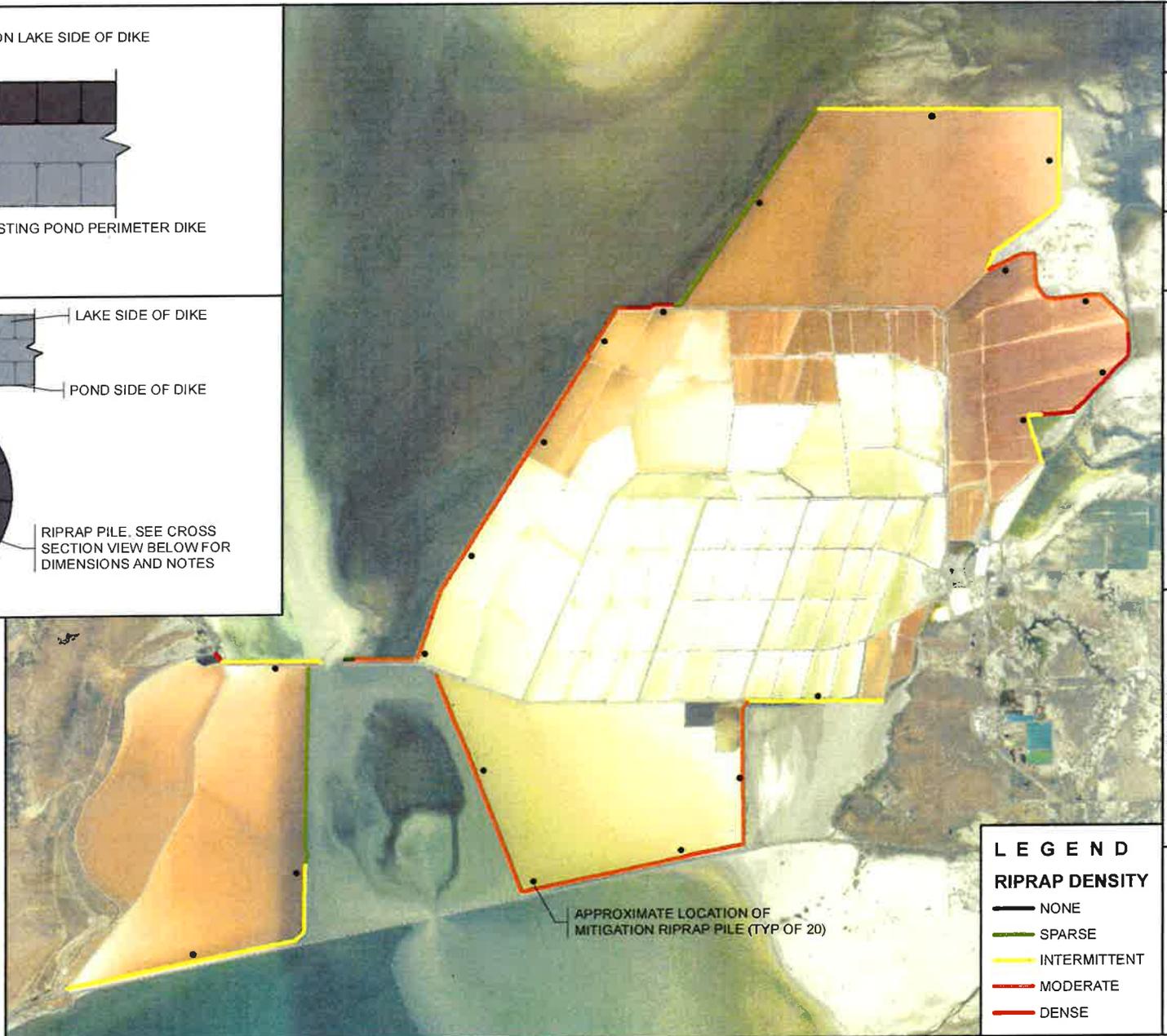
PLAN VIEW OF RIPRAP PILE



NOTES:

1. RIPRAP PILES SIZED SUCH THAT BOTTOM AREA IS APPROXIMATELY 1/4 ACRE
2. RIPRAP FOR PILES TO BE TAKEN FROM LAKE SIDE OF PERIMETER DIKES
3. DIKE MATERIAL TO BE REMOVED AS NEEDED TO PROVIDE LOCATION FOR RIPRAP PILES
4. RIPRAP PILE TO BE PLACED WITHIN FOOTPRINT OF EXISTING EVAPORATION PONDS
5. RIPRAP PILES TO BE INSTALLED ON LAKE BED AFTER DEPOSITED MINERALS HAVE BEEN REMOVED
6. AVERAGE SPACING BETWEEN PILES IS 1.5 MILES

RIPRAP PILE CROSS SECTION



LEGEND

RIPRAP DENSITY

- NONE
- SPARSE
- INTERMITTENT
- MODERATE
- DENSE

FIGURE NO. **1**

SCALE: 1" = 1 MILE

NORTH:

MITIGATION ROCK PILE FREQUENCY

COMPASS MINERALS EAST PONDS RIPRAP SURVEY

Bowen Collins & Associates, Inc.
CONSULTING ENGINEERS



Utah Department of Natural Resources
Oil, Gas & Mining

2016 UTAH BOARD OF OIL, GAS AND MINING EARTH DAY AWARDS

Nomination Form

Nominee Information:

Company Name Red Leaf Resources
Address 10808 S. River Front Pkwy
City, State, Zip South Jordan, UT 84095
Contact Person Adolph Lechtenberger
Phone 801-878-8100
Site Name Seep Ridge Road
Location Ut

RECEIVED
DEC 24 2015
DIV. OF OIL, GAS & MINING

Activity and Category (Please check one activity and one category):

Activity:

- Oil and Gas
- Minerals
- Coal

Category:

- Environmental improvement to an active mine site, drilling or recovery site, or field
- Outstanding results following applications of innovative environmental technology
- Outstanding final reclamation or site restoration
- Other: _____

(over)



Deer and Elk Habitat Improvement Research Program at Red Leaf Resources Seep Ridge Site

Wildlife in the Seep Ridge area experience severe stress during extended dry periods, particularly if these dry periods occur during the annual deer migration to this area but before significant snowfall. Recent research in the area of dry land water sources has resulted in the development of very effective water collection and utilization structures (guzzlers) that have proven effective in helping wildlife survive severe dry periods. Two of these guzzlers were constructed on Red Leaf's Seep Ridge site in advance of this fall's deer migration in a joint program with the State Division of Wildlife Resources (DWR) Habitat Program. Site selections were coordinated with other DWR guzzler installations in the area and were designed to minimize exposure to predation and allow watering location options that are strategically spaced. Materials procurement, construction, long term usage monitoring, and results analysis have been provided by DWR Habitat Program staff, while funding, equipment, site preparation, site control, and some support manpower were provided by Red Leaf.



Utah Department of Natural Resources
Oil, Gas & Mining

2016 UTAH BOARD OF OIL, GAS AND MINING EARTH DAY AWARDS

Nomination Form

Nominee Information:

Company Name Conoco Phillips
 Address P.O. Box 851 6825 S, 5300 W.
 City, State, Zip Price, UT, 84501
 Contact Person Jean Semborski
 Phone 435-820-9807
 Site Name Hiawatha PJ Removal
 Location South west of Price, UT Hiawatha

Activity and Category (Please check one activity and one category):

Activity:

- Oil and Gas
- Minerals
- Coal

Category:

- Environmental improvement to an active mine site, drilling or recovery site, or field
- Outstanding results following applications of innovative environmental technology
- Outstanding final reclamation or site restoration
- Other: Donation of ~~state~~ funds for habitat improvement project PJ removal to benefit wildlife.

(over)





Utah Department of Natural Resources
Oil, Gas & Mining

Nominated By:

Name Robert Edgel, (oil and gas biologist UDWR)
Address 319 N. Carbonville Rd, Suite A
City, State, Zip Price, UT, 84501
Phone 435-650-7058

Nomination Summary (attach additional information, photos, etc., as necessary)

Conoco Phillips has agreed to donate funds to help pay for ~~the~~ pinyon and juniper removal on 40 acres owned by Conoco Phillips. This above and beyond any requirements and demonstrates they are a responsible operator and deserving of this award. (see Attached)

Return by January 31, 2016 to:

Earth Day Awards
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210, P.O. Box 145801
Salt Lake City, Utah 84114-5801
Phone 801-538-5340; Fax 801-359-3940
oilgasmining@utah.gov



Utah Board of Oil, Gas, and Mining Earth Day Award Nomination:

Conoco Phillips

I would like to nominate Conoco Phillips for the 2016 Utah Board of Oil, Gas, and Mining Earth Day award. Conoco Phillips has demonstrated a concern for not only the economics of their industry, but has demonstrated that they are responsible stewards of the land and care for the environment in which they work. They have gone beyond simple requirements required by regulation to benefit the environment.

I approached Conoco Phillips and told them about a pinyon and juniper removal project that the we (Utah Division of Wildlife Resources) were doing on land adjacent to Conoco Phillips owned land. The area is located near Hiawatha which is about 15 miles southwest of Price, UT. We asked one of their local supervisors, Jean Semborski, if Conoco Phillips would be interested in allowing us to expand this project onto a section of their land and if they would be interested in helping to pay for this.

They responded that they would be interested in this and that I should send them a proposal for what work we would like to do and how much money we would need to complete the habitat improvement on their land. They liked what we proposed and agreed to sign a cooperative agreement that they would pay for all of the habitat restoration done on the 43 acres of their land that we identified to include in the project. The estimated cost for doing archaeological clearances, buying seed and aerially broadcasting it, and masticating the trees with a bullhog was about \$21,844.

Conoco Phillips was under no regulatory requirement to allow us to do this project and be willing to pay these funds, but they agreed to do it to show that they are a responsible company and want to give back to the community and the environment in which they work. This area is located within on of the sage grouse management areas in the governors sage-grouse plan. This area is also crucial winter range for mule deer and elk. This project will help to increase available food for sage-grouse, mule deer, and elk. The pinyon and juniper trees have outcompeted grass, forb, and shrub species that are important food for these species. By removing these trees it allows sunlight, and water to reach these understory plants. This is how it will increase the available food for these species. I think think Conoco Phillips deserves to be recognized for their contribution to this project and that is why I recommend they be awarded this award.

Photos from Before the Project Began





Photos of Some of the area After the Project







Utah Department of Natural Resources
Oil, Gas & Mining

2016 UTAH BOARD OF OIL, GAS AND MINING EARTH DAY AWARDS

Nomination Form

Nominee Information:

Company Name NORTH AMERICAN EXPLORATION INC.
Address 447 N. 300 W. SUITE 3
City, State, Zip KAYSVILLE UT 84037
Contact Person MICHAEL SANDOZ
Phone 801-510-8645
Site Name GREEN DIAMOND
Location NORTH OF VERNAL, EAST OF HWY 191

Activity and Category (Please check one activity and one category):

Activity:

- Oil and Gas
- Minerals
- Coal

Category:

- Environmental improvement to an active mine site, drilling or recovery site, or field
- Outstanding results following applications of innovative environmental technology
- Outstanding final reclamation or site restoration
- Other: _____





Utah Department of Natural Resources
Oil, Gas & Mining

Nominated By:

Name APRIL ABATE

Address 1594 W. NORTH TEMPLE STE. 1210

City, State, Zip SLC UT 84116

Phone 801-538-5214

Nomination Summary (attach additional information, photos, etc., as necessary)

SEE ATTACHED...

Return by January 31, 2016 to:

**Earth Day Awards
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210, P.O. Box 145801
Salt Lake City, Utah 84114-5801
Phone 801-538-5340; Fax 801-359-3940
oilgasmining@utah.gov**



In the category of **Environmental Improvement to an Active Mine Site**, I wish to nominate the Green Diamond Exploration project conducted by North American Mine Services. In 2013, North American received a drilling permit from our office to conduct exploration on Diamond Mountain, north of Vernal Utah near Highway 191. Diamond Mountain is considered prime Greater Sage Grouse Habitat and within one of Utah's Sage Grouse Management Areas.

As mentioned, the drilling activities took place in 2013 prior to the Fish and Wildlife's recent decision not to list the Greater Sage Grouse on the Endangered Species list. However during this time, the Division was under a directive to follow the Governor's Conservation Plan for Greater Sage Grouse in Utah. The Division, North American, and the Division of Wildlife Resources had an on-site consultation to discuss the project and plan out the drilling activities in a manner which would minimize the impacts to the lek populations in the area.

As a result, North American planned out their drilling activities following the recommendations made by the Division of Wildlife's biologist. Examples of mitigation included: strategic placement of drill pads close to existing roads or in the sagebrush areas when feasible; avoiding drilling during the bird's strutting/breeding period; timing drilling activity in a phased approach where initial locations were outside nesting habitat (no sagebrush) first, then proceeding into other areas as nesting season ended; rigs were outfitted with "fat tires" which made the tracks from the drill rig less invasive on the off-road areas; and finally, the drill pads were reseeded with a DWR-approved seed mix heavy in forbes that is favorable to the Greater Sage Grouse.

According to data collected by DWR since the drilling activity, grouse populations have increased over the last three years over the entire Diamond Mountain habitat. There are a steady number of grouse on the leks near the drill sites with no decreases in birds observed.



Figure 1 Diamond Mountain Habitat



Figure 2. Example of Equipment Used

**2016
UTAH BOARD OF OIL, GAS AND MINING
EARTH DAY AWARDS**

Nomination Form

Nominee Information

Company Name: Ash Grove Cement Co.
Address: 230 Cement Rd
City, State, Zip: Inkom, Idaho 83245
Contact Person: Craig Puljan
Phone: (208) 775-3351
Site Name: Grouse Creek Clay
Location: Western Box Elder County, Utah

Activity and Category (Please check one activity and one category)

Activity

- Minerals

Category

- Outstanding final reclamation or site restoration

Nominated By

Name: Lynn Kunzler
Address: 1594 West North Temple
City, State, Zip: Salt Lake City, UT 84114
Phone: 801-538-5310

Nomination Summary (attach additional sheets, photos, etc., as necessary)

See attached

Return by January 31, 2016 to:

**Earth Day Awards
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210, P.O. Box 145801 Salt Lake City, Utah 84114-5801
Phone 801-538-5340; Fax 801-359-3940
oilgasmining@utah.gov**

Reclamation of the Grouse Creek Clay Mine, S/003/0043, Box Elder County, Utah

The Grouse Creek Clay mine began operations on BLM administered land in 1997, mining a volcanic ash clay for use in cement production. The operation was about 5 acres in site, including a new access road. By 2003, the mine was idled due to poor quality of the clay not meeting required specs for their cement. The new access road was reclaimed at that time.

The operator kept the mine open, hoping that they would eventually be able to use previously mined and stockpiled (on site) material, but by 2014, determined it was time to reclaim the operation.

Reclamation consisted of returning previously stockpiled materials to the pit and regrading the pit to approximate original contour. The limited topsoil was then spread on the regraded surface and the site was broadcast seeded. Seeding was completed in October, 2014.

While the company did a great job in reclaiming the site, of special interest and why I am specifically nominating them for this earth day award, is that there was another small clay pit (Grouse Creek #1 mine) that was opened in trespass that was permitted by Triumph Mining Company. Triumph claimed that they had nothing to do with the mining that occurred and would not reclaim the approximate ½ acre of disturbance. While the Division and the BLM suspected that the claimant either did the mining or allowed someone else to mine on his claim, it could not be proven. As a good samaritan, Ash Grove Cement willingly reclaimed this site as well while they had their equipment in the area, thus saving the Division and/or BLM approximately \$4,000.00. Ash Grove Cement received no remuneration for their efforts to reclaim this site from either the Division or the BLM!

An inspection of these sites in 2015, the Division found that both sites were stable and vegetation was beginning to establish.

The mine site is also within the Box Elder Sage Grouse Management Area identified in the State's Sage Grouse Initiative approved by the Governor. As a side benefit of the reclamation activities, approximately 6 acres of habitat were restored for the greater Sage Grouse, a state sensitive species a candidate species for listing under the federal Endangered Species Act. The restoration required the complete removal (by backfilling or regrading) of all vertical structures on the site, including highwalls and steep slopes associated with the pits and waste dumps.

Ash Grove Cement Co. is therefore being nominated not only for outstanding final reclamation work of a mine site which resulted in approximately 6 acres of habitat being restored for the greater sage grouse, but also that reclamation extended beyond what was required in the clean-up and reclamation of a neighboring site that the operator had no responsibility to do.

Grouse Creek Clay Mine (Pre-reclamation)



Looking southeast



Looking west



Looking North



Regrading/backfilling pit.



Regrading Stockpiles.

Regrading work nearly complete.



Stockpiled topsoil to be spread over regraded pit.



Grouse Creek #1 Mine – (pre reclamation)



Ash Grove Cement had no responsibility to reclaim this site. However, they willingly reclaimed this site while they had equipment in the area. Triumph Mining Corp. had permitted this area, but claimed they had nothing to do with the mining that occurred.



Utah Department of Natural Resources
Oil, Gas & Mining

2016 UTAH BOARD OF OIL, GAS AND MINING EARTH DAY AWARDS

Nomination Form

Nominee Information:

Company Name Canyon Fuel Company, LLC - Sufco Mine

Address 597 South SR 24

City, State, Zip Salina, UT, 84654

Contact Person Wyatt Shakespear or Vicky Miller

Phone (435)286-4490 or (435)286-4481

Site Name Manti-La Sal National Forest

Location Sevier County

Activity and Category (Please check one activity and one category):

Activity:

- Oil and Gas
- Minerals
- Coal

Category:

- Environmental improvement to an active mine site, drilling or recovery site, or field
- Outstanding results following applications of innovative environmental technology
- Outstanding final reclamation or site restoration
- Other: _____





Utah Department of Natural Resources
Oil, Gas & Mining

Nominated By:

Name John Byars

Address 597 South SR 24

City, State, Zip Salina, UT, 84654

Phone (435) 286-4420

Nomination Summary (attach additional information, photos, etc., as necessary)

See attached project summary and letter to Sufco from the
Manti-La Sal National Forest, Ferron Ranger District.

Return by January 31, 2016 to:

**Earth Day Awards
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210, P.O. Box 145801
Salt Lake City, Utah 84114-5801
Phone 801-538-5340; Fax 801-359-3940
oilgasmining@utah.gov**





File Code: 2820
Date: January 21, 2016

Vicki Miller
Canyon Fuel Company, LLC
Sufco Mine
597 South SR24
Salina, Utah 84654

Dear Mrs. Miller,

The Ferron/Price Ranger District of the Manti-La Sal National Forest would like to express our appreciation for the habitat improvement work performed by the Sufco Mine in 2014 and 2015. As stated on page 5 in Appendix 7-24 North Water Mitigation Plan, in addition to the mitigation requirement of developing spring MSP-89 Sufco was also required to coordinate with the Forest Service in order to determine appropriate mitigation activities to be performed at another site. These coordination efforts and mitigation project work was to be completed before the end of year 2017. Sufco fulfilled and surpassed their obligation to the Forest Service by completing three habitat improvement projects rather than the single project requirement stated in the mitigation plan. Further, it is commendable that Sufco finished the projects sooner than what was required of them.

The three projects took place within the Muddy drainage and included the following improvements: (1) fencing more than an acre of sensitive riparian vegetation as well as fencing directly around spring locations, (2) spring development improvements, and (3) the installation of durable watering troughs. At one location Sufco went the extra mile by using their resources to remove old dilapidated fencing and troughs that had cluttered an open meadow. We recognize and appreciate the considerable effort made by Sufco to improve conditions for wildlife and plant communities, as well as for livestock on our Forest.

We also appreciate the willingness of Sufco to assist the forest in accomplishing work projects and tasks such as enabling winter access for transporting wildlife, field data sharing, mine tours, formal presentations on mining activities, and helicopter assistance, just to name a few.

We look forward to working with you in the future as a partner to create healthier ecosystems in the area of your mining operation.

Sincerely,

Darren Olsen
District Ranger
Ferron/Price Ranger District, Manti-La Sal National Forest



Canyon Fuel Company, LLC – Sufco Mine Habitat Improvement Projects in the Muddy Drainage 2014 – 2015

Background

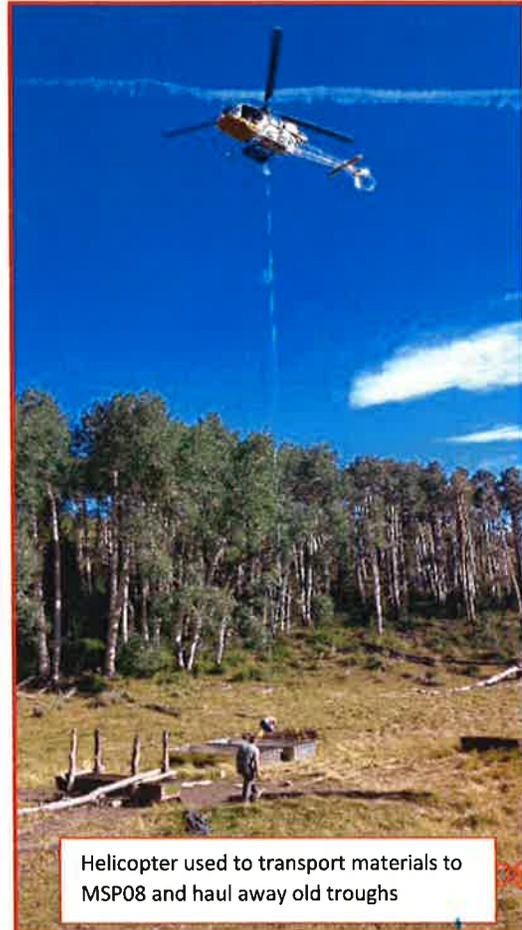
During the years 2014 and 2015, Sufco Mine completed three habitat improvement projects within the Muddy drainage. One of the three projects was completed as part of an obligation to Manti-La Sal National Forest Ferron Ranger District, while the other two projects were completed without obligation (see attached letter Sufco received from the Ferron Ranger District).

Sufco personnel coordinated with Forest Service representatives and sites were chosen according to their potential for improvement and their potential value to the wildlife/plant communities. Outlined below is a summary of the two projects including: difficulties encountered, innovative solutions to those difficulties, and benefits of the projects.

MSP08 Spring

MSP08 is a low-producing spring/seep with no defined discharge point. The seep had been developed several times in the past, but the system was dilapidated and provided very little water for wildlife in the area. A poorly maintained fence surrounding the seep no longer protected the sensitive riparian vegetation from heavy livestock use. Further, an additional 80 ft. length of non-functioning metal trough cluttered the meadow area adjacent to the seep.

Work at the site occurred during August and September of 2015. Developing this spring presented several challenges. First, the site is more than a mile from an accessible road. We were able to use a helicopter contracted to support exploration drilling in the area. We tailored our project schedule to use the helicopter when it wasn't being used for drilling operations. The use of the helicopter allowed us to



Helicopter used to transport materials to MSP08 and haul away old troughs



Dilapidated fence surrounding seep area at MSP08

eliminate damage to soils and vegetation that would have occurred by transporting materials to the site with wheeled or tracked equipment. Capturing flow in the seep area required the installation of a French drain system that has the ability to collect water from large areas instead of a single discharge point. We used gravel and filter fabric to surround the 6" drain pipe within the trench, then backfilled the remaining void with native sand excavated from the trench. The filter fabric and gravel will help protect the drain pipe from filling with sediment and clogging, thereby extend the life of the system.

We installed heavy duty aluminum troughs which will serve as reliable reservoirs for many years. The helicopter was used to haul off the aged trough materials. We removed the dilapidated fence surrounding the spring and replaced it with a new fence, expanding the protected area and preventing livestock access to the sensitive riparian vegetation.

Benefits of this project include: the protection of sensitive areas, providing a more reliable water source, and improving the habitat to support larger wildlife populations. During this past fall, a trail camera allowed us to see these new troughs being utilized by both livestock and elk.



New fence in the trenched seep area at MSP08



Filter fabric, gravel, and drain pipe placed in trench



Trough installation



Wildlife and livestock using new troughs at MSP08

MOULTRIECAM

Pines 310 Spring

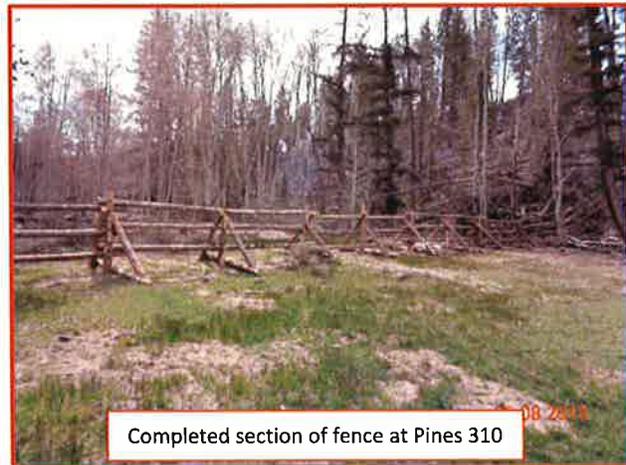
Pines 310 is a moderate producing spring, located on a hillside in North Water Canyon. The spring flowed down the saturated hillside, into a meadow of sensitive riparian vegetation. The meadow area is often heavily grazed by livestock, resulting in soil compaction as well as reduced plant productivity. We chose this site because of the great potential for vegetation enhancement by (1) conveying spring flow directly to the meadow through a pipe and (2) installing a fence to protect the meadow and spring from livestock use.

Work at the site began during the fall of 2014, after which winter weather suspended work until spring. Work resumed in April of 2015 and was completed in June of the same year. We captured the flow from the spring in a stainless steel spring box and conveyed the water directly to the meadow in a pipe. By doing so, we reduced the amount of water seeping into the hillside and increased the available flow into the meadow.

The greatest challenge to the Pines 310 project was the lack of access to the site as it is located in a canyon surrounded by sandstone ledges. The fence required roughly 210 pine poles and 160 cedar posts, while no helicopter was available to haul materials. We began moving fencing materials into the canyon using ATVs, but quickly realized that the ATVs were not suitable for the heavy loads. Additionally, continued ATV use would have negatively impacted soils and vegetation. We then decided to lower poles and posts into the canyon using a forklift with an extending boom. These measures minimized impacts to soils and vegetation, and proved to be an efficient means of moving fencing materials into the project area. The constructed fence protects roughly 1.1 acres of meadow from livestock grazing, alleviating soil compaction, and increasing plant productivity. Further, these improvements will reduce resource competition for wildlife in the area.



Spring box installation at Pines 310



Completed section of fence at Pines 310

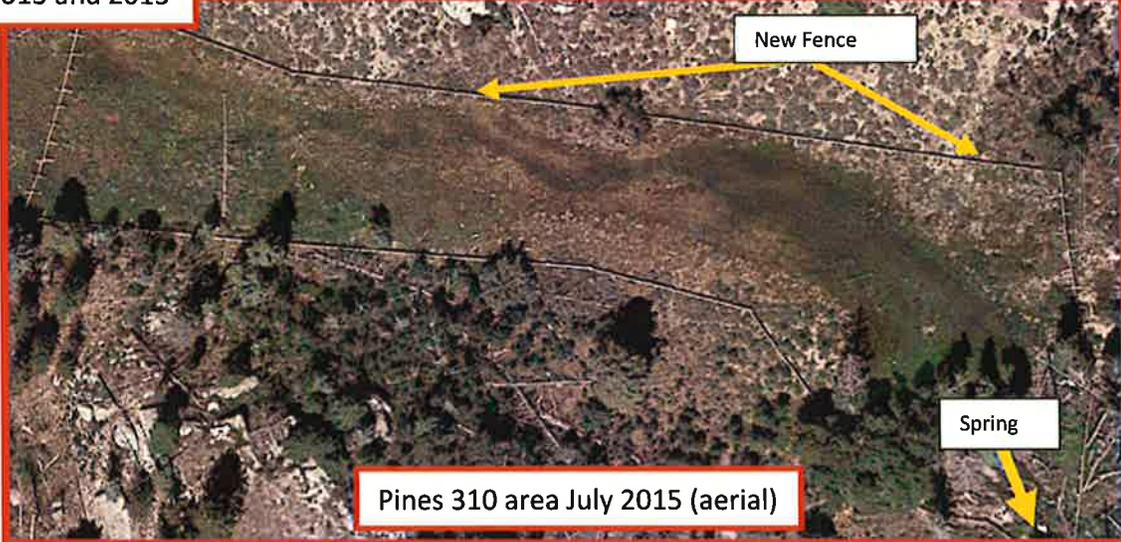


Completed fence as seen from canyon rim

Observe the difference in plant vigor between years 2013 and 2015



Pines 310 area June 2013 (aerial)



Pines 310 area July 2015 (aerial)



Pines 310 meadow area July 2015



Utah Department of Natural Resources
Oil, Gas & Mining

2016 UTAH BOARD OF OIL, GAS AND MINING EARTH DAY AWARDS

Nomination Form

Nominee Information:

Company Name Questar Pipeline Company
Address 1140 W. 200 S., P.O. Box 45360
City, State, Zip Salt Lake City, UT 84145-0360
Contact Person Mark Stewart
Phone 801-324-3972
Site Name Mainline 3 Replacement Project
Location Morgan and Davis Counties

Activity and Category (Please check one activity and one category):

Activity:

- Oil and Gas**
- Minerals**
- Coal**

Category:

- Environmental improvement to an active mine site, drilling or recovery site, or field**
- Outstanding results following applications of innovative environmental technology**
- Outstanding final reclamation or site restoration**
- Other:** _____





Utah Department of Natural Resources
Oil, Gas & Mining

Nominated By:

Name Questar Pipeline Company

Address _____

City, State, Zip _____

Phone _____

Nomination Summary (attach additional information, photos, etc., as necessary)

Innovative techniques were used by Questar Pipeline Company on its Mainline 3 Replacement Project to minimize environmental impacts. The project included improvements to Jacob's Creek, advanced site dewatering/wetland protection, careful reclamation, and innovative construction techniques. Please see the attached document for a description and photos of these efforts.

Return by January 31, 2016 to:

**Earth Day Awards
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210, P.O. Box 145801
Salt Lake City, Utah 84114-5801
Phone 801-538-5340; Fax 801-359-3940
oilgasmining@utah.gov**



Questar Pipeline Company's Mainline 3 Replacement Project Morgan and Davis Counties, Utah

In 2015, Questar Pipeline Company (Questar) completed the last phase of a multi-year replacement of its Mainline 3 natural gas pipeline (ML 3). In total, from 2009-2015 Questar replaced approximately 28 miles of older 16-inch-diameter steel pipe extending from Coalville, Summit County, Utah to South Weber in Davis County. The project was conducted in order to ensure continued safe and reliable natural gas service for years to come.

For this application, we would like to focus on the work that was conducted on the last sections of the project from Mountain Green to the mouth of Weber Canyon – which were about 4.9 miles in length (see map in Appendix A). These sections included a variety of terrain, from wetlands to rocky hillsides, and presented numerous challenges for construction and environmental protection.

To minimize environmental impacts and ensure public and worker safety, Questar and its contractor's (Snelson Companies, Inc., Sterling Construction Company, LLC and Flare Construction, Inc.) implemented the following measures throughout the construction process.

- Improvements to Jacob's Creek
- Advanced site dewatering/wetland protection
- Careful reclamation
- Innovative construction techniques

Improvements to Jacob's Creek

Jacob's Creek is a perennial waterbody that bisected the project area. Annually, cutthroat trout coming from the Weber River travel up this waterbody to spawn. Questar had to remove the existing pipeline, install the new pipeline through the Creek, and also substantially rework an existing road crossing of the Creek in order to provide adequate structure support for equipment accessing the area.

In analysis of the road crossing, it was determined that it not only was not structurally sound for large equipment, but the existing, insufficiently-sized and installed culvert pipes were not allowing cutthroat trout passage through the area to spawn. Working with the Utah Division of Wildlife Resources (UDWR) and Trout Unlimited, and with financial support of Plains and Pioneer pipeline companies who also operate pipelines that cross Jacob's Creek, Questar was able to redesign and construct the road crossing to stabilize the area and allow fish passage. Features of the new culvert system included a single, large diameter culvert that conformed to the natural grade, improved pools and channels on both sides of the culvert, and creation of artificial ripples within the culvert, somewhat mimicking natural stream-bottom conditions.

The project provided a great opportunity to work with a government agency to meet the objectives of both parties. Upon completion of the culvert project and restoration, Ben Nadolski, aquatic habitat restoration biologist with the UDWR, commented, "We are very thankful for Questar Pipeline's contribution to our efforts to conserve, protect and reconnect the habitats and fisheries that are valuable to all the people of Utah. We hope this project is the beginning of a long-term partnership and commitment toward working together to help each other reach our shared goals."

Questar contractor's took additional environmental care when, at a later date, replacement of the pipeline in the creek was conducted. Construction time within the creek and impacts to the creek, which included bank stabilization measures and erosion controls, during pipe removal and installation were minimized. Reclamation measures included strategically placing native rock and recontouring the stream to near natural conditions, reseeding the project area with riparian vegetation, and stabilizing the stream banks with erosion control matting (which is expected to biodegrade over time and as the native vegetation establishes).



Figure 1. New Jacob's Creek culvert



Figure 2. Ripples placed in bottom of culvert

Advanced Site Dewatering/Wetland Protection

The existing pipe, constructed about 50 years ago, was within a saturated wetland area near Mountain Green, Utah. In order to construct in the area without creating a sloppy mess (which could make reclamation significantly more problematic as well as create potential trench/safety issues), Questar and Sterling Construction, with approval from the appropriate regulatory agencies, implemented an extensive timber mat placement and groundwater dewatering program. Sterling Construction installed 800, 18-ft long by 4-ft wide timber mats to allow equipment movement and operation within wetland areas. All equipment was required to work on the timber mats throughout construction in order to protect root systems of existing vegetation. Sterling also installed a series of centrifugal pumps located at different points in the saturated areas to disperse the water away from the right-of-way during construction. In total, up to 9 electric pumps powered by diesel generators, placed within secondary containment, operated at any particular point of time during the project. Hoses with screened inlets were placed in trench boxes (to minimize sediment) approximately 5 feet below the ground surface. Groundwater was pumped from the work area through a hay bale sediment barrier, where the water was filtered prior to offsite discharge.

The dewatering system substantially lowered the water level in the work area allowing for a quicker and more stable trenching and pipeline installation. The sediment barrier system was regularly monitored to ensure proper filtration and erosion control was taking place. After the pumps were stopped, natural water flow quickly saturated the work area. With the application of native seed along with growth of surrounding vegetation, Questar anticipates that these areas will very quickly return to near pre-construction conditions.



Figure 3. Wetland area with timber mats and pumps



Figure 4. Wetland immediately after reclamation

Careful Reclamation

During construction of the entire ML 3 project, segregation of topsoil and subsoils was strictly enforced. The nutrient-rich topsoil, when returned as part of the reclamation procedures, provided a fertile area for reclamation success. Slope breaker and/or matting were installed on hillsides in strategic locations as permanent measure to slow or divert runoff to minimize erosion.

Questar employed a geotechnical consultant, EarthFax Engineering, Inc. to recommend slope stabilization measures that were implemented during reclamation. Snelson Construction crews expertly replaced multiple boulder field locations and countless historic cut slope areas to greatly improve slope stability through the entire length of the right-of-way and provide good seed pockets on these side slopes to promote revegetation. On federal lands, Questar and Snelson also worked with the Forest Service on boulder placement and countouring to allow access for pipeline patrols and weed control, but discourage public ATV travel.

All disturbed areas were revegetated with native seeds with a slow-release fertilizer incorporated to further stimulate vegetative growth. The result of these efforts is a nearly fully reclaimed right-of-way less than one year following completion of construction. The resulting right-of-way is vastly improved from the historic one in terms of overall appearance, slope stability, and vegetation type / quantity in this highly travelled and scenic corridor.



Figure 5. Topsoil separation



Figure 6. Hillside reclaimed with erosion control matting



Figure 7. Revegetated right-of-way (picture taken June 2015)



Figure 8. Reclaimed hillside

Figure 9. Reclaimed right-of-way with slope breakers (picture taken June 2015)

Innovative Construction Techniques

Questar was faced with a variety of difficult obstacles when constructing within Weber Canyon. These obstacles included: narrow work areas, parallel pipelines within close proximity, rough terrain, sideslopes and hillsides, and limited access.

As the project was just upslope from Interstate 84, the number one priority was public and worker safety. The primary safety mechanism consisted of employing knowledgeable, well qualified crews using careful work practices. In critical areas where any debris leaving the work area could likely reach the interstate, Questar contractors installed multiple, reinforced metal fences along the downslope side of the right-of-way to greatly reduce the chance of debris/rocks getting off the right-of-way and rolling downhill. Below steep hillsides along the south side of the interstate, temporary chain link fences were placed on top of jersey barriers as an additional precaution. In other areas, brightly colored safety fencing was used in areas less prone to debris falls that marked construction boundaries for the contractor. Continual monitoring of the conditions along the right-of-way and near the interstate was performed to ensure potentially unsecured debris was cleaned up immediately. In close coordination with UDOT, traffic control along Interstate 84, including safe closure of a single lane when necessary, was conducted with minimal disruption to traffic. As a result of careful planning and execution, no debris was reported to reach the interstate throughout the project and no safety related incidents to contractors, Questar personnel or the public occurred.

Questar worked closely with representatives from the parallel pipelines to ensure that their pipelines were protected during construction and the disturbed areas within their rights-of-way were properly reclaimed. Likewise, Questar regularly communicated with the Forest Service and other landowners throughout both the planning and construction phases to make sure that their needs were met and any concerns were addressed.

Questar was also faced with narrow work areas (generally less than 50 feet in width) and its contractors working near or, at times, on top of existing parallel pipelines. These narrow work space limited typical equipment and personnel flow along the right-of-way and thus, required a significant amount of preparation and good execution to ensure the work was completed in a safe and timely manner. While these constraints made construction more difficult and hazardous, the relatively narrow disturbed project footprint is much less noticeable visually and has reclaimed very quickly.



Figure 10. Poles for fencing being installed



Figure 11. Safety fence installation

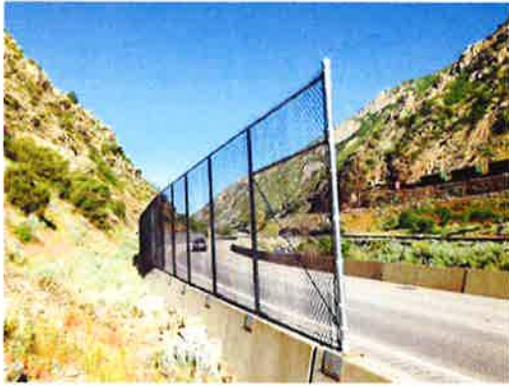


Figure 12. Chain link safety fence installed along I-84



Figure 14. Tight, narrow, and steep working conditions



Figure 13. Narrow work area.



Figure 15. Aerial view of right-of-way and safety fencing

PROJECT LOCATION





**2016
UTAH BOARD OF OIL, GAS AND MINING
EARTH DAY AWARDS**

Nomination Form

Nominee Information

Company Name Ultradent Products
Address 505 West 10200 South
City, State, Zip South Jordan, Utah 84095
Contact Person Peter Allred
Phone (801) 553-4361
Site Name Ultradent S/045/0057
Location Tooele County

Activity and Category (Please check one activity and one category)

Activity

- Oil and Gas
- ✓ Minerals
- Coal

Category

- Environmental improvement to an active mine site, drilling or recovery site, or field
- Outstanding results following applications of innovative environmental technology
- ✓ Outstanding final reclamation or site restoration
- Best practices
- Other

Nominated By

Name Leslie Heppler
Address 1594 W. North Temple, Suite 1210
City, State, Zip Salt Lake City, Utah 84114-5801
Phone 801-538-5257

Nomination Summary (attach additional sheets, photos, etc., as necessary)

See attached

Return no later than January 31, 2016 to: Earth Day Awards, Division of Oil, Gas and Mining, 1594 West North Temple, Suite 1210, P.O. Box 145801. Salt Lake City, Utah 84114-5801. Phone (801) 538-5324 Fax (801) 359-3940. Nominations may also be submitted electronically, email to oilgasmining@utah.gov

2016 UTAH BOARD OF OIL, GAS AND MINING EARTH DAY AWARDS

Nominee – Peter Allred

Activity – Minerals

Category - Outstanding final reclamation and site restoration

The nominee listed above should receive an Earth Day Award because:

Peter Allred stepped in and up to the plate to reclaim a small mine that had been received in 1999 by SITLA and 2001 by the Division of Oil, Gas and Mining. There was a reclamation bond held by the BLM, for an adjacent area. The project had slipped into the cracks of the regulatory system and the project was never bonded with OGM for the disturbance on SITLA land. In addition, Peter had requested a variance for the previous disturbance. None the less, Peter Allred reclaimed not only the dangerous adit, but also the access road. Peter Allred contributes to the progressive excellence by a Mining Company for his reclamation efforts. The reclamation was innovative, using very little outside resources, but still accomplished the goals of the Division. No funds were used from the state of Utah to accomplish the reclamation.

The work was performed in an environmentally sensitive manner and blended well with the harsh environment of the Utah West Desert. The project meets the goal of OGM for:

- Outstanding Site Reclamation
- Environmental Site Improvement
- Public Safety

The Operator promoted a very effective synergy with the Division and partnered in all phases of the reclamation. The project is a win-win situation for Ultradent and the Division of Oil, Gas and Mining, the Environment and the local community.

Mine site prior to Closure



Mine site after Closure

Portal prior to reclamation



Portal after reclamation

Mine Access Road
Reclaimed by scavenging boulders



Ultradent Mine
S/045/0057



2016 UTAH BOARD OF OIL, GAS AND MINING EARTH DAY AWARDS

Nomination Form

Nominee Information:

Company Name Simplot Phosphates LLC
Address 9401 N Hwy 191
City, State, Zip Vernal, UT 84078
Contact Person John Spencer
Phone (435) 781-3348
Site Name Vernal Phosphate Operation
Location Vernal, Utah

Activity and Category (Please check one activity and one category):

Activity:

- Oil and Gas
- Minerals
- Coal

Category:

- Environmental improvement to an active mine site, drilling or recovery site, or field
- Outstanding results following applications of innovative environmental technology
- Outstanding final reclamation or site restoration
- Other: Environmental Sustainability





Utah Department of Natural Resources
Oil, Gas & Mining

Nominated By:

Name John Spencer

Address 9401 N Hwy #191

City, State, Zip Vernal, UT 84078

Phone (435) 781-3348

Nomination Summary (attach additional information, photos, etc., as necessary)

See Attached Nomination Summary

Return by January 31, 2016 to:

**Earth Day Awards
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210, P.O. Box 145801
Salt Lake City, Utah 84114-5801
Phone 801-538-5340; Fax 801-359-3940
oilgasmining@utah.gov**



Earth Day Award Nomination

in the “Other” Category of “Minerals” Activity for

Environmental Sustainability

I am nominating Simplot Phosphates, LLC (Simplot) for an Earth Day Award, in the “Other” category of the “Minerals” Activity for their efforts in **Environmental Sustainability**. As a mining company, Simplot understands its stewardship towards the Environment. Simplot and its employees have made Environmental Sustainability a top priority.

The Vernal Phosphate Operations have been mining phosphate in Utah’s Uintah Basin for over 57 years making continuous improvements all along the way. But in 2009, the Department of Energy significantly raised the bar by personally challenging six major companies to join the Obama Administration in an effort to significantly reduce energy use over a 10 year period (2010 to 2020). To make this a SMART goal (Specific, Measurable, Attainable, Relevant, and Time Bound), the challenge became to reduce each company’s energy intensity by 25% over a ten year period and to be leaders in Environmental Sustainability for the rest of the world to follow. Simplot heartily accepted the Obama Administration Challenge. In short, the challenge or SMART goal became to reduce energy intensity by 25% over 10 years. In short, this is what we refer to as the 25/10 initiative. Simplot has fully embraced the challenge to go the "extra mile" to improve the energy efficiency and the sustainability of our mining and milling operations.

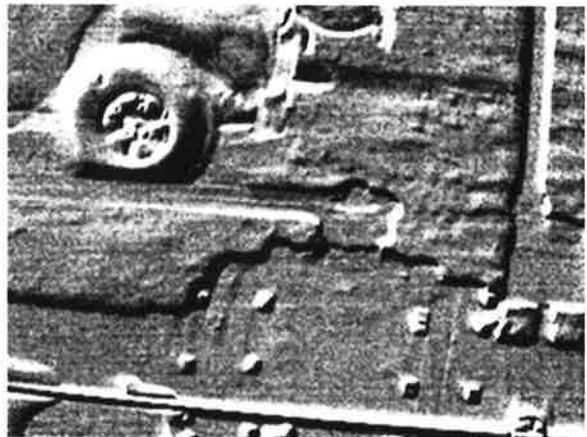
For the rest of 2009 our energy performance recorded and the baseline energy intensity was calculated by averaging the historic energy intensity of the past 2 years (2008 and 2009). So in 2010, the brainstorming and official project implementation began. We are now a little over half way through the challenge. Each year since the challenge was issued, Simplot has made major changes towards environmental improvements in the area of sustainability. Simplot has completed a wide variety of energy reduction projects such as these listed below:

- Natural Gas Reduction – Leak Detection Program
- Vehicle Idling Reduction Program
- Blasting Improvements: Improved Fragmentation, Better Digability, Increased Cast Blast Benefits, Thru Seam Blasting, ...

- Mill Operational Improvements
- Beneficiation Capital Improvements – Improved Recoveries and Higher P₂O₅ Concentrations
- VFD's – Conveyor Belt, Barge Pumps, Mill Pumps, ...
- Water Pumping Facility
- Building & Office Upgrades – Windows and Doors changed to be more Energy Efficient; Lighting converted to High Efficiency Fluorescent Bulbs and LED's
- Vehicle Conversion to Natural Gas Power
- Other Projects: Programmable Thermostats, Fans to aid heating & Cooling, Used Oil Burners for Energy recoveries, etc.

These projects are discussed in further details in the following section.

Natural Gas Reduction – Simplot's predictive Maintenance department had suspicions that our natural gas usage was higher than it should be. Even after determining that we had natural gas loss/leaks there seemed to be no way to determine where the leaks were occurring. Even with gas sniffers detecting leaks was very difficult. So working with FLIR representatives we purchased a FLIR GF300/320 infrared camera. After we



received training in the use of the FLIR camera and we were then able to not only detect, but visually see the leak and identify the source of the leak. See photo to the right showing the FLIR camera capturing a natural gas leak coming up through the parking lot pavement. This is a still photo of a video the FLIR camera took. The movement of the VOC's in the video make the gas leak much easier to detect and pinpoint the source of the leak.

This preventative Leak detection program was so successful that it was implemented across all of the Simplot owned companies. It has led to great success, beyond our imagination by identifying unsuspected gas leaks all across Simplot. This project had a return much greater than the \$30,000 value of the camera.

Vehicle Idling Reduction Program – As a result of the 25/10 initiative we evaluated and changed our vehicle idling program. In the winter months maintenance personnel would come in 2 hours before the start of shift to fuel and start equipment. The purpose was to have the equipment fueled, warmed up and ready for mine operations to start working right at the beginning of their shift. The problem was that it took 2 hours to complete this task and some of the equipment was left running for 1-2 hours before mine operations started their shift. We learned from the equipment manufacturers that in the cold winter months the equipment could from a cold start be placed into gentle operations until it warmed up completely. Through experimentation we found that by the time operators

performed their pre-shift inspections and traveled to their work areas the equipment was warm and ready for normal operations. We found that we could save all the fuel that was wasted during idling without damage being done to the engines as long as the equipment wasn't worked too hard before it fully warmed up.

Blasting Improvements – Simplot knew that there were a lot of efficiencies to be gained through blasting improvement. Our blasting improvement program was initiated with the main goals of increasing cast blast benefits, improving fragmentation, improving digability, and creating a one-step drilling operations or “Thru Seam Blasting.” The increased cast blasting benefit is almost self-explanatory. The more material we move with explosives, the less diesel fuel the mine operations needs to expend utilizing large mining equipment to move this material. The material that remains for the truck and dozer fleets to move is also better fragmented to facilitate digability. That means the Front End Loaders and the Dozers move material easier and more efficiently, that includes both ore and overburden. When we're looking at 4,000,000 tons of phosphate ore and 16,000,000 tons of overburden this plays a major role in our energy intensity.

It took a lot of planning and work to reach the level we're currently at. We hired consultants to advise us along the way and review and refine our plans. We had to change from a multi-bench highwall operation to a no bench operation. We had to purchase drills with angle drilling capacities. We had to change to an electronic detonation system to obtain the precise timing necessary. We had to hire a blast engineer to design and time the shots. We purchased a high speed camera to film our shots so we could learn from them and continue the evolution of our blasting program. We had our drillers go through an extensive drilling program to ensure consistency and accuracy. The list of requirements, costs and time to bring our blasting program to its current level goes on and on. The end result is an increase in cast benefit from approximately 20% to around 40%.



Mill Operational Improvements – The mill engineers have partnered with our reagent vendors to study how to get better recoveries using different reagents and slight changes to the beneficiation process. This starts at the theoretical stage and then evolves to laboratory testing and if promising then on to small scale mill testing. As a joint venture with Armaz, we believe we've found a unique way, through use of different chemicals and alterations in the process, to improve recovery and refine the phosphate ore. We are currently in the process of patenting these changes, but suffice it to say that we've found a way to replace the dangerous and hazardous reagent of sulfuric acid that our process currently uses with

that of an environmentally friendly chemical. The real benefit is the reduction in chemical usage. Initial results show a 97% reduction in chemical usage. This is a reduction of in excess of 5,000,000 pounds of chemicals annually. This is a significant sustainability find.

Beneficiation Capital Improvements – The mill has invested millions over the last 5 years in capital improvements. We installed a series of screens to prevent overgrinding of the phosphate ore. The flotation process we currently employ has a problem recovering the really fine particle sizes. So we installed a scavenger circuit to improve the recoveries of the phosphate from the fines. The picture to the right shows the addition of the scavenger circuit. This was about a 3 year project to get it all engineered, constructed and operational. We've made numerous improvements to the carbonate circuit to likewise improve recoveries and aid in the concentration of the P_2O_5 . These are just a few of the improvements made in the mill. We have more ideas for improvements that are scheduled for implementation as capital dollars become available over the next five years.



VFD's – The barge pumps recycle water from the tailings pond back into mill operations. The beneficiation of phosphate ore is very water intensive. The barge pumps recycle water at a rate of 20,000 to 30,000 gallons per minute depending on the need. There are 6 – 1,000 hp motors running these pumps. Previously these pumps were either on or off. To control the flow, the valves were partially closed until the desired flow was achieved. The electrical department installed Variable Frequency Drives (VFD's) on these pumps. This resulted in more efficient operations and a significant reduction in electrical usage. VFD's have also been installed throughout the facility including conveyor belts, mill pumps, etc. all with great success.

Water Pumping Facility – Evaluation of the water systems determined that we were not very efficient with the water we used. Well it's not that we're in-efficient with the water we use but in-efficient in the transportation of water to where it is needed. Simplot's operations using water are supplied by a dozen deep water wells pumping from across the property to our Ratliff building tank. From Ratliff water was then pumped to the various locations utilizing water. Our evaluation pointed out that the elevation of some of those deep wells was approximately 1,000 feet higher than the elevation of the Ratliff Tank Building. After pumping water to Ratliff, we were turning around and pumping a significant portion of the water back up that 1,000 feet to the SAG mill steady head tank for use at the mine and SAG Mill.

To remedy this inefficiency Simplot built another tank building to collect the water



coming from the higher elevations (wells B, H & J) and from this location to supply the water needs of the mine and the SAG mill operations. This solution eliminated the need for one 300 hp pump at Ratliff and one 700 hp pump at the steady head swimming pool to overcome the pressure head needed to overcome the elevation difference between the Ratliff Tank Building and mine and SAG mill operations.

Building & Office Upgrade - Using thermal cameras it was determined a lot of heat in the winter time was lost right through the doors and windows of the various mine and mill offices and buildings. The majority of the buildings on site have been around for years. Some were built in the San Francisco Chemical days, and additions were made under Stauffer. Then under Chevron, the SAG mill, the carbonate circuit, the scavenger and the mine office building and the mine shop were added. Even the age of these newer buildings dates back 30 plus years. All the original aluminum framed windows were replaced with double paned vinyl framed windows. The new windows were the very latest in technology having the high efficiency of a very low E rating. The exterior doors were all changed to the newer and better insulated type and the door frames were also installed with new foam/rubber seals to better insulate the buildings.

Right at the beginning of the 25/10 initiative, Simplot made the commitment to replace all its lighting and switch to the high efficiency fluorescent lighting. These were the lower energy consumption, more environmentally friendly lighting that was available at the time. As offices and buildings are remodeled, we have recently been installing LED lighting. Currently, our Booster Pump Station is being retrofitted with high bay LED lighting.

Vehicle Conversion to Natural Gas Power – We’ve experimented with cleaner fuel sources for our vehicles. This was done through the conversion of vehicle fuel sources from gas to natural gas powered. This is a picture of one of the warehouse trucks that has been converted to run off either natural gas or gas. The bright yellow tank right behind the cab is the natural gas fuel tank.



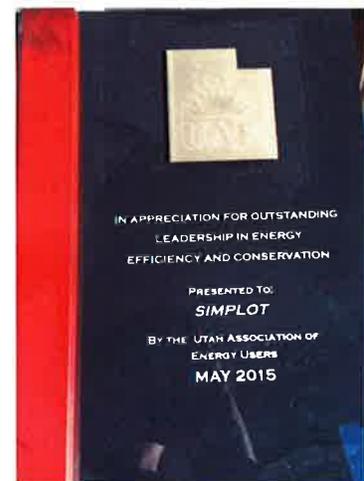
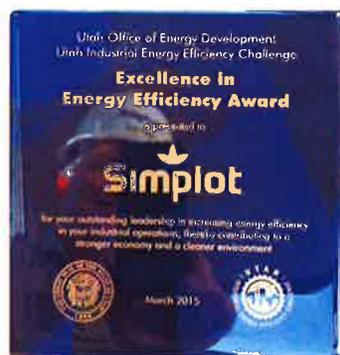
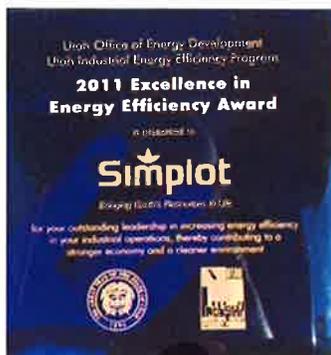
Other Projects – We’ve started a number of other projects as well. Which, while smaller in nature have a significant impact when considered as a part of the whole. We’ve run numerous energy awareness programs for all the employees. Some of the energy awareness programs include reminders by light switches to conserve energy by turning off lights if not in use. The installation of motion detection activated lighting in public areas. Energy calendars mailed to employees homes. Kids coloring contest with the theme of Energy Conservation. Start of every shift with energy



awareness, reduction, and saving themes shared with all employees. Energy bookmarks and newsletters sent to employees. TV screens in the lunch rooms showing progress towards our energy goals, increasing energy awareness, and safety and other company items.

Other items include the placement of Energy Idea boxes throughout the facility for employees to put in their ideas and suggestions for the reduction and conservation of Energy. And the subsequent creation of an Energy Champion and Energy Team that meets regularly to discuss projects and ideas. See photo of Energy Idea Suggestion Box to the right.

Many of our efforts have resulted in significant sustainability results. Simplot has received some recognition from government and other organizations as a result of a few of these improvements. Energy Awards as a result of the 24/10 initiative include:



- 2011 Excellence in Energy Efficiency Award – Utah Office of Energy Development
- Excellence in Energy Efficiency Award – Utah Office of Energy Development – March 2015
- Leadership in Energy: Efficiency and Conservation – Utah Association of Energy Users – May 2015

Where it makes sense programmable thermostats were installed. Other projects included the installation of ceiling fans to better circulate the air in buildings with high ceilings. This saves on heating costs in the winter and cooling costs in the summer. We have also installed solar lighting in several locations outside. For example, the company signs visible from the highway are now lit at night by solar lighting (batteries charged by solar panels) as are the nitrate storage bins lit for security purposes in the mine area.

In conclusion, through the implementation of new innovative products and technology Simplot has reduced its energy intensity and is leading the way to sustainability. Simplot has spent millions of dollars over the past five and a half years to improve its operations by focusing on sustainability. We feel strongly that it is our environmental stewardship to maximize our recoveries of phosphate from the earth while at the same time reducing the energy that it takes to recover that phosphate. This is our way of "Bringing Earth's Resources to life." Simplot truly embodies environmental responsibility and stewardship of the land through these various sustainability projects. These efforts are evidence that Simplot (the mining industry) is doing its part in making planet Earth more Sustainable. Thanks you for your consideration of Simplot for this Earth Day Award.