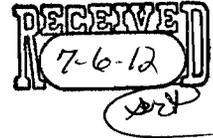


FMC Alkali Chemicals

FMC Corporation
PO Box 872
Green River, WY 82935

FMC Green River

307.875.2580 phone
www.fmc.com



July 2, 2012

Ms. Deirdre Rothery
Manager, Air Permits
U.S. EPA Region 8, 8P-AR
1595 Wynkoop Street
Denver, CO 80202-1129

RE: FMC Granger Optimization Project GHG PSD Permit Application

Dear Ms. Rothery:

During our pre-application meeting, FMC was advised by your agency that we are required to submit the following evaluations as they apply to the FMC Granger Optimization Project:

- Endangered Species Act (ESA) Section 7
- National Historic Preservation Act (NHPA) Section 106
- Environmental Justice (EJ) Analysis

Enclosed is one (1) hard copy report for each of the above evaluations. FMC believes that the results of the evaluations indicate the proposed project does not constitute a concern with respect to flora and fauna, cultural resources, and the population within the vicinity of the project.

Please contact Mike Wendorf, FMC Wyoming Corporation at 307.872.2162 or at mike.wendorf@fmc.com with any questions that EPA may have during the review of these documents.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Wendorf".

Michael Wendorf
Environmental Engineering Associate, REM
FMC Corp

Enclosures: (3)

The FMC logo, consisting of the letters "FMC" in a bold, black, sans-serif font.



605 Skyline Drive
Laramie, WY 82070

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307.745.8317 FAX

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April 18, 2012

VIA EMAIL: Julie.Lutz@fmc.com

Ms. Julie Lutz
Environmental Engineer
FMC Corporation
P.O. Box 872
Green River, WY 82935

RE: Federally Listed Species Assessment for FMC Corporation's Granger Optimization Project, Sweetwater County, Wyoming

Dear Julie:

This letter report provides the results of TRC Environmental Corporation's (TRC's) assessment of occurrence or potential occurrence of federally listed fauna and flora species, as identified under the *Endangered Species Act* (ESA), associated with FMC Corporation's (FMC's) Granger Optimization Project. Per your request, this assessment includes a search area, a 3.0-km (1.9-mi) buffer around the Granger Plant located in Section 36, T20N, R110W, and the entire Granger Permit 454 Area plus a 1.0-mi buffer (Figure 1).

METHODS

A list of federal threatened, endangered, proposed, and candidate (TEPC) species and designated critical habitat that could occur in or may be affected by projects in Sweetwater County, Wyoming, was obtained from the U.S. Fish and Wildlife (USFWS) web site (USFWS 2012). TEPC species are those that have been specifically designated as such by the USFWS. Threatened species are those likely to become endangered in the foreseeable future throughout all or a significant portion of their range. Endangered species are those in danger of extinction throughout all or a significant portion of their range. Proposed species are those for which the USFWS has provided proposed rules in the Federal Register for listing but for which a final rule has not been adopted. Candidate species are those for which the USFWS has sufficient data to list as threatened or endangered but for which proposed rules have not been issued.

A Geographic Information System (GIS) shapefile data request was submitted to the Wyoming Natural Diversity Database (WNDD) for records of known occurrences of federally listed species for the search area. The data was received February 17, 2012. To identify recorded occurrences, the GIS shapefile data were downloaded to our GIS system

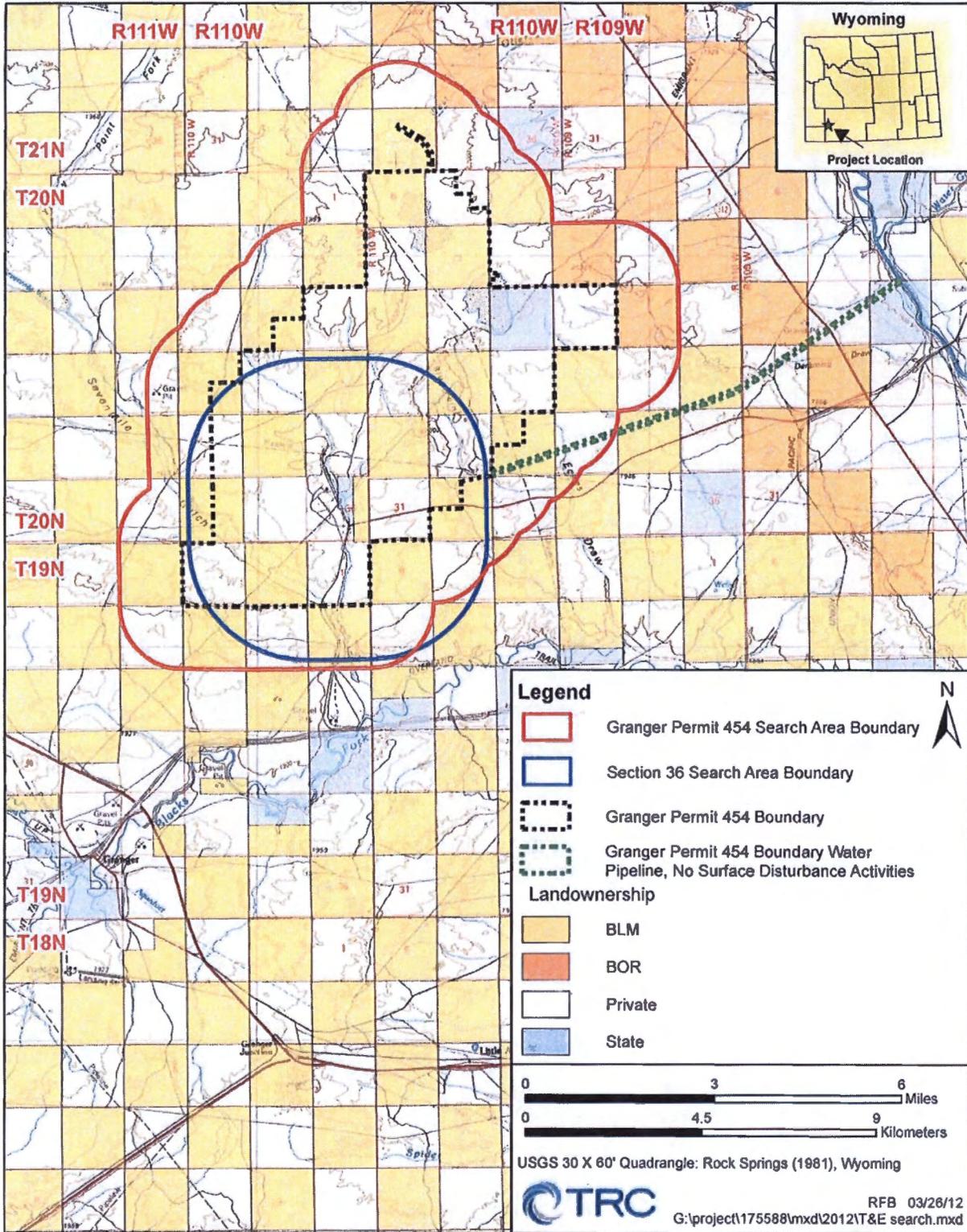


Figure 1 Location of Two Search Areas for FMC's Optimization Project, 2012.

and clipped to each of the search areas. It was necessary to clip the shapefile data because WNDD provides their data as a series of lines, polygons, or as township level data depending on the sensitivity of the data rather than exact point location data to protect the species. In addition to known occurrences, an assessment of potential occurrence of TEPC species based on habitat preference and geographic area was also provided by WNDD and based on TRC's knowledge of the search area (TRC 2011).

RESULTS

Ten TEPC species may occur or could be affected by projects in Sweetwater County (USFWS 2012) (Table 1). One candidate species, the greater sage-grouse, has been documented in the search areas (WNDD 2012 and TRC 2011 field studies). Two other TEPC species have been documented within 7.0 mi of the search area--the yellow-billed cuckoo and black-footed ferret. No suitable habitat for Canada lynx, blowout penstemon, or Ute ladies'-tresses occurs in the search area (TRC 2011). No perennial rivers or streams occur in the search area; therefore, no suitable habitat for the four Colorado River fish species occurs in the search area and there would be no water depletion from the Colorado River system. No designated critical habitat occurs for any identified species in the search area (USFWS 2012).

Greater Sage-grouse

In February 2010, the USFWS determined that the greater sage-grouse warranted listing under the ESA, but listing was precluded because of higher priority species (March 23, 2010, 75 Federal Register 13910). Therefore, the greater sage-grouse is a candidate species on the ESA. Potential nesting and brood rearing greater sage-grouse habitat occurs in the search area. Most of the search area occurs in the Seedskaadee greater sage-grouse core area (Wyoming Game and Fish Department [WGFD] 2011). The greater sage-grouse is recorded to occur in the search areas (WNDD 2012). In addition, TRC observed greater sage-grouse in the vicinity of the search area while conducting wildlife surveys in 2011 (TRC 2011). No leks occur are known to occur within the search areas (WGFD 2011).

Yellow-billed Cuckoo

In Wyoming, the yellow-billed cuckoo is a rare summer breeder that arrives from wintering grounds in South America in late May and departs from September to October. The yellow-billed cuckoo is primarily found in open streamside deciduous woodland with low scrubby vegetation undergrowth bordering Wyoming's larger rivers. Cottonwood stands and willow thickets are preferred for nesting and foraging. The yellow-billed cuckoo has been identified as potentially occurring in the riparian areas west of the Continental Divide; however, it is highly unlikely that the yellow-billed cuckoo occurs in the project area since no riparian habitat is present. No observations have been recorded in the search area, and the nearest known occurrence and suitable habitat is along the



Table 1 Federally Listed, Threatened, Endangered, Proposed, or Candidate Species, Sweetwater County, Wyoming, 2012.¹

Common Name	Scientific Name	Federal Status	Description of Suitable Habitat	Potential Occurrence ²
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Candidate	Sagebrush basins and foothills	O
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Candidate	Deciduous woods and thickets along streams	R
Black-footed ferret	<i>Mustela nigripes</i>	Endangered	Prairie dog colonies	U
Canada lynx	<i>Lynx canadensis</i>	Threatened	Montane forests	X
Blowout penstemon	<i>Penstemon haydenii</i>	Endangered	Sand blowouts and dunes	X
Ute ladies'-tresses orchid	<i>Spiranthes diluvialis</i>	Threatened	Seasonally moist soils and wet meadows of drainages	X
Colorado River Species				
Bonytail	<i>Gila elegans</i>	Endangered	Downstream riverine habitat in the Yampa, Green, and Colorado rivers	X; no water depletions
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	Endangered	Downstream riverine habitat in the Yampa, Green, and Colorado rivers	X; no water depletions
Humpback chub	<i>Gila cypha</i>	Endangered	Downstream riverine habitat in the Yampa, Green, and Colorado rivers	X; no water depletions
Razorback sucker	<i>Xyrauchen texanus</i>	Endangered	Downstream riverine habitat in the Yampa, Green, and Colorado rivers	X; no water depletions

¹ Based on USFWS (2012).

² Species occurrence (based on WNDD [2012] and TRC [2011]):

O = Known to occur.

U = Suitable habitat (i.e., prairie dog colonies) occurs in search area and vicinity; however, unlikely to occur, no known wild populations.

R = Rare; species may be in the area for just a few days or hours. Suitable habitat in the vicinity of the project area. Encounters during project development are very unlikely.

X = Unlikely; no habitat present.

Green River located approximately 7.0 mi northeast of the search area (WNDD 2012). The yellow-billed cuckoo may fly through the search area; however, no suitable habitat (riparian habitat) is present in the search area. Marginal habitat for yellow-billed cuckoo occurs along the Blacks Fork River located approximately 1.0 mi south of the search area.

Black-footed Ferret

The black-footed ferret, a federally listed endangered species, was once distributed throughout the high plains of the Rocky Mountain and western Great Plains regions (Clark and Stromberg 1987; Forrest et al. 1985). Prairie dogs are the main food of black-footed ferrets (Sheets et al. 1972); few black-footed ferrets have been historically collected away from prairie dog towns (Forrest et al. 1985). There is potential black-footed ferret habitat because prairie dog colonies occur within the search area; however, the last known wild population of black-footed ferrets was discovered in the Pitchfork area near Meeteetse in 1981. Due to the fear that canine distemper would wipe out this population, all remaining black-footed ferrets were captured from the Pitchfork area and placed into a captive breeding project in 1985 (WGFD 1997). Two historic records of black-footed ferret are documented within 5.0 mi of the search area; however, these records occurred in 1965 (WNDD 2012). The nearest reintroduction population of ferrets is the Coyote Basin Black-footed Ferret Management Area, which is located over 120 mi southeast of the search areas. The search areas are in an area that has been block cleared for surveys by the USFWS (2004).

Canada Lynx

Canada lynx, a federally listed threatened species, are typically found at elevations above 4,000 ft above mean sea level in a mosaic of forest conditions ranging from early successional to mature coniferous and deciduous stands (Meaney and Beauvais 2004). Snowshoe hares are their primary prey, though tree squirrels, voles, and mice are also eaten. No potential habitat for Canada lynx occurs within the search area.

Colorado River Endangered Fish Species

No habitat for the four endangered Colorado River fish species occurs in the search areas, and there are no known occurrences of these species in the search area (WNDD 2012). Designated critical habitat for the Colorado fishes is located downstream of the Wyoming border in the Yampa, Green, and Colorado rivers systems (USFWS 2012). These four species were formerly found in the Green River prior to the construction of the Flaming Gorge Reservoir, but are now thought to be extirpated from Wyoming (WNDD 2012) and occur downstream of the Flaming Gorge Dam (USFWS 2012).

The Recovery and Implementation Program (RIP) for Endangered Species in the Upper Colorado River Basin was initiated in January 1988 as a reasonable and prudent approach for projects to avoid jeopardizing the continued existence of the four species of Colorado



River endangered fish--bonytail, Colorado pikeminnow, humpback chub, and razorback sucker. Under the program, any depletions of water from tributaries within the Colorado River drainage system (which includes the project area) are considered by the USFWS to jeopardize the continued existence of these species. The USFWS has determined that progress made under the RIP has been sufficient to merit a waiver of the mitigation fee for depletions of 100 acre-ft or less (Memorandum dated March 9, 1995, to Assistant Regional Director, Ecological Services, Region 6, from Regional Director 6, "Intra-Service Section 7 Consultation for Elimination of Fees for Water Depletions of 100 acre-feet or Less from the Upper Colorado River Basin"). FMC should contact the USFWS if any proposed projects would result in any water depletions from the Colorado River basin.

Blowout Penstemon

Blowout penstemon, a federally listed endangered species, is a perennial herb associated with blowout depressions in sparsely vegetated active sand dunes. Individual plants have deep root systems and multiple stems that can survive shifting sands. This species is known to occur in the Sandhills of western Nebraska and in the Ferris Mountains of south-central Wyoming (Fertig 1999). No suitable habitat occurs in the search areas.

Ute Ladies'-tresses

Ute ladies'-tresses, a federally listed threatened species, is a perennial member of the orchid family that inhabits moist stream banks, wet meadows, and abandoned stream channels at elevations of 4,500-6,800 ft (Fertig 2000, 2002). Although the species will tolerate mildly alkaline conditions, it is unlikely to be found in association with Gardner's saltbush, greasewood, or other alkaline vegetation, which is common in the search area. Where it occurs in ephemeral drainages, groundwater is typically shallow (i.e., within approximately 18 inches of the ground surface) (Fertig 1994). The species has been documented in Goshen, Converse, and Niobrara counties in Wyoming (Wyoming Rare Plant Technical Committee 1997) and along the Front Range in northern and central Colorado (Spackman et al. 1997). It also has been reported below the dam at Flaming Gorge Reservoir (WNDD 2012). In recent years, much time has been devoted to determining areas in Wyoming where the species occurs. It has not been documented within or near the search area or in Sweetwater County (WNDD 2012) or within the Bureau of Land Management (BLM) Rock Springs Field Office (BLM 2012). Based on visual observation of the project area and descriptions for vegetation communities in the project area, there is no suitable habitat for Ute ladies'-tresses within or near the search area.

SUMMARY AND RECOMMENDATIONS

The greater sage-grouse is the only species with a federal status (i.e., candidate species) that occurs and will continue to occur in the search area. The large portion of the search area occurs in the Seedskadee greater sage-grouse core area, and the search area contains greater sage-grouse habitat. As you are aware, as outlined Wyoming Executive



Order 2011-5, any project disturbance in a greater sage-grouse core area triggers a density and disturbance calculation tool analysis.

Suitable habitat for the black-footed ferret occurs in the search area as white-tailed prairie dog colonies (TRC 2011); however, the search area has been block cleared by the USFWS (2004). The yellow-billed cuckoo may fly through the search area; however, no suitable habitat for this species occurs. No suitable habitat for Canada lynx, blowout penstemon, or Ute ladies'-tresses occurs in the search area. The project is not expected to result in any depletion of water from the Colorado River system, thus there would be no impacts to Colorado River endangered fish species.

It is recommended that the USFWS's website be reviewed prior to the construction of projects in the search area for any updating to the species listed for Sweetwater County.

REFERENCES

- Bureau of Land Management. 2012. BLM Wyoming sensitive species policy and list. March 31, 2010. Received via email on March 7, 2012 from Mark Snyder, Wildlife Biologist, Rock Springs Field Office, Wyoming. 3 pp.
- Clark, T.W., and M.R. Stromberg. 1987. Mammals in Wyoming. University of Kansas, Museum of Natural History, Public Education Series No. 10. 314 pp.
- Fertig, W. 1994. Wyoming rare plant guide. The Wyoming Rare Plant Technical Committee. 157 pp.
- _____. 1999. *Penstemon haydenii*-blowout penstemon: Wyoming's first endangered plant species. Prepared Wyoming Natural Diversity Database, Laramie, Wyoming. <http://uwadminweb.uwyo.edu/wyndd/what's_new_penstemon.htm>. Accessed March 5, 2012.
- _____. 2000. Status review of the Ute ladies tresses (*Spiranthes diluvialis*) in Wyoming. Prepared for the Wyoming Cooperative Fish and Wildlife Research Unit, U.S. Fish and Wildlife Service, and Wyoming Game and Fish Department. Wyoming Natural Diversity Database. Laramie, Wyoming.
- _____. 2002. *Spiranthes diluvialis*, Ute Ladies'-tresses. Family: Orchidaceae. State Species Abstract. Wyoming Natural Diversity Database. Laramie, Wyoming. 5 pp.
- Forrest, S.C., T.W. Clark, L. Richardson, and T.M. Campbell III. 1985. Black-footed ferret habitat: Some management and reintroduction considerations. Wyoming Bureau of Land Management Wildlife Technical Bulletin No. 2. 49 pp.
- Meaney C., and G.P. Beauvais. 2004. Species assessment for Canada lynx (*Lynx canadensis*) in Wyoming. Prepared for the Bureau of Land Management, Cheyenne, Wyoming. 43 pp.



Ms. Julie Lutz
FMC Corporation
April 18, 2012
Page 8

Sheets, R.G., R.L. Linder, and R.B. Dahlgren. 1972. Food habits of two litters of black-footed ferrets in South Dakota. *American Midland Naturalist* 87:249-251.

Spackman, S.B. Jennings, J. Cole, C. Dawson, M. Monton, A. Kratz, and C. Spurrier. 1997. Colorado rare plant field guide. Prepared for the Bureau of Land Management, U.S. Forest Service, and U.S. Fish and Wildlife Service by the Colorado Natural Heritage Program, Fort Collins, Colorado.

TRC Environmental Corporation. 2011. Biological survey report for FMC Corporation's four project areas, Granger Permit 454 Boundary, Sweetwater, Wyoming. November 2011. 10 pp. + append.

U.S. Fish and Wildlife Service. 2004. Removal of black-footed ferret survey recommendations across most of Wyoming. Memorandum ES-61411/BFF/WY7746d. February 3, 2004. 4 pp.

_____. 2012. Federal endangered, threatened, and candidate species and designated critical habitats that occur in or may be affected by projects in Sweetwater County, Wyoming. 2 pp. <<http://www.fws.gov/wyominges/PDFs/CountySpeciesLists/Sweetwater.pdf>>. Accessed March 1, 2012.

Wyoming Game and Fish Department. 1997. Black-footed ferret. Wyoming Game and Fish Conservation Publication, Volume 13, No. 8. 3 pp.

_____. 2011. Greater sage grouse lek and core habitat GIS shapefiles. Wyoming Game and Fish Department, GIS Section, Cheyenne.

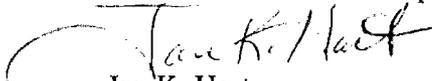
Wyoming Natural Diversity Database. 2012. Database search for the T19-20N, R110-111W, T21N R110W, Sweetwater County. Wyoming Natural Diversity Database, Laramie, Wyoming. Unpublished data. 10 pp.

Wyoming Rare Plant Technical Committee. 1997. Wyoming rare plant guide.

If you have any questions, please call me at (307) 742-3843 or send an email to jhart@trcsolutions.com. Thank you for the opportunity to assist you and FMC on this project.

Sincerely,

TRC Environmental Corporation



Jan K. Hart
Senior Project Manager/Biologist

JKH:ggd

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ARTS. PARKS. HISTORY.

Wyoming State Parks & Cultural Resources

State Historic Preservation Office
2301 Central Ave., Barrett Bldg. 3rd Floor
Cheyenne, WY 82002
307-777-5497
FAX: 307-777-6421
<http://wyoshpo.state.wy.us>

Jun 14, 2012

Fred von Ahrens
FMC Corporation
P.O. Box 872
Green River, WY 82935

re: FMC Alkali Chemicals, Granger Optimization Project (SHPO File # 0612BAB013)

Dear Mr. Ahrens:

Thank you for consulting with the Wyoming State Historic Preservation Office (SHPO) regarding the above referenced undertaking. We have reviewed the associated report and find the documentation meets the Secretary of the Interior's Standards for Archaeology and Historic Preservation (48 FR 44716-42). We concur with your finding that no historic properties, as defined in 36 CFR § 800.16(l)(1), will be affected by the undertaking as planned.

We recommend that the undertaking proceed in accordance with state and federal laws subject to the following stipulation:

If any cultural materials are discovered during construction, work in the area shall halt immediately, the federal agency must be contacted, and the materials evaluated by an archaeologist or historian meeting the Secretary of the Interior's Professional Qualification Standards (48 FR 22716, Sept. 1983).

This letter should be retained in your files as documentation of a SHPO concurrence on your finding of no historic properties affected. Please refer to SHPO project #0612BAB013 on any future correspondence regarding this undertaking. If you have any questions, please contact me at 307-777-8594.

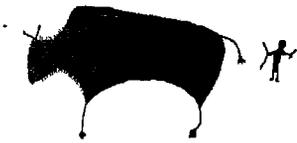
Sincerely,



Brian Beadles
Historic Preservation Specialist



Matthew H. Mead, Governor
Milward Simpson, Director



*Western
Archaeological
Services, Inc.*

*Contract Archaeological
and Historical
Cultural Resource Consulting*

April 11, 2012

John Lucas
FMC Corporation
P.O. Box 872
Green River, Wyoming 82935

RE: Documentation for a Class III exclusion for the proposed FMC Granger Plant Optimization Project (12-WAS-117)

Dear John:

This letter is in reference to your request for cultural resource studies for the FMC Granger Plant Optimization proposed for the facility modifications associated with the Optimization Project located in Section 36, T20N, R111W, Sweetwater County, Wyoming (Figure 1). The proposed FMC Granger Plant Optimization Project is located within existing disturbances on the plant site in the NW $\frac{1}{4}$ and the Center of the N $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 36, T20N, R111W. The project is located on private land.

The project involves the construction of additional facilities within the existing footprint at the FMC Granger Mine in Section 36, T20N, R111W (Figure 1). A field inspection was conducted on March 27, 2012, to photograph the areas of proposed construction within the mine facility. The project is conducted entirely within existing disturbances at the Granger Plant. Figure 2 is a schematic map showing the location of the proposed optimization facilities at the FMC Granger Plant site.

The Granger facility proposes to construct several new facilities within the plant site including a new processing building, tank farms to be constructed to the north and south of the new processing building and a new electrical building with transformers all to be located to the west of the existing Mill building (see Figure 2). A new mono evaporative dropout tank and flocculent tank and building will

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621 Wind River Avenue
Casper, WY 82609
(307) 234-4830
FAX (307) 234-4851

be built to the southeast of the existing Mill building. Pipe racks will extend to the south of the Mill building with the west pipe rack to terminate at the newly proposed cooling tower and the east pipe rack will be modified and will terminate at the existing caustic area (see Figure 2). A newly constructed clarifier will be built west of the existing caustic area and north of the newly constructed mine water loadout facility. The proposed clarifier is located within an area previously inventoried at a Class III level. Western Archaeological Services (WAS) conducted a Class III investigation for the proposed FMC Granger Surface Mine Water Loadout facility (Crompton 2011). No cultural resources were identified in the surveyed area (see Figure 2). Figure 3 is a Google Earth map of the FMC Granger Plant showing the proposed improvements to the plant site.

Figure 4a is an overview photograph of the FMC Granger Facility taken from a low ridge southeast of the mine. Figure 4b is a photograph of the proposed Process building located west of the existing Mill building within the plant site. Figure 5a is a photograph showing the location of the proposed north tank farm. The proposed electrical building and transformers will be built in the left foreground of the photo. Figure 5b is a photograph of the existing pipe racks where the proposed pipe racks will be built. The newly proposed south tank farm will be constructed in the left foreground of the photo. Figure 6a is a photo that shows the existing disturbances in the location proposed for the new clarifier at the FMC Granger Plant. Figure 6b shows existing facilities and disturbances in the area proposed for the new Mono Evaporative Dropout Tank and the proposed Flocculent tank and building.

The project is located in the central portion of the Green River Basin in southwest Wyoming. Topography in the general area consists of highly undulating plain, altering between interfluvial ridges and broad shallow drainage valleys. The proposed Granger Plant Optimization Project is located within the existing plant facilities. A field inspection on March 27, 2012, by a WAS archaeologist determined that the entire project is located on previously disturbed land. Sevenmile Wash is located approximately 1 mi southwest of the project area. Areas within the plant that are not paved consist of tan residual sand armored with gravels, pebbles, cobbles, and pieces of sandstone. Vegetation consists of various grasses that have established within existing disturbances.

A file search was requested from the State Historic Preservation Office (SHPO) Cultural Records Office (CRO) in Laramie and received on March 27, 2012, File Search No. 28417. Files at WAS were also consulted. General Land Office Maps on the SHPO web site were consulted given the presence of previously documented historic resources in the vicinity of the project area. A complete file search is presented in Table 1.

The file search for Section 36, T20N, R111W, indicates that 18 projects have been conducted in this section. These projects include six pipeline surveys, three well pad and access road surveys, two powerline surveys, two conveyor surveys, one mine block survey, one Class II sampling survey, one fiber optic line survey, and one seismic survey. Three of these projects overlap the current project survey area. The Intermountain Consumer Power Association Transmission Federal powerline was inventoried by Archaeological Services of Western Wyoming College (AS-WWC) in 1979. The Texas Gulf Injection well and pipeline was inventoried by AS-WWC in 1990. WAS conducted the FMC Granger Surface Mine Water Loadout survey (Crompton 2011). Portions of these projects overlap the current project.

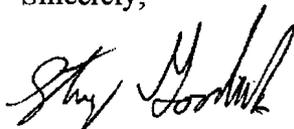
There are 11 previously recorded sites in this section. These include five not eligible prehistoric camps with SHPO concurrence, one eligible prehistoric camp with SHPO concurrence, one not eligible prehistoric lithic scatter with SHPO concurrence, one unevaluated prehistoric camp, one unevaluated prehistoric lithic scatter, one not eligible lithic landscape with SHPO concurrence, and one eligible historic trail with SHPO concurrence. Of these 11 previously recorded sites, 3 are located within .25 mi of the project area. Site 48SW827, the Emigrant Trail, is located 800 ft east of the project area (see Figure 1). It is considered eligible for nomination to the National Register of Historic Places (NRHP) with SHPO concurrence. The setting of the Emigrant Trail near the project area has been compromised by the FMC Granger Mine and the setting is no longer important to the integrity of the trail. The project will have no effect on the Emigrant Trail and no further work is recommended. Site 48SW1671 is an unevaluated lithic scatter located 600 ft west of the project area. Site 48SW11117 is a prehistoric lithic scatter located 600 ft west of the project area. It is considered not eligible for nomination to the NRHP with SHPO concurrence. No known cultural resources will be impacted by the project, as undertaking that is located entirely within previously disturbed grounds within the FMC Granger Plant facility. The project will have no effect on known cultural resources.

Previously conducted projects are evenly distributed across the section. Based on the number and distribution of projects in this section, the previously conducted work represents a good representative sample of the section. Eleven previously recorded sites are evenly distributed across the section. Based on the number of previously conducted projects and the distribution of projects and sites across the section, it is predicted that the project area is located in a moderate to low site density area. The project is located on previously disturbed ground.

The proposed FMC Granger Plan Optimization Project is located on land that is entirely contained within the plant footprint and has been previously disturbed. A field inspection conducted on March 27, 2012, confirmed that all proposed improvements are contained within the FMC Granger plant site. Most of the ground has been paved. Sediment in areas that have not been paved consist of tan residual sand armored with gravels, pebbles, cobbles, and pieces of sandstone. As presently designed, the proposed FMC Granger Plant Optimization Project will have no effect on known cultural resources. Cultural resource clearance is recommended.

If you have any questions concerning this report or if we can be of further assistance, please call our office.

Sincerely,



Stacy R. Goodrick
Principal Investigator

SRG:jas

References Cited:

Crompton, J.

2011 *Class III Cultural Resource Inventory for the FMC Granger Surface Mine Water Loadout Facility (11-WAS-099)*. Submitted to the Department of Environmental Quality. Prepared for FMC Corporation. Western Archaeological Services, Rock Springs, Wyoming.

REPORT COVER PAGE

Consultant Project No.: 12-WAS-117	Agency No.:
Review and Compliance No.:	Cultural Records Office No.:

AUTHOR: Joni Stainbrook

REPORT TITLE: FMC Corporation; Granger Plant Optimization Project Class III Exclusion and Field Inspection

DATE OF REPORT: March 27, 2012

LEAD AGENCY: Environmental Protection Agency (EPA)

SURVEY ORGANIZATION/NAME: Western Archaeological Services (WAS)

FEDERAL PERMIT NOS.: 010-WY-SR12 and 374-WY-LTC10 (4/30/2012)

DESCRIPTION OF UNDERTAKING: The project involves the construction of additional facilities within the existing footprint at the FMC Granger Mine in Section 36, T20N, R111W (Figure 1). A field inspection was conducted on March 27, 2012, to photograph the areas of proposed construction within the mine facility. The project is conducted entirely within existing disturbances at the Granger Plant. Figure 2 is a schematic map showing the location of the proposed optimization facilities at the FMC Granger Plant site.

The Granger facility proposes to construct several new facilities within the plant site including a new processing building, tank farms to be constructed to the north and south of the new processing building and a new electrical building with transformers all to be located to the west of the existing Mill building (see Figure 2). A new mono evaporative dropout tank and flocculent tank and building will be built to the southeast of the existing Mill building. Pipe racks will extend to the south of the Mill building with the west pipe rack to terminate at the newly proposed cooling tower and the east pipe rack will be modified and will terminate at the existing caustic area (see Figure 2). A newly constructed clarifier will be built west of the existing caustic area and north of the newly constructed mine water loadout facility. The proposed clarifier is located within an area previously inventoried at a Class III level. Western Archaeological Services (WAS) conducted a Class III investigation for the proposed FMC Granger Surface Mine Water Loadout facility (Crompton 2011). No cultural resources were identified in the surveyed area (see Figure 2). Figure 3 is a Google Earth map of the FMC Granger Plant showing the proposed improvements to the plant site.

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SURVEY METHODS: No survey was conducted.

COUNTY: Sweetwater

USGS QUAD MAPS: Sevenmile Gulch, Wyoming (1961; photorevised 1980)

LAND OWNER: Private

(Specify): Section 36, T20N, R111W, is private land.

LEGAL DESCRIPTION: The proposed FMC Corporation Granger Plant Optimization Project located within the established boundaries of the FMC Granger Plant in the NW $\frac{1}{4}$ and the center of the N $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 36, T20N, R111W (Figure 1).

ACREAGE:

FEDERAL SURFACE	BLOCK: 0	LINEAR: 0	TOTAL: 0	TOTAL ACREAGE:
NON-FED SURFACE	BLOCK: 0 ac	LINEAR: 0 ac	TOTAL: 0 ac	0 acres

FILE SEARCH DATE: March 27, 2012 (Filesearch #28417)

FIELD INSPECTION DATE: March 27, 2012

FIELD PERSONNEL: Joni Stainbrook (crew chief)

RESULTS: No new or previously identified cultural resources are located within the project area.



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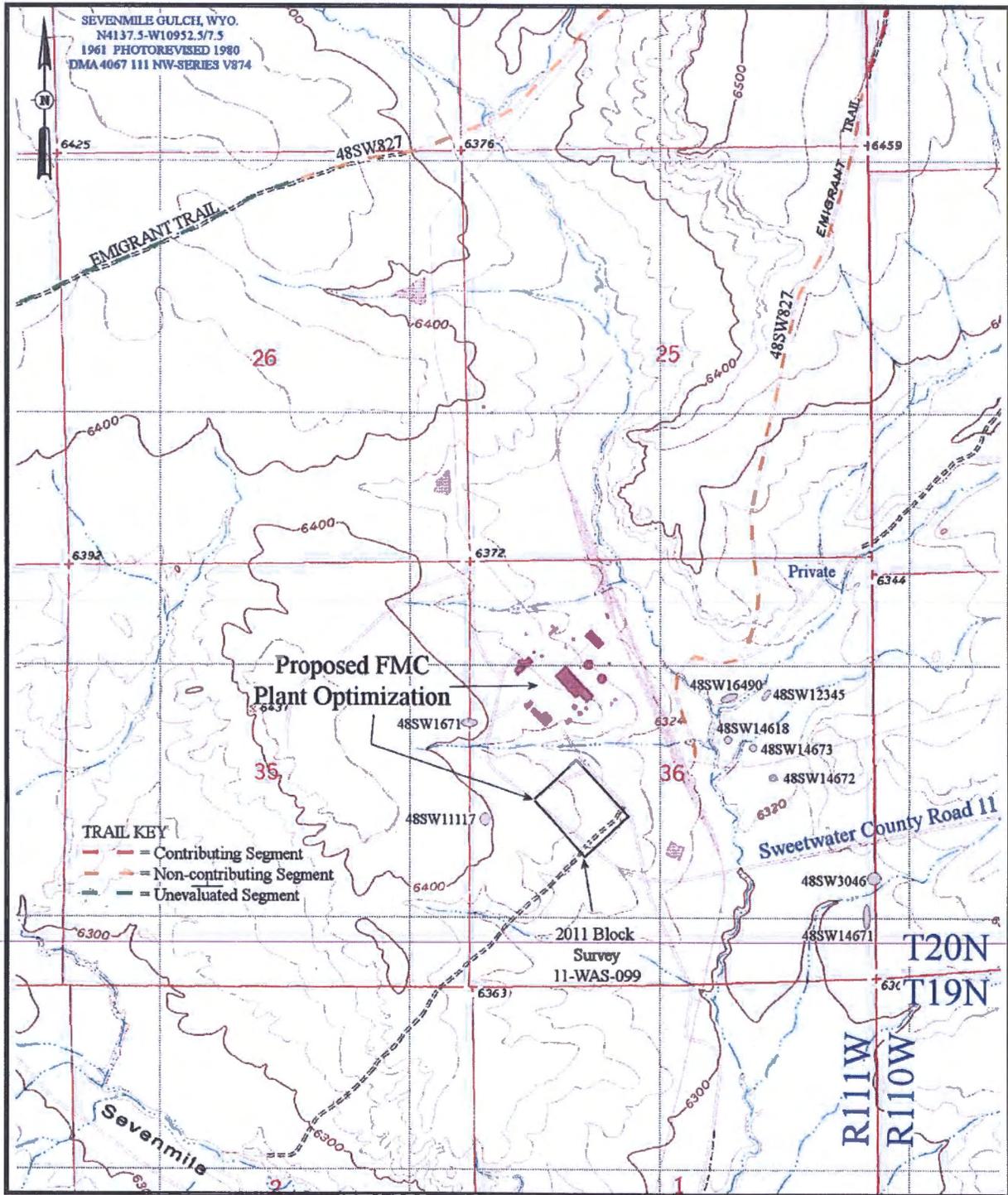


Figure 1. Project map showing the location of the proposed FMC Plant Optimization Project and known sites in Section 36, T20N, R111W, Sweetwater County, Wyoming.

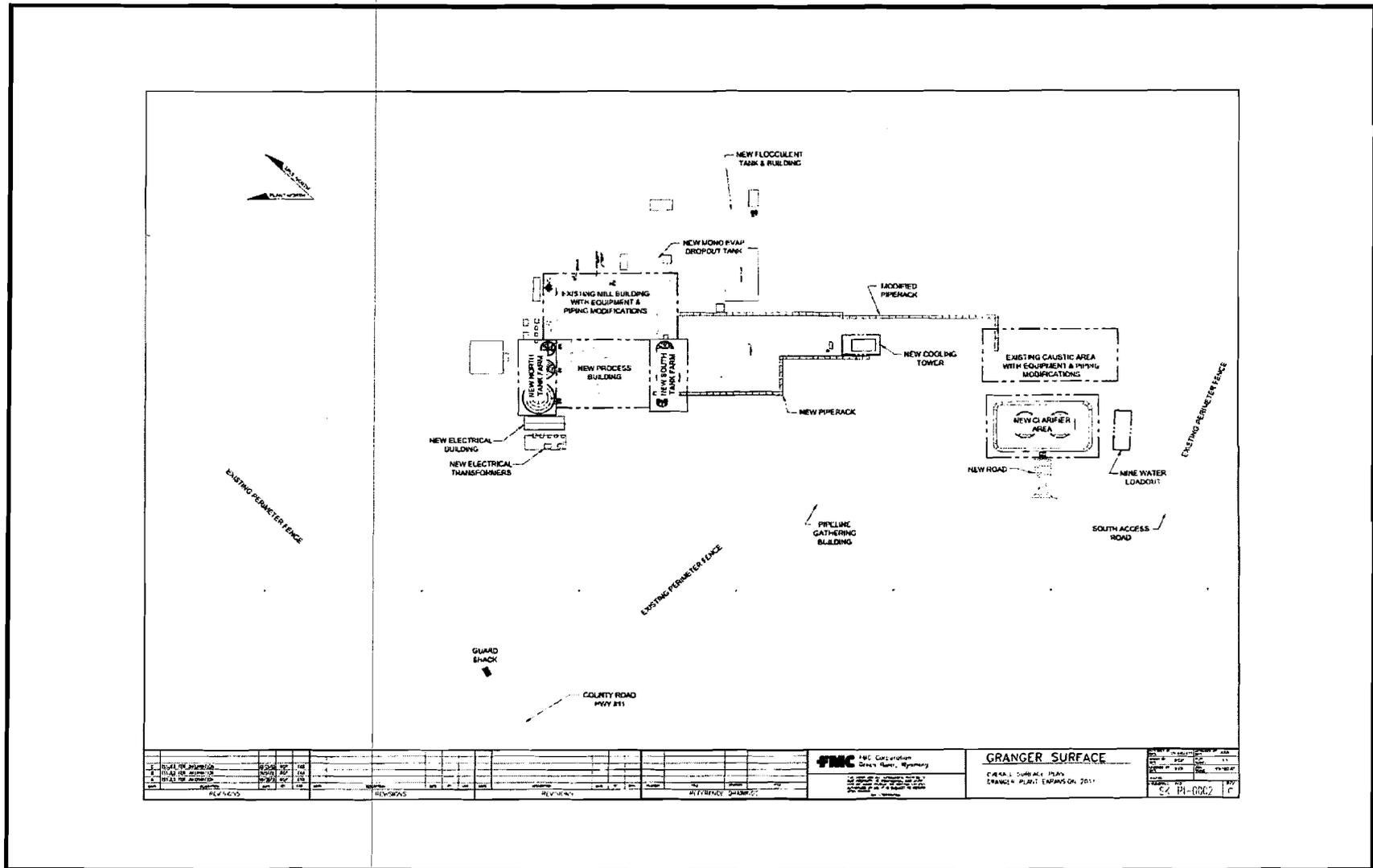


Figure 2. Schematic of the proposed optimization at the FMC Granger Plant located in Section 36, T20N, R111W, Sweetwater County, Wyoming. All of the proposed optimization facilities are contained within the existing plant footprint within existing disturbances. The schematic was provided by FMC Corporation.



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Figure 3. Google Earth map showing the proposed improvements to the FMC Granger Plant in Section 36, T20N, R111W, Sweetwater County, Wyoming.



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Figure 4a. Project overview photograph of the FMC Granger Mine looking west from a low ridge located to the southeast of the mine site. The photo was taken on March 27, 2012, by Joni Stainbrook.



Figure 4b. The photograph shows the location of the proposed Process Building located west of the existing Mill Building within the plant site. The photo was taken on March 27, 2012, by Joni Stainbrook.



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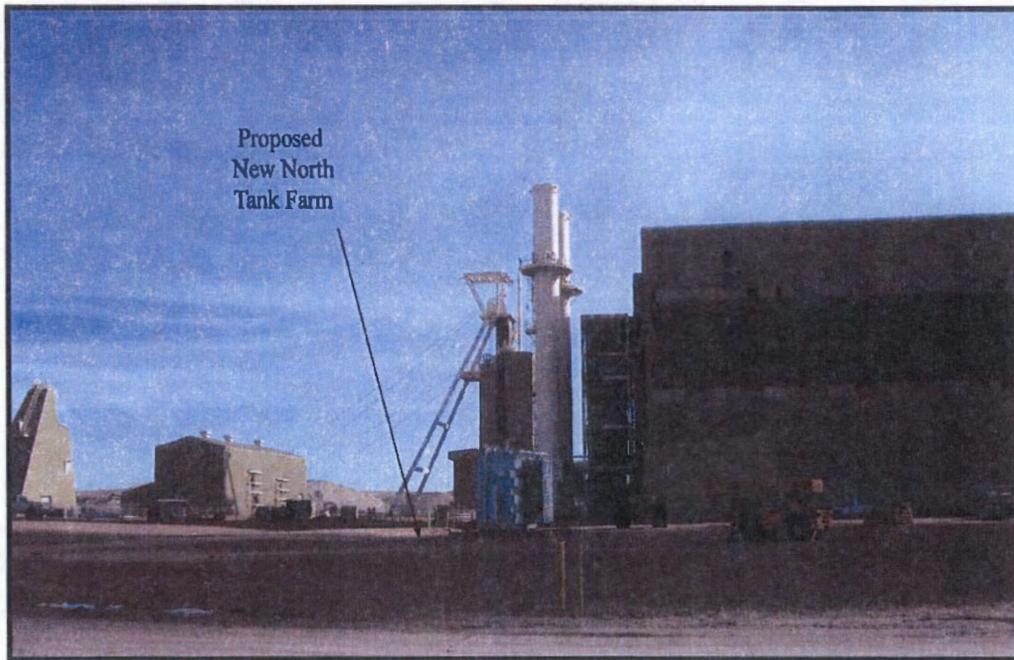


Figure 5a. The photograph is a project overview showing the location of the proposed north tank farm. The proposed electrical building and transformers will be built in the left foreground of the photo. The photo was taken on March 27, 2012, by Joni Stainbrook.

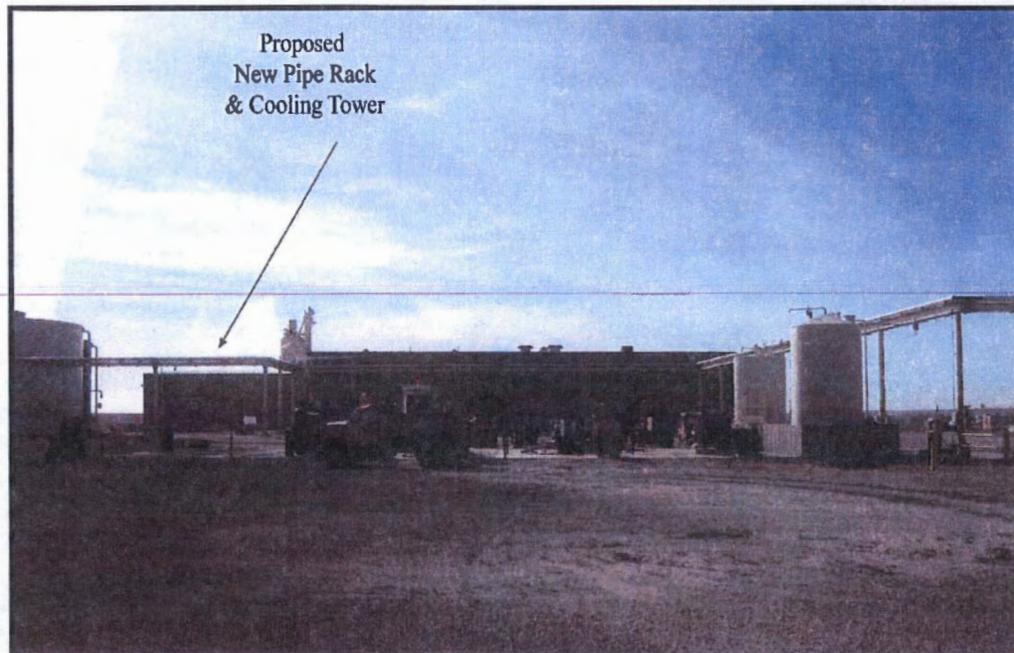


Figure 5b. Project photo looking south at the existing pipe racks where the proposed pipe racks will be built. The newly proposed south tank farm will be constructed in the left foreground of the photo. The photo was taken on March 27, 2012, by Joni Stainbrook.



Figure 6a. The photograph shows the existing disturbances in the location proposed for the new clarifier at the FMC Granger Plant. The photo was taken on March 27, 2012, by Joni Stainbrook.

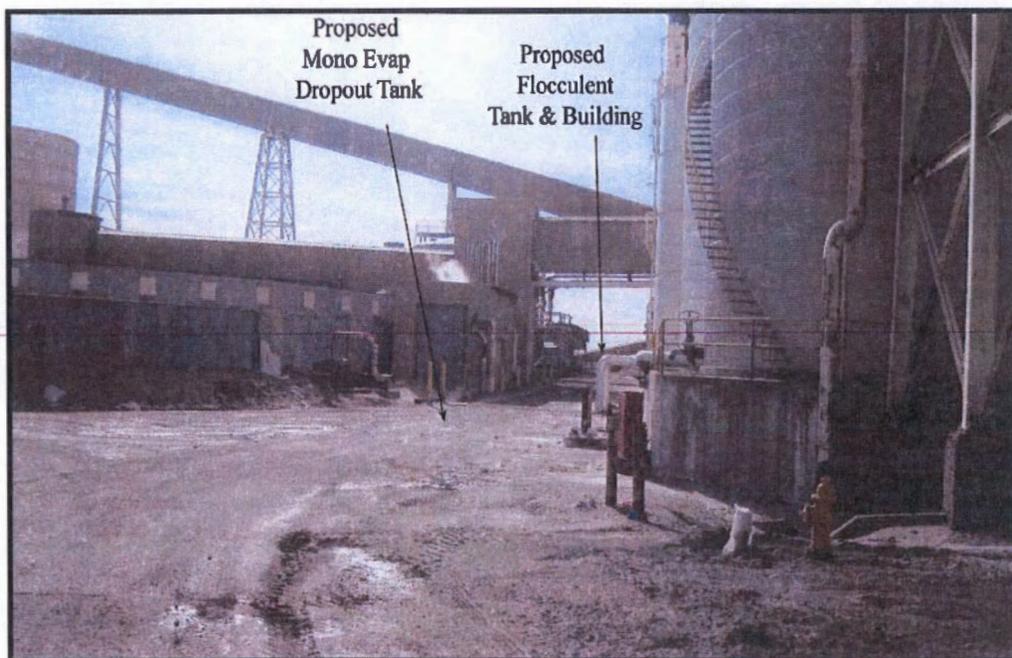


Figure 6b. The project photo shows existing facilities and disturbances in the area proposed for the new Mono Evaporative Dropout Tank and the proposed Flocculent tank and building. The photo was taken on March 27, 2012, by Joni Stainbrook.

Table 1. File search results for the proposed FMC Corporation Granger Plant Optimization Project.

Consultant	Client	Date	Project	Cultural Resources	Legal Location	Site Type	Distance/direction from right-of-way	NRHP Status
Section 36, T20N, R111W (land owner: private)								
AS-WWC	TGE	1975	Texas Gulf Survey (0 ac)	none	N/A	N/A	N/A	N/A
AS-WWC	TGE	1977	Subsidence Monitoring System (0 ac)	48SW3046	NENENESESE	prehistoric camp	3100 ft southeast	unknown
AS-WWC	ICPA	1979	Transmission Fed Powerline (0 ac)	48SW1671	SWNWSWNW	prehistoric lithic scatter	600 ft west	unknown
ASC	MB	1980	RW 7318 Amended (0 ac)	none	N/A	N/A	N/A	N/A
AS-WWC	TGE	1987	Texas Gulf Plant to ITRP Line (0 ac)	none	N/A	N/A	N/A	N/A
NPF	NOG	1989	Moxa Arch Special GRM-405 (0 ac)	none	N/A	N/A	N/A	N/A
AS-WWC	TGE	1990	Injection Well and Pipeline (0 ac)	none	N/A	N/A	N/A	N/A
AECE	NP	1990	Moxa Gathering System State 1-36 pipeline (0 ac)	none	N/A	N/A	N/A	N/A
AS-WWC	TGE	1991	Natural Gas Pipeline (0 ac)	none	N/A	N/A	N/A	N/A
PAA	PPL	1992	Blacks Fork Substation FMC powerline (0 ac)	48SW9241	SSSSSS	Blacks Fork Lithic Landscape	not documented within project area	not eligible (SHPO concurrence)
MAC	BROW	1996	TG Soda Ash Conveyor (0 ac)	48SW9241	NWSWSWNW	Blacks Fork Lithic Landscape	not documented within project area	not eligible (SHPO concurrence)
				48SW11117	SNWNWNWSW; NNSWNWNWSW	prehistoric lithic scatter	600 ft west	not eligible (SHPO concurrence)
AS-WWC	FMC	1999	FMC La Barge pipeline tie-in (0 ac)	48SW827	SSNWNE; EENWNE; WWSWNE	Emigrant Trail	800 ft east	eligible (SHPO concurrence)

Consultant	Client	Date	Project	Cultural Resources	Legal Location	Site Type	Distance/direction from right-of-way	NRHP Status
AS-WWC	FMC	1999	FMC West Vaco-Granger Conveyor (0 ac)	48SW827	NWNE; NSWNE	Emigrant Trail	800 ft east	eligible (SHPO concurrence)
				48SW12345	CSENESEWNE	prehistoric camp	2000 ft east	not eligible (SHPO concurrence)
WAS	FMC	1999	West Vaco to Granger pipeline (0 ac)	48SW827	WNE	Emigrant Trail	800 ft east	eligible (SHPO concurrence)
				48SW14618	SWNWSESWNE	prehistoric camp	1500 ft east	not eligible (SHPO concurrence)
				48SW14671	SENESESESE; NESESESESE	prehistoric camp	3200 ft southeast	eligible (SHPO concurrence)
				48SW14672	SWSWSWSENE	prehistoric camp	1800 ft east	not eligible (SHPO concurrence)
				48SW14673	SWNESESWNE	prehistoric camp	1800 ft east	not eligible (SHPO concurrence)
AS-WWC	MGR	1999	Texas Gulf pipeline (0 ac)	none	N/A	N/A	N/A	N/A
WAS	FMC	2005	Granger Trona Slurry Extraction (0 ac)	none	N/A	N/A	N/A	N/A
WAS	FMC	2008	G-3 pipeline and injection wells (0 ac)	none	N/A	N/A	N/A	N/A
Sites not yet accessioned at Cultural Records or not project related.								
WAS	BVEA	2006	Farson Feeder Powerline (0 ac)	48SW827	NENENWSENE; NWSWNE	Emigrant Trail	800 ft east	eligible (SHPO concurrence)
BLM	BLM	1991	Blacks Fork Archaeological Landscape	48SW9241	ALL	secondary lithic procurement	not documented within project area	not eligible
WAS	FMC	2002	FMC West Vaco to Granger Pipeline Preferred Alignment (0 ac)	48SW14618	NWNWSESWNE	prehistoric camp	1500 ft east	not eligible
WAS	BVEA	2006	Farson Feeder Powerline (0 ac)	48SW16490	NWSWNESEWNE	prehistoric camp	1400 ft east	not eligible (SHPO concurrence)

KEY

Consultant

AECE = Archaeological Energy Consulting
ASC = Archaeological Services of Laramie
AS-WWC = Archaeological Services of Western Wyoming College
BLM = Bureau of Land Management/Kemmerer
MAC = Metcalf Archaeological Consultants
NPF = North Platte Archaeological Service
PAA = Pronghorn Archaeological Services
WAS = Western Archaeological Services

Client

BROW = Brown and Caldwell
BVEA = Bridger Valley Electric Association
FMC = FMC Corporation
ICPA = Intermountain Consumer Power Association
MB = Mountain Bell
MGR = Mountain Gas Resources
NOG = Northern Geophysical
NP = Northwest Pipeline
PPL = Pacific Power and Light
TGE = Texas Gulf

Environmental Justice Analysis

FMC Granger Optimization Project

Sweetwater County, Wyoming

PREPARED FOR: FMC Wyoming Corporation

PREPARED BY: Shonna Sam/DEN

DATE: February 5, 2012

PROJECT NUMBER: 423298

Executive Order 12898, entitled “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” states in relevant part that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” Section 1-101 of Exec. Order 12898, 59 Fed. Reg. 7629, (Feb. 16, 1994). “Federal agencies are required to implement this order consistent with, and to the extent permitted by, existing law.” *Id.* at 7632. Based on this Executive Order, the EPA’s Environmental Appeals Board (EAB) has held that environmental justice issues must be considered in connection with the issuance of federal Prevention of Significant Deterioration (PSD) permits issued by EPA Regional Offices and states acting under delegations of Federal authority. *See, e.g., In re Prairie State Generating Company*, 13 E.A.D. 1, 123 (EAB 2006); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 174-75 (EAB 1999) (“*Knauf I*”). Offices or their delegates in the states have for several years incorporated environmental justice considerations into their review of applications for PSD permits. The EAB reinforced the importance of completing an environmental justice analysis in a recent opinion. *See In re: Shell Gulf of Mexico, Inc. and Shell Offshore, Inc.*, OCS Appeal Nos. 10-1 to 10-4, Slip Op. at 63-4 (EAB December 30, 2010) (“*Shell II*”).

Project Location

The FMC Granger Facility (“the Project”) is located in Sweetwater County, Wyoming, approximately 26 miles west of Green River and 6.5 miles northeast of Granger, Wyoming. The project consists of the installation of process equipment to optimize production at an existing soda ash facility, which has been present at this location since the 1970s. All project activities would occur on the existing FMC Granger property. The Project site will be accessed using County Road 11 or Granger Road to reach the existing facility’s road network. The land surrounding the facility is undeveloped and there are no residential populations within 3 miles of the Project site.

Methodology

The potential for environmental justice issues are identified where the minority or low-income population exceeds 50 percent or the minority or low-income population percentage is “meaningfully greater” than the minority or low-income population in the general population or other appropriate geographic area. Since the EPA does not define “meaningfully greater”, it is defined in this analysis as a deviation from the area of comparison (County or State) by at least 10 percentage points. A deviation of this magnitude would not alter the character of the community enough to distinguish it from its community of comparison.

CH2M HILL Engineers, Inc. (CH2M HILL) performed an initial screening to determine whether minority or low-income populations were present within three miles of project site. The screening indicated that study area is unpopulated and coordination with Sweetwater County confirmed these findings. At the recommendation of the EPA, CH2M HILL used the EPA’s *EJView* online tool to evaluate the demographic characteristics of the nearest community, the Town of Granger, which is approximately 6.5 miles southwest of the Project site. The results of this analysis are described below and presented in **Table 1**. Detailed demographics for the study area, Sweetwater

County, and Wyoming are attached to this memorandum. The demographic information was taken from the EJView mapping tool at <http://epamap14.epa.gov/ejmap/entry.html>.

Demographic Analysis

The key variables evaluated for the Town of Granger are presented in **Table 1**. The analysis indicates the following:

- The percentage of minorities within the Town of Granger is higher than in Sweetwater County and Wyoming but the difference is not significant. As shown in **Table 1**, the Town of Granger deviates from Sweetwater County by 3.7 percent and from Wyoming by 5.9 percent.
- The percentage of persons below poverty within the Town of Granger is higher than in Sweetwater County and Wyoming, but again, the difference is not significant. As shown in **Table 1**, the Town of Granger deviates from Sweetwater County by 3.8 percent and from Wyoming by only 0.2 percent.
- The percentage of persons that speak another language at home in the Town of Granger is 1.9 percent higher than in Sweetwater County and 3 percent higher than in Wyoming. For persons that report not speaking English well, there is no meaningful difference between the Town of Granger, Sweetwater County, and Wyoming.

Table 1: Key Variables Considered in the Demographic Analysis

	Study Area (Town of Granger)	Sweetwater County	Wyoming
Total Population	43	37,613	493,782
Percent Minority	17.1%	13.4%	11.2%
Percent of Persons Below Poverty	11.6%	7.8%	11.4%
Percent Non-English at Home	9.4%	7.5%	6.4%
Percent Speak English not well	0.8%	0.9%	0.7%

Source: EPA's EJView mapping tool, accessed March 2012

Based on the demographic data provided by the EPA, the Town of Granger would not be characterized as a minority or low-income community and is not at high risk for environmental justice concerns. The area that would be at the most at risk for adverse effects that area within 3 miles of the project site, and that area is unpopulated. The Town of Granger is located more than 6 miles from the project site; any impacts from the proposed expansion would be distributed across the general population and would not be predominantly borne by any particular segment of the population. In addition, the Project location is a major employer in the region and its expansion could provide new employment opportunities, benefitting the general population, including minority and low-income residents.

Conclusion

The demographic information does not indicate that environmental justice populations are present within the Town of Granger, the closest community to the FMC Granger Facility. EPA may, however, exercise its discretion in receiving comments on the draft permit to examine any "superficially plausible" claim that a minority or low-income population may be disproportionately affected by this facility. See *In re Avenal Power Center*, PSD Appeals Nos 11-02-11-05, Slip Op. at 20 (EAB August 18, 2011). On the basis of the available information, CH2M HILL recommends the issuance of a PSD GHG permit for GHG emissions could not have a disproportionately high and adverse human health or environmental effect on any environmental justice community near the Project.

Demographic Profile and County and State Comparisons

Overview

	Study Area	SWEETWATER County, WY	WYOMING
Total Persons:	43	37613	493782
Population Density:	1.53 /sq mi	3.61 /sq mi	5.09 /sq mi
Percent Minority:	17.1%	13.4%	11.2%
Persons Below Poverty Level:	5 (11.6%)	2871 (7.8%)	54777 (11.4%)
Households in Area:	17	14105	193608
Households on Public Assistance:	0	257	
Housing Units Built <1970:	31%	32%	42%
Housing Units Built <1950:	18%	19%	21%

Race

(* Columns that add up to 100% are highlighted)

Race Breakdown	Study Area	SWEETWATER County, WY	WYOMING
White:	38 (87.7%)	34340 (91.3%)	454095 (92.0%)
African-American:	0 (0.0%)	316 (0.8%)	3126 (0.6%)
Hispanic-Origin:	5 (12.8%)	3606 (9.6%)	31384 (6.4%)
Asian/Pacific Islander:	0 (0.0%)	220 (0.6%)	2972 (0.6%)
American Indian:	0 (0.7%)	276 (0.7%)	11363 (2.3%)
Other Race:	2 (5.6%)	1494 (4.0%)	12595 (2.6%)
Multiracial:	3 (5.9%)	959 (2.5%)	9399 (1.9%)

Age

(* Columns that add up to 100% are highlighted)

Age Breakdown	Study Area	SWEETWATER County, WY	WYOMING
Child 5 years or less:	3 (7.4%)	3041 (8.1%)	37086 (7.5%)
Minors 17 years and younger:	11 (26.5%)	10762 (28.6%)	128097 (25.9%)
Adults 18 years and older:	32 (73.5%)	26851 (71.4%)	365685 (74.1%)
Seniors 65 years and older:	5 (10.7%)	3024 (8.0%)	57467 (11.6%)

Education

Education Level (Persons 25 & older)	Study Area	SWEETWATER County, WY	WYOMING
Less than 9th grade:	2 (6.2%)	659 (3.1%)	10614 (3.7%)
9th -12th grade:	4 (15.9%)	2252 (10.7%)	27703 (9.5%)
High School Diploma:	9 (34.0%)	7994 (38.1%)	97779 (33.7%)

Some College/2 yr:	8 (30.6%)	6158 (29.3%)	85184 (29.3%)
B.S./B.A. or more:	3 (13.7%)	3928 (18.7%)	69162 (23.8%)

Language

Ability to Speak English	Study Area	SWEETWATER County, WY	WYOMING
Population Age 5 and Over:	40	34934	462809
Speak only English:	36 (90.5%)	32298 (92.5%)	433324 (93.6%)
Non-English at Home:	4 (9.4%)	2636 (7.5%)	29485 (6.4%)
Speak English very well:	3 (7.8%)	1741 (5.0%)	20566 (4.4%)
Speak English well:	0 (0.9%)	566 (1.6%)	4940 (1.1%)
Speak English not well:	0 (0.8%)	304 (0.9%)	3324 (0.7%)
Speak English less than well:	0 (0.8%)	329 (0.9%)	3979 (0.9%)
Speak English not at all:	0 (0.0%)	25 (0.1%)	655 (0.1%)