HITP - 012

TEMPORARY PERMISSION 2010

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. _____ dated 4/16/10

or cash received on _____ in the amount of $ 150.00

from Foster Grama Ridge

for HITP-12

Submitted by: Lawrence Romero Date: 4/30/10

Submitted to ASD by: Lawrence Romero Date: 4/30/10

Received in ASD by: _____ Date: _____

Filing Fee _____ New Facility _____ Renewal _____

Modification _____ Other Temp Permission Fee

Organization Code 521.07 Applicable FY 2010

To be deposited in the Water Quality Management Fund.

Full Payment _____ or Annual Increment _____

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Jon Goldstein
Cabinet Secretary

Jim Noel
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division

April 22, 2010

Mr. Daryl W. Gee
Enstor Grama Ridge Storage & Transportation, LLC
% Enstor Operating Company, LLC
20329 State Highway 249, Suite 400
Houston, Texas 77070

Re: Hydrostatic Test Discharge - Individual Temporary Permission HITP-12
Enstor Operating Company, LLC
Enstor Grama Ridge Storage & Transportation, LLC
Locations: SW/4 of the NW/4 of Section 3, Township 22 South, Range 34 East, NMPM, Lea County, New Mexico

Dear Mr. Gee:

The New Mexico Oil Conservation Division (OCD) has received Enstor Grama Ridge Storage & Transportation, LLC's (Enstor) notice of intent, dated April 16, 2010, for authorization to temporary store approximately 15,400 gallons of wastewater generated from a hydrostatic test of approximately 5,480 feet of new 8-inch natural gas transmission pipeline that connects Enstor's natural gas storage well (Grama Ridge Federal 8817 JV-P #001 – API# 30-025-30686), to Enstor's Grama Ridge Compressor Station within Lea County, New Mexico. The proposed collection location is within Enstor's lease agreement area of the Grama Ridge Morrow Unit Area in the SW/4 of the NW/4 of Section 3, Township 22 South, Range 22 East, NMPM, Lea County, New Mexico. No surface discharge is proposed by Enstor. The hydrostatic test wastewater will be discharged into frac tanks for temporary storage, transferred from the frac tanks to an OCD approved water hauler, and delivered to Sundance Services, Inc. for disposal.

Based on the information provided in the request, temporary permission is hereby granted for the collection, retention, and disposal of the hydrostatic test water generated from the pipeline test with the following understandings and conditions:

1. Enstor will be testing approximately 5,480 feet of new 8-inch natural gas transmission pipeline, within Enstor's lease agreement area of the Grama Ridge Morrow Unit Area;
2. no discharge will occur at the hydrostatic test wastewater collection/discharge location: in the SW/4 of the NW/4 of Section 3, Township 22 South, Range 22 East, NMPM, Lea County, New Mexico;

3. the source of the hydrostatic test water will be a municipal water source obtained from the City of Eunice;
4. approximately 15,400 gallons of hydrostatic test wastewater generated from the test will be slowly discharged into a 250 bbl holding tank for temporary storage, while awaiting testing, transfer and disposal at Sundance Services, Inc.;
5. the temporary storage tanks shall have impermeable secondary containment (e.g., liners - geomembrane and berms – hay bales), which will contain a volume of at least one-third greater than the total volume of the largest tank;
6. no hydrostatic test wastewater generated from the test will be discharged to the ground or within the existing easement right of right;
7. the hydrostatic test wastewater will be analyzed to determine if it is a RCRA non-hazardous/non-exempt waste that Sundance Services, Inc. may accept for disposal. Enstor will expedite the laboratory analytical testing. If the hydrostatic test wastewater does not meet the criteria for Sundance Services, Inc. waste acceptance, the test water shall be sent to a RCRA permitted TSDF for disposal;
8. Enstor will ensure the transfer the hydrostatic test wastewater via an OCD approved water hauler to Sundance Services, Inc. for disposal;
9. all hydrostatic test wastewater will be removed from the discharge and/or collection/retention locations within ten (10) calendar days of the completion of the hydrostatic test;
10. any surface area impacted or disturb from the approved activities shall be restored.
11. no collection or retention of hydrostatic test wastewater shall occur:
    a. within any lake, perennial stream, river or their respective tributaries that may be seasonal;
    b. where ground water is less than 10 feet below ground surface.
    c. within 200 feet of a watercourse, lakebed, sinkhole or playa lake;
    d. within an existing wellhead protection area;
    e. within, or within 500 feet of a wetland; or
    f. within 500 feet from the nearest permanent residence, school, hospital, institution or church;
12. best management practices must be implemented to contain the discharge and/or collection /retention onsite, not impact adjacent property, and to control erosion;
13. the discharge and/or collection/retention does not cause any fresh water supplies to be degraded or to exceed standards as set forth in Subsections A, B, and C of the 20.6.2.3103 NMAC (the New Mexico Water Quality Control Commission Regulations);
14. the landowner(s) of the proposed discharge and/or collection/retention or alternative discharge location must be properly notified of the activities prior to the proposed hydrostatic test event; and
15. Enstor shall report all unauthorized discharges, spills, leaks and releases of hydrostatic test water and conduct corrective action pursuant to WQCC Regulation 20.6.2.1203 NMAC and OCD Rule 29 (19.15.29 NMAC).

It is understood that the hydrostatic test will begin approximately April 28, 2010. This temporary permission will expire within 120 calendar days of its issue date. Temporary permission may be revoked or suspended for violation of any applicable provisions and/or conditions.

Please be advised that approval of this request does not relieve Enstor of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve Enstor of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If there are any questions regarding this matter, please do not hesitate to contact me at (505) 476-3487 or brad.a.jones@state.nm.us.

Sincerely,

Brad A. Jones
Environmental Engineer

BAJ/baj

cc: OCD District I Office, Hobbs

ENSTOR
An Iberdrola Renewables Company

RECEIVED OCD
2010 APR 19 A 7:49

April 16, 2010

Mr. Brad Jones
New Mexico Oil Conservation Division
1120 South St. Francis Dr.
Santa Fe, New Mexico 87505

RE: **Request for Annual Temporary Permission for Hydrostatic Test Dewatering**
Notice of Intent to Dewater New 8-inch Diameter Natural Gas Pipeline
Enstor Grama Ridge Storage and Transportation, LLC
Grama Ridge Morrow Storage Unit
Lea County, New Mexico

Dear Mr. Jones,

Pursuant to §20.6.2 NMAC, Enstor Grama Ridge Storage & Transportation, LLC (Enstor) requests the New Mexico Oil Conservation Division (OCD) to grant to Enstor Annual Temporary Permission (ATP) for Hydrostatic Test Dewatering, as provided by OCD's *GUIDELINES FOR HYDROSTATIC TEST DEWATERING* (Rev. Jan. 11, 2007) (the "Guidelines").

Additionally, this is to provide notice of intent (NOI) to remove by tanker truck and dispose approximately 15,400 gallons of clean, municipally-sourced water used to hydrostatic test a new 5,479-foot 8-inch diameter natural gas pipeline. It is intended that authorization to dewater the 8-inch natural gas pipeline would be granted under the requested ATP.

The project schedule calls for the pipeline to be hydrotested on **April 28, 2010** and the pipeline to enter service in the week of May 3, 2010.

As will be demonstrated herein, the hydrostatic test water removed from the new natural gas pipeline by tanker truck and disposed at a licensed disposal facility permitted by OCD will not cause groundwater pollution, as defined by Subsection CCC of §20.6.2.7 NMAC. The new 8-inch natural gas pipeline will have contained **NO** hydrocarbons prior to hydrostatic testing. The hydrostatic test water is a substance NOT defined as a waste by the Resource Conservation and Recovery Act. However, should an inadvertent/accidental spill or release of hydrostatic test water occur, that circumstance will be addressed aggressively according to requirements of the New Mexico Administrative Code (NMAC) Title 19, Chap. 15, Parts 29 and 30, and the OCD guidance document *Guidelines for Remediation of Leaks, Spills and Releases* (August 13, 1993).

We've moved to:
20329 State Hwy 249, Suite 400
Houston, TX 77070

Telephone (281) 374-3050
www.enstorinc.com

Printed on recyled paper

BACKGROUND

By correspondence dated December 28, 2009, Enstor provided an NOI to the OCD to discharge hydrostatic test water from the 8-inch diameter natural gas pipeline and another proposed pipeline. That NOI was withdrawn by correspondence addressed to OCD, dated January 29, 2010.

Construction of the new 8-inch diameter natural gas pipeline has been completed. The total length of the pipeline is **5,479 feet.** Its intended use is to connect the OCD-approved injection/withdrawal (I/W) natural gas storage well designated Grama Ridge Federal 8817 JV-P #001 to Enstor's Grama Ridge Compressor Station. The natural gas pipeline and I/W well are needed to enhance the capacity and efficiency of the Grama Ridge Morrow Storage Unit (Grama Ridge), which has been and continues to be operated as a subsurface natural gas storage facility by Enstor in Lea County, New Mexico.

Grama Ridge initially encompassed five (5) sections of land, described as follows:

Township 21 South, Range 34 East, NMPM
Section 33: All
Section 34: All

Township 22 South, Range 34 East, NMPM
Section 3: All
Section 4: All
Section 10: All.

These lands are and have been operated as part of Grama Ridge pursuant to the *Unit Agreement for the Operation of the Grama Ridge Morrow Unit Area, Lea County, New Mexico* (the "Unit Agreement"). This Unit Agreement was approved BY OCD Order R-4473, January 29, 1973. The Unit Agreement has been amended from time to time; and on September 29, 2009, Section 9, T22S, R34E, was added to the Unit Agreement by OCD Order R-13174.

Additionally, as provided by the *Agreement for Natural Gas Storage in the Grama Ridge-Morrow Formation*, dated July 12, 2006, Enstor is the holder of Business Lease 1751, issued by the New Mexico State Land Office (SLO), on the following properties:

Township 21 South, Range 34 East, NMPM
Section 33: All
Section 34: All

Township 22 South, Range 34 East, NMPM
Section 3: All
Section 4: Lots 1 & 2 and S½NE¼.

Business Lease 1751 states, in part, that the ". . . lands are hereby committed to this Agreement and referred to as 'State Committed Lands' and contain a total of 1,769.81 surface acres [page 5] . . . (and) Grantor grants to Grantee reasonable use of the surface of the State Committed Lands as is necessary to operate and maintain gas storage operations . . . [page 7]". Wherewith, Enstor has been granted leasehold in these 1,769.81 surface acres, and thus Enstor effectively is the exclusive holder of surface rights on these State Committed Lands to engage in all activities necessary to affect continuing gas storage operations. In summary, the activities contemplated herein are wholly located upon properties owned by the State of New Mexico or the United States Government (Bureau of Land Management [BLM]), whereon leasehold and use rights have been granted to Enstor.

RESPONSES TO OCD GUIDELINES QUERIES

In support of this NOI to remove and dispose approximately 15,400 gallons of clean, municipally-sourced water used to hydrostatic test a new natural gas pipeline, Enstor provides the following information as requested in the Guidelines:

a. **The name and address of the proposed discharger :**

Enstor Grama Ridge Storage & Transportation, LLC
c/o Enstor Operating Company, LLC
20329 State Highway 249, Suite 400
Houston, Texas 77070

b. **Location of discharge by street address and surrounding landmarks :**

The hydrostatic test water will be removed from the new natural gas pipeline and transferred into a 250-bbl. holding tank sited on Enstor's Business Lease issued by the SLO. This removal point is located within the boundary fence of the Grama Ridge Compressor Station, at the approximate coordinates 32°25'20.25"N, 103°27'46.47"W, in the SW¼NW¼ Sec. 3, T22S, R34E (referred to herein as the "Water Removal Location"). The Grama Ridge Compressor Station is located well within the boundaries of Enstor's Grama Ridge Morrow Storage Unit 1,769.81-surface-acres leasehold described above. Adjacent the Water Removal Location, the water will be transferred from the holding tank into a tanker truck for transport to the Sundance Services, Inc. disposal facility - known locally as the Parabo SWD.

Prior to transfer to the Sundance facility, water in the holding tank will undergo characterization testing to insure it is not a hazardous waste, as defined by the Resource Conservation and Recovery Act (RCRA) (referred to herein as "testing").

Due to the remoteness of the Water Removal Location and adjacent tanker truck transfer location within the Grama Ridge Compressor Station, there is no associated

street address. The only surrounding landmark -- aside from ubiquitous petroleum wells and associated facilities - is the Grama Ridge Compressor Station, where the Water Removal Location will be established.

To access the Grama Ridge Compressor Station, from Eunice, New Mexico, travel approximately 15.6 miles in a westerly direction on Hwy 176. Turn left (southerly) onto an unimproved oilfield road displaying an "Enstor" lease sign at the intersection with Hwy 176. Travel approximately 7.0 miles on the unimproved oilfield road to an intersection with another unimproved oilfield road. (The Compressor Station will be visible at this point.) Turn right and travel approximately 0.2 miles to the Grama Ridge Compressor Station. The approximate coordinates of the Compressor Station are 32.422089°N, 103.463769°W; and it is located at the SW¼NW¼ Sec. 3, T22S, R34E.

c. **Legal description of the discharge location (Section/Township/Range) :**

The Water Removal Location will be within the fenced area of the Grama Ridge Compressor Station, in the SW¼NW¼ Sec. 3, T22S, R34E.

d. **Maps (site specific and regional) indicating the location of the pipelines to be tested and the proposed discharge location :**

The following maps are provided behind Tab A :

- A copy of the U.S Geological Survey (USGS) *San Simon Ranch, N. Mex.* 7.5-minute topographic quadrangle (USGS Quad) upon which is depicted the Grama Ridge storage boundary - providing a "regional" location.

- A map titled *HYDROSTATIC TEST WATER REMOVAL LOCATION,* providing a "site specific" location.

- A map titled *GRAMA RIDGE EXPANSION PROSPECTIVE FACILITIES,* depicting the **5,479 feet** of right-of-way (ROW) for the 8-inch diameter flowline to be hydrostatically tested.

- A map titled *MINES, MILLS & QUARRIES WEB MAP,* reproduced from the New Mexico Mining and Minerals Division's (NMMMD's) website; depicting, in part, the entire area of the USGS *San Simon Ranch* 7.5-minute topographic quadrangle. NMMMD's web map displays GIS-positioned and labeled mines, mills and quarries. Since there are **NO** known mines, mills or quarries within the USGS Quad, this map is without feature.

- A map titled *FEMA FLOODPLAIN MAP,* reproduced from the Federal Emergency Management Agency (FEMA) website; depicting, in part, Panel

35025C1650D (the "Panel"), which contains all the area encompassed by Grama Ridge. Since there are **NO** mapped 100-year flood zones within the Panel, this map is without feature.

e. **Demonstration of compliance to the following citing criteria or *justification for any exceptions*:**

i. **Within 200 feet of a watercourse, lakebed, sinkhole or playa lake:**

There is **NO** watercourse, lakebed, sinkhole, pit, pond or playa lake located within 200 feet of the Water Removal Location or the pipeline ROW. Based on numerous on-the-ground observations of the Grama Ridge general area, plus examinations made of aerial photographic imagery and the USGS Quad map, the nearest waterbody to the Water Removal Location or the pipeline ROW is an un-named playa located approximately 1.52 miles northeast of the Water Removal Location. This un-named playa is noted on the USGS Quad map behind Tab A.

Conestoga-Rovers & Associates (CRA), on behalf of Enstor, conducted a wetlands delineation and waterbodies crossing survey of the pipeline right-of-way. The findings of these investigations were detailed in a report produced by CRA titled "*Wetlands Delineation Report, Grama Ridge Expansion Prospective Facilities*" (the "Wetlands Report"). A copy of the Wetlands Report is provided behind Tab B. The Wetlands Report includes a project description, a map depicting the proposed pipeline routing and findings. The report concluded **NO** wetlands or waterbodies are present along the route of the proposed pipeline. These findings were not unexpected, because the project area is in the semi-arid "high desert" region of southeastern New Mexico. The examinations conducted for this report included the area within 200 feet of the Water Removal Location at the Compressor Station.

ii. **Within an existing wellhead protection area or 100-year floodplain:**

<u>Wellhead Protection Area</u>

As described previously, the Water Removal Location is in Section 3, T22S, R34E. Section 3 is surrounded by the following sections:

<u>Township 21 South, Range 34 East, NMPM</u>
Section 33
Section 34
Section 35

Township 22 South, Range 34 East, NMPM
Section 2
Section 4
Section 9
Section 10
Section 11.

The website for the New Mexico Office of the State Engineer (State Engineer) was visited. The records (referred to as *Point of Diversion by Location* [POD]) for all water wells in Section 3 and the surrounding eight (8) sections were obtained and reviewed (see Tab C for copies of the PODs). A total of nine (9) water wells were listed in the State Engineer records in these eight sections, sorted as follows:

Section	Township	Range	Well Count
2	22S	34E	0
3	22S	34E	1
4	22S	34E	0
9	22S	34E	1
10	22S	34E	0
11	22S	34E	5
33	21S	34E	2
34	21S	34E	0
35	21S	34E	0

The nearest water well to the Water Removal Location is in Section 3, nearly due north approximately 500 feet distant. Designated Water Supply Well WW-1 by Enstor, this well is topographically up-gradient, and within the fenced area of the Grama Ridge Compressor Station (see *HYDROSTATIC TEST WATER REMOVAL LOCATION* map for the surveyed location of WW-1). The WW-1 well is owned and operated by Enstor. WW-1 is used to supply hygienic water only (not potable water) to a single small portable building used for office activities at the Compressor Station. This portable building is occupied by a small crew of operators only during daylight hours. There are no residential accommodations in the building, and water from the well supplies toilet, showering and washing facilities only. Bottled water is transported in for drinking purposes.

Section 9 has one well. The nearest boundary of Section 9 to the Water Removal Location is approximately 3,100 feet distant. Section 11 has five wells listed by the State Engineer. The nearest boundary of Section 11 to the Water Removal Location is approximately 4,700 feet distant. Section 33 has two wells (one known as the "Christmas Well"[see the USGS Quad]). The nearest boundary of Section 33 to the Water Removal Location is approximately 2,600 feet distant. None of the other sections have water wells listed by the State Engineer.

According to the 19.15.2.7 NMAC definitions at W(8), "wellhead protection area" is defined as follows:

> *Wellhead protection area means the area within* ***200 horizontal feet*** *of a private, domestic fresh water well or spring used by* ***less than five*** *households for domestic or stock watering purposes or within 1000 horizontal feet of any other fresh water well or spring. Wellhead protection areas does (sic) not include areas around water wells drilled after an existing oil or gas waste storage, treatment or disposal site was established.* (emphases added)

Neither the Water Removal Location **nor** the pipeline ROW is within 200 horizontal feet of a well used by less than five households, nor within 1,000 feet of a well used by five or more households. Therefore, according to the above definition, **neither** the Water Removal Location **nor** the pipeline ROW are located within a wellhead protection area.

100-Year Floodplain

The Federal Emergency Management Agency (FEMA) posts a website providing access to GIS mapping of flood zones (http://gis1.msc.fema.gov). This website was examined for the area of the pipeline construction project and the Water Removal Location. They were determined to lie totally within the FEMA Panel 35025C1625D mapping unit (see *FEMA FLOODPLAIN MAP* behind Tab A). **NO** mapped flood zones exist within the FEMA Panel 35025C1625D mapping unit. Therefore, the proposed Water Removal Location is not located in or near a 100-year floodplain.

iii. Within, or within 500 feet of, a wetland :

As discussed in (e)(i) above, Enstor caused a wetlands delineation and waterbodies crossing survey of the proposed pipeline right-of-way and surrounding areas to be conducted. The findings of these investigations were detailed in a report; and that report concluded that **NO** wetlands or waterbodies are present along the route of the pipeline - including the Water Removal Location. These findings were further confirmed by an examination of the USGS Quad map and aerial photographic imagery. **Neither** the proposed Water Removal Location **nor** the pipeline ROW is located within, or within 500 feet of, a wetland. A copy of the Wetlands Report is provided behind Tab B.

iv. Within the area overlying a subsurface mine :

Mr. Mike Tompson of the New Mexico Abandoned Mine Land Program (AMLP) was contacted to determine if any record(s) on file with the AMLP indicated an

abandoned mine was present within the Grama Ridge leasehold. He responded by email that there were "... no records of abandoned mines in the area" (see a copy of the referenced email behind Tab C). Mr. Tompson also provided direction to the New Mexico Energy, Minerals and Natural Resources Department, Mining and Minerals Division (MMD) website titled *GIS, Map and Mine Data*, where mines, mills and quarries are GIS-mapped. The area encompassing Grama Ridge was examined and found to contain **NO** mapped mines, mills or quarries. A reproduction of the MMD web map for the Grama Ridge vicinity - titled *MINES, MILLS & QUARRIES WEB MAP* - is provided behind Tab A.

The above coupled with an examination of the USGS Quad map, examination of aerial photographic imagery, and discussions with individuals knowledgeable with the area, determined that **neither** the proposed Water Removal Location **nor** the pipeline ROW is located in an area overlying any known mine, mill or quarry.

v. **Within 500 feet from the nearest permanent residence, school, hospital, institution or church :**

NO permanent residence, school, hospital, institution or church is located within 500 feet of the Water Removal Location or the pipeline ROW . The nearest permanent residence, school, hospital, institution and church are located several miles from the Grama Ridge Compressor Station, the Water Removal Location or the pipeline ROW.

f. **A brief description of the activities that produce the discharge :**

The **5,479 foot** newly-constructed 8-inch diameter natural gas pipeline is coated steel and installed largely subsurface. The pipeline is intended for transportation of natural gas; however it never will have contained any hydrocarbon prior to hydrostatic testing. The pipeline will function as a flowline connecting a natural gas storage injection/withdrawal well (designated *Grama Ridge Federal 8817 JV-P #001*) located in Section 9, T22S, R34E, with the Grama Ridge Compressor Station located in Section 3, T22S, R34E.

Hydrostatic test water will be pigged from the 8-inch natural gas pipeline into a 250-bbl. (10,500 gallon) holding tank stationed within the bermed and lined Water Removal Location. Each time the holding tank is filled with hydrostatic test water from the 8-inch flowline a sample will be collected and tested, prior to pumping any water out of the tank. The project schedule calls for the pipeline to be hydrotested on **April 28, 2010** and the pipeline to enter service in the week of May 3, 2010.

The dimensions of the bermed and lined Water Removal Location are 60 ft X 20 ft X 2 ft, containing approximately 18,000 gallons. The volume of the holding tank, plus a safety factor of 33%, would be approximately 14,000 gallons. Therefore, the bermed and lined Water Removal Location would be adequate to contain any accidental spill or release from the holding tank. All water handling activities will be conducted within the Water Removal Location lined containment berm.

The water will be pumped from the holding tank into a tanker truck for transport to the Sundance Services, Inc. OCD-licensed disposal facility (Permit # 010003) - located approximately 15.6 miles west of Eunice, New Mexico on Hwy 176, and approximately 7.2 miles from the Grama Ridge Compressor Station. During all water transfer activities, operations will be operator-monitored carefully to shut down water movement if a spill or release appears imminent. All water handling activities will occur within the fenceline of the Compressor Station, which is located deeply within the boundaries of the Grama Ridge 1,769.81 surface acres leasehold.

g. **The method and location for collection and retention of fluids and solids :**

Only municipal-sourced water obtained from the City of Eunice, New Mexico will be utilized to test the new natural gas pipeline. It is anticipated the test water will be essentially free of solids and contaminants. All water transfer activities will occur within the bermed and lined Water Removal Location, in which the 250-bbl. holding tank also will be staged (see *HYDROSTATIC TEST WATER REMOVAL LOCATION* map). The berm will be sized to contain any anticipated spill or release of hydrostatic test water - 60 ft X 20 ft X 2 ft (approximately 18,000 gallons). The volume of the holding tank, plus a safety factor of 33%, would be approximately 14,000 gallons. Therefore, the bermed and lined Water Removal Location would be adequate to contain any accidental spill or release from the holding tank. During all water transfer activities, operations will be monitored carefully to shut down water movement if a spill or release appears imminent. All water handling activities will occur well within the boundaries of the Grama Ridge 1,769.81 surface acres leasehold.

h. **A brief description of best management practices to be implemented to contain the discharge onsite and control erosion :**

Throughout the comprehensive dewatering process all activities - including any putative spills or releases - will be contained onsite within the bermed and lined Water Removal Location on the Grama Ridge 1,769.81 surface acres leasehold.

Grama Ridge is operated under Section 311 of the Natural Gas Policy Act of 1978; thus all activities must be conducted in compliance with requirements of the Federal Energy Regulatory Commission's (FERC's) current published *Upland Erosion Control, Revegetation, and Maintenance Plan* (the Plan). Although **NO** discharge of water will

occur and any spills or releases will be contained and/or abated quickly, throughout the dewatering process, all activities will be monitored to ensure erosion is controlled per the FERC Plan.

i. **A request for approval of an alternative treatment, use, and/or discharge location (other than the original discharge site), if necessary :**

No alternative Water Removal Location is proposed.

j. **A proposed hydrostatic test wastewater sampling plan :**

Each time the holding tank is filled with hydrostatic test water from the 8-inch flowline a sample will be collected and tested, prior to pumping any water out of the tank for transfer to the Sundance facility. Water in the holding tank will undergo characterization testing to insure it is not a hazardous waste, as defined by RCRA.

Should a spill or release of hydrostatic test water occur, that circumstance will be addressed aggressively according to requirements of the NMAC Title 19, Chap. 15, Parts 29 and 30, and the OCD guidance document *Guidelines for Remediation of Leaks, Spills and Releases* (August 13, 1993).

k. **A proposed method of disposal of fluids and solids after test completion, including closure of any pits, in case the water generated from test exceeds the standards as set forth in Subsections A, B, and C of the 20.6.2.3103 NMAC (the New Mexico Water Quality Control Commission Regulations):**

All test water, after RCRA hazardous-waste-characterization testing, will be transported offsite for disposal at the Sundance Services, Inc. disposal facility, which is properly licensed by OCD. **NO** test water will threaten groundwater quality, due to no opportunity to migrate into and through the soil. No pit(s) will be utilized in the test water handling process. No ponds or pits are present at the Grama Ridge Compressor Station.

Following all water transfer activities, the liner in the Water Removal Location will be removed and properly disposed, and the berm will be removed to approximate original grade.

l. **A brief description of the expected quality and volume of the discharge :**

Approximately 15,400 gallons of State-approved, potable municipality-sourced water obtained from the City of Eunice, New Mexico will be used to hydrotest the new 5,479-foot 8-inch diameter natural gas pipeline. Since it is new pipeline -- which never has carried hydrocarbons or any other product - that will be hydrotested, it is expected the water removed from the pipeline following the hydrotest will be free of hazardous constituents.

m. Geological characteristics of the subsurface at the proposed discharge site :

Based on information gathered from the Natural Resources Conservation Service (NRCS) soil survey report for Lea County, the soils in the proposed Water Removal Location area are classified as "Pyote and Maljamar fine sands." These soils are deep sandy loams, with root penetrations exceeding 60 inches. The NRCS soil report describes this mapping unit as "... soil (having) moderately rapid permeability. Runoff is very slow. Water intake is rapid". In summary, these are very deep, sandy soils that exhibit rapid infiltration and are not subject to being easily eroded by overland flow.

n. The depth to and total dissolved solids concentration of the ground water most likely affected by the discharge :

Depth to groundwater was determined based on information obtained from the WW-1 water supply well located approximately 500 feet hydrologically upgradient from the Water Removal Location. Groundwater depth at the well was recorded to be 62 feet below ground surface, with a TDS concentration of 323 mg/L. It is not anticipated the test water handling activities will have any effect on groundwater at, or in the vicinity of the well.

o. Identification of landowners at and adjacent to the discharge and collection/retention site :

As provided by the previously described Business Lease 1751, Enstor is the leaseholder on 1,769.81 contiguous surface acres at Grama Ridge. All activities associated with hydrotesting the 8-inch pipeline will occur solely and completely upon property part of Business Lease 1751. This business lease is on lands owned by the State of New Mexico, and the business lease was issued to Enstor by the New Mexico State Land Office. Thereby, Enstor is the exclusive holder of surface rights on these State Committed Lands to engage in all activities necessary to affect continuing gas storage operations. Whereupon, "adjacent landowners" would be those entities with fee surface rights in property adjacent or tangential to the boundary of the 1,769.81 leasehold. There are two (2) such adjacent or tangential property holders, as listed in the following:

- United States Government
  Bureau of Land Management
  P.O. Box 27115
  Santa Fe, New Mexico 87502-0115

- State of New Mexico
  New Mexico State land Office
  P.O. Box 1148
  Santa Fe, New Mexico 87504-1148
  ATTN: Patrick H. Lyons
  Commissioner of Public Lands

The filing fee in the amount of $100.00, payable to Water Quality Management Fund, is on deposit with OCD. Attached herewith is payment in the amount of $150.00 for the temporary permission fee.

I certify that I am authorized to make this notice; that this notice was prepared by me or under my supervision and direction; and that the data and facts stated herein are true, correct, and complete to the best of my knowledge.

If there are any questions concerning this NOI or additional information is required, please do not hesitate to contact us at (281) 374-3062.

Sincerely,

Daryl W. Gee
Director, Regulatory Affairs & Land Management

Attachments

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SAN SIMON RANCH QUADRANGLE
NEW MEXICO–LEA CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
NW/4 OIL CENTER 15' QUADRANGLE

Un-named Playa

Approx. Water Removal Location

Grama Ridge Morrow Gas Storage Area Boundary

Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs taken 1977. Field checked 1978. Map edited 1984

Projection and 10,000-foot grid ticks: New Mexico coordinate system, east zone (transverse Mercator)
1000-meter Universal Transverse Mercator grid, zone 13
1927 North American Datum
To place on the predicted North American Datum 1983 move the projection lines 9 meters south and 45 meters east as shown by dashed corner ticks

Fine red dashed lines indicate selected fence lines

UTM GRID AND 1984 MAGNETIC NORTH DECLINATION AT CENTER OF MAP DIAGRAM IS APPROXIMATE

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION

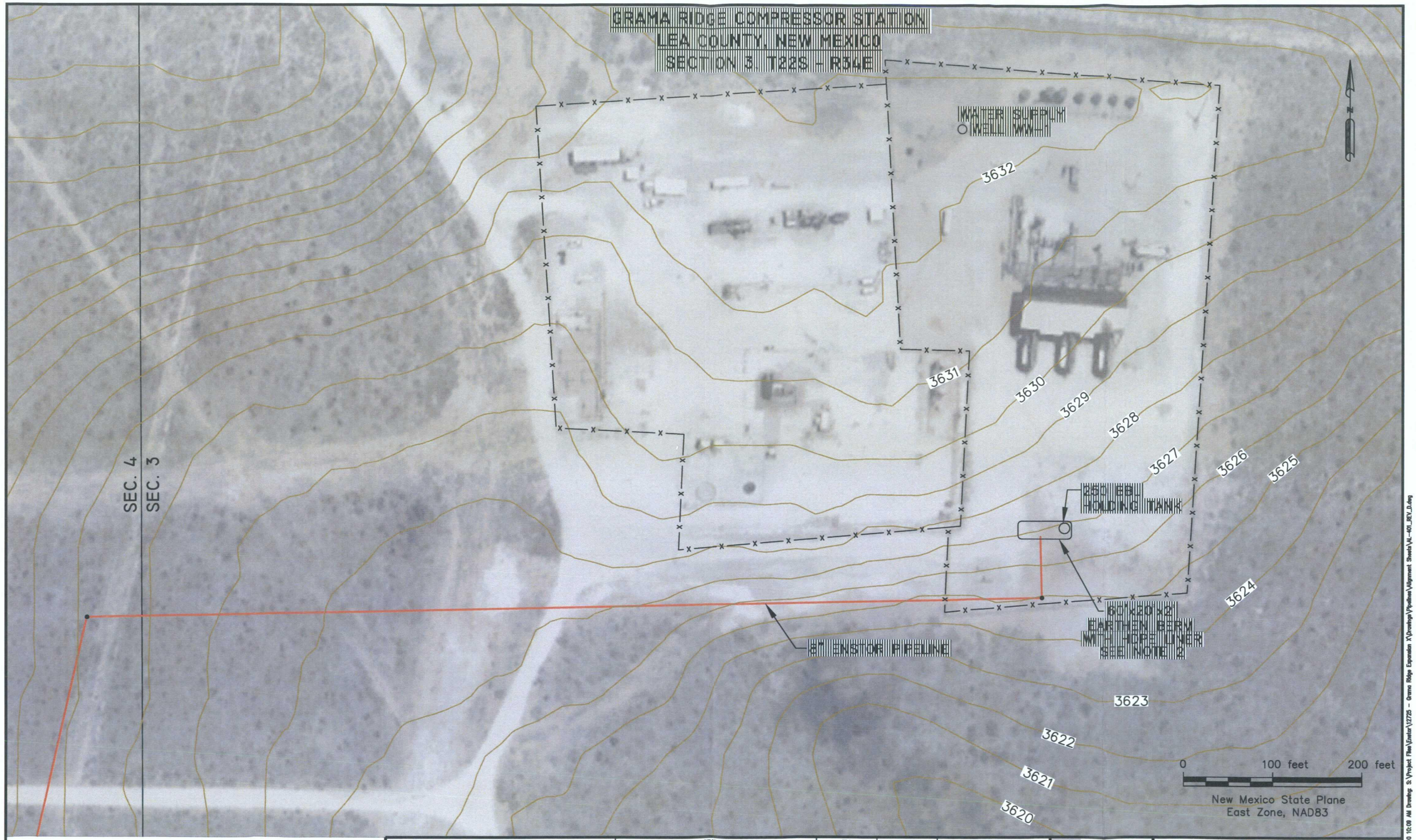
Primary highway, hard surface
Light-duty road, hard or improved surface
Secondary highway, hard surface
Unimproved road
Interstate Route
U. S. Route
State Route

SAN SIMON RANCH, N. MEX.
NW/4 OIL CENTER 15' QUADRANGLE
32103-D4-TF-024

1984

DMA 5348 IV NW-SERIES V881

GRAMA RIDGE COMPRESSOR STATION
LEA COUNTY, NEW MEXICO
SECTION 3 T22S - R34E



NOTES:
1. CONTRACTOR TO INSTALL TEMPORARY CONNECTING HOSE OR PIPE TO PIG TEST WATER FROM END OF PIPELINE TO FRAC TANK. CONNECTION SHALL INCLUDE A VALVE TO ENABLE CONTRACTOR TO MONITOR/CONTROL VOLUME MOVED TO PREVENT OVER FILL OF FRAC TANK.
2. ALL TEST WATER TRANSFER TO TAKE PLACE WITHIN BERMED AREA. CONTAINMENT TO CONSIST OF EARTHEN BERM W/20 MIL HDPE/GEOTEXTILE REINFORCEMENT LINER MATERIAL. PERMALON X210G, MANUFACTURED BY REEF INDUSTRIES, HOUSTON, TX., OR EQUAL.

REFERENCE DRAWINGS		REVISIONS				FRC		CLIENT		ENGINEERING RECORD		
										DRAWN	SL	01/20/10
										CHECKED		
										CLIENT		
										PROJECT MGMT.		
		D	REVISED PER CLIENT COMMENTS	SL	04/16/10	PDJ	04/16/10			PROCESS		
		C	REVISED PER CLIENT COMMENTS	SL	04/05/10	PDJ	04/05/10			MECHANICAL		
		B	REVISED PER CLIENT COMMENTS	SL	02/18/10	PDJ	02/18/10			PIPING		
		A	ISSUED FOR APPROVAL	SL	01/21/10	PDJ	01/21/10			STRUCTURAL		
DWG. NO.	TITLE	REV.	DESCRIPTION	BY	DATE	CHK	APPR	DATE	CHK	APPR	DATE	ELECTRICAL		
										I & C		

ForeRunner CORPORATION
7125 W. Jefferson Ave., Ste. 400
Lakewood, CO 80235
303-969-0323

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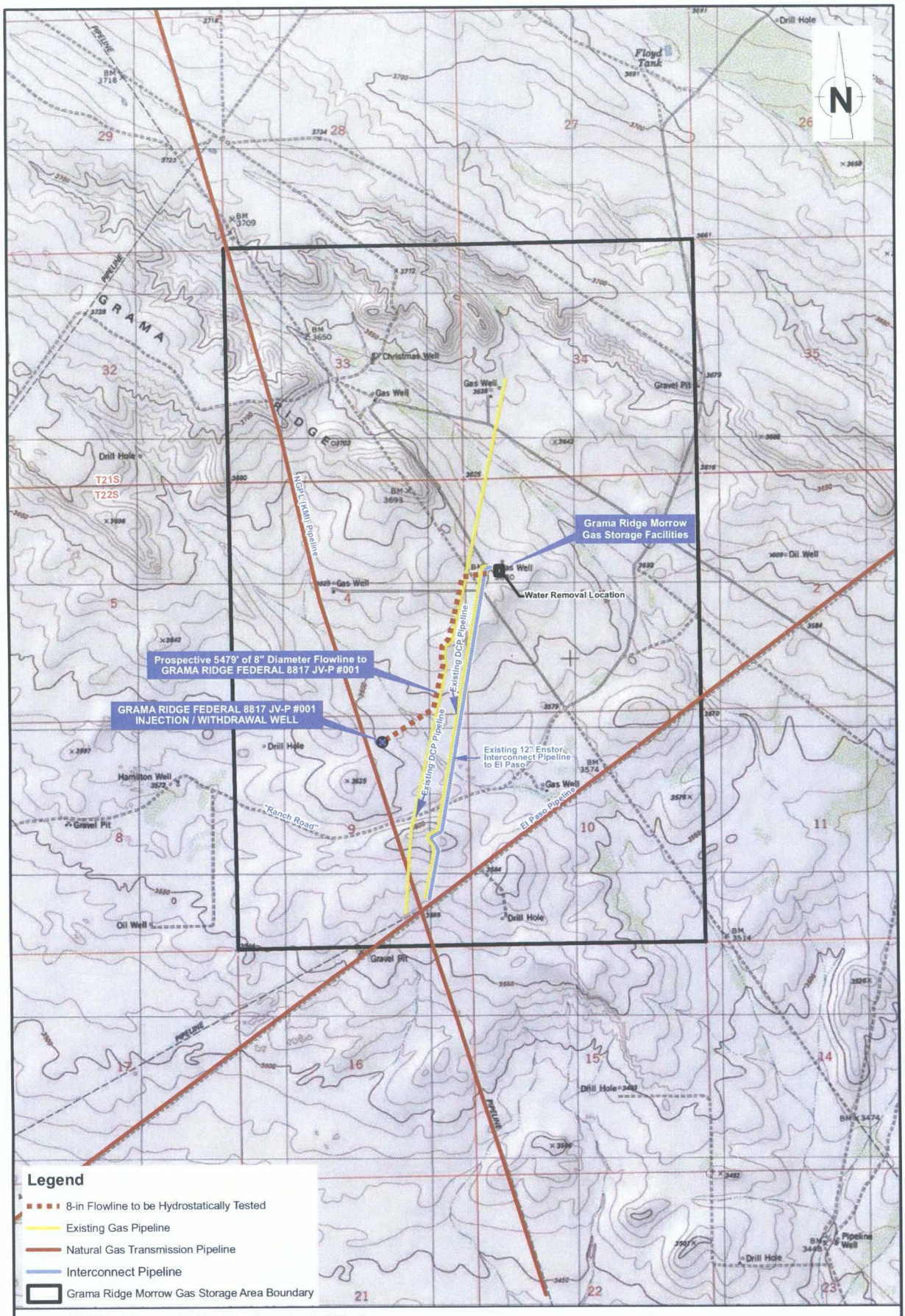
ENSTOR
An Enbridge Renewables Company

HYDROSTATIC TEST WATER REMOVAL LOCATION

SCALE	PROJ. NO.	CITY/COUNTY, STATE	DWG. NO.	REV
SHOWN	12725-C	LEA CO., NM	AL-401	D

Plotted by: STEVE_LAURA Date: 4/16/2010 10:09 AM Drawing: S:\Project Files\Enstor\12725 - Grama Ridge Expansion 1\Drawings\Pipeline\Alignment Sheets\AL-401_REV_D.dwg

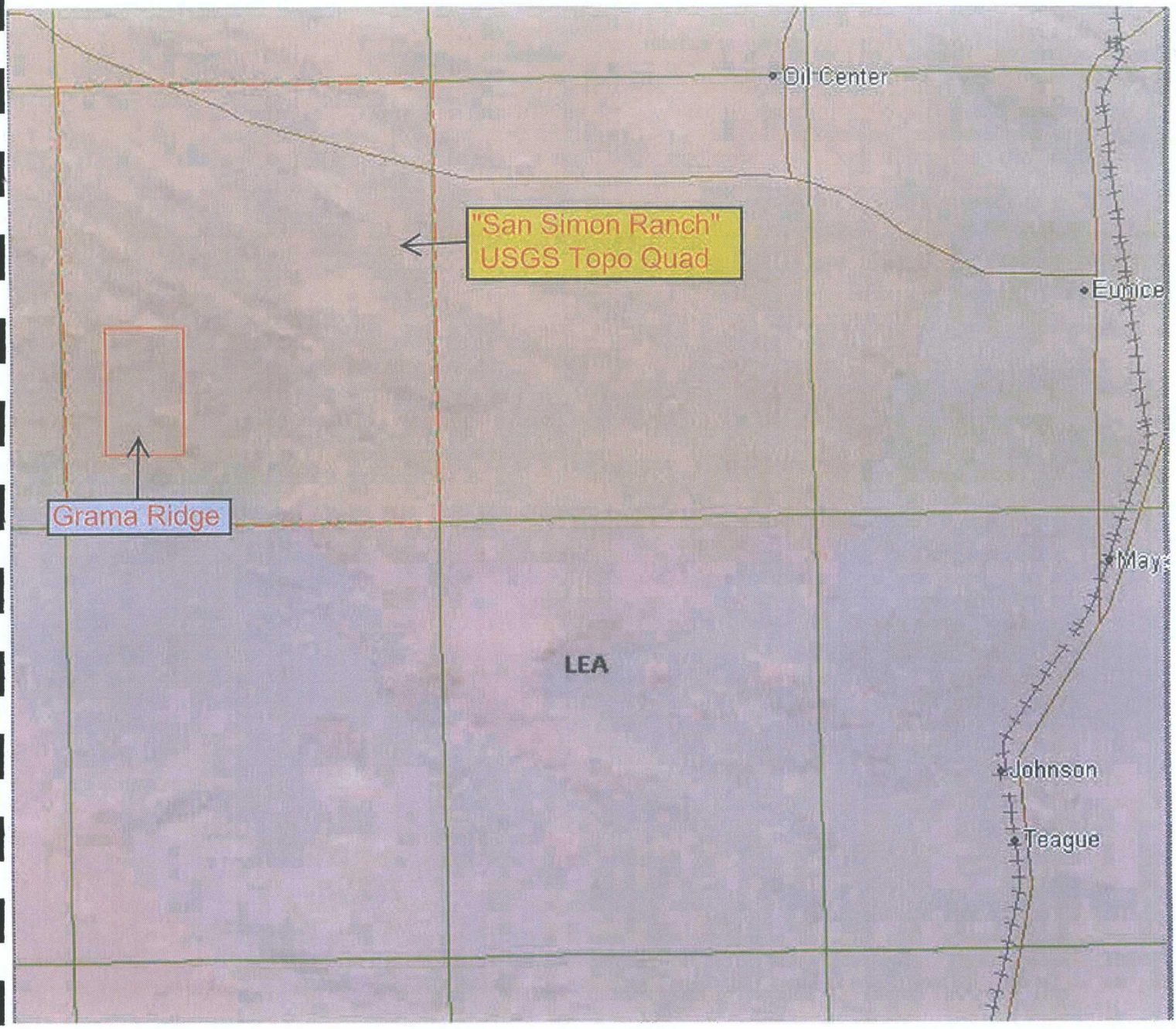


RE: USGS 7.5 Minute Topographic Map, "San Simon Ranch, N. Mex."

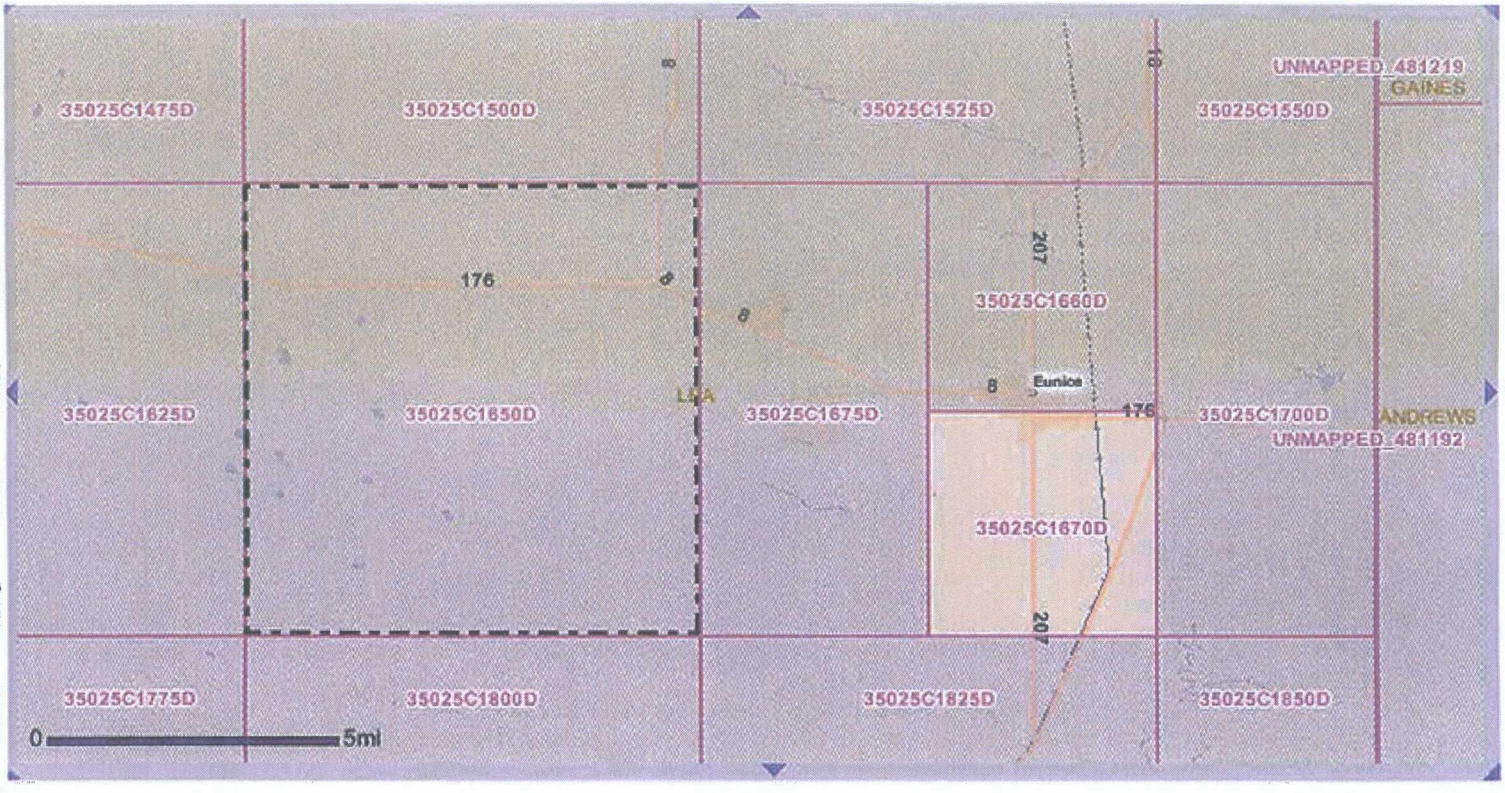
0 750 1,500
Feet

GRAMA RIDGE EXPANSION PROSPECTIVE FACILITIES
GRAMA RIDGE MORROW GAS STORAGE AREA
LEA COUNTY, NEW MEXICO
Enstor Operating Company

55212-06(000)PR-BR003 APR 12/2010


Oil Center
"San Simon Ranch"
USGS Topo Quad
Eunice
Grama Ridge
LEA
Johnson
Teague

FEMA FLOODPLAIN MAP



Grama Ridge is Totally Within Outlined Panel 35025C1650D

CONESTOGA-ROVERS
& ASSOCIATES

4875 S. Sherwood Forest Blvd., Baton Rouge, LA 70816
Telephone: 225.292.9007 Facsimile: 225.292.3614
www.CRAworld.com

December 9, 2009

Reference No. 055212-07

Mr. Richard Gatewood
U.S. Army Corps of Engineers
Albuquerque District
El Paso Regulatory Office
Post Office Box 6096
Fort Bliss, Texas 79906-0096

Dear Mr. Gatewood:

Re: Request for Jurisdictional Determination
Grama Ridge Expansion Prospective Facilities
Grama Ridge Morrow Gas Storage Area
Lea County, New Mexico

On behalf of Enstor Operating Company, LLC (Enstor), Conestoga-Rovers and Associates (CRA) submits herein to the Albuquerque District, U.S. Army Corps of Engineers (USACE), the enclosed Wetland Delineation Report for the Grama Ridge Expansion Prospective Facilities located in Lea County, New Mexico (Site). The project will require the excavation and deposition of material at the Site, and such activities, were they conducted in waters of the United States, would require a permit under Section 404 of the Clean Water Act.

The enclosed report, which presents data on wetlands and other waters potentially under the jurisdiction of the USACE at the Site, is provided to assist the Albuquerque District with making a jurisdictional determination of such waters, as requested herein by CRA.

If you have any questions or require additional information, please contact the undersigned at (225) 292-9007.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

David G. Marschall

Dr. Hoy L. Bryson

DGM/kmc/1
Encl.

WETLAND DELINEATION REPORT

GRAMA RIDGE EXPANSION PROSPECTIVE FACILITIES
LEA COUNTY, NEW MEXICO

Prepared For:

Enstor Operating Company, LLC
Houston, Texas

DECEMBER 2009
REF. NO. 055212-07 (3)

TABLE OF CONTENTS

LIST OF FIGURES
(Following Text)

LIST OF APPENDICES

1.0 INTRODUCTION

1.1 GENERAL

This report is a presentation of data on wetlands and other waters that are potentially under the jurisdiction of the U.S. Army Corps of Engineers at the planned location of the Grama Ridge expansion prospective facilities (referred to as the Site) in Lea County, New Mexico. This report was prepared by Conestoga-Rovers & Associates, Inc. (CRA), for Enstor Operating Company, LLC (Enstor), of Houston, Texas, to assist with obtaining a Jurisdictional Determination from the Corps of Engineers.

1.2 PURPOSE AND SCOPE

This report presents field data on the three diagnostic characteristics of wetlands, field data on the characteristics of tributaries to traditional navigable waters of the United States, an opinion on the presence and potential extent of wetlands, and an opinion on Corps of Engineers jurisdiction.

Wetlands are defined in federal regulations as "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." For property to be considered a wetland by the Corps of Engineers, it must:

- Include a prevalence of hydrophytic vegetation
- Be underlain by soils that developed in anaerobic conditions
- Exhibit saturation in the root zone for at least 5 percent of the growing season in consecutive days

For a wetland to be considered under the Corps of Engineer's jurisdiction, it must be adjacent to, hydrologically connected to, or have a significant nexus with a traditional navigable water. Each of these characteristics will be described for the area delineated.

This report was prepared in accordance with guidance found in:

- The *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers 1987)
- The *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (U.S. Army Corps of Engineers 2008)

- The *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (U.S. Army Corps of Engineers and U.S. Environmental Protection Agency 2007)

2.0 SITE DESCRIPTION

2.1 SITE LOCATION

The Site is approximately 18 miles west of Eunice, located within Sections 3, 4, and 9, Township 22 South, Range 34 East, Lea County, New Mexico. Coordinates near the center of the Site are 32.413873°N, 103.466977°W, WGS 84. The Site is best accessed from either side of County Road 30, approximately 6 miles southwest of its intersection with Highway New Mexico 176, at the approximate geographic coordinates 32.407813° N, 103.468271°W, WGS 84. Figure 1 is a vicinity map showing the location of the Site.

2.2 SITE DESCRIPTION

The area delineated is situated in a linear arrangement and includes approximately 32.5 acres within the rights-of-way and adjacent area of a prospective meter site and two prospective pipeline locations. Specifically, the Site is defined by a 100-foot buffer that surrounds the prospective pipelines and meter facility location. The Site and surrounding area within Sections 3, 4, and 9 support three well pads, several pipeline rights-of-way, a cluster of pipeline meter stations where several lines interconnect, a caliche pit on the south line of Section 9, and a limited network of light-duty roads providing access to the oil and gas facilities. Two of the roads are believed to be county roads: Red Road crosses diagonally across the southeast quarter of the Site, and County Road 30, known locally as the Ranch Road, crosses from east to west just north of the center of the Site. Other than these features, the land is vacant and used mostly for cattle grazing. Figure 2 is a site map showing various features of the Site.

The Site is characteristic of a semi-arid desert environment. Trees are absent at the Site, and the dominant cover consists of a mixture of grasses and shrubs. Elevations on the Site range from approximately 3,550 to 3,650 feet above the National Geodetic Vertical Datum for mean sea level (NGVD). The general topographic gradient at the Site and surrounding area falls to the south and east. No water features are present at the Site, with the exception a single dry ephemeral wash.

3.0 FIELD SURVEY

3.1 GENERAL

On November 12, 2009, CRA field personnel inspected the Site. Data were collected at two sample locations to characterize local habitat and document wetland characteristics. Sample locations were chosen to represent homogeneous areas. At each sample location, vegetative species were recorded, soil samples were collected and examined for hydric properties, and observations were made on hydrologic conditions. Photographs 1 through 3 are attached in Appendix A and show sample locations and portions of the Site. Data from the two sample locations are presented on Routine Wetland Determination Data Forms attached in Appendix B. Figure 3 shows the sample locations.

3.2 PRELIMINARY DATA GATHERING

Prior to the initial Site visit, CRA reviewed available mapped information for the Site. Sources reviewed include:

- The Natural Resources Conservation Service (NRCS) *Web Soil Survey* (2009)
- The USDA Soil Conservation Service *Soil Survey, Lea County, New Mexico* (1974)
- The USGS 7.5-minute topographic maps "San Simon Ranch, New Mexico" (1984)
- The USGS *National Wetlands Inventory Map Web Mapper* (2009)
- Recent aerial photography

The Federal Emergency Management Agency Flood Insurance Rate Map for the Site was not available for review because the area is well beyond the boundaries of a floodplain. The National Wetlands Inventory map shows no mapped wetlands on the Site. Mapped wetlands nearest to the Site are located approximately 30 miles to the west. Figure 4 shows these wetlands. The remainder of available mapped information will be discussed below.

3.3 FIELD PERSONNEL

Field data were collected by Mr. David Marschall and Dr. Hoy Bryson. Mr. Marschall is a wetland specialist with 30 years of experience working with the Section 404 regulatory program, and has received qualification training for the Corps of Engineers Wetland Delineator Certification Program. Dr. Bryson is a Certified Professional Soils Scientist

and a Professional Geoscientist with over 35 years of experience conducting ecological and wetland assessments.

4.0 SITE DATA

4.1 SOILS

CRA collected soil at each sample location to a depth sufficient to determine changes in the upper horizons and to observe the presence or absence of field indicators of hydric soil. Soil samples were described and compared to descriptions and maps in the NRCS *Web Soil Survey*, which shows that the majority of the Site may be underlain by the following soil units:

- Pyote and Maljamar fine sands (PU)
- Simona fine sandy loam, 0 to 3 percent slopes (SE)
- Tonuco loamy fine sand (TF)

Of these soils, Pyote and Maljamar fine sands and Simona fine sandy loam, 0 to 3 percent slopes, appear to be most prevalent at the Site. Collectively, these soils occur on plains, fan piedmonts, alluvial fans, terraces, and dunes, and all are listed as non-hydric on the NRCS *National Hydric Soils List* (2009).

Field data generally agree with the soil survey. The sample locations were in non-wetland areas. Sample Location 1 was within an area mapped as Pyote and Maljamar fine sands by the NRCS, and Sample Location 2 was within an area mapped as Simona fine sandy loam, 0 to 3 percent slopes. The sample locations did not exhibit any hydric soil indicators and, therefore, do not meet the hydric soil criterion for wetlands. Figure 3 is a soil survey map showing the soil units as mapped by the NRCS.

4.2 VEGETATION

The majority of the Site is vegetated by shrub/scrub desert vegetation. Much of the Site is used for cattle grazing, which has likely contributed to the transition of the historical plant community, dominated by black grama (*Bouteloua eriopoda*) and other grasses, to a community that consists of alternating areas of shrub-dominated to grass-dominated plant communities. Dominant shrubs at the Site include mesquite (*Prosopis glandulosa*), creosotebush (*Larrea tridentata*), shinnery oak (*Quercus harvardii*), and sand sagebrush (*Artemisia filifolia*). Grasses consist mostly of needle and thread grass (*Hesperostipa comata*) black grama, threeawns (*Aristida sp.*), soapweed yucca (*Yucca glauca*), and dropseeds (*Sporobolus sp.*).

Overall, plants observed at the Site are upland species, and both sample locations are in non-wetland areas. No samples showed indicators of hydrophytic vegetation; therefore, the vegetation associations observed do not meet the vegetation criterion for wetlands.

4.3 HYDROLOGY

According to the USGS topographic maps, Site topography is gently sloping, with an approximate 100-foot variance in elevation throughout the Site. At both sample locations, as well as throughout the Site, no wetland hydrology indicators were observed; therefore, the sample locations and all other areas observed at the Site do not meet the hydrology criterion for wetlands.

4.4 WATERS OF THE UNITED STATES

According to the USGS topographic map, one conveyance is shown crossing the Site, but it was not observed. After rain events, the Site drains to the southeast by overland sheet flow and through indistinct or temporary washes. No named streams are located on or near the Site. Named hydrologic features closest to the Site include San Simon Swale, Monument Draw, and the Pecos River. These features are located approximately 5 miles south, 13 miles northeast, and 35 miles west of the Site, respectively. Further, a playa wetland was observed approximately one mile northeast and uphill of the Site. Other playas are located around the Site, as indicated on topographic maps and aerial photographs, and are farther from the Site than the observed playa. Due to the distance and topographic discontinuity of the Site from these features, it is CRA's opinion that the Site has no direct connection to or significant nexus with these or other potential waters of the United States.

With the exception of one dry ephemeral wash, no potential conveyances were observed on the Site. Data were collected in the wash in order to support a determination of whether the conveyance has a significant nexus with a traditional navigable or other water of the U.S. Significant-nexus data documenting the conveyance are provided on the Approved Jurisdictional Determination Form in Appendix C. Figure 2 shows the location of the wash.

4.5 CHARACTERIZATION OF FISH AND WILDLIFE HABITAT

Based on the habitat characteristics observed and discussed above, and review of available range maps, the Site is capable of hosting a diverse group of wildlife.

Mammals that may inhabit the Site include pronghorn antelope (*Antilocapra americana*), desert cottontail (*Sylvilagus audubonii*), spotted ground squirrel (*Spermophilus spilosoma*), black-tailed prairie dog (*Cynomys ludovicianus*), yellow-faced pocket gopher (*Cratogeomys castanops*), Ord's kangaroo rat (*Dipodomys ordii*), northern grasshopper mouse (*Onychomys leucogaster*), southern plains woodrat (*Neotoma micropus*), badger (*Taxidea taxus*), mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), mountain lion (*Felis concolor*), coyote (*Canis latrans*), swift fox (*Vulpes velox*), gray fox (*Urocyon cinereoargenteus*), and bobcat (*Felis rufus*). Birds may include scaled quail (*Callipepla squamata*), mourning dove (*Zenaida macroura*), roadrunner (*Geococcyx californianus*), burrowing owl (*Athene cunicularia*), Chihuahuan raven (*Corvus cryptoleucus*), and lesser prairie chicken (*Tympanuchus pallidicinctus*). Reptiles may include sand dune lizard (*Sceloporus arenicolus*), six-lined racerunner (*Aspidoscelis sexlineata*), Texas spotted whiptail (*Aspidoscelis gularis*), checkered whiptail (*Aspidoscelis tesselata*), western whiptail (*Aspidoscelis tigris*), Texas horned lizard (*Phrynosoma cornutum*), western diamondback rattlesnake (*Crotalus atrox*), western hog-nosed snake (*Heterodon nasicus*), and ornate box turtle (*Terrapene ornata*). Amphibians may include green toad (*Anaxyrus debilis*), red-spotted toad (*Anaxyrus punctatus*), and Couch's spadefoot toad (*Scaphiopus couchii*). No fish are present at the Site due to the absence of aquatic features.

5.0 FINDINGS AND CONCLUSIONS

5.1 FINDINGS

Data were gathered and observations were made at the Site located in Lea County, New Mexico. Observations were documented at two locations, but CRA field personnel observed the entire Site. The findings include:

- Soils: The Site was observed to be underlain by a complex of non-hydric soil units, and no sample locations exhibited indicators of hydric soil.
- Vegetation: The Site is vegetated with upland scrub/shrub desert vegetation, and no sample locations exhibited hydric vegetation.
- Hydrology: No sample locations showed indicators of weltand hydrology.
- Waters of the United States: The entire Site drains to the southeast by overland sheet flow or through indistinct or temporary washes. There are no relatively permanent water features at or near the Site, and the nearest hydrologic conveyances that may be under the jurisdiction of the Corps of Engineers are located 5 to 35 miles from the Site.

5.2 CONCLUSIONS

Positive evidence of all three diagnostic characteristics of wetlands was not found at any of the sample locations, and no wetlands were identified on the Site. It is CRA's opinion that there are no areas on the Site that would be considered jurisdictional wetlands or other waters of the United States. Only the Albuquerque District of the Corps of Engineers can make an official determination of the jurisdictional status of wetlands and other waters of the United States at this Site.

6.0 REFERENCES

Natural Resources Conservation Service. 2009. *Web Soil Survey*. U. S. Department of Agriculture. http://websoilsurvey.nrcs.usda.gov, accessed November 2009.

Natural Resources Conservation Service. 2009. *National Hydric Soils List*. U.S. Department of Agriculture. http://soils.usda.gov/use/hydric/lists/state.html, accessed November 2009.

Reed, PB. 1988. *National List of Plant Species that Occur in Wetlands: Southwest (Region 7)*. US Department of Interior Fish and Wildlife Service Biological Report 88: 26.7. Washington, DC.

U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. Environmental Laboratory. U.S. Army Engineer Waterways Experiment Station. Vicksburg, MS.

U.S. Army Corps of Engineers. 2008. *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. JS Wakeley, RW Lichvar, and CV Noble, eds. Technical Report ERDC/EL TR-08-28. U.S. Army Engineer Research and Development Center. Vicksburg, MS.

U.S. Army Corps of Engineers and U.S. Environmental Protection Agency. 2007. *Jurisdictional Determination Form Instructional Guidebook*. Washington, D.C.

U.S. Department of Agriculture, Soil Conservation Service. 1974. *Soil Survey, Lea County, New Mexico*. U.S. Government Printing Office, Washington, D.C., January 1974.

U.S. Fish and Wildlife Service. 2009. *National Wetlands Inventory Wetlands Mapper*. http://www.fws.gov/wetlands/data/Mapper.html, accessed November 2009.

U.S. Geological Survey. 1984. 7.5-Minute Series Topographic Map "San Simon Ranch, New Mexico." U.S. Department of Interior.

All of Which is Respectfully Submitted,
CONESTOGA-ROVERS & ASSOCIATES

David G. Marschall
Senior Ecologist

Dr. Hoy L. Bryson, PG
Senior Environmental Scientist

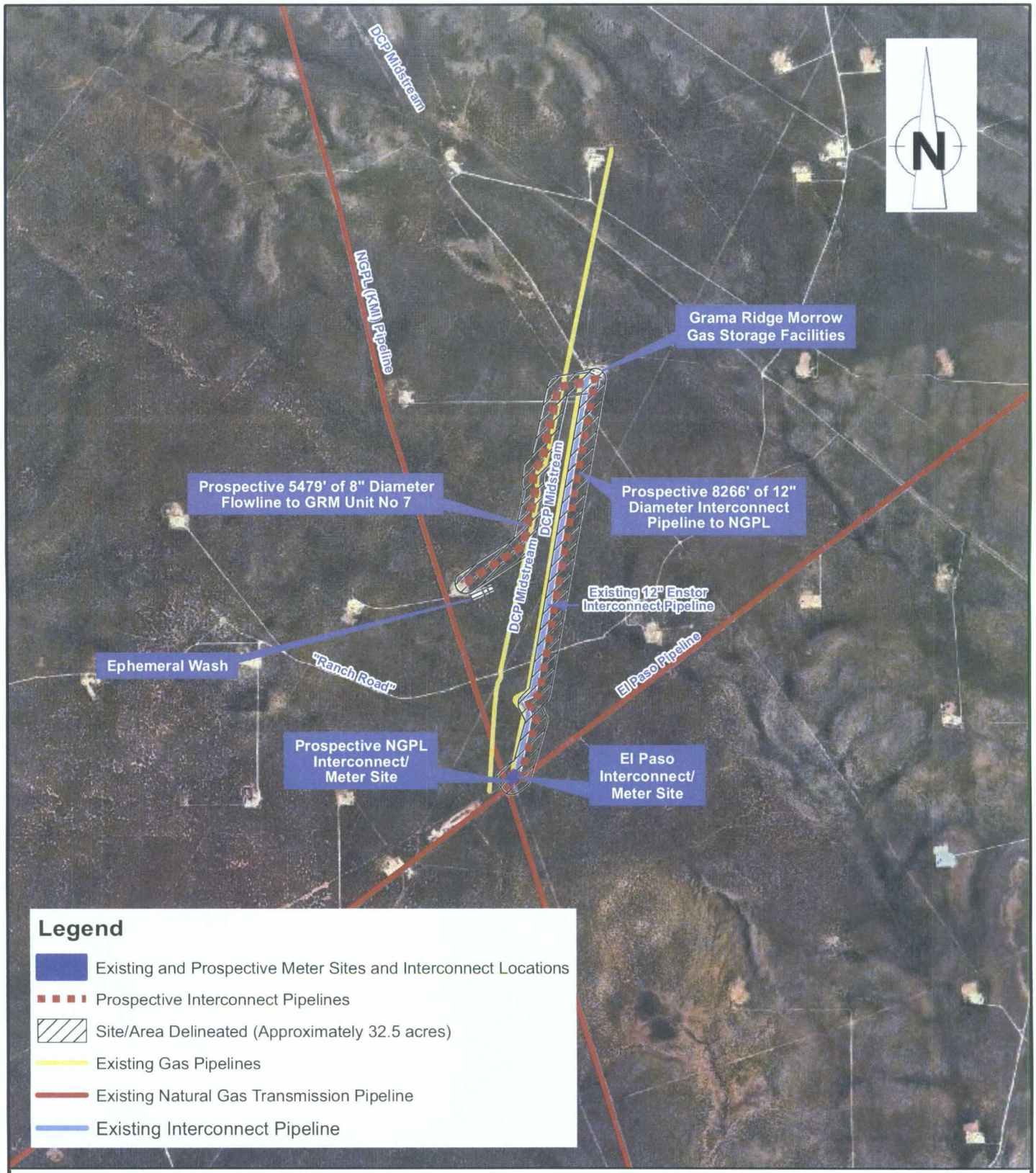
FIGURES

RE: USGS 7.5 Minute Topographic Maps, "Grama Ridge, New Mexico," and "San Simon Ranch, New Mexico."

0 12,500 25,000 Feet

figure 1
VICINITY MAP
GRAMA RIDGE EXPANSION PROSPECTIVE FACILITIES
GRAMA RIDGE MORROW GAS STORAGE AREA
LEA COUNTY, NEW MEXICO
Enstor Operating Company

55212-07(003)PR-BR001 DEC 7/2009

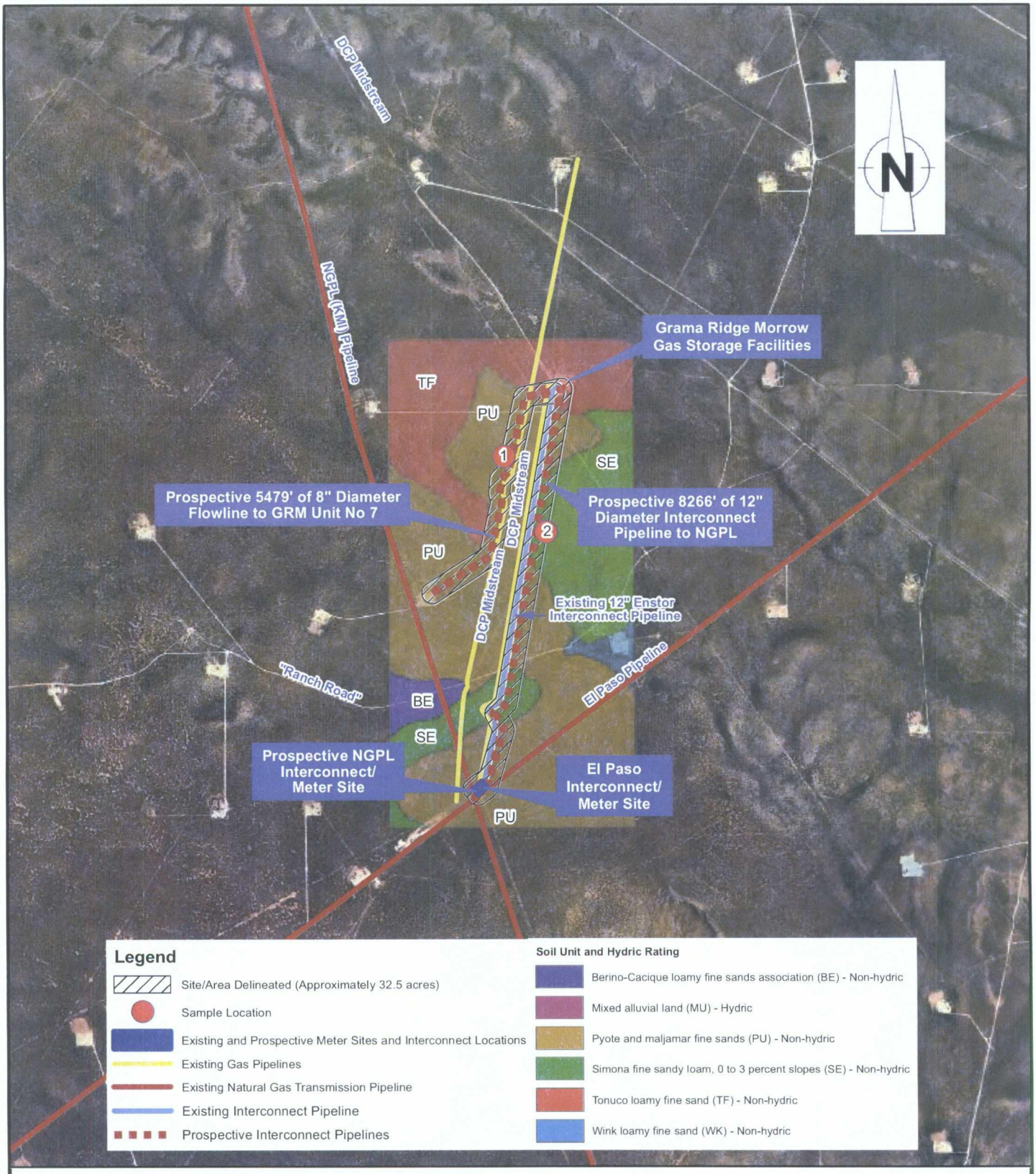


RE: 2006 Aerial photograph by New Mexico State GIS.

0 1,250 2,500
Feet

figure 2
SITE MAP
GRAMA RIDGE EXPANSION PROSPECTIVE FACILITIES
GRAMA RIDGE MORROW GAS STORAGE AREA
LEA COUNTY, NEW MEXICO
Enstor Operating Company

55212-07(003)PR-BR002 DEC 7/2009

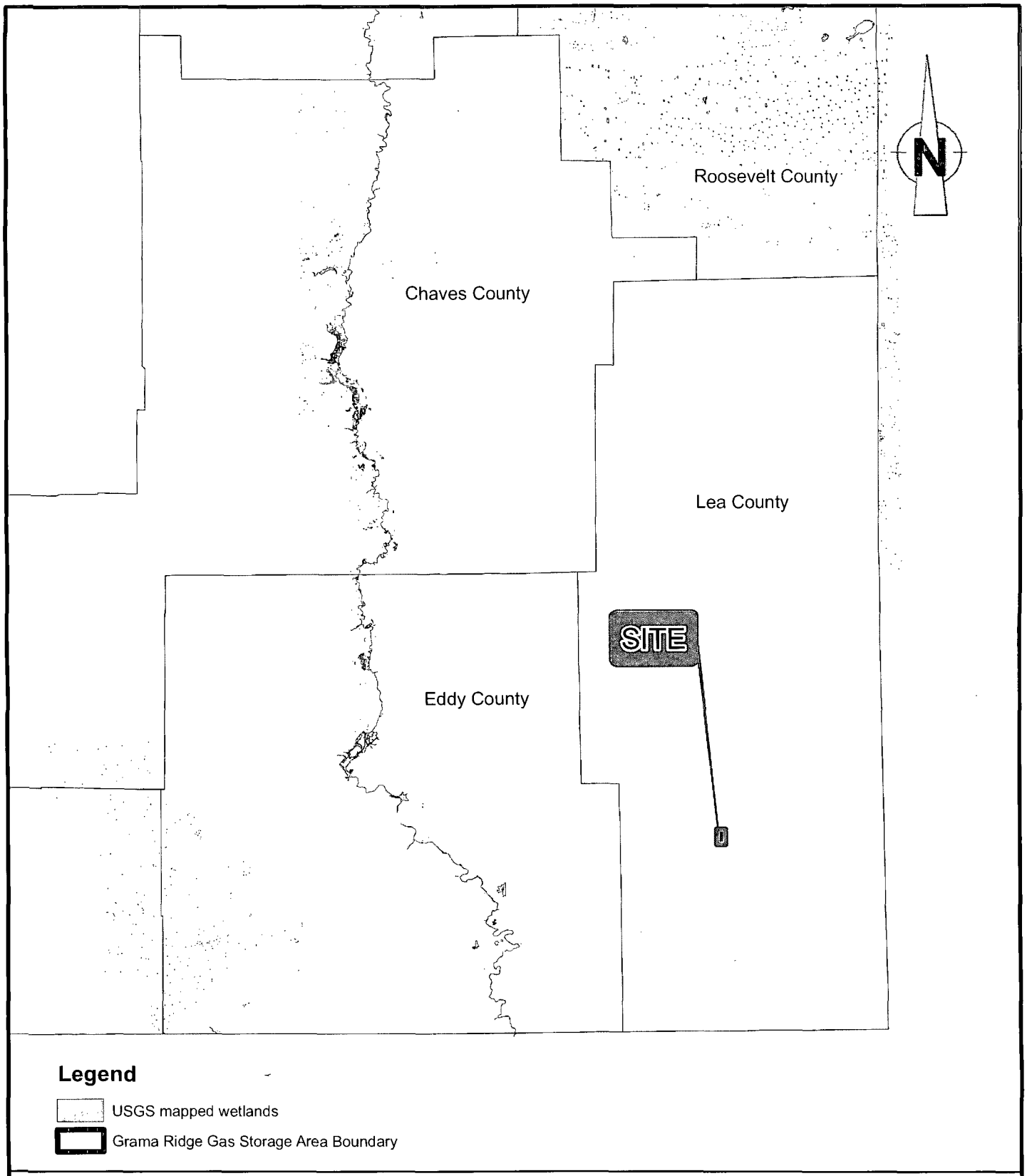


RE: 2006 Aerial photograph by New Mexico State GIS; U.S. Department of Agriculture, Natural Resources Conservation Service 2008 Soil Survey Geographic (SSURGO) database for Lea County, New Mexico.

0 1,250 2,500 Feet

figure 3
SOIL MAP
GRAMA RIDGE EXPANSION PROSPECTIVE FACILITIES
GRAMA RIDGE MORROW GAS STORAGE AREA
LEA COUNTY, NEW MEXICO
Enstor Operating Company

55212-07(003)PR-BR003 DEC 7/2009



RE: USFWS 2009 Classification of Wetlands and Deepwater Habitats of the United States.

0 50,000 100,000
Feet

figure 4
NATIONAL WETLANDS INVENTORY MAP
GRAMA RIDGE EXPANSION PROSPECTIVE FACILITIES
GRAMA RIDGE MORROW GAS STORAGE AREA
LEA COUNTY, NEW MEXICO
Enstor Operating Company

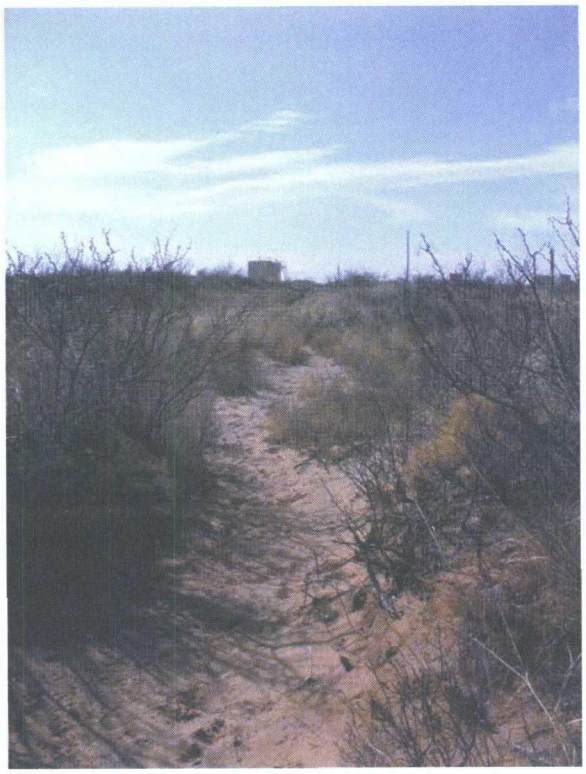
55212-07(003)PR-BR004 DEC 7/2009

APPENDIX A

SITE PHOTOGRAPHS

PHOTOGRAPH 1: Standing at Sample Location 1 and facing north.

PHOTOGRAPH 2: Standing at Sample Location 2 and facing south.



PHOTOGRAPH 3: Looking west along the shallow wash located on the Site.

APPENDIX B

ROUTINE WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Grama Ridge Expansion Prospective Facilities | City/County: Lea County | Sampling Date: Nov 12, 2009

Applicant/Owner: Enstor Operating Company | State: NM | Sampling Point: 1

Investigator(s): Dave Marshcall, Hoy Bryson | Section, Township, Range: Section 4, Township 22 South, Range 34 East

Landform (hillslope, terrace, etc.): Fan Piedmont/Alluvial Fan | Local relief (concave, convex, none): concave | Slope (%): 0 to 9%

Subregion (LRR): D - Interior Deserts | Lat: 32° 25' 08.14 N | Long: 103° 28' 04.16 W | Datum: WGS 84

Soil Map Unit Name: Pyote and maljamar fine sands (PU) | NWI classification: none mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0 %		
Sapling/Shrub Stratum			
1. *Propsopis glandulosa*	10	Yes	Not Listed
2. *Quercus harvardii*	10	Yes	Not Listed
3. *Artemisia filifolia*	3	No	Not Listed
4.			
5.			
Total Cover:	23 %		
Herb Stratum			
1. *Hesperostipa comata*	60	Yes	Not Listed
2. *Aristida sp.*	10	No	Not Listed
3. *Yucca glauca*	5	No	Not Listed
4. *Bouteloua eriopoda*	5	No	Not Listed
5.			
6.			
7.			
8.			
Total Cover:	80 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	0 %		

% Bare Ground in Herb Stratum 20 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	103	x 5 =	515
Column Totals:	103 (A)		515 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- [●] Dominance Test is >50%
- [●] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
16	10 YR 5/4	100					Silty Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: *Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.*

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Grama Ridge Expansion Prospective Facilities | City/County: Lea County | Sampling Date: Nov 12, 2009

Applicant/Owner: Enstor Operating Company | State: NM | Sampling Point: 2

Investigator(s): Dave Marshcall, Hoy Bryson | Section, Township, Range: Section 3, Township 22 South, Range 34 East

Landform (hillslope, terrace, etc.): Fan Piedmont/Alluvial Fan | Local relief (concave, convex, none): concave | Slope (%): 1 to 9%

Subregion (LRR): D - Interior Deserts | Lat: 32° 24' 53.80 N | Long: 103° 27' 55.31 W | Datum: WGS 84

Soil Map Unit Name: Simona fine sandy loam, 0 to 3 percent slopes (SE) | NWI classification: none mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0 %		
Sapling/Shrub Stratum			
1. *Quercus harvardii*	20	Yes	Not Listed
2. *Propsopis glandulosa*	15	Yes	Not Listed
3. *Larrea tridentata*	5	No	Not Listed
4. *Artemisia filifolia*	5	No	Not Listed
5.			
Total Cover:	45 %		
Herb Stratum			
1. *Hesperostipa comata*	20	Yes	Not Listed
2. *Aristida sp.*	10	Yes	Not Listed
3. *Yucca glauca*	5	No	UPL
4. *Bouteloua sp.*	5	No	Not Listed
5.			
6.			
7.			
8.			
Total Cover:	40 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	0 %		

% Bare Ground in Herb Stratum 40 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	85	x 5 =	425
Column Totals:	85 (A)		425 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- [●] Dominance Test is >50%
- [●] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
16	10 YR 5/6	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

APPENDIX C

APPROVED JURISDICTIONAL DETERMINATION FORMS

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: New Mexico County/parish/borough: Lea City: Near Eunice
Center coordinates of site (lat/long in degree decimal format): Lat. 32.413873° N, Long. 103.466977° W.
Universal Transverse Mercator: WGS 84
Name of nearest waterbody: Monument Draw
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Monument Draw
Name of watershed or Hydrologic Unit Code (HUC): 13070007 Landreth-Monument Draws

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** *"waters of the U.S."* within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Not Applicable.**
      Elevation of established OHWM (if known):

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain:

---

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW: .

   Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) General Area Conditions:
   Watershed size: 20800 **square miles**
   Drainage area: 4270 **square miles**
   Average annual rainfall: 8 to 13 inches
   Average annual snowfall: negligible inches

   (ii) Physical Characteristics:
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☒ Tributary flows through **10 (or more)** tributaries before entering TNW.

   Project waters are **30 (or more)** river miles from TNW.
   Project waters are **30 (or more)** river miles from RPW.
   Project waters are **30 (or more)** aerial (straight) miles from TNW.
   Project waters are **30 (or more)** aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: NA.

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW[5]: Undetermined due to ambiguous topographic relief and long distance from nearest TNW or perennial water. The wash conveys water to the east from an upland area, and appears to terminate approximately 480 feet downstream and within the boundaries of the site.
Tributary stream order, if known: stream is an ephemeral wash.

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☒ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: 3 feet
Average depth: 0.5 feet
Average side slopes: **4:1 (or greater).**

Primary tributary substrate composition (check all that apply):
☒ Silts ☒ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Ephemeral wash; unstable.
Presence of run/riffle/pool complexes. Explain: No water observed.
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): 1 to 2 %

(c) Flow:
Tributary provides for: **Ephemeral flow**
Estimate average number of flow events in review area/year: **2-5**
Describe flow regime:
Other information on duration and volume: No water present at time of observation.

Surface flow is: **Discrete and confined.** Characteristics: NA.

Subsurface flow: **Unknown**. Explain findings: NA.
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☐ Bed and banks
☒ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☒ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☒ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7] Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: NA.
Identify specific pollutants, if known: NA.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- ☐ Riparian corridor. Characteristics (type, average width):
- ☐ Wetland fringe. Characteristics:
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☐ Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**

Characteristics:

Subsurface flow: **Pick List**. Explain findings:

- ☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) ***Biological Characteristics. Wetland supports (check all that apply):***

- ☐ Riparian buffer. Characteristics (type, average width):
- ☐ Vegetation type/percent cover. Explain:
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☐ Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the Rapanos Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: It is CRA's opinion that the conveyance has no significant nexus with a water of the U.S. because it is a small, ephemeral wash that is located a considerable distance upstream from any potentially jurisdictional waters of the U.S. It is not anticipated that any flow would ever reach any wetlands or other waters of the U.S. that may occur near the Site due to evapotranpiration and infiltration.

2. ***Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.*** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .

---

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters:
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:**Water is a small, ephemeral wash and is located a considerable distance upstream from any potentially jurisdictional waters of the U.S. It is not anticipated that any flow would ever reach any wetlands or other waters of the U.S. that may occur near the site due to evapotranpiration and infiltration.**
☐ Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☒ Non-wetland waters (i.e., rivers, streams): **approximately 500** linear feet, **3** width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps:
☐ Corps navigable waters' study:
☐ U.S. Geological Survey Hydrologic Atlas:
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name:7.5-minute topographic maps "San Simon Ranch, New Mexico" (1984).
☒ USDA Natural Resources Conservation Service Soil Survey. Citation:NRCS Web Soil Survey, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx, accessed November 2009.
☒ National wetlands inventory map(s). Cite name:USFWS National Wetlands Inventory Wetlands Mapper, http://www.fws.gov/wetlands/data/Mapper.html, accessed November 2009.
☐ State/Local wetland inventory map(s):
☐ FEMA/FIRM maps:
☐ 100-year Floodplain Elevation is:feet (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date):multiple sources.
or ☐ Other (Name & Date):
☐ Previous determination(s). File no. and date of response letter:
☐ Applicable/supporting case law:

☐ Applicable/supporting scientific literature:
☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: The conveyance is a small, ephemeral wash that appears to be isolated within the boundaries of the Site. Photograph 3 in the Wetland Delineation Report shows the wash.

New Mexico Office of the State Engineer

Point of Diversion by Location

(with Owner Information)

(acre ft per annum) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Grant	Source	q q q 64 16 4	Sec	Twn	Rng	X	Y
CP 00588		STK		THE MERCHANT LIVESTOCK COMPANY	ED	CP 00588 DCL			3 2	33	21S	34E	643583	3589918*
CP 00589		STK		THE MERCHANT LIVESTOCK COMPANY	ED	CP 00589 DCL			3 2	33	21S	34E	643583	3589918*

Record Count: 2

PLSS Search:

Section(s): 33 Township: 21S Range: 34E

Sorted by: File Number

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

New Mexico Office of the State Engineer

Point of Diversion by Location

(with Owner Information)

No PODs found.

PLSS Search:

Section(s): 34 Township: 21S Range: 34E

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New Mexico Office of the State Engineer

Point of Diversion by Location

(with Owner Information)

No PODs found.

PLSS Search:

Section(s): 35 Township: 21S Range: 34E

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New Mexico Office of the State Engineer

Point of Diversion by Location

(with Owner Information)

No PODs found.

PLSS Search:

Section(s): 2 Township: 22S Range: 34E

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New Mexico Office of the State Engineer

Point of Diversion by Location

(with Owner Information)

(acre ft per annum) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Grant	Source	q q q 64 16 4	Sec	Twn	Rng	X	Y
CP 00964 -	SAN		1	ENSTOR GRAMA RIDGE	LE	CP 00944 POD1			2 3 1	03	22S	34E	644509	3588408*

Record Count: 1

PLSS Search:

Section(s): 3 Township: 22S Range: 34E

Sorted by: File Number

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipiant with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

New Mexico Office of the State Engineer

Point of Diversion by Location

(with Owner Information)

No PODs found.

PLSS Search:

Section(s): 4 Township: 22S Range: 34E

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

New Mexico Office of the State Engineer

Point of Diversion by Location

(with Owner Information)

(acre ft per annum) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Grant	Source	q q q 6416 4	Sec	Twns	Rng	X	Y
CP 00744		PRO	0	ORYX ENERGY	LE	CP 00744		Shallow	1 2	09	22S	34E	643618	3587091*

Record Count: 1

PLSS Search:

Section(s): 9 Township: 22S Range: 34E

Sorted by: File Number

***UTM location was derived from PLSS - see Help**

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New Mexico Office of the State Engineer

Point of Diversion by Location

(with Owner Information)

No PODs found.

PLSS Search:

Section(s): 10 Township: 22S Range: 34E

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

New Mexico Office of the State Engineer

Point of Diversion by Location

(with Owner Information)

(acre ft per annum) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Grant	Source	q q q 4	Sec	Twns	Rng	X	Y
CP 00380		STK	3	MERCHANT LIVESTOCK COMPANY	LE	CP 00380		Shallow	4 2	11	22S	34E	647245	3586739*
CP 00380 (1)		PRO		TEXACO INC.	LE	CP 00380 (1) EXP			4 2	11	22S	34E	647245	3586739*
CP 00595		STK		THE MERCHANT LIVESTOCK COMPANY	ED	CP 00595 DCL			4 2	11	22S	34E	647245	3586739*
CP 00599		STK	3	THE MERCHANT LIVESTOCK COMPANY	ED	CP 00599 DCL			1 1	11	22S	34E	646034	3587125*
CP 00751		DOM	3	MERCHANT LIVESTOCK CO.	LE	CP 00751		Shallow	4 2	11	22S	34E	647245	3586739*

Record Count: 5

PLSS Search:

Section(s): 11 Township: 22S Range: 34E

Sorted by: File Number

***UTM location was derived from PLSS - see Help**

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Bryson, Hoy

From: Bryson, Hoy
Sent: Monday, February 22, 2010 4:04 PM
To: 'Tompson, Mike, EMNRD'
Cc: Moiola, Lloyd, EMNRD; Kretzmann, John, EMNRD
Subject: RE: potential mine locations in Lea County

Thank you very much, Mike.

Dr. Hoy Bryson, PG
CONESTOGA-ROVERS & ASSOCIATES
2135 S. Loop 250 West
Midland, TX 79703
Office : (432) 681-3227
Cell: (432) 288-3003
Fax: (432) 686-0186
http://www.craworld.com

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From: Tompson, Mike, EMNRD [mailto:Mike.Tompson@state.nm.us]
Sent: Monday, February 22, 2010 11:00 AM
To: Bryson, Hoy
Cc: Moiola, Lloyd, EMNRD; Kretzmann, John, EMNRD
Subject: potential mine locations in Lea County

Mr. Bryson,

We have no records of abandoned mines in the area you inquired about:

Sections 33 and 34, T21S, R34E
Sections 3, 4, 9 and 10, T22S, R34E

Please keep me in my that many mines exist of which we are not aware.

If you need anything else, please let me know.

Mike Tompson
New Mexico Abandoned Mine Land Program
(505) 476-3427

ENSTOR
An Iberdrola Renewables Company

RECEIVED OCD
2010 APR -8 A 10:55

April 7, 2010

Mr. Brad Jones
New Mexico Oil Conservation Division
1120 South St. Francis Dr.
Santa Fe, New Mexico 87505

HFTP-12

RE: **Request for Annual Temporary Permission for Hydrostatic Test Dewatering**
Notice of Intent to Dewater New 8-inch Diameter Natural Gas Pipeline
Enstor Grama Ridge Storage and Transportation, LLC
Grama Ridge Morrow Storage Unit
Lea County, New Mexico

Dear Mr. Jones,

Pursuant to §20.6.2 NMAC, Enstor Grama Ridge Storage & Transportation, LLC (Enstor) requests the New Mexico Oil Conservation Division (OCD) to grant to Enstor Annual Temporary Permission (ATP) for Hydrostatic Test Dewatering, as provided by OCD's *GUIDELINES FOR HYDROSTATIC TEST DEWATERING* (Rev. Jan. 11, 2007) (the "Guidelines").

Additionally, this is to provide notice of intent (NOI) to remove by tanker truck and dispose less than 25,000 gallons of clean, municipally-sourced water used to hydrostatic test a new 8-inch diameter natural gas pipeline. It is intended that authorization to dewater the 8-inch natural gas pipeline would be granted under the requested ATP.

As will be demonstrated herein, the hydrostatic test water removed from the new natural gas pipeline by tanker truck and disposed at a licensed disposal facility permitted by OCD will not cause groundwater pollution, as defined by Subsection CCC of §20.6.2.7 NMAC. The new 8-inch natural gas pipeline will have contained NO hydrocarbons prior to hydrostatic testing. The hydrostatic test water is a substance NOT defined as a waste by the Resource Conservation and Recovery Act. However, should an inadvertent/accidental spill or release of hydrostatic test water occur, that circumstance will be addressed aggressively according to requirements of the New Mexico Administrative Code (NMAC) Title 19, Chap. 15, Parts 29 and 30, and the OCD guidance document *Guidelines for Remediation of Leaks, Spills and Releases* (August 13, 1993).

We've moved to:
20329 State Hwy 249, Suite 400
Houston, TX 77070

Telephone (281) 374-3050
www.enstorinc.com

Printed on recyled paper

BACKGROUND

By correspondence dated December 28, 2009, Enstor provided an NOI to the OCD to discharge hydrostatic test water from the 8-inch diameter natural gas pipeline and another proposed pipeline. That NOI was withdrawn by correspondence addressed to OCD, dated January 29, 2010.

Construction of the new 8-inch diameter natural gas pipeline has been completed, and it is intended to enhance the capacity and efficiency of the Grama Ridge Morrow Storage Unit (Grama Ridge), operated as a subsurface natural gas storage facility by Enstor in Lea County, New Mexico. Grama Ridge initially encompassed five (5) sections of land, described as follows:

Township 21 South, Range 34 East, NMPM
Section 33: All
Section 34: All

Township 22 South, Range 34 East, NMPM
Section 3: All
Section 4: All
Section 10: All.

These lands are and have been operated as part of Grama Ridge pursuant to the *Unit Agreement for the Operation of the Grama Ridge Morrow Unit Area, Lea County, New Mexico* (the "Unit Agreement"). This Unit Agreement was approved BY OCD Order R-4473, January 29, 1973. The Unit Agreement has been amended from time to time; and on September 29, 2009, Section 9, T22S, R34E, was added to the Unit Agreement by OCD Order R-13174.

Additionally, as provided by the *Agreement for Natural Gas Storage in the Grama Ridge-Morrow Formation*, dated July 12, 2006, Enstor is the holder of Business Lease 1751, issued by the New Mexico State Land Office, on the following properties:

Township 21 South, Range 34 East, NMPM
Section 33: All
Section 34: All

Township 22 South, Range 34 East, NMPM
Section 3: All
Section 4: Lots 1 & 2 and S½NE¼.

Business Lease 1751 states, in part, that the ". . . lands are hereby committed to this Agreement and referred to as 'State Committed Lands' and contain a total of 1,769.81 surface acres [page 5]. . . (and) Grantor grants to Grantee reasonable use of the surface of the State Committed Lands as is necessary to operate and maintain gas storage operations . . . [page 7]". Wherewith, Enstor has been granted leasehold in these 1,769.81 surface acres, and thus Enstor effectively is

the exclusive holder of surface rights on these State Committed Lands to engage in all activities necessary to affect continuing gas storage operations.

RESPONSES TO OCD GUIDELINES QUERIES

In support of this NOI to remove and dispose less than 25,000 gallons of clean, municipally-sourced water used to hydrostatic test a new natural gas pipeline, Enstor provides the following information as requested in the Guidelines:

a. The name and address of the proposed discharger :

Enstor Grama Ridge Storage & Transportation, LLC
c/o Enstor Operating Company, LLC
20329 State Highway 249, Suite 400
Houston, Texas 77070

b. Location of discharge by street address and surrounding landmarks :

The hydrostatic test water will be removed from the new natural gas pipeline and transferred into a 400-bbl. frac tank sited on Enstor's Business Lease. This removal point is located at the approximate coordinates 32°25'20.25"N, 103°27'46.47"W in the SW¼NW¼ Sec. 3, T22S, R34E (referred to herein as the "Water Removal Location"). Adjacent the Water Removal Location, the water will be transferred from the frac tank into a tanker truck for transport to the Sundance Services, Inc. disposal facility - known locally as the Parabo SWD. The Water Removal Location is within the fenced area at the Grama Ridge Compressor Station. The Grama Ridge Compressor Station is well within the boundaries of the Grama Ridge Morrow Storage Unit 1,769.81-surface-acres leasehold described above.

Due to the remoteness of the Water Removal Location and adjacent tanker truck transfer location within the Grama Ridge Compressor Station, there is no associated street address. The only surrounding landmark -- aside from ubiquitous petroleum wells and associated facilities - is the Grama Ridge Compressor Station, where the Water Removal Location will be established.

To access the Grama Ridge Compressor Station, from Eunice, New Mexico, travel approximately 15.6 miles in a westerly direction on Hwy 176. Turn left (southerly) onto an unimproved oilfield road displaying an "Enstor" lease sign at the intersection with Hwy 176. Travel approximately 7.0 miles on the unimproved oilfield road to an intersection with another unimproved oilfield road. (The Compressor Station will be visible at this point.) Turn right and travel approximately 0.2 miles to the Grama Ridge Compressor Station. The approximate coordinates of the Compressor Station are 32.422089°N, 103.463769°W; and it is located at the SW¼NW¼ Sec. 3, T22S, R34E.

c. **Legal description of the discharge location (Section/Township/Range) :**

The Water Removal Location will be within the fenced area of the Grama Ridge Compressor Station, in the SW¼NW¼ Sec. 3, T22S, R34E.

d. **Maps (site specific and regional) indicating the location of the pipelines to be tested and the proposed discharge location :**

The following maps are provided behind Tab A :

- A copy of the U.S Geological Survey (USGS) *San Simon Ranch, N. Mex.* 7.5-minute topographic quadrangle (USGS Quad) upon which is depicted the Grama Ridge storage boundary - providing a "regional" location.
- A map titled *HYDROSTATIC TEST WATER REMOVAL LOCATION,* providing a "site specific" location.
- A map titled *GRAMA RIDGE EXPANSION PROSPECTIVE FACILITIES,* depicting the 8-inch diameter pipeline right-of-way (ROW).

e. **Demonstration of compliance to the following citing criteria or *justification for any exceptions* :**

i. **Within 200 feet of a watercourse, lakebed, sinkhole or playa lake :**

There is no watercourse, lakebed, sinkhole, pit, pond or playa lake located within 200 feet of the Water Removal Location or the pipeline ROW. Based on numerous on-the-ground observations of the Grama Ridge general area, plus examinations made of aerial photographic imagery and the USGS Quad map, the nearest waterbody to the Water Removal Location or the pipeline ROW is an un-named playa located approximately 1.52 miles northeast of the Water Removal Location. This un-named playa is noted on the USGS Quad map behind Tab A.

Conestoga-Rovers & Associates (CRA), on behalf of Enstor, conducted a wetlands delineation and waterbodies crossing survey of the pipeline right-of-way. The findings of these investigations were detailed in a report produced by CRA titled "*Wetlands Delineation Report, Grama Ridge Expansion Prospective Facilities*". CRA's report included a project description, a map depicting the proposed pipeline routing and findings. The report concluded no wetlands or waterbodies are present along the route of the proposed pipeline. These findings were not unexpected, because the project area is in the semi-arid "high desert" region of southeastern New Mexico. The examinations conducted for this report

included the area within 200 feet of the Water Removal Location at the Compressor Station.

ii. **Within an existing wellhead protection area or 100-year floodplain :**

Based on information obtained from the Lea County Regional Water Plan, the proposed Water Removal Location is not within a wellhead protection area. The nearest water well (designated Water Supply Well WW-1) to the Water Removal Location or the pipeline ROW is nearly due north approximately 500 feet from the Water Removal Location, up topographical gradient, and within the fenced area of the Grama Ridge Compressor Station (see *HYDROSTATIC TEST WATER REMOVAL LOCATION* map). The WW-1 well is owned and operated by Enstor. WW-1 is used to supply hygienic water only (not potable water) to a single small portable building used for office activities at the Compressor Station. According to the 19.15.2.7 NMAC definitions at W(8), "wellhead protection area means the area within **200 horizontal feet** of a private, domestic fresh water well or spring used by less that five households for domestic or stock watering purposes ..." (emphasis added). According to this definition, neither the Water Removal Location nor the pipeline ROW is within the wellhead protection area of WW-1.

The Federal Emergency Management Agency (FEMA) posts a website providing access to GIS mapping of flood zones (http://gis1.fema.gov). This website was examined for the area of the pipeline construction project and the Water Removal Location. They were determined to lie totally within the FEMA Panel 35025C1625D mapping unit. No mapped flood zones exist within the FEMA Panel 35025C1625D mapping unit. Therefore, the proposed Water Removal Location is not located in or near a 100-year floodplain.

iii. **Within, or within 500 feet of, a wetland :**

As discussed in (e)(i) above, Enstor caused a wetlands delineation and waterbodies crossing survey of the proposed pipeline right-of-way and surrounding areas to be conducted. The findings of these investigations were detailed in a report; and that report concluded that no wetlands or waterbodies are present along the route of the pipeline - including the Water Removal Location. These findings were further confirmed by an examination of the USGS Quad maps and aerial photographic imagery. Neither the proposed Water Removal Location nor the pipeline ROW is located within, or within 500 feet of, a wetland.

iv. **Within the area overlying a subsurface mine :**

Based on examination of the USGS Quad map, examination of aerial photographic imagery, and on discussions with individuals knowledgeable with

the area, neither the proposed Water Removal Location nor the pipeline ROW is located in an area overlying any known subsurface mine.

In addition, Mr. Mike Tompson of the New Mexico Abandoned Mine Land Program (AMLP) was contacted to determine if any record(s) on file with the AMLP indicated an abandoned mine was present within the Grama Ridge leasehold. He responded by email that there were "... no records of abandoned mines in the area".

v. **Within 500 feet from the nearest permanent residence, school, hospital, institution or church :**

No permanent residence, school, hospital, institution or church is located within 500 feet of the Water Removal Location or the pipeline ROW . The nearest permanent residence, school, hospital, institution and church are located several miles from the Grama Ridge Compressor Station, the Water Removal Location or the pipeline ROW .

f. **A brief description of the activities that produce the discharge :**

The 8-inch diameter natural gas pipeline is coated steel and installed largely subsurface. The pipeline is intended for transportation of natural gas; however it never will have contained any hydrocarbon prior to hydrostatic testing. The pipeline will function as a flowline connecting a natural gas storage injection/withdrawal well (designated *Grama Ridge Federal 8817 JV-P #001*) located in Section 9, T22S, R34E, with the Grama Ridge Compressor Station located in Section 3, T22S, R34E.

Hydrostatic test water will be pigged from the 8-inch natural gas pipeline into a 400-bbl. frac tank stationed within the bermed and lined Water Removal Location. All water handling activities will be conducted within this lined containment berm. The water then will be pumped from the frac tank into a tanker truck for transport to the Sundance Services, Inc. OCD-licensed disposal facility (Permit # 010003) - located approximately 15.6 miles west of Eunice, New Mexico on Hwy 176, and approximately 7.2 miles from the Grama Ridge Compressor Station. During all water transfer activities, operations will be operator-monitored carefully to shut down water movement if a spill or release appears imminent. All water handling activities will occur within the fenceline of the Compressor Station, which is deeply within the boundaries of the Grama Ridge 1,769.81 surface acres leasehold.

g. **The method and location for collection and retention of fluids and solids :**

Only municipal sourced water obtained from the City of Eunice, New Mexico will be utilized to test the new natural gas pipeline. It is anticipated the test water will be essentially free of solids and contaminants. All water transfer activities will occur

within the bermed and lined Water Removal Location, in which the 400-bbl. frac tank also will be staged (see *HYDROSTATIC TEST WATER REMOVAL LOCATION* map). The berm will be sized to contain any anticipated spill or release of hydrostatic test water – 60 ft X 20 ft X 2 ft (approximately 18,000 gallons). During all water transfer activities, operations will be monitored carefully to shut down water movement if a spill or release appears imminent. All water handling activities will occur well within the boundaries of the Grama Ridge 1,769.81 surface acres leasehold.

h. **A brief description of best management practices to be implemented to contain the discharge onsite and control erosion :**

Throughout the comprehensive dewatering process all activities – including any putative spills or releases – will be contained onsite within the bermed and lined Water Removal Location on the Grama Ridge 1,769.81 surface acres leasehold.

Grama Ridge is operated under Section 311 of the Natural Gas Policy Act of 1978; thus all activities must be conducted in compliance with requirements of the Federal Energy Regulatory Commission's (FERC's) current published *Upland Erosion Control, Revegetation, and Maintenance Plan* (the Plan). Although no discharge of water will occur and any spills or releases will be abated quickly, throughout the dewatering process, all activities will be monitored to ensure erosion is controlled per the FERC Plan.

i. **A request for approval of an alternative treatment, use, and/or discharge location (other than the original discharge site), if necessary :**

No alternative Water Removal Location is proposed.

j. **A proposed hydrostatic test wastewater sampling plan :**

No sampling protocol for the hydrostatic test water is proposed beyond that required by the disposal facility. Should a spill or release of hydrostatic test water occur, that circumstance will be addressed aggressively according to requirements of the NMAC Title 19, Chap. 15, Parts 29 and 30, and the OCD guidance document *Guidelines for Remediation of Leaks, Spills and Releases* (August 13, 1993).

k. **A proposed method of disposal of fluids and solids after test completion, including closure of any pits, in case the water generated from test exceeds the standards as set forth in Subsections A, B, and C of the 20.6.2.3103 NMAC (the New Mexico Water Quality Control Commission Regulations):**

All test water will be transported offsite for disposal at the Sundance Services, Inc. disposal facility, which is properly licensed by OCD. No test water will threaten groundwater quality, due to no opportunity to migrate into and through the soil.

No pit(s) will be utilized in the test water handling process. No ponds or pits are present at the Grama Ridge Compressor Station.

Following all water transfer activities, the liner in the Water Removal Location will be removed and properly disposed, and the berm will be removed to approximate original grade.

l. **A brief description of the expected quality and volume of the discharge :**

Less than 25,000 gallons of State-approved, potable municipality-sourced water obtained from the City of Eunice, New Mexico will be used to hydrotest the new 8-inch natural gas pipeline. Since the new pipeline, which never has carried hydrocarbons or any other product will be tested, it is expected the resulting test water will be free of contaminants.

m. **Geological characteristics of the subsurface at the proposed discharge site :**

Based on information gathered from the Natural Resources Conservation Service (NRCS) soil survey report for Lea County, the soils in the proposed Water Removal Location area are classified as "Pyote and Maljamar fine sands." These soils are deep sandy loams, with root penetrations exceeding 60 inches. The NRCS soil report describes this mapping unit as "... soil (having) moderately rapid permeability. Runoff is very slow. Water intake is rapid". In summary, these are very deep, sandy soils that exhibit rapid infiltration and are not subject to being easily eroded by overland flow.

n. **The depth to and total dissolved solids concentration of the ground water most likely affected by the discharge :**

Depth to groundwater was determined based on information obtained from the WW-1 water supply well located approximately 500 feet hydrologically upgradient from the Water Removal Location. Groundwater depth at the well was recorded to be 62 feet below ground surface, with a TDS concentration of 323 mg/L. It is not anticipated the test water handling activities will have any effect on groundwater at, or in the vicinity of the well.

o. **Identification of landowners at and adjacent to the discharge and collection/retention site :**

As provided by the previously described Business Lease 1751, Enstor is the leaseholder on 1,769.81 contiguous surface acres at Grama Ridge. Whereupon, "adjacent landowners" would be those entities with fee surface rights in property adjacent or tangential to the boundary of the 1,769.81 leasehold. There are two (2) such adjacent or tangential property holders, as listed in the following:

- United States Government
  Bureau of Land Management
  P.O. Box 27115
  Santa Fe, New Mexico 87502-0115

- State of New Mexico
  New Mexico State land Office
  P.O. Box 1148
  Santa Fe, New Mexico 87504-1148
  ATTN: Patrick H. Lyons
  Commissioner of Public Lands

The filing fee in the amount of $100.00, payable to Water Quality Management Fund, is on deposit with OCD. Attached herewith is payment in the amount of $150.00 for the temporary permission fee.

I certify that I am authorized to make this notice; that this notice was prepared by me or under my supervision and direction; and that the data and facts stated herein are true, correct, and complete to the best of my knowledge.

If there are any questions concerning this NOI or additional information is required, please do not hesitate to contact us at (281) 374-3062.

Sincerely,

Daryl W. Gee
Director, Regulatory Affairs & Land Management

Attachments

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SAN SIMON RANCH QUADRANGLE
NEW MEXICO–LEA CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
NW/4 OIL CENTER 15' QUADRANGLE

Un-named Playa

Approx. Water Removal Location

Grama Ridge Morrow Gas Storage Area Boundary

Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs taken 1977. Field checked 1978. Map edited 1984

Projection and 10,000-foot grid ticks: New Mexico coordinate system, east zone (transverse Mercator)
1000-meter Universal Transverse Mercator grid, zone 13
1927 North American Datum
To place on the predicted North American Datum 1983 move the projection lines 9 meters south and 45 meters east as shown by dashed corner ticks

Fine red dashed lines indicate selected fence lines

UTM GRID AND 1984 MAGNETIC NORTH DECLINATION AT CENTER OF MAP DIAGRAM IS APPROXIMATE

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION

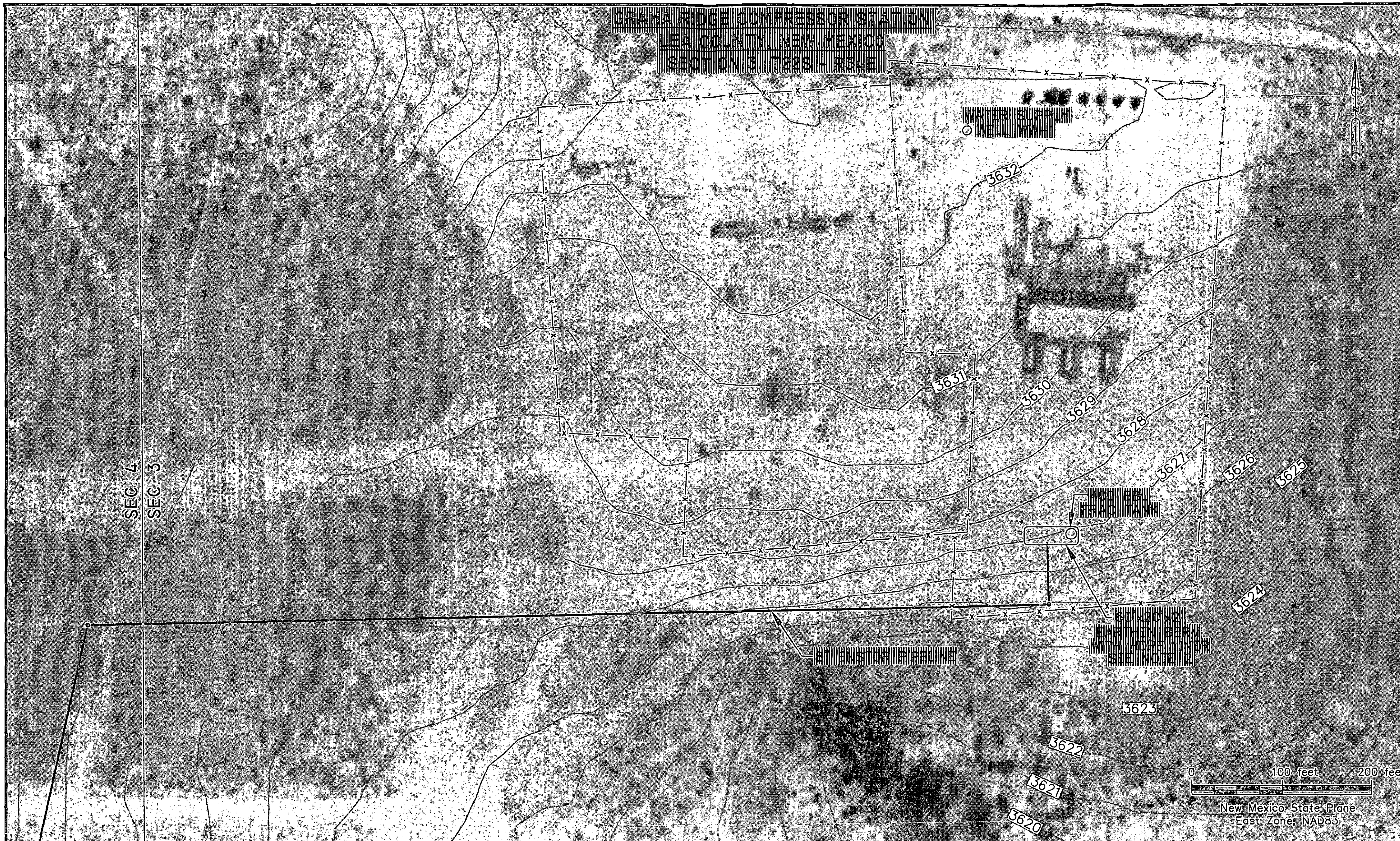
ROAD CLASSIFICATION

Primary highway, hard surface
Secondary highway, hard surface
Light duty road, hard or improved surface
Unimproved road
Interstate Route
U. S. Route
State Route

SAN SIMON RANCH, N. MEX.
NW/4 OIL CENTER 15' QUADRANGLE
32103-D4-TF-024

1984

DMA 6348 IV NW–SERIES V881



NOTES:
1. CONTRACTOR TO INSTALL TEMPORARY CONNECTING HOSE OR PIPE TO PIG TEST WATER FROM END OF PIPELINE TO FRAC TANK. CONNECTION SHALL INCLUDE A VALVE TO ENABLE CONTRACTOR TO MONITOR/CONTROL VOLUME MOVED TO PREVENT OVER FILL OF FRAC TANK.
2. ALL TEST WATER TRANSFER TO TAKE PLACE WITHIN BERMED AREA. CONTAINMENT TO CONSIST OF EARTHEN BERM W/20 MIL HDPE/GEOTEXTILE REINFORCEMENT LINER MATERIAL. PERMALON X210G, MANUFACTURED BY REEF INDUSTRIES, HOUSTON, TX., OR EQUAL.

REFERENCE DRAWINGS		REVISIONS									
DWG. NO.	TITLE	REV.	DESCRIPTION	BY	DATE	CHK	APPR (FRC)	DATE	CHK	APPR (CLIENT)	DATE
		C	REVISED PER CLIENT COMMENTS	SL	04/05/10		PDJ	04/05/10			
		B	REVISED PER CLIENT COMMENTS	SL	02/18/10		PDJ	02/18/10			
		A	ISSUED FOR APPROVAL	SL	01/21/10		PDJ	01/21/10			

ENGINEERING RECORD		
DRAWN	SL	01/20/10
CHECKED		
CLIENT		
PROJECT MGMT.		
PROCESS		
MECHANICAL		
PIPING		
STRUCTURAL		
ELECTRICAL		
I & C		

ForeRunner CORPORATION
7125 W. Jefferson Ave., Ste. 400
Lakewood, CO 80235
303-969-0223

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ENSTOR
An Iberdrola Renewables Company

HYDROSTATIC TEST WATER REMOVAL LOCATION

SCALE	PROJ. NO.	CITY/COUNTY, STATE	DWG. NO.	REV
SHOWN	12725-C	LEA CO., NM	AL-401	C

Plotted by: STEVE_LAURA Date: 4/5/2010 2:24 PM Drawing: S:\Project Files\Enstor\12725 - Grama Ridge Expansion X\Drawings\Pipelines\Alignment Sheets\AL-401_REV_C.dwg

Grama Ridge Morrow Gas Storage Facilities

Water Removal Location

Prospective 5479' of 8" Diameter Flowline to GRAMA RIDGE FEDERAL 8817 JV-P #001

GRAMA RIDGE FEDERAL 8817 JV-P #001
INJECTION / WITHDRAWAL WELL

Existing 12" Enstor Interconnect Pipeline to El Paso

Legend

- Existing Gas Pipeline
- Natural Gas Transmission Pipeline
- Interconnect Pipeline
- Grama Ridge Morrow Gas Storage Area Boundary

RE: USGS 7.5 Minute Topographic Map, "San Simon Ranch, N. Mex."

0 750 1,500
Feet

GRAMA RIDGE EXPANSION PROSPECTIVE FACILITIES
GRAMA RIDGE MORROW GAS STORAGE AREA
LEA COUNTY, NEW MEXICO
Enstor Operating Company

55212-06(000)PR-BR003 APR 6/2010