District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

11329

Pit, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action:
- ☐ Below grade tank registration
- ☒ Permit of a pit or proposed alternative method
- ☐ Closure of a pit, below-grade tank, or proposed alternative method
- ☒ Modification to an existing permit/or registration
- ☐ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request

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

1.
Operator: CBM Partners Corporation OGRID #: 271017
Address: PO Box 27, Flora Vista, NM 87415 and 101 South Hanley Road, Suite 1060, St. Louis, MO 63105
Facility or well name: Smyslov H # 1
API Number: 30-043-21105 OCD Permit Number:
U/L or Qtr/Qtr A Section 21 Township 20N Range 3W County: Sandoval
Center of Proposed Design: Latitude Approximate: 35.95455 deg North Longitude Approximate: -107.15100 deg West NAD: ☐ 1927 ☒ 1983
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☒ **Pit:** Subsection F, G or J of 19.15.17.11 NMAC # NMOCD Conditions of Approval Attached
Temporary: ☒ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☒ yes ☐ no
☒ Lined ☐ Unlined Liner type: Thickness 20 mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other
☐ String-Reinforced
Liner Seams: ☒ Welded ☐ Factory ☐ Other Volume: 6,010 bbls+/- Dimensions: L 150' x W 15' x D 15'

3.
☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: bbl Type of fluid:
Tank Construction material:
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other
Liner type: Thickness mil ☐ HDPE ☐ PVC ☐ Other

RCVD JUL 18 '13
OIL CONS. DIV.
DIST. 3

4.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.
Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pits, temporary pits, and below-grade tanks)*
☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*
☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
☒ Alternate. Please specify No Fencing, while actively constructing and disposing into deep trench burial

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6.

Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☐ Screen ☐ Netting ☐ Other_____

☐ Monthly inspections (If netting or screening is not physically feasible)

7.

Signs: Subsection C of 19.15.17.11 NMAC

☒ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☐ Signed in compliance with 19.15.16.8 NMAC

8.

Variances and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☒ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. **Siting criteria does not apply to drying pads or above-grade tanks.**

General siting	
Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank. - ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells	☐ Yes ☐ No ☒ NA
Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit . NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☒ NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)** - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)** - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. **(Does not apply to below grade tanks)** - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
Within a 100-year floodplain. **(Does not apply to below grade tanks)** - FEMA map	☐ Yes ☒ No
Below Grade Tanks	
Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)	
Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.) - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No
Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application. NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☒ No

Within 100 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Temporary Pit Non-low chloride drilling fluid	
Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application; - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Permanent Pit or Multi-Well Fluid Management Pit	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

10.

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☒ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

11.

Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ A List of wells with approved application for permit to drill associated with the pit.
☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.
Proposed Closure: 19.15.17.13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Multi-well Fluid Management Pit ☐ Alternative

Proposed Closure Method:
- ☐ Waste Excavation and Removal
- ☐ Waste Removal (Closed-loop systems only)
- ☒ On-site Closure Method (Only for temporary pits and closed-loop systems)
  - ☐ In-place Burial ☒ On-site Trench Burial
- ☐ Alternative Closure Method

14.
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC
Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☒ NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☒ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☒ Yes ☐ No ☐ NA
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☒ No

16.
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☒ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- ☒ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
- ☒ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☒ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.
Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): Thomas E. Mullins, P.E. Title: Agent for CBM Partners Corporation

Signature: [signature] Date: 7-18-13

e-mail address: tom.mullins@synergyoperating.com Telephone: (505) 320-1751

18.
OCD Approval: ☒ Permit Application (including closure plan) ☐ Closure Plan (only) ☒ OCD Conditions (see attachment) *See Attached

OCD Representative Signature: [signature] **Approval Date:** 7/25/13

Title: I+E Supervisor **OCD Permit Number:**

19.
Closure Report (required within 60 days of closure completion): 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ **Closure Completion Date:**

20.
Closure Method:

☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain.

21.
Closure Report Attachment Checklist: ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Proof of Closure Notice (surface owner and division)
- ☐ Proof of Deed Notice (required for on-site closure for private land only)
- ☐ Plot Plan (for on-site closures and temporary pits)
- ☐ Confirmation Sampling Analytical Results (if applicable)
- ☐ Waste Material Sampling Analytical Results (required for on-site closure)
- ☐ Disposal Facility Name and Permit Number
- ☐ Soil Backfilling and Cover Installation
- ☐ Re-vegetation Application Rates and Seeding Technique
- ☐ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude _____ Longitude _____ NAD: ☐1927 ☐ 1983

22.

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

CBM Partners Corporation
Smyslov H # 1
Deep Trench Burial Permit and Closure Application
July 18, 2013 - Submittal

Purpose:

CBM Partners Corporation seeks to permit a deep trench burial closure for drill cuttings and materials currently contained within the temporary lined reserve pit on the Smyslov H # 2 well location. Both of these well locations are located on Federal Lease NMNM-124215. Fresh water resources, correlative rights, human health and the environment will be protected through the approval of this deep trench burial. This deep trench closure method appears to be the most appropriate closure method given a review of the limited available options.

The Smyslvov H # 1 was drilled with a fresh water based mud system (< 15,000 ppm Cl-) as is typical of San Juan Basin operations.

Following approval of this deep trench burial operation, there will be two (2) temporary lined in-place closures on the Smyslov H # 1 well location. The existing closure of the Smyslov H # 1 temporary lined reserve pit was completed on June 15, 2011 and was approved by the OCD on January 23, 2012. The location of this first closure is contained on the attached plat, along with the proposed deep trench burial closure location. Actual GPS coordinates will be obtained following the deep trench burial construction.

This application for a deep trench burial will allow for all cuttings and materials to be properly controlled from this lease to ensure protection of fresh water resources, human health and the environment. This deep trench will be located on the southern portion of the well location, away from the existing closure.

Plans are to construct the deep trench with a bull dozer, approximate trench width 15', to a depth of approximately 15 feet. This trench will have a length of approximately 150'. Material excavated from the trench will be used either to mix with waste material or to be used in back-fill and/or contouring of the excavations. Construction of this deep trench in this manner, will allow for placement of the required liner material, with sufficient overlap to be folded over the top of the deep trench, prior to covering the deep trench closure with 3' feet of cover and 1' of existing top soil material (4' cover material). This will allow for a potential burial volume of 11' x 15' x 150' = 24,750 ft3, approximately 916 cubic yards of material. This size of deep trench should be sufficient to handle the estimated volume of material contained within the Smyslov H # 2 temporary lined reserve pit, along with sufficient blending to meet the paint filter test and ensure adequate stability during closure as required within the regulations.

Photographs of the pre-construction, construction phase, deep trench burial operation, and closure phase will be taken, in addition to any regulatory supervision for file documentation purposes.

Review of average depth to water

In preparation of this deep trench closure application, a review of the existing in-place closure on the Smyslov H # 1 well was performed. An updated review (7/17/2013) of the New Mexico Office of the State Engineer's database, identified additional water depth information in closer proximity to the planned deep trench closure than the original (7/6/10) review, although like the original water depth review, this information indicates that the depth to anticipated ground water is deeper than 100 feet at site of the deep trench burial location.

Review of Available Sampling

Sampling was performed on the raw cuttings material contained within the Smyslov H # 2 temporary lined reserve pit on April 12, 2013 (P304039) and April 26, 2013 (P30486). These samples were collected by Tom Mullins, agent for CBM Partners Corporation, with collection witnessed by Mr. Lucas Vargo of the Bureau of Land Management and Mr. Jonathan Kelly of the New Mexico Oil Conservation Division. Analysis was conducted at Envirotech in Farmington, NM.

Test Date: 4/12/2013 - Single Spot Sample (P304039) - Witnessed by NMOCD & BLM
Chloride Reading: 6,560 mg/kg Method EPA (300.0) although performed on sludge.
TPH: 467 mg/kg Method EPA (418.1)

Test Date: 4/26/2013 - Five Spot Sample per regulation (P304086) - Witnessed by NMOCD & BLM
Duplicate Samples Taken (Sample # 1 & Sample # 2)

	Sample # 1	Sample # 2
Chloride Reading:	3,430 mg/kg	2,750 mg/kg
TPH (GRO+DRO):	978 mg/kg	316 mg/kg
BTEX:	1,010 ug/kg	1,980 ug/kg
Benzene:	not detected	63.5 ug/kg

These samples of the direct raw waste material indicate that the required thresholds for deep trench burial contained within Table 2 of Rule will undoubtedly be met once stabilized at a 3:1 mixing ratio. The Table 2 standards for in-place burial where Ground Water is greater than 100 feet are: 80,000 mg/kg Chloride (EPA Method 300.0), 2,500 mg/kg TPH (EPA SW-846 Method 418.1), 50 mg/kg BTEX and 10 mg/kg Benzene. Since the raw waste material itself as measured yield results below these standards, deep trench burial should proceed without undue difficulty.

Siting Criteria

1. According to an updated review of the iWaters database of the State Engineer's Office, the ground water depth is located at a depth greater than 100 feet. This is consistent with the prior application and other area information on ground water depths.

2. The updated aerial photograph and an onsite investigation indicate that the planned deep trench burial is not within 100 feet of a continuously flowing watercourse, or within 200 feet of any other significant watercourse, lakebed, sinkhole or playa lake (measured from the ordinary high water mark).

3. The updated aerial photograph and an onsite investigation indicate that the planned deep trench burial is not within 300 feet of a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

4. The planned deep trench burial is not within the boundary of any municipality.

5. Onsite investigation and a review of the prior FEMA wetland map information, also attached herewith, indicates that the planned deep trench burial is not within 300 feet of a wetland, nor within a 100-year floodplain.

6. The planned deep trench burial is not located in an area that is unstable, nor overlying a subsurface mine.

Pit Design and Construction Plan

As previously discussed, above, in compliance with Rule 19.15.17, this deep trench burial will be constructed as follows:

a) CBM Partners Corporation will design and construct this deep trench burial to protect fresh water resources, human health and the environment in compliance with Rule 19.15.17.11(A). This deep trench burial is also in compliance with Rule 19.15.17.13(D), "A nearby temporary pit or burial trench that receives waste from another temporary pit must be onsite within the same lease."

b) The top soil will be initially removed and stock piled to be used for closure and re-vegetation purposes in compliance with Rule 19.15.17.11(B).

c) CBM Partners Corporation will ensure that a well sign with the required information in compliance with Rule 19.15.17.11(C) is present.

d) CBM Partners Corporation will not be fencing this deep trench burial as it will be actively constructed and installed and immediately closed. The fencing would interfere with the deep trench burial operations. Any Livestock will be protected from entering the deep trench during operational activity. Therefore a variance to Rule 19.15.17.11(D) is requested from the district office.

e) CBM Partners Corporation will ensure that the geomembrane liner material will consist of at least a 20-mil string reinforced LLDPE or equivalent liner material resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions, including resistance to ultraviolet light. The liner compatibility shall comply with EPA SW-846 Method 9090A as listed in Rule 19.15.17.11(F)(3) and Rule 19.15.17.11(K)(3).

f) CBM Partners Corporation shall minimize liner seams and orient them up and down, not across slope, utilizing factory welded seams wherever possible pursuant to Rule 19.15.17.11(F)(4) and Rule 19.15.17.11(K)(4). CBM Partners shall avoid excessive stress-strain on the liner in compliance with Rule 19.15.17.11(F)(5) and Rule 19.15.17.11(K)(5).

g) CBM Partners Corporation may utilize geotextile material if necessary to reduce localize stress-strain or protuberances that may otherwise compromise the liner's integrity during installation of the liner within the deep trench in compliance with Rule 19.15.17.11(F)(6) and Rule 19.15.17.11(K)(2).

h) CBM Partners Corporation will not be anchoring the liner edges in this deep trench burial application. Sufficient liner material will be utilized to fold the edges of the liner material over the top of the closure, prior to installation of the four (4) feet of cover material. In the construction phase process, native soils will be placed on top of the edges of the liner material to protect them from mechanical damage and to allow operation access directly by the trucks and earth moving equipment to deep trench. This request of CBM Partners Corporation is consistent with Rule 19.15.17.11(K)(6), so it is not believed at a variance is required.

i) The volume of this deep trench burial will not exceed 10 acre feet, including freeboard pursuant to Rule 19.15.17.11(F)(10).

k) CBM Partners Corporation shall construct the deep trench properly, with foundation and sidewalls consisting of a firm unyielding base, smooth and free of rocks, debris, sharp edges or irregularities to prevent the liner's rupture or tear pursuant to Rule 19.15.17.11(K)(1).

Operational Requirements

a) CBM Partners Corporation shall operate and maintain this deep trench burial in compliance with Rule 19.15.17.12(A).

Closure and Site Reclamation Requirements

a) CBM Partners Corporation shall close this deep trench burial in compliance with Rule 19.15.17.13(D) to protect fresh water resources, human health and the environment.

b) CBM Partners Corporation will not commence construction or closure activities without obtaining approval of this closure plan with an approved permit application pursuant to Rule 19.15.17.13(D)(1).

c) CBM Partners Corporation, through this application, has demonstrated compliance with the siting criteria as allowed within Rule 19.15.17.13(D)(2) and Rule 19.15.17.10(C).

d) CBM Partners Corporation will stabilize or solidify the deep trench burial pit contents to a capacity sufficient to support the final cover and which will meet a paint filter test (EPA SW-846, Method 9095) of the burial trench pursuant to Rule 19.15.17.13(D)(4). CBM Partners shall not mix the contents at a mixing ratio greater than 3:1.

e) CBM Partners Corporation has already collected a five point composite sample of the contents to be placed into the deep trench which are not higher than the concentrations allowed for parameters listed in Table II of Rule 19.15.17.13 and in compliance with Rule 19.15.17.13(D)(5).

f) CBM Partners Corporation shall fold the outer edges of the trench liner to overlap the waste material in the trench, prior to installation of a geomembrane liner cover pursuant to Rule 19.15.17.13(D)(8)(a).

g) CBM Partners Corporation shall cover the waste material in the lined trench with a geomembrane liner consisting of 20-mil string reinforced LLDPE liner or equivalent cover approved by the district office. Such liner will be an impervious synthetic material resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions (in compliance with EPA SW-846 Method 9090A) pursuant to Rule 19.15.17.13(D)(8)(b).

h) CBM Partners Corporation shall cover the burial trench with non-waste containing, uncontaminated, earthen materials and construct a soil cover prescribed by the division, effectively ensuring 1 foot of topsoil on top and a minimum of 3 additional feet of soil cover to achieve the minimum 4 feet of soil cover.

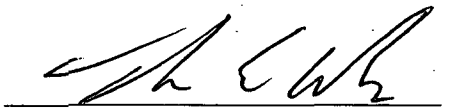
i) CBM Partners Corporation shall notify the surface owner (Bureau of Land Management) via e-mail at least 72 hours prior to any closure operation pursuant to Rule 19.15.17.13(E)(1).

j) CBM Partners Corporation shall notify the division office in Aztec via e-mail at least 72 hours prior to any closure operation pursuant to Rule 19.15.17.13(E)(2).

k) CBM Partners Corporation shall within 60 days of closure file the closure report on form C-144 with all necessary attachments to document the closure activities including any additional sampling where applicable pursuant to Rule 19.15.17.13(F).

l) CBM Partners Corporation shall reclaim the onsite burial location pursuant to Rule 19.15.17.13(H), notifying all regulatory agencies with the appropriate information and timing.

The following information is submitted this 18th day of July 2013, along with additional attachments and the C-144 form to secure a permit for a deep trench burial on the Smyslov H # 1 well location located in Section 21, T20N-R03W, Sandoval County, New Mexico by Thomas E. Mullins, agent for CBM Partners Corporation. Such information is true and correct to the best of my knowledge.



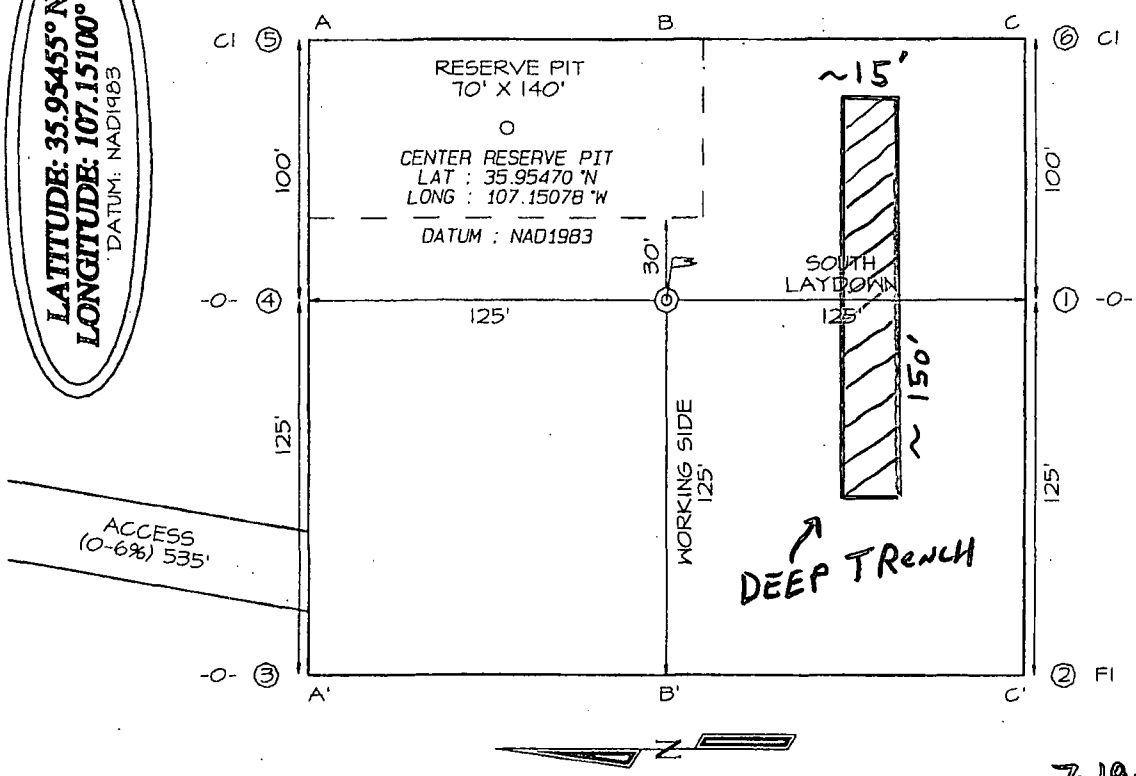
Thomas E. Mullins
Agent for CBM Partners Corporation

7-18-2013
Date

PLAT # 2

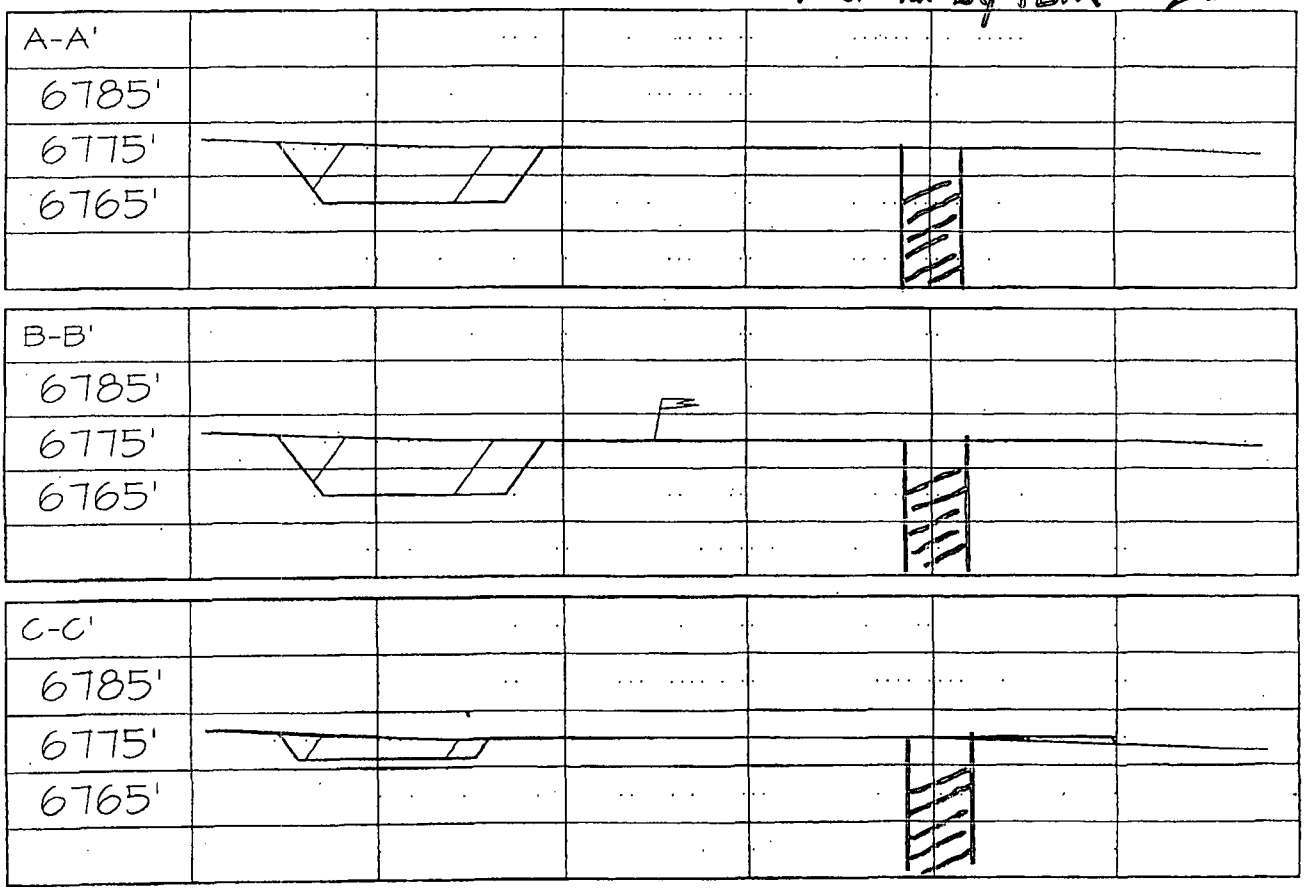
C&M PARTNERS CORPORATION SM 1 LOV H #1
660' FNL & 660' FEL, SECTION 21, T20N, R3W, NMPM
SANDOVAL COUNTY, NEW MEXICO ELEVATION: 6775'

LATITUDE: 35.95455° N
LONGITUDE: 107.15100° W
DATUM: NAD1983

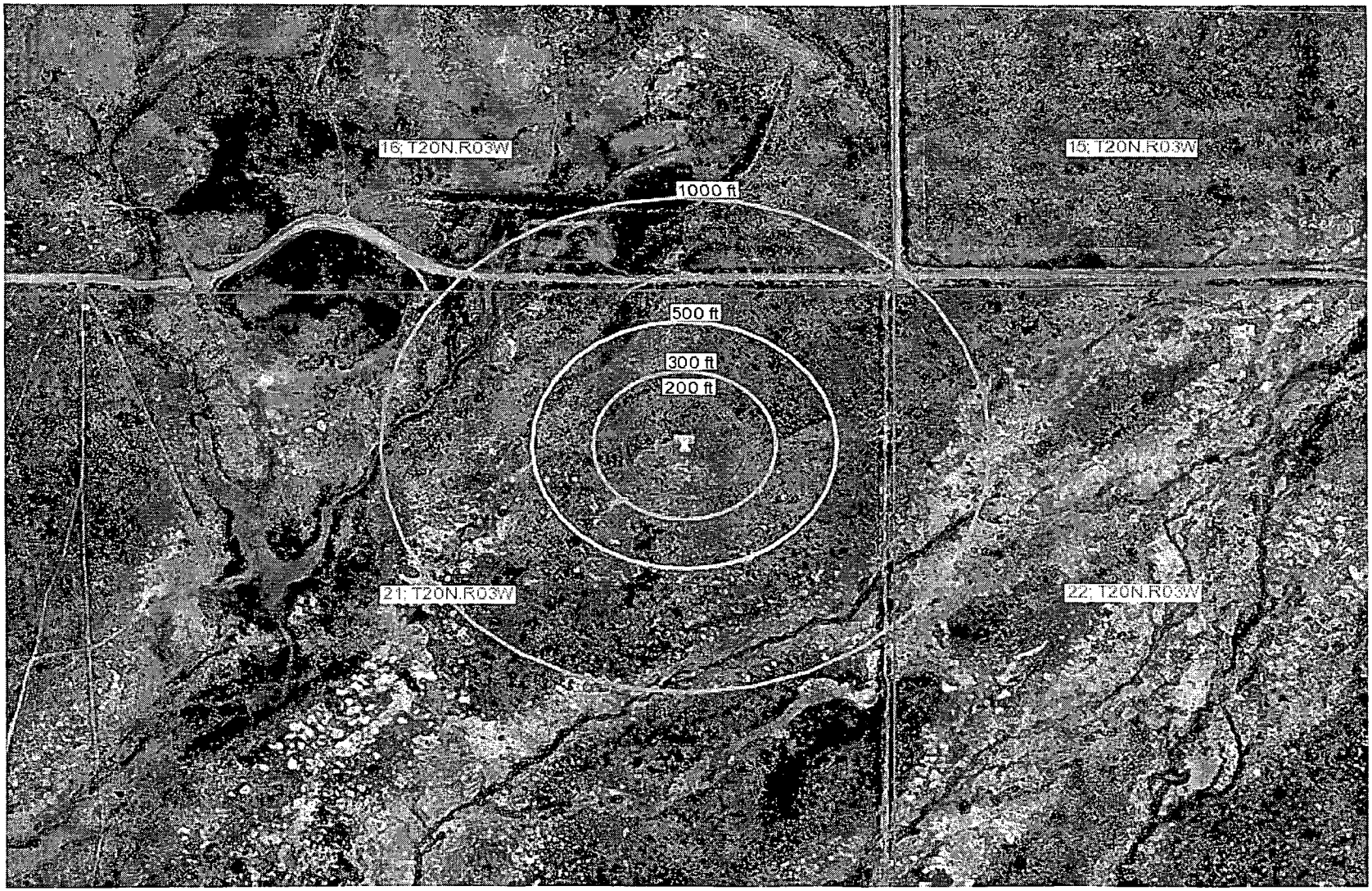


Steel T-Posts have been set to define the Edge of Disturbance limits which are 50' offset from the edge of the staked wellpad.

7-18-13
Modified By TEM



FILENAME: 20321AT	SHEET 2 OF 3	NCE SURVEYS, INC.	DRAWN BY: EDO	CHECKED BY: JCE



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Petroleum Recovery Research Center	Smyslov H # 1 - Deep Trench	Figure: Photo
	CBM Partners Corporation - Deep Trench Burial	Jul 18, 2013

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RG 91451 POD1	MRG	VA							305678	3981226	406	130	97	33
RG 39084		SA	4	4	4	15	20N	03W	307722	3981313*	1665	390	145	245
RG 38721		SA	3	2	2	17	20N	03W	304330	3982590*	2113	665	200	465
RG 77017		SA	2	3	2	17	20N	03W	304118	3982396*	2192	1030		
RG 87569 POD1		SA	2	3	2	17	20N	03W	304118	3982396*	2192	1030		
RG 64588		SA	4	2	4	08	20N	03W	304548	3983394*	2522	590		
RG 64588 DCL		SA	4	2	4	08	20N	03W	304548	3983394*	2522	590	390	200
RG 41629		SA	3	2		17	20N	03W	303506	3981803*	2587	1030	400	630
RG 74979		SA	3	2	3	20	20N	03W	303471	3980194*	2842	160	60	100
RG 64587		SA	4	4	4	07	20N	03W	302927	3983024*	3539	758		
RG 64587 DCL		SA	4	4	4	07	20N	03W	302927	3983024*	3539	758	456	302
RG 92820 POD1	MRG	VA							302796	3979130	3957	130	100	30
RG 64589		SA	4	4	4	06	20N	03W	302962	3984632*	4495	780		
RG 64589 DCL		SA	4	4	4	06	20N	03W	302962	3984632*	4495	780	543	237
RG 66055		SA	1	1	4	35	20N	03W	308632	3977066*	5017	325	160	165
RG 39528		SA	4	1	4	06	19N	03W	302362	3975492*	6945	29	21	8
RG 73994		SA	1	4	1	20	20N	02W	313135	3980597*	7120	220	140	80
CR 02896		MO							301266	3987069	7444	138	38	100
RG 90241 POD1		SA	4	1	2	27	21N	03W	307050	3988891	7584	335	290	45
RG 90046 POD1		SA	3	2	3	09	19N	03W	305024	3973805	7637	180	22	158
CR 02984		MO							299927	3986065	7720	160	90	70
RG 32691 POD1	MRG	SA	2	1	4	35	21N	04W	299607	3986717*	8376	315	235	80
RG 93807 POD1	MRG	SA	2	1	4	35	21N	04W	299594	3986835	8462	320	205	115
RG 81017		SA	4	4	1	23	21N	03W	308217	3990122	9012	485	235	250
RG 77489		SA	4	4	4	21	20N	02W	315730	3979540*	9844	270	125	145
CR 00042 EXPIRED		MO							297698	3986978	10064	300		

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

Hydrogeological Report for Smyslov H #1

Regional Geological context:

The Smyslov H #1 is located on Federal land between two forks of the San Isidro wash in a large flat valley floor. This area drains in a south westerly direction into the Rio Puerco river basin in Sandoval County, New Mexico. The area around the location is flat shaley soil with sparse vegetation. There are numerous small arroyos which drain to the southwest to the San Isidro Wash approximately one mile away.

A records search of the NM Office of the State Engineer – iWATERS database indicated that there was no depth to ground water data available in this township. The closest water well reported was in the Section 7, T21N, R7W which is approximately twenty miles northwest of the proposed location. This well reported a depth to ground water of 240'. The water from this well is used for livestock.

Geologic maps of the area indicate that the surface formation at the proposed well site is the Nacimiento formation. The Nacimiento Formation is of Paleocene age (Baltz, 1967, p. 35). It crops out in a broad band inside the southern and western margins of the central basin and in a narrow band along the west face of the Nacimiento Uplift. The Nacimiento is a nonresistant unit and typically erodes to low, rounded hills or forms badland topography.

The Nacimiento Formation occurs in approximately only the southern two-thirds of the San Juan Basin where it conformably overlies and intertongues with the Ojo Alamo Sandstone (Fassett, 1974, p. 229). The Nacimiento Formation grades laterally into the main part of the Animas Formation (Fassett and Hinds, 1971, p. 34); thus, in this area, the two formations occupy the same stratigraphic interval. Strata of the Nacimiento Formation were deposited in lakebeds in the central basin area with lesser deposition in stream channels (Brimhall, 1973, p. 201). In general, the Nacimiento consists of drab, interbedded black and gray shale with discontinuous, white, medium- to very coarse grained arkosic sandstone (Stone e al., 1983, p.30). Stone et al. indicated that the formation may contain more sandstone than commonly reported because some investigators assume the slope- forming strata in the unit area shales, whereas in many places the strata actually are poorly consolidated sandstones. Total thickness of the Nacimiento Formation ranges from about 500 to 1,300 feet. The unit generally thickens from the basin margins toward the basin center (Steven et al., 1974). The sandstone deposits within the Nacimiento Formation are much thinner than the total thickness of the formation because their environment of deposition was localized stream channels (Brimhall, 1973, p. 201). The thickness of the combined San Jose, Animas, and Nacimiento Formations ranges from 500 to more than 3.500 feet.

Hydraulic Properties:

Reported well yields for 53 wells completed in either the Animas or Nacimiento Formations range from 2 to 90 gallons per minute and the median yield is 7.5 gallons per minute. The primary use of water from Nacimiento and Animas Formations is domestic and livestock supplies. There are no known aquifer tests for the Animas or Nacimiento Formations, but specific capacities reported for six wells range from 0.24 to 2.30 gallons per minute per foot of drawdown (Levings et al., 1990).

The Animas and Nacimiento Formations are in many ways hydrologically similar to the San Jose Formation because sands in both units produce approximately the same quantities of water. However, the greater percentage of fine materials in the Animas and Nacimiento Formations may restrict downward vertical leakage to the Ojo Alamo Sandstone or Kirtland Shale. The poorly cemented fine material is highly erodible, forms a badland terrain, and supports only spotty vegetation. These conditions are more conductive to runoff than retention of precipitation.

References:

Baltz, E.H., 1967, Stratigraphy and regional tectonic implications of part of Upper Cretaceous rocks, east-central San Juan Basin, New Mexico: USGS Professional Paper

FEMA Map – 100 year floodplain

According to the attached FEMA map the area is outside a 100 year floodplain.

Sitting Criteria Compliance Demonstrations

The Smyslov H #1 is not located in an unstable area. The location is not over a mine and is not on the side of a steep hill. The location of the excavated pit material will not be located within 300' of any continuously flowing watercourse or 200' from any other watercourse.

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
SJ 00274 S-3		HWY	SA		4	4	16	22N	05W	287567	4001050*	27001	1313		
SJ 00274 S-2		HWY	SA		3	3	16	23N	05W	286665	4010877*	35307	600		
SJ 01506		SCH	SA	1	1	3	22	23N	06W	278535	4010015*	39722	280		
SJ 01824		MUL	SA	3	3	1	07	21N	07W	263575	3994603*	44494	100		
SJ 03562		SAN	SA	3	3	1	07	21N	07W	263575	3994603*	44494	680	240	440

Average Depth to Water: **240 feet**

Minimum Depth: **240 feet**

Maximum Depth: **240 feet**

Record Count: 5

Basin/County Search:

Basin: San Juan County: Sandoval

UTMNAD83 Radius Search (in meters):

Easting (X): 306057.34 Northing (Y): 3981372.39 Radius: 50000

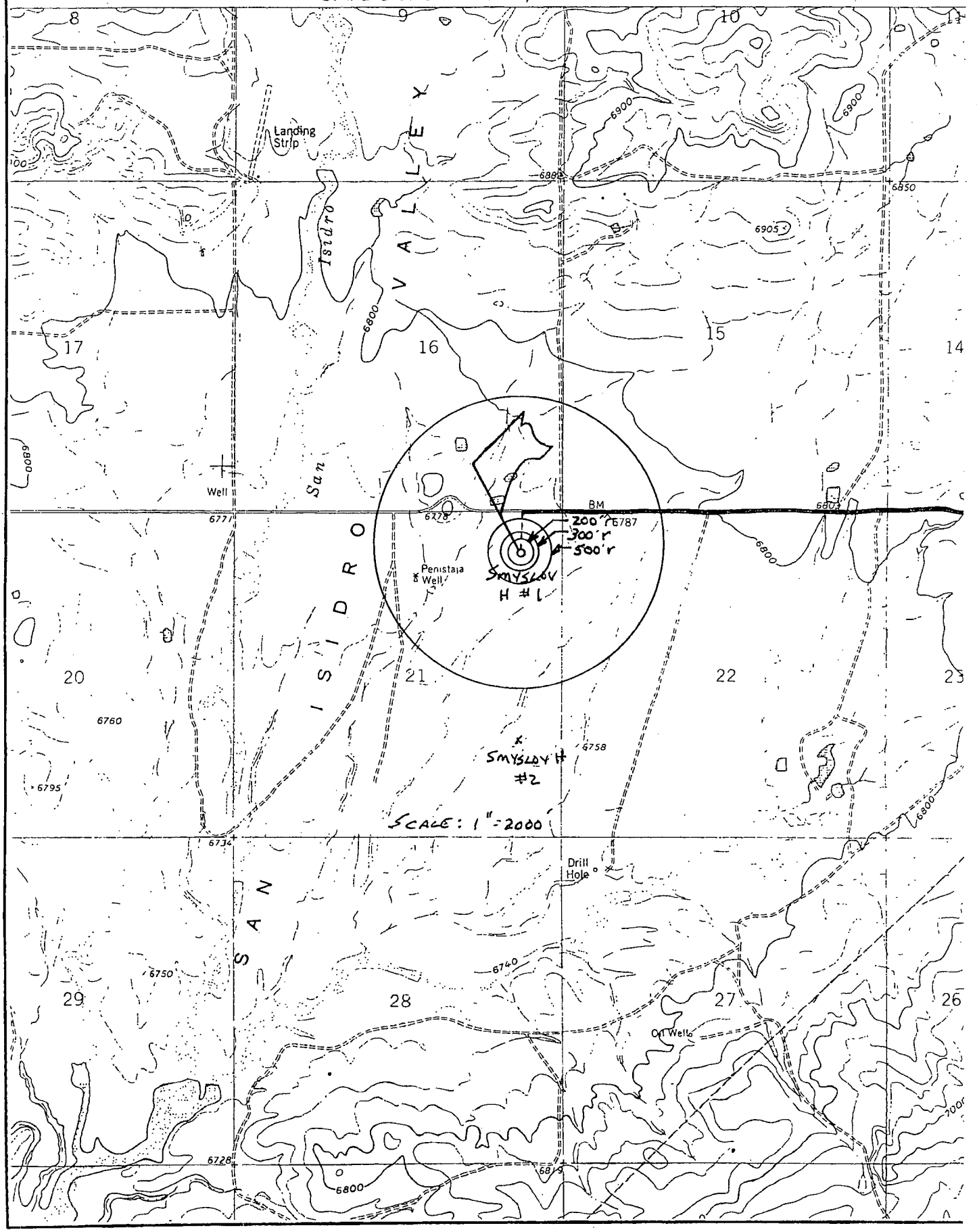
ORIGINAL INFORMATION

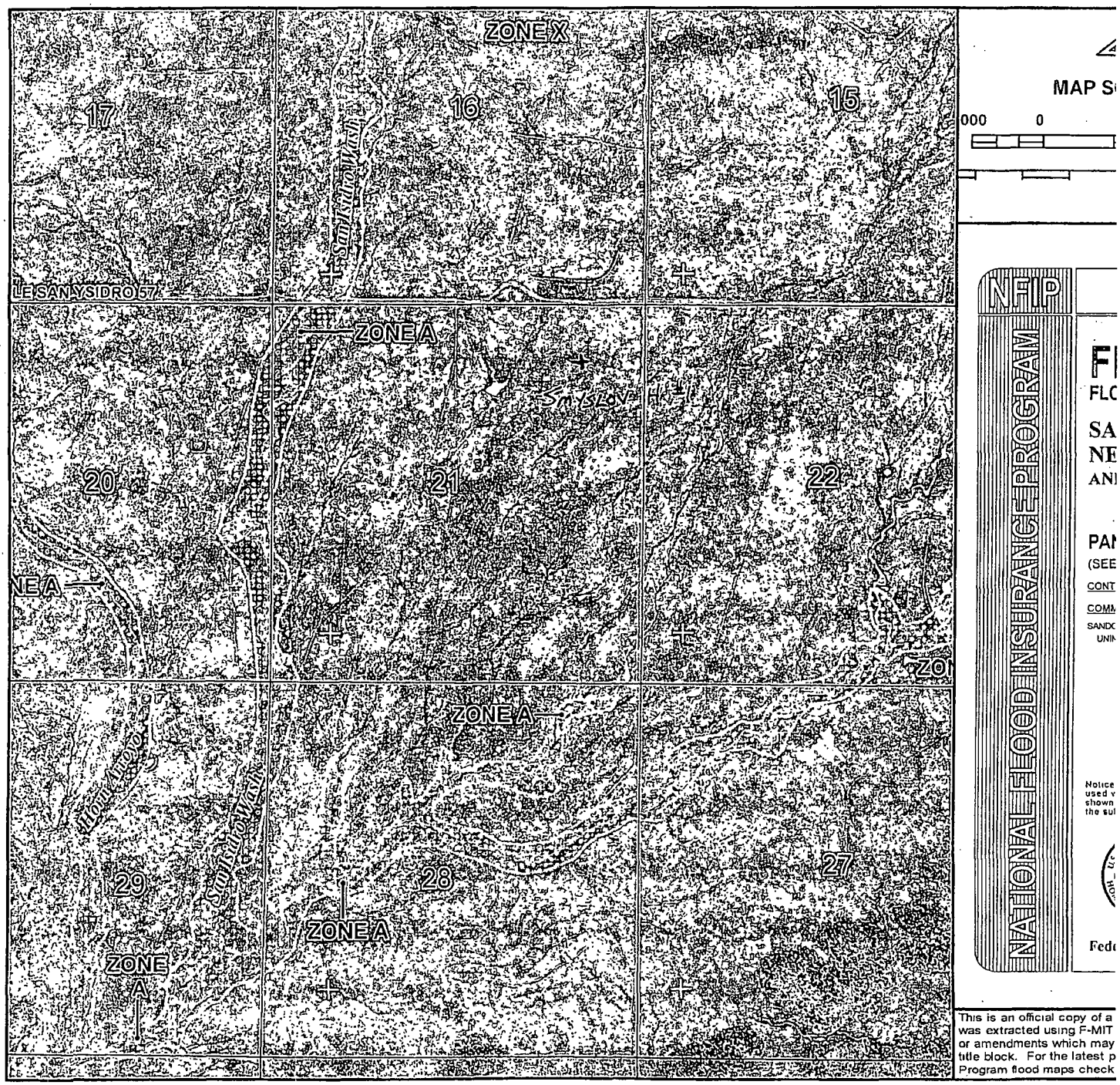
***UTM location was derived from PLSS - see Help**

PLAT #1

CBM PARTNERS CORPORATION SMYSLOV H #1

660' FNL & 660' FEL, SECTION 21, T20N, R3W, N.M.P.M.
SANDOVAL COUNTY, NEW MEXICO




ZONE X
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NATIONAL FLOOD INSURANCE PROGRAM
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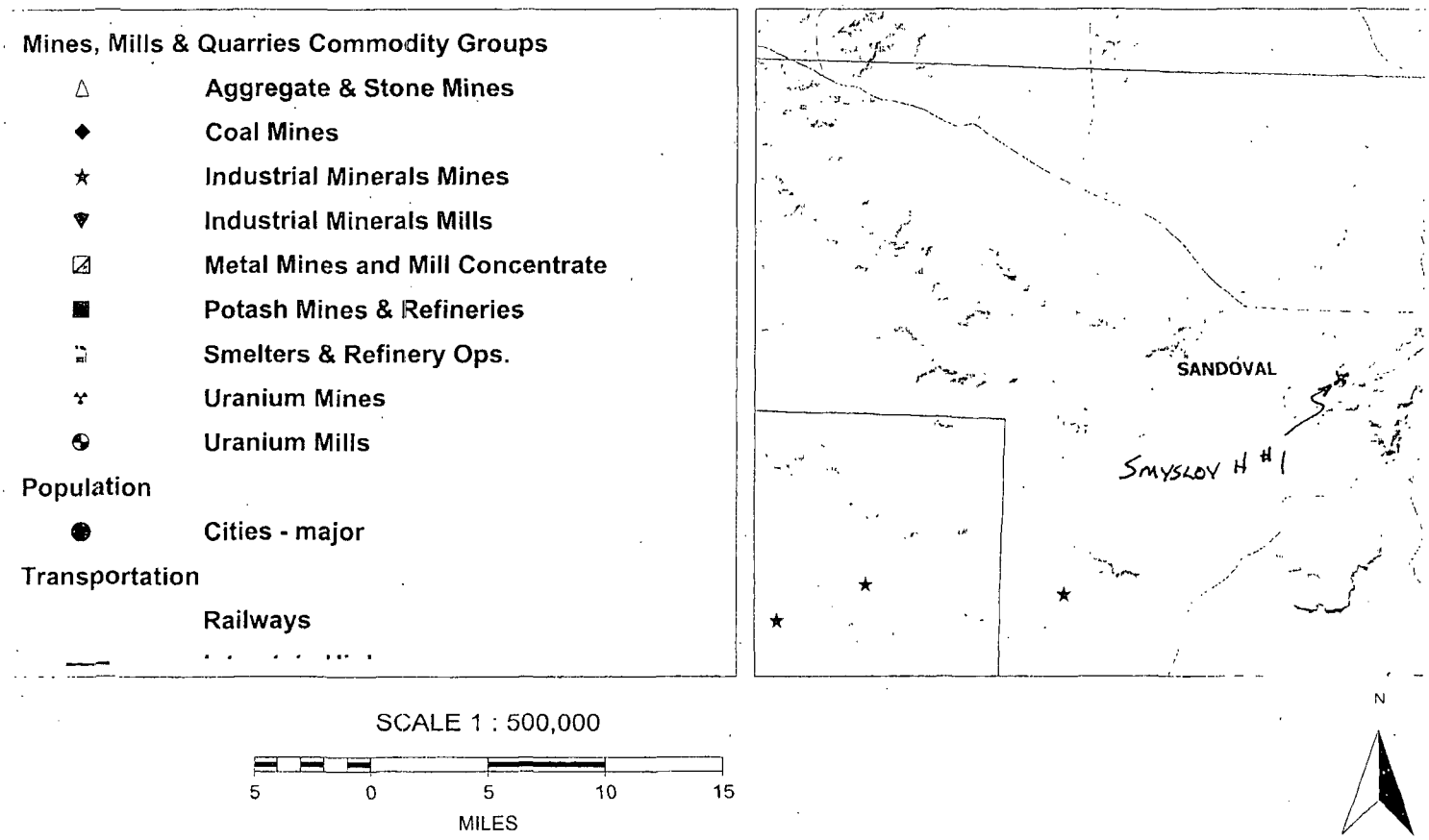
Program flood maps check

FEMA MAP

MMQonline Public Version



NMOCD Conditions of Approval:

- **A steel marker at the center of the burial is required in accordance with 19.15.17.13F(3).**
    - The steel marker shall be not less than four inches in diameter and shall be cemented in a three-foot deep hole at a minimum. The steel marker shall extend at least four feet above mean ground level and at least three feet below ground level. The operator name, lease name and well number and location, including unit letter, section, township and range, and that the marker designates an onsite burial location shall be welded, stamped or otherwise permanently engraved into the metal of the steel marker.

- **Supply the reports documenting the testing results with the C-144 Closure Report. The closure sampling reports must also include 418.1 sample results.**

- **The requested Variance to rule 19.15.17.11(D) Fencing is approved under the condition; personnel are required to be onsite to prevent unauthorized access while the burial trench is open.**
    - The Burial trench will be required to be fenced in accordance with 19.15.17.11(D) if personnel are not onsite to prevent unauthorized access.