

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.

Pit, Below-Grade Tank, or

12469 Proposed Alternative Method Permit or Closure Plan Application

45-35631

- 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

OIL CONS. DIV DIST. 3

DEC 17 2014

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: Bridgocreek Resources (Colorado), LLC OGRID #: 310262  
Address: 8100 Southpark Way, Suite A-I, Littelton, CO 80120  
Facility or well name: Harris Hawk 20 #1  
API Number: 30-045-35631 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr J NW/SE Section 20 Township 31N Range 14W County: San Juan  
Center of Proposed Design: Latitude N36.8846454 Longitude W108.3303125 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  
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: 5.236 bbl Dimensions: L 70' x W 30' x D 14'

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 \_\_\_\_\_

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 4 ft Hog Wire

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.

**Variations 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<sub>2</sub>S, 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	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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.*

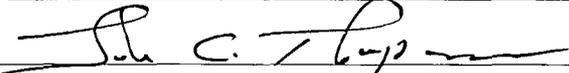
- Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate 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.

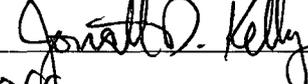
Name (Print): John C. Thompson Title: Agent/Engineer

Signature:  Date: 12/15/2014

e-mail address: john@walsheng.net Telephone: 505-327-4892

18.

**OCD Approval:**  Permit Application (including closure plan)  Closure Plan (only)  OCD Conditions (see attachment)

OCD Representative Signature:  Approval Date: 12/22/2014

Title: Compliance Officer 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: \_\_\_\_\_

State of New Mexico  
Energy, Minerals and Natural Resources Department

**Susana Martinez**  
Governor

**David Martin**  
Cabinet Secretary

**Brett F. Woods, Ph.D.**  
Deputy Cabinet Secretary

**Jami Bailey, Division Director**  
Oil Conservation Division



**New Mexico Oil Conservation Division Approval and Conditions  
(C-144)**

Application Type:

Temporary Pit     Multi-Well Fluid Management Pit

Below Grade Tank     Other:

Site information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf. Owner	U L	Sec	Twp	N/S	Rng	W/E
	Harris Hawk 20	1	Bridgecreek Resource	G	N	San Juan	U	J	20	31	N	14	W

Conditions of Approval:

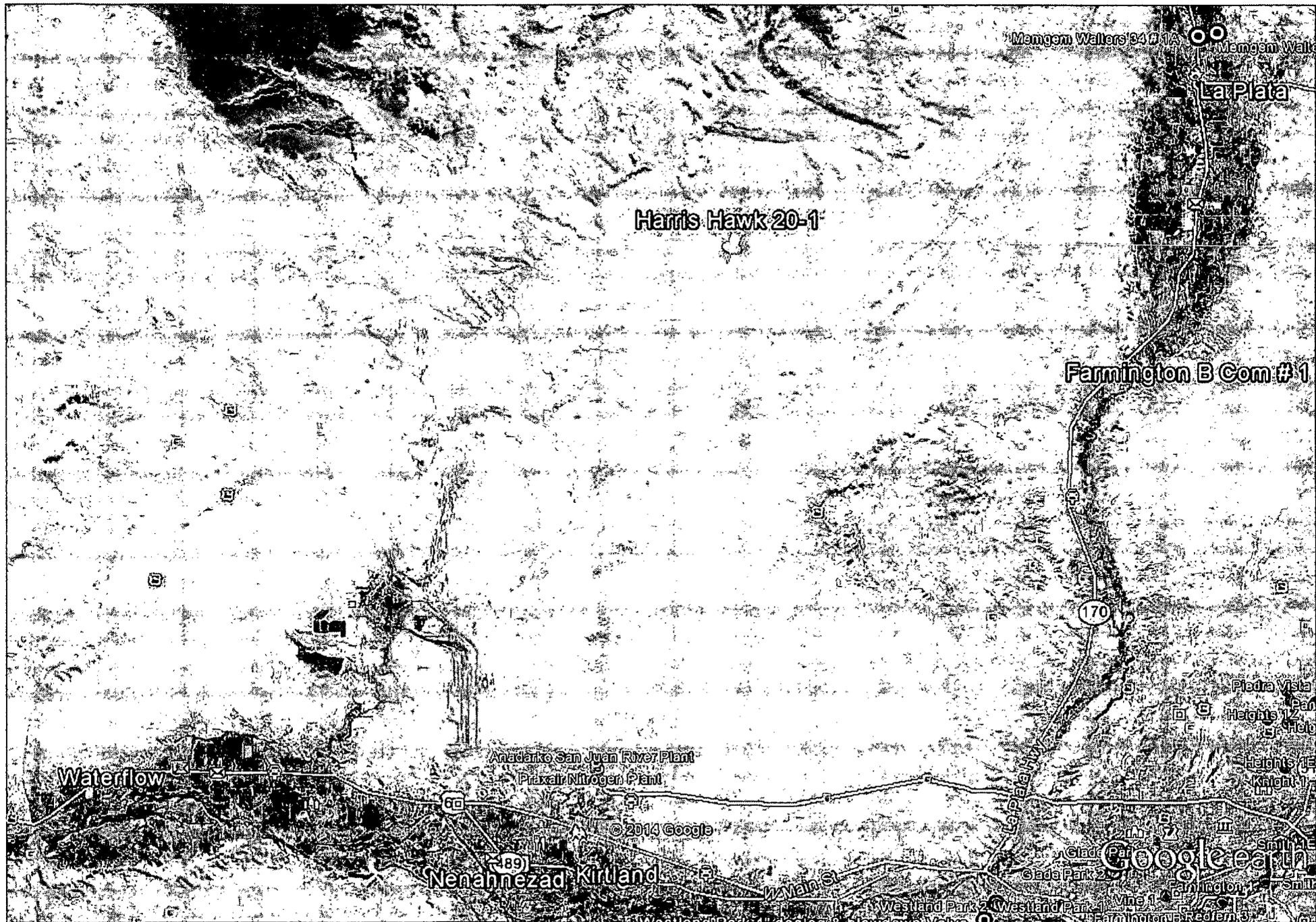
The NMOCD Aztec Office requests the following for the test well:

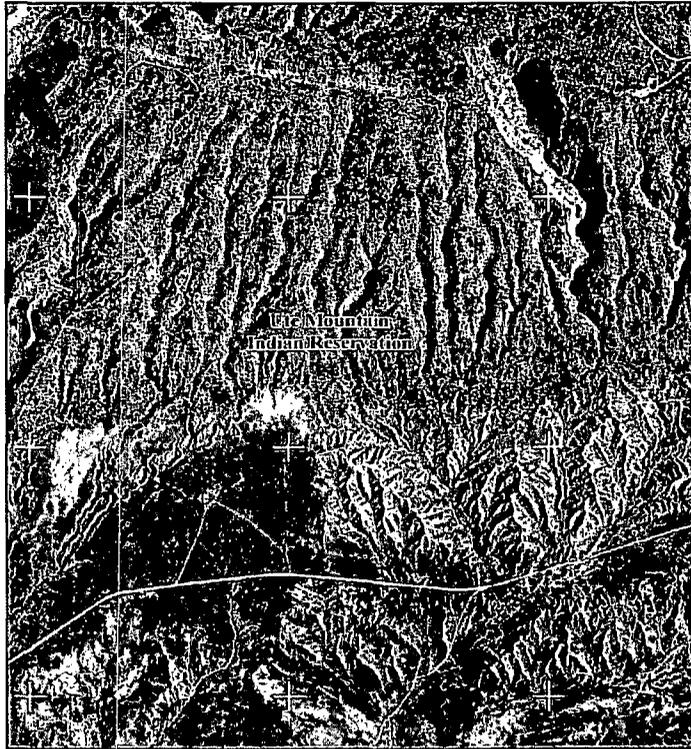
- Provide minimum 72 hour notification to the NMOCD Aztec Office prior to drilling test well.
- Test well must be air drilled to the following depths, terminating at the shallowest interval where groundwater is encountered.
  - 40 ft or the depth of the proposed pit depth in addition to the 25 ft minimum requirement.
  - 65 ft or the depth of the proposed pit depth in addition to the 50 ft requirement.
  - 115 ft or the depth of the proposed pit depth in addition to the 100 ft requirement.
- Wait 1 hour following reaching each depth prior to running down hole with conductivity probe to determine if water is present.
  - If water is encountered, leave hole open 24 hours allowing the water level to stabilize and re-measure the stabilized level.
- Provide test well coordinates and elevation.

**Please note:** Submit a C-144 permit for modification to adjust the closure standards if necessary following the drilling of the test well and determination of depth to groundwater.

  
\_\_\_\_\_  
NMOCD Approved by Signature

12/22/04  
Date





MAP SCALE 1" = 2000'

0 2000 4000 FEET

0 600 1200 METERS

**PANEL 0325F**

**FIRM**  
FLOOD INSURANCE RATE MAP  
SAN JUAN COUNTY,  
NEW MEXICO  
AND INCORPORATED AREAS

PANEL 325 OF 2750

SEE MAP INDEX FOR FIRM PANEL LAYOUT

CONTRACT	DATE	REVISED	STATUS
2004-2006-001	2006	001	F

NOTICE TO USER: The Map Symbols shown herein are used to identify areas which are shown on the Flood Insurance Rate Map. Areas which are shown on the Flood Insurance Rate Map but are not shown on this map are shown on the Flood Insurance Rate Map. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.map.fema.gov

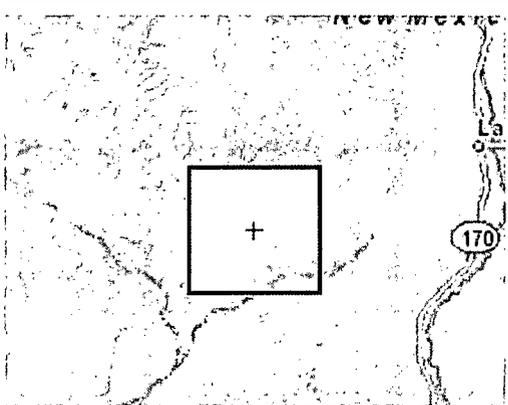
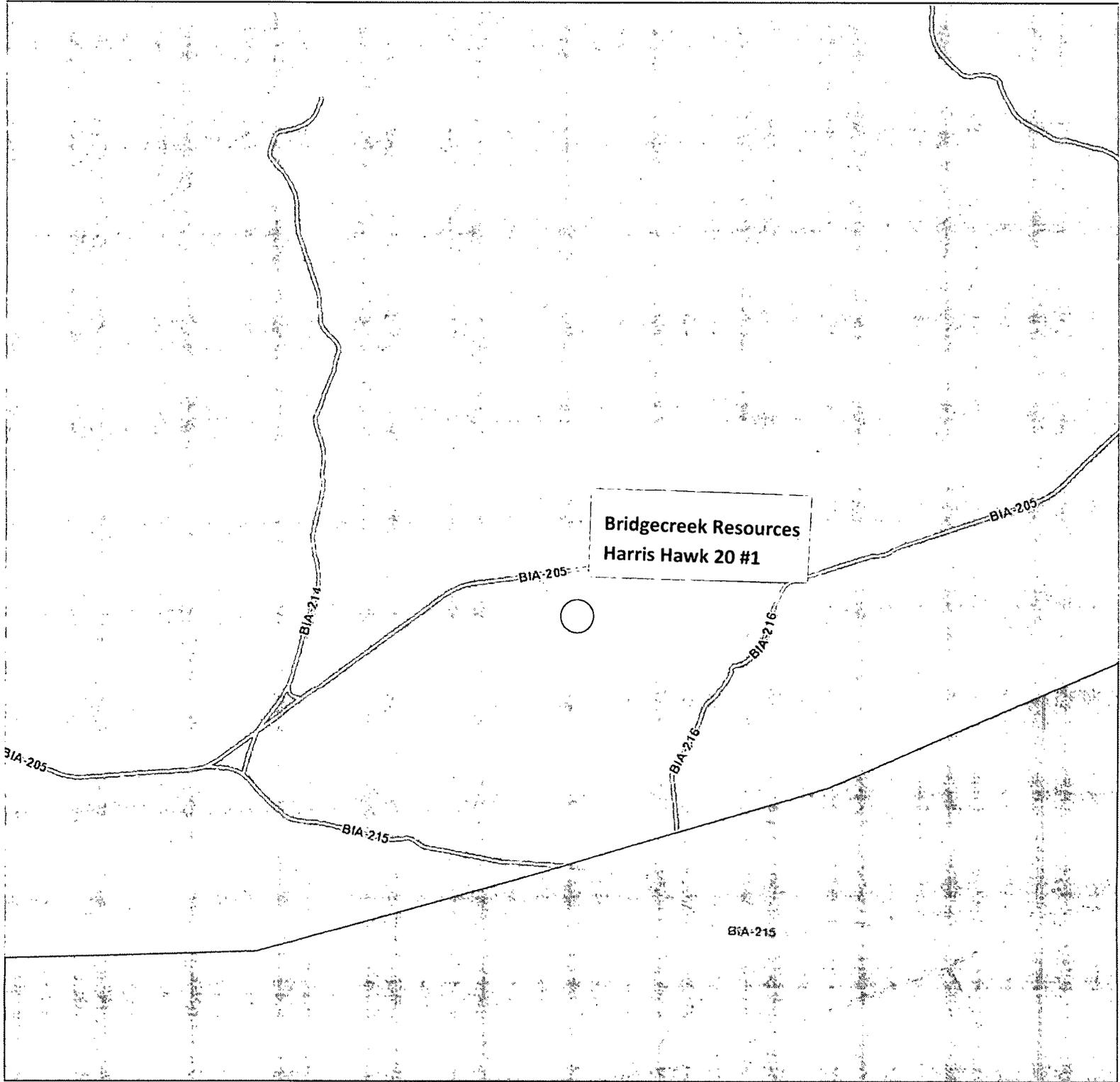
 **MAP NUMBER**  
35045C0325F

**EFFECTIVE DATE**  
AUGUST 5, 2010

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using FIRM Online. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.map.fema.gov

# NM EMNRD Mining & Minerals Division



## Legend





Harris Hawk 20-1

Indn Service Route 214

Indn Service Route 205

Indn Service Route 210

Indn Service Route 216

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Google earth

DISTRICT I  
1625 N. French Dr., Hobbs, N.M. 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II  
611 S. First St., Artesia, N.M. 88210  
Phone: (575) 746-1283 Fax: (575) 746-9720

DISTRICT III  
1000 Rio Brazos Rd., Aztec, N.M. 87410  
Phone: (505) 334-6176 Fax: (505) 334-6170

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, N.M. 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised August 1, 2011  
Submit one copy to appropriate  
District Office

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, N.M. 87505

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code		3 Pool Name	
4 Property Code		5 Property Name HARRIS HAWK 20			6 Well Number 1
7 GRID No.		8 Operator Name BRIDGECREEK RESOURCES (COLORADO), LLC			9 Elevation 5671

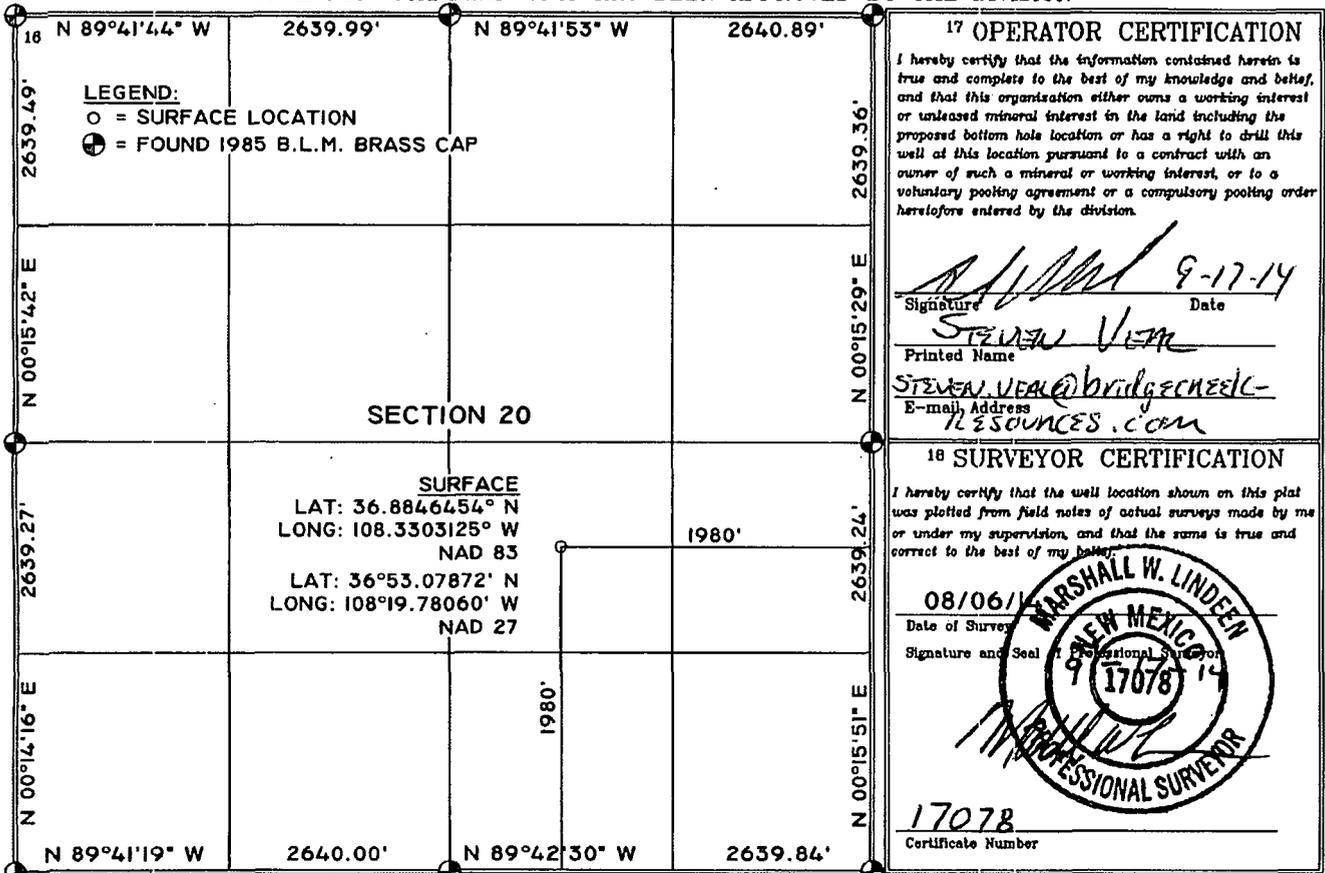
10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	20	31 N	14 W		1980	SOUTH	1980	EAST	SAN JUAN

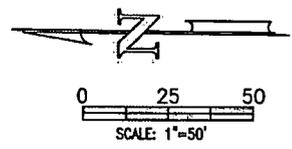
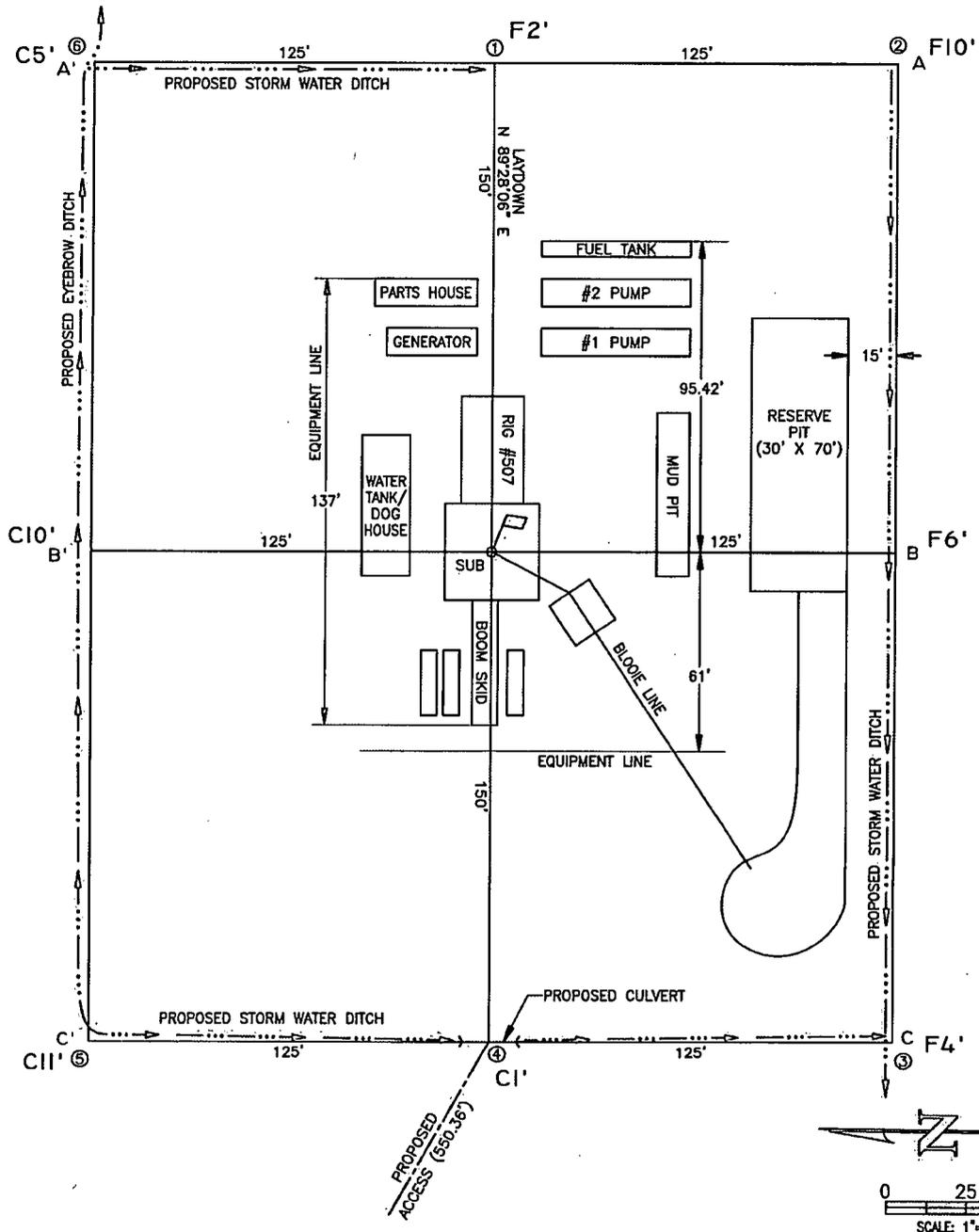
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
12 Dedicated Acres		13 Joint or Infill		14 Consolidation Code		15 Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



BEFORE DIGGING  
CALL FOR UTILITY  
LINE LOCATION!

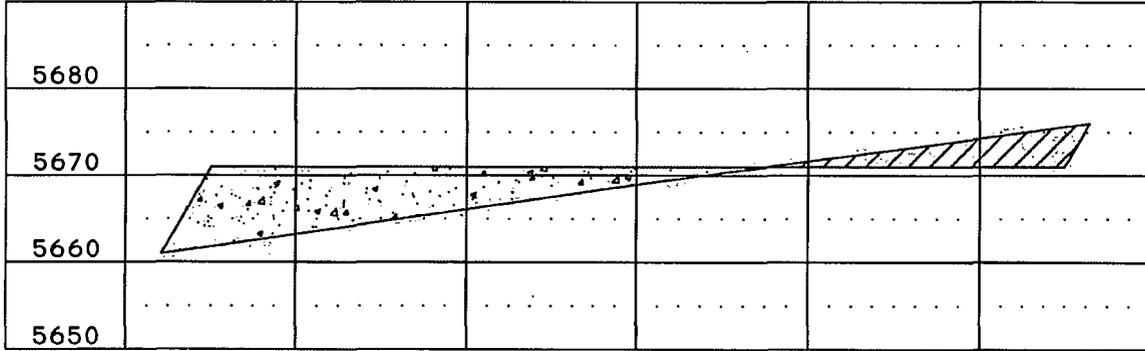


LEASE: HARRIS HAWK 20-1		BRIDGECREEK RESOURCES (COLORADO), LLC	
FOOTAGES: 1980' FSL, 1980' FEL		LITTLETON, COLORADO	
SEC. 20	TWN. 31 N	RNG. 14 W	N.M.P.M.
LAT: 36.8846454° N		LONG: 108.3303125° W (NAD83)	
ELEVATION: 5671		SURVEYED: 08/06/14, 09/04/14	REV. DATE:
		DRAWN BY: H.S.	DATE DRAWN: 09/10/14
		APP. BY: M.W.L.	
		FILE NAME: 10804L01	
		P.O. BOX 3651	
		FARMINGTON, NM 87499	
		OFFICE: (505) 334-0408	

ELEVATION

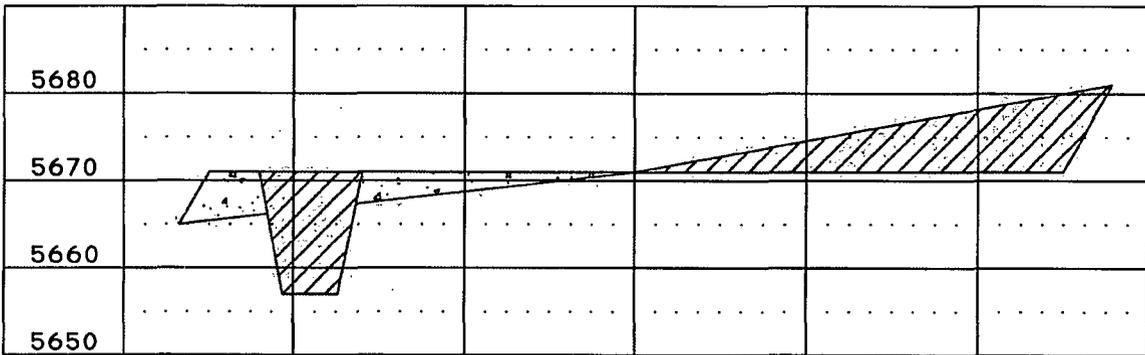
A-A'

£



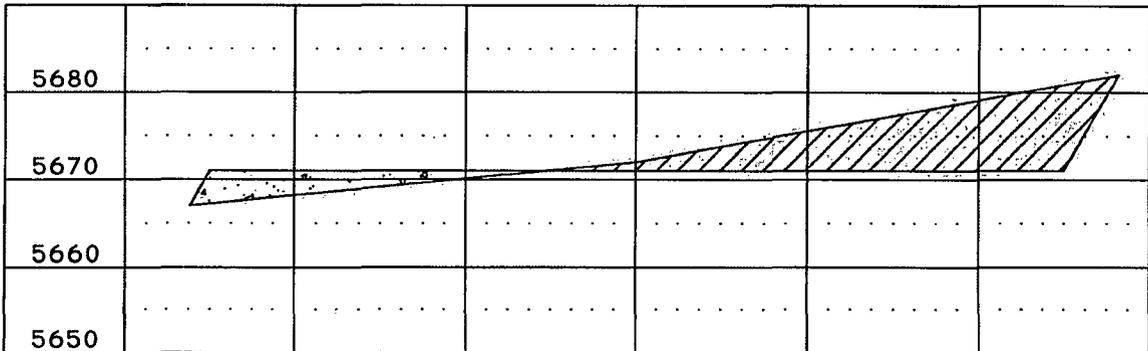
B-B'

£



C-C'

£



CROSS SECTIONS

HORIZONTAL: 1"=50'  
VERTICAL: 1"=20'

LEASE: HARRIS HAWK 20-1

FOOTAGES: 1980' FSL, 1980' FEL

SEC. 20 TWN. 31 N RNG. 14 W N.M.P.M.

LAT: 36.8846454° N LONG: 108.3303125° W (NAD83)

ELEVATION: 5671

**BRIDGECREEK RESOURCES (COLORADO), LLC**  
LITTLETON, COLORADO

SURVEYED: 08/06/14, 09/04/14

REV. DATE:

APP. BY M.W.L.

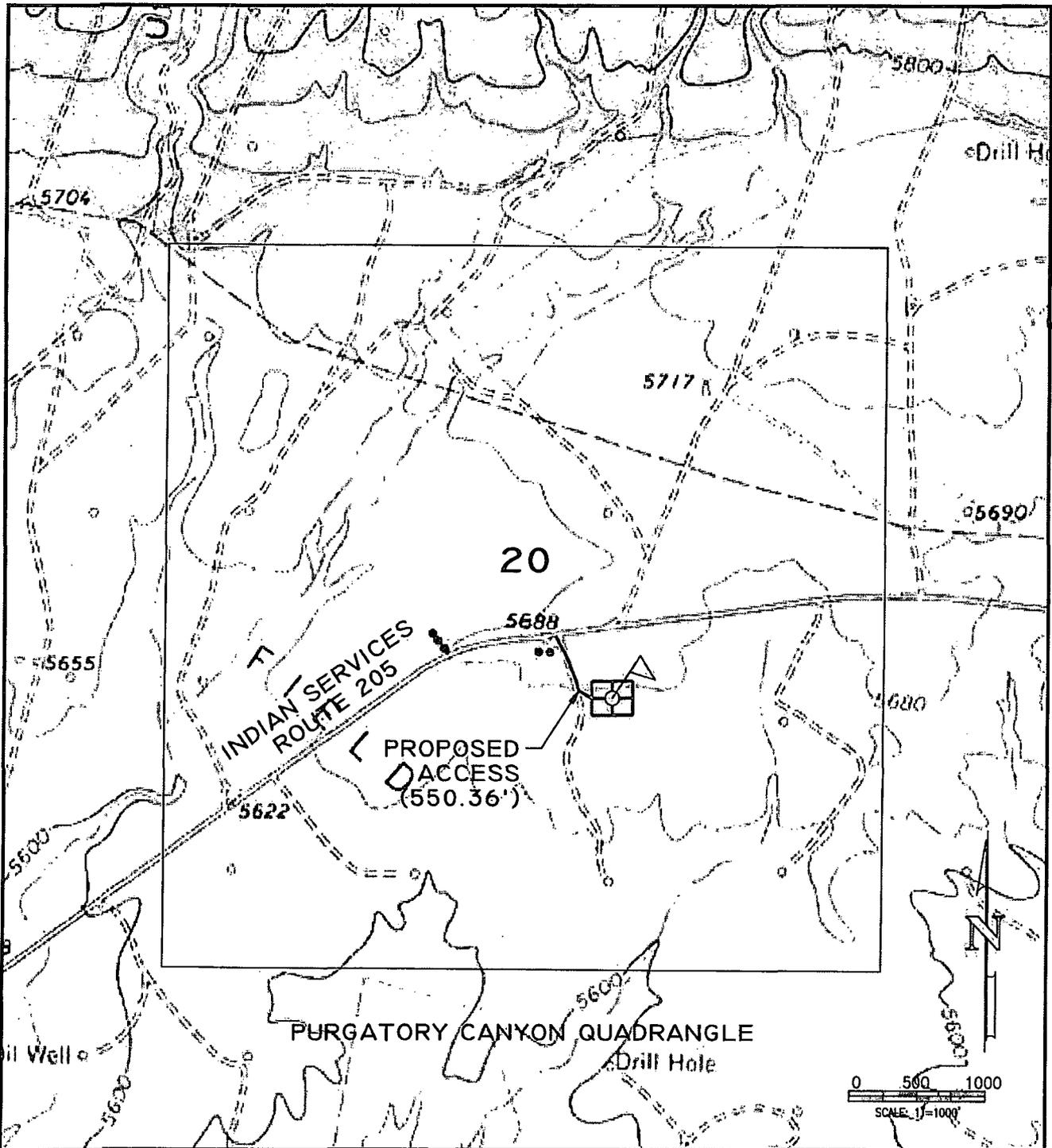
DRAWN BY: H.S.

DATE DRAWN: 09/10/14

FILE NAME: 10804C02



P.O. BOX 3651  
FARMINGTON, NM 87499  
OFFICE: (505) 334-0408



LEASE: HARRIS HAWK 20-1		BRIDGECREEK RESOURCES (COLORADO), LLC	
FOOTAGES: 1980' FSL, 1980' FEL		LITTLETON, COLORADO	
SEC. 20	TWN. 31 N	REV. DATE: 09/16/14	APP. BY: M.W.L.
RNG. 14 W	N.M.P.M.	DATE DRAWN: 08/15/14	FILE NAME: 10804T01
LAT: 36.8846454° N LONG: 108.3303125° W (NAD83)			
ELEVATION: 5671		P.O. BOX 3651 FARMINGTON, NM 87499 OFFICE: (505) 334-0408	

## ***Hydro geological report for Harris Hawk 20-1***

### **Regional Hydro geological context:**

The Harris Hawk 20-1 is located on Ute Mountain Ute lands in San Juan County, New Mexico. The proposed project is located in an area known as the Verde Oil Field on broad, open undulate plains with southeasterly aspects at about 1 to 4 degrees. Elevation in the project area is 5,671 feet, with no relief or drop-offs. The topography of the action area is characterized by gently sloping pediments to the south and Ute Dome, a steep dome, to the north.

The proposed project is located on the Four Corners platform of the Colorado Plateau. Surface geology in the area is the Lewis Shale and the from the Upper Cretaceous period (Condon 1991). Broken fragments and exposed outcrops occur within the project area.

Based on the Natural Resources Conservation Services Web Soil Survey (NRCS 2014), the soil-mapping unit in the project area is Monierco fine sandy loam, 3 to 12 percent slopes. Soils in the proposed project are fine sandy loam to loam. No biological soil crusts were observed within the project area.

No wetlands or perennial water resources in the form of rivers, lakes, ponds, or streams occur within the project area. Additionally, no well-defined ephemeral or intermittent drainages occur within the project area. Surface runoff from the proposed project area would flow via sheet drainages into an unnamed tributary of Narrow Wash located approximately 0.3 mile south. The well location sits on a relatively flat portion of terrain. The immediate area is drained going from north to south. Soils are mostly fine sandy loam to loam. The project area is classified as Great Basin desert shrub (Dick-Peddie 1993). The biotic plant community is locally dominated by low standing grass species, such as galleta and alkali saccation. In general, sparse to moderate cover of woody species are present in this biotic community, including shadscale saltbush, broom sankeweed, and winterfat. Vegetation cover in the project area was visually estimated to range from 10 to 30 percent.

### **Depth to ground water**

A records search of the NM Office of the State Engineer – iWATERS database indicates that the closest known water well is 4.2 miles away in section 3, T30N, R14W. This data is believed to be an error. A field inspection and aerial photos do not indicate any well or remains of a water well in this location. The next closest well is located 5.6 miles away in section 18, T30N, R13W. The well is reported to be 200 feet deep but no information was given for depth to ground water.

Because of the lack of information regarding depth to ground water, MO-TE, a local water well drilling company was contacted and they provided a map showing a Fruitland Coal pilot hole drilling project that they performed for the Ute Mountain Ute tribe in the past year. Over 29 wells were drilled to determine the thickness of the Fruitland coal in an area approximately 1.2 miles to the south and east of the proposed well location (see attached map showing test wells and their location relative to the proposed Prairie Falcon 19-1). Based on well drilling records the minimum depth to groundwater was 100 (plus) feet deep and a maximum depth of 200 feet deep. Based on this information and the ground elevation of the proposed location being approximately 130' higher than the test wells, the assumption is that depth to ground water will be greater than 100 feet deep.

However, for permit purposes will assume the ground water is in the 25' to 50' range and because of this will air drill the 12-1/4" surface hole to 65' then shut down for 1 hour. Will then run a water level probe to determine if any water influx. If not will continue drilling to 120' and shut down for additional hour and run another water level probe to determine water influx. Will then present findings to NMOCD and amend the pit permit as necessary.

Geologic maps of the area indicate that the surface formation at the proposed well site is the Lewis Shale from the Upper Cretaceous period (Condon 1991). Broken fragments and exposed outcrops occur within

the project area. The Lewis Shale formation occurs in New Mexico and Colorado and its outcrop forms the land surface over much of the northwest portion of the basin. It overlies the Mesaverde Formation.

The Lewis was deposited in various fluvial-type environments. In general, the unit consists of an interbedded sequence of sandstone, siltstone and variegated shale. Thickness of the Lewis Shale Formation near the project area is generally 165 m thick. Ground water is associated with alluvial and fluvial sandstone aquifers and the Lewis Shale has very low permeability and porosity thus, the occurrence of ground water is mainly controlled by the distribution of sandstone in the formation. The distribution of such sandstone is the result of original depositional extent plus any post-depositional modification, namely erosion and structural deformation. Transmissivity data for the Lewis Shale formation is minimal.

The Lewis Shale is a very suitable unit for recharge from precipitation because soils that form on the unit are sandy and highly permeable and therefore readily absorb precipitation. However, low annual precipitation, relatively high transpiration and evaporation rates, and deep dissection of the Lewis Shale Formation by the San Juan River and its tributaries all tend to reduce the effective recharge of the unit.

Stone et al, 1983, Hydrogeology and Water Resources of the San Juan Basin, New Mexico Socorro, New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70p

**Site specific information:**

<b><i>Surface hydrology:</i></b>	The site is located on the lower portions of Purgatory Canyon drainage and is drained by a number of small intermittent drainages
<b><i>1<sup>st</sup> water-bearing formation:</i></b>	Cliffhouse, Cretaceous
<b><i>Formation thickness:</i></b>	525 - 1250 feet
<b><i>Underlying formation:</i></b>	Cliffhouse, Cretaceous
<b><i>Depth to groundwater:</i></b>	Unknown, will verify when drilling surface hole

**FEMA Map – 100 year floodplain**

The attached FEMA Map indicates that the proposed location is outside of the mapped 100 year floodplain.

**Siting Criteria Compliance Demonstrations**

The Harris Hawk 20-1 is not located in an unstable area. The location is not over a mine and is not on the side of a hill. The location of the excavated pit material will not be located within 300' of any continuously flowing watercourse or 200' from any other intermittent watercourse.

**Bridge Creek Resources (Colorado), LLC**  
**Harris Hawk 20 #1**  
**Temporary Drilling Reserve Pit Application**  
**Siting Criteria**

1. According to the iWaters Database from the State Engineers Office, the closest known water well is 4.2 miles away in section 3, T30N, R14W. This data is believed to be an error. A field inspection and aerial photos do not indicate any well or remains of a water well in this location. The next closest well is located 5.6 miles away in section 18, T30N, R13W. The well is reported to be 200 feet deep but no information was given for depth to ground water. See attached printout

Because of the lack of information regarding depth to ground water, MO-TE, a local water well drilling company was contacted and they provided a map showing a Fruitland Coal pilot hole drilling project that they performed for the Ute Mountain Ute tribe in the past year. Over 29 wells were drilled to determine the thickness of the Fruitland coal in an area approximately 1.2 miles to the south and east of the proposed well location (see attached map showing test wells and their location relative to the proposed Prairie Falcon 19-1). Based on well drilling records the minimum depth to groundwater was 100 (plus) feet deep and a maximum depth of 200 feet deep. Based on this information and the ground elevation of the proposed location being approximately 130' higher than the test wells, the assumption is that depth to ground water will be greater than 100 feet deep.

However, for permit purposes will assume the ground water is in the 25' to 50' range and because of this will air drill the 12-1/4" surface hole to 65' then shut down for 1 hour. Will then run a water level probe to determine if any water influx. If not will continue drilling to 120' and shut down for additional hour and run another water level probe to determine water influx. Will then present findings to NMOCD and amend the pit permit as necessary.

2. As shown on the attached topographic map and aerial photos, there are no continuously flowing watercourses within 300' of the well, or any significant watercourses, lakebeds, sinkholes, or playa lakes within 200' of the well.
3. There are no permanent residences, schools, hospitals, institutions, churches within 300' of the well.
4. There are no domestic water wells or springs within 500' of the well. See iWaters Database printout.
5. The well is not located within any municipal boundaries.

6. The well is not within 500' of any wetlands. See attached topographic map and aerial photos.
7. There are no subsurface mines in Section 20, T31N, R14W. See attached map from the NM EMNRD Mining and Mineral Division.
8. The Harris Hawk 20-1 is not located in an "unstable" area. The location is not over a mine and is not on the side of a hill. The location of the excavated pit material will not be located within 300' of a continuously flowing watercourse or 200' from any other watercourse.
9. The well is not located in a 100-year floodplain as visible on the topographic map and the FEMA Flood Insurance Rate Map.
10. In the event that the composite pit sample that is mixed 3:1 with native soils does not meet the requirements for onsite burial, the pit contents will be removed and disposed of at the Industrial Ecosystem, Inc. Land Farm ( NMOCD Permit #NM 01-0010B).



# 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-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<u>SJ 00944</u>			SJ	3	1	03	30N	14W		205449	4082758*	6744	61	5	56
<u>SJ 03867</u>			SJ	1	4	3	18	31N	13E	210438	4088324	8941	200		
<u>SJ 03284</u>			SJ	1	3	1	33	31N	13W	213076	4084127*	12282	160		
<u>SJ 00815 EXPLOR-2</u>			SJ	4	3	3	22	30N	15W	195711	4077373*	12296	240		
<u>SJ 03326</u>			SJ	3	3	1	08	30N	13W	211376	4080748*	12388	55	30	25
<u>SJ 01591</u>			SJ	1	1	3	33	31N	13W	213069	4083713*	12419	70	56	14
<u>SJ 00398</u>			SJ				21	31N	13W	213874	4087036*	12433	104	6	98
<u>SJ 01101</u>			SJ			1	08	30N	13W	211678	4081050*	12454	41	26	15
<u>SJ 00132</u>			SJ	4	4	3	05	30N	13W	212013	4081544*	12457	100	46	54
<u>SJ 03954 POD1</u>			SJ	3	3	4	05	30N	13W	212178	4081495	12622	52	35	17
<u>SJ 03957 POD1</u>			SJ	3	3	4	05	30N	13W	212186	4081486	12634	30		
<u>SJ 03952 POD1</u>			SJ	3	3	4	05	30N	13W	212242	4081562	12641	49	30	19
<u>SJ 03283</u>			SJ	2	4	2	05	30N	13W	212832	4082534*	12682	20	8	12
<u>SJ 02987</u>			SJ	3	1	4	09	31N	13W	214180	4089923*	12796	250	87	163
<u>SJ 02072</u>			SJ		4	1	33	31N	13W	213587	4084002*	12805	42	18	24
<u>SJ 02618</u>			SJ	1	2	3	33	31N	13W	213477	4083688*	12809	500		
<u>SJ 02326</u>			SJ	3	1	2	08	30N	13W	212195	4081135*	12833	42	35	7
<u>SJ 00855</u>			SJ		1	2	08	30N	13W	212296	4081236*	12862	50	25	25
<u>SJ 01068</u>			SJ		1	2	08	30N	13W	212296	4081236*	12862	53	28	25
<u>SJ 03730 POD1</u>			SJ	1	3	4	28	31N	13W	213918	4084882*	12862	190	70	120
<u>SJ 02920</u>			SJ	3	3	2	09	31N	13W	214198	4090329*	12874	85		
<u>SJ 02374</u>			SJ	3	2	3	33	31N	13W	213477	4083488*	12881	18	6	12
<u>SJ 03382</u>			SJ	2	3	4	09	31N	13W	214363	4089718*	12952	50		
<u>SJ 02977</u>			SJ	3	1	2	09	31N	13W	214215	4090723*	12961	325	124	201
<u>SJ 03929 POD1</u>			SJ	2	3	4	09	31N	13W	214388	4089616	12966	27	9	18
<u>SJ 03083</u>			SJ	2	2	3	33	31N	13W	213677	4083688*	12996	25	14	11

\*UTM location was derived from PLSS - see Help

(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)

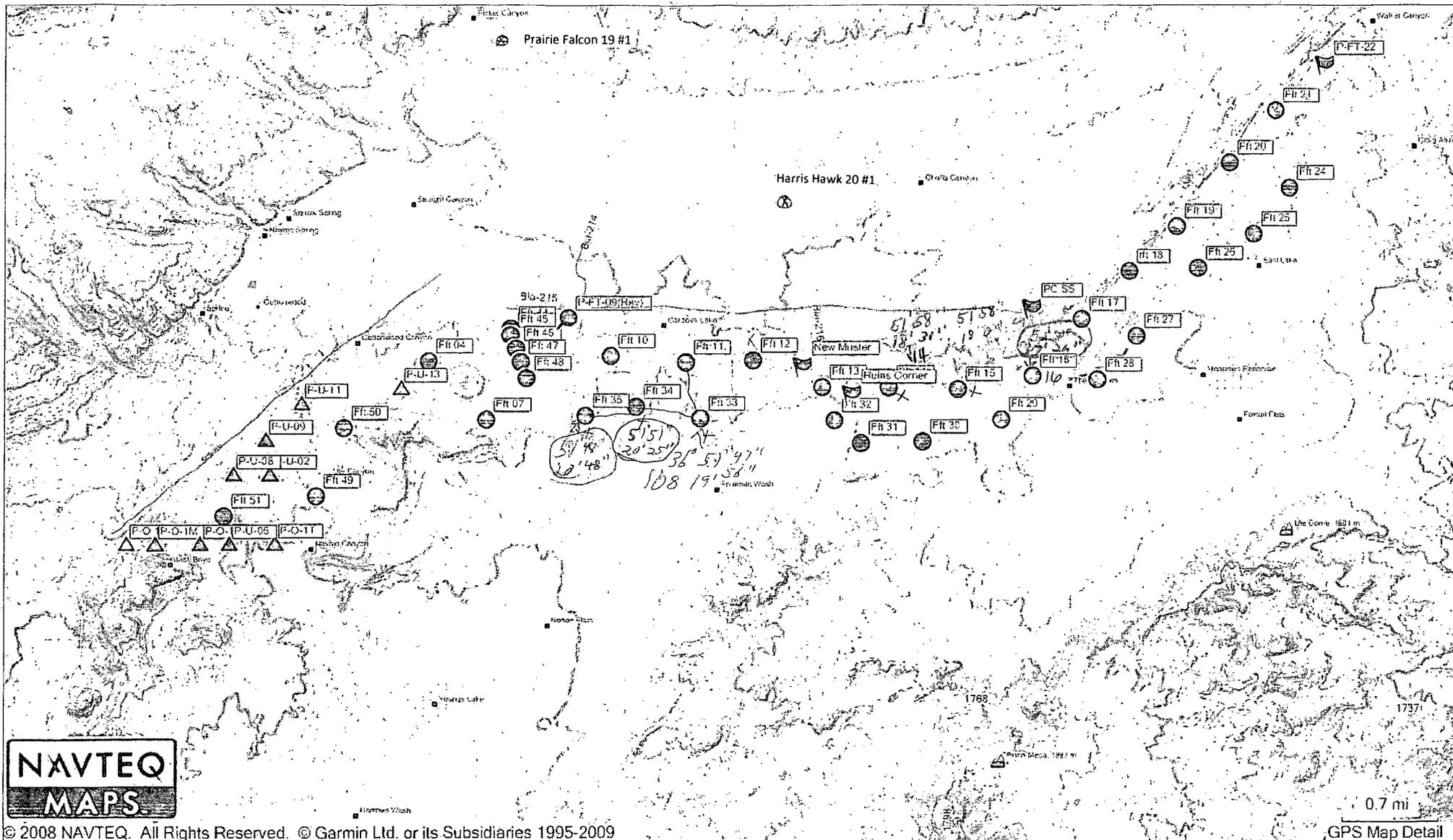
(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column		
<u>SJ 01295</u>			SJ	1	1	2	09	31N	13W	214215	4090923*	13001	230	180	50		
<u>SJ 04043 POD1</u>			SJ	2	1	4	09	31N	13W	214367	4090176	13017	300	35	265		
<u>SJ 02755</u>			SJ	4	3	2	09	31N	13W	214398	4090329*	13071	60	40	20		
<u>SJ 00293</u>			SJ				2	08	30N	13W	212481	4081034*	13127	50	30	20	
<u>SJ 00328</u>			SJ				2	08	30N	13W	212481	4081034*	13127	33	21	12	
<u>SJ 00369</u>			SJ				2	08	30N	13W	212481	4081034*	13127	47	28	19	
<u>SJ 00877</u>			SJ				2	08	30N	13W	212481	4081034*	13127	60	30	30	
<u>SJ 01463</u>			SJ				2	08	30N	13W	212481	4081034*	13127	52	30	22	
<u>SJ 02268</u>			SJ				2	08	30N	13W	212481	4081034*	13127	30	21	9	
<u>SJ 03195</u>			SJ	1	1	4	08	30N	13W	212162	4080529*	13150	60	35	25		
<u>SJ 03328</u>			SJ	1	1	4	08	30N	13W	212162	4080529*	13150	60				
<u>SJ 00587</u>			SJ	2	4	3	08	30N	13W	211941	4080134*	13210	72	48	24		
<u>SJ 02735</u>			SJ	4	3	2	08	30N	13W	212379	4080732*	13211	43	23	20		
<u>SJ 02294</u>			SJ	3	2	4	28	31N	13W	214344	4085070*	13228	42	15	27		
<u>SJ 02724</u>			SJ	3	2	4	28	31N	13W	214344	4085070*	13228	40	5	35		
<u>SJ 02811</u>			SJ	1	4	4	28	31N	13W	214324	4084863*	13259	50	2	48		
<u>SJ 03196</u>			SJ	2	1	4	08	30N	13W	212362	4080529*	13313	41	20	21		
<u>SJ 00815 EXPLORE-1</u>			SJ	1	3	4	27	30N	15W	196254	4075949*	13346	234				
<u>SJ 00815 O-EXPLORE</u>			SJ	1	3	4	27	30N	15W	196254	4075949*	13346	231				
<u>SJ 03197</u>			SJ	3	1	1	22	31N	13W	214877	4087489*	13400	11	5	6		
<u>SJ 02836</u>			SJ	1	3	3	22	31N	13W	214806	4086464*	13424	100	30	70		
<u>SJ 03160</u>			SJ	4	1	4	08	30N	13W	212362	4080329*	13429	60	8	52		
<u>SJ 03797 POD1</u>			SJ	3	3	3	22	31N	13W	214806	4086264*	13452	220	20	200		
<u>SJ 02753</u>			SJ	1	1	1	27	31N	13W	214790	4086059*	13467	74	40	34		
<u>SJ 02832</u>			SJ	1	1	1	27	31N	13W	214790	4086059*	13467	80	20	60		
<u>SJ 02766</u>			SJ	4	4	4	28	31N	13W	214524	4084663*	13504	50	12	38		
<u>SJ 01820</u>			SJ				1	3	22	31N	13W	214931	4086778*	13511	50	20	30
<u>SJ 03191</u>			SJ	1	3	1	27	31N	13W	214774	4085654*	13523	100				
<u>SJ 00815 0</u>			SJ	3	3	4	27	30N	15W	196254	4075749*	13531	231				

\*UTM location was derived from PLSS - see Help

# Ute Mtn Ute – Fruitland Coal Pilot Hole Drilling Project



33, 34, 35, 14, 15, 16, 12

**Bridgecreek  
Harris Hawk 20-1  
Pit Design and Construction Plan**

In accordance with Rule 19.15.17 the following information describes the design and construction for temporary pits on Bridgecreek locations; this is Bridgecreek's standard procedure for all temporary pits.

**General Plan**

- 1 Bridgecreek will design and construct a temporary pit to contain liquids and solids and prevent contamination of fresh water and protect public health and environment
- 2 Prior to constructing the pit, topsoil will be stockpiled in the construction zone for later use in restoration
- 3 Bridgecreek will post a well sign, not less than 12" by 24", on the well site prior to construction of the temporary pit. The sign will list the operator on record as the operator, the location of the well by unit letter, section, township range, and emergency telephone numbers (complying with 19.15.16.8 NMAC)
- 4 Bridgecreek shall construct all new fences unitizing 48' steel mesh field-fence (hogwire) on the bottom. T-posts shall be installed every 12 feet and corners shall be anchored utilizing a secondary T-post. Temporary pits will be fenced at all times excluding drilling or overwork operations, when the front side of the fence will be temporarily removed for operational purposes
- 5 Bridgecreek shall construct the temporary pit so that the foundation and interior slopes are firm and free of rocks, debris, sharp edges or irregularities to prevent liner failure
- 6 Bridgecreek shall construct the pit so that the slopes are no steeper than two horizontal feet to 1 vertical foot
- 7 Pit walls will be walked down by a crawler type tractor following construction
- 8 All temporary pits will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements
- 9 Geotextile will be installed beneath the liner when rocks, debris, sharp edges or irregularities cannot be avoided
- 10 All liners will be anchored in the bottom of a compacted earth-filled trench at least 18 inches deep
- 11 Bridgecreek will minimize liner seams and orient them up and down, not across a slope. Factory seams will be used whenever possible. Bridgecreek will ensure all field seams are welded by qualified personnel. Field seams will be overlapped four to six inches and will be oriented parallel to the line of maximum slope. Bridgecreek will minimize the number of field seams in corners and irregularly shaped areas
- 12 The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or a manifold system
- 13 The pit shall be protected from run-on by constructing and maintaining diversion ditched around the location or around the perimeter of the pit in some cases
- 14 The volume of the pit shall not exceed **5,236 bbls**, including freeboard
- 15 If needed, temporary blow pits will be constructed to allow gravity flow to discharge into lined drill pit
- 16 The lower half of the blow pit (nearest lined pit) will be lined with the same 20 mil liner. The upper half of the blow pit will remain unlined as allowed in Rule 19.15.17.11. F (11)
- 17 Bridgecreek will not allow freestanding liquids to remain on the unlined portion of temporary blow pit

**Bridgecreek  
Harris Hawk 20-1  
Maintenance and Operating Plan**

In accordance with Rule 19 15 17.12 the following information described the operation and maintenance of temporary pits on Bridgecreek's locations.

**General Plan**

- 1 Bridgecreek intends to use the pit for cuttings disposal only but will operate and maintain the temporary pit to contain liquids and solids and prevent contamination of fresh water and protect public health and environment
- 2 Bridgecreek will conserve drilling fluids by utilizing a centrifuge drilling system and either recycling, reusing or disposing of any extra fluids in a manner approved by division rules and that prevents contamination of fresh water and protects public health and the environment. If necessary, drilling fluids will be disposed at Industrial Ecosystem Incorporated Land Farm. NMOCD Permit # NM-01-0010B
- 3 Bridgecreek will not discharge or store any hazardous waste in any temporary pit
- 4 If any pit liner's integrity is compromised or if any penetration of the liner occurs above the liquid's surface, then Bridgecreek shall notify the Aztec Division office by phone or email within 48 hours of the discovery and repair the damage or replace the liner
- 5 If a leak develops below the liquid's level or if any penetration of the pit liner occurs below the liquid's surface, Bridgecreek shall remove all liquids above the damaged liner within 48 hours and repair the damage or replace the liner. Bridgecreek shall notify the Aztec Division office pursuant to 19.15.29.NMAC.
- 6 The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or manifold system
- 7 The pit shall be protected from run-on by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some cases
- 8 Bridgecreek shall immediately remove any visible layer or oil from the surface of temporary pit after cessation of a drilling or workover operation. Oil absorbent booms will be utilized to contain and remove oil from the pit's surface. An oil absorbent boom will be stored on-site until closure of pit
- 9 Only fluids generated during the drilling or workover process may be discharged into a temporary pit
- 10 Bridgecreek will maintain the temporary pit free of miscellaneous solid waste or debris
- 11 During drilling or workover operations, Bridgecreek will inspect the temporary pit at least once daily to ensure compliance with this plan. Inspections will be logged in the IADC reports and company morning reports. Bridgecreek will file this log with the Aztec Division office upon closure of the pit
- 12 After drilling or workover operations, Bridgecreek will inspect the temporary pit weekly so long as liquids remain in the temporary pit. A log of the inspections will be stored at Bridgecreek's office electronically and will be filed with the Aztec Division office upon closure of the pit
- 13 Bridgecreek shall maintain at least two feet of freeboard for a temporary pit
- 14 Bridgecreek shall remove all free liquids from a temporary pit within 30 days from the date the operator releases the drilling or workover rig
- 15 Bridgecreek shall remove all free liquids from a cavitations within 48 hours after completing cavitations. Bridgecreek may request additional time to remove liquids from Aztec Division office if it is not feasible to remove liquids within 48 hours

## Bridgecreek Prairie Falcon 19-1 Closure Plan

In accordance with Rule 19.15.17.9 NMAC and 19.15.17.13 NMAC the following information describes the closure requirements of temporary pits on Anschutz's locations. This is Bridgecreek's standard procedure for all temporary pits.

All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of the pit closure. Closure report will be filed on C-144 and incorporated the following:

- Detail on Capping and Covering, where applicable
- Plot Plan (Pit diagram)
- Inspection reports
- Sampling Results
- C-105
- Copy of Deed Notice will be filed with County Clerk

### General Plan

- 1 All free standing liquids will be removed at the start of the pit closure process from the pit and disposed of in a division-approved facility or recycle, reuse or reclaim the liquids in a manner that the appropriate division district office approves
- 2 The preferred method of closure for all temporary pits will be on-site burial, pursuant to Subsection B of 19.15.17.9 and assuming that all criteria listed in sub-section (D) of 19.15.17.13 are met
- 3 Prior to closure, the surface owner shall be notified at least 72 hrs but not more than one week prior to Bridgecreek's proposed closure plan using a means that provides proof of notice i.e., certified mail, return receipt requested
- 4 Within 6 months of the Rig Off status occurring Bridgecreek will ensure that temporary pits are closed, re-contoured, and reseeded
- 5 Notice of Closure will be given to the Aztec Division office 72 hours but not more than one week of closure via email, or verbally, The notification of closure will include the following:
  - i. Operator's name
  - ii. Location by Unit Letter, Section, Township, and Range. Well name and API Number
- 6 All contents, including synthetic pit liners, will be buried in place. By folding outer edges of the pit liner to overlap waste material, and then installing a geomembrane liner cover that is 20 mil string reinforced LLDPE, synthetic material, impervious, resistant to ultra violet light, petroleum hydrocarbons, salts, acid and alkaline.
- 7 Pit contents shall be mixed with non-waste containing, earthen material in order to achieve the solidification process. The solidification process will be accomplished using a combination of natural drying and mechanically mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed a safe and stable. **The mixing ratio shall not exceed 3 parts clean soil to 1 part pit contents.** The waste mixture must pass the paint filter liquids test (EPA SW-846, Method 9095 or other test methods approved by the division.
- 8 A five point composite sample will be taken of the pit using sampling tools and all samples tested per Subsection D of 19.15.17.13 (5). The concentration of any contaminant in the stabilized waste is cannot be higher than the parameters listed in Table II of 19.15.17.13 NMAC. In the event that the criteria are not met, all contents will be handled per Subsection C of 19.15.17.13 i.e., Dig and haul

Components	Tests Method	Limit (mg/Kg)
Benzene	EPA SW-846 8021B or 8015M	10
BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA SW-846 418.1	100
GRO/DRO	EPA SW-846 8015M	1000
Chlorides	EPA 300.0	20,000

- 9 Upon completion of solidification and testing, the pit area will be backfilled with compacted, non-waste containing, earthen material. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material (with chloride concentrations less than 600 mg/Kg) to establish vegetation at the site, or the background thickness of topsoil, whichever is greater
- 10 Re-contouring of location will match fit, shape, line, form and texture of the surrounding area. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape
- 11 Notification will be sent to OCD when the reclaimed area is seeded
- 12 Following 19.15.17.13 (H) (5) (a-e), Bridgecreek shall seed the distributed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. Suggested BLM stipulated seed mixed will be used on federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover thorough two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs
- 13 The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial upon the abandonment of all the wells on the pad. The marker will be a four foot tall riser with the operator's information at the time of all wells on the pad are abandoned. The operator's information will include the following: Operator Name, Lease Name, Well Name and Number, unit Number, Section, Township, Range and an indicator that the marker is an onsite burial location

#### 19.15.17.15 Exceptions and Variances.

Bridgescreek Resources (Colorado) LLC is requesting a variance to the fencing requirements (Subsection D of 19.15.17.11 NMAC). Instead of using 4 strands of barbwire spaced evenly every foot, AEC would like to utilize standard 4 ft hogwire. The hogwire is easier to install and will provide better or equal protection of fresh water, public health and the environment. The fence will act as a temporary deterrent for any wildlife for personal that may encounter the temporary pit.