

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

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

Type of action: ☐ Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
☒ Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
☐ Modification to an existing permit

Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

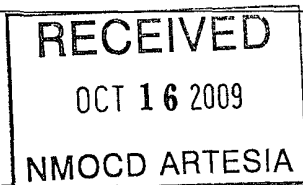
FINAL CLOSURE REPORT ONLY: MANCO FEDERAL NO. 1 LOCATION

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, 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: Nadel & Gussman Permian, LLC OGRID #: 155615
Address: 601 N. Marienfeld, Suite 508, Midland, TX 79701
Facility or well name: Manco Federal No. 1 Lease No. NMNM100524
API Number: 30-015-35553 OCD Permit Number: _____
U/L or Qtr/Qtr D Section 26 Township 21S Range 21E County: Eddy
Center of Proposed Design: Latitude _____ Longitude _____ NAD: ☐ 1927 ☒ 1983
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☒ **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: ☒ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☐ Lined ☐ Unlined Liner type: Thickness 12 mil ☐ LLDPE ☒ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____ Volume: _____ bbl Dimensions: L _____ x W _____ x D _____



3.
☐ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other _____
☐ Lined ☐ Unlined Liner type: Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____

4.
☐ **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 _____

5.
☐ **Alternative Method:**

* Final Closure Date 9/1/09 Oil Conservation Division

Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

6.

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*)

X Four foot height, four strands of barbed wire evenly spaced between one and four feet

☐ Alternate. Please specify _____

7.

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

☐ Screen ☐ Netting ☐ Other _____ N/A _____

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

8.

Signs: Subsection C of 19.15.17.11 NMAC

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

X Signed in compliance with 19.15.3.103 NMAC

9.

Administrative Approvals 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:

☐ Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.

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

10.

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. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No

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 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

(Applies to temporary, emergency, or cavitation pits and below-grade tanks)

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

☐ NA

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

(Applies to permanent pits)

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

☐ NA

Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, 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 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 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ 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

11.

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: _____

12.

Closed-loop Systems 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.

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- ☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - 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: _____

☐ Previously Approved Operating and Maintenance Plan API Number: _____ (Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

13.

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 H₂S, 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

14.

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: X Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Closed-loop System

☐ Alternative

Proposed Closure Method: ☐ Waste Excavation and Removal

☐ Waste Removal (Closed-loop systems only)

X On-site Closure Method (Only for temporary pits and closed-loop systems)

☐ In-place Burial X On-site Trench Burial

☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.

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 F 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 I of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16.

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)

Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please provide the information below) ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ 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 I of 19.15.17.13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.

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 may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 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 between 50 and 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

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 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 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 private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, 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

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 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ 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

18.

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 F of 19.15.17.13 NMAC

☒ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements 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 Subsection F of 19.15.17.13 NMAC

☒ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F 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 I of 19.15.17.13 NMAC

☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19.

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): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

20.

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

OCD Representative Signature: _____ Approval Date: _____

Title: _____ OCD Permit Number: _____

21.

Closure Report (required within 60 days of closure completion): Subsection K of 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: 1 September 2009

22.

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.

23.

Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: N/A Disposal Facility Permit Number: N/A

Disposal Facility Name: N/A Disposal Facility Permit Number: N/A

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:

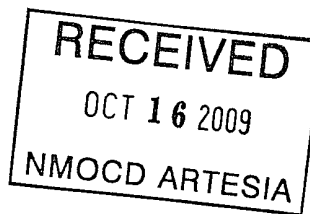
- ☒ Site Reclamation (Photo Documentation)
- ☒ Soil Backfilling and Cover Installation
- ☒ Re-vegetation Application Rates and Seeding Technique

24.

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)
- ☐ 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



25.

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): Kem McCready Title: Engineering Operations Manager

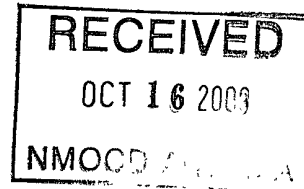
Signature: Kem McCready Date: 13 September 2009

e-mail address: kemm@naguss.com Telephone: 432-682-4429

Accepted for record
 NMOCD

OCT 16 2009

Mr. Kem McCready
Operations Manager
NADEL AND GUSSMAN PERMIAN, LLC
601 N. Marienfeld
Suite 508
Midland, TX 79701



13 October 2009

Mr. Mike Bratcher
OIL CONSERVATION DIVISION
1301 West Grand Avenue
Artesia, NM 88210

Re: Manco Federal No. 1 API No. 30-015-35553 "Final Location and Drilling Pit Closure Report "
U/L D S26 T21S, R21E, 660' FNL, 1240' FWL Eddy County, New Mexico

Dear Mr. Bratcher:

Nadel & Gussman Permian, LLC (NGP) applied for permits to close the Manco Federal No. 1 (Manco) drilling pit on 26 October 2007 with the intention of initiating closure on 1 November with completion expected by 9 November 2007. Following this action, NGP made the decision to re-enter the Manco as soon as possible in 2008, requesting an extension on closure of the Manco drilling pit. When the attempt to re-enter the well did not achieve enough interest among the partners, NGP decided to plug and abandon the well, closing the drilling pit, reclaiming the pad and the access point to the location.

An onsite, deep bury closure permit was obtained from the New Mexico Oil Conservation Division (NMOCD) on 3 June 2009. Due to weather limitations and contractor availability, closure operations could not be implemented until 11 August 2009. Prior to this, on 10 August 2009 the Bureau of Land Management (BLM) was requested by NGP to conduct a formal infield review of the project, allowing for discussion on how to handle several potential remediation issues, such as (1) burying large rocks; (2) obtaining sufficient topsoil in the proximity to allow for adequate cover of the disturbed areas; (3) closure of the main entrance gate and removal of the cattle guard; (4) constructing water bars along the old ranch road, now providing access; (5) elimination of the ditch above the pit line which diverted water from the pad area; (6) placing the deep bury trench into the cut where elevation provided the needed depth to place the required four feet of cover soil over the burial trench and (7) handling the rancher's concerns to limit access where feasible. Operations began the following day around 1300 Hours.


The Manco location was entirely backfilled, topsoiled and contoured by 21 August 2009 but seeding, road closure operations, removal of the cattle guard and main access gate were not completed until 1 September 2009. The rancher was either present on the location or in the area throughout the entire process. He was very pleased with the results and NGP's open communication format during infield remediation operations.

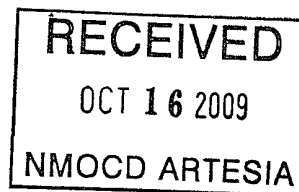
NGP followed all permit conditions and obtained approval and/or notification to Mike Bratcher of the NMOCD during each phase of the closure process. Analytical results for all phases of the project are attached as well as photo documentation on the remediation and reclamation (seeding) processes. NMOCD was provided with all data based information as soon as Trace Analysis completed the analyticals. Basically three final phase inspections of the reclaimed site were conducted by BLM and/or NMOCD during: (1) drilling pit mix down and deep trench excavation, lining, filling, capping and deep trench burial; (2) contouring and topsoil application phase and (2) seeding. However, both Jim Amos (BLM) and Randy Rust (BLM) visited the site several times during on going reclamation operations.

NGP would like to take this opportunity to thank the NMOCD and the BLM for their assistance during the closure of the Manco Federal No. 1 location.

Should you have questions, please call 432-682-4429(office) or 432-425-6347 (cell).

Sincerely,


Kem McCreedy
Operation Manager



Enclosure: Final C-144 Closure Notification, photos and analytical results

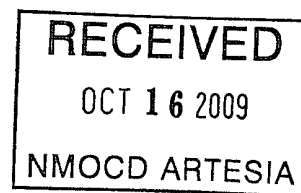
Cc: Jim Amos, Randy Rust – BLM, Carlsbad Office

Report Date: March 19, 2009
Manco Fed. #1

Work Order: 9031015
Manco Pit Closure

Page Number: 1 of 1

Summary Report



Kem McCready
Nadel & Gussman Permian LLC
601 N. Marienfeld
Suite 508
Midland, TX 79701

Report Date: March 19, 2009

Work Order: 9031015



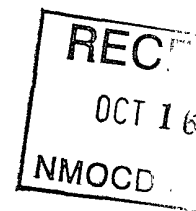
Project Name: Manco Pit Closure
Project Number: Manco Fed. #1

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
189650	Mix 3-to-1	soil	2009-03-06	15:30	2009-03-10

Sample: 189650 - Mix 3-to-1

Param	Flag	Result	Units	RL
SPLP Chloride		77.7	mg/L	0.500

Summary Report



Kem McCready
Nadel & Gussman Permian LLC
601 N. Marienfeld
Suite 508
Midland, TX 79701

Report Date: August 18, 2009

Work Order: 9081709



Project Name: Manco Pit Closure
Project Number: Manco Fed. #1

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
206204	Drlg. Pit Bottom Outer Horseshoe R	soil	2009-08-13	16:40	2009-08-15
206205	Drlg. Pit Bottom Outer Horseshoe L	soil	2009-08-13	17:00	2009-08-15
206206	Drlg. Pit Bottom Inner Horseshoe	soil	2009-08-13	17:20	2009-08-15
206207	Drlg. Pit Bottom Backwall Area	soil	2009-08-13	17:40	2009-08-15
206208	Drlg. Pit Bottom Background Comp.	soil	2009-08-13	18:00	2009-08-15

Sample - Field Code	BTEX				MTBE	TPH DRO	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	MTBE (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
206204 - Drlg. Pit Bottom Outer Horseshoe R	<0.0200	<0.0200	<0.0200	<0.0200		<50.0	<2.00
206205 - Drlg. Pit Bottom Outer Horseshoe L	<0.0200	<0.0200	<0.0200	<0.0200		<50.0	<2.00
206206 - Drlg. Pit Bottom Inner Horseshoe	<0.0200	<0.0200	<0.0200	<0.0200		<50.0	<2.00
206207 - Drlg. Pit Bottom Backwall Area	<0.0200	<0.0200	<0.0200	<0.0200		<50.0	<2.00
206208 - Drlg. Pit Bottom Background Comp.	<0.0200	<0.0200	<0.0200	<0.0200		<50.0	<2.00

Sample: 206204 - Drlg. Pit Bottom Outer Horseshoe R

Param	Flag	Result	Units	RL
Chloride		11.5	mg/Kg	10.0

Sample: 206205 - Drlg. Pit Bottom Outer Horseshoe L

Param	Flag	Result	Units	RL
Chloride		<10.0	mg/Kg	10.0

Sample: 206206 - Drlg. Pit Bottom Inner Horseshoe

Param	Flag	Result	Units	RL
Chloride		10.0	mg/Kg	10.0

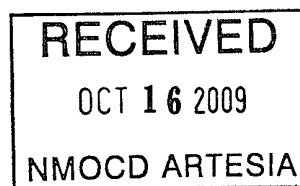
Sample: 206207 - Drlg. Pit Bottom Backwall Area

Param	Flag	Result	Units	RL
Chloride		10.4	mg/Kg	10.0

Sample: 206208 - Drlg. Pit Bottom Background Comp.

Param	Flag	Result	Units	RL
Chloride		10.2	mg/Kg	10.0

Summary Report



Kem McCreedy
Nadel & Gussman Permian LLC
601 N. Marienfeld
Suite 508
Midland, TX 79701

Report Date: August 18, 2009

Work Order: 9081719



Project Name: Manco Pit Closure
Project Number: Manco Fed. #1

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
206249	N end of Drlg. Pit Burial Trench	soil	2009-08-15	08:00	2009-08-17
206252	S end of Drlg. Pit Burial Trench	soil	2009-08-15	09:00	2009-08-17
206253	Middle of Drlg. Pit Burial Trench	soil	2009-08-15	10:00	2009-08-17

Sample: 206249 - N end of Drlg. Pit Burial Trench

Param	Flag	Result	Units	RL
Chloride		257	mg/Kg	10.0

Sample: 206252 - S end of Drlg. Pit Burial Trench

Param	Flag	Result	Units	RL
Chloride		226	mg/Kg	10.0

Sample: 206253 - Middle of Drlg. Pit Burial Trench

Param	Flag	Result	Units	RL
Chloride		282	mg/Kg	10.0



2609 North River Road, Port Allen, Louisiana 70767

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American Radiation Services, Inc.

Laboratory Analysis Report

ARS1-09-01319

Prepared for:

Trace Analysis, Inc.

Liz Givens

6701 Aberdeen Avenue, Suite 9

Lubbock, TX 79424

lgivens@traceanalysis.com

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Phone: 806-794-1296

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A handwritten signature in cursive script, appearing to read 'C. Bouliguy', written over a horizontal line.

Project Manager Review

A handwritten signature in cursive script, appearing to read 'J. Smith', written over a horizontal line.

Management Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself.
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Contact Person: Questions regarding this analytical report should be addressed to:

Project Manager

ProjectManagers@amrad.com

Phone: 225.381.2991

Fax: 225.381.2996

LELAP Cert# 30658

NELAP Cert# E87558



2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group: ARS1-09-01319

Client Sample ID: 193810

Sample Collection Date: 04/21/09 12:30

Sample Matrix: Aqueous

Request or PO Number: 9042317

ARS Sample ID: ARS1-09-01319-001

Date Received: 04/28/09

Report Date: 05/20/09 15:41

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
RA-226	0.489	0.499	0.233	0.077		pCi/L	ARS-010/EPA 904.0	5/12/09 15:09	GJ	130%
RA-228	-0.007	0.737	1.335	0.619	U	pCi/L	ARS-010/EPA 904.0	5/11/09 15:44	GJ	100%

NOTES: Chemical yield for Ra-226 fell outside of acceptance criteria biased high; sample is a produced water. Duplicate samples for the Radiums fell outside of acceptance criteria biased high, data reported per technical review.


Project Manager Review

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QC Results Report

Sample Delivery Group: ARS1-09-01319

Date Received: 04/28/09

Laboratory Control Sample Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Percent Recovery (%)	LCS Acceptance Range
ARS1-B09-01706	LCS	RA-228	12.287	3.747	1.232	14.311		pCi/L	ARS-010/EPA 904.0	5/11/09 17:44	GJ	86	75%-125%

Blank Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician
ARS1-B09-01706	MBL	RA-228	-0.175	0.838	1.535	NA	U	pCi/L	ARS-010/EPA 904.0	5/11/09 17:44	GJ

RER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	RER	RER Acceptance Range
ARS1-B09-01706	LCSD	RA-228	12.287	3.747	66.820	19.627		pCi/L	ARS-010/EPA 904.0	5/11/09 17:44	GJ	2.33	< 1

DER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	DER	DER Acceptance Range
ARS1-B09-01706	LCSD	RA-228	12.287	3.747	66.820	19.627		pCi/L	ARS-010/EPA 904.0	5/11/09 17:44	GJ	5.46	< 3

Project Manager Review

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1 (800) 401-4277 FAX (225) 381-2996

QC Results Report

Sample Delivery Group: ARS1-09-01319

Date Received: 04/28/09

Laboratory Control Sample Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Percent Recovery (%)	LCS Acceptance Range
ARS1-B09-01706	LCS	RA-226	28.168	5.138	0.177	29.537		pCi/L	ARS-008/EPA 903.0	5/12/09 15:09	GJ	95	75%-125%

Blank Evaluation


Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician
ARS1-B09-01706	MBL	RA-226	0.067	0.166	0.137	NA	U	pCi/L	ARS-008/EPA 903.0	5/12/09 15:09	GJ

RER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1 s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	RER	RER Acceptance Range
ARS1-B09-01706	LCSD	RA-226	28.168	5.138	53.107	8.636		pCi/L	ARS-008/EPA 903.0	5/12/09 15:09	GJ	1.81	< 1

DER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1 s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	DER	DER Acceptance Range
ARS1-B09-01706	LCSD	RA-226	28.168	5.138	53.107	8.636		pCi/L	ARS-008/EPA 903.0	5/12/09 15:09	GJ	4.96	< 3


Project Manager Review

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Notes:

Comments:

- 1 0) Soil and Sludge analysis are reported on a wet basis or an as received basis unless otherwise indicated.
- 2 0) Data in this report are within the limits of uncertainty specified in the reference method unless otherwise specified
- 3 0) Modified analysis procedures are procedures that are modified to meet the certain specifications. An example may be the use of a water method to analyze a solid matrix due to the lack of an officially recognized procedure for the analysis of the solid matrix. Modified analyses are indicated by the subsequent addition of "m" to the procedure number (i.e. 900.0M).
- 4 0) Derived Air Concentrations and Effluent Release Concentrations are obtained from 10 CFR 20 Appendix B.
- 5 0) **Total activity** is actually total gamma activity and is determined utilizing the prominent gamma emitters from the naturally occurring radioactive decay chains and other prominent radioactive nuclides. Total activity may be lower than the actual total activity due to the extent of secular equilibrium achieved in the various decay chains at the time of analysis. The total activity is not representative of nuclides that emit solely alpha or beta particles.
- 6 0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228. (Gamma Spectroscopy only)
- 7 0) U-238 is determined via secular equilibrium with its daughter, Thorium 234 (Gamma Spectroscopy only)
- 8 0) All gamma spectroscopy was performed utilizing high purity germanium detectors (HPGe).
- 9 0) ARS makes every attempt to match sample density to calibrated density, however, in some cases, it is not practical or possible to do so and data results may be affected.

Method References:

- 1.0) EPA 600/4-80-032, Prescribed Procedures for the Measurements of Radioactivity in Drinking Water, August 1980.
- 2 0) Standard Methods for Examination of Water and Waste Water, 18th, 1992.
- 3 0) EPA SW-846, Test Methods for Evaluating Solid Waste, Third Edition, (9/86). (Updated through 1995).
- 4 0) EPA 600/4/79-020, Methods for Chemical Analysis of Water and Waste, March 1983.
- 5.0) HASL 300
- 6 0) ARS-040; An LCSD is not reported with this process. The criteria for the LCS/LCSD analysis for reproducibility have not been established for Low Level Tritium analysis. A prepared standard for Low Level Tritium has not been developed. As a result, the standard we use is based on the dilution of a verified conventional tritium standard. The volume required for Low Level Tritium analysis, in addition to the lack of an available Low Level Tritium standard, introduce variability into the LCS/LCSD analysis that does not represent the actual sample analysis. The preferred measure for reproducibility is to run a duplicate analysis of a sample.

Definitions:

- | | | |
|-------|----------|---|
| 1 0) | ND | Not detected above the detection limit (non-detected). |
| 2 0) | MDC | (Minimum Detectable Concentration) minimum concentration of the analyte that ARS can detect utilizing the specific analysis |
| 3 0) | MBL | Method Blank |
| 4 0) | DO | Duplicate Original |
| 5 0) | DUP | Method Duplicate |
| 6 0) | MS/MSD | Matrix Spike/Matrx Spike Duplicate |
| 7 0) | S | Spike |
| 8 0) | RS | Reference Spike |
| 9.0) | *SC | Subcontracted out to another qualified laboratory |
| 10 0) | NR | Not Referenced |
| 11.0) | N/A | Not Applicable |
| 12 0) | * | Reported as a calculated value |
| 13.0) | ** | False Positive due to interference from <u>Bi-214</u> |
| 14 0) | U | Activity is below the MDC |
| 15 0) | LCS/LCSD | Laboratory Control Standard/Laboratory Control Standard Duplicate |

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LELAP Cert# 30658

NELAP Cert# E87558

Summary Report

Kem McCready
Nadel & Gussman Permian LLC
600 N. Marienfeld
Suite 508
Midland, TX 79701

Report Date: May 6, 2009

Work Order: 9042317



Project Name: Manco Pit Closure
Project Number: Manco Fed. #1

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
193810	15-Point Composite	soil	2009-04-21	12:30	2009-04-23

Sample - Field Code	BTEX				TPH 418.1	TPH DRO	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	TRPHC (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
193810 - 15-Point Composite	<0.0200	<0.0200	<0.0200	<0.0200	346	104	<2.00

Sample: 193810 - 15-Point Composite

Param	Flag	Result	Units	RL
SPLP Silver		<0.00300	mg/L	0.00300
SPLP Arsenic		<0.0100	mg/L	0.0100
SPLP Barium		0.256	mg/L	0.100
SPLP Cadmium		<0.00500	mg/L	0.00500
SPLP Chloride		24.7	mg/L	0.500
SPLP Chromium		<0.00500	mg/L	0.00500
SPLP Cyanide		<0.0150	mg/L	0.0150
SPLP Fluoride		<1.00	mg/L	0.200
SPLP Mercury		<0.000200	mg/L	0.000200
Nitrate-N		<1.00	mg/L	0.200
Naphthalene		<0.000200	mg/L	0.000200
Acenaphthylene		<0.000200	mg/L	0.000200
Acenaphthene		<0.000200	mg/L	0.000200
Dibenzofuran		<0.000200	mg/L	0.000200
Fluorene		<0.000200	mg/L	0.000200
Anthracene		<0.000200	mg/L	0.000200
Phenanthrene		<0.000200	mg/L	0.000200
Fluoranthene		<0.000200	mg/L	0.000200

continued ...

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This is only a summary. Please, refer to the complete report package for quality control data.

sample 193810 continued ...

Param	Flag	Result	Units	RL
Pyrene		<0.000200	mg/L	0.000200
Benzo(a)anthracene		<0.000200	mg/L	0.000200
Chrysene		<0.000200	mg/L	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	0.000200
Benzo(k)fluoranthene		<0.000200	mg/L	0.000200
Benzo(a)pyrene		<0.000200	mg/L	0.000200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	0.000200
Dibenzo(a,h)anthracene		<0.000200	mg/L	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	0.000200
SPLP Lead		<0.0100	mg/L	0.0100
Total PCB		<0.000500	mg/L	0.000500
Aroclor 1016 (PCB-1016)		<0.000500	mg/L	0.000500
Aroclor 1221 (PCB-1221)		<0.000500	mg/L	0.000500
Aroclor 1232 (PCB-1232)		<0.000500	mg/L	0.000500
Aroclor 1242 (PCB-1242)		<0.000500	mg/L	0.000500
Aroclor 1248 (PCB-1248)		<0.000500	mg/L	0.000500
Aroclor 1254 (PCB-1254)		<0.000500	mg/L	0.000500
Aroclor 1260 (PCB-1260)		<0.000500	mg/L	0.000500
Aroclor 1268 (PCB-1268)		<0.000500	mg/L	0.000500
SPLP Selenium		<0.0500	mg/L	0.0500
SPLP U		<0.0500	mg/L	0.0500
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		9.35	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00

continued ...

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This is only a summary. Please, refer to the complete report package for quality control data.

sample 193810 continued ...

Param	Flag	Result	Units	RL
Benzene		1.04	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		26.7	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		2.08	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		1.05	µg/L	1.00
m,p-Xylene		12.8	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		1.85	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		<1.00	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		<1.00	µg/L	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		<1.00	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00



08/23/2009



08/23/2009



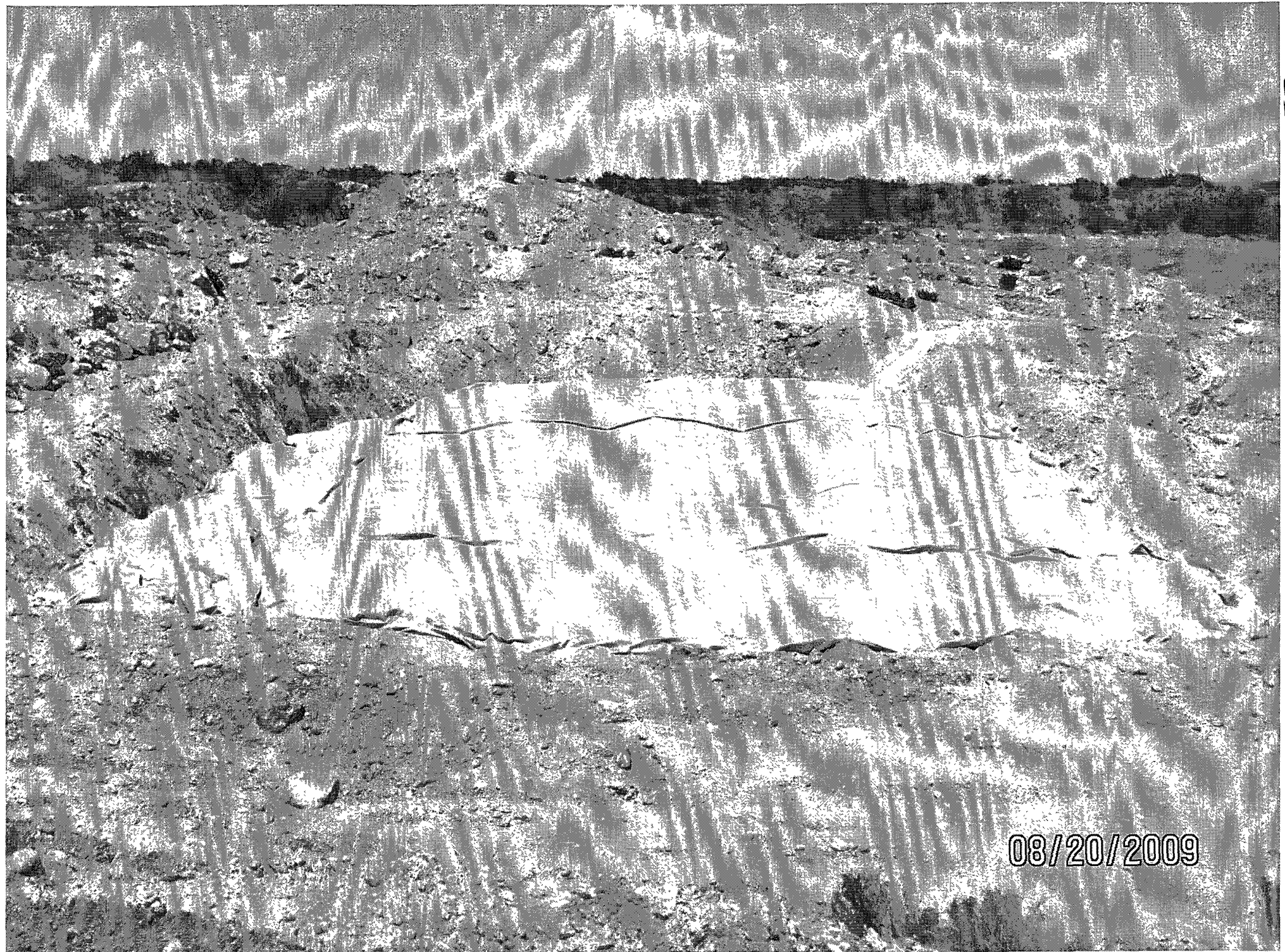


09/01/2009



08/16/2009





08/20/2009