Jones, Brad A., EMNRD

From:

Jones, Brad A., EMNRD

Sent:

Monday, February 13, 2012 8:22 AM

To:

'Kurt Fagrelius'

Cc:

Powell, Brandon, EMNRD

Subject:

RE: Revised Closure Plan Dugan's McDougall #2 Permanent Pit

Attachments:

2012 2-13 McDougall #2 PP CP approval.pdf

Kurt.

Please see the attached... it is a copy of your closure plan approval(s). I have attached a copy of the complete packet sent to Santa Fe for consideration. The issue regarding the landfarming of soils on-site will have to resolved with the appropriate OCD District office, since the landfarming was approved by the District office. If you have any questions regarding this matter, please do not hesitate to contact me.

Brad

Brad A. Jones

Environmental Engineer Environmental Bureau NM Oil Conservation Division 1220 S. St. Francis Drive Santa Fe, New Mexico 87505 E-mail: brad.a.jones@state.nm.us

Office: (505) 476-3487 Fax: (505) 476-3462

From: Kurt Fagrelius [mailto:kfagrelius@duqanproduction.com]

Sent: Thursday, February 09, 2012 4:51 PM

To: Jones, Brad A., EMNRD

Subject: Revised Closure Plan Dugan's McDougall #2 Permanent Pit

Mr. Brad Jones, attached you will find a revised closure plan for Dugan Production Corp.'s McDougall #2 "Permanent Pit". If you have any questions or require additional information, please contact me.

Kurt Fagrelius Dugan Production Corp. 505.325.1821 office 505.320.8248 cell 505.327.4613 fax

Jones, Brad A., EMNRD

From:

Kurt Fagrelius [kfagrelius@duganproduction.com] Thursday, February 09, 2012 4:51 PM Jones, Brad A., EMNRD

Sent:

To:

Subject:

Revised Closure Plan Dugan's McDougall #2 Permanent Pit

Attachments:

McDougal Closure Plan Revised pdf

Mr. Brad Jones, attached you will find a revised closure plan for Dugan Production Corp.'s McDougall #2 "Permanent Pit". If you have any questions or require additional information, please contact me.

Kurt Fagrelius Dugan Production Corp. 505.325.1821 office 505.320.8248 cell 505.327.4613 fax

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

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

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 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 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. ____ OGRID #: 006515 Dugan Production Corp. Operator: 709 East Murray Drive Address: Facility or well name: McDougall #2 30-045-28619 API Number: . OCD Permit Number: U/L or Qtr/Qtr ___ I ___ Section __ 9 ___ Township ___ 23N __ Range __ 10W ___ County: _ San _ Juan Longitude 107.89488 W Center of Proposed Design: Latitude 36.23956 N NAD: □1927 🗓 1983 Surface Owner: X Federal State Private Tribal Trust or Indian Allotment X Pit: Subsection F or G of 19.15.17.11 NMAC Temporary: Drilling Workover X Permanent Emergency Cavitation P&A ☐ Lined 🗵 Unlined Liner type: Thickness mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other String-Reinforced Liner Seams: Welded Factory Other Volume: 370 bbl Dimensions: L 14 x W 14 x D 8 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 ☐ 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 Below-grade tank: Subsection I of 19.15.17.11 NMAC _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 mil 🔲 HDPE 🔲 PVC 🔲 Other Liner type: Thickness __ Alternative Method:

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

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, hinstitution or church) Four foot height, four strands of barbed wire evenly spaced between one and four feet	ospital,
X Alternate. Please specify 4'=3' Hog Wire + One Strand Barbed Wire.	
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)	
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 ☐ Signed in compliance with 19.15.3.103 NMAC	
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 of consideration of approval. Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	office for
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 accept material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the approproach office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying above-grade tanks associated with a closed-loop system.	priate district
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

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:
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)
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
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 Closed-loop System 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 (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)
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 G of 19.15.17.13 NMAC ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Instructions: Please indentify the facility or facilities for the disposal of liquids, a facilities are required.		
	Disposal Facility Permit Number:	
	Disposal Facility Permit Number:	,
Will any of the proposed closed-loop system operations and associated activities oc ☐ Yes (If yes, please provide the information below) ☐ No	· · · · · · · · · · · · · · · · · · ·	vice and operations?
Required for impacted areas which will not be used for future service and operation Soil Backfill and Cover Design Specifications based upon the appropriate Re-vegetation Plan - based upon the appropriate requirements of Subsection Site Reclamation Plan - based upon the appropriate requirements of Subsection	requirements of Subsection H of 19.15.17.13 NMAC I of 19.15.17.13 NMAC	<u> </u>
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the provided below. Requests regarding changes to certain siting criteria may require considered an exception which must be submitted to the Santa Fe Environmental demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC f	e administrative approval from the appropriate distr Bureau office for consideration of approval. Justi,	rict office or may be
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 signlake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	nificant watercourse or lakebed, sinkhole, or playa	Yes No
Within 300 feet from a permanent residence, school, hospital, institution, or church - Visual inspection (certification) of the proposed site; Aerial photo; Satellite		☐ Yes ☐ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes is a spring that the spring that it is a spring that well or spring that water well or spring that the spring that it is a spring that well or spring that well o	pring, in existence at the time of initial application.	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approve		Yes No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visua	Il 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 Society; Topographic map 	/ & Mineral Resources; USGS; NM Geological	☐ Yes ☐ No
Within a 100-year floodplain FEMA map		☐ Yes ☐ No
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the by a check mark in the box, that the documents are attached. Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of Proof of Surface Owner Notice - based upon the appropriate requirements of Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Protocols and Procedures - based upon the appropriate requirements of 19.15 Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Disposal Facility Name and Permit Number (for liquids, drilling fluids and of Soil Cover Design - based upon the appropriate requirements of Subsection Re-vegetation Plan - based upon the appropriate requirements of Subsection Site Reclamation Plan - based upon the appropriate requirements of Subsection	uirements of 19.15.17.10 NMAC Subsection F of 19.15.17.13 NMAC propriate requirements of 19.15.17.11 NMAC ad) - based upon the appropriate requirements of 19. 5.17.13 NMAC uirements of Subsection F of 19.15.17.13 NMAC Subsection F of 19.15.17.13 NMAC rill cuttings or in case on-site closure standards cann H of 19.15.17.13 NMAC I of 19.15.17.13 NMAC	15.17.11 NMAC

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): Kurt Fagrelius Title: VP-Land and Exploration
Signature: Rurt Fagnus Date: February 8, 2012
e-mail address: kfagrelius@duganproduction.com Telephone: 505-325-1821
20. OCD Approval: ☐ Permit Application (including closure plan) Closure Plan (only) ☐ OCD Conditions (see attachment)
OCD Representative Signature: Approval Date: 2/12/12
Title: Environment al Engineer OCD Permit Number:
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:
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.
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more that two facilities were utilized.
Disposal Facility Name: Disposal Facility Permit Number:
Disposal Facility Name: Disposal Facility Permit Number:
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 Deport Attachment Checklist. Justinisticus. Each of the following items must be attached to the clasure report. Plans indicate by a check
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
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:

McDougall #2 Permanent Pit Closure Report-Methods, Procedures and Protocols

1. Comply with deadlines for closure of a permanent pit established by the State of New Mexico, Energy Minerals and Natural Resources Department 19.15.17.13 NMAC, or an earlier date if required by the NMOCD in the case of imminent danger to fresh water, public health or the environment.

Existing	Permit Applc. Submittal or	File Closure Plan	Stop Use By	Close By
On June 16, 2008	Modification Request	Ву		
Temporary Pit - Unlined	Not Permtd under 19.15.17	7/16/2008	Upon drig rig release	9/16/2008
Permanent Pit - Unlined or Lined	Not permitted or Registered with NMOCD	7/16/2008	6-16-2008	12/16/2008
Permanent Pit – Unlined	Permitted or Registered with NMOCD	12-16-2008	6-16-2010	6-16-2011
BGT-Aprvd. Design	Not Permtd under 19.15.17 Applc. by 9-16-2008	12/16/2008	fail integrity replc w/apprvd design	
BGT-Not Aprvd Design Nor Retrofit to Comply w/19.15.17	Not Permtd under 19.15.17 Mod. Rqust by 9-16-2008	12/16/2008	6/16/2013	6-16-2013
BGT-Not Aprvd Design Nor Retrofit to comply w/19.15.17	NA	12/16/2008	6/16/2013	6/16/2013
Permanent Pit-Design and Constr	Mod. Rqust by 12-16-2008	12/16/2008 submit w/mod	fail integrity replc	60-days after cessation
Does not comply w/19.15.17 permitted and lined	Comply w/in 18-mos of aprvl	request	w/apprvd design	
Permanent Pit-Design and Constr	Permit Apple by 12-16-2008	12/16/2008 submit w/permit		60-days after cessation
Does not comply w/19.15.17 Registered and Lined	Comply w/in 18-mos of aprvl	Apple Apple		
Permanent Pit	Permitted under 19.15.17	60-Days prior to close		
Temporary Pit	Permitted under 19.15.17	Prior to closure	Upon drig rig release	6-mos after rig release
BGT	Permitted under 19.15.17	12/16/2013 or prior to closure	failed integrity replc w/apprvd design	60-days after cessation

- 2. The McDougall #2 permanent pit is an approved design registered under rule 50, but was not permitted under rule 19.15.17. The permanent pit is not in use; it was taken out of commission on 9/24/2007 but has not been closed yet. This report serves as the closure plan and final closure report for the pit after closure is completed.
- 3. Provide the NMOCD district office at least 72-hours notice but no greater than 1 week prior to any closure operations. Notice will include operator name, well name and number, API number, and location (unit letter, section, township and range).

4. Provide the Environmental Bureau in the NMOCD Santa Fe office a closure plan with this notice. Upon approval of this closure plan, provide the Environmental Bureau in the NMOCD Santa Fe office a proposed schedule for closure at least 60-days prior to closing the permanent pit.

McDougall #2 Permanent Pit Closure Schedule

# of Days	Following approval of Closure Plan by the NMOCD in Santa Fe, New Mexico
10-days	Collect composite sample as described below (10).
30-days	Notiofy NMOCD of testing results as described below ((11).
40-days	If a release has occurred comply with rules as described below (12).
60-days	If a release has not occurred backfill pit as described below in (13, 14 and 15).
	Re-seed as described below (16).
	Notify NMOCD of closure as described below (17 and 18).

- 5. Proof of closure notice will be provided by certified mail to surface owner prior to closing the permanent pit. Proof of notice will be attached to final closure report.
- 6. Remove all liquid from the permanent pit prior to closure and dispose of at the Dugan Production operated Sanchez O'Brien #1 SWD (permit SWD-694) located 1650 feet from the South line and 990 feet from the West line (Unit L) of Section 6, Township 24 North, Range 9 West.
- 7. All solids from the permanent pit will be excavated, hauled to and disposed of at either the Envirotech facility (permit #NM-01-0011) located in Section 6, Township 26 North, Range 10 West or the IEI facility (permit NM-01-0010B) located in Section 2, Township 29 North, Range 12 West.
- 8. Remove pit liner system, if applicable and dispose of in a NMOCD approved facility (Waste Management's Crouch Mesa facility).
- 9. On site equipment associated with the permanent pit will be removed unless it is needed for some other purpose.
- 10. Collect at a minimum, a five point, composite sample; also, collect individual grab samples from any area that is wet, discolored or showing other evidence of a release; and analyze for Benzene, BTEX, TPH and chlorides to demonstrate that Benzene, BTEX, TPH and chlorides do not exceed the standards as specified in 19.15.17.13.C or the background chloride concentration, whichever is greater.

Components	Test Method	Limit (mg/kg)	Results (mg/kg)
Benzene	EPA SW-846 8021B or 8260B	0.2	
BTEX	EPA SW-846 8021B or 8260B	50	
TPH	EPA SW-846 418.1	100	
Chlorides	EPA 300.1	250 or Background	•

11. The NMOCD will be notified of the testing results on form C-141.

- 12. If it is determined that a release has occurred, rules 19.15.29 NMAC and 19.15.30 NMAC will be complied with as required.
- 13. If the sampling results demonstrate that a release has not occurred, or that any release does not exceed the concentrations specified above or background concentrations, the pit will be backfilled with compacted, non-waste containing, earthen material.
- 14. Stockpiled sub-surface soil will be used to backfill pit and re-contour (to a final or intermediate cover that blends with the surrounding topography). A minimum of four feet of compacted, non-waste containing, earthen material will be used as backfill.
- 15. Stockpiled surface soil will be used as a cover over the backfilled pit and disturbed area no longer needed for production operations. The soil cover will include either the background thickness of top soil or one foot of suitable material to establish vegetation at the site whichever is greater.
- 16. The area will be re-seeded as per BLM guidelines. Re-seeding will be repeated until 70% of the native natural cover is achieved and maintained for two successive growing seasons. The first growing season after the pit is closed the disturbed area will be reseeded. The seeding method will be to drill on contour whenever possible.

 Disturbed areas will be seeded the first growing season after the pit is closed.

 Seeding will be accomplished by drilling on contour whenever possible or by other division approved methods. BLM stipulated seed mixes will be used on all Federal lands and OCD approved seed mixes (administratively approved if required) will be used on all State or private 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 through two consecutive growing seasons. If alternate seed mix is required by the state, private owner or tribe, it will be implemented with administrative approval if needed. Seeding or planting will be continued until successful vegetative growth occurs.
- 17. The NMOCD will be notified within 60-days of closure of the permanent pit. The closure report will be filed on form C-144 and will include the following:
 - a. Proof of Closure Notice (surface owner and division)
 - b. Confirmation Sampling Analytical Results (if applicable)
 - c. Disposal Facility Name and Permit Number
 - d. Soil Backfilling and Cover Installation
 - e. Re-vegetation Application Rates and Seeding Technique
 - f. Site Reclamation (Photo Documentation)
- 18. The NMOCD will be notified once successful re-vegetation has been achieved.

 The Aztec District office of the OCD will be notified after each re-seeding operation and after successful re-vegetation has been achieved.



dugan production corp.

Brad A. Jones
Environmental Engineer
Environmental Bureau
NM Oil Conservation Division

NM Oil Conservation Division 1220 South St. Francis Drive

Santa Fe, New Mexico 87505

Re: "Closure Plan" for the McDougall #2 "Permanent Pit".

Dear Brad Jones,

Enclosed you will find the closure plan for the McDougall #2 permanent pit that we spoke on the phone about today (Wednesday, February 08, 2012).

February 8, 2012

The permanent pit on the McDougall #2 is an approved designed registered under rule 50 but not permitted under rule 19.15.17. The permanent pit is not in use; it was taken out of commission on 9/24/2007 but has not been closed yet.

Contaminated soil from the permanent pit was land-farmed on location. Paperwork from the state and BLM is attached.

As soon as this closure plan is approved by your office, Dugan Production will begin closure operations on the subject pit.

If you have any questions or require additional information, please contact me.

Sincerely,

Kurt Fagrelius

VP-Land and Exploration

McDougell #2

Form 3160-5 (June 1990)

UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT**

FORM APPROVED Budget Bureau No. 1004-0135

Expires: March 31,1993

SUNDRY NOTICES AND REPORTS ON WELLS

5. Lease Designation and Serial No. NM 51005

Do not use this form for proposals to Use "APPLICATION FOR	R PERMIT -"	or such proposals		6. If Indian, Allotted or Tribe Name
SUBMIT IN	TRIPLICAT	E		
1. Type of Well Oil Well Well	Other			7. If Unit or CA, Agreement Designation
2. Name of Operator				8. Well Name and No.
Dugan Production Corp.				McDougall #2
3. Address and Telephone No.				9. API Well No.
P.O. Box 420, Farmington, NM 87499 (505) 325 - 1	821		30 045 28619
Location of Well (Footage, Sec., T., R., M., or Survey Description)				10. Field and Pool, or Exploratory Area
1980' FSL & 790' FEL				South Digit Collus
Sec. 9, T23N, R10W, NMPM				South Bisti Gallup 11. County or Parish, State
000. 0, 12014, 10104, 14101 W				San Juan, NM
12. CHECK APPROPRIATE BOX(s) TO INDI	CATE NAT	JRE OF NOTICE, REPORT	, OR OT	HER DATA
TYPE OF SUBMISSION		TYPE OF AC		
Notice of Intent	Aban	donment		Change of Plans
	Reco	mpletion		New Construction
Subsequent Report	= "	ing Back		Non-Routine Fracturing
Final Abandanasad Nation		g Repair	片	Water Shut-Off
Final Abandonment Notice	☐ Alteri	ng Casing		Conversion to Injection
	☑ Other	Landfarm	_ 니	Dispose Water (Note: Report results of multiple completion on Well
13. Describe Proposed or Completed Operations (Clearly state all pertinen	details and give p	artinent dates, including estimated date of sta	ding any prop	Completion or Recompletion Report and Log form.) osed work. If well is directionally drilled
Dugan Production Corp. requests	BLM approv	al for landfarm activity.		
14. I hereby certify that the foregoing is true and correct				
7. M 1 1	•	Comptension Formula		4/04/0000
Signed Signed Terry Rowell	Title	Construction Foreman	_ Date	1/31/2008
(This space for Federal or State office use)				
Approved by	Title		Date	
Conditions of approval, if any:				
Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and or representations as to any matter within its jurisdiction.	d willfully to make to	any department or agency of the United Stat	es any false, f	ictitious or fraudulent statements

*See Instruction on Reverse Side

Form 3160-5 (June 1990)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

RECEIVED

NOV 0 9 2007

FORM APPROVED Budget Bureau No. 1004-0135

Bureau of Land Managen

BUNEAU OF LAIND IN	ANAGENIEN I Galeau of Land Manager	Expires: March 31,1993
	Farmington Field Offic	5. Lease Designation and Serial No.
	ND REPORTS ON WELLS	See Attached
•	drill or to deepen or reentry to a different reservoir.	6. If Indian, Allotted or Tribe Name
	R PERMIT -" for such proposals	
SORWII IN	TRIPLICATE	<u> </u>
1. Type of Well		7. If Unit or CA, Agreement Designation
Oil Gas Well Well	Other	
2. Name of Operator	C Other	8. Well Name and No.
Dugan Production Corp.		See Attached
3. Address and Telephone No.		9. API Well No.
•	505) 325 - 1821	See Attached
Location of Well (Footage, Sec., T., R., M., or Survey Description)	300) 320 1021	10. Field and Pool, or Exploratory Area
		Total and 7 col, of Espisials, 7 lice
See Attached	·	See Attached
		11. County or Parish, State
		San Juan, NM
12. CHECK APPROPRIATE BOX(s) TO IND	CATE NATURE OF NOTICE, REPORT, OR OT	HER DATA
TYPE OF SUBMISSION	TYPE OF ACTION	
Notice of Intent	Abandonment	Change of Plans
	Recompletion	New Construction
Subsequent Report		Non-Routine Fracturing
-		Water Shut-Off
Final Abandonment Notice		Conversion to Injection
	☑ Other Landfarm permitting ☐	Dispose Water (Note: Report results of multiple completion on Well
13 Describe Proposed or Completed Operations (Closely state all parties	والمرابع المرابع والمرابع	Completion or Recompletion Report and Log form.)
give subsurface locations and measured and true vertical depti	details, and give perlinent dates, including estimated date of starting any proposis for all markers and zones perlinent to this work.)*	sed work if well is directionally drilled,
•		
		•
As per requested by the BLM, Dug	an Production Corp. is submitting sundry for land	dfarms to be
recomitted. Well list is attached.		
·	•	
(
		· · · ·
14. I hereby cartify that the foregoing is true and correct		·
		1 1
Signed	Title Date	11 9 07
Paul Sikora		
This space for Federal or State office use)	·	
\mathcal{L}	travica. In Mad Sara	11/19/107
	Title Environmental Prot. Spcc Date	1411101
Conditions of approval, if any:		
		,

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements

or representations as to any matter within its jurisdiction.

DUSun Pg!

80 cy			-			-				2	
7	107.85847 hydrocarbon	36.23965	11	23 10		_	30-045-26516	NM-42740		Olson	Dugan
70 cy	108.31006 hyrdocarbon	36.84821	4	30 14	San Juan		30-045-27025	NM-70299	2	Nice	Dugan
5616 cy	108.34379 hyrdocarbon	36.82378	7	30 14	San Juan		30-045-26499	NM-16765		Nice	Dugan
6720 cy	107.79936 hyrdocarbon	36.30492	14	30 14			30-045-25919	NM-36474	1	Muddy Mudda	Dugan
100 cy	107.90189 hydrocarbon	36.26205	4	23 10	San Juan		30-045-26627	NOOC-1420-7309	1	Montreal	Dugan
80 cy	107.89488 hydrocarbon	36.23956	9	_			30-045-28619	NM-51005	2 I	McDougall	Dugan
700 cy	107.80022 hydrocarbon	36.32614	9	24 9	San Juan /		30-045-25050	NM-10089	3	Mary Anne	Dugan
100 cy	107.81396 hyrdocarbon	36.27319	32	24 9	_		30-045-26997	LG-5685		March On	Dugan
80 cy	107.89362 hydrocarbon	36.26132	4		_	Ш	30-045-26436	NOOC-1420-7308	1 1	Marathon	Dugan
4 cy	107.79659 hyrdocarbon	36.23237	16	23 9	San Juan :		30-045-29215	LG-9801	3	Luna	Dugan
10 cy	107.78719 hyrdocarbon	36.23229	16				30-045-28522	LG-9801		Luna	Dugan
5 cy	107.8182 hyrdocarbon	36.24061	8	23 9	Н		30-045-26769	NOG-8505-1062	1	Louie Louie	∟ Jan
60 cy	107.89304 hydrocarbon	36.25489	4		San Juan 2		30-045-26628	NOOC-1420-7311	1 1	Lake Placid	ian
2592 cy	107.80627 hyrdocarbon	36.31888	17	24 9	San Juan 2		30-045-26530	NM-45208	1	Ivy League	Dugan
	108.17045 hyrdocarbon	36.48592	13	26 13	San Juan :		30-045-29490	NOG-9601-1298	90	Guiness	Dugan
50 cy	108.21088 hyrdocarbon	36.77951	28	30 13	San Juan		30-045-09138	SF-078214		Federal B	Dugan
900 cy	108.26758 hyrdocarbon	36.563	19	27 13	Н		30-045-26346	NM-33040	5	Faith	Dugan
80 cy	107.8539 hydrocarbon	36.2506	1		San Juan /		30-045-26182	NM-23470		Fairway	Dugan
135 cy	107.44435 hyrdocarbon	36.23427	11		Rio Arriba		30-039-23321	NM-24458	1	Fahrenheit	Dugan
80 cy	107.55093 hyrdocarbon	36.12191	23	22 7	Sandoval :		30-043-20506	NOOC-1420-5360	23 1	Dome Tesoro	Dugan
160 cy	107.83264 hydrocarbon	36.2459	7		San Juan :		30-045-25862	NM-19816	1	December Dream	Dugan
80 cy	107.84501 hydrocarbon	36.25096	1	1	San Juan 2		30-045-29287	NM-42059	L	Champ	Dugan
104 cy	107.74394 hyrdocarbon	36.34601	1	24 9			30-045-22472	NM-2337	3.	Chaco	Dugan
240 cy	107.44421 hyrdocarbon	36.22741	14				30-039-23287	NM-23231		Celsius	Dugan
50 cy	108.26375 hyrdocarbon	36.78732	25	30 14	_		30-045-23613	NM-0206994	1E	Carpenter	Dugan
720 cy	107.44834 hyrdocarbon	36.21997	15		Rio Arriba	_	30-039-23032	NM-23738	1	Buddy	Dugan
50 су	107.88846 hydrocarbon	36.26175	3	23 10	٦	_	30-045-26435	NOOC-1420-7307	1	Bronze Medal	Dugan
1287 cy	108.41839 hyrdocarbon	36.75464	4	29 15			30-045-25120	FEE - PRIVATE	1	Bonnie & Ed	⊳ugan
104 cy	107.74486 hyrdocarbon	36.34042	. 1				30-045-22937	NOOC-1420-0603-1402	5	Blanco Wash	lan
96 cy	107.95153 hyrdocarbon	36.34859	2		San Juan :		30-045-22938	NOOC-1420-0603-1405	4	Blanco Wash	Dugan
500 cy	107.82722 hyrdocarbon	36.26138	6			_	30-045-33149	NOG-0502-1715	1 1	Big Yazzie	Dugan
1632 cy	107.80915 hyrdocarbon	36.32404	8		-		30-045-25221	NM-25440	1E	Big 8	Dugan
750 cy	107.81776 hyrdocarbon	36.32579	8	24 9	San Juan		30-045-21996	NM-25440	1	Big 8	Dugan
1500 cy	107.9325 hydrocarbon	36.22277	18	23 10			30-045-33347	NM-96799	90	Ben Com	Dugan
50cy	107.82561 hyrdocarbon	36.27502	31	24 9			30-045-29293	NM-4958	7	April Surprise	Dugan
50 cy	107.82675 hydrocarbon	36.24701	7	23 9	San Juan 2		30-045-25947	NM-4958	5	April Surprise	Dugan
80 cy	107.67501 hydrocarbon	36.3523	34	25 8	San Juan		30-045-25452	NM-42425		Anabel C	Dugan
80 cy	107.67105 hydrocarbon	36.36977	27	25 8	San Juan 2	Ľ	30-045-26527	NM-42421		Anabel B	Dugan
15 cy	107.67924 hydrocarbon	36.36278	33	25 8	San Juan 2	Ľ	30-045-24907	NM-42424	_	Anabel	Dugan
176 cy	107.4398 hyrdocarbon	36.21616	23	23 6	Sandoval :		30-043-20864	NM-17009		Absolute	Dugan
	LONG. Contaminant(s)	LAT.	SEC	N RNG	CTY TWN		API	# 30	Well#	Well Name	Name
Quantity of	Major							Pase			Operator

Submitted in sundry 1409/07

4/15/2006	80 cy	hydrocarbon	36.24421 107.84415 hydrocarbon	36.24421	12	10	23	San Juan	30-045-25981 San Juan	NM-16762	2	Witty	Dugan
3/1/2006	80 cy	107.8672 hydrocarbon	107.8672	36.25284	2	10	23	San Juan	30-045-26330	LH-1896	ω	Wits End	Dugan
8/23/2007	14,107 cy	108.2197 hyrdocarbon	108.2197	36.45794	28	13	26	San Juan	30-045-13403	SF-078091	131	WBU (P&A'd)	Dugan
8/14/2007	50 cy	108.23068 hyrdocarbon	108.23068	36.45372	28	13	26	San Juan	30-045-05651	SF-078091	142	WBU	Dugan
3/19/2006	50 cy	108.24744 hydrocarbon	108.24744	36.52864	32	13	27	San Juan	30-045-20652	NM-0553184	1.	Waw (P&A'd)	ugan
12/23/2006	7500 cy	107.92061 hyrdocarbon	107.92061	36.30061	20	10	24	San Juan	30-045-28537	NM-43442	1	Target) gan
1/6/2006	50 cy	107.60471 hyrdocarbon	107.60471	36.2726	32	7	24	Rio Arriba	30-039-05254	B-11240	1	State	Dugan
3/14/2007	100 cy	hydrocarbon	107.87157 hydrocarbon	36.27959	26	10	24	San Juan	30-045-28584 San Juan	NM-78060	-1	St Moritz	Dugan
8/5/2007	120 cy	hydrocarbon	107.90205 hydrocarbon	36.24759	9	10	23	San Juan	30-045-26631	NOOC-1420-7313	12	St Louis	Dugan
7/9/2007	50 cy	hydrocarbon	107.90232 hydrocarbon	36.25484	4	10	23	San Juan	30-045-26629	NOOC-1420-7310	1	Squaw Valley	Dugan
8/28/2006		107.60428 hyrdocarbon	107.60428	36.32358	8	7	24	Rio Arriba	30-039-22948	NM-25427	2	Slickhorn Gulch	Dugan
6/17/2006	50 cy	107.88979 hydrocarbon	107.88979	36.27914	27	10	24	San Juan	30-045-26034	NM-21741	1	Silver Medal	Dugan
7/27/2007	120 cy	107.89231 hydrocarbon	107.89231	36.24764	9	10	23	San Juan	30-045-26630	NOOC-1420-7312	88	Seoul	Dugan
4/6/2006	100 cy	107.87643 hydrocarbon	107.87643	36.30458	22	10	24	San Juan	30-045-25398	NM-15654	1	Rodeo Rosie	Dugan
2/24/2007	2400 cy	108.26568 hyrdocarbon	108.26568	36.81188	13	14	30	San Juan	30-045-24186	NM-6899	1E	Pinon	Dugan
3/23/2007	80 cy	107.85806 hydrocarbon	107.85806	36.24661	11	10	23	San Juan	30-045-28968	NM-86485	1	Par	Dugan
1/10/2007	5000 су	107.8233 hyrdocarbon	107.8233	36.32376	7	9	24	San Juan	30-045-25917	NM-45207	1	Pac Ten	Dugan
initiated	Contaminant(s) contaminated soil (CY)	Contaminant(s)	LONG.	LAT.	SEC	TWN RNG SE	NMI	CTY	API	#	Well#	Well Name	Name
Date Landfarm	Quantity of	Major								Lease		,	Operator

Showard M Shrand - 11/04/01

1625 N. French Dr., Hobbs, NM 88240 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

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

June 1, 2004 For drilling and production facilities, submit to appropriate NMOCD District Office.

Form C-144

For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure Is pit or below-grade tank covered by a "general plan"? Yes No 🗵

Type of action: Registration of a pit or below-grade tank \(\subseteq\) Closure of a pit or below-grade tank \(\subseteq\) Dugan Production Corp _____Telephone: ____(505)325-1821 ___e-mail address: ____ P.O. Box 420, Farmington, New Mexico 87401 Facility or well name: McDougall No. 2 API#: 30-045-28619 U/L or Qtr/Qtr I Sec 9 T 23N R 10W County: San Juan Latitude 36.23956 Longitude 107.89488 NAD: 1927 🗌 1983 🔲 Surface Owner Federal 🗵 State 🗍 Private 🗋 Indian 🗍 Below-grade tank Type: Drilling Production Disposal Volume: bbl Type of fluid: Workover .Emergency Construction material: Double-walled, with leak detection? Yes \square If not, explain why not. Lined Unlined Liner type: Synthetic Thickness mil Clay Pit Volume ______bbl Less than 50 feet (20 points) Depth to ground water (vertical distance from bottom of pit to seasonal 50 feet or more, but less than 100 feet (10 points) 0 high water elevation of ground water.) (0 points) 100 feet or more Yes (20 points) Wellhead protection area: (Less than 200 feet from a private domestic (0 points) 0 No water source, or less than 1000 feet from all other water sources) Less than 200 feet (20 points) Distance to surface water: (horizontal distance to all wetlands, playas, 200 feet or more, but less than 1000 feet (10 points) O irrigation canals, ditches, and perennial and ephemeral watercourses.) 1000 feet or more (0 points) O Ranking Score (Total Points) If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if remediation start date and end date. (4) Groundwater encountered: No 🔀 Yes 🔲 If yes, show depth below ground surface ft. and attach sample results (5) Attach soil sample results and a diagram of sample locations and excavations. Additional Comments: 1213 12' x 12' x 3'± deep unlined production pit, center located at approximately 108 Feet South 86° East of wellhead. Use backhoe to collect 5-point composite sample at 7 foot depth for lab testing. FEB 2003 Excavate to 14' x 14' x 8' and landfarm on-site. OIL CONS. DIV. DIST. I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above described in the complete to the best of my knowledge and belief. has been/will be constructed or closed according to NMOCD guidelines 🗵, a general permit 🗌, or an (attached) alternative OCD-approved plan 🗍. January 14, 2008 Jeffrey C Blagg, agent Your certification and NMOCD approval of this application/closure does not relieve the operator of liability/should the contents of the pit or tank contaminate ground water or Otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations. Deputy Oil & Gas Inspector. Signature BL BM Date: FEB 1 2 2008 Approval: District #3 Printed Name/Title



EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

	•		
Client:	Blagg / Dugan :	Project #:	94034-010
Sample ID:	McDougall #2 Prod	Date Reported:	12-12-07
Laboratory Number:	43829	Date Sampled:	12-06-07
Chain of Custody No:	3694	Date Received:	12-10-07
Sample Matrix:	Soil	Date Extracted:	12-11-07
Preservative:	Cool	Date Analyzed:	12-12-07
Condition:	Cool & Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
		•
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	210	0.1
Total Petroleum Hydrocarbons	210	0.2

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

Unlined Pit Closures.

Musteren Waeters



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / Dugan	Project #:	94034-010
Sample ID:	McDougall #2 Prod	Date Reported:	12-12-07
Laboratory Number:	43829	Date Sampled:	12-06-07
Chain of Custody:	3694	Date Received:	12-10-07
Sample Matrix:	Soil	Date Analyzed:	12-12-07
Preservative:	Cool	Date Extracted:	12-11-07
Condition:	Cool & Intact	Analysis Requested:	BTEX

**		Det.
'	Concentration	Limit
Parameter	(ug/Kg)	(ug/Kg)
Benzene	ND	0.9
Toluene	13.3	1.0
Éthylbenzene	2.6	1.0
p,m-Xylene	16.4	1.2
o-Xylene	4.9	0.9
Total BTEX	37.2	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
•	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

References:

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA,

December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846,

USEPA, December 1996.

Comments:

Unlined Pit Closures.

Mustum Wales



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

46 - 148

46 - 148

Client	N/A	_	Project.#:		N/A
Sample ID:	12-12-BTEX QA/Q	С	Date Reported:		12-12-07
Laboratory Number:	43824		Date Sampled:		N/A
Sample Matrix:	Soil	•	Date Received:		N/A
Preservative:	N/A		Date Analyzed:		12-12-07
Condition:	N/A		Analysis:	•	BTEX
Calibration and	# Egaire	O Cal RF	A YADIF	Blank	Detect
Detection Limits (ug/L)		Accept Ran	gelur 15% ross	ALCONC!	Limit State
Benzene	7.9836E+007	7.9996E+007	0.2%	ND	0.1
Toluene	7.6005E+007	7.6157E+007	0.2%	ND	0.1
Ethylbenzene	6.2177E+007	6.2302E+007	0.2%	ND	0.1
p,m-Xylene	1.2027E+008	1.2052E+008	0.2%	ND	0.1
o-Xylene	5.7790E+007	5.7905E+007	0.2%	ND	0.1
Duplicate Conc. (ug/Kg)	Sample	Duplicate.	%Diffs: 15%	Accept Range	Detect Limit
Benzene	. 217	216	0.2%	0 - 30%	0.9
Toluene	1,060	1,059	0.1%	0 - 30%	1.0
Ethylbenzene	074	0.70			1.0
	874	872	0.2%	0 - 30%	1.0
p,m-Xylene	2,950	2,940	0.3%	0 - 30%	1.0 1.2
p,m-Xylene o-Xylene					1.0
p,m-Xylene	2,950	2,940	0.3%	0 - 30%	1.0 1.2
p,m-Xylene o-Xylene	2,950 1,070	2,940 1,066	0.3% 0.4%	0 - 30%	1.0 1.2 0.9
p,m-Xylene o-Xylene	2,950	2,940 1,066	0.3%	0 - 30%	1.0 1.2
p,m-Xylene o-Xylene Spike Conc. (ug/Kg)	2,950 1,070	2,940 1,066	0.3% 0.4%	0 - 30%	1.0 1.2 0.9
p,m-Xylene o-Xylene Spike Conc. (ug/Kg) Benzene	2,950 1,070 Sample	2,940 1,066 Amount Spiked	0.3% 0.4% Spiked Sample	0 - 30% 0 - 30% %Recovery	1.0 1.2 0.9
p,m-Xylene	2,950 1,070 Sample:	2,940 1,066 Amount spiked 50.0	0.3% 0.4% Spiked Sample 266	0 - 30% 0 - 30% % Recovery 99.8%	1.0 1.2 0.9 Accept Range

ND - Parameter not detected at the stated detection limit.

References.

p,m-Xylene

o-Xylene

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA,

100

50.0

3,040

1,110

99.6%

99.1%

December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using

2,950

1,070

Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments:

QA/QC for Samples 43824 - 43829.

Analyst



EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC		Project #:		N/A
Sample ID:	12-12-07 QA/Q	nC.	Date Reported:	•	12-12-07
Laboratory Number:	43824		Date Sampled:		N/A
Sample Matrix:	Methylene Chlori	ide	Date Received:		N/A
Preservative:	N/A	140	Date Analyzed:		12-12-07
Condition:	N/A		Analysis Request	ted:	TPH
	Kali Dale ik	L'ALCAIRF	©i©ai/RE	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	1.1927E+003	1.1932E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	1.0506E+003	1.0510E+003	0.04%	0 - 15%
Blank Conc. (mg/L : mg/K		&Concentration		Detection Lim	iit
	g)	Concentration ND ND ND		Detection Lim 0.2 0.1 0.2	it
Blank Conc. (mg/L + mg/K Gasoline Range C5 - C10 Diesel Range C10 - C28 Total Petroleum Hydrocarbons	g)	ND ND	## /	0.2 0.1 0.2	ile
Blank Conc. (mg/L - mg/K Gasoline Range C5 - C10 Diesel Range C10 - C28 Total Petroleum Hydrocarbons Duplicate Conc. (mg/Kg)	g)	ND	## /	0.2	
Blank Conc. (mg/L - mg/K Gasoline Range C5 - C10 Diesel Range C10 - C28 Total Petroleum Hydrocarbons	g) Sample	ND ND Dupilcate	26: Differences	0.2 0.1 0.2 Accept: Range	
Blank Conc. (mg/E - mg/K Gasoline Range C5 - C10 Diesel Range C10 - C28 Total Petroleum Hydrocarbons Duplicate Conc. (mg/Kg) Gasoline Range C5 - C10	g) Samples 472	ND ND Duplicate 24 471 3,490	% Difference 9	0.2 0.1 0.2 Accepts Range 0 - 30% 0 - 30%	Accept Range
Blank Conc. (mg/L - mg/K) Gasoline Range C5 - C10 Diesel Range C10 - C28 Total Petroleum Hydrocarbons Duplicate Conc. (mg/Kg) Gasoline Range C5 - C10 Diesel Range C10 - C28	Sample 472 3,510	ND ND Duplicate 24 471 3,490	0.4% 0.6%	0.2 0.1 0.2 Accepts Range 0 - 30% 0 - 30%	

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

QA/QC for Samples 43824 - 43829.

Analyst