District I

1625 N French Dr , Hobbs, NM 88240

1025 IV TTEREII DI , 110008, IVW 862

District II

1301 W Grand Ave., Artesia, NM 88210

District III

1000 Rio Brazos Rd, 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 sytems, and below-grade tanks, submit to the appropriate NMOCD District Office

Form C-144

July 21, 2008

For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office

## <u>Pit, Closed-Loop System, Below-Grade Tank, or</u> <u>Proposed Alternative Method Permit or Closure Plan Application</u>

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
	X 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

Operator: Burlington Resources Oil & Gas Company, LP OGRID#: 14538
Address: PO Box 4289, Farmington, NM 87499
Facility or well name: Heaton Com 100
API Number: 30-045-34336 OCD Permit Number:
U/L or Qtr/Qtr: G(SWNE) Section: 32 Township: 31N Range: 11W County: San Juan  Center of Proposed Design: Latitude: 36.857623' N Longitude: 108.010199' W NAD: 1927 X 1983  Surface Owner: X Federal State Private Tribal Trust or Indian Allotment
2       X       Pit: Subsection F or G of 19.15.17.11 NMAC         Temporary:       X       Drilling       Workover         Permanent       Emergency       X       Cavitation       P&A         X       Lined       Unlined       Liner type:       Thickness       20       mil       X       LLDPE       HDPE       PVC       Other         X       String-Reinforced         Liner Seams:       X       Welded       X       Factory       Other       Volume:       4400       bbl       Dimensions       L       65'       x       W       45'       x       D       10'
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 PVD Other  Liner Seams: Welded Factory Other
Below-grade tank: Subsection I of 19.15.17.11 NMAC  Volume:
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 pit, 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, instance. Four foot height, four strands of barbed wire evenly spaced between one and four feet  X Alternate. Please specify 4' hogwire fence with a single strand of barbed wire on top.  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)  Signs: Subsection C of 19.15.17.11 NMAC	utution or chur	ch)
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		
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 of 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	uderation of ap	proval.
10 .	1	
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	XNo
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	Yes	XNo
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	Yes	XNo
(Applies to temporary, emergency, or cavitation pits and below-grade tanks)	□NA	İ
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image		
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  (Applied to permanent pits)	Yes XNA	No
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	l	
Within 500 horizonal 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.	Yes	X No
- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site.		
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	XNo
<ul> <li>Within 500 feet of a wetland.</li> <li>US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	Yes	XNo
Within the area overlying a subsurface mine.  - Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division	Yes	XNo
Within an unstable area.  - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society, Topographic map	Yes	XNo
Within a 100-year floodplain - FEMA map	Yes	XNo

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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
X Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19 15 17.9
X Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
X Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
X 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
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  Sitting 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
Previously Approved Operating and Maintenance Plan API
Treviously Approved Operating and Walmerhance Frank
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 (I) 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   X   Cavitation   P&A   Permanent Pit   Below-grade Tank   Closed-loop System   Alternative
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

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16	41								
Waste Removal Closure For Closed-loop Systems That Utilize Instructions: Please identify the facility or facilities for the disposi	Above Ground Steel Tanks or Haul-off Bins Only: (19.15 17.13.D NMAC) al of liquids, drilling fluids and drill cuttings. Use attachment if more than two f	lacilities							
are required									
Disposal Facility Name:									
Disposal Facility Name: Disposal Facility Permit #									
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 No									
Required for impacted areas which will not be used for future ser  Soil Backfill and Cover Design Specification - based  Re-vegetation Plan - based upon the appropriate requ  Site Reclamation Plan - based upon the appropriate r	upon the appropriate requirements of Subsection H of 19.15.17 13 NMA tirements of Subsection I of 19.15.17.13 NMAC	С							
17									
certain siting criteria may require administrative approval from the app	_19.15.17.10 NMAC e in the closure plan. Recommendations of acceptable source material are provided belo ropriate district office or may be considered an exception which must be submitted to the quivalency are required. Please refer to 19 15 17 10 NMAC for guidance.	Santa Fe Environmental Bureau office							
Ground water is less than 50 feet below the bottom of the bu		Yes X No							
- NM Office of the State Engineer - IWATERS database sear	ch, USGS: Data obtained from nearby wells	∐N/A							
Ground water is between 50 and 100 feet below the bottom	of the buried waste	X Yes No							
- NM Office of the State Engineer - 1WATERS database search	ch; USGS; Data obtained from nearby wells	N/A □							
Ground water is more than 100 feet below the bottom of the	buried waste.	Yes X No							
- NM Office of the State Engineer - IWATERS database search	ch; USGS; Data obtained from nearby wells								
Within 300 feet of a continuously flowing watercourse, or 200 fee (measured from the ordinary high-water mark).	Yes X No								
- Topographic map; Visual inspection (certification) of the pr	oposed site								
Within 300 feet from a permanent residence, school, hospital, inst - Visual inspection (certification) of the proposed site; Aerial	Yes X No								
		Yes X No							
Within 500 horizontal feet of a private, domestic fresh water well purposes, or within 1000 horizontal fee of any other fresh water war - NM Office of the State Engineer - iWATERS database; Visu	• •								
pursuant to NMSA 1978, Section 3-27-3, as amended.	nicipal fresh water well field covered under a municipal ordinance adopted	Yes X No							
- Written confirmation or verification from the municipality; Within 500 feet of a wetland		Yes X No							
• • •	ohic map; Visual inspection (certification) of the proposed site	Yes XNo							
Within the area overlying a subsurface mine  - Written confiramtion or verification or map from the NM El	MNRD-Mining and Mineral Division	Yes XNo							
Within an unstable area,	······································	Yes X No							
<ul> <li>Engineering measures incorporated into the design; NM But Topographic map</li> </ul>	reau of Geology & Mineral Resources; USGS; NM Geological Society,								
Within a 100-year floodplain. - FEMA map		Yes XNo							
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) It. by a check mark in the box, that the documents are attach	nstructions: Each of the following items must bee attached to the closu	re plan. Please indicate,							
	upon the appropriate requirements of 19 15 17.10 NMAC								
	ropriate requirements of Subsection F of 19.15.17.13 NMAC								
	cable) based upon the appropriate requirements of 19.15.17.11 NMAC								
Construction/Design Plan of Temporary Pit (for in p	lace burial of a drying pad) - based upon the appropriate requirements of	19 15.17.11 NMAC							
X Protocols and Procedures - based upon the appropria	ate requirements of 19.15.17.13 NMAC								
Confirmation Sampling Plan (if applicable) - based u	apon the appropriate requirements of Subsection F of 19.15.17.13 NMAC								
X Waste Material Sampling Plan - based upon the appropriate to the company of the	ropriate requirements of Subsection F of 19.15.17.13 NMAC								
X Disposal Facility Name and Permit Number (for liqu	ids, drilling fluids and drill cuttings or in case on-site closure standards ca	annot be achieved)							
X Soil Cover Design - based upon the appropriate requ									
X   Re-vegetation Plan - based upon the appropriate requ   X   Site Reclamation Plan - based upon the appropriate i	uirements of Subsection I of 19.15.17.13 NMAC requirements of Subsection G of 19.15.17.13 NMAC								

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19 Constant Application Continues	,			′
Operator Application Certification:  I hereby certify that the information submitted with this	application is true, acci	urate and complete to the	best of my knowledge and belief	
Name (Print). Crystal Taf	• •	Title:	Regulatory Technician	
Signature:	Thomas	Date:	9/29/08	
e-mail address: crysta tafoya@cono	cophillios com	Telephone.	505-326-9837	
C-man address.	300		/ 202 320 3037	
20 OCD Approval: Permit Application (includi	/ /	Closure Plan (only)	OCD Conditions (see at	tachment)
OCD Representative Signature:	and De	ill	Approval Date:	10-21-08
Title: Ewim/spec		OCD Peri	nit Number:	
21				
Closure Report (required within 60 days of closure Instructions Operators are required to obtain an approreport is required to be submitted to the division within approved closure plan has been obtained and the closure.	ved closure plan prior t 60 days of the completi	to implementing any clossion of the closure activities completed.	ure activities and submitting the c	-
22				
Closure Method:  Waste Excavation and Removal On If different from approved plan, please explain	-site Closure Method	Alternative Closure	Method Waste Removal	Closed-loop systems only)
23				
Closure Report Regarding Waste Removal Closure I Instructions: Please identify the facility or facilities fo				
were utilized.  Disposal Facility Name:		Disposal Facility	Permit Number:	
Disposal Facility Name			Permit Number:	
Were the closed-loop system operations and associa	ed activities performed	-		opeartions?
Yes (If yes, please demonstrate compliane to the	e items below)	No		
Required for impacted areas which will not be used	for future service and o	perations:		
Site Reclamation (Photo Documentation)				
Soil Backfilling and Cover Installation	and a family			
Re-vegetation Application Rates and Seeding T	ecnnique			
24  Closure Report Attachment Checklist: Instru- the box, that the documents are attached.	ections: Each of the foli	lowing items must be att	ached to the closure report. Plea	se indicate, by a check mark in
Proof of Closure Notice (surface owner and	*			
Proof of Deed Notice (required for on-site of	*			
Plot Plan (for on-site closures and temporar	· -			·
Confirmation Sampling Analytical Results	•••			
Waste Material Sampling Analytical Result	• • •			,
Disposal Facility Name and Permit Number	•			
Soil Backfilling and Cover Installation  Re-vegetation Application Rates and Seedin	og Technique			
Site Reclamation (Photo Documentation)	ig reeminque			
On-site Closure Location: Latitude:		Longitude:	NAD [	] 1927   ] 1983
25				
Operator Closure Certification:  I hereby certify that the information and attachments si the closure complies with all applicable closure require		-		nowledge and belief I also certify that
Name (Print):		Title.		
Signature:		Date:		
e-mail address:		Telephone:		

Form C-144 Oil Conservation Division Page 5 of 5

# New Mexico Office of the State Engineer POD Reports and Downloads

Township: 31N	Range: 11W	Sections: 28,2	29,30,3	1,32,33	
NAD27 X:	Y: !	Zone:		Search Radius:	
County:	Basin:			Number:	Suffix:
Owner Name: (First)	(Las	st) ② All	] 	○ Non-Domestic	⊙ Domestic
POD / Sur	face Data Report Wate	Avg		to Water Report	]
(	Clear Form	iWATERS Mei	nu	Help	

#### WATER COLUMN REPORT 09/29/2008

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

	(quarter	s are bi	ggest to	smalles	st)		Depth	Depth	Wat∈
POD Number	Tws	Rng Sec	d d d	Zone	x	Y	Well	Water	Colum
SJ 01884	31N	11W 30	4 2 3				71	30	4
SJ 01154	31N	11W 30	4 2 4				190	150	۷
SJ 01834	31N	11W 30	4 2 4				103	30	7
SJ 01739	31N	11W 30	4 2 4				98	30	6
(SJ 01797 *)	(31N,	.11W 3.02	4 4				100	(4:0)	6
த் <b>ர</b> 01396 ்)	(31N.	_11W_3.02	441				80	57	2
SJ 00970 🖣	(31N	<u>11W 30.</u>	4 4 4				110	\801	3
SJ 01811	3€ÎN-4	711W 31	2 2				89	(150)	3
SJ 02994	31N	11w-33-	-4-3-2				300	200	1(
SJ 02993	31N	11W 33	4 3 2				280	160	12
SJ 01137	31N	11W 33	4 4 4				37	19	1

Record Count: 11

# New Mexico Office of the State Engineer POD Reports and Downloads

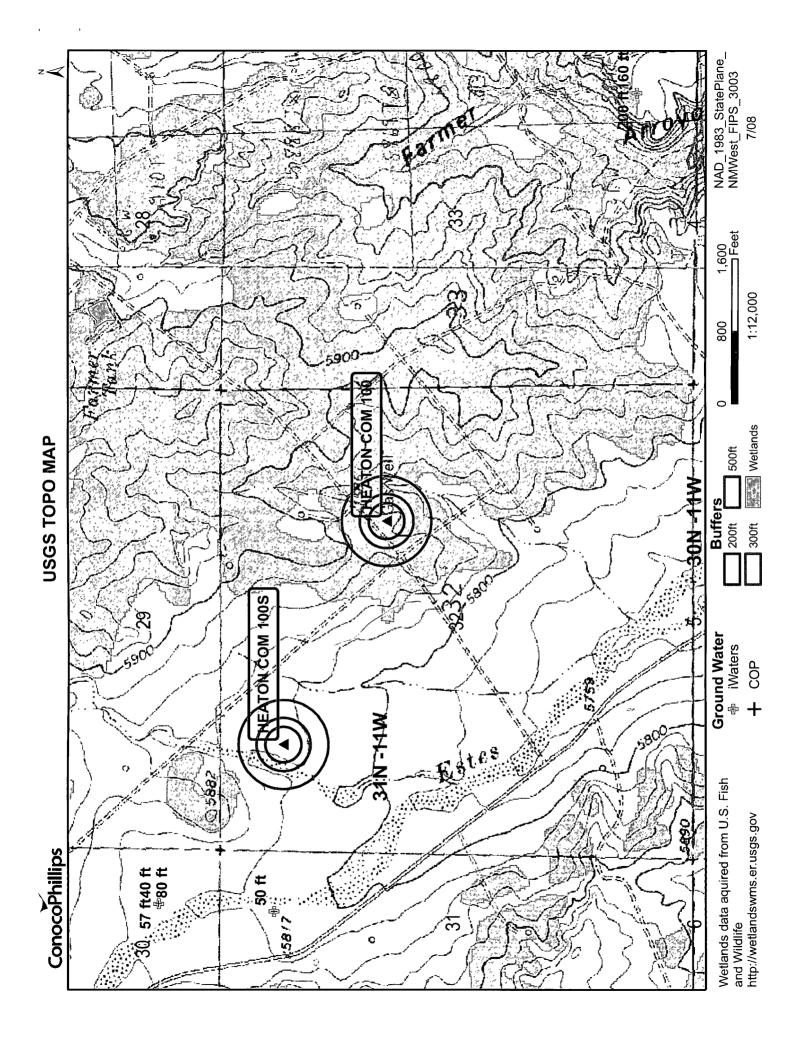
Township: 30N	Range: 11W	Sections: 4,5,6		
NAD27 X:	Y:,	Zone:	Search Radius:	
County:	Basin:		Number:	Suffix:
Owner Name: (First)	(Las	•	O Non-Domestic	ODomestic
		All		
POD / Su	face Data Report	Avg Dep	th to Water Report	
	. Wațe	r Column Report	)	
[	Clear Form	iWATERS Menu	Help	

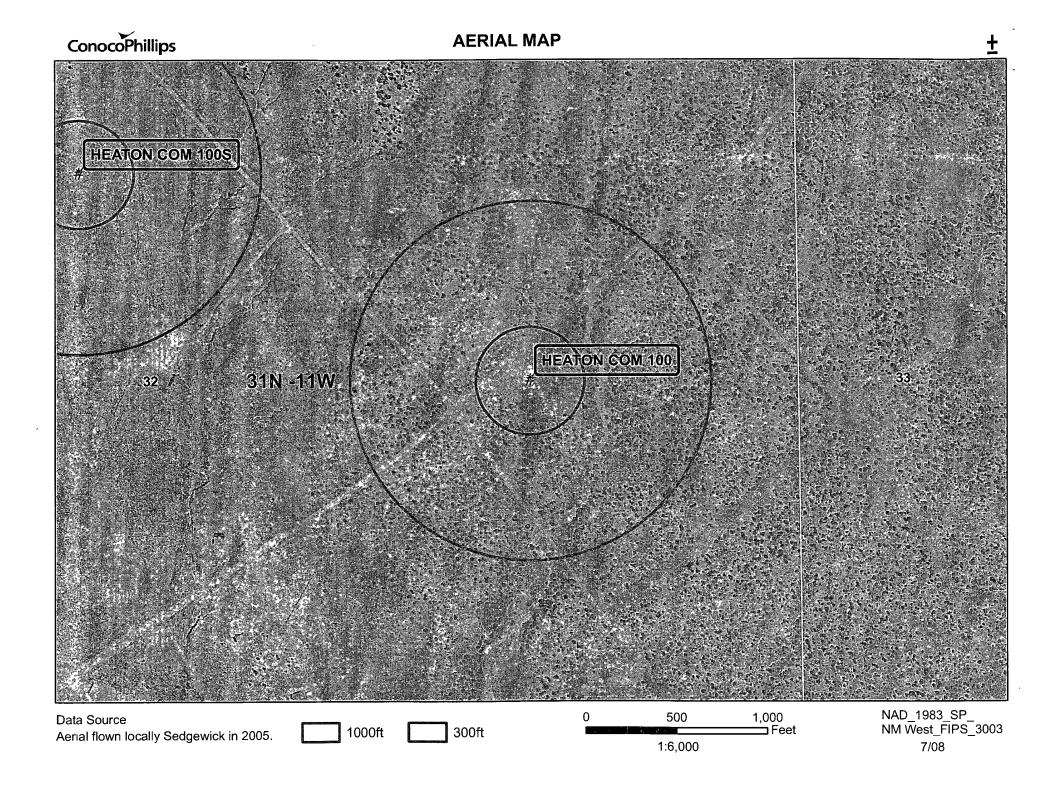
#### WATER COLUMN REPORT 09/29/2008

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

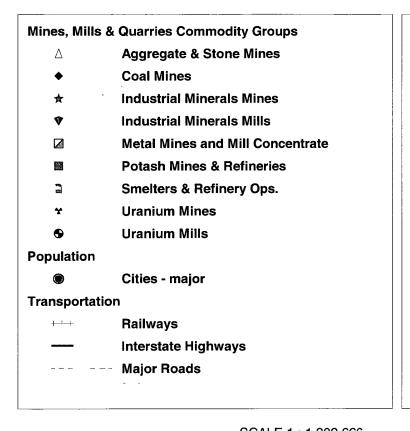
	(quarter	s are	big	ge	st	to	smal:	lest)		Depth	Depth	Wat∈
POD Number	Tws	Rng	Sec	q	q	<b>q</b>	Zone	х	Y	Well	Water	Colum
SJ 01364	30N	11W	04	2						115	86	2
SJ 03076	30N	11W	04	2	2	3				44	10	3
SJ 02903	30N	11W	04	2	3	2				49	31	1
SJ 03039	30N	11W (	04	4	1	2				53	40	1
SJ 01450	30N	11W (	04	4	3					45	20	2
SJ 02941	30N	11W (	04	4	3	2 .				58	37	2
SJ 01367	30N	11W (	04	4	4	1				48	20	2
SJ 03407	30N	11W	04	4	4	4	W	453700	2124100	30	5	2
SJ 03267	30N	11W	05	2	1	3				83	60	2
SJ 03245	30N	11W	06	4	4	4				80	65	1

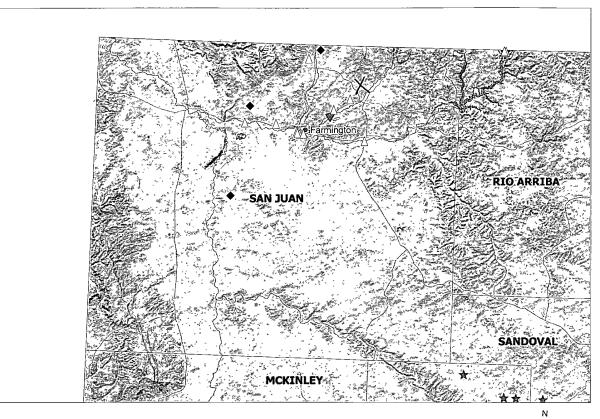
Record Count: 10

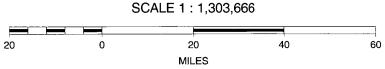




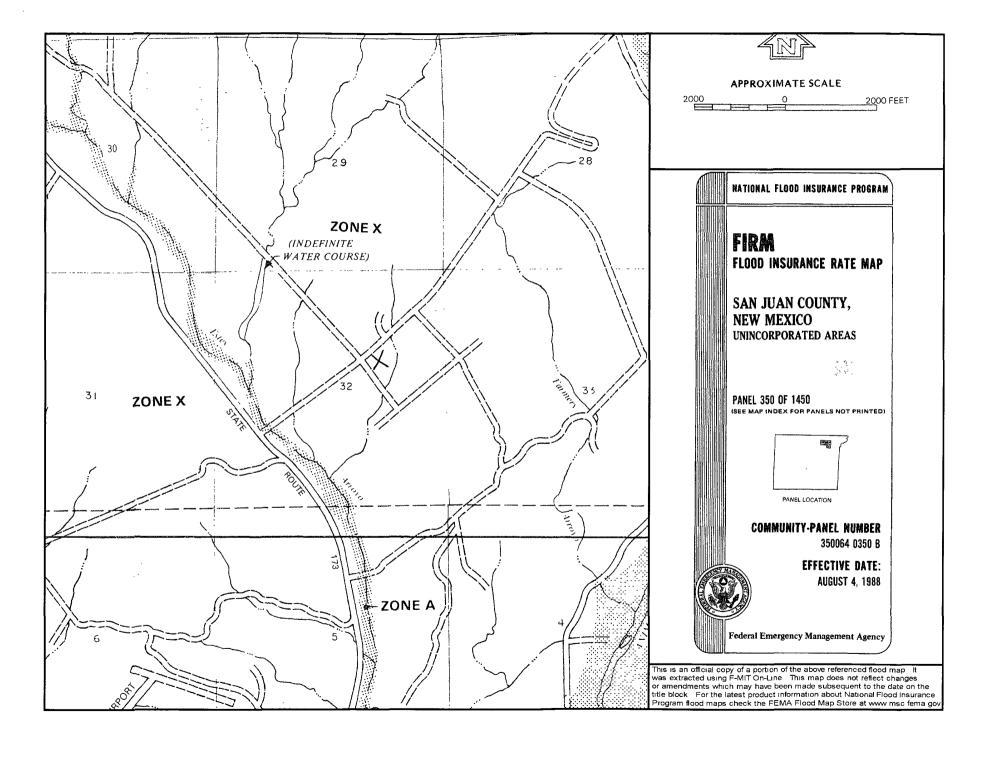
# Heaton Com 100 Mines, Mills and Quarries Web Map











### Hydrogeological Report for Heaton Com 100

### **Regional Geological context:**

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

The Nacimiento Formation occurs in approximately only the southern two-thirds of the San Juan Basin where it commformably overlies and intertongues with the Ojo Alamo Sandstone (Fassett, 1974, p. 229). The Nacimiento Formation grades laterally into the main part of the Animas Formation (Fassett and Hinds, 1971, p. 34); thus, in this area, the two formations occupy the same stratigraphic interval.

Strata of the Nacimiento Formation were deposited in lakebeds in the central basin area with lesser deposition in stream channels (Brimhall, 1973, p. 201). In general, the Nacimiento consists of drab, interbedded black and gray shale with discontinuous, white, medium- to very coarse grained arkosic sandstone (Stone e al., 1983, p.30). Stone et al. indicated that the formation may contain more sandstone than commonly reported because some investigators assume the slope-forming strata in the unit area shales, whereas in many places the strata actually are poorly consolidated sandstones. Total thickness of the Nacimiento Formation ranges from about 500 to 1,300 feet. The unit generally thickens from the basin margins toward the basin center (Steven et al., 1974). The sandstone deposits within the Nacimiento Formation are much thinner than the total thickness of the formation because their environment of deposition was localized stream channels (Brimhall, 1973, p. 201). The thickness of the combined San Jose, Animas, and Nacimiento Formations ranges from 500 to more than 3.500 feet.

#### **Hydraulic Properties:**

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

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

#### **References:**

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

552, 101 p.

Brimhall, R.M., 1973, Ground-water hydrology of Tertiary rocks of the San Juan Basin, New Mexico, in Fassett, J.E., ed., Cretaceous and Tertiary rocks of the Southern Colorado Plateau: Four Corners Geological Society Memoir, p. 197-207.

Fassett, J.E., 1974, Cretaceous and Tertiary rocks of the eastern San Juan Basin, New Mexico and Colorado, in Guidebook of Ghost Ranch, central-northern New Mexico: New Mexico Geological Society, 25th Field Conference, p. 225-230.

Fassett, J.E., and Hinds, J.S., 1971, Geology and fuel resources of the Fruitland Formation and Kirtland Shale of the San Juan Basin, New Mexico and Colorado: USGS Professional Paper 676, 76 p.

Levings, G.W., Craigg, S.d., Dam, W.L., Kernodle, J.M., and Thorn, C.R., 1990, Hydrogeology of the San Jose, Nacimiento, and Animas Formations in the San Juan structural basin, New Mexico, Colorado, Arizona, and Utah: USGS Hydrologic Investigations Atlas HA-720-A, 2 sheets.

Stone, W.J., Lyford, F.P., Frenzel, P.F., Mizell, N.H., and Padgett, E.T., 1983, Hydrogeology and water resources of San Juan Basin, New Mexico: New Mexico Bureau of Mines and Mineral Resources, Hydrologic Report 6.

#### Siting Criteria Compliance Demonstration & Hydro Geologic Analysis

The Heaton Com 100 is not located in an unstable area. The location is not over a mine and is not on the side of a hill as indicated on the Mines, Mills and Quarries Map and Topographic Map. The location of the excavated pit material will not be located within 300' of any continuously flowing watercourse or 200' from any other watercourse as indicated on the Topographic Map. The location is not within a 100-year floodplain area as indicated on the FEMA Map. The groundwater depth is considered to be greater than 70' as determined by the topographic map and the iWATERS data points. The subject well has an elevation of 5855'. The iWATERS data points are located in section 30 and 31 with an elevation of approximately 5835'. The SJ 01797, SJ 01396, SJ 00970 and SJ 01811 with depths of 40-80' as indicated on the TOPO Map. The iWATERS data provides the indication that groundwater depth is greater than 70' due to the elevation being greater than the iWaters data points. The hydro geologic analysis indicates the groundwater depth and the Nacimiento formation will create a stable area for this new location.

### Tafoya, Crystal

From:

Tafoya, Crystal

Sent:

Thursday, July 10, 2008 8:16 AM

To: Subject:

'mark\_kelly@nm.blm.gov'
OCD Pit Closure Notification

The following temporary pits will be closed on-site. The new OCD Pit Rule 17 requires the surface owner be notified. Please feel free to contact me at any time if you have any questions. Thank you!

Allison Unit 2B

Allison Unit 40N

Angel Peak B 27E

Ballard 11F

Cain 725S

Canyon Largo Unit 250N

Canyon Largo Unit 279E

Canyon Largo Unit 288E

Canyon largo Unit 297E

Canyon Largo Unit 465E

Carson SRC 4E

Day B 4P

Day B 5A

East 17S

**EPNG A 1B** 

**EPNG B 1M** 

Federal A 1E

Filan 5M

Filan 5N

Fogelson 4 100

Fogelson 4 100S

Grambling C 202S

Hagood 19

Hamner 9S

Hardie 4P

Hare 295

Heaton Com 1007

Helms Federal 1G

Howell 12

Huerfanito Unit 103F

**Huerfanito Unit 29S** 

Huerfanito Unit 39S

**Huerfanito Unit 47S** 

Huerfanito Unit 50E

Huerfanito Unit 75E

Huerfanito Unit 83E

Huerfanito Unit 87E

Huerfanito Unit 90E

Huerfanito Unit 90M

Huerfanito Unit 98S

Huerfano Unit 108F Huerfano Unit 282E

Huerfano unit 305

Huerfano unit 307

Huerfano Unit 554

Johnston Federal 24S

DISTRICT 1 . 1605 N. French Dr., Hobbs, N.M. 98240

#### State of New Mexico Energy, Minerals & Natural Resources Department

Form C-102 Revised October 12, 2005

DISTRICT H 1301 West Grand Avenue, Artesia, N.M. 88210

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

Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

1000 Rio Brezos Rd., Aztee, N.M. 87410

29 AMENDED REPORT

DISTRICT IV 1220 S. St. Francis Dr., Santa Pe, NM 67505

# WELL LOCATION AND ACREAGE DEDICATION PLATES

			``
'API Number	Pool Code	<sup>3</sup> Pool Name	1.77%
30-045- 34336	71629/97626	Basin Fruitland Coal/WC:31N11W	328 Fruitland Sar
Property Code	• P <sub>7</sub> -	operty Name	Well Kumber
36347	HEAT	ON COM	100
OCHID No.	<0°	erator Kame	* Elevation
14538	BURLINGTON RESOU	TRCES OIL AND GAS, LP	5855'
	10 Sur	face location	· · · · · · · · · · · · · · · · · · ·

	UL or lot no.	Section	Township	Rango	Lot idn	Foot from the	North/South line	Foot from the	East/West line	County	l
1	G	32	31-N	11-W		1880'	NORTH	1490'	EAST	SAN JUAN	١
•			<u> </u>	•	<del></del>		·				,

"Bottom Hole Location If Different From Surface

į	UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/Vest line	County	l
	G			`							I
	22 Dedicated Acres	160 N	E/4 FS	E/4 FS Joint or intil "Consolidation Code "Order No.							
,	320.	00 N/2	FC								

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED

	OR A NON-STANDARD UNIT HAS I	BEEN APPROVED BY	THE DIVISION
FLANICAM. SARAH	, , , , , , , , , , , , , , , , , , , ,	S 887 597 4677 W 2559.15 W WITH MEXICO STATE OF E-597-2	17 OPERATOR CERTIFICATION  I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either name a working interest or undespess mineral interest in the land excluding the proposed bottom hade location or had a right to drift this well at this location permuent to a contrast with an aversar of sixth a mitured or, a working interest; or to a colaristry pooling greenwant or a computatory peoling ereter hereinfore entered by the attriction.
	USA SR OF ROOM	1490'	Signature Rhonda Rogers Printed Name
·	LAT: 3651.4572' N. LONG: 108'00.5745' W. NAD 1927  LAT: 38.857623' N. LONG: 108.010199' W. NAD 1983		16 SURVEYOR CERTIFICATION  I haveby certify that the well location above on this plat was plotted from field notice of actual surveys made by me or water way supervision, and that the same is true and correct to the best of one haliaf.  Date of Survey  NEWC
			Dute of Survey MEXC.  Signature and Seal of Frontagendal Surveyor.  15703  Certificate Number 15703

## Burlington Resources Oil & Gas Company, LP San Juan Basin Closure Plan

In accordance with Rule 19.15.17.12 NMAC the following information describes the closure requirements of temporary pits on Burlington Resources Oil & Gas Company, LP (BR) locations. This is BR's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.

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

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

#### **General Plan:**

- All free standing liquids will be removed at the start of the pit closure process from the pit and disposed of in a division—approved facility or recycle, reuse or reclaim the liquids in a manner that the appropriate division district office approves. The facilities to be used will be Basin Disposal (Permit #NM-01-005) and Envirotech Land Farm (Permit #NM-01-011)
- 2. The preferred method of closure for all temporary pits will be on-site burial, assuming that all the criteria listed in sub-section (B) of 19.15.17.13 are met.
- 3. The surface owner shall be notified of BR's closing of the temporary pit prior to closure as per the approved closure plan via certified mail, return receipt requested.
- 4. Within 6 months of the Rig Off status occurring BR will ensure that temporary pits are closed, re-contoured, and reseeded.
- 5. Notice of Closure will be given prior to the Aztec Division office between 72 hours and one week via email, or verbally. The notification of closure will include the following:
  - i. Operator's name
  - ii. Location by Unit Letter, Section, Township, and Range. Well name and API number.
- 6. Liner of temporary pit shall be removed above "mud level" after stabilization. Removal of liner will consist of manually or mechanically cutting liner at mud level and removing all remaining liner. Care will be taken to remove "All" of the liner i.e., edges of liner entrenched or buried. All excessive liner will be disposed of at the San Juan County Landfill located on CR 3100.
- 7. Pit contents shall be mixed with non-waste containing, earthen material in order to achieve the solidification process. The solidification process will be accomplished using a combination of natural drying and mechanically mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed a safe and stable. The mixing ratio shall not exceed 3 parts clean soil to 1 part pit contents.
- 8. A five point composite sample will be taken of the pit using sampling tools and all samples tested per Subsection B of 19.15.17.13(B)(1)(b). In the event that the criteria are not met, all contents will be handled per Subparagraph (a) of Paragraph (1) of Subsection B of 19.15.17.13 i.e., Dig and haul.

Components	Tests Method	Limit (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	2500
GRO/DRO	EPA SW-846 8015M	500
Chlorides	EPA 300.1	1000/500

9. A five point composite sample will be taken from the cavitation pit pursuant to 19.15.17.13(B)(1)(b)(i) in order to assure there has not been any type of release.

Components	Tests Method	Limit (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	2500
GRO/DRO	EPA SW-846 8015M	500
Chlorides	EPA 300.1	500

- 10. Upon completion of solidification and testing standards being passed, the pit area will be backfilled with compacted, non-waste containing, earthen material. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater. If standard testing fails BR will dig and haul all contents pursuant to 19.15.17.13.i.a. After doing such, confirmation sampling will be conducted to ensure a release has not occurred.
- 11. During the stabilization process if the liner is ripped by equipment the Aztec OCD office will be notified within 48 hours and the liner will be repaired if possible. If the liner can not be repaired then all contents will be excavated and removed.
- 12. Dig and Haul Material will be transported to the Envirotech Land Farm located 16 miles south of Bloomfield on Angel Peak Road, CR 7175. Permit # NM010011
- 13. Re-contouring of location will match fit, shape, line, form and texture of the surrounding. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be place in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.
- 14. Notification will be sent to OCD when the reclaimed area is seeded.
- 15. BR shall seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM or Forest Service stipulated seed mixes will used on federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs.

Туре	Variety or Cultivator	PLS/A
Western wheatgrass	Arriba	3.0
Indian ricegrass	Paloma or Rimrock	3.0
Slender wheatgrass	San Luis	2.0
Crested wheatgrass	Hy-crest	3.0
Bottlebrush Squirreltail	Unknown	2.0
Four-wing Saltbrush	Delar	.25

Species shall be planted in pounds of pure live seed per acre: Present Pure Live Seed (PLS) = Purity X Germination/100

Two lots of seed can be compared on the basis of PLS as follows: Source No. One (poor quality) Source No. two (better quality)

Source No. One (poor quality)

Purity

Source No. two (better quality)

Purity

80 percent

Germination 40 percent Germination 63 percent Percent PLS 20 percent PLS 50 percent

5 lb. bulk seed required to make 2 lb. bulk seed required to make

1 lb. PLS 1 lb. PLS

16. The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial upon the abandonment of all the wells on the pad. The marker will be flush with the ground to allow access of the active well pad and for safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the onsite burial of the temporary pit. The plate will be easily removable and a four foot tall riser will be threaded into the top of the collar marker and welded around the base with the operator's information at the time of all wells on the pad are abandoned. The operator's information will include the following: Operator Name, Lease Name, Well Name and number, Unit Number, Section, Township, Range and an indicator that the marker is an onsite burial location.