#### District I

1625 N French Dr , Hobbs, NM 88240

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

 $\label{eq:July 21, 2008} \mbox{ July 21, 2008}$  For temporary pits, closed-loop sytems, and below-grade

Form C-144

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.

L	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. Not does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1	gton Resources Oil & Gas Company, LP	OGRID#	· · · · · · · · · · · · · · · · · · ·
	4 4289, Farmington, NM 87499	- OGRID#	14336
Facility or well name			
API Number:		OCD Permit Number:	
U/L or Qtr/Qtr:	P(SE/SE) Section: 25 Township: 31N		County: San Juan
_	Design: Latitude: 36.865799 °N	_	8.043341 °W NAD: 1927 X 1983
Surface Owner:		bal Trust or Indian Allotmer	
2	on F or G of 19 15.17.11 NMAC		•
	Control of the contro		
Permanent	Emergency X Cavitation P&A		
X Lined	Unlined Liner type Thickness 12 mil	X LLDPE HDPE	PVC Other
X String-Reinford	eed ———		
Liner Seams:	X Welded X Factory Other	Volume: 4400 bbl Di	imensions L 65' x W 45' x D 10'
Type of Operation  Drying Pad  Lined Lined Liner Seams.	P&A Drilling a new well Workover or notice of inter	nt) Other	PVD Other RECEIVE
4 Below-grade Volume:	tank: Subsection I of 19.15.17.11 NMAC  bbl Type of fluid:		flow shut-off RECEIVE
Tank Construction	material:		101
Secondary cont	ainment with leak detection Visible sidewalls, liner	, 6-inch lift and automatic overl	flow shut-off
Visible sidew	valls and liner Visible sidewalls only Oth	ner	
Liner Type:	Thickness mil HDPE PVC	Other	
5 Alternative Submittal of an exc	Method: ception request is required. Exceptions must be submitted to the	ne Santa Fe Environmental Bure	eau 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, institution or church)  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  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.  (Fencing/BGT Liner)  Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.						
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 watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	Yes	□No				
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  (Applies to temporary, emergency, or cavitation pits and below-grade tanks)	☐Yes ☐NA	No				
- 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 NA	No				
<ul> <li>Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> <li>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.</li> </ul>	Yes	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	□No				
Within 500 feet of a wetland.  - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site Within the area overlying a subsurface mine.  - Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division Within an unstable area.	☐Yes ☐Yes ☐Yes	□No □No □No				
<ul> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> <li>Within a 100-year floodplain</li> <li>FEMA map</li> </ul>	Yes	□No				

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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
Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19:15.17.9  Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19:15.17.9
Siting Cuteria 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 or Permit
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
Previously Approved Operating and Maintenance Plan API
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 (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: V Drilling Workover
Type: X Drilling Workover Emergency X 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)
X In-place Burial On-site Trench
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 hased upon the appropriate requirements of 19 15 17 13 NIMAC
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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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 the disposal of liquids, drilling fluids and drill cuttings. Use attack							
are required.		:					
Disposal Facility Name. Disposal Facility Permit #-							
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 service and operations:  Soil Backfill and Cover Design Specification - 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							
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 certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception wh for consideration of approval Justifications and/or demonstrations of equivalency are required Please refer to 19.15 17 10 NMAC	ich must be submitted to the Santa Fe Envir	onmental Bureau office					
Ground water is less than 50 feet below the bottom of the buried waste.	Yes	لسا					
- NM Office of the State Engineer - IWATERS database search; 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 - IWATERS database search; 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, USGS; Data obtained from nearby wells	□N/A						
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkho (measured from the ordinary high-water mark).	ole, or playa lake Yes	XNo					
- Topographic map, Visual inspection (certification) of the proposed site							
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial appliation (certification) of the proposed site; Aerial photo; satellite image	cationYes	XNo					
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic purposes, or within 1000 horizontal fee of any other fresh water well or spring, in existence at the time of the initial application.  - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site.	- I	X No					
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal pursuant to NMSA 1978, Section 3-27-3, as amended  - Written confirmation or verification from the municipality; Written approval obtained from the municipality	ordinance adopted Yes	XNo					
Within 500 feet of a wetland	Yes	XNo					
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the propose	ed site						
Within the area overlying a subsurface mine.  - Written confirantion or verification or map from the NM EMNRD-Mining and Mineral Division	Yes	X No					
Within an unstable area.  - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geol		XNo					
Topographic map Within a 100-year floodplain - FEMA map	Yes	XNo					
On-Site Closure Plan Checklist: (19.15.17 13 NMAC) Instructions: Each of the following items must be	e attached to the closure plan. Ple	use indicate,					
by a check mark in the box, that the documents are attached.		ļ					
X Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 N							
Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.							
Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of I		JMAC					
Construction/Design Plan of Temporary Ptt (for in place burial of a drying pad) - based upon the appropriate requirements of 19.15.17 13 NMAC	ortate requirements of 19.13.17.111	WIAC					
Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F	of 19 15 17.13 NMAC						
X Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.1							
X Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-s		eved)					
<ul> <li>Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC</li> <li>Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC</li> </ul>							
X   Re-vegetation Plan - based upon the appropriate requirements of Subsection Lot 19.15.17.13 NMAC							

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Operator Application Corti	figution.			
Operator Application Certification Laborator Application Certification C	ncation: tion submitted with this application is true, acc	curate and complete to the	best of my knowledge and belief	
Name (Print)	Dollie L. Bussey	Title:	Staff Regulatory Technician	
Signature:	Valla & Burn	Date	10-19-09	
e-mail address.	dollle l.busse conocophillips com	Telephone ·	505-324-6104	
e man address.		receptione	303 32 1 0 1 0 1	
20 OCD Approval: Permi	t Application (including closure plan)	Closure Plan (only)	OCD Conditions (see attac	chment)
OCD Representative Signat	ure: Bold		Approval Date:	10-22-09
Title:	Eudino/spec	OCD Per	nit Number:	
Instructions. Operators are requireport is required to be submitted	tithin 60 days of closure completion); Suitred to obtain an approved closure plan prior d to the division within 60 days of the complet obtained and the closure activities have been	to implementing any clos tion of the closure activiti completed.	ure activities and submitting the clo	-
22				
Closure Method:  Waste Excavation and R  If different from approve	<u> </u>	Alternative Closure	e Method Waste Removal (C	losed-loop systems only)
	ste Removal Closure For Closed-loop Syster			<del></del>
Instructions: Please identify the were utilized.	e facility or facilities for where the liquids, dri	illing fluids and drill cutt	ings were disposed. Use attachmen	t if more than two facilities
Disposal Facility Name:		Disposal Facilit	y Permit Number:	
Disposal Facility Name:			y Permit Number:	
Were the closed-loop system	operations and associated activities performed	d on or in areas that will n	ot be used for future service and ope	eartions?
Yes (If yes, please demo	nstrate complilane to the items below)	No		
Site Reclamation (Photo		operations:		
Soil Backfilling and Cov				
Re-vegetation Application	on Rates and Seeding Technique			
the box, that the documents		llowing items must be att	ached to the closure report. Please	indicate, by a check mark in .
	ce (surface owner and division)			
<b>=</b>	(required for on-site closure) closures and temporary pits)			
=	g Analytical Results (if applicable)			
=	ing Analytical Results (if applicable)			
Disposal Facility Nam				
Soil Backfilling and C			•	
= *	tion Rates and Seeding Technique			
Site Reclamation (Pho				
On-site Closure Locati		Longitude ·	NAD 🗌	1927 1983
				·
	tion: tion and attachments submitted with this closu plicable closure requirements and conditions s	•		wledge and belief. I also certify that
Name (Print):		Title.		
Signature:		Date:		
e-mail address:		Telephone:		



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

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

		(quarte	rs a	re s	ma	llest	to larg	est)	(NAD83 UTM	l in meters)	·	(In feet)	71 . 7
POD Numbër ba	ib sin Úse C	<u>o</u> unty	4	Q 16		Sec	Tws	Ŕ'nġ	<u>X</u> .	The second secon	Illy - Something	Depth Wat VäterColu	73.4
SJ 00968	DOM	SJ		4	2	25	31N	12W	228742	4084990*	170	100	70
SJ 01108	DOM	SJ	4	1	2	25	31N	12W	228457	4085293*	245	90	155
SJ 01163	DOM	SJ	3	1	2	25	31N	12W	228257	4085293*	200	90	110
SJ 01180	DOM	SJ	4	2	2	25	31N	12W	228857	4085289*	200	120	80
SJ 01303	DOM	SJ	3	2	2	25	31N	12W	228657	4085289*	210		
SJ 01477	DOM	SJ			2	25	31N	12W	228544	4085199*	565	505	60
SJ 02021	DOM	SJ		2	4	35	31N	12W	227058	4083045*	115	_	
SJ 02021 X	DOM	SJ		2	4	35	31N	12W	227058	4083045*	290	250	40
SJ 03026	DOM	SJ	4	3	4	24	31N	12W	228472	4085690*	140	85	55
SJ 03309	DOM	SJ	4	4	4	35	31N	12W	227142	4082541*	240	210	30
									Avera	age Depth to	Water:	181 feet	
										Minimum	Depth:	85 feet	
										Maximum	Depth:	505 feet	

Record Count: 10

PLSS Search:

**Section(s):** 23, 24, 25, 26, 35, 36

Township: 31N

Range: 12W

\*UTM location was derived from PLSS - see Help



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

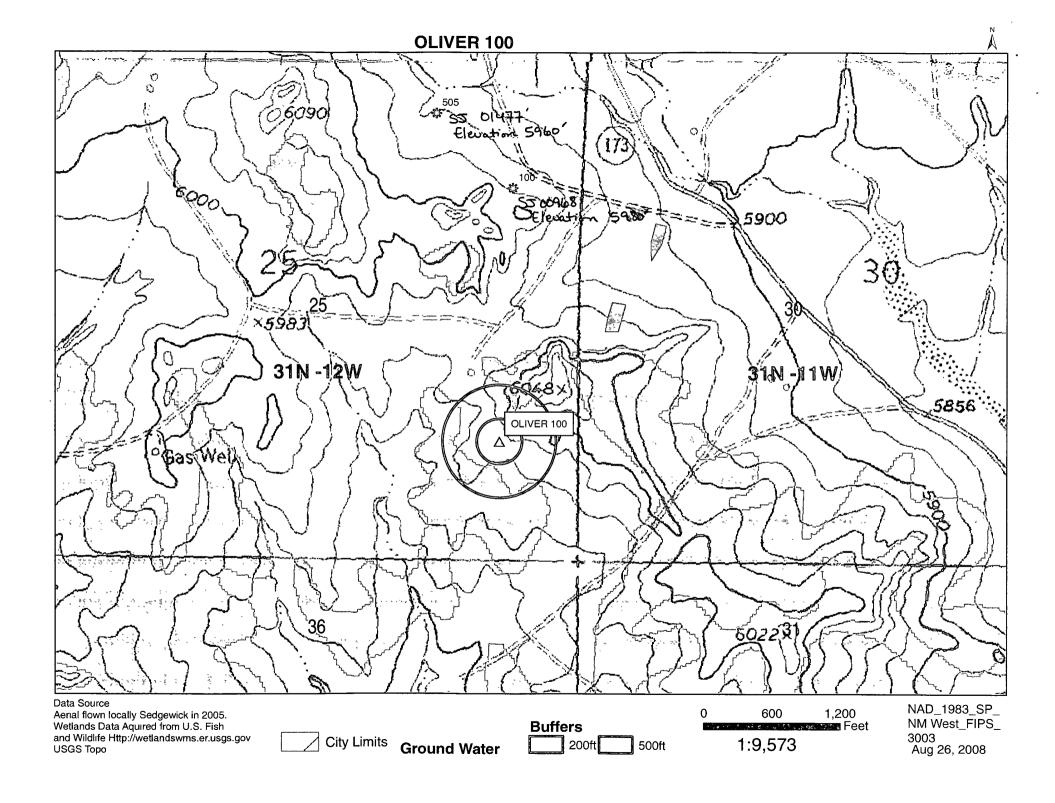
(quarters are 1=NW 2=NE 3=SW 4=SE)

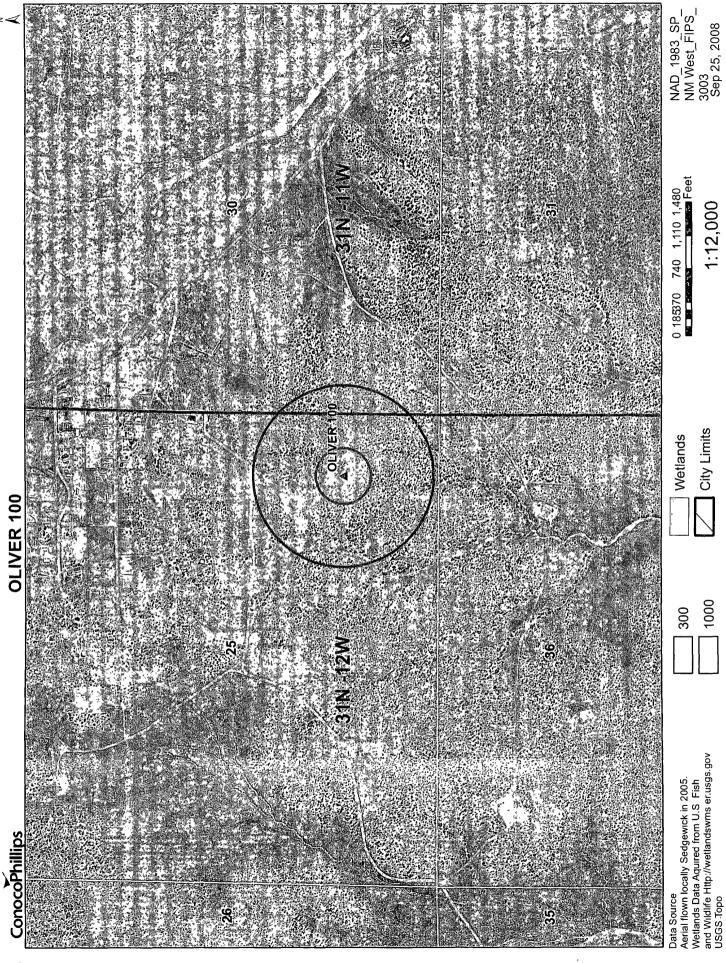
Marging and the company of the compa	-	(quarte	rs a	re:	sma	allest	to larg	jest)	(NAD83 UTN	/I in meters)		(In feet)	
Sub POD Number basii	n Use C	ounty		Q 16	× '	Sec	Tws	Rng	X			Depth Wat WaterColu	
SJ 00970	DOM	SJ	4	4	4	30	31N	11W	230438	4084032*	110	80	30
SJ 01154	DOM	SJ	4	2	4	30	31N	11W	230452	4084433*	190	150	40
SJ 01396	DOM	SJ	1	4	4	30	31N	11W	230238	4084232*	80	57	23
SJ 01739	DOM	SJ	4	2	4	30	31N	11W	230452	4084433*	98	30	68
SJ 01797	DOM	SJ		4	4	30	31N	11W	230339	4084133*	100	40	60
SJ 01811	DOM	SJ		2	2	31	31N	11W	230320	4083731*	89	50	39
SJ 01834	DOM	SJ	4	2	4	30	31N	11W	230452	4084433*	103	30	73
SJ 01884	DOM	SJ	3	2	4	30	31N	11W	230252	4084433*	71	30	41
SJ 03458	DOM	SJ	4	3	3	19	31N	11W	229277	4085688*	140		
									Avera	age Depth to	o Water:	58 feet	
	•									Mınimun	n Depth:	30 feet	
										Maximum	n Depth:	150 feet	

**Record Count: 9** 

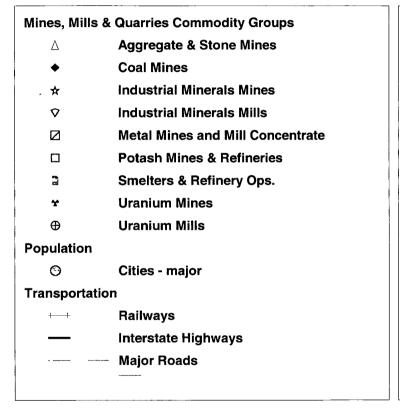
PLSS Search:

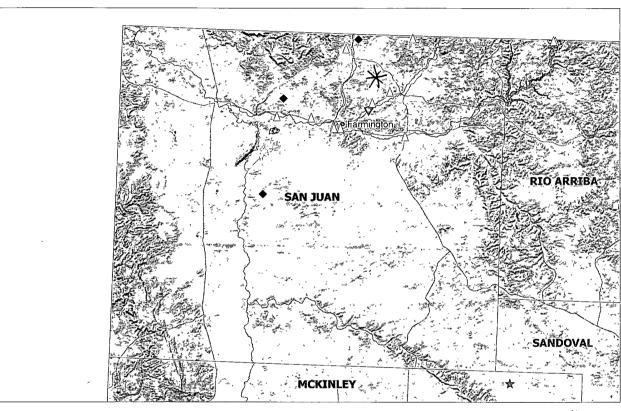
Section(s): 19, 30, 31 Township: 31N Range: 11W

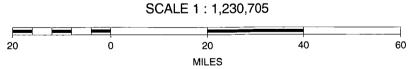




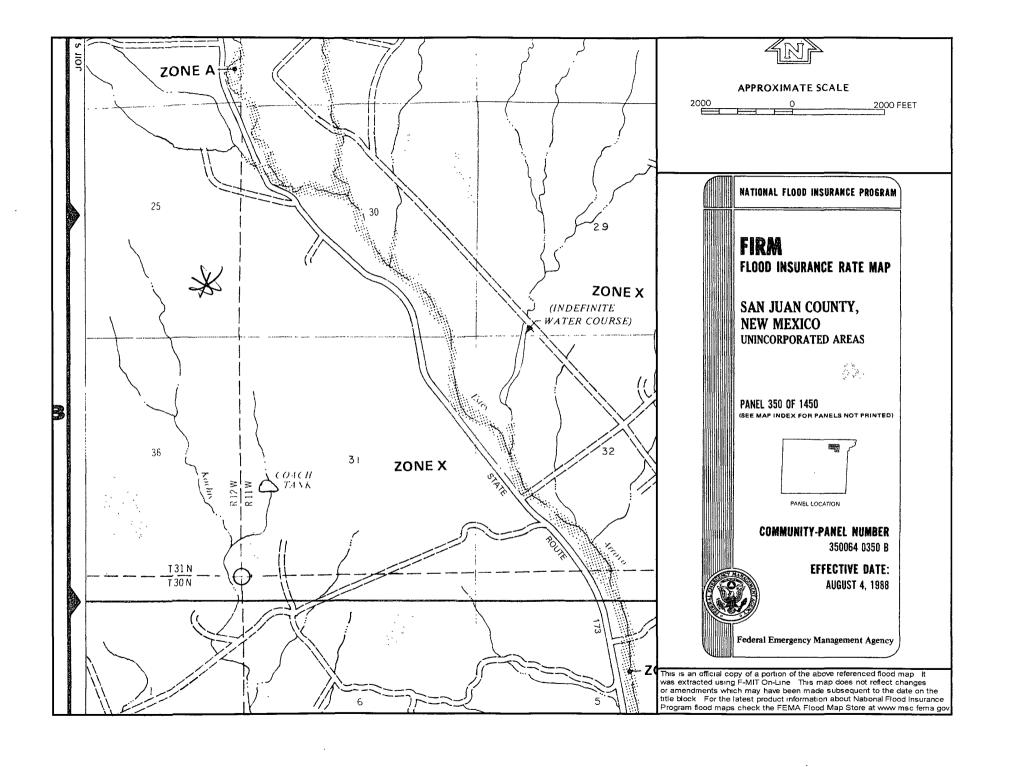
### Oliver 100











#### Hydrogeological Report for Oliver 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 Oliver 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 subject well has an elevation of 5969'. There are two iWaters data points shown on the topo map. They are SJ01477 and SJ00968 with approximate elevations of 5960' and 5980' and water depths of 505' and 100', therefore the groundwater depth is greater than 80'. The hydro geologic analysis indicates the groundwater depth and the Naciemiento formation will create a stable area for this new location.



ConocoPhillips Company
GRFS / PTRRC – San Juan Business Unit
Juanita Farrell
3401 East 30th Street
Farmington, NM 87402
Telephone: (505) 326-0507

Telephone: (505) 326-9597 Facsimile: (505) 324-6136

October 19, 2009

### VIA CERTIFIED MAIL – RETURN RECEIPT REQUESTED 7110-6605-9590-0006-8489

Erland and Charlene Hendrickson 31 RD 2785 Aztec, NM 87410-9761

Subject:

Oliver 100

SESE Section 25, T31N R12W

San Juan County, NM

#### Dear Landowner:

Pursuant to Paragraph 1 (b) of Subsection F of 19.15.17.13 NMAC, an operator shall provide the surface owner notification of the operator's proposal to close a temporary pit on-site in compliance with the on-site closure methods specified in the same Subsection of the NMAC. In compliance of this requirement, please consider this notification of ConocoPhillips' intent to close the temporary pit on the above referenced location.

If you have any questions, please contact Joni Clark @ (505)326-9701.

Sincerely,

#### Juanita Farrell

Juanita Farrell Staff Associate, PTRRC DISTRICT I 1625 N. French Dr., Hobbs, N.M. 88240 State of New Mexico Energy, Minerals & Natural Resources Department

Form C-102 Revised October 12, 2005

#### DISTRICT II 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

DISTRICT III 1000 Rio Brazos Rd., Aztec, N.M. 87410

☐ AMENDED REPORT

DISTRICT IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API	Number			Pool Code  Pool Name  FRUITLAND COAL/FRUITLAND SAND									
<sup>4</sup> Property C	ode	-	<del></del>		<sup>6</sup> Property	Name	_		* Well Number				
	l				OLIVER				100				
OGRID No	).			<sup>8</sup> Operator Name									
			BURLI	BURLINGTON RESOURCES OIL AND GAS COMPANY LP									
<sup>10</sup> Surface Location													
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West lin	c County				
P	25	31 – N	12-W		1050'	SOUTH	725'	EAST	SAN JUAN				
		_	11 Bott	om Hole	Location 1	f Different Fro	om Surface						
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West 'lin	ne County				
<sup>13</sup> Dedicated Acres <sup>13</sup> Je			13 Joint or	infill	14 Consolidation	Çode ,	<sup>15</sup> Order No.	<u> </u>					
FC 320.0 ACRE E 1/2 FS 160.0 ACRE SE 1/4						i.							

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

OLIVER, WES ET AL  SF-077652	17 OPERATOR CERTIFICATI  I hereby certify that the information contained is true and complete to the best of my knowle bestof, and that this organization either owns a working interest or unleased mineral interest land including the proposed bottom hale location has a right to drill this well at this location to a contract with an owner of such a minera a worting interest, or to a voluntary pooling or a compulsory pooling order heretofore enteredivision.	t herein  edge and  et in the  on or  pursuant  ul or  agreement
SF-077652		•
	Signature Printed Name	
25	18 SURVEYOR CERTIFICAT  I hereby certify that the well location shown o was plotted from field notes of actual surveys me or under my supervision, and that the san and correct to the best of my belte.	m this plat made by
LAT: 36'51.9478' N. LONG: 108'02.5629' W. NAD 1927  LAT: 36.865795' N. LONG: 108.043341' W. NAD 1983  N 85', 54' 54' W 2639.65'	Date of Survey MEX Signature and Surveyor 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	1000/600)

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)

Purity

50 percent

Germination

40 percent

Percent PLS

20 percent

Source No. two (better quality)

Purity

80 percent

Germination

63 percent

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.