District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

BGT B

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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Form C-144 Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office. For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

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

Type of action: 🛛 Below grade tank registration

Permit of a pit or proposed alternative method

Closure of a pit, below-grade tank, or proposed alternative method

] Modification to an existing permit/or registration

Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank,

or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

I. Operator: SIMOCE LLC OGRID #: 329736
Address: 1199 Main Ave., Suite 101, Durango, CO 81301
Facility or well name: ATLANTIC D COM D LS 005A
API Number:         3004522522         OCD Permit Number:
U/L or Qtr/Qtr F Section 2.0 Township 30.0N Range 10W County: San Juan County
Center of Proposed Design: Latitude <u>36.844195</u> Longitude <u>-107.856466</u> NAD: 1927 🗷 1983
Surface Owner: 🗌 Federal 🗷 State 🔲 Private 🗌 Tribal Trust or Indian Allotment
<ul> <li>2.</li> <li>Pit: Subsection F, G or J of 19.15.17.11 NMAC</li> <li>Temporary: Drilling Workover</li> <li>Permanent Emergency Cavitation P&amp;A Multi-Well Fluid Management Low Chloride Drilling Fluid yes no</li> </ul>
Lined Unlined Liner type: Thickness mil LLDPE HDPE PVC Other
String-Reinforced
Liner Seams: 🗌 Welded 🗋 Factory 🗋 Other Volume:bbl Dimensions: L x W x D
3
Below-grade tank:       Subsection I of 19.15.17.11 NMAC       TANK ID:       B
Volume: 105.0 bbl Type of fluid: Produced Water
Tank Construction material: Steel
Secondary containment with leak detection 🗵 Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
Visible sidewalls and liner Visible sidewalls only Other SINGLE WALLED SINGLE BOTTOMED
Liner type: Thickness mil HDPE PVC Other
<ul> <li>4.</li> <li>Alternative Method:</li> <li>Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.</li> </ul>
5.
<b>Fencing:</b> 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 ( <i>Required if located within 1000 feet of a permanent residence, school, hospital, institution or church</i> )
Four foot height, four strands of barbed wire evenly spaced between one and four feet
Alternate. Please specify

Netting:	Subsection E of 19.15.17.11 NMAC	(Applies to	permanent	pits and	permanent o	pen top	v 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

Signed in compliance with 19.15.16.8 NMAC

### Variances and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.

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

### 9. <u>Siting Criteria (regarding permitting)</u>: 19.15.17.10 NMAC Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Siting criteria does not apply to drying pads or above-grade tanks.

General siting	
<ul> <li>Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.</li> <li>► NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</li> </ul>	□ Yes 🗷 No □ NA
Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit. NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	□ Yes □ No □ NA
<ul> <li>Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. (Does not apply to below grade tanks)</li> <li>Written confirmation or verification from the municipality; Written approval obtained from the municipality</li> </ul>	🗌 Yes 🗌 No
<ul> <li>Within the area overlying a subsurface mine. (Does not apply to below grade tanks)</li> <li>Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division</li> </ul>	🗌 Yes 🗌 No
<ul> <li>Within an unstable area. (Does not apply to below grade tanks)</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	🗌 Yes 🗌 No
Within a 100-year floodplain. (Does not apply to below grade tanks) - FEMA map	🗌 Yes 🗌 No
Below Grade Tanks	
<ul> <li>Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).</li> <li>Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🗶 No
<ul> <li>Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;.</li> <li>NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🕱 No
Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)	
<ul> <li>Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.)</li> <li>Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🗌 No
Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application	🗌 Yes 🗌 No
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	
Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application. NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	🗌 Yes 🗌 No

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<ul> <li>Within 100 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 🗌 No
Temporary Pit Non-low chloride drilling fluid	
<ul> <li>Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).</li> <li>Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🗌 No
<ul> <li>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</li> <li>Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	🗌 Yes 🗌 No
<ul> <li>Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;</li> <li>NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🗌 No
<ul> <li>Within 300 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 🗌 No
<u>Permanent Pit or Multi-Well Fluid Management Pit</u>	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa	
<ul> <li>Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🗌 No
<ul> <li>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</li> <li>Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	🗌 Yes 🗌 No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.	
- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	∐ Yes ∐ No
<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 🗌 No
10. <b>Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist:</b> Subsection B of 19.15.17.9 N <i>Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the doc attached.</i>	IMAC cuments are 9 NMAC 15.17.9 NMAC
Multi-Well Fluid Management Pit Checklist:       Subsection B of 19.15.17.9 NMAC         Instructions:       Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the doc attached.	cuments are .15.17.9 NMAC
Previously Approved Design (attach copy of design) API Number: or Permit Number: _	

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<sup>12.</sup> <u>Permanent Pits Permit Application Checklist</u> : Subsection B of 19.15.17.9 NMAC <i>Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the of</i>	locuments are
<ul> <li>attached.</li> <li>Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC</li> <li>Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC</li> <li>Climatelogical Factors Accomment</li> </ul>	
<ul> <li>Critified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC</li> <li>Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC</li> <li>Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC</li> <li>Linge Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC</li> </ul>	
<ul> <li>Duality Control/Quality Assurance Construction and Installation Plan</li> <li>Quality Control/Quality Assurance Construction and Installation Plan</li> <li>Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC</li> <li>Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC</li> </ul>	
<ul> <li>Incoduct and overlapping revention rule based upon the appropriate requirements of 19/19/17/17/10/07/10</li> <li>Nuisance or Hazardous Odors, including H<sub>2</sub>S, Prevention Plan</li> <li>Emergency Response Plan</li> <li>Oil Field Waste Streem Characterization</li> </ul>	
On Field was distributed in a decision	
Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC	
13. <u>Proposed Closure</u> : 19.15.17.13 NMAC Justinuctiones: Blasse complete the amplicable bound Power 14 through 18 in records to the proposed elegung plan	
Type: Drilling Workover Emergency Cavitation P&A Permanent Pit Below-grade Tank Multi-well Fl	uid Management Pit
Alternative Proposed Closure Method: 🛛 Waste Excavation and Removal	C
Waste Removal (Closed-loop systems only)	
☐ In-place Burial ☐ On-site Trench Burial ☐ Alternative Closure Method	
<ul> <li><sup>14.</sup> Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be a closure plan. Please indicate, by a check mark in the box, that the documents are attached.</li> <li> Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC </li> <li> Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC </li> <li> Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings) </li> <li> Soil Backfill and Cover Design Specifications - 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 H of 19.15.17.13 NMAC </li> <li> Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC </li> </ul>	attached to the
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 sour provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. P 19.15.17.10 NMAC for guidance.	ce material are lease refer to
<ul> <li>Ground water is less than 25 feet below the bottom of the buried waste.</li> <li>NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</li> </ul>	☐ Yes ☐ No ☐ NA
<ul> <li>Ground water is between 25-50 feet below the bottom of the buried waste</li> <li>NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</li> </ul>	☐ Yes ☐ No ☐ NA
<ul> <li>Ground water is more than 100 feet below the bottom of the buried waste.</li> <li>NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</li> </ul>	☐ Yes ☐ No ☐ NA
<ul> <li>Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).</li> <li>Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🗌 No
<ul> <li>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</li> <li>Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	🗌 Yes 🗌 No
<ul> <li>Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application.</li> <li>NM Office of the State Engineer - iWATERS database: Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🗌 No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	🗌 Yes 🗌 No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	∏ Yes∏ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	
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<ul> <li>adopted pursuant to NMSA 1978, Section 3-27-3, as amended.</li> <li>Written confirmation or verification from the municipality; Written approval obtained from the municipality</li> </ul>	🗌 Yes 🗌 No
<ul> <li>Within the area overlying a subsurface mine.</li> <li>Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division</li> </ul>	🗌 Yes 🗌 No
<ul> <li>Within an unstable area.</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	
Within a 100-year floodplain. - FEMA map	Yes No
16.         On-Site Closure Plan Checklist:       (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure play a check mark in the box, that the documents are attached.         Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC         Proof of Surface Owner Notice - based upon the appropriate requirements of 19.15.17.13 NMAC         Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.         Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.         Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC         Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC         Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC         Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cann         Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC         Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC         Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC	<i>an. Please indicate,</i> 11 NMAC 15.17.11 NMAC ot be achieved)
17.         Operator Application Certification:         I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and beli         Name (Print):       Steve Moskal         Signature:       Steven Moskal         2020.06.22 16:53:05       Date:         -06'00'       Date:         e-mail address:       steven.moskal@bpx.com	ef. rdinato
18.       OCD Approval: Permit Application (including closure plan)       Closure Plan (only)       OCD Conditions (see attachment)	
OCD Representative Signature: Approval Date: 6/24/2	2020
Title:       Environmental Specialist         OCD Permit Number:       BGT B	
19. Closure Report (required within 60 days of closure completion): 19.15.17.13 NMAC Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not section of the form until an approved closure plan has been obtained and the closure activities have been completed. Closure Completion Date:	the closure report. complete this
20.         Closure Method:         Waste Excavation and Removal         On-Site Closure Method         Alternative Closure Method         If different from approved plan, please explain.	oop systems only)
21.         Closure Report Attachment Checklist: Instructions: Each of the following items must be attached to the closure report. Please in mark in the box, that the documents are attached.         Proof of Closure Notice (surface owner and division)         Proof of Deed Notice (required for on-site closure for private land only)         Plot Plan (for on-site closures and temporary pits)         Confirmation Sampling Analytical Results (if applicable)         Waste Material Sampling Analytical Results (required for on-site closure)         Disposal Facility Name and Permit Number         Soil Backfilling and Cover Installation         Re-vegetation Application Rates and Seeding Technique         Site Reclamation (Photo Documentation)         On-site Closure Location: Latitude	dicate, by a check

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### 22. Operator Closure Certification:

t is true, accurate and complete to the best of my knowledge and s and conditions specified in the approved closure plan.
Title:
Date:
Telephone:

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### SITING AND HYDRO-GEOLOGICAL REPORT ATLANTIC D COM D LS 005A

### SITING CRITERIA 19.15.17.10 NMAC

Depth to groundwater at the site is estimated to be well greater than 100 feet#**ft**.) below ground surface (**bgs**). This estimation is based on data from Stone and others (1983), and depth to groundwater data reviewed from the New Mexico State Engineer's Office (**NMOSE**). Local topography and proximity to adjacent water features were also evaluated.

There are no water wells permitted by NMOSE within 200 ft. from the below-grade tank (**BGT**) (Figure 1). A topographic map (Figure 2) demonstrates that the BGT is not within 100 feet of any continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland, or playa lake as measured from the ordinary high water mark.

### LOCAL GEOLOGY AND HYDROLOGY

This particular site is located east of Aztec, New Mexico, and the Animas River on sandstone outcrops of the San Jose Formation. The more resistant cliff-forming sandstones of the San Jose Formation cap interbedded siltstones, shales and sandstones of the Nacimiento Formation. East of the location, the Nacimiento Formation is exposed, forming steep to gentle slopes that transition into flat-bottomed arroyos.

Groundwater is estimated at 200 ft. bgs. This estimation is based on Google Earth's aerial photography (Imagery date: 4/6/2019) elevation difference between the site's ground level (6,389 ft.) and water well SJ03230 (attached) groundwater elevation (6,189 ft.). SJ03230 is located at Global Positioning System (GPS) coordinates 36.846976,-107.873538, or approximately 0.97 miles N78.5W from the BGT (see Figure 3A).

The OSE database indicates that freshwater wells SJ 00050 and SJ 03460, with respective depths to water of 306 feet and 500 feet, are located approximately 498 feet southwest of the site (see Figure 3). However, a site visit conducted in April 2010 determined that no wells are located within 1000 feet of the site (see Figure 4).

### **REGIONAL GEOLOGY AND HYDROLOGY**

The San Juan Basin is situated in the Navajo section of the Colorado Plateau and is characterized by broad open valleys, mesas, buttes and hogbacks. Away from major valleys and canyons topographic relief is generally low. Native vegetation is sparse and shrubby. Drainage is mainly by the San Juan River, the only permanent stream in the Navajo Section of the Colorado Plateau. The San Juan River is a tributary of the Colorado River. Major tributaries include the Animas, Chaco and La Plata Rivers. Flow of the San Juan River across the basin is regulated by the Navajo Dam, located about 30 miles northeast of Farmington, New Mexico. The climate is arid to semiarid with an average annual precipitation of 8 to 10 inches. Soils within the basin consist of weathered parent rock derived from predominantly physical means mostly from eolian depositional system with fluvial having a lesser impact.

Cretaceous and Tertiary sandstones, as well as Quaternary Alluvial deposits, serve as the primary aquifers in the San Juan Basin (Stone et al., 1983). The San Jose Formation of Eocene age occurs in both New Mexico and Colorado, and its outcrop forms the land surface over much of the eastern half of the central basin. It overlies the Nacimiento Formation in the area generally south of the Colorado-New Mexico border and overlies the Animas Formation in the general area north of the State Line. The San Jose Formation was deposited in various fluvial-type environments. In general, the unit consists of an interbedded sequence of sandstone, siltstone, and shale. Thickness of the San Jose Formation increases from west to east. Groundwater is associated with alluvial and fluvial sandstone aquifers. The occurrence of groundwater is mainly controlled by distribution of sandstone in the formation. The reported or measured discharge from numerous water wells completed in the formation range from 0.15 to 61 gallons per minute (gpm) and with a median of 5 gpm. Most of the wells provide water for livestock and domestic purposes. The formation is suitable for recharge from precipitation due to overlying soils being sandy, highly permeable and absorbent. Low annual precipitation, relatively high transpiration and evaporation rates and deep dissection of the formation by the San Juan River and its main tributaries all tend to reduce the effective recharge to the formation. Aquifers within the coarser and continuous sandstone bodies of the Nacimiento Formation of Paleocene age are between 0 and 1,000 feet deep in the majority of the basin as well (Stone et al., 1983).

### **REFERENCES**

Circular 154—Guidebook to coal geology of northwest New Mexico By E. C. Beaumont, J. W. Shomaker, W. J. Stone, and others, 1976

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



### Received by OCD: 6/23/2020 12:53:12 PM



# Wells with Well Log Information New Mexico Office of the State Engineer

Basin/County Search:

Basin: San Juan

Subbasin: San Juan

UTMNAD83 Radius Search (in meters):

Easting (X): 245295.36 Northing (Y): 4081397.65

4081397 65

**Radius:** 60.96

No wells found.

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

 4/13/20 10:31 AM
 WELLS WITH WELL LOG INFORMATION



# New Mexico Office of the State Engineer Wells Without Well Log Information

No wells found.

Basin/County Search: Basin: San Juan

Subbasin: San Juan

UTMNAD83 Radius Search (in meters):

Easting (X): 245295.36

Northing (Y): 4081397.65

Radius: 60.96

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

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# Point of Diversion with Meter Attached New Mexico Office of the State Engineer

No PODs found.

**Basin/County Search:** 

Subbasin: San Juan Basin: San Juan

UTMNAD83 Radius Search (in meters):

Easting (X): 245295.36

Radius: 60.96

Northing (Y): 4081397.65

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data. POINT OF DIVERSION WITH METER ATTACHED

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# Active & Inactive Points of Diversion New Mexico Office of the State Engineer (with Well Drill Dates & Depths)

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Record Count: 1

POD Search:

POD Number: SJ 03230

Sorted by: File Number

"UTM location was derived from PLSS - see Help

Page 13 of 34 ACTIVE & INACTIVE POINTS OF DIVERSION The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data. Page 1 of 1 4/13/20 11:43 AM

	WR File Number: Primary Purpose:		SJ 03	3230			Subbasin: S.I	Cross I	Reference		
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cuments	s on F	ile									
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images 23	37725	72121	2002	-07-03	PM	T LC	G	SJ 03230	Т	Acres	3

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

# New Mexico Office of the State Engineer **Point of Diversion Summary**

		(quarters are 1=NW 2 (quarters are smalle	2=NE 3=SW 4=SE) st to largest)	(NAD83 UTM in meters)	
Well Tag	POD Number	Q64 Q16 Q4 Se	c Tws Rng	X Y	
	SJ 03230	1 2 1 03	30N 10W	243782 4081752*	<b>\$</b>
Driller License: 1508 Driller Company: HARGIS CONSULTING WATER WELL			ELL		
Driller Name:	:				
Drill Start Da	te: 07/06/2002	Drill Finish Date:	07/10/2002	Plug Date:	
Log File Date	e: 07/19/2002	PCW Rcv Date:		Source:	Shallow
Pump Type:		Pipe Discharge Size	:	Estimated Yield: 3 GPM	
Casing Size:	7.00	Depth Well:	120 feet	Depth Water:	70 feet

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.





















### SIMCOE LLC

### SAN JUAN BASIN, NORTHWEST NEW MEXICO

### LOW PROFILE-BELOW-GRADE TANK DESIGN AND CONSTRUCTION PLAN

Pursuant to Rule 19.15.17.11 NMAC, SIMCOE LLC (SIMCOE) shall construct a below-grade tank (BGT) or modify an existing permitted BGT according to the following plan. Any deviations from this plan will be addressed on the New Mexico Oil Conservation Division's (NMOCD) form C-144 at the time of submittal.

### **Design and Construction Plan**

1. SIMCOE will design and construct a BGT which will be constructed to contain liquids and prevent contamination of fresh water and protect public health and the environment.

2. SIMCOE is the well operator and shall install and maintain a well sign that is in compliance with 19.15.16.8 NMAC. The sign will be posted at the well site to address, at a minimum;

- a. Well Number
- b. Property name
- c. Operators name
- d. Location by footage, quarter-quarter section, township and range (or unit letter)
- e. API number
- f. Emergency contact information

3. SIMCOE will fence or enclose its BGTs in a manner that prevents unauthorized access and shall maintain its fence in good repair.

4. SIMCOE will fence or enclose a BGT located within 1,000 feet of a permanent residence, school, hospital, institution or church with, at a minimum a chain link security fence at least six (6) feet in height with at least two (2) strands of barbed wire at the top. SIMCOE will ensure that all gates associated with the fence are closed and locked when responsible personnel are not on-site.

5. SIMCOE is requesting NMOCD's approval for an alternative fence design that provides, at a minimum, equivalent protection to the design specified in Paragraph 3 of Subsection D of 19.15.17.11 NMAC for BGTs beyond the stated distance in paragraph 4 of this document. SIMCOE's proposed design for its BGTs will utilize 48" steel mesh field-fence (hogwire) with a metal or steel top rail. Perimeter T-post will be installed roughly every 10 feet.

6. SIMCOE will construct an expanded metal covering that completely covers the top of the BGT. The covering will be constructed such that it will prevent hazardous conditions to wildlife, including migratory birds

7. SIMCOE shall construct the BGT of materials that are resistant to produced water, any contained liquids, and damage from sunlight. SIMCOE's BGTs will be constructed of carbon steel that meets the requirements of ASTM A36.

8. SIMCOE's BGTs shall have a properly constructed earthen foundation consisting of a level base free of rocks, debris, sharp edges, or irregularities as to prevent punctures, cracks or indentations to the tank bottom as demonstrated on the design drawing.

9. SIMCOE will construct and operate the BGT to prevent surface water run-on by using both earthen berms and leaving a portion of the BGT above the original grade as demonstrated on the design drawing.

10. SIMCOE will construct and operate the BGT to prevent overflow and overfilling of the BGT. Overflow will be prevented by use of an electronic high fluid level detector that will automatically engage an electronic shut- off valve when a 1 foot freeboard is reached. The Hi-level automatic alarm notifies well optimizers when liquid level has reached within a pre-set distance to the top of the BGT. The Hi-Hi alarm will trigger the Hi-level automatic shutdown valve which will close in the well until the liquid level can be lowered.

### SIMCOE Design Construction Plan-BGT 09202013

SIMCOE will construct and install a single-walled tank design per SuSIMCOE aragraph (a) of 11. Paragraph (4) of Subsection I of 19.15.17.11 NMAC with sidewalls open for visual inspection for leaks, the below-grade tank's bottom is elevated a minimum of six inches above the underlying ground surface and the below-grade tank is underlain with a 45 mil LLDPE liner placed on a prepared soil foundation to prevent punctures and graded to divert leaked liquid to a location that can be visually inspected. The walls of the BGT will be constructed of carbon steel that meets the ASTM A36 standard. SIMCOE's BGT design will insure containment of tank contents and protect underlying groundwater. The production equipment line drain is an automated drain that allows water level in production equipment (generally the separator) to be maintained within the equipment's operating parameters. The environmental drain is a manually operated drain that is used to drain liquids off of equipment. The tank drain is a manually operated drain, typically in the closed position that is used to rid the condensate tank of any water accumulation. The vent drain is a manually operated drain off the discharge of production equipment (usually the separator) and is used to blowdown the wellsite. The swab drain line is a manually operated drain originating between the wellhead and separator and is used during well workovers when large amounts of liquid are removed from the well and sent straight to the BGT.

12. SIMCOE owned and operated single walled BGTs constructed and installed prior to June 16, 2008 that has the side walls open for visual inspection and that does not meet all the requirements in Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC is not required to equip or retrofit the BGT to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC so long as it demonstrates integrity. If the existing BGT does not demonstrate integrity, the operator shall promptly drain the BGT and remove it from service and comply with the closure requirements of 19.15.17.13 NMAC.

13. SIMCOE owned and operated single walled BGTs constructed and installed prior to June 16, 2008 and where any portion of the tank sidewall is below the ground surface and not visible shall equip or retrofit the BGT to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, or close it, by June 16, 2013. If the existing BGT does not demonstrate integrity, the operator shall promptly drain the BGT, remove it from service and comply with the closure requirements of 19.15.17.13 NMAC.

14. SIMCOE owned and operated double walled BGTs constructed and installed prior to June 16, 2008 and which does not meet all the requirements in Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC is not required to equip or retrofit the BGT to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC so long as it demonstrates integrity. If the existing BGT does not demonstrate integrity, the operator shall promptly drain the BGT, remove it from service and comply with the closure requirements of 19.15.17.13 NMAC.

15. The general specifications for the design and construction of the BGT have been provided in the attached SIMCOE design and construction schematic.



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### SIMCOE LLC

### SAN JUAN BASIN, NORTHWEST NEW MEXICO BELOW-GRADE TANK OPERATING AND MAINTENANCE PLAN

Pursuant to Rule 19.15.17.12 NMAC, SIMCOE LLC (SIMCOE) shall maintain and operate a below-grade tank (BGT) by following the plan shown below. Deviations from this plan will be addressed with a submittal to the New Mexico Oil Conservation Division (NMOCD) using form C-144 at the time of the BGT registration or modification to an existing BGT registration.

### **Operating and Maintenance Plan**

- 1. BP's BGTs will be operated to contain liquids and solids. SIMCOE will maintain the integrity of the BGT and secondary containment system as to prevent impacts to fresh water and to protect public health and the environment. SIMCOE will use automated high fluid level alarms and automated shut-off valves to insure that liquids are contained within the vessel and that the vessel does not overflow. These alarms and shut-off valves will be consistent with those demonstrated in the design plan.
- 2. SIMCOE will not knowingly discharge to or store any hazardous waste in a BGT.
- 3. If a BGT develops a leak below the liquid surface, SIMCOE shall remove all liquid above the damage or leak within 48 hours of discovery, notify the appropriate division office pursuant to 19.15.29 NMAC and repair the damage or replace the BGT as applicable.
- 4. SIMCOE will adhere to Subsection D of 19.15.17.12 NMAC. The requirements are as follows;
  - a. SIMCOE shall not allow a below-grade tank to overflow or allow surface water run-on to enter the BGT.
  - b. SIMCOE shall remove any measurable layer of oil from the fluid surface of a BGT.
  - c. SIMCOE shall inspect the BGT for leakage and damage at least monthly and will document the integrity of each tank at least annually and maintain a written record of the integrity for five years.
  - d. SIMCOE shall maintain adequate freeboard to prevent overtopping of the below-grade tank.
  - e. If SIMCOE discovers that the BGT tank does not demonstrate integrity or that the BGT develops any of the conditions identified in Paragraph (5) of Subsection A of 19.15.17.12 NMAC, SIMCOE shall repair the damage or close the existing BGT pursuant to the closure requirements of 19.15.17.13 NMAC.
  - f. If any of BP's BGTs are equipped or retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, then SIMCOE shall visually inspect the area beneath the BGT during the retrofit and document any areas that are wet, discolored or showing other evidence of a release on form C-141. SIMCOE will attempt to measure and report to the division the concentration of contaminants in the wet or discolored soil with respect to the standards set forth in Table I of 19.15.17.13 NMAC. If there is no wet or discolored soil or if the concentration of contaminants in the standard set forth in Table I of 19.15.17.13 NMAC. If there is no wet or discolored soil is less than the standard set forth in Table I of 19.15.17.13 NMAC, then SIMCOE shall proceed with the closure requirements of 19.15.17.13 NMAC prior to initiating the retrofit or replacement.

Managed Form NOP-5878 Revision 1		Revision 1	San Juan Lease Inspection Custodian: Field Environmental Coordinator
			Demoined Ofme
Yes	Action	N/A	Required Signs         Does location have Well Sign and emergency phone number?         Do compressor engines have Hearing Protection signs?         Hydrogen Sulfide Signs (where applicable)         Chemical containers and tanks have proper Hazcom label or BP Multi-Product Hazcom numbers?
Yes	Action	 N/A	Location- General
	=	=	Housekeeping satisfactory? Tripping or falling hazards are absent? If NO, identify and report to FSC. Rig anchors/Deadmen adequately marked and visible if they present a hazard to drivers? Driving hazards such as risers are marked or flagged? Painting meets safety standards?
			Cattlequards/gates properly maintained?
			Seens drins or leaks are absent?
			Is weed control adequate?
			Stains on ground are absent? If NO, remediate immediately, identify and report to FEC
			Are there any open ended valves that are not plugged?
Yes	Action	N/A	Vessel/Tank
			Adequate fencing around below grade tank?
			Are the dike/berm walkover in place, used and stable?
			Are dikes/berms in good condition?
			Is there adequate and safe access to pit for gauging?
			Does the pit have a high level alarm?
			Are stairways and catwalks properly maintained and in good condition?
			Toprail, midrail and toeboard in place?
			Are thief hatches in good condition, seal properly, and in the closed position?
			Is tank vent line equipped with a PV valve? (Enardo)
			Does the tank have a high level alarm?
			Are open ended load lines and pipes capped?
			Is soil around load lines clean of oil stains?
			Is tank area free of any evidence of seeps or leaks (including manway cover)?
			Are all suspected dump lines well supported?
			Are all suspected dump lines well supported?
			Have all fiberalass drin nits been removed?
Yes	Action	N/A	Treaters/Separators/Compressors/Pump Jacks
100	71011011	14/7	If there is a block valve upstream of the relief valve, is the block valve secured in the open position?
			Are relief valve discharge and blow downs piped to a safe area and secured against movement?
			Has flame arrestor been inspected within the last 5 years?
			Is flame port closed?
			Do all lines pass through a super muffler or swirl pot to the pit/tank? If not, are all lines secured?
			Is starting gas vented to a safe area, at least 10' vertically?
			No excessive vibration, knocking or unusual noises anywhere on unit or piping?
			Are site glasses in operating condition?
			Are environmental rails piped to a pit in a dedicated line?
			Do all blow downs, relief valve discharges, and risers have rain caps?
			Stuffing box leaks are absent?
			Are the weight guards and belt guard in place?
			Are skids in good condition?
			Are concrete bases / foundations in good condition?
		_	Are concrete bases free from erosion or settlement problems?
			is secondary containment in place for day tanks?

Signature of Inspector:

My signature assures that this location is SAFE, is in compliance with the LAW, and exhibits high standards of Pride, Ownership and Excellence.

### SIMCOE LLC SAN JUAN BASIN, NORTHWEST NEW MEXICO

### BELOW-GRADE TANK CLOSURE PLAN

This plan will address the method, procedures, and protocols for closure of below-grade tanks (BGTs) on SIMCOE LLC (SIMCOE) well sites pursuant to Subsection A of 19.15.17.13 NMAC. As stipulated in Paragraph (1) of Subsection C of 19.15.17.13 NMAC, SIMCOE will not commence closure without first obtaining approval of the closure plan submitted pursuant to Paragraph (3) of Subsection B of 19.15.17.9 NMAC. If deviations from this plan are necessary, SIMCOE will request preapproval from the Division District III office of any specific changes and will be included on form C-144. SIMCOE shall close its BGTs within 60 days of cessation of the operation as required by Paragraph (4) of Subsection G of 19.15.17.13 NMAC.

### <u>General Closure Plan</u>

- 1. SIMCOE shall notify the surface owner by certified mail; return receipt requested that it plans to close a BGT. Notice given will be at least 72 hours in advanced, but not more than one week prior to any closure operation. The notice shall include the well name, API number, and legal description of the location. Evidence of mailing of the notice to the address of the surface owner shown in the county tax records demonstrates compliance with this requirement.
- 2. SIMCOE shall notify the Division District III office verbally and in writing at least 72 hours, but not more than one week, prior to any closure operation. The notice shall include the Operator's name, and the location of the BGT to be closed by unit letter, section, township and range. If the BGT closure is associated with a particular well, then the notice shall also include the well's name, number and API number.
- 3. Within 60 days of cessation of operations, SIMCOE shall remove liquids and sludge from the BGT prior to implementing a closure method and dispose of the liquids and sludge in a NMOCD approved facility. The facilities to be used are:
  - a. SCrouch Mesa Landfarm, Permit NM-02-003 (Solids)
  - b. JFJ Landfarm, Permit NM-01-010(B) (Solids and Sludge)
  - c. Basin Disposal, Permit NM-01-0005 (Liquids)
  - d. Envirotech Inc Soil Remediation Facility, Permit NM-01-0011 (Solids and Sludge)
  - e. SIMCOE Operated E.E. Elliott SWD #1, API 30-045-27799 (Liquids)
  - f. SIMCOE Operated 13 GCU SWD #1, API 30-045-28601 (Liquids)
  - g. SIMCOE Operated GCU 259 SWD, API 30-045-20006 (Liquids)
  - h. SIMCOE Operated GCU 306 SWD, API 30-045-24286 (Liquids)
  - i. SIMCOE Operated GCU 307 SWD, API 30-045-24248 (Liquids)
  - j. SIMCOE Operated GCU 328 SWD, API 30-045-24735 (Liquids)
  - k. SIMCOE Operated Pritchard SWD #1, API 30-045-28351 (Liquids)
- 4. SIMCOE shall remove the BGT and dispose of it in a NMOCD approved facility or recycle, reuse, or reclaim it in a manner that the Division District III office approves. Documentation as to the final disposition of the removed BGT will be provided in the final closure report.
- 5. Within six months of cessation of operations, SIMCOE shall remove any on-site equipment associated with a BGT unless the equipment is required for some other purpose.
- 6. SIMCOE shall test the soils beneath the BGT to determine whether a release has occurred. SIMCOE shall collect at a minimum: a five (5) point composite sample to include any obvious stained or wet soils, or other evidence of a release under the BGT. The composite sample shall be collected and analyzed as required for the constituents listed in Table I within Subparagraph (a) of Paragraph (3) of Subsection C of 19.15.17.13 NMAC (see Table 1 on following page).

Table 1				
<b>Closure Criteria for Soils Beneath Below-Grade Tanks</b>				
Depth below bottom of pit to groundwater less than 10,000 mg/l TDS	Constituent	Method*	Limit**	
≤50 feet	Chloride	EPA 300.0	600 mg/kg	
	ТРН	EPA SW-846 Method 418.1	100 mg/kg	
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg	
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg	
51 feet-100 feet	Chloride	EPA 300.0	10,000 mg/kg	
	ТРН	EPA SW-846 Method 418.1	2,500 mg/kg	
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg	
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg	
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg	
> 100 feet	Chloride	EPA 300.0	20,000 mg/kg	
	ТРН	EPA SW-846 Method 418.1	2,500 mg/kg	
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg	
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg	
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg	

Notes: mg/Kg = milligram per kilogram, BTEX = benzene, toluene, ethylbenzene, and total xylenes, TPH = total petroleum hydrocarbons, TDS = total dissolved solids.

\* - Or other test methods approved by the division

- \*\* Numerical limits or natural background level, whichever is greater
- 7. If any contaminant concentration exceeds those standards set in Table I, SIMCOE will acknowledge NMOCD's position to require additional delineation upon review of the results. SIMCOE will not proceed with any further closure activities until approval is first granted by NMOCD.
- 8. If the sampling demonstrates that all contaminant constituents do not exceed the concentrations specified in Table I, then SIMCOE shall backfill the excavation, with non-waste containing, uncontaminated, earthen material.
- 9. SIMCOE shall reclaim the BGT location and all areas associated with the BGT including associated access roads to a safe and stable condition that blends with the surrounding undisturbed area. SIMCOE shall substantially restore the impacted surface area to the condition that existed prior to oil and gas operations by placement of the soil cover as provided in Paragraph (2) of Subsection H of 19.15.17.13 NMAC, re-contour the BGT location and associated areas to a contour that approximates the original contour and blends with the surrounding topography and re-vegetate according to Paragraph (5) of Subsection H of 19.15.17.13 NMAC.
- 10. SIMCOE may propose an alternative to the re-vegetation or recontouring requirement if it can demonstrate to the NMOCD's District III office that the proposed alternative provides equal or greater prevention of erosion, and protection of fresh water, public health and the environment. SIMCOE will seek surface owner approval of the proposed alternative and provide written documentation of the surface owner's approval to NMOCD for its approval.
- 11. Areas reasonably needed for production operations or for subsequent drilling operations shall be compacted, covered, paved, or otherwise stabilized and maintained in such a way as to minimize dust and erosion to the extent practicable.

- 12. The soil cover for closures after site contouring, where the BGT has been removed and if necessary remediated beneath the BGT to chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, shall consist of the background thickness of topsoil or one foot or suitable material, whichever is greater.
- 13. The soil cover will be constructed to the site's existing grade and all practicable efforts will be made to prevent ponding of water and erosion of the cover material.
- 14. All areas disturbed by the closure of the BGT, except areas reasonably needed for production operations or for subsequent drilling operations, shall be reclaimed as early and as nearly as practicable to their original condition or their final land use and shall be maintained to control dust and minimize erosion to the extent practicable.
- **15**. Topsoils and subsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns. The disturbed area then shall be reseeded in the first favorable growing season following closure of the BGT.
- 16. Reclamation of all disturbed areas no longer in use shall be considered complete when all ground surface disturbing activities at the site have been completed, and a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent (50%) of pre-disturbance levels and a total percent plant cover of at least seventy percent (70%) of predisturbance levels, excluding noxious weeds.
- 17. The re-vegetation and reclamation obligations imposed by other applicable federal or tribal agencies on lands managed by those agencies shall supersede these provisions and govern the obligations of SIMCOE subject to those provisions, provided that the other requirements provide equal or better protection of fresh water, human health and the environment.
- **18**. Pursuant to SuSIMCOEaragraph (e) of Paragraph (5) of Subsection H of 19.15.17.13 NMAC, SIMCOE shall notify the NMOCD when reclamation and re-vegetation has been successfully achieved.
- **19**. Within 60 days of closure completion, SIMCOE shall submit a closure report on NMOCD's form C-144, and will include the following;
  - a. necessary attachments to document all closure activities
  - b. sampling results
  - c. information required by 19.15.17 NMAC
  - d. details on back-filling, capping and covering, where applicable.
- 20. SIMCOE shall certify that all information in the report and attachments is accurate, truthful, and compliant with all applicable closure requirements and conditions specified in the approved closure plan.

### SOUTHERN SAN JUAN BASIN (SSJB) Figure Citation List

### Figure 2: Proximity to Significant Watercourses

### Layers: Topographic Imagery: USGS (1999)

USGS 24k Topographic map series. 1:24000. Maps are seamless, scanned images of USGS paper topographic maps. Data created using Terrain Navigator, Copyright 1999, Maptech Inc.

### Figure 3: Groundwater Greater Than 50 ft.

### Layers: Water Wells: iWaters Database: NMOSE/ISC (Dec. 2009) New Mexico Office of the State Engineer

/ISC iWaters database. (Data updated: 12/2009. Data received: 03/09/2010). Data available from:

http://www.ose.state.nm.us/waters\_db\_index.html.

### Cathodic Wells: Tierra Corrosion Control, Inc. (Aug. 2008)

Tierra Corrosion Control, Inc. 1700 Schofield Ln. Farmington, NM 87401. Driller's Data Log. (Data collected: All data are associated with cathodic protection wells installed at BP facilities between 2008-2009. Data received: 05/06/2010).

### Hydrogeological Evaluation: Wright Water Engineers, Inc. (2008)

Evaluation completed by Wright Water Engineers, Inc. Durango Office. Data created using digital statewide geology at 1:500,000 from USGS in combination with 10m Digital Elevation Model (DEM) from NRCS. (Data compiled: 2008.)

Results: Spatial Polygons representing "Groundwater likely to be less than 50 ft." and "Groundwater suspected to be less than 50 ft.".

### Surficial Geology: USGS (1963/1987)

Data digitized and rectified by Geospatial Consultants. (Data digitized: 03/23/2010). Original hard copy maps sourced from United States Geological Survey (USGS). Data available from: <u>http://pubs.er.usgs.gov/</u>.

*Geology, Structure and Uranium Deposits of the Shiprock Quadrangle, New Mexico and Arizonia.* 1:250,000. I - 345. Compiled by Robert B. O'Sullivan and Helen M. Beikman. 1963.

*Geologic Map of the Aztec 1 x 2 Quadrangle, Northwestern New Mexico and Southern Colorado.* 1:250,000. I - 1730. Compiled by Kim Manley, Glenn R. Scott, and Reinhard A. Wobus. 1987.

### Aerial Imagery: Conoco (Summer 2009)

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name: NAD\_1983\_StatePlane\_New\_Mexico\_West\_FIPS\_3003\_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Layers: Perennial Streams: NHD, USGS (2010)

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital Representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

Intermittent Streams: NHD, USGS (2010)

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital Representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

### Water Bodies: NHD, USGS (2010)

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

### USGS Topographic Maps: USGS (2007)

USGS 24k Topographic map series. 1:24000. Maps are seamless, scanned images of USGS paper topographic maps.

Data available from: <u>http://store.usgs.gov</u>.

### Layers:Aerial Imagery:Google Earth Pro (4/6/2019)

Evaluation completed by Blagg Engineering, Inc., Bloomfield, NM. (2019)

### Figure 4: Proximity to Water Wells

Layers: Water Wells: iWaters Database: NMOSE/ISC (Dec. 2009) New Mexico Office of the State Engineer (OSE) /ISC iWaters database. (Data updated: 12/2009. Data received: 03/09/2010). Data available from:

http://www.ose.state.nm.us/waters\_db\_index.html.

### Springs/Seeps: NHD, USGS (2010)

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

### Aerial Imagery: Conoco (Summer 2009)

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name: NAD\_1983\_StatePlane\_New\_Mexico\_West\_FIPS\_3003\_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

### Figure 5: Proximity to Wetlands

Layers: Wetlands:NWI (2010) National Wetlands Inventory (NWI).U.S Fish and Wildlife Service.(Data lastupdated:09/25/2009.Data received:03/21/2010).Data available from: <a href="http://www.fws.gov/wetlands/">http://www.fws.gov/wetlands/.</a>

### Aerial Imagery: Conoco (Summer 2009)

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name: NAD\_1983\_StatePlane\_New\_Mexico\_West\_FIPS\_3003\_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

### Figure 6: Proximity to FEMA Floodplain

Layers: FEMA Floodplain:FEMA (varying years) Data digitized and rectified by Wright Water Engineers, Inc.(Datadigitized: August 2008).Digitized from hard copy Flood Insurance Rate Maps (FIRMs) (varying years) of San JuanCounty.

### Aerial Imagery: Conoco (Summer 2009)

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name: NAD\_1983\_StatePlane\_New\_Mexico\_West\_FIPS\_3003\_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

# DURA+SKRIM® N45B

RAVEN

### PRODUCT DESCRIPTION

DURA SKRIM® N45B is a flexible geomembrane, reinforced with a closely knit 9x9 weft inserted polyester scrim fully encapsulated between two layers of highly UV stabilized linear low density polyethylene. Exceptional toughness, high tensile and puncture strength is achieved with the combination of premium high strength LLDPE and dense scrim reinforcement. A highly stabilized formulation consisting of antioxidants, UV stabilizers and carbon black provide excellent protection for long-term exposed or barrier applications. DURA SKRIM® N-Series geomembranes are produced in the color black as standard, and are available in other custom manufactured colors with minimum order quantity requirements.

### **PRODUCT USE**

DURA♦SKRIM® N45B is used in applications that require exceptional outdoor life requiring up to 20 years of exposure depending upon the geographical location. Applications requiring high tear properties, exceptional tensile strength and puncture resistance utilize N45B to meet these demands. DURA♦SKRIM® N-Series is manufactured from a chemicalresistant, linear-low-density polyethylene with excellent cold crack performance and resistance to thermal expansion.

DURA♦SKRIM® N45B meets the physical property values as stated in GRI test method GM25, and is certified under the NSF/ANSI Standard 61, Drinking Water System Components – Health Effects.

### SIZE & PACKAGING

DURA♦SKRIM® N45B is available in a variety of widths and lengths to meet the project requirements. Large diameter mill rolls are available to assure an efficient seaming process. Factory welded panels are produced in a controlled environment and are accordion folded and tightly rolled on a heavy-duty core for ease of handling and time saving installation.





Bio Cell Liner

### PART #

DURA SKRIM	 N45B
	-

### APPLICATIONS

PRODUCT

Waste Lagoon Liners	Landfill Caps
Floating Covers	Erosion Control Covers
Daily Landfill Covers	Canal Liners
Modular Tank Liners	Disposal Pit Liner
Tunnel Liners	Water Containment Ponds
Remediation Liners	Heap Leach Liner
Earthen Liners	Secondary Containment
Interim Landfill Covers	Remediation Covers

### DURA+SKRIM® N45B

SCRIM REINFORCED POLYETHYLENE – NSF/ANSI STANDARD 61 CERTIFIED

		DURA♦SKRIM <sup>®</sup> N45B			
PRO-FORMA DATA SHEET	IMPE	RIAL	METRIC		
PROPERTIES	TEST METHOD	MINIMUM	TYPICAL	MINIMUM	TYPICAL
Appearance		Black		Black	
Core Thickness	ASTM D5199	40 mil	45 mil	1.02 mm	1.14 mm
WEIGHT	ASTM D751	189 lbf/msf	213 lbf/msf	923 g/m²	1040 g/m²
Construction		9x9-1000 Denier PET scrim reinforced polyethylene			
Tongue Tear Strength	ASTM D5884	100 lbf	135 lbf	445 N	601 N
Grab Tensile at Break	ASTM D7004	275 lbf	350 lbf	1223 N	1557 N
Tensile Elongation at Break	ASTM D7004	22 %	30 %	22 %	30 %
Puncture Resistance	ASTM D4833	108 lbf	125 lbf	480 N	556 N
Standard OIT or High Pressure HPOIT	ASTM D3895 ASTM D5885	100 min 400 min	150 min 2400 min	100 min 400 min	150 min 2400 min
Hydraulic Conductivity		1.47 x 10 <sup>-10</sup> cm/sec			
Maximum Static Use Temperature		180° F		82° C	
Minimum Static Use Temperature		-70° F		-57° C	

PRO-FORMA SHEET CONTENTS: The data listed in the Pro-Forma data sheet is representative of initial production runs. These values may be revised at anytime without notice as additional test data becomes available.

# DURA-SKRIM®

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Note: To the best of our knowledge, unless otherwise stated, these are typical property values and are intended as guides only, not as specification limits. Chemical resistance, odor transmission, longevity as well as other performance criteria is not implied or given and actual testing must be performed for applicability in specific applications and/or conditions. RAVEN INDUSTRIES MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage. Limited Warranty available at www.ravenefd.com

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