



AFFIDAVIT OF PLUGGING (HOLE PLUGGER)

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 51457 (03-2009)



PERMIT NAME (Required): GRENORA 2011 3-D

PERMIT NUMBER: 97-0211

AFFIDAVIT OF PLUGGING (HOLE PLUGGER)

STATE OF Louisiana)
)
 Parish)
 COUNTY OF Natchitoches)

Before me, Theresa Calhoun a Notary Public in and for the said

County and State, this day personally appeared ALAN A. JONES

who being first duly sworn, deposes and says that (s)he is employed by

Helix Seismic Exploration, that (s)he has read North Dakota

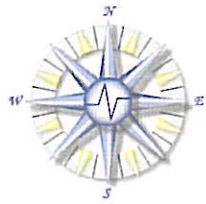
Century Code Section 38-08.1 and that the foregoing seismic project has been plugged in accordance with North Dakota Administrative Code Rule 43-02-12 and that the statements on the attached documents are true.

[Signature]
Hole Plugger Representative

Subscribed in my presence and sworn before me this 30th day of December, 2011.

Notary Public Theresa Calhoun
FD # 55198

My Commission Expires Life



TERRA-SINE

RESOURCES LTD.

Performance Beyond Expectation

January 23, 2012

Industrial Commission of North Dakota
Oil & Gas Division
600 E. Boulevard, Dept. 405
Bismarck, ND 58505-0840
Att: Todd Holweger

Reference: Terra-Sine Resources Ltd.
Grenora 2011 3D Seismic Program
TSR File #11-1102
ND Permit #97-0211

Please be advised operations were completed on the above reference project on December 30, 2011.

As per North Dakota regulatory requirements the related Geophysical Exploration Affidavit of Completion was submitted to your attention via email within 30 days of completion of the project, and all landowners inside of and within 0.5 miles of the perimeter received a copy of the North Dakota Oil and Gas Rules and Regulations Section 38-05.1-04 and Chapter 38 - 11.1

If you have any questions, please contact us at your earliest convenience.

Regards,

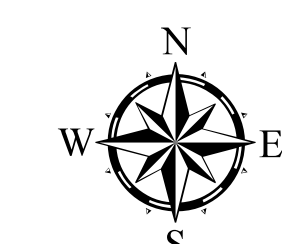
Becky Goodwin
Project Administrator
Terra-Sine Resources Ltd.

Included Documents:

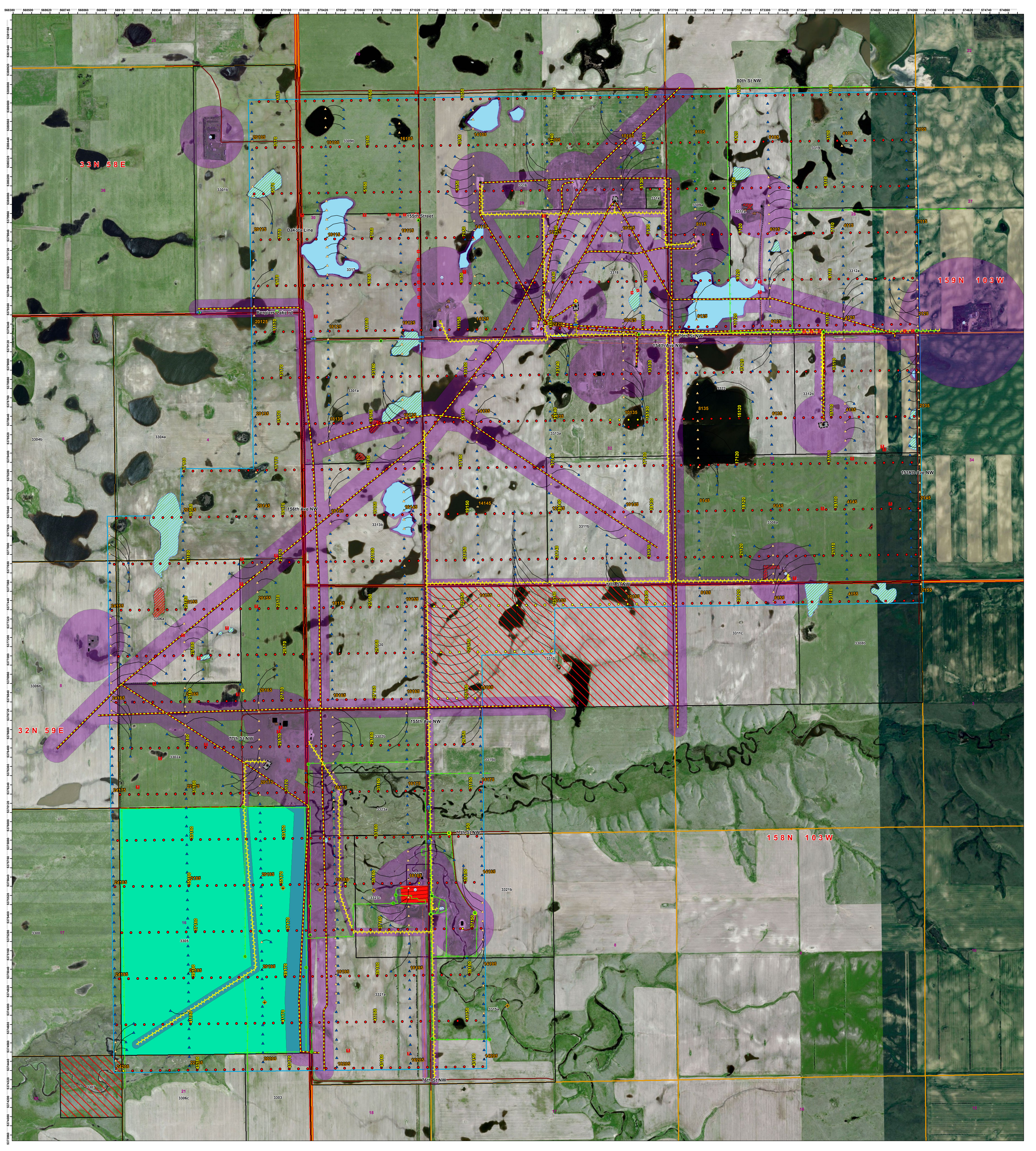
- Completion Report & Affidavit
- Post Plot Map
- Hole Plugging Reports
- Hole Plugging Affidavit

Grenora 3D

- Legend**
- Source Plotlist
 - Receiver Plotlist
 - Offsets
 - Source_Preplots
 - Receiver_Preplots
 - Abandoned_Well
 - Access
 - Base
 - Cattle_Guard
 - Concrete_Structure
 - Crossing
 - Culvert
 - Electrical_Box
 - Gas_Well
 - Gate
 - Gravel_Site
 - Hazard
 - Locked_Gate
 - Narrow_Gate
 - Non-Concrete_Structure
 - Oil_Well
 - Pivot
 - Septic_Tank
 - Tower
 - Water_Pump
 - Water_Well
 - Windmill
 - Access_Line
 - Buried_Cable
 - Canal
 - Concrete_Dam
 - Creek
 - Electric_Fence
 - Fiber_Optic_Cables
 - Gravel_Road
 - LPURL
 - LPURL
 - LPURL
 - Main_Highway
 - Paved_Road
 - Power_Line
 - Railroad
 - River
 - Sewer_Line
 - Transmission_Line
 - Two_Track
 - UTV_Trail
 - Water_Line
 - Concrete_Structure
 - Crop
 - Hazard
 - No_Piv_Zone
 - Frost
 - Power_Station
 - Red_Zone
 - Well_Pad
 - Wetland
 - Buffer
 - Grenora_Boundary
 - Sections
 - Townships



0 105210 420 Meters





TERRA-SINE RESOURCES LTD

PERMIT NAME (Required): GRENORA 2011 31D
 PERMIT NUMBER: 97-0211

AFFIDAVIT OF COMPLETION (GEOPHYSICAL CONTRACTOR)

PROVINCE OF ALBERTA
~~STATE OF NORTH DAKOTA~~)
 COUNTRY OF CANADA)
~~COUNTY OF WILLIAMS COUNTY~~)

Before me, Michelle Graham, a Notary Public in and for the said
~~Country and Province~~
~~County and State~~, this day personally appeared BECKY GOODWIN
 who being first duly sworn, deposes and says that (s)he is employed by _____

TERRA-SINE RESOURCES LTD, that (s)he has read North Dakota
 Century Code Section 38-08.1, that the foregoing seismic project has been completed in
 accordance with North Dakota Administrative Code Rule 43-02-12 and that the statements on
 the reverse side of this document are true.

Becky Goodwin
 Geophysical Contractor Representative

Subscribed in my presence and sworn before me this 20 day of January, 2012.

Witnessed, Notarized or Commissioned only.
No legal advice sought or given.

Notary Public Michelle Graham
 Student-at-Law

My Commission Expires N/A.



GEOPHYSICAL EXPLORATION COMPLETION REPORT - FORM GE 6A

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 51456 (03-2011)

| | |
|-----------------------------------------|---------------------------|
| Permit No. 97-0211 | |
| Shot Hole Operations DYNAMITE | *Non-Explosive Operations |

SECTION 1

| | |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| Geophysical Contractor TERRA-SINE RESOURCES LTD. #185, 550-715⁺ AVE-SE. CALBARY, AB T2H 0S6 | |
| Project Name and Number GRENORA 2011 3D | County(s) WILLIAMS COUNTY, ND. |
| Township(s) 158, 159 | Range(s) 103 W |
| Drilling and Plugging Contractors HELIX SEISMIC EXPLORATION INC. - 110, 7445-45 AVENUE CLOSE RED DEER, ALBERTA, CANADA | |
| Date Commenced <i>Approved</i> OCT. 24, 2011 | Date Completed DECEMBER 30, 2011 |

SECTION 2

| | | | | | | | | | | | | | |
|------------------------------------------------------------------------------------------------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|--|--|--|--|--|--|
| First S.P. # 2101 | Last S.P. # 24202 | | | | | | | | | | | | |
| Loaded Holes (Undetonated Shot Points) 7 | | | | | | | | | | | | | |
| S.P.#s | 12103 | 12135 | 14112 | 14126 | 18179 | 18192 | 22167 | | | | | | |
| Charge Size | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | | | | | | |
| Depth | 55' | 55' | 50' | 50' | 50' | 50' | 50' | | | | | | |
| Reasons Holes Were Not Shot Bad Caps. Please note all leads have been cut 18" below surface. | | | | | | | | | | | | | |

SECTION 3

| |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flowing Holes and/or Blowouts S.P.#s |
| Procedure for Plugging Flowing Holes and/or Blowouts |
| Include a 7.5 minute USGS topographic quadrangle map or a computer generated post-plot facsimile of the approximate scale displaying each individual shot hole, S.P. #, line #, and legal location. |



DAILY HOLE PLUGGING LOG

| | |
|--------------------|------------------------|
| Client: TERRA-SINE | Date: 12-14-2011 |
| State: N. DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles HARRISON |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 2 | 101 | Bombie | Wet | 1 1/2 Bc | | | No Plug | |
| | 102 | | Wet | 2 | | | 3 ft | |
| | 103 | | Wet | 2 | | | 3 ft | |
| | 104 | | Wet | 2 | | | 3 ft | |
| | 105 | | Wet | 2 | | | 3 ft | |
| | 106 | | Wet | 2 | | | 3 ft | |
| | 107 | | Wet | 2 | | | 3 ft | |
| | 108 | | Wet | 2 | | | 3 ft | |
| | 109 | | Wet | 2 | | | 3 ft | |
| | | | | | | | | |
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Handwritten initials

DAILY HOLE PLUGGING LOG

| | |
|---------------------|------------------------|
| Client: TERRA-SINE | Date: 12-11-2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Anderson |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 2 | 114 | | wet | 2 | | | 3 FT | |
| | 115 | | | | | | | |
| | 116 | | | | | | | |
| | 117 | | | | | | | |
| | 118 | | | | | | | |
| | 119 | | | | | | | |
| | 120 | | | | | | | |
| | 121 | | | | | | | |
| | 122 | | | | | | | |
| | 123 | | | | | | | |
| | 124 | | | | | | | |
| | 125 | | | | | | | |
| | 126 | | | | | | | |
| | 127 | | | | | | | |
| | 128 | | | | | | | |

~~129~~



DAILY HOLE PLUGGING LOG

| | |
|---------------------|------------------------|
| Client: TERRA-SINE | Date: 12-10-2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Harrison |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. | |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|---------|
| 2 | 129 | | wet | 2 | | | 2ft | | |
| | 130 | | } | 2 | | | } | | |
| | 131 | | | 2 | | | | | |
| | 132 | | | 2 | | | | | |
| | 133 | | | 2 | | | | | |
| | 134 | | | 2 | | | | | |
| | 135 | | | 2 | | | | | |
| | 136 | | | 1/2 | 1 | | | | NO PLUG |
| | 137 | | | 2 | | | | | 3ft |
| | 138 | | | 2 | | | | | |
| | 139 | | | 2 | | | | | |
| | 140 | | 2 | | | | | | |
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DAILY HOLE PLUGGING LOG

| | |
|---------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-14-11 |
| State: North Dakota | Permit Number: |
| Job: CREWORA 3-D | Name: Richard D. Hand |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 2 | 141 | Tandem | WET | 2 | | | 3' | |
| } | 142 | } | } | } | | | } | |
| | 143 | | | | | | | |
| | 144 | | | | | | | |
| | 145 | | | | | | | |
| | 146 | | | | | | | |
| | 147 | | | | | | | |
| | 148 | | | | | | | |
| | 149 | | | | | | | |
| | 150 | | | | | | | |
| | 151 | | | | | | | |
| | 152 | | | | | | | |
| | 153 | | | | | | | |
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DAILY HOLE PLUGGING LOG

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|-------------------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-1-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: <u>GENORA 3-D</u> 3-D | Name: Charles W Remix |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 2 | 174 | Aug | wet | 2 | | | 3 | clay thick mud |
| 2 | 175 | | | 2 | | | 3 | |
| 6 | 174 | | | 2 | | | 2.5 | |
| 6 | 175 | | | 2 | | | 2 | |
| 6 | 172 | | | 1.5 | | | 2 | |
| 8 | 190 | | | 1.5 | | | 2 | |
| 8 | 191 | | | 1.5 | | | 2.5 | |
| 8 | 192 | | | 1.5 | | ~ | 2 | |
| 8 | 193 | | | 1.5 | | | 1.5 | |
| 8 | 194 | ↓ | ↓ | 1 | | | 1.5 | ↓ |
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DAILY HOLE PLUGGING LOG

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|---------------------|------------------------|
| Client: TERRA-SINE | Date: 12-13-2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Harrison |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 4 | 103 | | Wet | 2 | | | 3FT | |
| | 104 | | } | 1 Bag | | | 3FT | |
| | 105 | | | 2 | | | | |
| | 106 | | | 2 | | | | |
| | 107 | | | 2 | | | | |
| | 108 | | | 2 | | | | |
| | 109 | | | 2 | | | | |
| | 110 | | | 2 | | | | |
| | 111 | | | 2 | | | | |
| | 112 | | | 2 | | | | |
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DAILY HOLE PLUGGING LOG

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|---------------------|------------------------|
| Client: TERRA-SINE | Date: 12-11-2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Harrison |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 4 | 116 | | wet | 2 | | | 3 ft | |
| | 117 | | | | | | | |
| | 119 | | | | | | | |
| | 121 | | | | | | | |
| | 122 | | | | | | | |
| | 123 | | | | | | | |
| | 124 | | | | | | | |
| | 125 | | | | | | | |
| | 126 | | | | | | | |
| | 118 | | | | | | | |
| | 120 | | | | | | | |
| 4 | 127 | | | | | | | |
| | | | | | | | | |
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DAILY HOLE PLUGGING LOG

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|---------------------|------------------------|
| Client: TERRA-SINE | Date: 12-10-2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Harrison |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 4 | 128 | | Wet | 2 | | | 3FT | |
| | 129 | | } | 2 | | | } | |
| | 130 | | | 2 | | | | |
| | 131 | | | 1 | | | | 4 Plug |
| | 132 | | | 2 | | | | 3FT |
| | 133 | | | | | | | |
| | 134 | | | | | | | |
| | 135 | | | | | | | |
| | 136 | | | | | | | |
| | 137 | | | | | | | |
| | 138 | | | | | | | |
| | 139 | | | | | | | |
| | 140 | | | | | | | |



DAILY HOLE PLUGGING LOG

| | |
|--------------------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-14-11 |
| State: North Dakota | Permit Number: |
| Job: GRENORA 3-1 | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 4 | 141 | Tandem | WET | 2 | | | 3' | |
| | 142 | | | | | | | |
| | 143 | | | | | | | |
| | 144 | | | | | | | |
| | 145 | | | | | | | |
| | 146 | | | | | | | |
| | 147 | | | | | | | |
| | 148 | | | | | | | |
| | 149 | | | | | | | |
| | 150 | | | | | | | |
| | 151 | | | | | | | |
| | 152 | | | | | | | |
| | 153 | | | | | | | |
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DAILY HOLE PLUGGING LOG

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|----------------------------------------|------------------------|
| Client: TERRA-SINE | Date: 12-13-2011 |
| State: MONTANA W. Dakota | Permit Number: |
| Job: DWAYNE 3-D Grenola 3-D | Name: Charles Harrison |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. | |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|--|
| 6 | 102 | | wet | 2 | | | 3 1/2 | | |
| | 103 | | } | 2 | | | } | | |
| | 101 | | | 2 | | | | | |
| | 104 | | | 2 | | | | | |
| | 105 | | | 2 | | | | | |
| | 106 | | | 2 | | | | | |
| | 107 | | | 2 | | | | | |
| | 108 | | | 2 | | | | | |
| | 111 | | | 2 | | | | | |
| | 112 | | | | 1 Bag | | | 3 FT | |
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DAILY HOLE PLUGGING LOG

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|---------------------|------------------------|
| Client: TERRA-SINE | Date: 12-2-2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Harrison |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 6 | 109 | | Wet | | | | 3 FT | |
| | 110 | | } | | | | } | |
| | 113 | | | | | | | |
| | 114 | | | | | | | |
| | 115 | | | | | | | |
| | 116 | | | | | | | |
| | 117 | | | | 1 Bq | | | 17 FT Plug |
| | 118 | | | | | | | 3 FT |
| | 119 | | | | | | | 3 FT |
| | 120 | | | | 1 Bq | | | 17 FT Plug |
| | 121 | | | | | | | 3 FT |
| | 122 | | | | | | } | |
| | 122 | | | | | | | |
| | 123 | | | | | | | |
| | 124 | | | | | | | |



DAILY HOLE PLUGGING LOG

| | |
|---------------------|------------------------|
| Client: TERRA-SINE | Date: 12-9-2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Harrison |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 6 | 125 | | wet | 1 1/2 | | | 3 FT | |
| | 126 | | | 1 1/2 | | | 1 FT | |
| | 127 | | | 2 | | | 3 FT | |
| | 128 | | | 1 1/2 | | | 1 1/2 FT | |
| | 129 | | | 2 | | | 3 FT | |
| | 130 | | | 2 | | | 3 FT | |
| | 131 | | | 1 1/2 | | | 1 FT | |
| | 132 | | | 2 | | | 3 FT | |
| | 133 | | | 2 | | | 3 FT | |
| | 134 | | | 2 | | | 3 FT | |
| | 135 | | | 2 | | | 3 FT | |
| | 136 | | | 2 | | | 2 FT | |
| | 137 | | | 2 | | | 2 FT | |
| | 138 | | | 1 1/2 | | | 3 FT | |
| | 139 | | | 1 1/2 | | | 1 1/2 FT | |



DAILY HOLE PLUGGING LOG

| | |
|---------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-15-11 |
| State: North Dakota | Permit Number: |
| Job: GRENDA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 10 | 142 | Tandem | wet | 2 | | | 3' | |
| } | 143 | | | | | | | |
| | 144 | | | | | | | |
| | 145 | | | | | | | |
| | 146 | | | | | | | |
| | 147 | | | | | | | |
| | 148 | | | | | | | |
| | 149 | | | | | | | |
| | 150 | | | | | | | |
| | 151 | | | | | | | |
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DAILY HOLE PLUGGING LOG

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|---------------------|------------------------|
| Client: TERRA-SINE | Date: 12-15-2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Harrison |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 8 | 101 | | WET | 2 | | | 3 | |
| 8 | 102 | | | | | | | |
| 8 | 103 | | | | | | | |
| 8 | 104 | | | | | | | |
| 8 | 105 | | | | | | | |
| 8 | 106 | | | | | | | |
| 8 | 107 | | | | | | | |
| 8 | 108 | | | | | | | |
| 8 | 109 | | | | | | | |
| 8 | 110 | | | | | | | |
| 8 | 111 | | | | | | | |
| 8 | 112 | | | | | | | |
| 8 | 113 | | | | | | | |
| 8 | 114 | | | | | | | |
| 8 | 117 | | | | | | | |
| 028 | 118 | | | | | | | |



DAILY HOLE PLUGGING LOG

| | |
|--------------------|-----------------|
| Client: TERRA-SINE | Date: 12-16-11 |
| State: ND | Permit Number: |
| Job: GRENORA | Name: Jim Young |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 8 | 119 | Ayer | WET | 2 | | | 3 | |
| 8 | 120 | | WET | 2 | | | 3 | |
| 8 | 121 | | WET | 2 | | | 3 | |
| 8 | 125 | | WET | 2 | | | 3 | |
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DAILY HOLE PLUGGING LOG

| | |
|---------------------------|-------------------------------|
| Client: TERRA-SINE | Date: 12-15-2011 |
| State: N. Dakota | Permit Number: |
| Job: Corwinka 3-D | Name: Charles Harrison |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 8 | 122 | | Wet | 2 | | | 3ft | |
| | 123 | | Wet | 2 | | | 3ft | |
| | 124 | | Wet | 2 | | | 3ft | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 11-17-11 |
| State: North Dakota | Permit Number: |
| Job: Gorina | Name: Jim Young |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | BAPS Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|---------------------------|--------------------|--------------------------|----------------------------------------------|
| 8 | 128 | Auger | Wet | | 2 BAGS | | 1 ft | Charge Loaded at 32ft Bottom. |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-9-2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Harrison |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 8 | 129 | | wet | 1 1/2 | | | 1 FT | |
| | 133 | | } | 1 1/2 | | | N/A | |
| | 135 | | | 1 1/2 | | | 11 FT | |
| | 136 | | | 1 | | | N/A | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-8-2011 |
| State: MONTANA N. Dakota | Permit Number: |
| Job: DMBER-3-D Remove 3' D | Name: Charles Harrison |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 8 | 131 | | wet | 1 1/2 | | | No Plug | |
| | 132 | | } | 1 1/2 | | | 3 FT | |
| | 154 | | | 2 | | | 3 FT | |
| | 155 | | | 2 | | | 3 FT | |
| | 130 | | | 2 | | | 3 FT | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-13-11 |
| State: North Dakota | Permit Number: |
| Job: CRENOVA | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 8 | 137 | Tarden | wet | 2 | | | 3' | Backer LAP Flowing Hole |
| | 142 | | | 2 | | | 4' | Flowing Hole |
| | 143 | | | 2 | | | | |
| | 144 | | | 2 | | | | |
| | 145 | | | 2 | | | | |
| | 146 | | | 2 | | | | |
| | 147 | | | 2 | | | | |
| | 148 | | | 2 | | | | |
| | 149 | | | 2 | | | | |
| | 150 | | | 2 | | | | |
| | 151 | | | 2 | | | | |
| | 152 | | | 2 | | | | |
| | 153 | | | 2 | | | | |
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DAILY HOLE PLUGGING LOG

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|---------------------|----------------------|
| Client: TERRA-SINE | Date: 12-17-11 |
| State: North Dakota | Permit Number: |
| Job: Grenora | Name: Jonathan Ayres |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 10 | 104 | Auger | wet | 2 | | | 3 | Sand |
| | 103 | | | 1.5 | | | 3 | |
| | 102 | | | 1.25 | | | 3 | |
| | 101 | | | 2 | | | 3 | |
| | 105 | | | 2 | | | 2 | |
| | 106 | | | 2 | | | 3 | |
| | 108 | | | 2 | | | 3 | |
| | 107 | | | 1.5 | | | 3 | |
| | 109 | | | 2 | | | 3 | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-16-11 |
| State: | Permit Number: |
| Job: CORENORA | Name: Stone DeWard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 10 | 114 | Auger | WET | 2 | | | 3 | |
| | 115 | | | | | | | |
| | 116 | | | | | | | |
| | 119 | | | | | | | |
| | 120 | | | | | | | |
| | 121 | | | | | | | |
| | 122 | | | | | | | |
| | 123 | | | | | | | |
| | 124 | | | | | | | |
| | 118 | | | | | | | |
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DAILY HOLE PLUGGING LOG

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|--------------------|------------------------|
| Client: TERRA-SINE | Date: 12-15-2011 |
| State: N. Dakota | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Harrison |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 10 | 110 | | Wet | 2 | | | 3 FT | |
| | 111 | | Wet | 2 | | | 3 FT | |
| | 112 | | Wet | 2 | | | 3 FT | |
| | 117 | | Wet | 1 Bq | | | 1 FT | |
| | 118 | | Wet | 2 | | | 3 FT | |
| | 127 | | Wet | 2 | | | 3 FT | |
| | 128 | | Wet | 2 | | | 3 FT | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-16-11 |
| State: | Permit Number: |
| Job: Grenora | Name: Jim Young |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 10 | 129 | Auger | Wet | 2 | | | 3 | |
| | 130 | | | 2 | | | 3 | |
| | 131 | | | 2 | | | 3 | |
| | 132 | | | 1.5 | | | 2 | |
| | 133 | | | 1 | | | 1.5 | |
| | 134 | | | 2 | | | 3 | |
| | 135 | | | 2 | | | 3 | |
| | 136 | | | 2 | | | 3 | |
| | 137 | | | 2 | | | 3 | |
| | 138 | | | 2 | | | 3 | |
| | 139 | | | 2 | | | 3 | |
| | 140 | | | 2 | | | 3 | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-8-2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Anderson |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 10 | 144 | | Wet | 2 | | | 3F | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-2-2017 |
| State: MONTANA N. Dakota | Permit Number: |
| Job: DWYER 3-D Grenow 3-D | Name: Charles Harrison |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|-----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 10 | 142 | | Wet | 2 | | | 3 FT | |
| | 143 | | } | 2 | | | 3 FT | |
| | 144 | | | 2 | | | 3 FT | |
| | 145 | | | 2 | | | 3 FT | |
| | 146 | | | 1 1/2 Bay | | | No Plug | |
| | 147 | | | 2 | | | 3 FT | |
| | 148 | | | 2 | | | 3 FT | |
| | 149 | | | 2 | | | 3 FT | |
| | 150 | | | 2 | | | 3 FT | |
| | 151 | | | 2 | | | 3 FT | |
| | 152 | | | 1 Bay | | | 3 FT | |
| | 153 | | | 2 | | | 3 FT | |
| | 154 | | | 1 Bay | | | 3 FT | |
| | 155 | | | 2 | | | 3 FT | |



DAILY HOLE PLUGGING LOG

| | |
|---------------------|----------------------|
| Client: TERRA-SINE | Date: 12-10-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Jonathan Ayres |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 12 | 208 | | | 2 | | | 3 | 50 |
| | 209 | | | 1.5 | | | 3 | 30 |
| | 210 | | | 1 | | | 2 | 30 |
| 16 | 210 | | | 1.5 | | | 3 | 40 |
| | 209 | | | 2 | | | 25 | 40 |
| | 208 | | | 2 | | | 3 | 50 |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-16-11 |
| State: | Permit Number: |
| Job: Grenora | Name: Jonathan Ayres |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 12 | 112 | Auger | wet | 2 | X | | 3 | good holes |
| | 111 | | | 2 | | | 3 | sand/clay |
| | 107 | | | 2 | | | 3 | |
| | 106 | | | 1.3/4 | | | 2 | |
| | 105 | | | 2 | | | 1.5 | |
| | 104 | | | 1 | | | 2 | |
| | 103 | | | 1 | | | 3 | |
| | 102 | | | 2 | | | 3 | |
| | 101 | | | 2 | | | 3 | |
| | 108 | | | 2 | | | 3 | |
| | 109 | | | 2 | | | 3 | |
| | 110 | | | 2 | | | 3 | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-16-11 |
| State: | Permit Number: |
| Job: GRENORA | Name: Shane D. Hensel |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 12 | 113 | Auger | WET | 2 | | | 3 | |
| 12 | 114 | | | | | | | |
| 12 | 115 | | | | | | | |
| 12 | 116 | | | | | | | |
| 12 | 117 | | | | | | | |
| 12 | 118 | | | | | | | |
| 12 | 119 | | | | | | | |
| 12 | 111 | | | | | | | |
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| | | | | | | | | |
| 8 | 114 | Auger | WET | 2 | | | 3 | |
| 8 | 116 | Auger | WAT | 2 | | | 3 | |



DAILY HOLE PLUGGING LOG

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|-----------------------------------------|------------------------|
| Client: TERRA-SINE | Date: 12-6-2011 |
| State: MONTANA - 10. DAKOTA | Permit Number: |
| Job: DAKOTA 3-D Colorado 3-D | Name: Charles American |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|------------|----------------|-----------------|--------------------|----------------------------------------|
| 1 | 124 | 09904 | wet | 2 Bags | | | 3 FT | |
| 2 | 125 | } | } | 2 Bags | | | 3 FT | |
| 3 | 126 | | | 2 Bags | | | 3 FT | |
| 4 | 127 | | | 2 Bags | | | 3 FT | |
| 5 | 132 | | | 2 Bags | | | 3 FT | |
| 6 | 133 | | | 2 Bags | | | 10/11 up | |
| 7 | 134 | | | 2 Bags | | | 3 FT | |
| 8 | 135 | | | 1 1/2 Bags | | | 1 FT | |
| 9 | 136 | | | 2 Bags | | | 3 FT | |
| 10 | 137 | | | 1 Bag | | | 1 FT | |
| 11 | 138 | | | 2 Bags | | | 3 FT | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-7-2011 |
| State: MONTANA <i>North Dakota</i> | Permit Number: |
| Job: DIVISION <i>Fireman 3-D</i> | Name: Charles Harrison |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 12 | 146 | | Wet | 2 | | | 3ft | |
| | 147 | | } | 2 | | | 3ft | |
| | 148 | | | 2 | | | 3ft | |
| | 149 | | | 2 | | | 3ft | |
| | 150 | | | 2 | | | 3ft | |
| | 151 | | | 2 | | | 3ft | |
| | 152 | | | 2 | | | 3ft | |
| | 143 | | | 1/2 Bag | | | 1ft | |
| | 144 | | | 2 | | | 3ft | |
| | 134 | | | 2 | | | 3ft | |
| | 145 | | | 1/2 Bag | | | 10 1/8 ft | |
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DAILY HOLE PLUGGING LOG

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|---------------------|------------------------------|
| Client: TERRA-SINE | Date: 12-4-11 |
| State: NORTH DAKOTA | Permit Number: Phillip Pitts |
| Job: GRENORA 3-D | Name: Phillip Pitts |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 12 | 153 | | wet | | | | 2 | Sand Clay |
| 12 | 154 | | wet | | | | 2 | Sand Clay |
| 12 | 155 | | wet | | | | 2 | Sand Clay |
| 12 | 156 | | wet | | | | 2 | Sand Clay |
| 12 | 157 | | wet | | | | 2 | Sand Clay |
| 12 | 158 | | wet | | | | 2 | Sand Clay |
| 12 | 159 | | wet | | | | 2 | Sand Clay |
| 12 | 160 | | wet | | | | | Sand Clay |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-12-13 |
| State: | Permit Number: |
| Job: | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 14 | 101 | Tandem | wet | 2 | | | 3' | |
| | 102 | | | | | | | |
| | 103 | | | | | | | |
| | 104 | | | | | | | |
| | 105 | | | | | | | |
| | 106 | | | | | | | |
| | 107 | | | | | | | |
| | 108 | | | | | | | |
| | 109 | | | | | | | |
| | 110 | | | | | | | |
| | 111 | | | | | | | |
| | 112 | | | | | | | |
| | 113 | | | | | | | |
| | 114 | | | | | | | |
| | 115 | | | | | | | |



DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-12-11 |
| State: | Permit Number: |
| Job: | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 14 | 116 | Tandem | WCT | 2 | | | 3' | |
| } | 117 | } | } | 2 | | | 3' | |
| | 118 | | | 2 | | | 3' | |
| | 119 | | | 2 | | | 3' | |
| | 120 | | | 2 | | | 3' | |
| | 121 | | | 2 | | | 3' | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-13-11 |
| State: North Dakota | Permit Number: |
| Job: OPERATOR | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 14 | 122 | Tarden | wet | 2 | | | 3' | |
| } | 123 | } | } | 2 | | | } | |
| | 124 | | | 2 | | | | |
| | 125 | | | 2 | | | | |
| | 126 | | | 2 | | | | |
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DAILY HOLE PLUGGING LOG

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|---------------------|--------------------------------|
| Client: TERRA-SINE | Date: 12-5-11 |
| State: NORTH DAKOTA | Permit Number: Phillip B Pitts |
| Job: GRENORA 3-D | Name: Phillip B Pitts |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 127 | 127 | | wet | | | | NOF | Clay |
| | 128 | | | | | | | |
| | 129 | | | | | | | |
| | 130 | | | | | | | |
| | 131 | | | | | | | |
| | 132 | | | | | | | |
| | 133 | | | | | | | |
| | 134 | | | | | | | |
| | 135 | | | | | | | |
| | 136 | | | | | | | |
| | 137 | | | | | | | |
| | 138 | | | | 1 | | NOF | |
| | 139 | | | | | | | |
| | 140 | | | | | | | |
| | 141 | | | | 1/2 | | NOF 1/2 | |
| 142 | 142 | | wet | | | | | |



DAILY HOLE PLUGGING LOG

| | |
|---------------------|------------------------------|
| Client: TERRA-SINE | Date: 12-4-11 |
| State: NORTH DAKOTA | Permit Number: Phillip Pitts |
| Job: GRENORA 3-D | Name: Phillip B Pitts |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. | |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|--------------|
| 14 | 143 | | wet | | | | 2 | Sand Clay | |
| 14 | 144 | | wet | | | | 2 | | |
| 14 | 145 | | wet | | | | 1 1/2 | | |
| 14 | 146 | | wet | | | | 2 | | |
| 14 | 147 | | wet | | | | 2 | | |
| 14 | 148 | | wet | | | | 2 | | |
| 14 | 149 | | wet | | | | 2 | | |
| 14 | 150 | | wet | | | | 2 | | |
| 14 | 151 | | wet | | | | 2 | | |
| 14 | 152 | | wet | | | | 2 | | |
| 14 | 153 | | wet | | | | 2 | | Sand Clay |
| | | | | | | | | | |
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DAILY HOLE PLUGGING LOG

| | |
|---------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-5-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 14 | 154 | Tandem | wet | 1.5 | | | 3' | SAND |
| | 155 | | | 1.5 | | | 3' | SAND |
| | 156 | | | 1.5 | | | 3' | SAND |
| | 157 | | | 1 | | | 1.5 | HIT ROCK AT 33' SAND |
| | 158 | | | 1.5 | | | 3' | SAND |
| | 159 | | | 1.5 | | | 3' | SAND |
| | 160 | | | 1.5 | | | 3' | SAND |
| | | | | | | | | |
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DAILY HOLE PLUGGING LOG

| | |
|--------------------|----------------------|
| Client: TERRA-SINE | Date: Dec 13 2011 |
| State: ND | Permit Number: |
| Job: Granoya-SD | Name: Jonathan Ayler |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 14 | 173 | baggy | wet | 2 | | | 3 | 50' clay |
| | 172 | | | 2 | | | 2 | 50' clay |
| | 171 | | | 1 | | | 3 | 30' clay/sand |
| | 170 | | | 2 | | | 3 | 30' clay/sand |
| | 169 | | | 2 | | | 3 | 50' clay |
| | 168 | | | 2 | | | 3 | 50' clay |
| | 167 | | | 2 | | | 3 | 50' clay |
| | 166 | | | 2 | | | 3 | 50' clay |
| | 180 | | | 2 | | | 3 | 35' clay/sand |
| | 179 | | | 1 | | | 2 | 30' clay/sand |
| | 178 | | | 2 | | | 3 | 40' clay/sand |
| | 177 | | | 2 | | | 2 | 50' clay/sand |
| | 176 | | | 2 | | | 3 | 50' clay/sand |
| | 175 | | | 2 | | | 3 | 50' clay/sand |
| | 167 | | | 2 | | | 3 | 40' clay/sand |



DAILY HOLE PLUGGING LOG

| | |
|-------------------------------|----------------------|
| Client: TERRA-SINE | Date: 12-14-11 |
| State: Montana / North Dakota | Permit Number: |
| Job: 12-14-11 | Name: Jonathan Ayres |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|-----------------|---------------------|---------|----------------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 14 | 181 | | | 2 | | | 3 | 35' Sand |
| | 189 | | | 2 | | | 3 | 35' Sand |
| | 188 | | | 2 | | | 3 | 43' Sand/clay |
| | 183 | | | 2 | | | 3 | 41' Sand/clay |
| | 182A | | | 1 | | | 2 | stuck 14' Sand |
| | 182B | | | 1.5 | | | 2 | 30' Sand |
| 14 | 202 | | | 2 | | | 3 | 45' clay |
| | 201 | | | 1.5 | | | 3 | 30' Sand/clay |
| | 200 | | | 1.5 | | | 3 | 35' Sand/clay |
| | 199A | | | 1 | | | 2 | stuck 10' Sand/clay |
| | 199B | | | 1.5 | | | 2 | 30' Sand/clay |
| | 198A | | | 3/4 | | | 2 | stuck 10' Sand |
| | 198B | | | 3/4 | | | 2 | 16' Sand |
| | 198C | | | 1 | | | 3 | 25' Sand |



DAILY HOLE PLUGGING LOG

| | |
|--------------------|----------------------|
| Client: TERRA-SINE | Date: Dec 13 2011 |
| State: MD | Permit Number: |
| Job: Granox - 3-D | Name: Jonathan Hyman |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 17 | 186 | buggy | wet | 2 | | | 2 | 50' clay |
| | 185 | | | 2 | | | 3 | 50' clay |
| | 184 | | | 2 | | | 3 | 50' clay |
| | 183 | | | 2 | | | 2 | 50' clay |
| | 182 | | | 2 | | | 2 | 50' clay |
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DAILY HOLE PLUGGING LOG

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|--------------------|----------------------|
| Client: TERRA-SINE | Date: Dec 15 2011 |
| State: ND | Permit Number: |
| Job: Garry 3D | Name: Jonathan Clark |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 14 | 190 | lossy | wet | 1 | | | 3 | Loaded 20' |
| | 191 | | | 1 | | | 3 | Loaded 30' |
| | 192A | | | 1 | | | 3 | Charged 5 feet 10' yest |
| | B | | | 1 | | | 3 | Loaded 25' |
| | C | | | 1 | | | 3 | Loaded 15' |
| | 193A | | | 1.5 | | | 3 | Loaded 20' |
| | B | | | 1 | | | 3 | Loaded 20' |
| | 194 | | | 2 | | | 3 | Loaded 46' |
| | 195 | | | 1 | | | 3 | Loaded 30' |
| | 196 | | | 1 | | | 3 | Loaded 30' |
| | 197 | | | 1 | | | 3 | Loaded 30' |
| | 203 | | | 2 | | | 3 | Loaded 45' |
| | 204 | | | 3 | | | 3 | Loaded 50' |
| | 205 | | | 3 | | | 3 | Loaded 50' |



DAILY HOLE PLUGGING LOG

| | |
|---------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-7-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 14 | 162 | Tandem | WET | 2 | | | 3' | |
| | 163 | | | 2 | | | 3' | |
| | 164 | | | 2 | | | 3' | |
| | 165 | | | 2 | | | 3' | |
| 16 | 165 | | | 2 | | | 3' | |
| | 164 | | | 2 | | | | no Plug Hole Bridge or Filled |
| | 163 | | | 2 | | | 3' | |
| | 162 | | | 2 | | | 3' | |
| | 161 | | | 2 | | | 3' | |
| | 160 | | | 2 | | | 3' | |
| | 159 | | | 2 | | | 3' | |
| | 158 | | | 2 | | | 3' | |
| | 157 | | | 2 | | | 3' | |
| | 156 | | | 2 | | | 3' | |
| | 155 | | | 2 | | | 3' | |
| | 154 | | | 2 | | | 3' | |



DAILY HOLE PLUGGING LOG

| | |
|---------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-10-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 16 | 101 | Tanden | WET | 2 | | | 3' | |
| } | 102 | } | } | 2 | | | 3' | |
| | 103 | | | 2 | | | 3' | |
| | 104 | | | 2 | | | 3' | |
| | 105 | | | 2 | | | 3' | |
| | 106 | | | 2 | | | 3' | |
| | 107 | | | 2 | | | 3' | |
| | 108 | | | 2 | | | 3' | |
| | 109 | | | 2 | | | 3' | |
| | 110 | | | 2 | | | 3' | |
| | 111 | | | 2 | | | 3' | |
| | 112 | | | 2 | | | 3' | |
| | 113 | | | 2 | | | 3' | |
| | 114 | | | 2 | | | 3' | |
| | 115 | | | 2 | | | 3' | |



DAILY HOLE PLUGGING LOG

| | |
|---------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-10-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Billard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 116 | 116 | Tandem | WET | 2 | | | 3' | |
| } | 117 | } | } | 2 | | | 3' | |
| | 118 | | | 2 | | | 3' | |
| | 119 | | | 2 | | | 3' | |
| | 120 | | | 2 | | | 3' | |
| | 121 | | | 2 | | | 3' | |
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DAILY HOLE PLUGGING LOG

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|---------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-9-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 14 | 122 | 720/Sec | WET | 2 | | | 3' | |
| | 123 | | | 2 | | | 3' | |
| | 124 | | | 2 | | | 3' | |
| | 125 | | | 2 | | | 3' | |
| | 126 | | | 2 | | | 3' | |
| | 133 | | | 2 | | | 3' | |
| | 134 | | | 2 | | | 3' | |
| | 135 | | | 2 | | | 3' | |
| | 136 | | | 2 | | | 3' | |
| | 137 | | | 2 | | | 3' | |
| | 138 | | | 2 | | | 3' | |
| | 139 | | | 2 | | | 3' | |
| | 141 | | | 2 | | | 3' | |
| | 142 | | | 2 | | | 3' | |
| | 145 | | | 2 | | | 3' | |



DAILY HOLE PLUGGING LOG

| | |
|---------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-8-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Billard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 116 | 127 | Tandem | wct | 2 | | | 3' | |
| { | 128 | { | { | 2 | | | 3' | |
| | 129 | | | 2 | | | 3' | |
| | 130 | | | 2 | | | 3' | |
| | 131 | | | 2 | | | 3' | |
| | 132 | | | 2 | | | 3' | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-16-11 |
| State: | Permit Number: |
| Job: Greer area | Name: Jonathan Lyles |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|------------------|---------|--------------------|----------------|-----------------|--------------------|----------------------------------------|
| 16 | 140 | Auger | Wet | 2 2 | | | 3 | Sand |
| | 143 | | | 1.5 1.5 | | | 3 | |
| | 146 | | | 1.5 1.5 | | | 3 | |
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DAILY HOLE PLUGGING LOG

| | |
|----------------------------|-------------------------------|
| Client: TERRA-SINE | Date: 12-9-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillhard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 116 | 1416 | Trakem | wet | 2 | | | 3' | |
| } | 147 | } | } | 2 | | | 3' | |
| | 148 | | | 2 | | | 7' | |
| | 149 | | | 2 | | | 3' | |
| | 150 | | | 2 | | | 7' | |
| | 151 | | | 2 | | | 7' | |
| | 152 | | | 2 | | | 7' | |
| | 153 | | | 2 | | | 7' | |
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DAILY HOLE PLUGGING LOG

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|---------------------|----------------------|
| Client: TERRA-SINE | Date: 12-9-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Jonathan Ayres |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 16 | 184A | | | 1 | | | 3 | 18' moved 40' South |
| | 184B | | | 1 | | | 3 | |
| | 191 | | | 2 | | | 3 | 45' |
| | 172 | | | 2 | | | 3 | 50' |
| | 171 | | | 2 | | | 3 | 40' |
| | 170 | | | 2 | | | 3 | 50' |
| | 169 | | | 2 | | | 3 | 50' |
| | 168 | | | 2 | | | 3 | 40' |
| | 167 | | | 2 | | | 3 | 50' |
| | 166 | | | 2 | | | 3 | 50' |
| | | | | | | | | |
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DAILY HOLE PLUGGING LOG

| | |
|---------------------|----------------------|
| Client: TERRA-SINE | Date: 12-7-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Rennie |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|-----------------|----------------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 16 | 188 | Aug | wet | 1.5 | | | 2 | 40' |
| | 189 | | | 2 | | | 3 | 50' |
| | 186 | | | 1.5 | | | 2.5 | 38' |
| | 190 | | | 2 | | | 3 | 40' |
| | 187 | | | 2.5 | | | 3 | 50' |
| | 185 | | | 1.5 | | | 3 | 30' |
| | 184A | | | 3/4 | | | 2 | Charge plug 13' |
| | 187B | couldn't load have to move | | | | | | |
| | 180A | | | 1 | | | 3 | 18' |
| | 180B | | | 1 | | | 3 | 18' |
| | 181 | | | 1.5 | | | 2 | 30' |
| | 179 | | | 1.5 | | | 2 | 35' |
| | 178A | | | 1 | | | 2 | 20' |
| | 178B | | | 1 | | | 3 | 20' |
| ✓ | 177A | | | 1 | | | 2 | 16' |
| | 177B | ✓ | ✓ | 1 | | | 2 | 17' |



DAILY HOLE PLUGGING LOG

| | |
|---------------------|----------------------|
| Client: TERRA-SINE | Date: Dec 6 2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Rennie |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 16 | 192 | Aug | wet | 2 | | | 3 | good |
| | 193 | | | 2 | | | 3 | |
| | 194 | | | 2 | | | 3 | |
| | 195 | | | 2 | | | 3 | |
| | 196 | | | 2 | | | 3 | |
| | 197 | | | 2 | | | 3 | |
| | 198 | | | 2 | | | 3 | |
| | 199 | | | 2 | | | 3 | |
| | 200 | | | 2 | | | 3 | |
| | 201 | | | 3 | | | 3 | |
| | 202 | | | 2 | | | 3 | |
| | 203 | | | 2 | | | 3 | |
| ↓ | 204 | ↓ | ↓ | 2 | | | 3 | |
| ↓ | 205 | ↓ | ↓ | 2 | | | 3 | |
| | | | | | | | | ↓ |



DAILY HOLE PLUGGING LOG

| | |
|---------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-10-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 145 | 101 | Tandem | WET | 2 | | | 3' | |
| | 102 | | | 2 | | | 3' | |
| | 103 | | | 2 | | | 3' | |
| | 104 | | | 2 | | | 3' | |
| | 105 | | | 2 | | | 3' | |
| | 106 | | | 2 | | | 3' | |
| | 107 | | | 2 | | | 3' | |
| | 108 | | | 2 | | | 3' | |
| | 109 | | | 2 | | | 3' | |
| | 110 | | | 2 | | | 3' | |
| | 111 | | | 2 | | | 3' | |
| | 112 | | | 2 | | | 3' | |
| | 113 | | | 2 | | | 3' | |
| | 114 | | | 2 | | | 3' | |
| | 115 | | | 2 | | | 3' | |



DAILY HOLE PLUGGING LOG

| | |
|----------------------------|------------------------------|
| Client: TERRA-SINE | Date: 12-10-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Billard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 18 | 116 | Tandem | WET | 2 | | | 3' | |
| | 117 | | | 2 | | | 3' | |
| | 118 | | | 2 | | | 3' | |
| | 119 | | | 2 | | | 3' | |
| | 120 | | | 2 | | | 3' | |
| | 121 | | | 2 | | | 3' | |
| | 122 | | | 2 | | | 3' | |
| | 123 | | | 2 | | | 3' | |
| | 124 | | | 2 | | | 3' | |
| | 125 | | | 2 | | | 3' | |
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DAILY HOLE PLUGGING LOG

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|---------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-8-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 18 | 126 | Tarden | wet | 2 | | | 3' | |
| | 127 | | | 2 | | | 3' | |
| | 128 | | | 2 | | | 3' | |
| | 129 | | | 2 | | | 3' | |
| | 130 | | | 2 | | | 3' | |
| | 131 | | | 2 | | | 3' | |
| | 132 | | | 2 | | | 3' | |
| | 133 | | | 2 | | | 3' | |
| | 134 | | | 2 | | | 3' | |
| | 135 | | | 2 | | | 3' | |
| | 136 | | | 2 | | | 3' | |
| | 137 | | | 2 | | | 1' | Bridged Filled up |
| | 138 | | | 2 | | | 3' | |
| | 139 | | | 2 | | | 3' | |
| | 140 | | | 2 | | | 3' | |



DAILY HOLE PLUGGING LOG

| | |
|---------------------|----------------------|
| Client: TERRA-SINE | Date: 12-8-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dilard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 18 | 141 | Tandem | WET | 2 | | | 3' | |
| } | 142 | } | } | 2 | | | 3' | |
| | 143 | | | 2 | | | 3' | |
| | 144 | | | 2 | | | 3' | |
| | 145 | | | 2 | | | 3' | |
| | 146 | | | 2 | | | 3' | |
| | 147 | | | 2 | | | 3' | |
| | 148 | | | 2 | | | 3' | |
| | 149 | | | 2 | | | 3' | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-4-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 18 | 154 | Random | WET | 1.5 | | | 1' | Hole Bridged Filled up To FAST (SAND) |
| { | 153 | { | { | 1.5 | | | 3' | SAND |
| { | 152 | { | { | 1.5 | | | 3' | SAND |
| { | 151 | { | { | 1.5 | | | 2' | SAND |
| { | 150 | { | { | 1.5 | | | 3' | SAND |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-30-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Billard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 18 | 157 | Tandem | wet | 1.5 | | | 1' | Bridged, Filled w/ sand |
| { | 156 | { | { | 1.5 | | | 3 | sand/clay |
| } | 155 | } | } | 1.5 | | | 3 | sand/clay |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-3-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 158 | 1128 | Tandem | wet | 2 | | | 3 | sand |
| | 169 | | | 2 | | | 3 | sand |
| | 170 | | | 2 | | | 3 | sand |
| | 167 | | | 2 | | | 3 | sand |
| | 166 | | | 2 | | | 3 | sand |
| | 171 | | | 2 | | | 3 | sand |
| | 172 | | | 2 | | | 3 | sand |
| | 165 | | | 2 | | | 3 | sand |
| | 1104 | | | 1.5 | | | 3 | sand |
| | 163 | | | 1.5 | | | 3 | sand |
| | 162 | | | 2 | | | 3 | sand |
| | 161 | | | 1.5 | | | 3 | Rock AT 35' |
| | 160 | | | 2 | | | 3 | sand |
| | 159 | | | 2 | | | 3 | sand |
| | 158 | | | 2 | | | 3 | sand |



DAILY HOLE PLUGGING LOG

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|---------------------|---------------------|
| Client: TERRA-SINE | Date: Dec 8, 2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Reaux |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 18 | 175 | Aug | wet | 2 | | | 3 | 42' thick clay mud |
| | 176 | | | 1.75 | | | 3 | 32' clay |
| | 177 | | | 1 | | | 2 | 30' clay sand |
| | 178A | | | 1.25 | | | 2 | 25' sandy |
| | 178B | | | 1 | | | 3 | 18' sandy |
| | 179 | | | 1.75 | | | 2.5 | 32' sandy clay |
| | 180 | | | 1.25 | | | 3 | 32' sandy clay |
| | 181 | | | 1.5 | | | 3 | 35' sandy clay |
| | 182A | | | 1 | | | 3 | 23' sandy |
| Y | 182B | Y | Y | 1 | | | 3 | 21' sandy |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-9-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Jonathan Ayres |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 18 | 183A | | | 1 | | | 3 | 25' |
| | 183B | | | 1 | | | 3 | 23' |
| | 184 | | | 1.5 | | | 3 | 50 |
| | 185 | | | 1 | | | 3 | 30 |
| | 186 | | | 2 | | | 3 | 50 |
| | 187 | | | 2 | | | 2.5 | 50 |
| | 188 | | | 2 | | | 3 | 50 |
| | 189 | | | 1.5 | | | 3 | 30 |
| | 190 | | | 1.5 | | | 3 | 40 |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-7-11 |
| State: MONTANA <i>NORTH DAKOTA</i> | Permit Number: |
| Job: DWYER 3-D <i>GRENORA</i> | Name: Charles W Reagin |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|-----------------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 18 | 201 | Aug | wet | 2 | | | 3 | 45' |
| | 200 | | | 2 | | | 3 | 42' |
| | 199A | | | 2.5 | | | 3 | Charge stuck 13' |
| | 199B | | | 2 | | | 3 | 50' |
| | 198 | | | 2 | | | 3 | 50' |
| | 197 | | | 2 | | | 3 | 50' |
| | 196 | | | 2 | | | 3 | 50' |
| | 195 | | | 2 | | | 3 | 50' |
| | 194 | | | 2 | | | 3 | 44' |
| | 193 | | | 2 | | | 3 | 42' |
| | 192 | | | 2 | | | 3 | 30' |
| ✓ | 191 | ✓ | ✓ | 2 | | | 3 | 50' |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: Dec 6 2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Rennie |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sz | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 18 | 205 | Aug | wet | | 2 | | 3 | clay |
| ↓ | 204 | ↓ | ↓ | | 2 1/2 | | 3 | ↓ |
| ↓ | 203 | ↓ | ↓ | | 2 | | 3 | ↓ |
| ↓ | 202 | ↓ | ↓ | | 2 | | 3 | ↓ |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-11-11 |
| State: | Permit Number: |
| Job: GRENORA 3-B | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 20 | 101 | Tandem | WCT | 2 | | | 1.5 | Bridged, Filled up |
| } | 102 | } | } | 2 | | | 3 | |
| | 103 | | | 2 | | | 3 | |
| | 104 | | | 2 | | | 3 | |
| | 105 | | | 2 | | | 3 | |
| | 106 | | | 2 | | | 3 | |
| | 107 | | | 2 | | | 3 | |
| | 108 | | | 2 | | | 3 | |
| | 109 | | | 2 | | | 3 | |
| | 110 | | | 2 | | | 3 | |
| | 111 | | | 2 | | | 3 | |
| | 112 | | | 2 | | | 3 | |
| | 113 | | | 2 | | | 3 | |
| | 114 | | | 2 | | | 3 | |
| | 115 | | | 2 | | | 3 | |
| | 116 | | | 2 | | | 3 | |
| | 117 | | | 2 | | | 3 | |
| | 118 | | | 2 | | | 3 | |



DAILY HOLE PLUGGING LOG

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|---------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-12-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 12 | 120 | Tanden | wet | 2 | | | 3' | |
| 12 | 121 | } | } | } | | | } | |
| 90 | 119 | | | | | | | |
| | 120 | | | | | | | |
| | 121 | | | | | | | |
| | 122 | | | | | | | |
| | 123 | | | | | | | |
| | 124 | | | | | | | |
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DAILY HOLE PLUGGING LOG

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|---------------------------|------------------------------|
| Client: TERRA-SINE | Date: 12-2-11 |
| State: MONTANA N. DAKOTA | Permit Number: Phillip Pitts |
| Job: DWYER 3-D GRENORA 30 | Name: Phillip B Pitts |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 20 | 132 | | wet | | 1 1/2 | | 3 | |
| | 133 | | | | 2 | | | |
| | 134 | | | 2 | | | | |
| | 135 | | | 1 | | 50 | | NO plug bridged off |
| | 136 | | | 2 | | | | |
| | 137 | | | 2 | | | | |
| | 138 | | | 2 | | | | |
| | 139 | | | 2 | | | | |
| | 140 | | | 2 | | | | |
| | 141 | | | 2 | | | | |
| | 142 | | | 2 | | | | |
| | 143 | | | 2 | | | | |
| | 144 | | | 2 | | | | |
| | 145 | | | 2 | | | | |
| | 146 | | | 2 | | | | |
| | 147 | | | 2 | | | | |
| | 148 | | 2 | | | | | |
| | 149 | | 1 1/2 | | 3 | | | |
| | 150 | | | | | | | |



DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-5-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 20 | 158 | Tandem | wet | 2 | | | 3' | sand |
| | 157 | | | 1.5 | | | 3' | |
| | 156 | | | 2 | | | 3' | |
| | 155 | | | 2 | | | 3' | |
| | 154 | | | 1.5 | | | 3' | |
| | 153 | | | 1.5 | | | 3' | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-4-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 20 | 165 | Tandem | wet | 1.5 | | | 3' | SAND |
| { | 164 | { | { | 1.5 | | | 3' | SAND |
| { | 163 | { | { | 1.5 | | | 3' | SAND |
| { | 167 | { | { | 1.5 | | | 3' | HIT RACK AT 35' |
| { | 166 | { | { | 1.5 | | | 3' | SAND |
| { | 162 | { | { | 1.5 | | | 3' | SAND |
| { | 161 | { | { | 1.5 | | | 3' | SAND |
| { | 160 | { | { | 1.5 | | | 3' | SAND |
| { | 159 | { | { | 1.5 | | | 3' | SAND |
| { | 152 | { | { | 1.5 | | | 3' | SAND |
| { | 151 | { | { | 1.5 | | | 3' | SAND |
| | | | | | | | | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-1-2011 |
| State: NORTH DAKOTA | Permit Number: Phil's PITS |
| Job: GRENORA 3-D | Name: Phillip B. Pitts |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 20 | 169 | | wet | | 2 | | 3 | Clay |
| 20 | 170 | | wet | | 2 | | 3 | Clay |
| 20 | 171 | | wet | | 2 | | 3 | Clay |
| 20 | 172 | | wet | | 2 | | 3 | Clay |
| 20 | 173 | | wet | | 2 | | 3 | Clay |
| 20 | 174 | | wd | | 2 | | 3 | Clay |
| 20 | 175 | | wet | | 2 | | 3 | Clay |
| 20 | 176 | | wet | | 2 | | 3 | Clay |
| | | | | | | | | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-3-11 |
| State: MONTANA - North Dakota | Permit Number: |
| Job: DWYER 3-D Grenora | Name: Charles Rennie |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 20 | 184A | Aug | Wet | 1 | | | 2 | Stuck Charge 12' Ret. 15' |
| 1 | B | 1 | 1 | 1 | | | 3 | Pattern loaded 16' |
| | C | 1 | 1 | 1 | | | 2 | loaded 18' |
| | 185 | 1 | 1 | 1 1/2 | | | 3 | loaded 30' |
| | 186A | 1 | 1 | 1 | | | 3 | Stuck 18-12' 7.2 |
| | 186B | 1 | 1 | 1 | | | 3 | 20' |
| | 186C | 1 | 1 | 1 | | | 3 | 20' |
| | 187 | 1 | 1 | 1 | | | 3 | loaded 31' |
| 4 | 188A | 4 | 4 | 1 | | | 3 | Charge Stuck 12' |
| | | | | | | | | |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: Dec. 4 2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Jonathan Ayres |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 20 | 189A | buggy | wet | 1.5 | | | 3 | Loaded 20ft Sand |
| | B 189 | | | 1.5 | | | 3 | Loaded 20ft Sand |
| | 190A | | | 1 | | | 3 | Loaded 18ft Sand |
| | 190 B | | | 1.5 | | | 3 | Loaded 25ft Sand |
| | 191 | | | 2 | | | 3 | Loaded 50ft Sand/clay |
| | 192 | | | 2 | | | 3 | Loaded 30ft Sand |
| | 195A | | | 1 | | | 3 | Loaded 20ft Sand |
| | B | | | 1.5 | | | 3 | Loaded 16 Ft Sand |
| | 196A | | | 1.5 | | | 3 | Loaded 25ft Sand |
| | 196 B | | | 1.5 | | | 3 | Charge stuck 5ft Sand |
| | 196C | | | 1.5 | | | 3 | Loaded 25ft Sand |
| | 197A | | | 1 | | | 3 | Loaded 22ft Sand |
| | 197B | | | 1 | | | 3 | Loaded 25ft Sand |
| | 190c | | | 1 | | | 3 | Charge stuck at 15 ft Sand |

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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: Dec 5 th 2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Jonathan Ayro |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|-----------------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 20 | 192A | Wet | Wet | 1 | | | 3 | Loaded 16ft Sand |
| | B | | | 1 | | | 3 | Loaded 23ft Sand |
| | 193A | | | 1.5 | | | 3 | Loaded 25ft Sand |
| | B | | | 1.5 | | | 1 | Loaded 25ft Sand |
| | 194 | | | 2 | | | 3 | Loaded 30ft Sand/Clay |
| | 198A | | | 1 | | | 3 | Loaded 18ft Sand |
| | B | | | 1.5 | | | 3 | Loaded 20ft Sand |
| | 199 | | | 1 | | | 3 | Loaded 16ft Sand |
| | 199B | | | 1 | | | 3 | Loaded 15ft Sand |
| | 200 | | | 2 | | | 3 | Loaded 40ft Sand/clay |
| | 201 | | | 3 | | | 3 | Loaded 50ft Sand/clay |
| | 202 | | | 3 | | | 3 | Loaded 50ft Sand/clay |
| | 203 | | | 2 | | | 3 | Loaded 40ft Sand/clay |
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DAILY HOLE PLUGGING LOG

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| Client: TERRA-SINE | Date: 12-4-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 22 | 152 | Tandem | wet | 1.5 | | | 3' | sand |
| 22 | 156 | { | { | 1.5 | | | 3' | sand |
| 22 | 155 | { | { | 1.5 | | | 3' | sand |
| 22 | 154 | { | { | 1.5 | | | 3' | sand |
| 22 | 153 | { | { | 1 | | | 3' | HIT Rock AT 30' |
| | | | | | | | | |
| | | | | | | | | |
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DAILY HOLE PLUGGING LOG

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|---------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-1-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 22 | 176 | TANDEM | wet | 2 | | | 3' | Clay/sand mix |
| } | 175 | } | } | 2 | | | 3' | " " |
| | 174 | | | 2 | | | 3' | " " |
| | 173 | | | 2 | | | 3' | " " |
| | 172 | | | 2 | | | 3' | " " |
| | 171 | | | 2 | | | 3' | " " |
| | 170 | | | 2 | | | 3' | " " |
| | 169 | | | 2 | | | 3' | " " |
| | 165 | | | 2 | | | 3' | " " |
| | 164 | | | 2 | | | 3' | " " |
| | 163 | | | 2 | | | 3' | " " |
| | 162 | | | 2 | | | 3' | " " |
| | 161 | | | 2 | | | 3' | " " |
| 160 | 2 | | | 3' | " " | | | |
| 159 | 2 | | | 3' | " " | | | |
| 158 | 2 | | | 3' | " " | | | |



DAILY HOLE PLUGGING LOG

| | |
|----------------------------------------|-----------------------|
| Client: TERRA-SINE | Date: 10-2-11 |
| State: MONTANA North Dakota | Permit Number: |
| Job: DWYERS-D GRANORA | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 24 | 147 | Tandem | wet | 2 | | | 3 | sand/clay |
| 24 | 149 | Tandem | wet | 2 | | | 3 | sand/clay |
| 24 | 148 | Tandem | wet | 2 | | | 3 | sand/ |
| | | | | | | | | |
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DAILY HOLE PLUGGING LOG

| | |
|------------------------------------|------------------------------|
| Client: TERRA-SINE | Date: 12-2-11 |
| State: MONTANA <i>North Dakota</i> | Permit Number: |
| Job: DWYER 3-D <i>CONAWRA</i> | Name: <i>Richard Dillard</i> |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|----------------|-----------------|--------------------|----------------------------------------|
| 24 | 167 | Tandem | WET | 2 | | | 0 | SAND / Hole Filled up, Bridged |
| | 166 | | | 2 | | | 3 | SAND |
| | 161 | | | 2 | | | 3 | SAND |
| | 160 | | | 1.5 | | | 1' | Hole Bridged Filled up SAND |
| | 159 | | | 1.5 | | | 1.5' | Hole Bridged SAND |
| | 158 | | | 2 | | | 3 | SAND |
| | 157 | | | 2 | | | 3 | SAND |
| | 156 | | | 2 | | | 3 | SAND |
| | 155 | | | 1.5 | | | 3 3 | SAND |
| | 154 | | | 2 | | | 3 | SAND |
| | 153 | | | 1.5 | | | 3 3 | SAND |
| | 152 | | | 2 | | | 3 | SAND |
| | 151 | | | 2 | | | 3 | SAND |
| | 150 | | | 2 | | | 3 | SAND |
| | 146 | | | 2 | | | 3 | SAND |



DAILY HOLE PLUGGING LOG

| | |
|---------------------|-----------------------|
| Client: TERRA-SINE | Date: 12-1-11 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Richard Dillard |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 24 | 176 | Tandem | wet | 2 | | | 3' | CLAY/SAND mix |
| | 175 | } | } | 2 | | | 3' | " " |
| | 174 | | | 2 | | | 3' | " " |
| | 173 | | | 1.5 | | | 3' | CLAY/SAND mix Hit Rock AT 25' |
| | 173 | | | 1.5 | | | 3' | CLAY/SAND mix Hit Rock AT 25' |
| | 172 | | | 2 | | | 3' | " " |
| | 171 | | | 2 | | | 3' | " " |
| | 170 | | | 2 | | | 3' | " " |
| | 169 | | | 2 | | | 3' | " " |
| | 168 | | | 2 | | | 3' | " " |
| | 165 | | | 2 | | | 3' | " " |
| | 164 | | | 2 | | | 3' | " " |
| | 163 | | | 2 | | | 3' | " " |
| | 162 | | | 2 | | | 3' | " " |
| | | | | | | 3' | " " | |



DAILY HOLE PLUGGING LOG

| | |
|---------------------|--------------------------------|
| Client: TERRA-SINE | Date: Dec 5 th 2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Jonathan Ayres |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|-----------------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 24 | 199A | bossy | wet | 1 | | | 3 | Loaded 22# |
| | 200B | | | 1 | | | 3 | Loaded 16# |
| | 200A | | | 1.5 | | | 3 | Loaded 20# |
| | B | | | 1 | | | 3 | Loaded 25# |
| | 201A | | | 1 | | | 3 | Loaded 21# |
| | B | | | 1.5 | | | 3 | Loaded 25# |
| | 202A | | | 1.5 | | | 3 | Loaded 25# |
| | B | | | 1 | | | 3 | Loaded 20# |
| | 203A | | | 1 | | | 3 | 50SK id From powerlines Charge stuck 12# |
| | B | | | 1 | | | 3 | Loaded 20# |
| | C | | | 1.5 | | | 3 | Loaded 25# |
| | 204 | | | 2 | | | 3 | Loaded 32# |
| | 205A | | | 1 | | | 3 | Loaded 20# |
| | B | | | 1 | | | 3 | Loaded 25# |

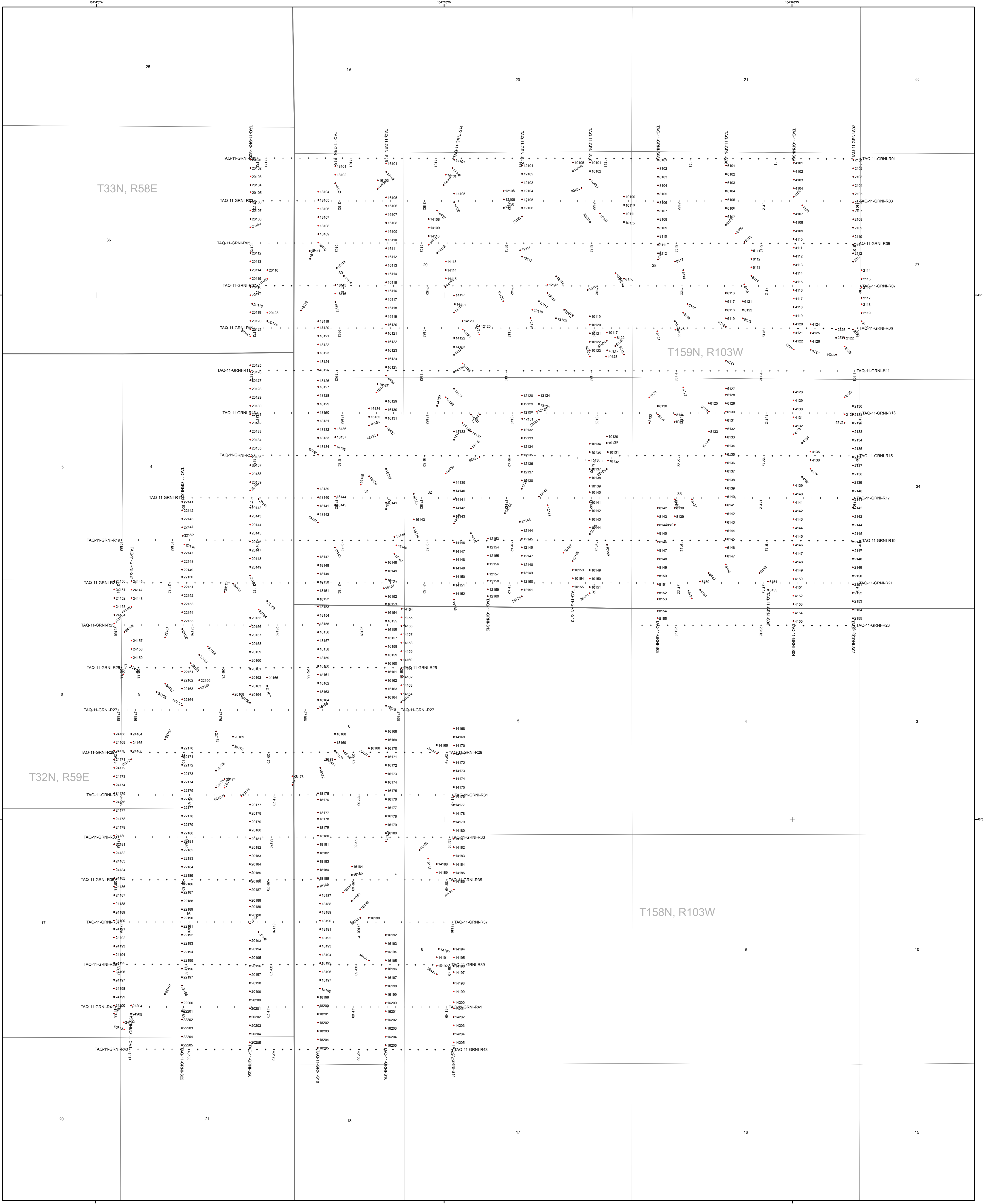
Pattern
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DAILY HOLE PLUGGING LOG

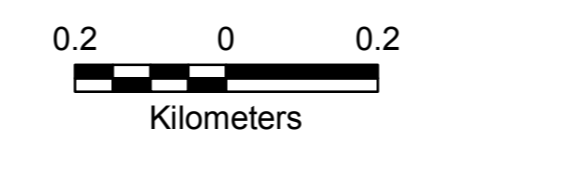
| | |
|---------------------|----------------------|
| Client: TERRA-SINE | Date: Dec 6 2011 |
| State: NORTH DAKOTA | Permit Number: |
| Job: GRENORA 3-D | Name: Charles Rennie |

| Line No. | S.P. No. | Drill Type *CABP | Wet/Dry | Bent. Sx | Bent. Capsules | Capsule Size ** | Surface Plug Depth | Remarks: Hole Bridged, Thick Mud, etc. |
|----------|----------|---------------------|---------|----------|-------------------|--------------------|--------------------------|----------------------------------------------|
| 20 | | | wet | Ang | 2 | | 3 | clay |
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WELL LEGEND

| | | |
|---------------------------------|-------------------------|---------------------------------|
| ● Licensed/Standing/Other | ○ Dry or Abandoned | ○ Suspended |
| ● Oil/Bitumen | ○ Gas | ○ Cancelled |
| ● Abandoned Oil/Bitumen | ○ Abandoned Gas | ○ Unreported |
| ● Shut-In/Suspended Oil/Bitumen | ○ Shut-In/Suspended Gas | ○ Disposal |
| ● Heavy Oil Evaluation | ○ Gas Injection | ○ Strat. Test/Exp./Experimental |
| ● Oil/Gas | ○ Observation | |
| ● Abandoned Oil/Gas | ○ Water | |
| ● Cyclical | ○ Water/Other Injection | |



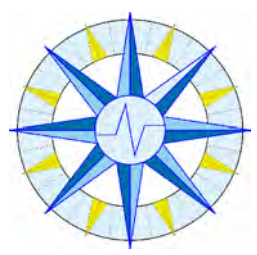
TERRA-SINE RESOURCES LTD.

GRENORA 2011 3D

CONTRACTOR: N/A

| | | | |
|-------------------|----------------------|--------------|---------------------|
| DATE: 08-Dec-2011 | DIV REF: 2011-224643 | DATUM: NAD83 | PROJECTION: UTM-13N |
| SCALE: 1:10000 | PREP BY: DMANNING | DATABASE: | |

Well information supplied by Government and Industry Sources. No warranty will be given by Divestco on the Accuracy of the data. Liability is not accepted by Divestco for the result of any decisions made based on the data displayed on this map.



TERRA-SINE
RESOURCES LTD.

GRENORA 2011 3D

PRELIMINARY PLAN

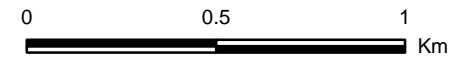
| | | | |
|-------------|---------------------------|----------------|----------------------------|
| LICENSEE: | TERRA-SINE RESOURCES LTD. | | |
| LICENSE NO: | TBA | EQUIPMENT: | WHEELED |
| PERMITEE: | TBA | ENERGY SOURCE: | DYNAMITE |
| PERMIT NO: | TBA | MAP DATE: | Monday, September 19, 2011 |

PROGRAM SUMMARY

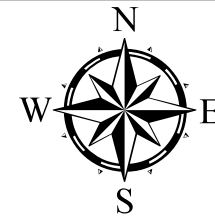
| LINE TYPES | STATE LANDS | FREEHOLD LANDS | LINE TYPES SUBTOTAL |
|-------------------------------|-------------|----------------|---------------------|
| SOURCE | 3.2 km | 49.6 km | 52.8 km |
| RECEIVER | 6.1 km | 73.6 km | 79.7 km |
| LANDS CLASSIFICATION SUBTOTAL | | 9.3 km | 123.2 km |

PROGRAM TOTAL: 132.5 km PROGRAM AREA: 22.3 km²

1:20,000



| | |
|----------|--------|
| UTM ZONE | 13 |
| DATUM | NAD 83 |



Project Management:

Mapping:

HARBINGER
EXPLORATION

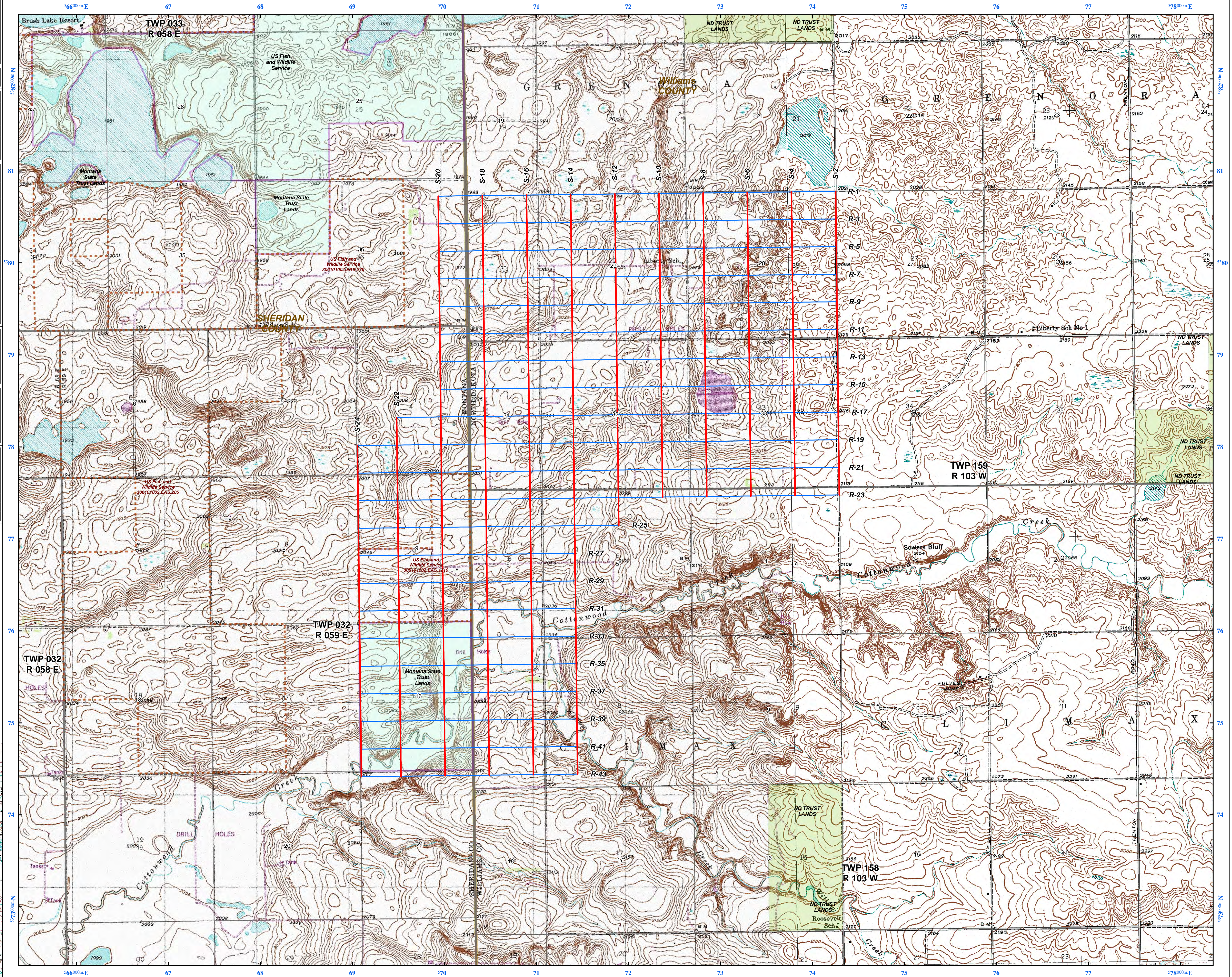
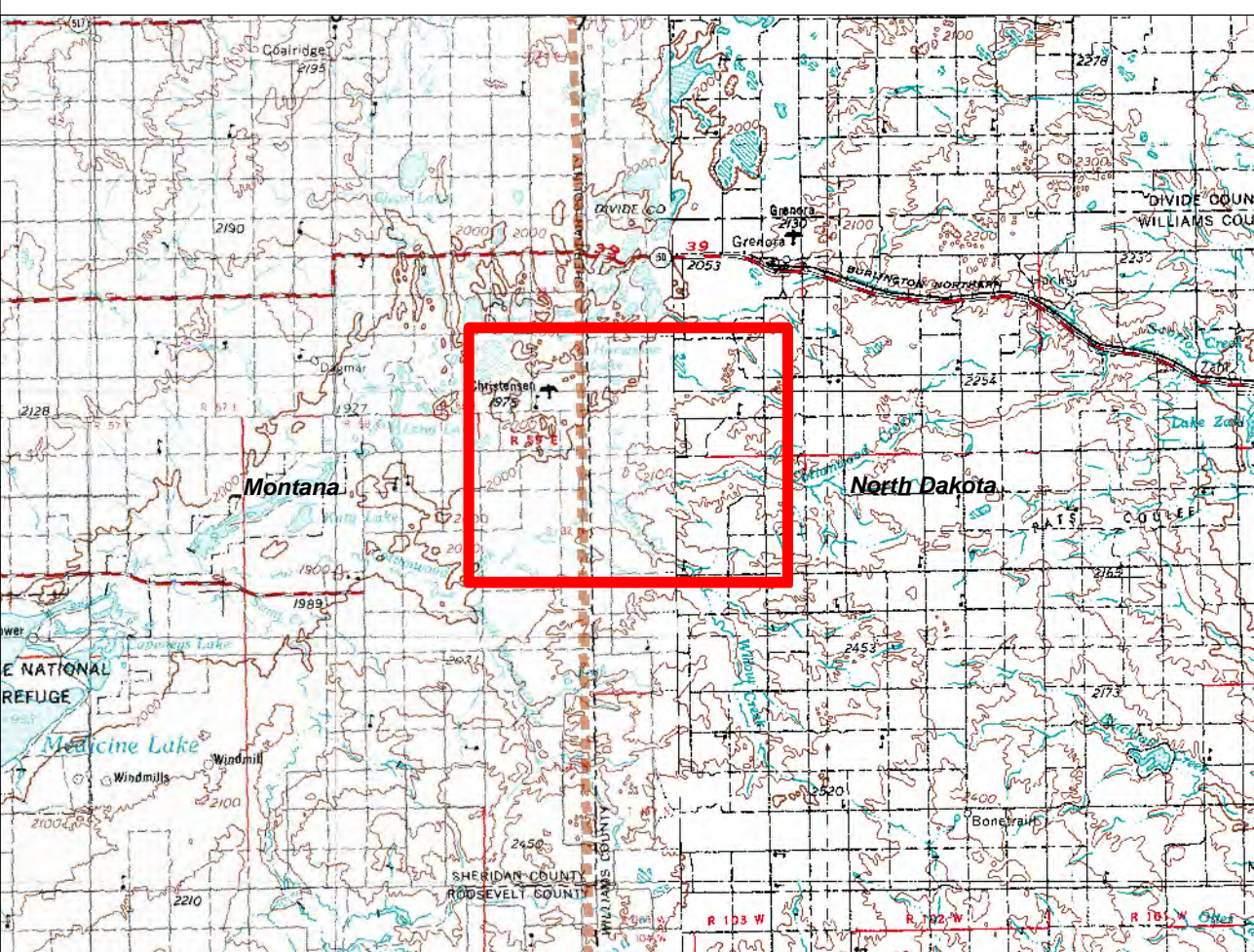
Suite 1550, 633 6th Ave. SW • Calgary, AB T2P 2Y5
(403) 262-1541 • info@harbinger.ca

MAP VERSION

| VERSION | DESCRIPTION | DATE |
|---------|------------------|-----------|
| 1 | Preliminary Plan | 9/19/2011 |

LEGEND

- High Pressure Pipelines
 - Township Boundary
 - Section Boundary
 - Quarter Section Boundary
 - Conservation Easements
 - Public Lands
 - MT Counties
 - Cities/Towns
 - Reservations
 - Wilderness Areas
 - National Parks
 - National Forests
- Oil and Gas Wells**
- BITUMEN
 - LOCATION
 - SUSPENDED UNDESIGNATED
 - DRY AND ABANDONED
 - INJECTION WELL
 - GAS WELL
 - ABANDONED INJECTION WELL
 - OIL WELL
 - DRILLING
 - CAPPED OIL WELL
 - ABANDONED GAS WELL
 - SUSPENDED OIL WELL
 - SERVICE WELL
 - ABANDONED SERVICE
 - CAPPED GAS WELL
 - STANDING WELL
 - OIL WELL
 - DRILLING
 - CAPPED OIL WELL
 - ABANDONED OIL WELL





GEOPHYSICAL EXPLORATION PERMIT - FORM GE 1

INDUSTRIAL COMMISSION OF NORTH DAKOTA
 OIL AND GAS DIVISION
 600 EAST BOULEVARD DEPT 405
 BISMARCK, ND 58505-0840
 SFN 51459 (03-2011)

| | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------|--|
| 1) a. Company TERRA-SINE RESOURCES LTD. | | Address #185, 550-71st AVE., S.E., CALGARY, AB T2H 0S6 | | | |
| Contact BECKY GOODWIN | | Telephone 403-387-0771 | | Fax 403-243-4516 | |
| Surety Company General Insurance Co. of America | | Bond Amount \$50,000 | | Bond Number EM1131069/015000157 | |
| 2) a. Subcontractor(s) Front Runner Seismic Inc. | | Address 1207 Doan Hill Road, Westfield, PA | | Telephone 570-376-2777 | |
| b. Subcontractor(s) Helix Seismic Exploration Inc. | | Address 110, 7445-45 Avenue Close Red Deer, AB | | Telephone 403-347-1770 | |
| 3) Party Manager Wayne Starchuk | | Address (local) RRI, Calahoo, AB T0G 0J0 | | Telephone (local) 780-686-4226 (cell) | |
| 4) Project Name or Line Numbers GRENOKA 2011 3D | | | | | |
| 5) Exploration Method (Shot Hole, Non-Explosive, 2D, 3D, Other) SHOT HOLE, 3D, EXPLOSIVE, | | | | | |
| 6) Distance Restrictions (Must check all that apply) | | | | | |
| <input type="checkbox"/> 300 feet - NonExplosive - Distance setbacks apply to water wells, buildings, underground cisterns, pipelines, and flowing springs. | | | | | |
| <input checked="" type="checkbox"/> 660 feet - Shot Hole - Distance setbacks apply to water wells, buildings, underground cisterns, pipelines, and flowing springs. | | | | | |
| 7) Size of Hole | | Amt of Charge | | Depth | |
| 3-D 3 1/2 inches | | 5 Lbs | | 50 ft | |
| Size of Hole | | Amt of Charge | | Depth | |
| 2-D | | | | | |
| Source points per sq. mi. | | | No. of sq. mi. | | |
| 103 | | | 6.33 | | |
| Source points per ln. mi. | | | No. of ln. mi. | | |
| | | | | | |
| 8) Approximate Start Date October 1, 2011 | | | Approximate Completion Date December 15, 2011 | | |



THE COMMISSION MUST BE NOTIFIED AT LEAST 24 HOURS IN ADVANCE OF COMMENCEMENT OF GEOPHYSICAL OPERATIONS

| | | | |
|--------------------------------------------------------------------|------------------------------------------|------------------|-------------------|
| 9) Location of Proposed Project - County Williams County | | | |
| Section(s), Township(s) & Range(s) | Section 28, 29, 30, 31, 32, 33 | T. 159 | R. 103W |
| | Section 4, 5, 6, 7, 8 | T. 158 | R. 103W |
| | Section | T. | R. |
| | Section | T. | R. |
| | Section | T. | R. |
| | Section | T. | R. |

| | | | |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------|------|
| I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records. | | | Date |
| Signature Becky Goodwin | Printed Name Becky Goodwin | Title SECRETARY/TREASURER. | |
| Email Address(es) beckym@terra-sine.com. | | | |

| | | | |
|--------------------------------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| (This space for State office use) | | Permit Conditions | |
| Permit No. 97-0211 | Approval Date 9/23/11 | <ul style="list-style-type: none"> * Permit in hand required at pre-program meeting with field inspector and be aware of all NDIC Rules and Regulations (i.e. distance restrictions). * See attached letter. | |
| Approved by [Signature] | | | |
| Title Mineral Resources Permit Manager | | | |

Oil and Gas Division

Lynn D. Helms - Director Bruce E. Hicks - Assistant Director

Department of Mineral Resources

Lynn D. Helms - Director

North Dakota Industrial Commission

www.oilgas.nd.gov



SEPTEMBER 23, 2011

BECKY GOODWIN
SECRETARY/ TREASURER
TERRA-SINE RESOURCES LTD
#185, 550 – 71ST AVENUE, S.E.
CALGARY, AB T2H 056

RE: GRENORA 2011 3-D
 Geophysical Exploration Permit #97-0211
 WILLIAMS COUNTY

Dear MS GOODWIN:

Please be advised that we are in receipt of your Geophysical Exploration permit application and it is conditionally approved; effective for one year from SEPTEMBER 23, 2011. **PURSUANT TO NDAC 43-02-12-05 (DISTANCE RESTRICTION) explosive exploration methods may not be conducted not less than 660 feet from a water well, building, underground cistern, pipelines, and flowing spring. ALSO, THIS PERMIT ONLY ALLOWS TERRA-SINE TO CONDUCT GEOPHYSICAL OPERATIONS IN NORTH DAKOTA.** Review the following conditions for your permit:

1. A pre-program meeting with state seismic inspector Tom Torstenson may be required. You must contact him at 701-290-1546 (cell) or 701-227-7436 at least 24 hours prior to any exploration operations.
2. All variances for distance restrictions are to be furnished, and a pre-plot map displaying any source points that do not comply with the distance restriction rule must be supplied to the inspector.
3. The following information must be submitted within 30 days of the completion of the project by the Geophysical Company:
 - a. Completion Report,
 - b. Completion Affidavit,
 - c. Post Plot Map. It must show all water wells, buildings, underground cisterns, pipelines, and flowing springs that fall within the program area and within one half mile of the perimeter of the program.
 - d. SD card or email: tstorstenson@nd.gov with all source and receiver points,

- e. Letter stating that the Geophysical Company has given all surface owner's a copy of the Section and Chapter of the NDCC as stated in paragraph 5.
4. The following information must be submitted within 30 days of the completion of the project by the SUBCONTRACTOR(s) (when applicable):
 - a. Plugging Report
 - b. Plugging Affidavit
5. It is required that within seven days of initial contact between the permitting agent and the operator of the land, the permitting agent shall provide the operator of the land and each landowner owning land within one-half mile of the land on which geophysical exploration activities are to be conducted a written copy of NDCC Section 38-08.1-04.1 (Exploration Permit) and NDCC Chapter 38-11.1 (Oil and Gas Production Damage Compensation). The permitting agent shall file an affidavit with this office confirming compliance with such notification. For your convenience, a copy of both Sections are enclosed.
6. The permit agent shall notify the operator of the land at least seven days before commencement of any geophysical exploration activity, unless waived by mutual agreement of both parties. The notice must include the approximate time schedule and the location of the planned activity.
7. Information regarding the location of water wells, springs, etc.; refer to the following ND State Water Commission Mapservice website, at: <http://mapservice.swc.state.nd.us/>
8. The entire permit can be viewed, as well as the status of various seismic projects in the state, at: <https://www.dmr.nd.gov/oilgas/seismic/seismicstats.asp>

Should you have any questions regarding this matter, feel free to contact me at 701-328-8020, or Tom Torstenson at the number listed in paragraph 1.

Sincerely,



Todd L. Holweger
Mineral Resources Permit Manager

Oil and Gas Division

Lynn D. Helms - Director Bruce E. Hicks - Assistant Director

Department of Mineral Resources

Lynn D. Helms - Director

North Dakota Industrial Commission

www.oilgas.nd.gov



SEPTEMBER 23, 2011

The Honorable Beth Innis
Williams County Auditor
P.O. Box 2047
Williston, ND 58802-2047

RE: Geophysical Exploration
Permit #97-0211

Dear Ms. Innis:

Pursuant to Section 38-08.1-04.2 of the North Dakota Century Code, please be advised that TERRA-SINE RESOURCES LTD was issued the above captioned permit on SEPTEMBER 23, 2011 and will remain in effect for a period of one year. The entire permit can be viewed on our website at: <https://www.dmr.nd.gov/oilgas/seismic/seismicstats.asp>

Should you have any questions, please contact our office.

Sincerely,

Todd L. Holweger
DMR Permit Manager