

**Remediation and Skim Pit Closure Work Plan
Ritchie Exploration, Inc.
Colorado Locations**

Prepared for:

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November 2013

1.0 INTRODUCTION

Nicholson GeoSolutions LLC was retained by Ritchie Exploration, Inc. (Ritchie) to conduct skim pit closure and remediation activities at their active and inactive oil well sites in Colorado. This Work Plan describes the procedures and schedule to be used to close the remaining unlined skim pits at Ritchie locations, as well as perform remediation and/or corrective actions for all significant environmental issues at each site. Remediation and reclamation activities will be conducted in accordance with the Colorado Oil and Gas Conservation Commission (COGCC) Series 900 and Series 1000 Rules.

Figure 1 provides an index map showing all active and temporarily inactive Ritchie locations in Colorado. The sites are located in Sedgwick, Logan, Morgan, Washington, Kit Carson, Lincoln, and Elbert counties. Skim pits were previously closed at five locations in 2007 and 2013 as shown on Table 1. Figures 2-6 provide maps for each of the work areas covered under this Work Plan.

This Work Plan provides the proposed schedule for the closure of the remaining unlined skim pits and other remediation activities. All skim pits will be closed by September 15, 2015.

2.0 PROCEDURES AND SCHEDULE

2.1 Initial Site Inspections

Sites inspections were conducted at all 33 active and inactive Ritchie locations in Colorado by Nicholson GeoSolutions LLC during the period August 5th to October 13th, 2013. Table 1 provides a summary of the site inspection findings.

Unlined skim pits are present at 17 locations. In addition, significant spills were found at 15 of these sites and six additional locations. For the locations with significant spills, a Form 19-Spill Report was prepared that provides the type and approximate extent of each spill. The Form 19s are provided under separate cover.

2.2 Skim Pit Closure

At each site with a skim pit, closure of the unlined skim pit will be initiated by submittal of a Form 27-Remediation Work Plan that provides the remediation and reclamation procedures to be used for that site. Prior to excavation, any oily sludge present will be removed from the surface of the skim pit using a vacuum truck and transferred to a storage tank on site or removed from the site for sale or reprocessing. The metal cage covering the skim pit will be removed and transported off-site for recycling.

Petroleum-contaminated soil beneath and surrounding the skim pit will be excavated and sent to a commercial landfill for disposal. Landfills that may be used are shown on Figure 1 and include the Logan, Washington, Lincoln, and Sedgwick county landfills, Tower Road Landfill, and the Buffalo Ridge Landfill in Keenesburg.

After removal of impacted soil, a minimum of five confirmation samples will be collected from the sidewalls and base of each skim pit excavation and analyzed for SAR, pH, conductivity, TPH – gasoline range (TVPH), benzene, toluene, ethylbenzene, and xylenes (BTEX), and TPH – diesel and motor oil range (TEPH) to demonstrate that compliance with the COGCC Table 910-1 standards has been achieved. For larger pits, additional samples will be collected as necessary.

Following receipt of the analytical results for the confirmation samples, and with approval from the COGCC, the skim pit excavations will be backfilled using clean fill obtained locally.

2.3 Remediation of Other Spills

Impacted soils from old and recent spills on each site, including those in the storage tank and separator berms, on evaporation pit berms and walls, and around wellheads, will be excavated and sent to a commercial landfill for disposal. Confirmation samples will be collected from the sidewalls and base of the excavations as appropriate for the size of the excavation and analyzed for SAR, pH, conductivity, TVPH, BTEX, and TEPH to demonstrate that compliance with the COGCC Table 910-1 standards has been achieved.

Following receipt of the analytical results for the confirmation samples, and with approval from the COGCC, the excavations will be backfilled using clean fill obtained locally and the berms will be reconstructed as necessary.

2.4 Other Remediation Activities

Missing placards and insufficient or missing lease signs will be corrected prior to December 31, 2013 at all sites. In addition, in conjunction with the excavation activities at each site, the following will be conducted:

- The berms surrounding the storage tanks and separator sheds will be rebuilt where necessary.
- The lease location and access road will be repaired and regraded where erosion has occurred.
- Secondary containment will be added to all chemical drums and tanks if missing.
- Metal trash and other debris on site will be removed.
- Where applicable, disturbed areas on each site will be reseeded using a seed mix recommended by the local Soil Conservation District.

2.5 Schedule

Figure 7 provides the schedule of skim pit closure and remediation activities. All skim pits will be closed by September 15, 2015.

2.6 Reporting

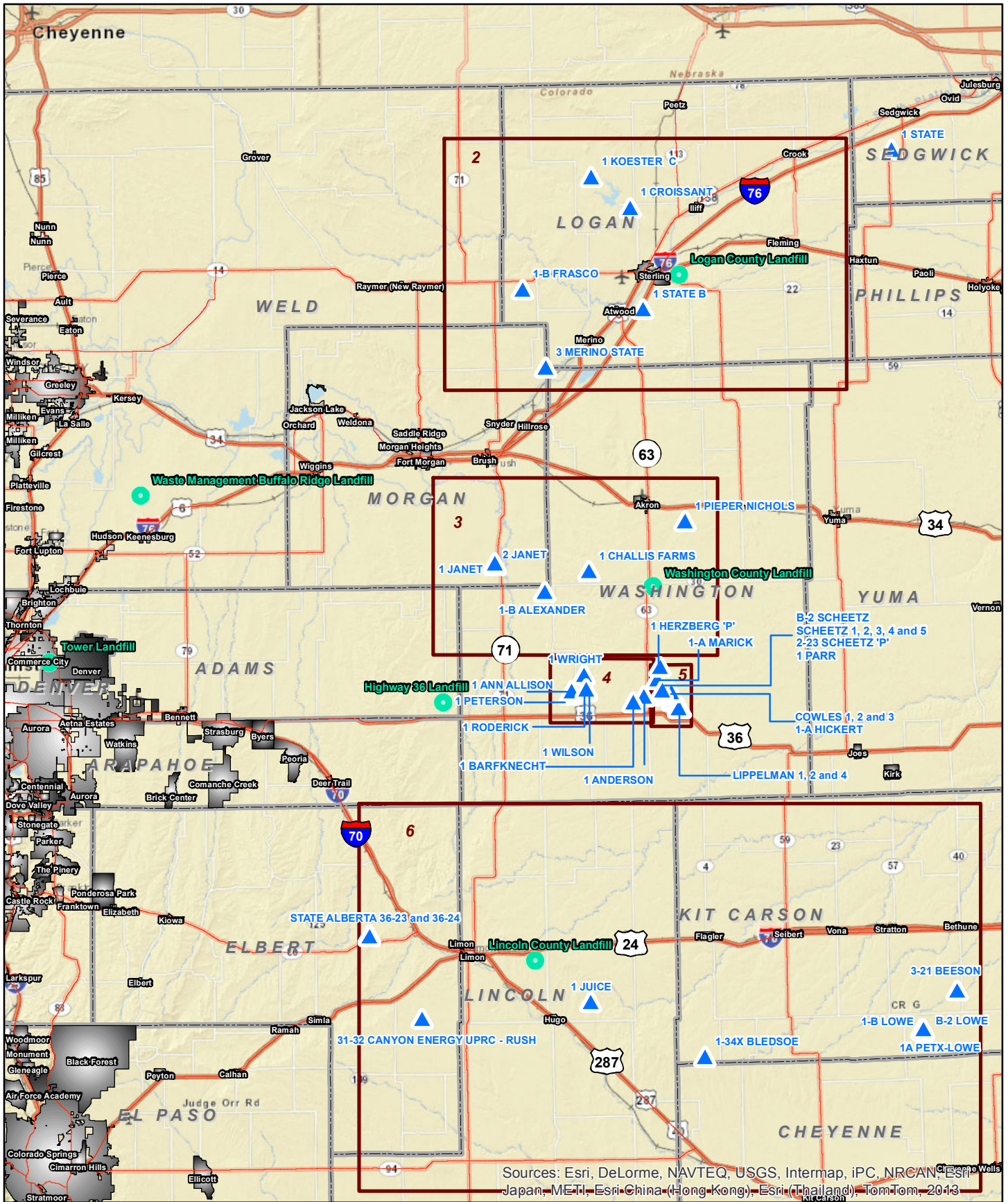
A Form 27-Remediation Work Plan will be prepared and submitted to COGCC for approval for each site remediated under this Work Plan prior to excavation activities. For sites where Plug and Abandonment is to be performed, a Form 4-Sundry Notice will be also be submitted. A Form 19-Spill Report will also be submitted if new spills are found.

For each site, a summary report will be prepared and provided to COGCC. The summary report will contain the following:

- A description of skim pit closure and other excavation activities
- The amounts of impacted soil, backfill, and other materials disposed of or used at the site for reclamation
- Photographs of the remediation and reclamation activities
- Seed mix details, where applicable
- Laboratory reports for confirmation samples

Ritchie Exploration, Inc.
 Skim Pit Closure and Remediation Work Plan
 Table 1 - Summary of Remediation Needs

Location	Location ID	Producing Wells	County	Skim Pit		Other Spills Present?		Remediation Required?
				Skim Pit Present?	Size (ft)	Within Tank Berms	At Wellhead	
Alexander	317291	Alexander No. 1B	Washington	Yes	36" culvert	Yes	Yes	Yes
Anderson	317057	Anderson No. 1	Washington	Yes	20 x 20	Yes	Yes	Yes
Ann Allison	316957	Ann Allison No. 1	Washington	Closed April 2013		No	No	No
Barfnecht	317126	Barfnecht No. 1	Washington	Yes	18 x 40	No	No	Yes
Beeson	324942	Beeson 4-21	Kit Carson	No		Yes	Yes	Yes
Bledsoe No. 1-34X	324940	Bledsoe No. 1-34X	Kit Carson	No		Yes	Yes	Yes
Challis Farms	317282	Challis Farms No. 1	Washington	Yes	30 x 30	No	Yes	Yes
Cowles	316951	Cowles No, 1, 2, 3	Washington	Yes	35 x 20	Yes	Yes	Yes
Croissant P	312212	Croissant No. 1	Logan	Closed Sept 2013		No	No	No
Frasco	312138	Frasco No. 1B	Logan	Closed Feb 2013		No	No	No
Herzberg P	317178	Herzberg No. 1	Washington	Yes	30 x 30	Yes	No	Yes
Hickert	317134	Hickert No. 1A	Washington	Yes	25 x 35	Yes	No	Yes
Janet	313919	Janet No. 1 and No. 2	Washington	Yes	30 x 30	Yes	Yes	Yes
Juice	309607	Juice No. 1	Lincoln	No		No	No	No
Koester C	312226	Koester C No. 1	Logan	Yes	30 x 30	Yes	No	Yes
Lippleman	316935	Lippleman No. 1, 2, 4	Washington	Yes	30 x 30	No	No	Yes
Lowe No. B-2/A-3 SWD	324937/324938	Lowe No. B-1	Kit Carson	No		Yes	Yes	Yes
Lowe No. A-1	324936	Petx-Lowe No. A-1, Lowe B-2	Kit Carson	No		Yes	Yes	Yes
Marick	317081	Marick No. 1A	Washington	Yes	two pits: 120 x 30; 30 x 45	Yes	No	Yes
Merino State P	313860	Merino State No. 3	Morgan	Yes	30 x 30	No	Yes	Yes
Parr	317122	Parr No. 1	Washington	Yes	30 x 30; inactive	Yes	No	Yes
Peterson	316963	Peterson No. 1	Washington	Closed April 2013		No	No	No
Pieper Nichols	317103	Pieper Nichols No. 1	Washington	No		No	No	No
Roderick	317127	Roderick No. 1	Washington	Yes	35 x 20	No	Yes	Yes
Rush	312138	Rush 31-32	Elbert	No		No	No	No
Scheetz No. B2	317128	Scheetz No. B2	Washington	Yes	25 x 25	Yes	Yes	Yes
Scheetz P	317115	Scheetz No. 1, 2, 3, 4, 5	Washington	No		Yes	No	Yes
Scheetz P No. 2-23	317114	Scheetz No. 2-23	Washington	Yes	25 x 25	No	Yes	Yes
State 1-12	316886	State 1-12 (State 1)	Sedgewick	No		Yes	Yes	Yes
State B	312277	State B No. 1	Logan	No		No	No	No
State-Alberta	322210	State-Alberta 36-23, 36-24	Elbert	Closed Sept 2007		No	No	No
Wilson	317125	Wilson No. 1	Washington	Yes	30 x 20	Yes	No	Yes
Wright	317145	Wright No. 1	Washington	Closed April 2013		No	No	No



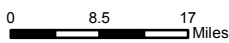
Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013



- Landfill
- ▲ Ritchie Producing Well

Legend

- Map Index
- Highway
- Town

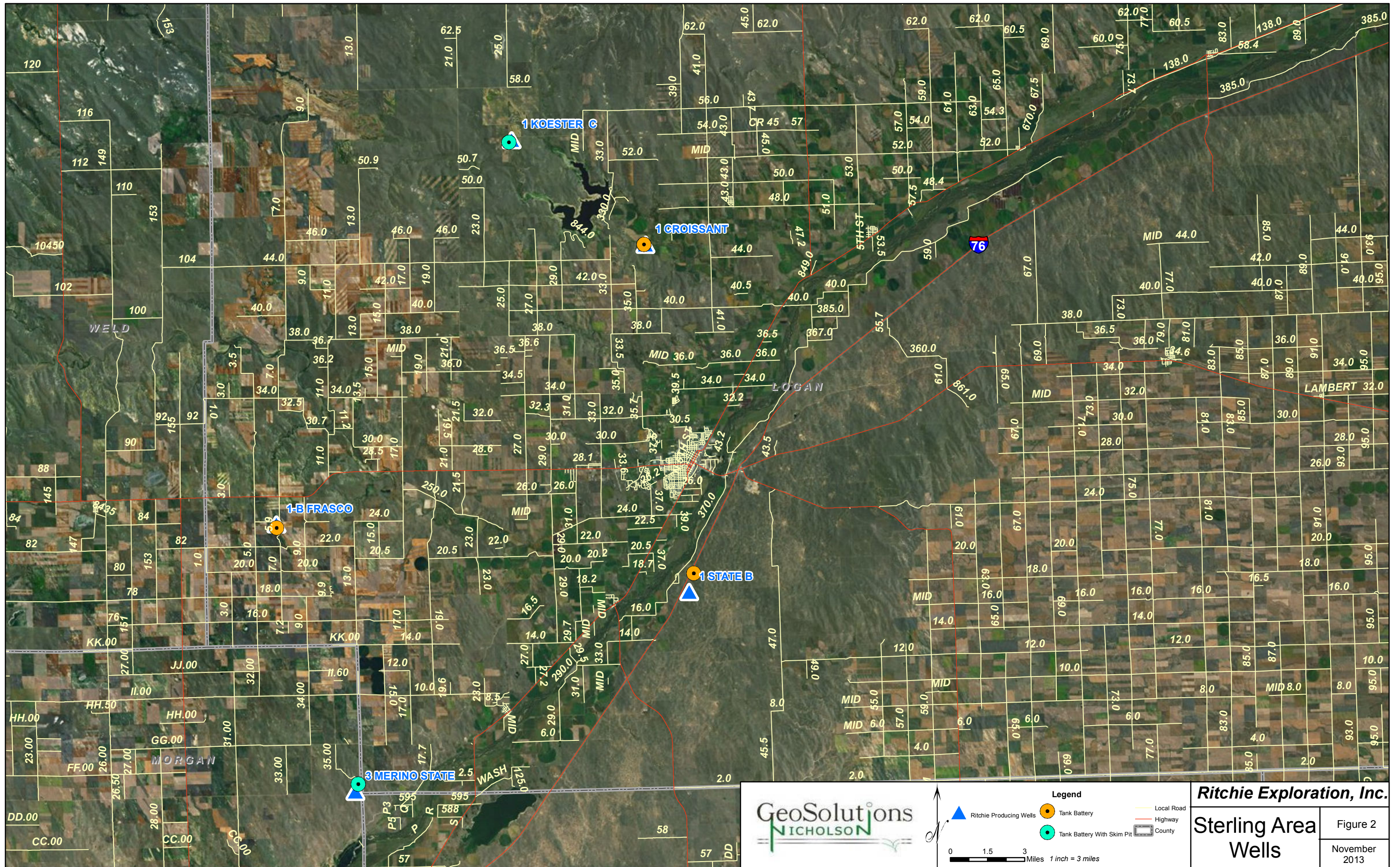


1 inch = 18 miles

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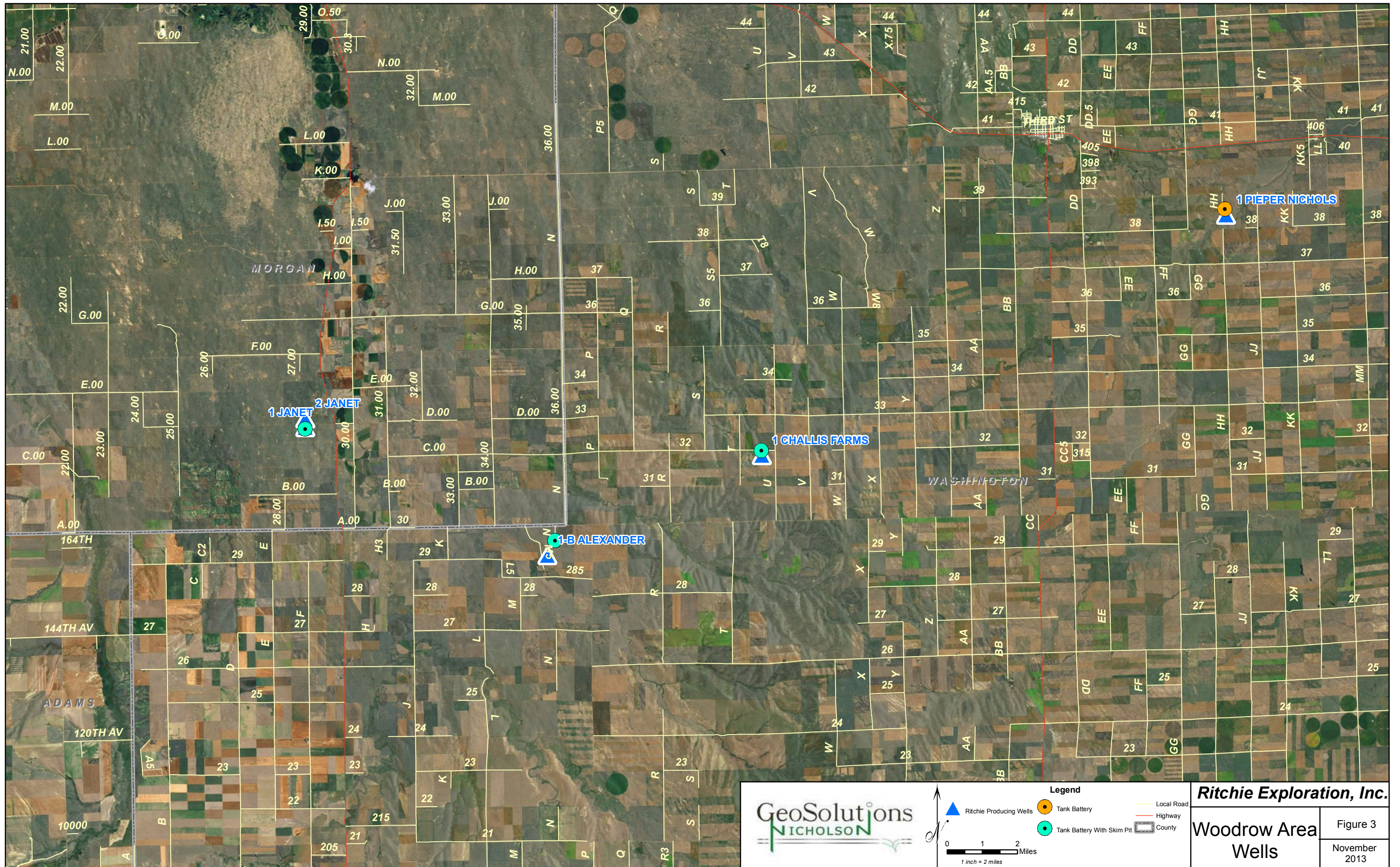
Index Map

Figure 1
November 2013



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Ritchie Exploration, Inc.
Sterling Area Wells
Figure 2
November 2013



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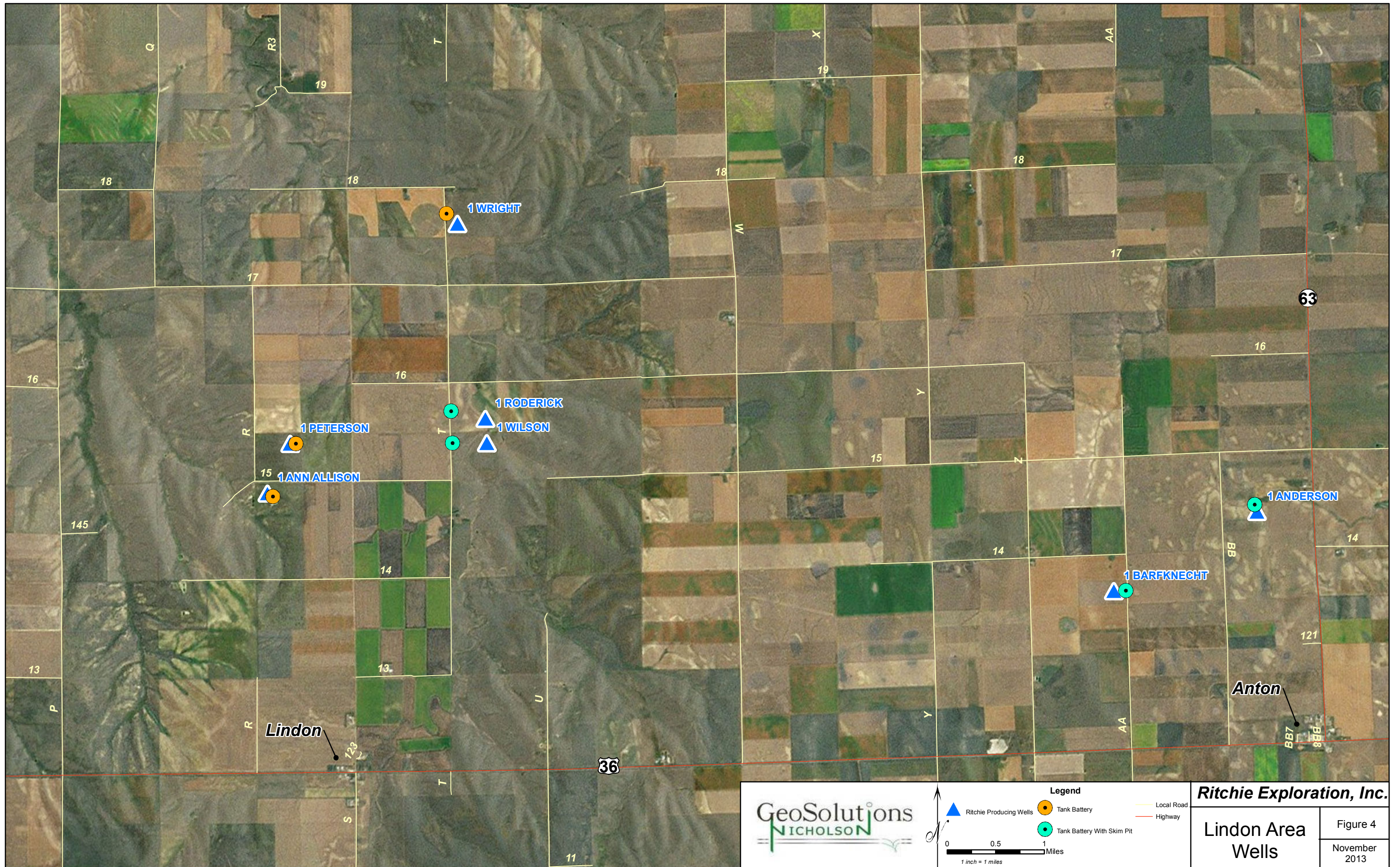
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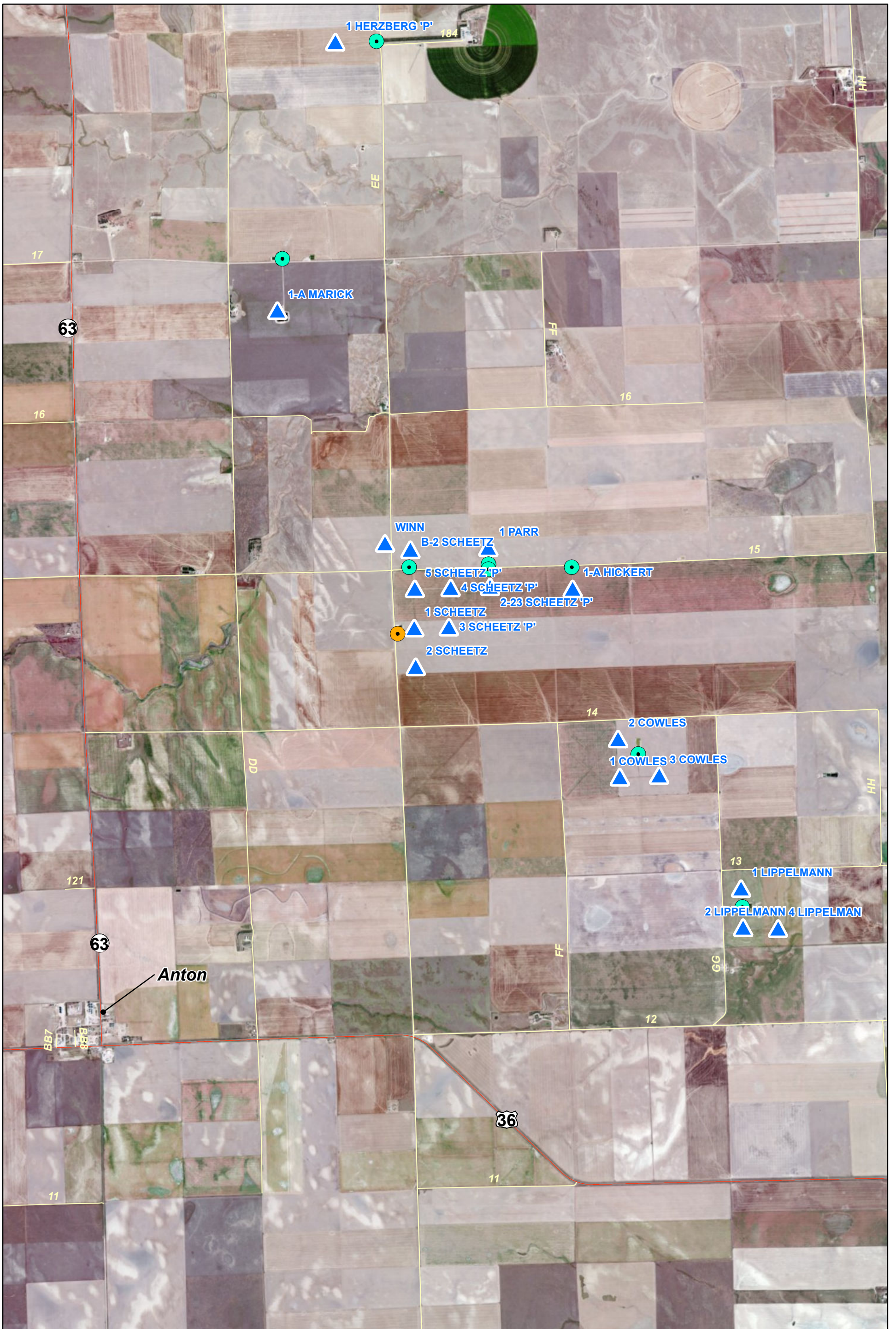
- ▲ Ritchie Producing Wells
- Tank Battery
- Tank Battery With Skim Pit
- Local Road
- Highway
- County

0 1 2 Miles
1 inch = 2 miles

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Woodrow Area Wells	Figure 3
	November 2013

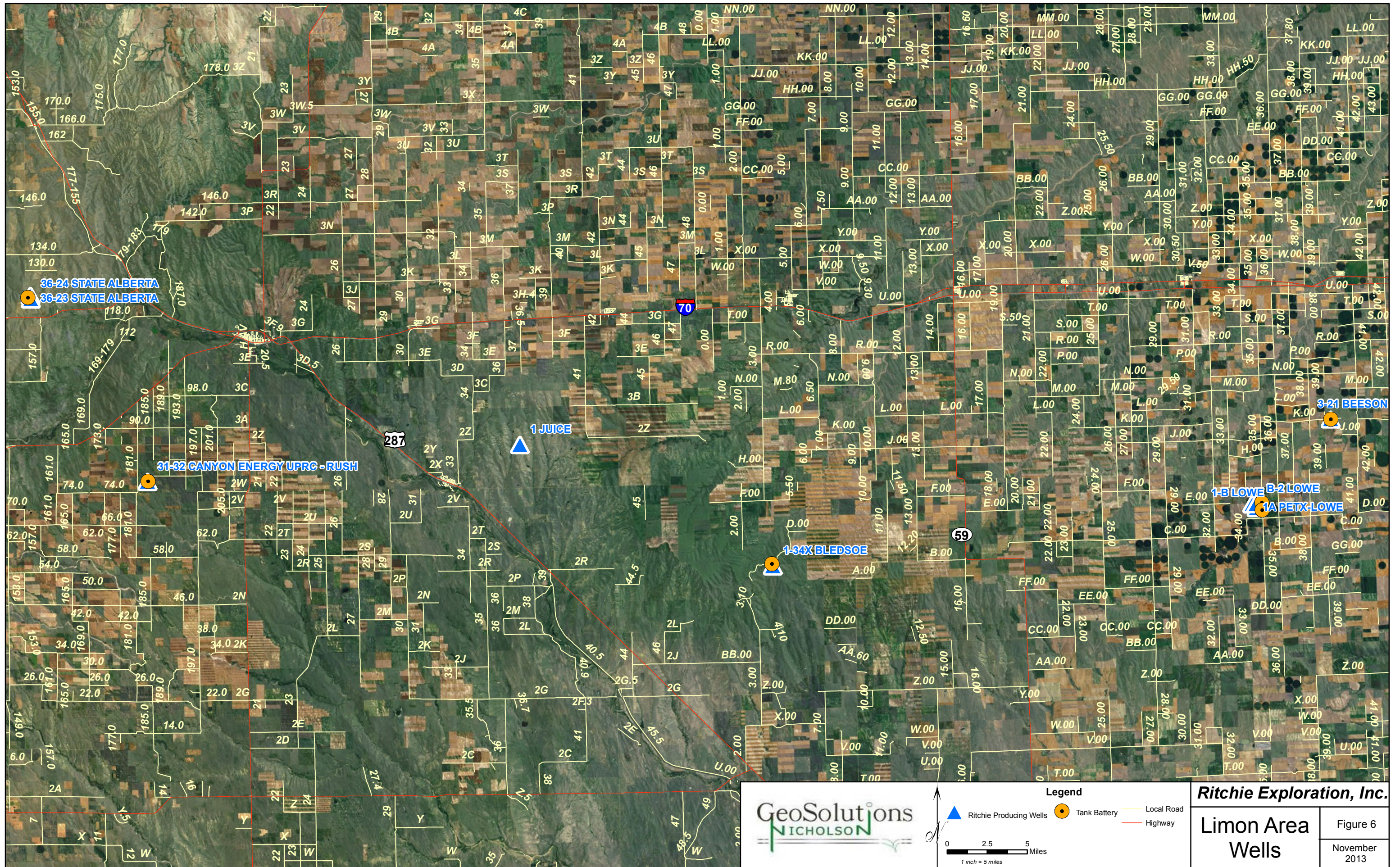




Legend

- ▲ Ritchie Producing Wells
- Tank Battery
- Tank Battery With Skim Pit
- Highway
- Local Road

0 1,500 3,000 Feet
1 inch = 3,000 feet



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Legend
 ▲ Ritchie Producing Wells
 ● Tank Battery
 — Local Road
 — Highway

0 2.5 5 Miles
 1 inch = 5 miles

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Limon Area Wells

Figure 6
 November 2013

Remediation Schedule

