RECEIVED
By OCD District 1 at 10:19 am, Jul 22, 2015

APPROVED Conditional
By OCD District 1 at 10:20 am, Jul 22, 2015

1. Ensure that the area of HB-3 is delineated to the regulatory threshold for chloride.
2. Confirmation samples are to be discrete samples.

July 2nd, 2015 Reference No. 088200

Ms. Kellie Jones
Environmental Specialist, District 1
Oil Conservation Division, EMNRD
1625 N French Dr.
Hobbs, New Mexico 88240

Dear Ms. Jones:

Re: Site Remediation and Closure Work Plan
Vacuum Grayburg San Andres Unit No. 228
Remediation Permit No. 3294
Lea County, New Mexico

On behalf of Chevron Environmental Management Company (CEMC), Conestoga-Rovers and Associates (CRA) is pleased to present this Site Remediation and Closure Work Plan to the New Mexico Oil Conservation Division (NMOCD) outlining our proposed approach to closure activities for the Vacuum Grayburg San Andres Unit No. 228 well release location (hereafter referred to as the "Site").

1. Project Information and Background

The Site is located in Unit I, Section 1, Township 18 South, Range 34 East, approximately 1.82 miles southwest of Buckeye, New Mexico, in eastern Lea County (Figure 1 and Figure 2).Currently, the Site includes an active well (VGSAU #228) pump jack and well pad constructed of caliche soil materials; which measures approximately 85,500-ft².

Chevron submitted a C-141 Form to the NMOCD dated December 4, 2013, describing a release of 1.4 barrels (bbls) of oil and 17.27 bbls of produced water resulting from a stuffing box leak. The C-141 reported that approximately 18 bbls of fluids were recovered.

CRA understands that Chevron conducted initial field assessment activities at the Site in 2014. Chevron's assessment included a site visit, soil sample collection, analytical laboratory analyses and preliminary determinations of impacts to environmental media. Following the initial field assessment activities, Chevron delegated the continuation of assessment and delineation efforts for the Site to CEMC. In June 2014, CEMC contacted CRA to perform a comprehensive soil assessment at the Site by implementing a soil boring program.

On August 12, 2014 Harrison and Cooper, Inc. (HCI) and CRA mobilized to the Site to begin soil boring activities. Soil borings were advanced using an air rotary drill rig. Six soil borings (SB-1 through

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SB-6) were advanced across the Site. In addition, two surficial grab samples (SS-1 and SS-2) were collected at the Site.

In August 2014, CRA prepared and submitted a soil assessment and delineation activities report to CEMC detailing recommendations to further investigate and determine the vertical extent of chloride impacts in the shallow sub-surface soils (0 to 5-feet). CEMC concurred with the recommendations outlined in CRA's 2014 report, thus CRA returned to the Site in 2015 to execute planned field activities.

On June 24, 2015, CRA returned to the Site to perform soil assessment activities. Five soil borings (HB-1 through HB-5) were advanced across the Site via hand auger boring techniques to approximately 2-feet below ground surface (bgs). Hand auger refusal was encountered at those depths. Soil samples were collected for laboratory analysis and sent to Xenco Laboratories in Odessa, Texas for analysis of chloride by EPA Method 300/300.1. The 2014 and 2015 sample locations and analytical results for the Site are presented and attached as Figure 3. The 2014 and 2015 soil assessment activities were effective in delineating the horizontal and vertical extent of vadose zone impacts at the Site. One small area in the vicinity of HB-3 and SB-4 indicates that shallow soil removal and confirmation sampling would facilitate regulatory closure of the subject release.

2. Recommended Remediation Action Levels

Information available on the Petroleum Recovery Research Center (PRRC) Mapping Portal, United States Geological Survey (USGS) Current Water Database for the Nation, and current (CRA) managed groundwater site(s) data demonstrate the depth to groundwater at the Site is greater than 100-feet bgs. The nearest private domestic water source is greater than 200-feet from the release site; the nearest public/municipal water source is greater than 1,000-feet from the release site; and the release site lies more than 1,000 horizontal feet from the nearest surface water body. Consequently, the NMOCD total ranking criteria score is zero (0) for the Site. The anticipated site-specific Recommended Remediation Action Levels (RRALs) to be applied to this location by the NMOCD are 10 milligram per kilogram (mg/kg) for benzene; 50 mg/kg for total BTEX; 5,000 mg/kg for TPH; and an NMOCD accepted 500 mg/kg for chlorides.

3. Soil Remediation and Closure Workplan

The scope of work for this project will involve the excavation of caliche well pad material accompanied by soil sample analysis. Field screening of soils will be performed to guide excavation activities. Subsequently, the excavation will be backfilled with clean caliche material and construction affected areas will be graded and contoured to ensure proper surface area drainage.

The following outlines basic project details that will be completed by CRA and CEMC approved sub-contractors:

- Excavate approximately 200 cubic yards of shallow sub-surface area consisting of caliche well pad materials (Figure 4). Impacted soil in the affected area will be excavated until field screening indicates that the soil is below the RRALs. Excavated soil will be disposed of at the Sundance/Parabo facility, in Eunice, New Mexico;
- Soils will be field screened for chloride during excavation by mixing soil samples with de-ionized water. The rinsate will be analyzed using Hach chloride test strips. If field screening indicates that soils are below RRALs, excavation would halt to minimize excavating clean soil;
- Collect soil confirmation samples (Figure 4) and submit these samples to Xenco Laboratories in Odessa, Texas for analysis of chlorides by EPA Method 300/300.0;
- Backfill remedial excavation areas with clean caliche soil materials. Contour and grade all construction affected areas to ensure proper surface water drainage/flow; and
- Compile and submit a remedial excavation and closure activities report documenting the Site details and history, description of field events, a discussion of results, and recommendations (if any).

4. Work Plan Approval Request

CRA is prepared to initiate the proposed workplan activities immediately upon NMOCD concurrence. If you have any questions or comments with regards to this work plan, please do not hesitate to contact our Dallas office at (972) 331-8500. Your timely response to this correspondence is appreciated.

Sincerely,

GHD

Jake Ferenz

Project Manager
Manager

Thomas Larson

Principal, Midland Operations

JF/amm/1

Encl.

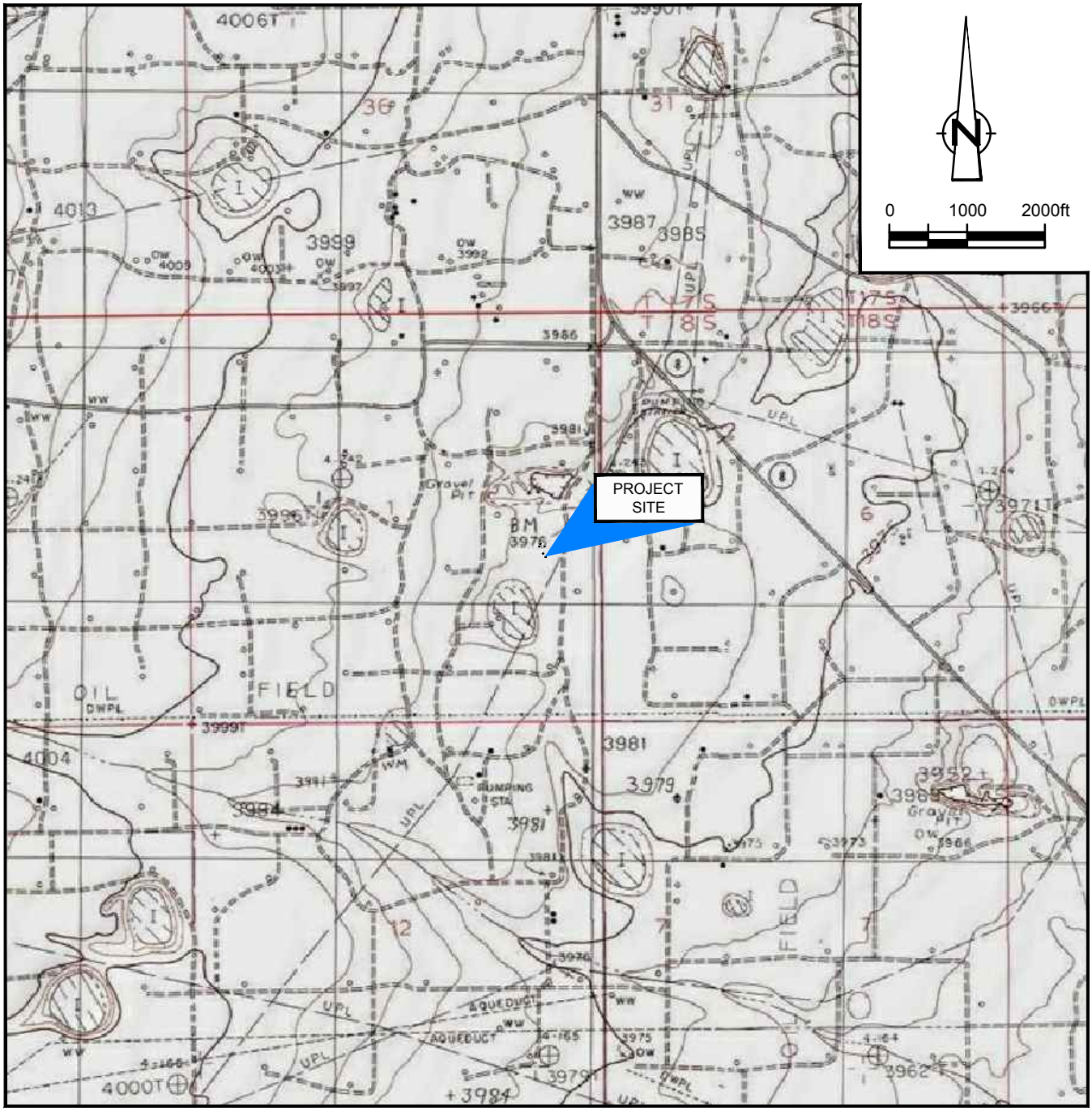
Figure 1 – Site Location Map

Figure 2 – Site Aerial Map

Figure 3 – Site Details and Analytical Results Map

Figure 4 – Site Remedial Activities Map

Figures



SOURCE: USGS 7.5 MINUTE QUAD
"BUCKEYE AND LOVINGTON SW, NEW MEXICO"

LAT/LONG: 32.7755° NORTH, 103.5076° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

figure 1

SITE LOCATION MAP
VACUUM GRAYBURG SAN ANDRES UNIT #228
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company

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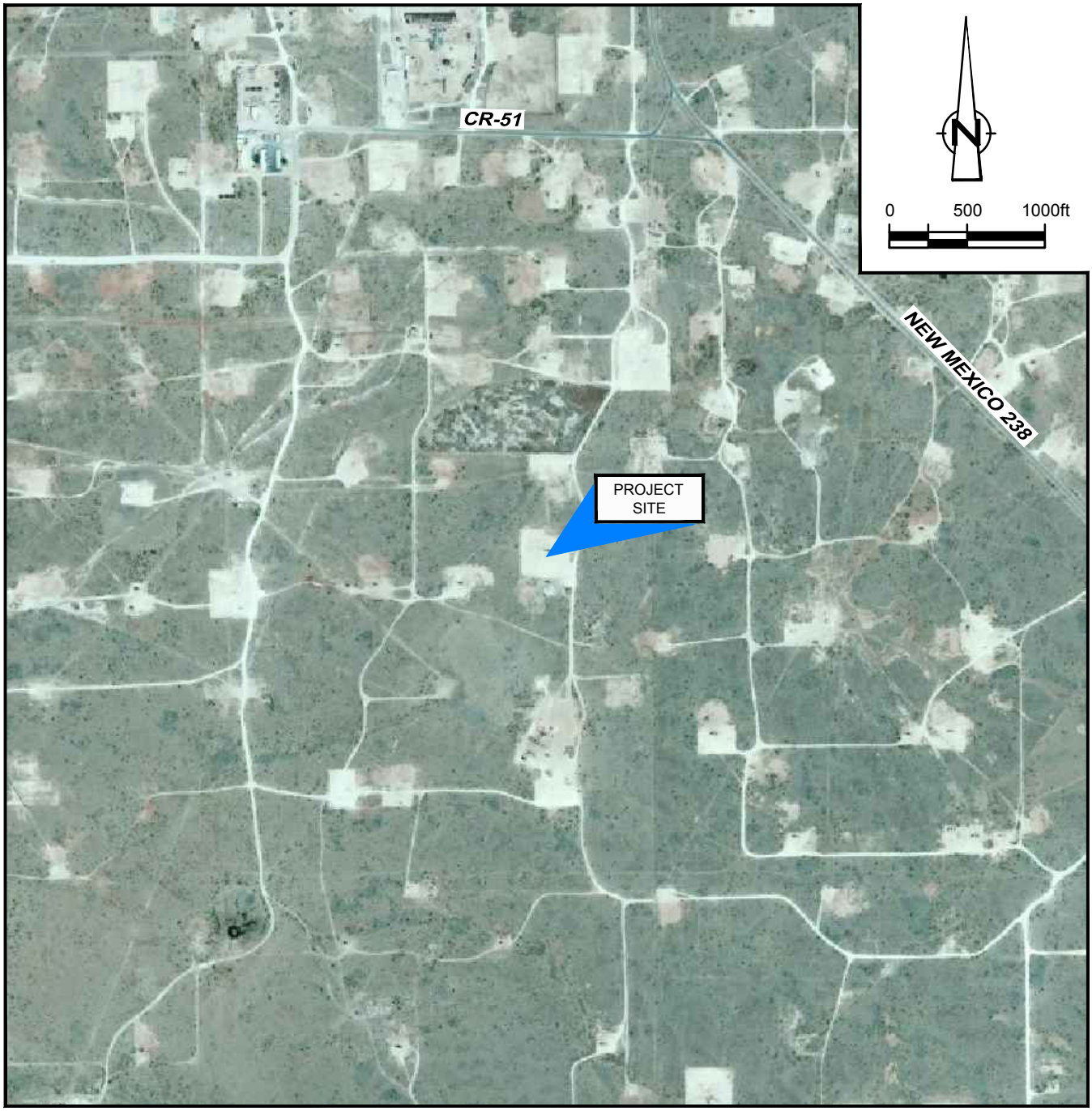

LAT/LONG: 32.7755° NORTH, 103.5076° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

figure 2

SITE AERIAL MAP
VACUUM GRAYBURG SAN ANDRES UNIT #228
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company

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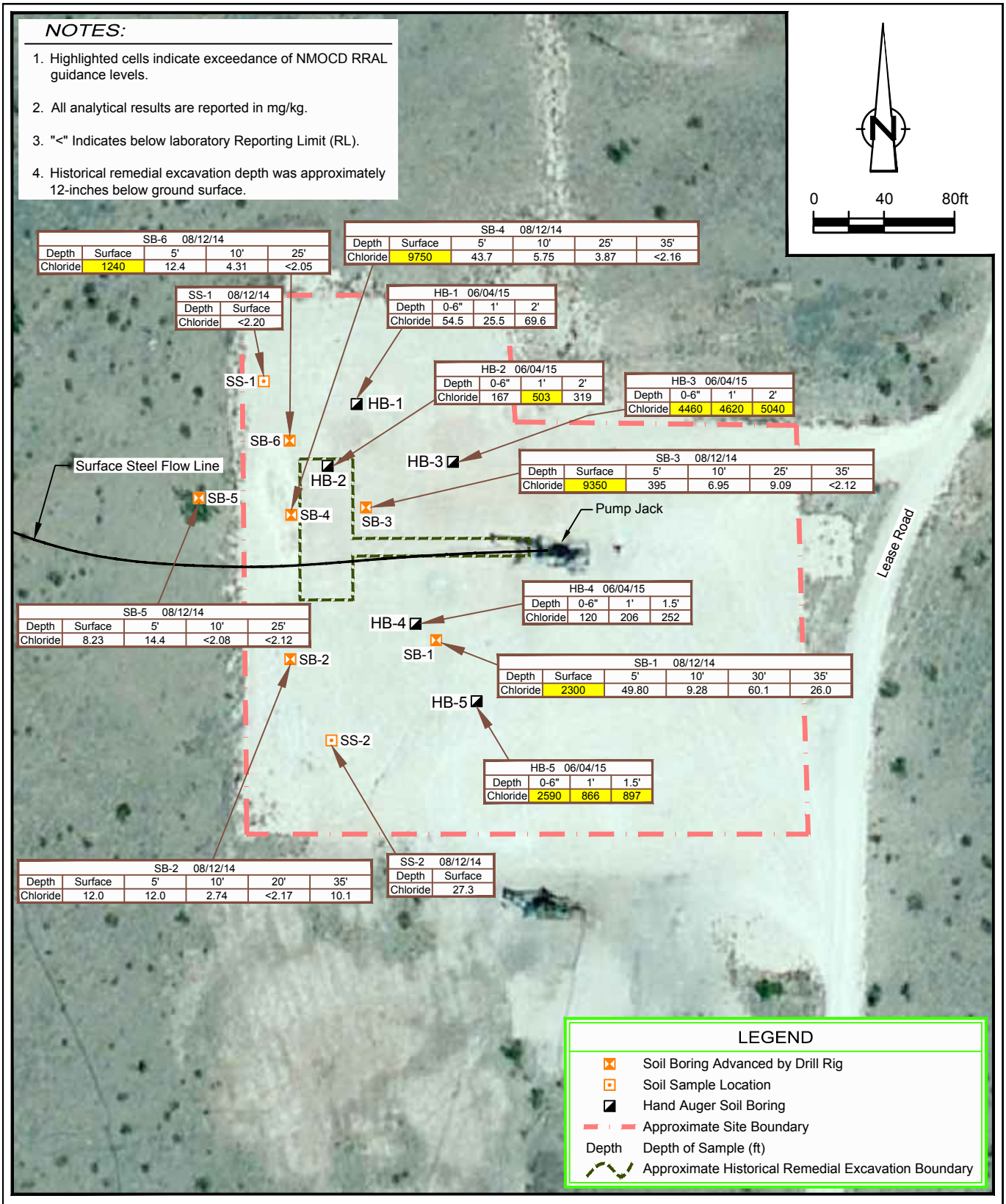

figure 3

SITE DETAILS AND ANALYTICAL RESULTS MAP
VACUUM GRAYBURG SAN ANDRES UNIT #228
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company

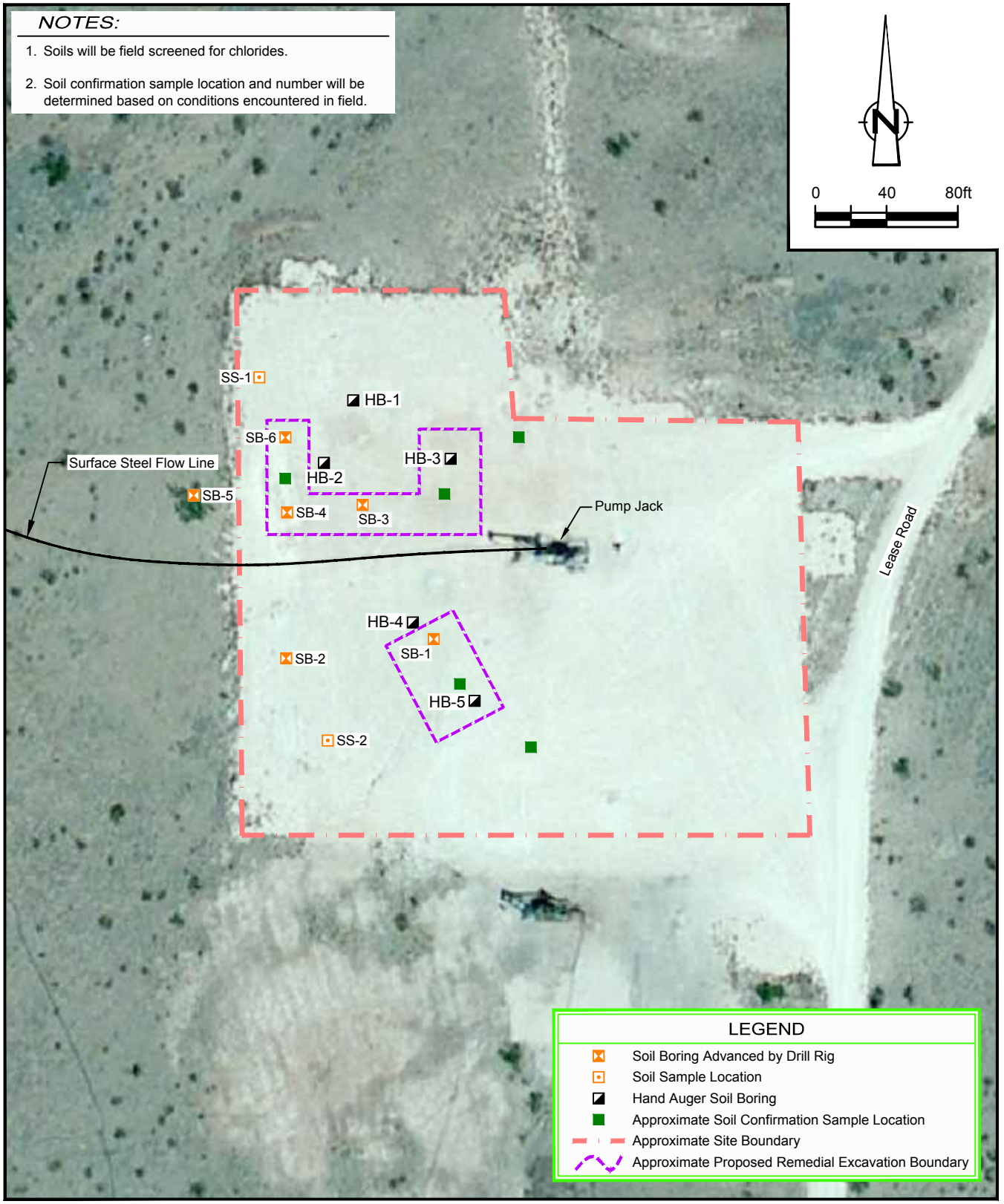

figure 4

PROPOSED REMEDIAL ACTIVITIES MAP
VACUUM GRAYBURG SAN ANDRES UNIT #228
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company

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From:	Ferenz, Jacob
To:	Jones, Kellie, EMNRD
Cc:	Project Email Filing
Subject:	RP No. 3294; VGSAU No. 228 - Work Plan Reference ~COR-088200-2015~
Date:	Monday, July 20, 2015 3:31:25 PM

Kellie-

In the work plan referencing remedial activities for the VGSAU No. 228 (RP No. 3294) submitted to you for review on 07/20/15 – I mistakenly referenced a clean-up goal of 500 mg/kg for chlorides in soil.

Based on depth to groundwater (<100-feet); I have since discovered that the appropriate clean-up goal for this site is 1,000 mg/kg. GHD on behalf of Chevron would like to maintain the 1,000 mg/kg clean-up goal for the site.

Thank you,

Jake Ferenz
Project Manager

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