
ENVIRONMENTAL SITE ASSESSMENT

NALE-16-004 (200)-16-341

PHASE I ENVIRONMENTAL SITE ASSESSMENT

LOMAS ENCANTADAS UNITS 1A-1G, 2A-2D, 2F
CAMINO ENCANTADAS
RIO RANCHO, SANDOVAL COUNTY,
NEW MEXICO 87144

January 2016



1720 Louisiana Boulevard SE,
Suite 308
Albuquerque, New Mexico 87144
(505) 266-2488 voice
(575) 266-2803 fax

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Prepared for:

Amrep Southwest, Inc.
333 Rio Rancho Boulevard NE, Ste. 400
Rio Rancho, New Mexico 87124

Submitted by:

Author(s):



1720 Louisiana Boulevard SE,
Suite 308
Albuquerque, New Mexico 87144
(505) 266-2488 voice
(575) 266-2803 fax


Kenneth Hunter

QA Reviewer:


Victoria T. Brown

QC Reviewer:


Emma Jones

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EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment was performed in accordance with our proposal (P-ALE-16-084 dated January 6, 2016) and in general accordance with the consensus documents known as American Society for Testing and Materials E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. Mr. Kenneth Hunter performed the site reconnaissance on January 13, 2016.

The Lomas Encantadas Units 1A-1G, 2A-2D, 2F (subject property) are located along Camino Encantadas in northeast Rio Rancho, Sandoval County, New Mexico.

A summary of findings is provided below. However, details are not included or fully developed in this Executive Summary, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

- The subject property contains approximately 318 acres of mostly undeveloped land. Paseo Del Volcan splits the subject property into east and west sections. House pads, utilities, and streets have been constructed within Unit 2D. Units 2C and 2F have been graded (house pads and roads).
- Historical sources indicate that the subject property was undeveloped from 1935 to 2004, when a portion of the site was graded. Residences and a school were located north and east of the subject property by 1996. A water tank was located south of the site by 2003. Adjoining parcels to the west were undeveloped until construction of one residence in 2010.
- The regulatory review identified one Facility Registry System, one Compliance and Enforcement Program Cleanup Site, one Voluntary Remediation Program site, and one recycling facility within the specified search radii of the subject property. Based upon facility characteristics, environmental settings, and/or distance from the site, the identified regulatory site does not appear to constitute a recognized environmental condition in connection with the site at this time.

Based on the scope of services and limitations of this assessment, Zia did not identify any recognized environmental conditions in connection with the subject property at this time. The following item warrants additional discussion:

- Surface and construction debris and/or dumping areas were observed during the site visit. Zia recommends that the surface and construction debris and/or dumping should be disposed of in accordance with local regulations and guidelines.

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CAMINO ENCANTADAS

RIO RANCHO, SANDOVAL COUNTY, NEW MEXICO 87144

1 INTRODUCTION

The Lomas Encantadas Units 1A-1G, 2A-2D, 2F (subject property) subdivision consists of approximately 318 acres of land located along Camino Encantadas in northeast Rio Rancho, Sandoval County, New Mexico. Paseo Del Volcan splits the subject property into east and west sections. The subject property is mostly undeveloped. House pads, utilities, and paved roads have been constructed within Unit 2D. Units 2F and 2C have been graded (house pads and roadways).

1.1 PURPOSE

The purpose of a Phase I Environmental Site Assessment (ESA) is to accumulate data for use by parties who wish to evaluate the level of environmental risk associated with commercial real estate and takes into account commonly known and reasonably ascertainable information. While completion of a Phase I ESA is intended to constitute one of the requirements of all appropriate inquiry for purposes of Comprehensive Environmental Response Compensation and Liability Act (CERCLA) liability protections, it is not intended that its use be limited to that purpose. This ESA is intended primarily as an approach to conducting an inquiry designed to identify recognized environmental conditions¹ (REC), controlled recognized environmental conditions² (CREC), and historical recognized environmental conditions³ (HREC) in connection with a property, as reflected by the scope, and represents a commercially prudent and reasonable inquiry.

¹ RECs, per ASTM E1527-13, are defined as "the presence or likely presence of any hazardous substance or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimus* conditions are not recognized environmental conditions."

² CRECs, per ASTM E1527-13, are defined as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls.)"

³ HRECs, per ASTM E1257-13, are defined as "a past release of any hazardous substance or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority, without subjecting the property to any required controls."

1.2 DETAILED SCOPE OF SERVICES

This Phase I ESA of the above-referenced site was performed in accordance with our proposal (P-ALE-16-084 dated January 6, 2016) and in general accordance with the consensus document known as ASTM International, formerly known as the American Society for Testing and Materials (ASTM) E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. This ESA consisted of the following components, which include:

- *A thorough, noninvasive, on-site reconnaissance of the property, including a review of adjacent properties;*
- *Interviews with current owners/operators/occupants, local government officials, and neighboring property owners/occupants to obtain information which may indicate RECs in connection with the property;*
- *A review of various physical setting, historical, and regulatory records to help identify RECs in connection with the subject property and nearby properties; and*
- *Preparation of a final report, which details the assessment findings, conclusions, and opinions of the environmental professional, and includes supporting documentation.*

A more detailed scope of services is included in the above-referenced proposal. Limitations and ASTM deviations are evident from reviewing the applicable scope of services and the report text.

1.3 SIGNIFICANT ASSUMPTIONS

This Phase I ESA was performed in accordance with generally accepted practices of this profession undertaken in similar studies at the same time and in the same geographical area. We have endeavored to meet this standard of care but may be limited by conditions encountered during performance, a client-driven scope of services, or the inability to review information not received by the report date. Phase I ESAs, such as the one performed at this site, are of limited scope, are noninvasive, and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the site beyond what is identified by the limited scope of this ESA. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed.

It should be recognized that environmental concerns might be documented in public records that were not reviewed. No environmental site assessment can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the site or otherwise uses the report for any other purpose. These risks may be further evaluated – but not eliminated – through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

1.4 LIMITATIONS AND EXCEPTIONS AND SPECIAL TERMS AND CONDITIONS

Based upon the agreed-on scope of services, this ESA did not include subsurface or other invasive assessment, business environmental risk evaluations, or other services unless identified and discussed herein. Reasonable attempts were made to obtain information within the scope and time constraints set forth by the client; however, in some instances, information requested is not or was not received by the issuance date of the report.

Consideration of such information is beyond the scope of this assessment. Information obtained for this ESA was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder. Purchase price data, specialized knowledge, or experience of the client, activities and land use limitations, and environmental lien information were not provided by the client for evaluation unless otherwise specified herein. This ESA was further limited by the following:

- *Credentials of the company (Statement of Qualifications) have not been included in this report but are available upon request.*
- *During the site reconnaissance, small portions of the subject property could not be observed due to patches of snow and dense vegetation.*

This report represents our service to you as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the site's current utilization, information derived from the most recent reconnaissance and from other activities described herein; such information is subject to change. Certain indicators of the presence of hazardous substances or petroleum products may have been latent, inaccessible, unobservable, or not present during the most recent reconnaissance and may subsequently become observable (such as after site renovation or development). Furthermore, these services are not to be construed as legal interpretation or advice.

1.5 USER RELIANCE

This ESA report has been prepared for the exclusive use and reliance of Amrep Southwest, Inc., and the City of Rio Rancho. Use or reliance by any other party is prohibited without the written authorization of Amrep Southwest, Inc., and Zia Engineering & Environmental Consultants, LLC (Zia).

Reliance on the ESA by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, ESA report, and Zia's Terms and Conditions. The limitation of liability defined in the Terms and Conditions is the aggregate limit of Zia's liability to the client and all relying parties.

2 SITE DESCRIPTION

TABLE 1: SITE LOCATION AND LEGAL DESCRIPTION

Site Name	Lomas Encantadas Units 1A-1G, 2A-2D, 2F
Site Location / Address	Camino Encantadas, Rio Rancho, Sandoval County, New Mexico 87144
Legal Description	Lomas Encantadas Unit 1A (32.5 acres); Unit 1B (7.6 acres); Unit 1C (11.9 acres); Unit 1D (8.9 acres); Unit 1E (25.6 acres); Unit 1F (12.1 acres); Unit 1G (71.9 acres); Unit 2A (36.4 acres); Unit 2B (36.9 acres); Unit 2C (38.9 acres); Unit 2D (20.4 acres); and Unit 2F (15.2 acres).
Site / Vicinity General Characteristics	Residential, school, water tank, arroyo, and undeveloped.
Current Use of Site	Units 1A-1G, 2A and 2B are undeveloped other than unpaved roads. Units 2C and 2F have been graded. Unit 2D has been partially developed with paved roads, house pads, and utilities.
Structures, Roads, Other Improvements	Roadways, utilities, and a perimeter wall have been constructed within Unit 2D.
General Current Use of Adjoining Properties	Residential, school, arroyo, and undeveloped.

The subject property consists of 12 residential subdivisions. Unit 1 parcels are located west of the Paseo del Volcan roadway and Unit 2 parcels are located east of Paseo del Volcan. All of the units of the subject property except for Unit 2F have a border adjacent to the Camino Encantadas alignment. Camino Encantadas is paved as far west as Unit 2D, it is unpaved going farther west between Unit 2C and Unit 2B. A bridge has been constructed for Paseo del Volcan, crossing over the Camino Encantadas alignment. Unit 2F is the farthest east unit of the subject property. Unit 1B is the farthest west subdivision. According to the Rio Rancho Zone Atlas, the subject property is located within Sections 22, 23, 25, 26, and 27, Township 13 North, Range 3 East, New Mexico Principal Meridian.

Units 1A, 1B, 1C, 1D, 1E, 1F, 1G, 2A, and 2B are undeveloped other than a few unpaved roads. Units 2C and 2F have been graded with house pads and roadways. Unit 2D has been partially developed with house pads, paved roads, utilities, and a perimeter block wall. It appeared that the first concrete pad for a house within Unit 2D was poured the morning of the site visit.

The subject site characteristics are addressed in greater detail in Section 5.0. The site location is depicted on Figure 1 of Appendix A, which was reproduced from a portion of the U. S. Geological Survey (USGS) 7.5-minute series 2013 Bernalillo, New Mexico, topographic map. A site diagram, including adjoining properties, is included as Figure 2 of Appendix A, which was reproduced from a portion of a 2014 Google Earth™ aerial photograph. Selected acronyms and terms used in this report are described in Appendix G.

3 USER PROVIDED INFORMATION

The user is defined as the party seeking to use ASTM Practice E 1527-13 to complete this Phase I ESA of the subject site. The user for this ESA is identified as Amrep Southwest, Inc., which is intending to designate the subject property as a Public Improvement District (PID).

A User Questionnaire (Appendix E) was completed by Ms. Carey Plant, Director of Land Development for Amrep Southwest, Inc., to assist in gathering information that may be material to identifying RECs in connection with the subject site. In order to qualify for one of the CERCLA liability protections offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001, the user is requested to provide to Zia the following information (if available).

3.1 TITLE RECORDS

Ms. Plant stated that Amrep Southwest, Inc. (formerly Rio Rancho Estates) acquired the subject property in 1961 as a portion of the purchase of three ranches for the development of the City of Rio Rancho. She said that the subject property has historically been used for grazing but that it has been undeveloped since their acquisition.

3.2 ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

Ms. Plant indicated that she is not aware of environmental clean-up liens or activity and use restrictions at the subject property.

3.3 SPECIALIZED KNOWLEDGE, COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

Ms. Plant stated that she is not aware of environmental concerns at the subject property.

3.4 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

The site is being considered for application as an PID. Although development is proposed for the future, the subject property is not being considered for sale or lease at this time. Ms. Plant stated that the fair market value of the property is not applicable to the subject property.

3.5 REASON FOR PERFORMING ESA

According to Ms. Plant, the Phase I ESA is being performed to satisfy due diligence during the PID application process.

4 RECORDS REVIEW

In some of the following subsections, the words up-gradient, cross-gradient, and down-gradient refer to the topographic gradient in relation to the site. The groundwater flow direction and the depth to shallow groundwater, if present, would likely vary depending upon seasonal variations in rainfall and the depth to the soil/bedrock interface. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be accurately ascertained but only inferred, as has been done in this case.

4.1 STANDARD ENVIRONMENTAL RECORD SOURCES

The United States Environmental Protection Agency (EPA) and the New Mexico Environment Department (NMED) regulatory database information was provided by GeoSearch, a contract information services company, for indications of environmental concern on and in the vicinity of the site. Information in this section is subject to the accuracy of the data provided by the information service company and the date at which the information is updated, and the scope herein did not include identifying the location of facilities listed as "unmappable."

The types and number of facilities identified in the standard federal and state databases within the indicated search areas are listed in Table 2. Database definitions, descriptions, and the database search reports and any additional regulatory record information provided by GeoSearch, and/or NMED are included in Appendix D.

TABLE 2: FEDERAL AND STATE DATABASES

DATABASE	DESCRIPTION	RADIUS (MILES)	FACILITIES
FEDERAL			
NPL	The National Priorities List (NPL) is the EPA's database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program.	1.0	0
CERCLIS/ NFRAP	The CERCLIS database is a compilation of facilities, which the EPA has investigated, or is currently investigating for a release or threatened release of hazardous substances pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980. No Further Remedial Action Planned (NFRAP) refers to facilities that have been removed and archived from its inventory of CERCLA sites.	0.5	0
RCRA CORRACTS/ TSD	The EPA maintains a database of Resource Conservation and Recovery Act (RCRA) facilities associated with treatment, storage, and disposal (TSD) of hazardous materials that are undergoing "corrective action." A "corrective action" order is issued when there has been a release of hazardous waste or constituents into the environment from an RCRA facility.	1.0	0
RCRA Non- CORRACTS/ TSD	The RCRA Non-CORRACTS/TSD Database is a compilation by the EPA of facilities that report storage, transportation, treatment, or disposal of hazardous waste. Unlike the RCRA CORRACTS/TSD database, the RCRA Non-CORRACTS/TSD database does not include RCRA facilities where corrective action is required.	0.5	0

DATABASE	DESCRIPTION	RADIUS (MILES)	FACILITIES
RCRA Generators	RCRA Generators database maintained by the EPA, lists facilities that generate hazardous waste as part of their normal business practices. Generators are listed as large, small, or conditionally exempt. Large quantity generators (LQG) produce at least 1000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. Small quantity generators (SQG) produce 100-1000 kg/month of non-acutely hazardous waste. Conditionally exempt small quantity generators (CESQG) are those that generate less than 100 kg/month of non-acutely hazardous waste. This list includes facilities that are no longer generating RCRA wastes.	0.1	0
US Eng Controls	EPA maintains a listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.	Site	0
US Inst Controls	EPA maintains a listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.	Site	0
ERNS	The Emergency Response Notification System (ERNS) is a listing compiled by the EPA on reported releases of petroleum and hazardous substances to the air, soil, and/or water.	Site	0
Brownfields	Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off undeveloped, open land and both improves and protects the environment.	0.5	0
FRS	Facility Registry System lists facilities subject to environmental regulations or of environmental interest.	0.02	1
STATE			
SPL	NMED maintains a database of state-equivalent national priority list (SPL) facilities in the state of New Mexico.	1.0	0
CEPCS	NMED maintains a database of Compliance and Enforcement Program Cleanup Sites (CEPCS), state-equivalent CERCLIS, facilities in the state of New Mexico.	0.5	1
SWF	NMED maintains a database of Solid Waste Facilities (SWF) located within the state of New Mexico. The database information may include the facility name, class, operation type, area, estimated operational life, and owner. It includes recycling facilities.	0.5	1
LUST	NMED provides a computer-generated database of the leaking petroleum storage tanks in the state of New Mexico. The EPA maintains a listing of leaking underground storage tank locations on Indian land.	0.5	0
UST / AST	NMED has compiled a database of registered petroleum storage tanks in the state of New Mexico, which may include the owner and location of the USTs and includes registered aboveground storage tanks (ASTs).	0.25	0
Inst Control	NMED maintains a list of sites included in the Voluntary Cleanup listing that have Institutional Controls in place.	Site	0
VCP	NMED maintains a list of sites involved in the Voluntary Cleanup Program (VCP).	0.5	1

The regulatory review identified one recycling facility, one Voluntary Remediation Program (VRP), one CEPCS, and one FRS facility within the specified search radii of the subject property.

4.1.1 Listed Facilities

The following table summarizes the site-specific information provided by the database and/or gathered by Zia for facilities identified on federal and state databases within the indicated search areas. Additional discussion for selected facilities may follow the summary table.

TABLE 3: SUMMARY OF LISTED FACILITIES

FACILITY NAME AND LOCATION	ESTIMATED DISTANCE	DIRECTION	TOPOGRAPHIC POSITION	DATABASE LISTING
Hydro Conduit 3700 Highway 528	0.44 mile	East	Down-gradient	FRS
Price's Dairy 618 Highway 528	0.47 mile	Southeast	Down-gradient	CEPCS, VRP
Ibarra's Recycling 4741 Kelly Way	0.5 mile	North	Cross-gradient	RECY

The regulated facilities identified above are not located within a distance of 0.12 mile (650 feet) of the subject property. Hydro Conduit was plotted wrong in the GeoSearch database, which plotted the facility at 0.01 mile north of the subject property. It is actually located east of Highway 528 (approximately 0.44 mile east of Unit 2F) and is listed in the FRS database for air emissions.

- The regulated facilities listed above do not appear to present a REC relative to the subject site at this time.

4.1.2 Unmapped Facilities

Unmapped facilities are those that do not contain sufficient address or location information to evaluate the facility listing locations relative to the site. The GeoSearch report listed no facilities in the unmapped/orphan summary section (Appendix D). The unmapped facilities were not observed in the vicinity of the subject property during the area reconnaissance.

4.2 ADDITIONAL ENVIRONMENTAL RECORD SOURCES

4.2.1 Fire Department and Public Service Company of New Mexico Databases

Zia requested that local fire department and transformer records be reviewed (please reference sections 6.2 and 6.3).

4.3 PHYSICAL SETTING SOURCES

TABLE 4: PHYSICAL SETTINGS

PHYSICAL SETTING INFORMATION FOR SITE AND SURROUNDING AREA		SOURCE
TOPOGRAPHY		
Site Elevation	Approximately 5,160 feet (ft.) above mean sea level (amsl) at the east tip of the site and 5,420 ft. amsl in the northwest corner of the site.	Bernalillo, NM 7.5-minute USGS topographic map, dated 2013
Surface Runoff / Topographic Gradient	Easterly	
Closest Surface Water	Venada Arroyo (ephemeral, adjacent south)	
FEMA MAP		
Zone / Description	Unshaded Zone X, which is defined as outside the 0.2% chance of flood. Zone A within the adjacent Venada Arroyo.	FEMA Flood Insurance Rate Map, Community Panel 35043C1904D, dated 03/18/2008
SOIL CHARACTERISTICS		
Soil Type / Soil Description	(145) Grieta-Sheppard loamy fine sand, with 2% to 9%, has a permeability range from 0.6 to 6.0 inches per hour and a pH range from 7.4 to 8.4. (183) Sheppard loamy fine sand with 8% to 15% slopes, and (191) Sheppard loamy fine sand with 3% to 8% slopes, forms in eolian sands. Permeability of the Sheppard soil is rapid and pH ranges from 7.4 to 9.0. The risk of corrosion to uncoated steel is high and the risk of corrosion to concrete is moderate. The Grieta loamy fine sand has a permeability range from 0.6 to 6.0 inches per hour and a pH range from 7.4 to 8.4. The Grieta soils present a high risk of corrosion to uncoated steel and a low risk of corrosion to concrete.	Web Soil Survey accessed 1/21/16
GEOLOGY/HYDROGEOLOGY		
Formation(s) / Description:	The site is located on the west mesa portion of the Albuquerque-Belen basin. The west mesa was formed by an upfaulted block which rose between the Rio Grande to the east and the Rio Puerco to the west. Regional basalt flows are present. Quaternary alluvium (Q) is present in this area, overlying the Santa Fe Group.	Vincent C. Kelly, <u>Geology of Albuquerque Basin, New Mexico</u> ; 1977
Estimated Depth to Groundwater*	350 ft. below ground surface in the northwest portion of the site and 70 ft. below ground surface at the east tip of the site.	New Mexico Office of the State Engineer Website (http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html), accessed 1/21/16
Primary Aquifer	Santa Fe Group	
Hydrogeologic Gradient*	Easterly toward Rio Grande	
Site Water Source	City of Rio Rancho	Site visit 1/13/2016
RADON		
Zone / Description	EPA Zone 2: Sandoval County has a predicted average indoor radon screening level between 2.0 pCi/L and 4.0 pCi/L. NMED: Sandoval County has a high preliminary radon-availability rating.	EPA Map of Radon Zones; accessed 1/21/2016 NMED New Mexico Radon Survey 1987-1989

*The groundwater flow direction and the depth to shallow groundwater, if present, would likely vary depending upon seasonal variations in rainfall, local variations associated with surface water channels, municipal well fields, and the depth to the soil/bedrock interface. Ground water flow direction is generally inferred to follow surface topography.

A total of 70 radon measurements were collected within Sandoval County during the NMED 1987-1989 radon survey. Of those, 55 radon measurements (78.6%) were less than 4.0 pCi/L and seven radon measurements (10%) were between 4.0 pCi/L and 10.0 pCi/L. Six radon measurements (8.6%) were between 10.0 pCi/L and 20.0 pCi/L and two radon measurements (2.9%) were greater than 20 pCi/L.

The 87144 zip code area was not a designated zip code area during the years of the NMED radon survey. However, 26 radon measurements were collected within the south 87124 zip code area of Rio Rancho. Twenty-five of those radon measurements (96.2%) were below 4.0 pCi/L and one radon measurement (3.8%) was between 10.0 pCi/L and 20.0 pCi/L.

- Based on a review of EPA and NMED data, radon levels appear to be low in south Rio Rancho but elevated in other parts of Sandoval County.

4.4 HISTORICAL USE INFORMATION

Review of historical use information helps identify obvious uses of the site back to at least 1940 or prior to site development, whichever is earlier, by reviewing one or more "standard historical sources." Documentation of historical sources, as available, is included in Appendix C.

4.4.1 Historical Topographic Maps

Zia reviewed readily available USGS historical topographic maps to identify RECs in connection with the site. Selected historical topographic maps are summarized in Table 5.

- USGS Topographic Map: Bernalillo, New Mexico; 1954, 1972, 1990, 2006, 2011, and 2013.

TABLE 5: HISTORICAL TOPOGRAPHIC MAPS

DIRECTION	DESCRIPTION
Site	Vacant land (1954, 1972); Vacant land with a few graded roads (1990, 2006); Orthographic image layer depicts Units 2C, 2D, and 2F as graded, the remainder of the site was vacant except for a few unpaved roads (2011, 2013).
North	Vacant land (1954, 1972); Vacant land and "prospects" in the vicinity of the current school (1990); Mountain View Middle School and shaded to depict residences (2006); Orthographic image layer depicts residences and Mountain View Middle School (2011, 2013).
West	Vacant land (1954, 1972, 1990, 2006, 2011); Orthographic image layer depicts vacant land and one residence (2013).
South	Vacant land and Venada Arroyo (1954, 1972); Vacant land, unpaved roads, water tank, and Venada Arroyo (1990, 2006); Orthographic image layer depicts vacant land, graded lots, water tank, residences, and Venada Arroyo (2011, 2013).
East	Vacant land (1954, 1972, 1990); Vacant land and shaded to depict urban development (2006); Orthographic image layer depicts undeveloped parcels, residences, and storm water basin (2011, 2013).

Based on the review of topographic maps, the subject property appears to have been undeveloped from 1954 until 2011 when portions of the site were graded. Overhead power lines (the alignment of Paseo del Volcan) divided the property into east and west portions as early as 1954. Adjacent parcels to the north, east, and south were developed in 2006. Parcels to the west were undeveloped except for one residence that was present by 2013.

- Based on a review of historical topographic maps, no RECs were noted in connection with the site.

4.4.2 Historical Aerial Photographs

Selected historical aerial photographs were reviewed at approximately 10-year to 15-year intervals, if readily available, to identify RECs in connection with the site. Aerial photograph quality and scale may limit evaluation of some older aerial photographs. Selected photographs are summarized in Table 6.

- University of New Mexico (UNM) Earth Data Analysis Center (EDAC) Aerial Photograph Collection: 1935, 1954, 1975, 1982, and 1987.
- Albuquerque Geographic Information System (AGIS): 2008, 2010, and 2012.
- Google Earth™: 1996, 2002, 2003, 2004, 2005, 2006, 2007, 2009, and 2014.

TABLE 6: HISTORICAL AERIAL PHOTOGRAPHS

DIRECTION	DESCRIPTION
Site	Vacant land (1935, 1954); Vacant land and a few graded roads (1975, 1982, 1987, 1996, 2002, 2003); Vacant land and graded roads, Unit 2F was graded (2004, 2005, 2006); Vacant land and graded roads, units 2C, 2D, and 2F were graded (2007, 2008, 2009, 2010, 2012, 2014).
North	Vacant land (1935, 1954); Vacant land and graded roads (1975, 1982, 1987); Residences and school (1996, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2012, 2014).
West	Vacant land (1935, 1954); Vacant land and graded roads (1975, 1982, 1987, 1996, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009); Vacant land, graded roads, and one residence (2010, 2012, 2014).
South	Vacant land (1935, 1954); Vacant land and graded roads (1975, 1982); Vacant land, graded roads, and water tank (1987, 1996, 2002, 2003, 2004, 2005); Vacant land, roads, water tank, and graded lots (2006); Vacant land, roads, water tank, graded lots, and residences (2007, 2008, 2009, 2010, 2012, 2014).
East	Vacant land (1935, 1954, 1975, 1982, 1987) Residences and undeveloped parcels (1996, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2012, 2014).

Historical aerial photographs indicate that the subject property was undeveloped land from at least 1954 until Unit 2F was graded around 2004. Units 2C and 2D were graded by 2007. Residences and a school were located north of the subject property by 1996. A water tank was located south of the site by 1987 and residences were located to the south by 2007. Residences were located east of the site by 1996. Adjacent parcels to the west were undeveloped except for one residence that was constructed in 2010.

- Based on a review of the historical aerial photographs, no RECs were noted in connection with the subject site.

4.4.3 Historical City Directories

Historical street directories are not available for the City of Rio Rancho. Rio Rancho was not founded until 1961 and was not incorporated until 1981.

4.4.4 Historical Fire Insurance Maps

In the late nineteenth century, the Sanborn Company (Sanborn) began preparing maps of central business districts for use by fire insurance companies. These maps were updated and expanded geographically periodically through the twentieth century. The Sanborn maps often indicate construction materials of specific building structures and the location of storage tanks.

Zia reviewed Sanborn maps at the Map and Geographic Information Center at UNM. Historical fire insurance maps produced by Sanborn are not available for Rio Rancho.

4.4.5 Title and Other Property Records

A 50-year title history for the site was not provided for review.

4.4.6 Prior Report Review

Previous environmental reports were not provided for review.

5 SITE RECONNAISSANCE

5.1 METHODOLOGY AND LIMITING CONDITIONS

Information contained in this section is based on a visual reconnaissance conducted while walking through the site and the accessible interior areas of structures, if any, located on the site. A summary of information obtained from interviews and other references presented in the following subsections are also provided.

5.2 GENERAL SITE SETTING

TABLE 7: GENERAL SITE INFORMATION

GENERAL SITE INFORMATION	DESCRIPTION
SITE RECONNAISSANCE	
Field Personnel	Kenneth Hunter
Reconnaissance Date	January 13, 2016
Weather	Approximately 40°F, clear, 5 mph wind
Site Contact / Title	Ms. Carey Plant, Director of Land Development with Amrep Southwest, Inc.
SITE DESCRIPTION	
Site Name	Lomas Encantadas Units 1A-1G, 2A-2D, 2F
Site Location / Address	Camino Encantadas, Rio Rancho, Sandoval County, New Mexico 87144
Adjoining Streets	Camino Encantadas (central east-west), Paseo del Volcan (central north-south), Enchanted Hills Boulevard (north), Montreal Loop (north), Lincoln Avenue (east), Caldera Road (west), Vega Road (west), Dune Road (west), Dune Way (west), Draco Way (west), Zodiac Drive (west), Rigel Road (west), Scorpio Drive (west), Sirius Road (west), Sirius Place (west), Andromeda Road (west), London Road (west), June Road, Progress Boulevard (south), Taxaco Court (south), Knox Place (south), Hilo Court (south), Yuba Court (south), Kodiak Road (east), Aldan Road (east).
LAND AREA DESCRIPTION	
Land Area	Approximately 318 acres
Other Site Improvements	Graded roads, silt fencing throughout most of the site; graded house pads in Units 2C and 2F; cement block walls in Units 2D and 2F; utilities and paved roads in Unit 2D.
Zoning	Mostly "R1" for single-family residential and "R4" for higher density residential development; overlay zone and open space on the steep north slope of units 1A, 1E, and 1F.
IN-USE SITE UTILITIES	
Electricity	Public Service Company of New Mexico (PNM)
Drinking Water	City of Rio Rancho
Wastewater	City of Rio Rancho
Natural Gas	New Mexico Gas Company
Solid Waste	Waste Management

The subject property is an irregular-shaped property that contains approximately 318 acres. Units 1A and 1B are located at the northwest tip of the site. Units 1A, 1E and 1F are located north of Camino Entradas and west of Paseo del Volcan. Units 1B, 1C, 1D, and 1G are located south of Camino Entradas and west of Paseo del Volcan. Units 2C, 2D, and 2F are located north of Camino Entradas and east of Paseo del Volcan. Units 2A and 2B are located south of Camino Entradas and east of Paseo del Volcan. Unit 2F is the farthest east subdivision of the subject property and does not border Camino Entradas; it is located east of Unit 2D. Unit 2F connects with Lincoln Avenue via Aldan Drive, which is a partially paved road. Paseo Del Volcan crosses over the Camino Entradas alignment and the two streets do not have access ramps between them.

Units 1A, 1B, 1C, 1D, 1E, 1F, 1G, 2A, and 2B are undeveloped. A few unpaved roads are present within units 1B, 1C, 1D, 1G, 2A, and 2B. Units 1A, 1E, and 1F are a steep slope between the north residential subdivision and the bottom of an arroyo that is designated as the future Camino Entradas. A shallow, approximately 5 feet deep, storm water retention basin has been constructed along the Camino Encantadas right of way and west of the Paseo del Volcan bridge (between Unit 1F and Unit 1G). It appears to have been constructed to collect storm water from the northwest portion of the subject property and protect the Paseo del Volcan bridge.

Cement block walls are located along the north sides of units 1A, 1E, and 1F, separating the subject property from the adjacent residences.

Unit 2C and Unit 2F have been graded with house pads and road alignments. Paved Aldan Drive extends east from the southeast corner of Unit 2F and connects with Lincoln Avenue. A cement block retaining wall has been constructed within Unit 2F and cement block walls have been constructed along the north and south sides of Unit 2F. A pile of concrete culvert pipe is present in the north portion of Unit 2F.

A perimeter cement block wall and silt fencing surround Unit 2D. Kodiak Road is paved along the southeast side of Unit 2D. Rim Road, Over View Road, and Mountain Trail Loop are paved roads present within Unit 2D. House pads have been graded and utilities have been installed. It appeared that one concrete pad for a residence was poured the morning of the site visit. A construction trailer was present in the south-central portion of Unit 2D at the time of the site visit.

The subject property is accessed by turning off Camino Encantadas that crosses from east to west through most of the site or by turning west from Lincoln Avenue. Camino Encantadas is only paved as far west as Unit 2D.

Venada Arroyo is located along the south sides of units 2A, 2B, 2D, and 2F. A storm water ponding area is located east of Unit 2F, receiving storm water from the north portion of Rio Rancho via a concrete-lined channel and then discharging to Venada Arroyo via a spillway passing under Aldan Drive. Uniform property classification numbers were not obtained for the lots.

5.3 SUMMARY OF OBSERVATIONS

Table 8 summarizes interior and exterior site observations and interviews. Affirmative responses (designated by an "X") are discussed in more detail in the subsections following the table.

Those entries in bold and designated by an "X" indicate that the Item or Feature was observed during the site visit. These are discussed in more detail below the table. If no "X" designation appears, then the Item or Feature was not observed on the date of the site visit.

TABLE 8: SITE CHARACTERISTICS

CATEGORY	ITEM OR FEATURE	ITEM OR FEATURE OBSERVED
Site Operations, Processes, and Equipment	Emergency generators	
	Elevators	
	Air compressors	
	Hydraulic lifts	
Aboveground Chemical or Waste Storage	Evidence of aboveground storage tanks	
	Drums, barrels, and/or containers > 5 gallons	
	Chemicals ≤ 5 gallons, cleaning, and/or similar supplies	
	Safety Data Sheets	
Underground Chemical or Waste Storage, Drainage, or Collection Systems	Evidence of USTs or ancillary UST equipment	
	Sumps, cisterns, catch basins, and/or dry wells	
	Grease traps	
	Septic tanks and/or leach fields	
	Oil/water separators and sand traps	
	Pipeline markers	
Electrical Transformers and / or PCBs	Interior floor drains	
	Pad- or pole-mounted transformers	X
Evidence of Releases or Potential Releases	Stressed vegetation	
	Stained soil	
	Stained pavement or similar surface	
	Trash, debris, and/or other waste materials	X
	Dumping or disposal areas	X
	Construction/demolition debris and/or dumped fill dirt	X
	Surface water discoloration, odor, sheen, and/or free floating product	
	Strong, pungent, or noxious odors	
	Exterior pipe discharges and/or other effluent discharges	
	Laboratory hoods and/or incinerators	
	Waste treatment systems and/or water treatment systems	
	Compressor blowdown	
Other Notable Site Features	Surface water bodies	
	Quarries or pits	
	Wells	

5.3.1 Electrical Transformers/PCBs

Pad- or Pole-Mounted Transformers

One PNM pad-mount transformer (Station No. P34184) is located adjacent to a switch box on the south side of Aldan Drive. Fourteen pad-mount transformers were observed within Unit 2D (Station Nos. P34140, P34153, P34147, P34152, P34146, P34145, P34144, P34143, P34142, P34141, P34148, P34151, P34149, and P34150). Transformers contain mineral oil which may contain minor amounts of PCB and could be considered "PCB contaminated" (PCB content of 50-499 ppm).

Mr. Stephen Saletta at PNM was contacted by email for information about the transformers on January 15, 2016. Mr. Saletta responded that the 15 transformers were manufactured by Cooper Industries and were installed in 2008. The 15 transformers are non-PCB.

PNM maintains responsibility for the transformers, and if the transformers were "PCB" contaminated, the utility company is not required to replace the transformer fluids until a release is identified. However, no evidence of current or past releases was observed in the vicinity of the electrical equipment during the site reconnaissance.

- Based on the above information, the PNM pole-mount transformers located at the subject property are not considered a REC at this time.

5.3.2 Evidence of Releases or Potential Releases

Trash, Debris, and/or other Waste Materials

Several small areas of surface debris were observed during the site visit. Based on visual observations (surface materials only), yard wastes, cardboard, furniture, sheetrock, cloth, and other debris are present in the west and south portions of Unit 1B. Minor quantities of household trash were observed within the north portions of units 1A, 1E, and 1F, near the cement block walls behind the residences. Styrofoam and cardboard, and a muffler were observed in the southwest portion of Unit 2A. The subject property is relatively large and not all trash and/or debris piles and wastes may have been observed. The debris piles did not appear to be hazardous in nature and no evidence of staining, noxious odors, or hazardous waste disposal was observed.

- Based on the above information, the noted surface debris is not considered a REC at this time.
- Zia recommends that the surface debris should be removed and disposed in accordance with local and state regulations.

Dumping or Disposal Areas

Some masonry block is also present within the northwest portion of Unit 1A. Vinyl, cardboard, and small piles of other debris are present within the west and east portions of Unit 1C. Vinyl, furniture, car bumpers, particle board, and tires were observed within the south portion of Unit 1G. Some concrete debris was observed near the block retaining wall within Unit 2F. Additionally, an arroyo in the northwest portion of Unit 1A has been partially filled. Based on visual observations (surface materials only) concrete rubble, wood, furniture, bedding, carpet and other debris, were used to possibly assist in limiting erosion. The dumping did not appear to be hazardous in nature and no evidence of staining, noxious odors, or hazardous waste was observed.

- Based on the above information, the noted dumping and/or disposal areas are considered a REC at this time.
- Zia recommends that it should be removed and disposed of in accordance with local and state regulations.

Construction/Demolition Debris and/or Dumped Fill Dirt

At the time of the site visit, earth movers were removing clean soil from Unit 2D and placing it in the north portion of Unit 2B.

- Based on the above information, the earth moving activities consist of clean fill materials and are not considered a REC at this time.

5.4 ADJOINING/SURROUNDING PROPERTY RECONNAISSANCE

Visual observations of adjoining/surrounding properties (from site boundaries and readily accessible public areas) are summarized in Table 9.

TABLE 9: ADJOINING/SURROUNDING PROPERTIES

DIRECTION	DESCRIPTION
North	Residences, Mountain View Middle School, undeveloped parcels, and Enchanted Hills Boulevard
East	Single-family residences, storm water retention basin, undeveloped parcels, and Lincoln Avenue
South	Venada Arroyo, water tank and Well No. 12, single-family residences, and undeveloped parcels
West	Undeveloped land and one residence

The adjacent and surrounding areas appear to consist of undeveloped lands, residential properties, the Mountain View Middle School, and a storm water retention basin.

- Based on the above information, adjoining and/or surrounding properties do not appear to constitute a REC at this time.

6 INTERVIEWS

The following individuals were interviewed regarding the history, and/or presence or absence of the items or features listed in Section 5.3. Unless otherwise noted herein, the interviewee was not aware of environmental concerns associated with the site or surrounding areas. A record of communication and the User Questionnaire are included in Appendix E.

6.1 OWNER/SITE MANAGER/OCCUPANTS**Carey Plant, Director of Land Development, Amrep Southwest, Inc.**

Ms. Plant provided information about the subject property. She stated that the City of Rio Rancho was formed from three ranches that were purchased in 1961. The city was incorporated in 1981. Ms. Plant said that the subject property has been used for grazing but that it has been undeveloped since their acquisition. Ms. Plant completed the ASTM User Questionnaire, indicating that she was not aware of potential environmental concerns with the site.

6.2 LOCAL GOVERNMENT OFFICIALS

Fire Marshal Jonathan Garcia, Rio Rancho Fire Department

Fire Marshal Garcia with the Rio Rancho Fire Department was contacted by telephone on January 15, 2016, for information regarding possible records of hazardous materials (HazMat) responses at the subject property. At the issuance of this report, a response has not been received from Fire Marshal Garcia.

6.3 OTHER

Stephen Saletta, PNM Environmental Services

Mr. Stephen Saletta was contacted on January 15, 2016, for information regarding the PNM transformers observed during the site visit. Mr. Saletta responded that the 15 pad-mounted transformers (Unit 2D and Unit 2F) were manufactured in 2008 by Cooper Industries and are non-PCB.

7 FINDINGS, OPINIONS, AND CONCLUSIONS

7.1 FINDINGS AND OPINIONS

This Phase I Environmental Site Assessment was performed in accordance with our proposal (P-ALE-16-084 dated January 6, 2016) and in general accordance with the consensus documents known as American Society for Testing and Materials E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. Mr. Kenneth Hunter performed the site reconnaissance on January 13, 2016.

The Lomas Encantadas Units 1A-1G, 2A-2D, 2F (subject property) is located along Camino Encantadas in northeast Rio Rancho, Sandoval County, New Mexico.

A summary of findings is provided below. However, details are not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

- The subject property contains approximately 318 acres of mostly undeveloped land. Paseo Del Volcan splits the subject property into east and west sections. House pads, utilities, and streets have been constructed within Unit 2D. Units 2C and 2F have been graded (house pads and roads).
- Historical sources indicate that the subject property was undeveloped from 1935 to 2004, when a portion of the site was graded. Residences and a school were located north and east of the subject property by 1996. A water tank was located south of the site by 2003. Adjoining parcels to the west were undeveloped until construction of one residence in 2010.

- The regulatory review identified one FRS, one CEPCS, one VRP site, and one recycling facility within the specified search radii of the subject property. Based upon facility characteristics, environmental settings, and/or distance from the site, the identified regulatory site does not appear to constitute a REC in connection with the site at this time.

7.2 DATA GAPS

No significant data gaps were identified in the information obtained and reviewed during the inquiry activities for this Phase I ESA that we believe may affect Zia's ability to identify RECs at the subject property.

7.3 ADDITIONAL INVESTIGATION

Based on the scope of services and limitations of this assessment, Zia did not identify RECs in connection with the subject property, which in our opinion, would require additional investigation at this time.

7.4 CONCLUSIONS

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM E 1527-13 of the Lomas Encantadas Units 1A-1G, 2A-2D, 2F located along Camino Encantadas in northeast Rio Rancho, Sandoval County, New Mexico. Any exceptions to, or deletions from, this practice are described in Sections 1.4 and 7.2 of this report. Based on the scope of services and limitations of this assessment, Zia did not identify RECs in connection with the subject property at this time. The following item warrants additional discussion:

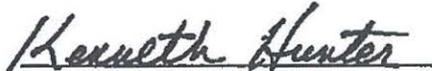
- Surface and construction debris and/or dumping areas were observed during the site visit. Zia recommends that the surface and construction debris and/or dumping should be disposed in accordance with local regulations and guidelines.

8 ADDITIONAL SERVICES AND DEVIATIONS

Per the agreed-on scope of services specified in the proposal, additional services (e.g., asbestos testing, wetlands evaluation, lead-based paint testing, lead in drinking water testing, radon testing, etc.) were not conducted under this scope of work.

9 SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S)

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject site. We have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.


Kenneth E. Hunter
Associate Scientist


Victoria T. Brown
Project Scientist

10 REFERENCES

AGIS Web site Aerial Photographs of Albuquerque, New Mexico dated: 2008, 2010, and 2012.

GeoSearch ERec Search Report Lomas Encantadas, Rio Rancho, New Mexico 87144; Job Number 133038, dated January 7, 2016.

EPA Map of Radon Zones Web site; <http://www.epa.gov/radon/zonemap.htm>.

Federal Emergency Management Agency Flood Insurance Rate Map Panel Number 35043C1904D, dated 03/18/2008.

Google Earth™ Aerial Photograph of Albuquerque, New Mexico, dated 1996, 2002, 2003, 2004, 2005, 2006, 2007, 2009, 2011, 2013, and 2014.

Vincent C. Kelly, Geology of Albuquerque Basin, New Mexico; 1977.

Ralph Manchego, Virginia McLemore, and John Hawley; NMED; New Mexico Radon Survey 1987 – 1989.

New Mexico Office of the State Engineer Web site
(<http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html>), accessed 1/21/16.

UNM EDAC Aerial Photographs of Albuquerque, New Mexico, dated: 1935, 1954, 1975, 1982, and 1987.

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