Atkins
ENGINEERING ASSOCIATES INC.
2904 W 2nd St.
Roswell, NM 88201
voice: 575.624.2420
fax: 575.624.2421
www.atkinseng.com

September 28, 2017

APPROVED
By Olivia Yu at 2:02 pm, Oct 13, 2017

Olivia Yu
New Mexico Oil Conservation Division
District 1
1625 N. French Drive
Hobbs, New Mexico 88240

Transmitted via email Olivia Yu Olivia.yu@state.nm.us

Re: Interim Report of Additional Soil Delineation at the Lea DS State No. 001, Unit E, Section 36, T-19-S, R-34-E, Lea County, New Mexico (1RP-1607)-Background boring and water determination

Ms. Yu:

Atkins Engineering Associates Inc. (AEA) on behalf of Trainer Partners (TPL) is pleased to submit this Interim Report of Additional Soil Delineation (Report). This Report summarizes the installation of a baseline boring BL-2 at the Lea DS State No. 001 (Site) located in Unit E, Section 36, Township 19S, Range 34E, N.M.P.M. Lea County, New Mexico.

Field work was conducted under work plan submitted to the New Mexico Oil Conservation Division (NMOCD) on March 30, 2017 and approved via email on April 3, 2017. A water exploration/soil boring permit was issued by the State of New Mexico Commissioner of Public Lands (SLO) on July 6, 2017 under permit #WE-00003-0. The Office of the State Engineer (OSE) issued an exploratory permit under CP-1672 POD1 with a corresponding approval of the proposed plugging plan.

General Procedures

AEA personnel and equipment performed the delineation from August 29-30, 2017. As a condition SLO permit, a qualified archeologist cleared the access and boring location. The soil boring was advanced with a Foremost Mobile B-58 drill rig using 3.25" inside diameter (ID) hollow stem augers and air rotary drill tooling included an air compressor, NW-J Sch 80 Air Rods, and a 3.125" outer diameter (OD) drill bit. Split spoon samples were collected on 5 foot centers

with a 140 lb. automatic drop hammer from land surface to approximately 50 feet below ground surface (bgs). Split spoons were decontaminated between samples using Alconox.

Grab samples were collected on 10 foot centers using air rotary drilling from approximately 50 feet bgs to 100 feet bgs. Samples were logged and screened for hydrocarbon contamination using visual/olfactory observations.

Samples were collected in 40-ounce glass jars, labeled accordingly, and stored in coolers on ice until shipped to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico under Chain of Custody procedures.

The soil boring was abandoned with native fill from total depth (TD) to 10 feet bgs. Hydrated bentonite hole plug was used to fil the soil boring from 10 feet bgs to land surface.

At the end of the delineation work, AEA technicians surveyed the boring location with a Topcon GR-5 GPS to obtain horizontal and vertical positions.

Soil boring

One soil boring (Baseline BL-2) was advanced to TD of 100.80 feet. Figure 1 shows the boring location with the previously surveyed excavation contours and previously bored locations and a log of the boring along with the OSE well and plugging record is included. No indication of water was encountered during drilling. The boring was left open overnight and checked the following day for water –none was present.

All sample intervals were sent for analysis of Chlorides using EPA Method 300.0/300.1. The following table summarizes the sample intervals and HEAL laboratory results of chloride contamination for soil boring Baseline BL-2:

Table 1: Baseline BL-2 – Chloride(mg/Kg) by Boring Interval

Sample Interval (ft bgs)	Chloride (mg/Kg)
@ 4-6	<30
@ 9-11	65
@ 14-16	<30
@ 19-21	350
@ 24-26	760
@ 29-31	2600
@ 34-36	3900
@ 39-41	290
@ 44-46	86
@ 48-53	48
@ 58-63	<30
@ 68-73	<30
@ 78-83	<30
@ 88-93	<30
@ 95-100	<30

Recommendations

No indication of hydrocarbon contamination was found during this delineation event. No water was encountered above 100 feet below land surface. The lack of water changes the chloride guideline to 600 mg/Kg. Between 30-36 feet, there appears to be naturally occurring elevated chlorides.

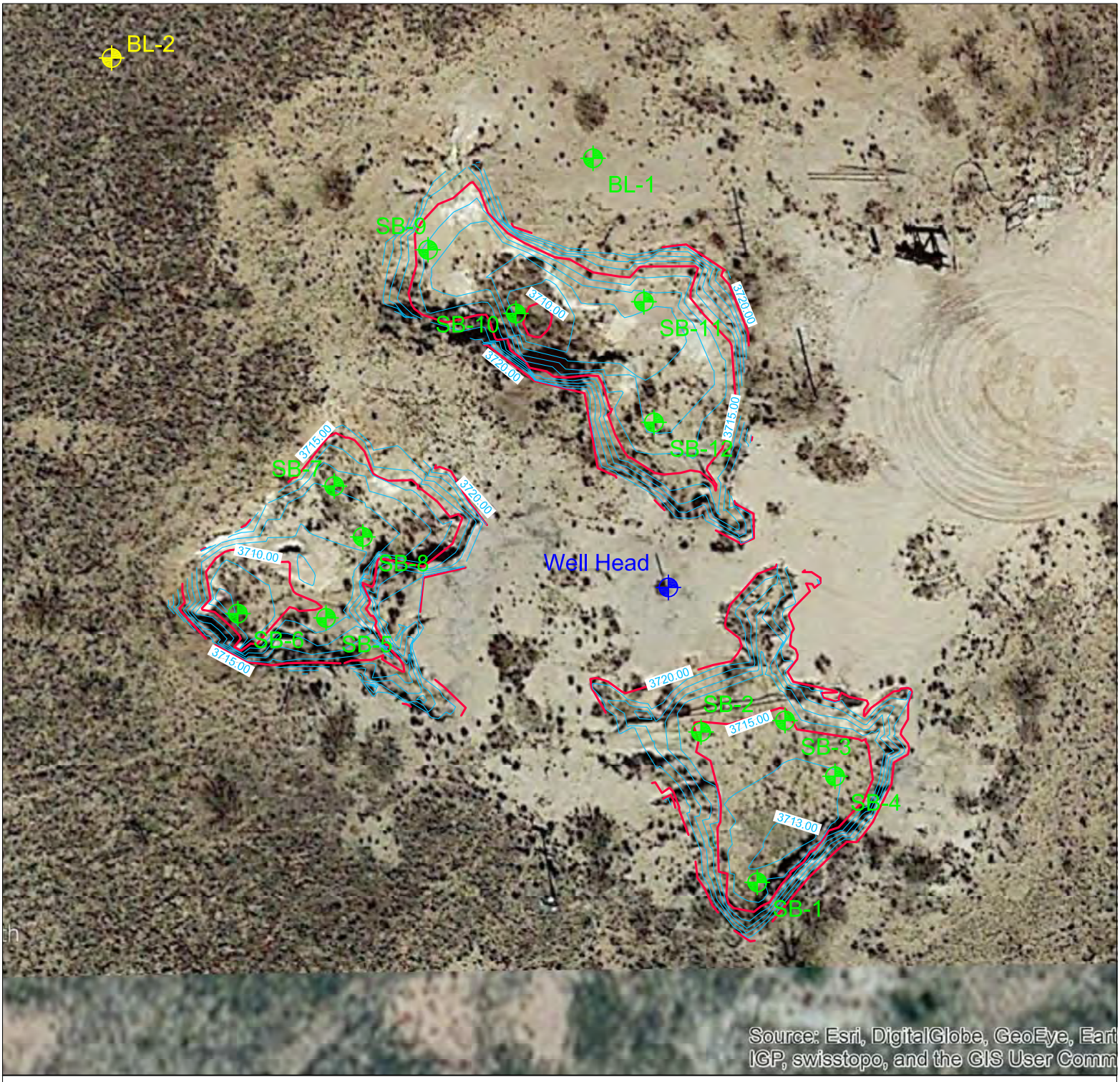
AEA will continue with the additional soil boring delineation of the West and North Excavations as set forth in the March 30, 2017 workplan using the 600 mg/KG guideline.

Sincerely,

Jim Coburn P.E.
Consulting Engineer

Figure 1 - Site Map, BL-2 log, HEAL Lab Report, well and plugging record, SLO Permit, OSE Permit, archeologist report

Cc: Kristen Lynch via email Kristen.Lynch@state.nm.us
Amber Groves via email agroves@slo.state.nm.us
Randall Mark Trainer via email randall@trainerpartners.com



Legend

- Contour Line (1ft interval)
- Contour Line (5ft interval)
- Soil Boring Locations (installed Dec. 2016 and Jan. 2017)
- Soil Boring Location (installed Aug. 2017)
- Harris Federal #1 Lease Wellhead

N

50 25 0 50

Scale: 1" = 50'

Figure 1.
Site Map
Lea DS State No. 001

SCALE 1" = 50'

September 2017

JOB NO. TPLLEAD.ENV.16

Atkins ENGINEERING ASSOCIATES

2904 W. 2nd St.
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Atkins ENGINEERING ASSOCIATES
2904 W. 2nd St. Roswell, NM 88201

Log BL-2

Page 1 of 1

Client	Trainer Partners LTD	**Completion Date**	08/29/2017	**Latitude**	32.61883647°
Location	Lea DS State No. 001	**Drilling Contractor**	Atkins Engineering Assoc. Inc.	**Longitude**	-103.52117000°
	near Hobbs, NM	**Drilling Method**	Hollow-stem auger	**Surface Elevation (ft)**	3639.75
Purpose	Soil Sampling	**Boring Diameter**	± 6.00"	**TOC Elevation (ft)**	N/A
Project	TPLLEAD.ENV.16	**Well Diameter**	N/A	**Boring Depth (ft)**	100.80
		Well Screen	N/A		

Depth in feet	Lithology	USCS	Description	LAB Cl mg/Kg	Well Construction Detail
0 to -5		SM	Sand, medium to coarse grain sand, fine roots, brown, dry @ 4- ft bgs: some red and black mottling, some caliche streaks, hard, dry	<30	Native Fill
-5 to -10				65	Bentonite Seal
-10 to -15		OL	Sandy loam, fine grain sand, light brown, dry	<30	
-15 to -20		SM	Sand, very fine to fine grain sand, caliche streaks, brown, dry	350	
-20 to -25		OL	Caliche, tan, dry	760	Native Fill
-25 to -30		SM	Sand, very fine to fine grain sand, caliche streaks, brown, dry	2600	
-30 to -35		SC	Sandy loam, fine to medium grain sand, light brown, dry	3900	
-35 to -40				290	
-40 to -45		CL	Sandy clay, fine grain sand, caliche streaks, brown, hard, dry	86	
-45 to -50		CH	Lean clay, brown, some black mottling, dry @ 39-41 ft bgs: no mottling, some caliche streaks	48	
-50 to -55					
-55 to -60		SC	Clay, brown to red, hard, dry	<30	
-60 to -65			Sandy clay, coarse grain sand, some 5-10mm rounded gravel, brown to red, hard, dry @ 58-63 ft bgs: more red color		
-65 to -70					
-70 to -75			Clay, red to brown, hard, dry @ 88-93 ft bgs: some caliche streaks	<30	Switched to Air Rotary Drill Toolling 3.125" Borehole Diameter
-75 to -80					
-80 to -85		CH		<30	
-85 to -90					
-90 to -95				<30	
-95 to -100					
-100 to -105				<30	

Bottom of Boring (ft) = 100.80 BGS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 20, 2017

Jim Coburn

Atkins Engineering Associates
2904 West Second Street
Roswell, NM 88201
TEL: (575) 624-2420
FAX (575) 624-2421

RE: Lea DS State No 1 OrderNo.: 1709049

Dear Jim Coburn:

Hall Environmental Analysis Laboratory received 15 sample(s) on 9/1/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Atkins Engineering Associates
Project: Lea DS State No 1
Lab Order: 1709049

Lab ID: 1709049-001 **Collection Date:** 8/29/2017 11:00:00 AM
Client Sample ID: BL-2 @ 4-6'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	9/13/2017 2:02:05 PM	33817

Lab ID: 1709049-002 **Collection Date:** 8/29/2017 11:20:00 AM
Client Sample ID: BL-2 @ 9-11'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	65	30		mg/Kg	20	9/13/2017 2:39:19 PM	33817

Lab ID: 1709049-003 **Collection Date:** 8/29/2017 11:45:00 AM
Client Sample ID: BL-2 @ 14-16'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	9/13/2017 2:51:44 PM	33817

Lab ID: 1709049-004 **Collection Date:** 8/29/2017 12:00:00 PM
Client Sample ID: BL-2 @ 19-21'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	350	30		mg/Kg	20	9/13/2017 3:28:59 PM	33817

Lab ID: 1709049-005 **Collection Date:** 8/29/2017 12:30:00 PM
Client Sample ID: BL-2 @ 24-26'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	760	30		mg/Kg	20	9/13/2017 3:41:23 PM	33817

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Atkins Engineering Associates
Project: Lea DS State No 1
Lab Order: 1709049

Lab ID: 1709049-006 **Collection Date:** 8/29/2017 1:00:00 PM
Client Sample ID: BL-2 @ 29-31'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	2600	150		mg/Kg	100	9/15/2017 2:22:27 AM	33817

Lab ID: 1709049-007 **Collection Date:** 8/29/2017 1:30:00 PM
Client Sample ID: BL-2 @ 34-36'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	3900	150		mg/Kg	100	9/15/2017 2:34:52 AM	33817

Lab ID: 1709049-008 **Collection Date:** 8/29/2017 2:00:00 PM
Client Sample ID: BL-2 @ 39-41'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	290	30		mg/Kg	20	9/13/2017 4:18:37 PM	33817

Lab ID: 1709049-009 **Collection Date:** 8/29/2017 2:40:00 PM
Client Sample ID: BL-2 @ 44-46'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	86	30		mg/Kg	20	9/13/2017 4:31:01 PM	33817

Lab ID: 1709049-010 **Collection Date:** 8/29/2017 5:30:00 PM
Client Sample ID: BL-2 @ 48-53'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	48	30		mg/Kg	20	9/13/2017 4:43:26 PM	33817

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Atkins Engineering Associates
Project: Lea DS State No 1
Lab Order: 1709049

Lab ID: 1709049-011 **Collection Date:** 8/29/2017 5:45:00 PM
Client Sample ID: BL-2 @ 58-63'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	9/13/2017 4:55:50 PM	33817

Lab ID: 1709049-012 **Collection Date:** 8/29/2017 6:00:00 PM
Client Sample ID: BL-2 @ 68-73'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	9/13/2017 5:08:15 PM	33817

Lab ID: 1709049-013 **Collection Date:** 8/29/2017 6:20:00 PM
Client Sample ID: BL-2 @ 78-83'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	9/13/2017 5:20:40 PM	33817

Lab ID: 1709049-014 **Collection Date:** 8/29/2017 6:35:00 PM
Client Sample ID: BL-2 @ 88-93'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	9/13/2017 5:57:55 PM	33817

Lab ID: 1709049-015 **Collection Date:** 8/29/2017 7:00:00 PM
Client Sample ID: BL-2 @ 95-100'BGS **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	9/13/2017 6:10:19 PM	33817

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709049**

20-Sep-17

Client: Atkins Engineering Associates

Project: Lea DS State No 1

Sample ID	**MB-33817**	SampType:	**mblk**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**33817**		RunNo:	**45597**				
Prep Date:	**9/12/2017**	Analysis Date:	**9/13/2017**		SeqNo:	**1447722**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-33817**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**33817**		RunNo:	**45597**				
Prep Date:	**9/12/2017**	Analysis Date:	**9/13/2017**		SeqNo:	**1447723**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ATK | Work Order Number: **1709049** | RcptNo: **1**

Received By: **Erin Melendrez** **9/1/2017 8:45:00 AM**

Completed By: **Ashley Gallegos** **9/1/2017 12:41:36 PM**

Reviewed By: 9/1/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.3	Good	Yes			

Chain-of-Custody Record

Client: Atkins Engineering Associates

Mailing Address: 2904 W 2nd St
Roswell, NM 88201

Phone #: 575. 624-2420

email or Fax#: sampling@atkinsnm.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
Lea DS State No 1

Project #:
tpllead.env.16

Project Manager:
Jim Coburn

Sampler: ACM

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.4-0.1(CF) = 4.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709049	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	EPA 300.0.1 (Chlorides)				Air Bubbles (Y or N)
8/29/17	1100	Solid	BL-2@4-6' BGS	4oz Jar	None	-001												X				
	1120		BL-2@9-11' BGS			-002																
	1145		BL-2@14-16' BGS			-003																
	1200		BL-2@19-21' BGS			-004																
	1230		BL-2@24-26' BGS			-005																
	1300		BL-2@29-31' BGS			-006																
	1330		BL-2@34-36' BGS			-007																
	1400		BL-2@39-41' BGS			-008																
	1440		BL-2@44-46' BGS			-009																
	1730		BL-2@48-53' BGS			-010																
	1745		BL-2@58-63' BGS			-011																
↓	1800	↓	BL-2@68-73' BGS	↓	↓	-012												↓				

Date	Time	Relinquished by:	Received by:	Date	Time
8/31/17	17:00	Andrew Martin		09/01/17	0845
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Page 1 of 2

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Atkins Engineers Assoc

Mailing Address: 2904 W. 2nd St
Roswell, NM 88201

Phone #: 575.624.2420

email or Fax#: sampling@atkinsng.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
Lea DS State No 1

Project #:
tpllead.env.16

Project Manager:
Sim Colburn

Sampler: AM

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.4-0.1(CF)= 4.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709049	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	EPA 300.0 / 300.1 (Chloride)				Air Bubbles (Y or N)
8/29/17	1620	Solid	BL-2@78-83' BGS	4oz Jar	None	-012												X				
↓	1635	↓	BL-2@88-93' BGS	↓	↓	-013												↓				
↓	1900	↓	BL-2@95-100' BGS	↓	↓	-014																

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
8/31/17	17:00	Andrew Martin		09/01/17	0845	page 2 of 2
Date:	Time:	Relinquished by:	Received by:	Date	Time	

Atkins
ENGINEERING ASSOCIATES INC.

2904 W 2nd St.
Roswell, NM 88201
voice: 575.624.2420
fax: 575.624.2421
www.atkinseng.com

DII-NMOSE
1900 W 2nd Street
Roswell, NM 88201

APPLICANT COPY

Hand Delivered to the DII Office of the State Engineer

Re: Well Record and Plugging Record for CP-1672 POD 1

To whom it may concern

Atkins Engineering Associates (AEA) has perform soil investigation at the Lea DS State No. 001 Site in Lea County. Enclosed please find triplicates of a Well Record and a Plugging Record for CP-1672 POD 1 (Site BL-2).

Sincerely,

Andrew Martin | Junior Engineer
andrew@atkinseng.com

Enclosures:

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2017 SEP -6 PM 3:26

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

APPLICANT COPY

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD 1 (Site BL-2)	N/A	CP-1672

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Trainer Partners LTD c/o Atkins Engineering Assoc	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
2904 W. 2nd Street	Roswell	NM	88201

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	37	7.8	N
	LONGITUDE	103	31	16.2	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
8/29/2017	8/29/2017	N/A	100.80	Dry

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): Dry

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY: Switched to Air Rotary at 44 ft bgs

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger (HSA) and Air Rotary

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
-	-	± 6.00	N/A	N/A	N/A	N/A	-

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STATE ENGINEER OFFICE ROSWELL, NEW MEXICO

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	10	±6.00	Baroid Hole Plug/Bentonite Chips	±2.1	from surface
10	44	±6.00	Native Fill	±6.7	from surface
44	100.80	±3.125	Native Fill	±3.6	from surface

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 1 OF 2

APPLICANT'S COPY

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	9		Sand, medium to coarse grain sand, fine roots, brown, dry	Y ✓ N	
9	19		Sandy loam, fine grain sand, light brown, dry	Y ✓ N	
19	20		Sand, very fine to fine grain sand, caliche streaks, brown, dry	Y ✓ N	
20	20.5		Caliche, tan, dry	Y ✓ N	
20.5	24		Sand, very fine to fine grain sand, caliche streaks, brown, dry	Y ✓ N	
24	29		Sandy loam, fine to medium grain sand, light brown, dry	Y ✓ N	
29	34		Sandy clay, fine grain sand, caliche streaks, brown, hard, dry	Y ✓ N	
34	44		Lean clay, brown, some black mottling, dry	Y ✓ N	
44	48		Clay, brown to red, hard, dry	Y ✓ N	
48	68		Sandy clay, coarse grain sand, 5-10mm rounded gravel, brown to red, hard, dry	Y ✓ N	
68	100.80		Clay, red to brown, hard, dry/*@ 88-93 ft bgs: some caliche streaks	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

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METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: Dry. Borehole was not converted to a monitoring well.
See attached Plugging Record for details.

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Guadalupe Leyba

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

Jackie D. Atkins — 09/06/2017

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

Atkins
ENGINEERING ASSOCIATES INC.

2904 W 2nd St.
Roswell, NM 88201
voice: 575.624.2420
fax: 575.624.2421
www.atkinseng.com

DII-NMOSE
1900 W 2nd Street
Roswell, NM 88201

APPLICANT COPY

Hand Delivered to the DII Office of the State Engineer

Re: Well Record and Plugging Record for CP-1672 POD 1

To whom it may concern

Atkins Engineering Associates (AEA) has perform soil investigation at the Lea DS State No. 001 Site in Lea County. Enclosed please find triplicates of a Well Record and a Plugging Record for CP-1672 POD 1 (Site BL-2).

Sincerely,

Andrew Martin | Junior Engineer
andrew@atkinseng.com

Enclosures:

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
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PLUGGING RECORD

APPLICANT COPY

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: CP-1672 POD1 (Site BL-2)

Well owner: Trainer Partners LTD c/o Atkins Engineering Assoc Phone No.: 575-624-2420

Mailing address: 2904 W 2nd St

City: Roswell State: NM Zip code: 88201

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Atkins Engineering Associates, Inc.

2) New Mexico Well Driller License No.: 1249 Expiration Date: 04/19

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Guadalupe Leyba

4) Date well plugging began: 8/29/2017 Date well plugging concluded: 8/29/2017

5) GPS Well Location: Latitude: 32 deg, 37 min, 7.8 sec
Longitude: 103 deg, 31 min, 16.2 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 100.80 ft below ground level (bgl), by the following manner: water level probe

7) Static water level measured at initiation of plugging: N/A ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 07/26/2017

9) Were all plugging activities consistent with an approved plugging plan? No If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

Please refer to the approved WR-07 for CP-1672 POD 1 by the state engineer. The purpose of drilling up to 100 ft bgs was to determine if shallow groundwater was present. No groundwater encountered. The boring was filled to 10 ft bgs with native fill and with baroid hole plug/betonite chips to land surface. Please note that ±6.00" OD HSA Augers were used to drill to 44 ft bgs. Air rotary drill tooling was used to reach 100 ft bgs. A ±3.125" borehole diameter was created from 44 ft -100.80 ft bgs.

STATE ENGINEER OFFICE ROSWELL, NEW MEXICO 2017 SEP -6 PM 3:26

APPLICANT'S COPY

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
0'	Bariod Hole Plug/ Bentonite Chips	±14.70	±15.71	from surface	Bentonite chips from LS to 10 ft bgs. ±6.00" borehole diameter from LS to 44 ft bgs.
25'					
50'	Native Fill	±71.50	±71.50	from surface	Native Fill from 10 ft bgs to TD ±3.125" borehole diameter from 44 feet to TD.
75'					
100'					
TD = 100.80'					
125'					

MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
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III. SIGNATURE:

I, Jackie D. Atkins, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jackie D. Atkins — Signature of Well Driller

09/05/2017 — Date

Aubrey Dunn
COMMISSIONER

State of New Mexico
Commissioner of Public Lands

310 OLD SANTA FE TRAIL
P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

COMMISSIONER'S OFFICE
Phone (505) 827-5760
Fax (505) 827-5766
www.nmstatelands.org

July 6, 2017

Atkins Engineering Associates, Inc
2904 W. 2nd St.
Roswell, NM 88201

RE: Rule 12 Water Exploration / Soil Boring Permit # **WE-**00003 **-0**

We are in receipt of your application and fees ($ 100.00 per Application) requesting a TEMPORARY BORING PERMIT for Water exploration. The effective date of this authorization is for a period of not to exceed 30 days, commencing on July 6, 2017, 2017 and ending on August 6, 2017. This Authorization (Right of Entry) letter is for the sole purpose of exploring for water in the following location: (Please see attached map)

Township	Range	Section	Subdivision	County	Acres
19S	34E	36	SW4NW4	Eddy	1

CONDITIONS OF USE

A. The issuance of this Exploration Authorization does not guarantee a Water Easement will be issued for this property being explored, nor does it indicate a preference for a future water easement issuance to the holder of the authorization by the Commissioner of Public Lands.
B. No refund of Permit application and fees will occur after Permit approval letter is mailed.
C. Authorized party shall notify the State Land Office District Resource Manager by telephone at least one business day prior to commencing any exploration activities.
D. No blading or widening of any two-track dirt roads that provides access to the Property is permitted under this Authorization, except as necessary for the ingress and egress of required vehicles.
E. No mining or removal of material for purposes other than testing is allowed under this Authorization. No sale of any material extracted from the Property is allowed under this Authorization.
F. Authorized party shall observe all federal, state and local laws and regulations applicable to the Property.
G. Authorized party shall take all reasonable precautions to prevent and suppress forest, brush and grass fires and prevent pollution of waters on or in the vicinity of the Property.
H. Authorized party shall not block or disrupt roads or trails commonly in use.
I. This Authorization is subject to any and all easements and rights-of-way previously granted and now in force and affect.
J. Authorized party shall be responsible for repair and restitution for damage to any property improvements as a result of activities related to this exploration.
K. Authorized party shall conduct exploration activities only if a state-permitted archaeologist as per the Cultural Properties Act, §18-6-5(O) is present on the permitted site. Authorized party shall abide by the decisions of the permitted Archaeologist regarding prevention of damage to cultural property sites. An archaeological report is to be submitted to State Land Office Cultural Resources Specialist within fifteen (15) days of the expiration date of this Authorization. (*An archeologist is not required to be present as long as there are no surface disturbing activities* being performed).

SURFACE RECLAMATION AND RESTORATION

A. All test holes must be plugged as soon as testing is completed.
B. Drilling, excavation and other surface disturbing activities shall be restricted to areas deemed to have no archaeological significance.
C. Access to the Property shall be over existing roads. Reclamation of all roads shall conform to the requirements of State Land Office Rule 20. No upgrading of the existing roads shall be done, except as necessary for the ingress and egress of required vehicles.
D. All topsoil from the areas to be disturbed shall be stockpiled for use in reclamation.
E. Upon completion of the use and operations permitted by this Authorization, all disturbed sites shall be re-contoured to approximate the original contours.
F. All material removed by excavation shall be replaced into the test holes, with the exception of an adequate sample, on or before the expiration date of this Authorization.
G. The natural environmental conditions that exist contemporaneously with this grant shall be preserved and protected. All applicable environmental laws and regulations shall be complied with and such reclamation or corrective actions as may be necessary to conduct EXPLORATORY WELL BORING consistent with safe and sound environmental management principles and practices shall be taken in order to protect the Property from any pollution, erosion or other environmental degradation and to avoid diminishing the value of the Property for any future use.

INDEMNITY

Authorized party shall save, hold harmless, indemnify and defend the State of New Mexico, the Commissioner and Commissioner's employees, agents and contractors, in both their official and individual capacities, from any and all liability, claims, losses, damages, or expenses of any character or nature whatsoever, including but not limited to attorney's fees, court costs, loss of land value or use, third party claims, penalties, or removal, remedial or restoration costs arising out of, or alleged to arise out of:

A. The operations or presence on the Property, or on adjacent or proximate state trust lands, including those used to access the Property for the purposes of this Authorization, of Authorized party or authorized party's employees, agents, contractors or invitees;

B. The activities of third parties on the Property, or on adjacent or proximate state trust lands, including those used to access the Property or other adjacent or proximate state trust lands, whether with or without Authorized party's knowledge or consent;

C. Any Hazardous Materials located in, under, upon or otherwise affecting the Property or adjacent or proximate state trust lands, regardless of their point of origin or date of contamination.

If you have any questions or concerns please contact Ed Martin, Oil, Gas, and Minerals Deputy Commissioner at 505-827-5746 or Faith Crosby, Water Resources Section Analyst at (505) 827-5849.

Respectfully,

Aubrey Dunn

Aubrey Dunn
Commissioner of Public Lands

AD/EM/fc

cc: Mark Naranjo, DRM Supervisor

Tom Blaine, P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 610609
File Nbr: CP 01672

Aug. 11, 2017

ANDREW MARTIN, ATKINS ENGR ASSOC INC
TRAINER PARTNERS LTD
2904 W 2ND STREET
ROSWELL, NM 88201

Greetings:

Enclosed is your copy of the above numbered permit that has been approved subject to the conditions set forth on the approval page. In accordance with the conditions of approval, the well can only be tested for 10 cumulative days, and the well is to be plugged on or before 08/31/2018, unless a permit to use the water is acquired from this office.

A Well Record & Log (OSE Form wr-20) shall be filed in this office within twenty (20) days after completion of drilling, but no later than 08/31/2018.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us or will be mailed upon request.

Sincerely,

for Juan Hernandez
(575)622-6521

Enclosure

explore

Tom Blaine, P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 610609
File Nbr: CP 01672

Aug. 11, 2017

AUBREY DUNN, COMMISSIONER
NM COMMISSIONER OF PUBLIC LANDS
PO BOX 1148
SANTA FE, NM 87504-1148

Greetings:

Enclosed is your copy of the above numbered permit that has been approved subject to the conditions set forth on the approval page. In accordance with the conditions of approval, the well can only be tested for 10 cumulative days, and the well is to be plugged on or before 08/31/2018, unless a permit to use the water is acquired from this office.

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Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us or will be mailed upon request.

Sincerely,

Juan Hernandez
(575)622-6521

Enclosure

explore

File No. CP-1672

NEW MEXICO OFFICE OF THE STATE ENGINEER

WR-07 APPLICATION FOR PERMIT TO DRILL

A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/

Purpose:	☐ Pollution Control And/Or Recovery	☐ Ground Source Heat Pump
■ Exploratory Well (Pump test)	☐ Construction Site/Public Works Dewatering	☐ Other(Describe):
☐ Monitoring Well	☐ Mine Dewatering	

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

☐ Temporary Request - Requested Start Date: Requested End Date:

Plugging Plan of Operations Submitted? ■ Yes ☐ No Recently submitted with this application

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2017 JUL 14 PM 4:10

1. APPLICANT(S)

Name: Trainer Partners LTD	Name:
Contact or Agent: check here if Agent ■ Atkins Engineering Associates, Inc Andrew Martin	Contact or Agent: check here if Agent ☐
Mailing Address: 2904 W. 2nd Street	Mailing Address:
City: Roswell	City:
State: NM Zip Code: 88201	State: Zip Code:
Phone: ☐ Home ☐ Cell Phone (Work): (575) 624-2420	Phone: ☐ Home ☐ Cell Phone (Work):
E-mail (optional): andrew@atkinseng.com	E-mail (optional):

FOR OSE INTERNAL USE Application for Permit, Form WR-07, Rev 11/17/16

File No.: CP-1672	Trn. No.: 610609	Receipt No.: 2-38400
Trans Description (optional): POD 1		
Sub-Basin: CP	PCW/LOG Due Date: 8-31-18	

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

☐ NM State Plane (NAD83) (Feet)
☐ NM West Zone
☐ NM East Zone
☐ NM Central Zone

☐ UTM (NAD83) (Meters)
☐ Zone 12N
☐ Zone 13N

■ Lat/Long (WGS84) (to the nearest 1/10th of second)

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (*Quarters or Halves , Section, Township, Range)* OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
CP-1672 POD1 BL-2	32°37'8.2"N	103°31'16.5"W	NWSWNW Sec. 36, 19S, 34E, N.M.P.M.

STATE ENGINEER OFFICE ROSWELL, NEW MEXICO 2017 JUL 14 PM 4:10

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions are attached: ☐ **Yes** ☐ **No** **If yes, how many**_____

Other description relating well to common landmarks, streets, or other:

Well is on land owned by: State of New Mexico

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? ☐ **Yes** ■ **No**
If yes, how many_____

Approximate depth of well (feet): 100	Outside diameter of boring (inches): up to 8"
Driller Name: Atkins Engineering Associates, Inc	Driller License Number: 1249

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Exploratory drilling for soil characterization and determination of presence of shallow groundwater <100 feet bgs. If groundwater is present at <100 ft bgs, a temporary 2" SCH 40 PVC groundwater monitoring well will be installed, samples will be collected, the casing will be removed and the borehole will be plugged. See submitted Plugging Plan of Operations

FOR OSE INTERNAL USE — Application for Permit, Form WR-07

File No.: CP-1672	Trn No.: 610669

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

Exploratory:	**Pollution Control and/or Recovery:**	**Construction De-Watering:**	**Mine De-Watering:**
■ Include a description of any proposed pump test, if applicable.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge.	☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water. ☐ The method of measurement of water diverted. ☐ The recharge of water to the aquifer. ☐ Description of the estimated area of hydrologic effect of the project. ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.
Monitoring: ☐ Include the reason for the monitoring well, and, ☐ The duration of the planned monitoring.	☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	**Ground Source Heat Pump:** ☐ Include a description of the geothermal heat exchange project, ☐ The number of boreholes for the completed project and required depths. ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	

ACKNOWLEDGEMENT

I, We (name of applicant(s)), Andrew Martin (Atkins Engineering Associates as agent for applicant)
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Applicant Signature

Applicant Signature

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2017 JUL 14 PM 4:10

ACTION OF THE STATE ENGINEER

This application is:

☒ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 11th day of August 20 17, for the State Engineer,

Tom Blaine, P.E., State Engineer

By:
Signature Print

Title: Juan Hernandez, Water Resources Manager 1
Print

FOR OSE INTERNAL USE Application for Permit, Form WR-07

File No.: CP-1672	Trn No.: 610609

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

17-1A Depth of the well shall not exceed the thickness of the valley fill.

17-4 No water shall be appropriated and beneficially used under this permit.

17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging, but no later than 08/31/2018.

17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

Trn Desc: CP 01672 POD1 File Number: CP 01672
Trn Number: 610609

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.

17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.
The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.

17-C2 No water shall be diverted from this well except for testing purposes which shall not exceed ten (10) cumulative days, and well shall be plugged or capped on or before , unless a permit to use water from this well is acquired from the Office of the State Engineer.

17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.

17-Q The State Engineer retains jurisdiction over this permit.

17-R Pursuant to section 72-8-1 NMSA 1978, the permittee shall allow the State Engineer and OSE representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

LOG The Point of Diversion CP 01672 POD1 must be completed and the Well Log filed on or before 08/31/2018.

IT IS THE PERMITTEES RESPONSIBILITY TO OBTAIN ALL AUTHORIZATIONS AND PERMISSIONS TO DRILL ON PROPERTY OF OTHER OWNERSHIP BEFORE COMMENCING ACTIVITIES UNDER THIS PERMIT.

SHOULD THE PERMITTEE CHANGE THE PURPOSE OF USE TO OTHER THAN MONITORING PURPOSES, AN APPLICATION SHALL BE ACQUIRED FROM THE OFFICE OF THE STATE ENGINEER.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd:	Date Rcvd. Corrected:
Formal Application Rcvd: 07/14/2017	Pub. of Notice Ordered:
Date Returned - Correction:	Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 11th day of Aug A.D., 2017

Tom Blaine, P.E., State Engineer

By: _____
Juan Hernandez

Trn Desc: CP 01672 POD1 File Number: CP 01672
Trn Number: 610609

Christopher Cortez

From: Crosby, Faith <fcrosby@slo.state.nm.us>
Sent: Tuesday, August 08, 2017 9:46 AM
To: Christopher Cortez
Subject: RE: Trainer Partners permit

Chris
Is this a soil boring situation? If so Atkins needs the 30-day permit from the SLO. This SLO Permit can be taken to the OSE and we won't have to have our signature over there in District II on the OSE form. If this is not the situation lets talk. In some other situations the SLO will need to be on the permit.

Faith

From: Christopher Cortez [mailto:chris@atkinseng.com]
Sent: Monday, July 31, 2017 3:09 PM
To: Mendiola, Yolanda L., OSE <yolanda.mendiola@state.nm.us>
Cc: Crosby, Faith <fcrosby@slo.state.nm.us>
Subject: RE: Trainer Partners permit

Faith,

See below,

Yolanda will the State need to sign both the Application for a well with no water right and the plugging plan of operations?

Faith I can email you the forms to sign in addition to the signed forms we submitted as agent for trainer partners.

Let me know, I'm on my mobile through Wednesday 575.914.0174

Thanks
Chris

Chris Cortez
| 575.624.2420 x 203 | 575.914.0174 mobile
Atkins Engineering Associates, Inc. | 2904 W 2nd St, Roswell, NM 88201

From: Mendiola, Yolanda L., OSE [mailto:yolanda.mendiola@state.nm.us]
Sent: Monday, July 31, 2017 2:53 PM
To: Christopher Cortez <chris@atkinseng.com>
Subject: RE: Trainer Partners permit

Hey Chris,

I have spoken to faith Crosby at the State land Commission, she stated that the State needed to be on the permit as co-owner. Faith also stated she would call Atkins. I scanned her the permit and she stated she would get back to me. And she has not.

We were told that any permit that had the State of New Mexico as land owner needed them as co-owner and signature.

Sorry,
Yolanda

From: Christopher Cortez [mailto:chris@atkinseng.com]
Sent: Monday, July 31, 2017 1:39 PM
To: Mendiola, Yolanda L., OSE
Subject: Trainer Partners permit

Yolanda,

Wanted to check on that trainer partners permit and plugging plan

Christopher R. Cortez | Operations Manager
Atkins Engineering Associates Inc.
2904 W 2ND ST | Roswell, NM 88201-1209
Office 575.624.2420 | Mobile 575.914.0174
chris@atkinseng.com

This email has been scanned by the Symantec Email Security.cloud service.
For more information please visit http://www.symanteccloud.com

Aubrey Dunn
COMMISSIONER

State of New Mexico
Commissioner of Public Lands
310 OLD SANTA FE TRAIL
P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

COMMISSIONER'S OFFICE
Phone (505) 827-5760
Fax (505) 827-5766
www.nmstatelands.org

July 31, 2017

Atkins Engineering Associates, Inc.
2904 W. 2nd St.
Roswell, NM 88201

Attention: Chris Cortez

RE: Extension for 30 days of Approved Soil Boring permit WE-00003-0

Dear Mr. Cortez,

Your request to be granted a 30 day extension of your original permit period has been approved. The extension will be granted until September 6th, 2017. Please continue to abide by all other requirements under the terms of this permit.

If we can be of further assistance, or if you have any questions, please feel free to contact Faith Crosby at (505) 827-5849, or fcrosby@slo.state.nm.us.

Thank you for doing business with the New Mexico State Land Office.

Respectfully,

Aubrey Dunn
Commissioner of Public Lands

EM/fc
XC: File

Atkins
ENGINEERING ASSOCIATES INC.

2904 W 2nd St.
Roswell, NM 88201
voice: 575.624.2420
fax: 575.624.2421
www.atkinseng.com

07/14/2017

DII-NMOSE
1900 W 2nd Street
Roswell, NM 88201

Hand Delivered to the DII Office of the State Engineer

Re: Permit to Drill and Plugging Plan for Lea DS State No. 001 Site in Lea County

To whom it may concern

Trainer Partners LTD has contacted Atkins Engineering Associates (AEA) to perform soil investigation at the Lea DS State No. 001 Site in Lea County. Enclosed please find triplicates for:

- WR-07 – Application for Permit to Drill a Well with No Water Right
- WD-08 – Plugging Plan of Operations

An AEA agent authorization form and a check for $5.00 are also enclosed to process the application. If you have any questions, please contact me with the information below.

Sincerely,

Andrew Martin | Junior Engineer
andrew@atkinseng.com

Enclosures: WR-07 Application for Permit to Drill a Well with No Water Right, three (3) copies
WD-08 Plugging Plan of Operations, three (3) copies
Agent Authorization Form – AEA
Check $5.00,

Office of the State Engineer
Water Rights District II– Roswell:
1900 W 2nd St
Roswell, NM 88201

RE: Agent Authorization Atkins Engineering Associates, Inc.

To whom it may concern:

Trainer Partners LTD authorizes Atkins Engineering Associates, Inc. to act as its agent for OSE filings associated with investigation activities associated with the Lea DS State No. 1 site.

Randall Mark Trainer — CEO

Randall Mark Trainer — Title

Apr 6, 2017

Date

Signature: Randall Mark Trainer
Randall Mark Trainer (Apr 6, 2017)

Email: randall@trainerpartners.com

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2017 JUL 14 PM 4:10

2017-04-04_OSEAgentAuthorization_TPL

Adobe Sign Document History 04/05/2017

Created:	04/04/2017
By:	Christopher Cortez (chris@atkinseng.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAPELWO3KqtB7U3kgaE6Wo-A2Kxt2UJpcp

"2017-04-04_OSEAgentAuthorization_TPL" History

Document uploaded by Christopher Cortez (chris@atkinseng.com) from Acrobat
04/04/2017 - 5:05:39 PM MDT- IP address: 63.158.48.195

Document emailed to Randall Mark Trainer (randall@trainerpartners.com) for signature
04/04/2017 - 5:05:40 PM MDT

Document viewed by Randall Mark Trainer (randall@trainerpartners.com)
04/05/2017 - 10:28:23 AM MDT- IP address: 209.95.60.158

Document e-signed by Randall Mark Trainer (randall@trainerpartners.com)
Signature Date: 04/05/2017 - 10:31:10 AM MDT - Time Source: server- IP address: 113.28.104.239

Signed document emailed to Andrew Martin (andrew@atkinseng.com), Randall Mark Trainer (randall@trainerpartners.com) and Christopher Cortez (chris@atkinseng.com)
04/05/2017 - 10:31:10 AM MDT

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
ROSWELL

Tom Blaine, P.E.
State Engineer

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
Phone: (575) 622-6521
Fax: (575) 623-8559

July 26, 2017

Trainer Parteners LTD
c/o Atkins Engineering Associates, Inc.
2904 West 2nd Street
Roswell, NM 88201

RE: *Well Plugging Plan of Operations* for CP-1672 POD 1, Lea County, New Mexico

Greetings:

Enclosed is your copy of the Well Plugging Plan of Operations for the above described project.

The proposed method of operations for the subject wells are found to be acceptable and in accordance with the Rules and Regulations Governing Well Driller Licensing; Construction, Repair and Plugging of Wells 19.27.4 NMAC adopted August 31, 2005 by the State Engineer subject to the following:

> ***Plugging operations shall also be conducted in accordance with NMED, NMOCD, or other State or Federal agencies having oversight for the above described project.***

Sincerely,

Catherine Goetz, P.G., C.P.G.
Engineer Specialist Supervisor
District II Office of the State Engineer
Enclosure
cc Santa Fe

WELL PLUGGING PLAN OF OPERATIONS

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2017 JUL 14 PM 4:11

NOTE: A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging.

I. FILING FEE: There is no filing fee for this form.

II. GENERAL / WELL OWNERSHIP:

Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: ~~TBD~~ CP-1672-POD1

Name of well owner: Trainer Partners LTD c/o Atkins Engineering Associates, Inc

Mailing address: 2904 West 2nd Street Attn: Andrew Martin

City: Roswell State: NM Zip code: 88201

Phone number: (575)624-2420 E-mail: andrew@atkinseng.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Jackie D. Atkins (Atkins Engineering Associates, Inc.)

New Mexico Well Driller License No.: 1249 Expiration Date: 4/2019

IV. WELL INFORMATION:

Note: A copy of the existing Well Record for the well to be plugged should be attached to this plan.

1) GPS Well Location: Latitude: 32 deg, 37 min, 8.2 sec
Longitude: 103 deg, 31 min, 16.5 sec, WGS84
☐ Check if seconds are decimal format.

2) Reason(s) for plugging well:

Exploratory drilling. Potential install of temporary monitor well

3) Was well used for any type of monitoring program? No If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging.

4) Does the well tap brackish, saline, or otherwise poor quality water? n/a If yes, provide additional detail, including analytical results and/or laboratory report(s):

n/a

5) Static water level: TBD feet below land surface / feet above land surface (circle one)

6) Depth of the well: 100 feet

7) Inside diameter of innermost casing: up to 8 inches.

8) Casing material: temporary Sch 40 PVC, 15' of .020" screen and 85' of riser to land surface, pulled prior to plugging

9) The well was constructed with:

☒ an open-hole production interval, state the open interval: up to 100

☐ a well screen or perforated pipe, state the screened interval(s): _____

10) What annular interval surrounding the artesian casing of this well is cement-grouted? n/a

11) Was the well built with surface casing? n/a If yes, is the annulus surrounding the surface casing grouted or otherwise sealed? n/a If yes, please describe:

n/a

12) Has all pumping equipment and associated piping been removed from the well? n/a If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.

V. DESCRIPTION OF PLANNED WELL PLUGGING:

Note: If this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremie pipe, a detailed diagram of the well showing proposed final plugged configuration shall be attached, as well as any additional technical information, such as geophysical logs, that are necessary to adequately describe the proposal.

1) Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology proposed for the well:

tremie grout from the bottom in lifts

2) Will well head be cut-off below land surface after plugging? n/a

VI. PLUGGING AND SEALING MATERIALS:

Note: The plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant

1) For plugging intervals that employ cement grout, complete and attach Table A.

2) For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.

3) Theoretical volume of grout required to plug the well to land surface: 260 gal

4) Type of Cement proposed: 5.20 gal/sack neat cement

5) Proposed cement grout mix: n/a gallons of water per 94 pound sack of Portland cement.

6) Will the grout be: _____ batch-mixed and delivered to the site

x mixed on site

7) Grout additives requested, and percent by dry weight relative to cement:

none requested

8) Additional notes and calculations:

VII. ADDITIONAL INFORMATION: List additional information below, or on separate sheet(s):

The following plugging operations will occur depending on the presence of groundwater during drilling:

- If water is contacted at less than 100 ft BGS, a temporary monitor well will be installed. After collection of a groundwater sample, casing will be pulled and neat cement will be tremied from total depth to land surface with 5.20 gal per 94lb sack Type I/II neat cement
- If water is not contacted at less than 100 ft BGS, borehole will be filled with backfill from 10 ft below ground surface to land surface. Hydrated bentonite chips will be used to fill the remaining hole to land surface.

VIII. SIGNATURE:

I, Jackie D, Atkins, say that I have carefully read the foregoing Well Plugging Plan of Operations and any attachments, which are a part hereof; that I am familiar with the rules and regulations of the State Engineer pertaining to the plugging of wells and will comply with them, and that each and all of the statements in the Well Plugging Plan of Operations and attachments are true to the best of my knowledge and belief.

[signature] Signature of Applicant — 07-14-2017 Date

IX. ACTION OF THE STATE ENGINEER:

This Well Plugging Plan of Operations is:

X Approved subject to the attached conditions.
___ Not approved for the reasons provided on the attached letter.

Witness my hand and official seal this 26th day of July, 2017

Tom Blaine P.E., New Mexico State Engineer

By: [signature] C. Goetz

For Andy Morley
District II Manager

TABLE A - For plugging intervals that employ cement grout. Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of grout placement (ft bgl)	n/a	n/a	0
Bottom of proposed interval of grout placement (ft bgl)	n/a	n/a	100
Theoretical volume of grout required per interval (gallons)	n/a	n/a	260
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement	n/a	n/a	5.20
Mixed on-site or batch-mixed and delivered?	n/a	n/a	on-site
Grout additive 1 requested	n/a	n/a	none requested
Additive 1 percent by dry weight relative to cement	n/a	n/a	n/a
Grout additive 2 requested	n/a	n/a	none requested
Additive 2 percent by dry weight relative to cement	n/a	n/a	n/a

TABLE B - For plugging intervals that will employ approved non-cement based sealant(s). Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of sealant placement (ft bgl)	n/a	n/a	0
Bottom of proposed sealant of grout placement (ft bgl)	n/a	n/a	10
Theoretical volume of sealant required per interval (gallons)	n/a	n/a	26
Proposed abandonment sealant (manufacturer and trade name)	n/a	n/a	Baroid Hole Plug/Bentonite Chips

NMSLO Cultural Resources Cover Sheet
Confidential Exhibit APAC 17-08-08 .

Exhibit Type (check one):
☒Archaeological Survey
☐ARMS Review
☐Other (describe): _____

NMCRIS Activity No. (if any): 138893

Section/Township/Range: Section 36 T 19 S R 34 E.

Cultural Resources Report/Exhibit Title: The survey is for a 100' x 100' pad for the BL-2 borehole and associated access road in Lea County, New Mexico for Atkins Engineering Associates Inc.

Cultural Resources Consultant:
APAC
PO Box 1982
Carlsbad, NM 88221-1982

Project Proponent (Applicant): Atkins Engineering Associates Inc.

Applicant's Project Title/Description: BL-2 borehole and associated access road

If Archaeological Survey, avoidance and protection measures have been devised.
Yes ☐ No ☐ N/A ☒

If ARMS Inspection, please summarize results:

(A) ☐ The entire area of potential effect or project area has been previously surveyed to current standards and **no cultural properties were found** within the survey area.
(B) ☐ The entire area of potential effect or project area has been previously surveyed to current standards and **cultural properties were found** within the survey area.
(C) ☐ The entire area of potential effect or project area **has not been previously surveyed.**

For agency use only:

NMSLO Lease No.: _____

Lease Analyst: _____

Exhibit Routed to Field Operations Division: _____
Date

NMCRIS No.: 138893

NMCRIS INVESTIGATION ABSTRACT FORM (NIAF)

1. NMCRIS Activity No.:	2a. Lead Agency:	2b. Other Agency(ies):	3. Lead Agency Report No.:
138893	NM State Land Office		

4. Title of Report:

The survey is for a 100' x 100' pad for the BL-2 borehole and associated access road in Lea County, New Mexico for Atkins Engineering Associates Inc.

Author(s)

Pangburn, Jeffrey & Stacey Therriault

5. Type of Report

- [x] Negative
- [ ] Positive

6. Investigation Type

- [ ] Research Design
- [x] Archaeological Survey/Inventory
- [ ] Architectural Survey/Inventory
- [ ] Test Excavation
- [ ] Excavation
- [ ] Collections/Non-Field Study
- [ ] Compliance Decision Based on Previous Inventory
- [ ] Overview/Lit Review
- [ ] Monitoring
- [ ] Ethnographic Study
- [ ] Site/Property Specific Visit
- [ ] Historic Structures Report
- [ ] Other

7. Description of Undertaking (what does the project entail?):

On the 29th of August 2017 APAC of Carlsbad New Mexico conducted a cultural survey of a proposed work area for Adkins Engineering. The purpose of the survey is to allow a bore hole to be dug to allow a core sample to be collected to check for contaminates. The bore hole was dug with a 2 ton auger truck which was driven over the selected location and then a 6" auger was dug into the ground to allow for collection of the samples.

The project is located in the SW ¼ of the NW ¼ of Section 36 T 19 S R 34 E. The project was conducted to meet or exceed the all current professional standards meeting or exceeding all current professional standards for cultural surveys. The authority for these standards comes in part from Section 106 of the National Historic Preservation Act of 1966, the Antiquities Act of 1906 and the Historic Sites Act of 1935, along with all additional federal and state laws for preserving and protecting cultural resources.

The inspection of the area selected for the bore hole measured 100' x 100' for an area of 0.23 acres. The access road covers 209.9' (+/-) in length by 200' in with (41980'sq) for a total of 0.96 acres. The entire project totals 1.19 acres. The inspection of the access and work area located no cultural materials. The inspection was followed by the auguring of the bore hole with the 6" auger. The back dirt from auguring was inspected for buried cultural materials, none were found in the back dirt.

The truck accessed the bore location from the northwest portion of the Sara Sue well #2 pad and drove 100' (+/-) northwest to the bore hole. The 100' (+/-) access across undisturbed ground did not disturb the natural ground surface as prior to driving temporary rubber mats were placed in front of the truck as it traversed the ground to the bore hole. These rubber mats were removed after the truck drove over them. This measure limited the disturbance to the modern ground surface to a negligible amount. The truck set up over the hole and even the stabilizers on the truck had removable platforms placed under them to avoid any mechanical disturbances to the modern ground surface. The auguring of the bore hole was conducted with a 6" bit making the only ground disturbance limited to this 6" hole.

Owing to the lack of cultural materials located and the completion of field work on this job no additional archaeological investigations should be required. The methods and associated actions conducted for this project were discussed with David Eck with the State Land Office prior to field work and the report format was discussed after the field work prior to submission.

The proposed project area crosses through a sand sheet dune field in Lea County, New Mexico. Impacts to the proposed project area include a bore hole. The survey area of the proposed project area is plotted on the attached project map. Location plots for the project were obtained by utilizing a survey grade hand held GPS.

[ ] Continuation

8. Dates of Investigation: 28-Aug-17 29-Aug-17 **9. Report Date:** 5-Sep-17

10. Performing Agency/Consultant: APAC PO Box 1982 Carlsbad, NM 88221-1982 Office 575-200-7099 Jeff 575-200-5099

Principal Investigator: David Hill

Field Supervisor: Jeffrey Pangburn

Field Personnel Names:

Historian / Other:

11. Performing Agency/Consultant Report No.:

APAC 17-08-08

12. Applicable Cultural Resource Permit No(s):

BLM: 270-2920-14-E, State: NM-17-261-S

13. Client/Customer (project proponent):

Atkins Engineering Associates Inc.

Contact: Chris Cortez

Address: 2904 W 2nd St. Roswell NM 88201 **Phone:** 575-624-2420

14. Client/Customer Project No.:

15. Land Ownership Status (must be indicated on project map):

Land Owner (By Agency)	Acres Surveyed	Acres in APE
US Bureau of Land Management Carlsbad Field Office	0.00	0.00
NM State Land Office	1.19	1.19
Private	0.00	0.00
TOTALS	1.19	1.19

16. Records Search(es):

Date(s) of HPD/ARMS File Review: 8/28/2017	Name of Reviewer(s): Stacey Therriault	
Date(s) of Other Agency File Review:	Name of Reviewer(s):	Agency: BLM-CFO
Date(s) of Other Agency File Review: 8/28/2017	Name of Reviewer(s): Stacey Therriault	Agency: GLO

Prefield investigations of the proposed project area consist of the review of web sites and project files located at the BLM-CFO, the Archaeological Records Management Section (ARMS) and the General Land Office (GLO). The ARMS and GLO was conducted on 28th of August 2017. No sites were located within 500 m for reporting to the state. A review of the GLO files found one patent associated with section 36 T 19 S, R 34 E. Serial Patent NMR 1202902 for all of section 36 T19S R34E was issued to the State of New Mexico on 12/31/1959 by the authority of the June 21, 1934: State Grant – School Sec. Patent (48 Stat.1185). Artifacts were not found in connection with the patent.

17. Survey Data:

a. Source Graphics **[ ] NAD 27** **[X] NAD 83** **Note: NAD 83 is the NMCRIS standard.**

☑ **USGS 7.5' (1:24,000) topo map** ☐ **Other topo map,** **Scale:**

☑ **GPS Unit** **Accuracy** ☐ **<1.0m** ☑ **1-10m** ☐ **10-100m** ☐ **>100m** ☐ **Aerial Photo(s)**

Other Source Graphic(s):

b. USGS 7.5' Topographic Map Name **USGS Quad Code**

MONUMENT SOUTHWEST, NM	(Prov. Ed. 1985)	32103-E4

c. County(ies): Lea

d. Nearest City or Town: Hobbs

e. Legal Description:

Township (N/S)	Range (E/W)	Section
19 S	34 E	36 SW¼ NW¼,

Projected legal description? **[ ] Yes** **[ ] No** **[X] Unplatted**

f. Other Description (e.g. well pad footages, mile markers, plats, land grant name, etc.):

[ ] Continuation

18. Survey Field Methods:

Intensity: ☑ 100% coverage ☐ <100% coverage

Configuration: ☑ block survey units ☑ linear survey units (l x w): (Total State 100'x100') (Total State 209.9'x200')

☐ other survey units (specify):

Scope: ☑ non-selective (all sites/properties recorded) ☐ selective/thematic (selected sites/properties recorded)

Coverage Method: ☑ systematic pedestrian coverage

☐ other method (describe):

Survey Interval (m): 15 **Crew Size:** 2 **Fieldwork Dates:** 29-Aug-17 29-Aug-17

Survey Person Hours: 2 **Recording Person Hours:** 0 **Total Hours:** 2

Additional Narrative:

The proposed ROW for access to the bore location was surveyed with a 200' (+/-) wide corridor centered on the right-of-way. The impacted area for the bore hole was 6" (+/-) diameter auger hole. The proposed bore location was surveyed with a series of parallel transects spaced at 15 meter intervals covering the proposed survey area. The cultural investigation was conducted by means of a pedestrian survey, with two field personnel, walking at 15-meter intervals for 100% coverage of the survey area. The project was conducted to meet or exceed the all current professional standards meeting or exceeding all current professional standards for cultural surveys. The authority for these standards comes in part from Section 106 of the National Historic Preservation Act of 1966, the Antiquities Act of 1906 and the Historic Sites Act of 1935, along with all additional federal and state laws for preserving and protecting cultural resources.

[ ] Continuation

19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.):

Topography: Flat with terrain with some 1.0 to 1.5 m deep depressions of a dune field associated with Shinnery oak, mesquite and sage.

Vegetation: Shinnery oak, mesquite, soaptree yucca, broom snakeweed, grasses and forbes.

NRCS: Peyote-Maljamar-Kermit association: Gently undulating and rolling, deep, sandy soils

Aspect: 360 degrees

Elevation: 3720'

Lithic Resources: Some cherts and quartzite, in gravels, very sparse.

Water Sources: (Potential) various unnamed drainages bisecting the project area.
(Permanent) The Pecos River, 41 miles west of the proposed ROW.

[ ] Continuation

20.a. Percent Ground Visibility: 85%

b. Condition of Survey Area (grazed, bladed, undistributed, etc.): Grazed with some oil field developments

[ ] Continuation

21. CULTURAL RESOURCE FINDINGS ☐ **Yes, see next report section** ☑ **No, discuss why:**

The area may not have offered natural resources for indigenous cultural groups to exploit.

[ ] Continuation

22. Attachments (check all appropriate boxes):

[X] USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn (required)

[X] Copy of NMCRIS Map Check (required)

[ ] LA Site Forms - new sites (with sketch map & topographic map) if applicable

[ ] LA Site Forms (update) - previously recorded & un-relocated sites (first 2 pages minimum)

[ ] Historic Cultural Property Inventory Forms, if applicable

[ ] List and Description of Isolates, if applicable

[ ] List and Description of Collections, if applicable

23. Other Attachments:

[ ] Photographs and Log **[X] Other Attachments (Describe):** Location Map

24. I certify the information provided above is correct and accurate and meets all applicable agency standards.

Principal Investigator **Printed Name:** David Hill

Qualified Supervisor: **Printed Name:** Jeffrey Pangburn

Signature:  **Date:** 6-Sep-17 **Title:** Qualified Supervisor

25. Reviewing Agency	**26. SHPO**
Reviewer's Name/Date:	**Reviewer's Name/Date:**
Accepted [ ] **Rejected [ ]**	**HPD Log #:**
	Date sent to ARMS:

CULTURAL RESOURCE FINDINGS

[fill in appropriate section(s)]

SURVEY RESULTS:

Archaeological Sites discovered and registered: 0

Archaeological Sites discovered and NOT registered: 0

Previously recorded archaeological sites revisited (site update form required): 0

Previously recorded archaeological sites not relocated (site update form required): 0

TOTAL ARCHAEOLOGICAL SITES (visited & recorded): 0

Total isolates recorded: 0 ☑ **Non-selective isolate recording?**

HCPI properties discovered and registered: 0

HCPI properties discovered and NOT registered: 0

Previously recorded HCPI properties revisited: 0

Previously recorded HCPI properties not relocated: 0

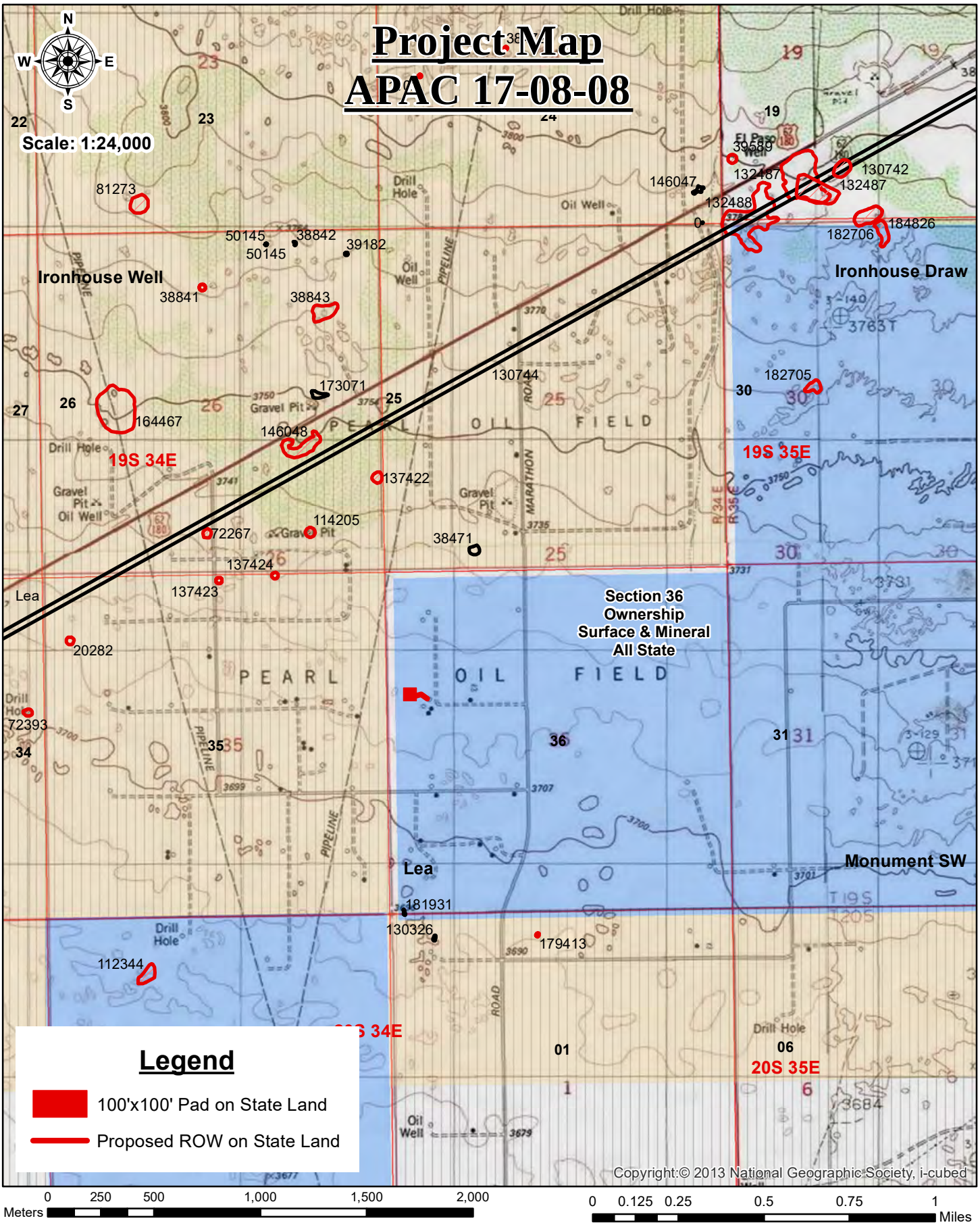
TOTAL HCPI PROPERTIES (visited & recorded, including acequias): 0

MANAGEMENT SUMMARY:

Archaeological clearance was cleared for the proposed bore hole and access to the bore hole. Monitoring of the bore hole and sediments from the bore lacked cultural evidence. The bore hole location, access to drill the bore hole, and monitoring of the drill hole effected to no cultural resources.

[ ] Continuation

IF REPORT IS NEGATIVE, YOU ARE DONE AT THIS POINT.



A location map of a borehole pad and associated access road right of way for Adkins Engineering Associates Inc.
Located in sections 36 T 19 S R 34 E; Lea County, New Mexico.
Map Reference; USGS 7.5' Series Quadrangles: MONUMENT SOUTHWEST, NM (Prov. Ed. 1985) 32103-E4

NMSLO Cultural Resources Cover Sheet
Confidential Exhibit APAC 17-08-08.

Exhibit Type (check one):
☐Archaeological Survey
☒ARMS Review
☐Other (describe): _____

NMCRIS Activity No. (if any): _____

Section/Township/Range: section 36 T 19 S R 34 E

Cultural Resources Report/Exhibit Title: The purpose of the survey is for the 100'x100' pad for the BL-2 bore hole and Associated Access road for Adkins Engineering Associates Inc.

Cultural Resources Consultant:
APAC
PO Box 1982
Carlsbad, NM 88221-1982

Project Proponent (Applicant): Adkins Engineering Associates Inc.

Applicant's Project Title/Description: 100'x100' pad for the BL-2 bore hole and Associated Access road

If Archaeological Survey, avoidance and protection measures have been devised.
Yes ☐ No ☐ N/A ☐

If ARMS Inspection, please summarize results:

(A) ☐ The entire area of potential effect or project area has been previously surveyed to current standards and **no cultural properties were found** within the survey area.
(B) ☐ The entire area of potential effect or project area has been previously surveyed to current standards and **cultural properties were found** within the survey area.
(C) ☒ The entire area of potential effect or project area **has not been previously surveyed.**

For agency use only:

NMSLO Lease No.: _____

Lease Analyst: _____

Exhibit Routed to Field Operations Division: _____
Date

DATE 8/31/17 *APAC Job No.: APAC 17-08-08*

APAC
PO Box 1982
Carlsbad, New Mexico 88221
Phone 575-200-7099

TO: David Eck, Archaeologist, New Mexico State Land Office, Santa Fe, New Mexico

FROM: Jeffrey Pangburn, Principal Investigator, APAC

SUBJECT: Notification of intent to conduct an archaeological survey on New Mexico State Trust Lands. This survey will be conducted under the auspices of New Mexico Annual State Trust Land Archaeological Survey under New Mexico Permit No. NM-17-261-S and BLM Permit No. 270-2920-14-E issued to APAC.

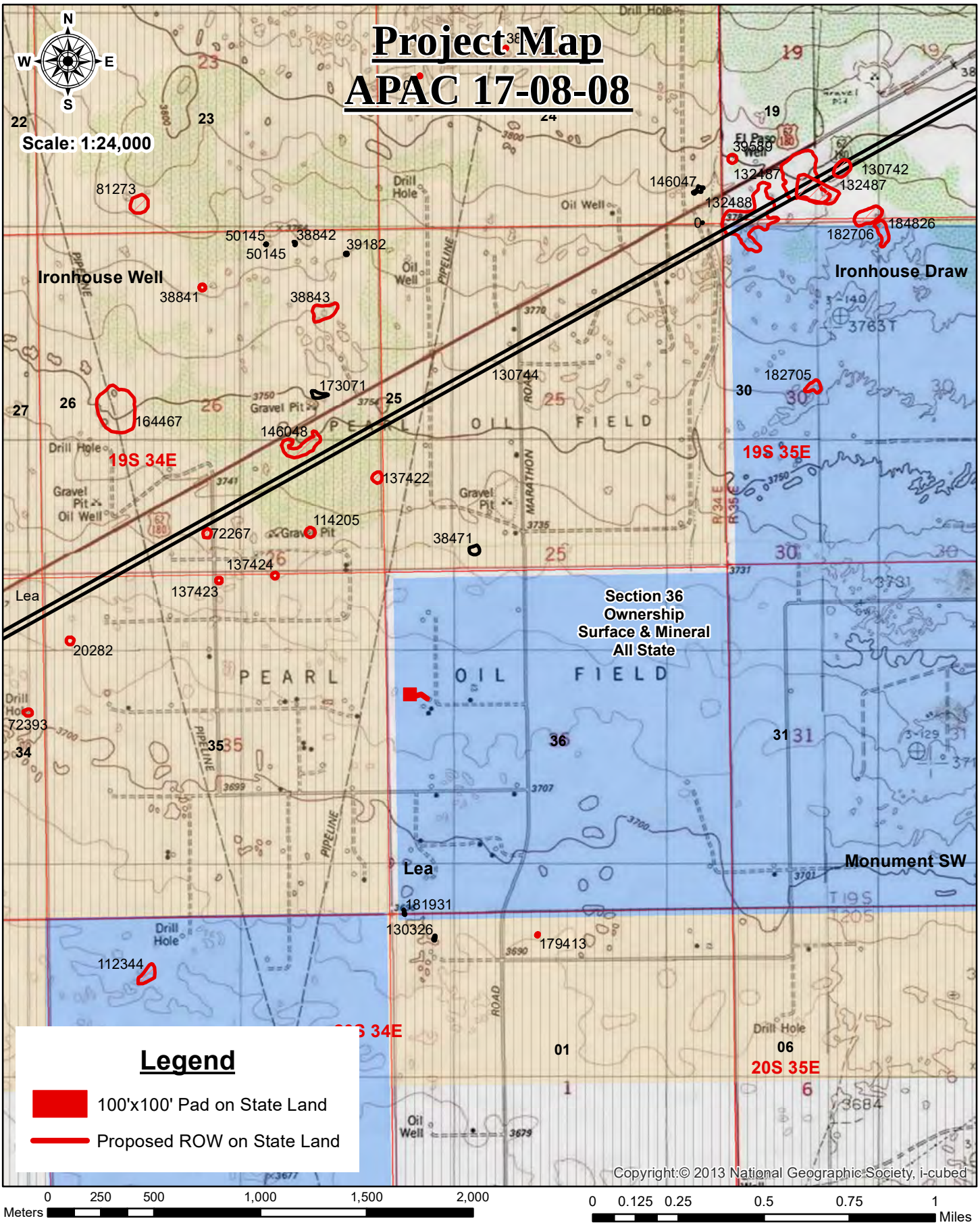
PROJECT DESCRIPTION:
Adkins Engineering Associates Inc.: Adkins Engineering Associates Inc. of Roswell, New Mexico has requested that APAC conduct an intensive Class III pedestrian archaeological survey in order to prevent damage to any cultural resources on New Mexico State Trust Lands. The purpose of the survey is to allow the BL-2 bore hole to be dug to allow a core sample to be collected to check for contaminates for Adkins Engineering Associates Inc. and not for research.

The New Mexico State Trust Land is located in section 36 T 19 S R 34 E; Lea County, New Mexico. The borehole pad will disturb the following size area, 100' (+/-) in length by 100' in width (10000'sq.) for a total of 0.23 acres and the associated access road will disturb 209.9' (+/-) in length by 200' in with (41980'sq) for a total of 0.96 acres of New Mexico State Land surface by vehicle and construction equipment. The proposed borehole pad and associated access road will total 1.19 acres of State of New Mexico Land to be inspected for archaeological remains.

The survey will be accomplished on foot, with one parallel transect spaced up to 15 meters covering a 100% coverage of the inventory survey area, with additional inspection of any deflated areas in the project area. The survey will conform to a Class III (100%) inventory of the project area. Further information on survey methodology, mapping and recording procedures, collection procedure, analytical procedure, personnel, etc. is on file with the SHPO.

Principal Investigator: _____
Jeffrey Pangburn

Enclosure: Project Map USGS 7.5' Series; 1:24000 Quadrangles: MONUMENT SOUTHWEST, NM (Prov. Ed. 1985)
32103-E4 (State Land marked in Red)



A location map of a borehole pad and associated access road right of way for Adkins Engineering Associates Inc.
Located in sections 36 T 19 S R 34 E; Lea County, New Mexico.
Map Reference; USGS 7.5' Series Quadrangles: MONUMENT SOUTHWEST, NM (Prov. Ed. 1985) 32103-E4