

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NRM2027448549
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party SIMCOE LLC (BP as contractor)	OGRID 329736	Final Report
Contact Name Steve Moskal	Contact Telephone (505) 330-9179	
Contact email Steven.Moskal@bpx.com	Incident # (assigned by OCD)	
Contact mailing address 1199 Main Ave., Suite 101, Durango, CO 81301		

Location of Release Source

Latitude **36.70117** Longitude **-107.63201**
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Hardie LS 011	Site Type Natural Gas Well
Date Release Discovered 8/4/2020	API# (if applicable) 3004521086

Unit Letter	Section	Township	Range	County
C	25	29N	08W	San Juan

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☒ Crude Oil	Volume Released (bbls) Unknown	Volume Recovered (bbls) None
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release **TPH, BTEX, & chloride all below below-grade tank (BGT) permit closure standards for 5 point composite sample collected beneath BGT.**

Evidence of a release observed and most likely resulted from overflow event of BGT. Minor staining area at northern quadrant of BGT was sampled and removed via excavation.

All remedial documentation is attached.

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

Printed Name: <u>Steve Moskal</u>	Title: <u>Environmental Coordinator</u>
Signature: <u> Steven Moskal 2020.09.28 14:34:25 -06'00'</u>	Date: <u>9/28/2020</u>
email: <u>Steve.Moskal@bpx.com</u>	Telephone: <u>(505) 330-9179</u>

OCD Only

Received by: Ramona Marcus Date: 9/30/2020

Incident ID	NRM2027448549
District RP	
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Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>>100</u> (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: Each of the following items must be included in the report.

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☐ Topographic/Aerial maps
- ☐ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	NRM2027448549
District RP	
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Steve Moskal Title: Environmental Coordinator

Steven Moskal

Signature:  2020.09.28
14:33:25 -06'00' Date: _____email: steven.moskal@bpx.com Telephone: (505) 330-9179**OCD Only**Received by: Ramona Marcus Date: 9/30/2020

Incident ID	NRM2027448549
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Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Steve Moskal Title: Environmental Coordinator

Signature: _____ Date: _____

email: steven.moskal@bpx.com Telephone: (505) 330-9179

OCD Only

Received by: Ramona Marcus Date: 9/30/2020

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

Incident ID	NRM2027448549
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Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Steve Moskal Title: Contract Environmental Coordinator

Signature: _____ Date: 9/28/2020

email: steven.moskal@bpx.com Telephone: (505) 330-9179

OCD Only

Received by: Ramona Marcus Date: 9/30/2020

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

CLIENT: SIMCOE	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	APP #: 3004521086 TANK ID (if applicable): A																														
FIELD REPORT: (circle one): BGT CONFIRMATION / RELEASE INVESTIGATION / OTHER:		PAGE #: 1 of 1																														
SITE INFORMATION: SITE NAME: HARDIE LS # 11 QUAD/UNIT: C SEC: 25 TWP: 29N RING: 8W PM: NM CNTY: SJ ST: NM 1/4 - 1/4 FOOTAGE: 970'N / 1,500'W NE/NW LEASE TYPE: FEDERAL / STATE / FEE / INDIAN LEASE #: SF078416A PROD. FORMATION: PC CONTRACTOR: KELLEY O.F.S. BPX - D. BULLER		DATE STARTED: 08/04/20 DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST(S): JCB																														
REFERENCE POINT: WELL HEAD (W.H.) GPS COORD.: 36.70121 X 107.63190 GL ELEV.: 6,379' 1) 95 BGT (SW/DB) GPS COORD.: 36.70117 X 107.63201 DISTANCE/BEARING FROM W.H.: 29', S51W 2) _____ GPS COORD.: _____ DISTANCE/BEARING FROM W.H.: _____ 3) _____ GPS COORD.: _____ DISTANCE/BEARING FROM W.H.: _____ 4) _____ GPS COORD.: _____ DISTANCE/BEARING FROM W.H.: _____																																
SAMPLING DATA: CHAIN OF CUSTODY RECORD(S) # OR LAB USED: HALL <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>SAMPLE ID</th> <th>SAMPLE DATE</th> <th>SAMPLE TIME</th> <th>LAB ANALYSIS</th> <th>OVM READING (ppm)</th> </tr> </thead> <tbody> <tr> <td>1) 95 BGT 5-pt @ 7'</td> <td>08/04/20</td> <td>1101</td> <td>8015B/8021B/300.0 (CI)</td> <td>29.7</td> </tr> <tr> <td>2) GRAB @ 6'</td> <td>08/04/20</td> <td>1103</td> <td>8015B/8021B/300.0 (CI)</td> <td>143</td> </tr> <tr> <td>3) 3-pt @ 7'</td> <td>08/04/20</td> <td>1120</td> <td>8015B/8021B/300.0 (CI)</td> <td>2.3</td> </tr> <tr> <td>4) _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>5) _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>			SAMPLE ID	SAMPLE DATE	SAMPLE TIME	LAB ANALYSIS	OVM READING (ppm)	1) 95 BGT 5-pt @ 7'	08/04/20	1101	8015B/8021B/300.0 (CI)	29.7	2) GRAB @ 6'	08/04/20	1103	8015B/8021B/300.0 (CI)	143	3) 3-pt @ 7'	08/04/20	1120	8015B/8021B/300.0 (CI)	2.3	4) _____	_____	_____	_____	_____	5) _____	_____	_____	_____	_____
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4) _____	_____	_____	_____	_____																												
5) _____	_____	_____	_____	_____																												
SOIL DESCRIPTION: SOIL TYPE: SAND SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER _____ SOIL COLOR: DARK YELLOWISH BROWN COHESION (ALL OTHERS): NON COHESIVE / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE CONSISTENCY (NON COHESIVE SOILS): LOOSE / FIRM / DENSE / VERY DENSE MOISTURE: DRY / SLIGHTLY MOIST / MOIST / WET / SATURATED / SUPER SATURATED SAMPLE TYPE: GRAB / COMPOSITE # OF PTS. 5 DISCOLORATION/STAINING OBSERVED: YES / NO EXPLANATION - BLACK TO DARK GRAY @ NORTH QUADRANT AREA. PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD HC ODOR DETECTED: YES / NO EXPLANATION - DISCOLORED SOILS ONLY ANY AREAS DISPLAYING WETNESS: YES / NO EXPLANATION - _____																																
SITE OBSERVATIONS: LOST INTEGRITY OF EQUIPMENT: YES / NO EXPLANATION - _____ APPARENT EVIDENCE OF A RELEASE OBSERVED AND/OR OCCURRED: YES / NO EXPLANATION: APPEARED TO BE FROM BGT OVERFLOW EQUIPMENT SET OVER RECLAIMED AREA: YES / NO EXPLANATION - _____ OTHER: NMOC & / OR BLM REPS. NOT PRESENT TO WITNESS CONFIRMATION SAMPLING. MINOR QUANTITY OF IMPACTED SOILS EXCAVATED AFTER INITIAL BGT BASE SAMPLE COLLECTED. IMPACT INTERVAL APPROXIMATELY 1 FT. IN OVERALL THICKNESS. Compliance #: cJK2013456222 EXCAVATION DIMENSION ESTIMATION: 12 ft. X 2 ft. X 1 ft. EXCAVATION ESTIMATION (Cubic Yards): 1 - 3 ± DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1,000' NEAREST SURFACE WATER: 300' < X < 1,000' NMOC TPH CLOSURE STD: 2,500 ppm																																
SITE SKETCH BGT Located : off on site 0 FT. 25 FT. PLOT PLAN circle: attached OVM CALIB. READ. = 100.1 ppm RF=1.00 OVM CALIB. GAS = 100 ppm TIME: 9:20 (am/pm) DATE: 08/04/20 N																																
MISCELL. NOTES PO: 4301191982 AFE #: SIO #: GL #: Permit date(s): 06/14/10 OCD Appr. date(s): 03/10/17 <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Tank ID</td> <td>OVM = Organic Vapor Meter ppm = parts per million</td> </tr> <tr> <td>A</td> <td>BGT Sidewalls Visible: (Y) / N</td> </tr> <tr> <td></td> <td>BGT Sidewalls Visible: Y / N</td> </tr> <tr> <td></td> <td>BGT Sidewalls Visible: Y / N</td> </tr> </table> Magnetic declination: 10° E			Tank ID	OVM = Organic Vapor Meter ppm = parts per million	A	BGT Sidewalls Visible: (Y) / N		BGT Sidewalls Visible: Y / N		BGT Sidewalls Visible: Y / N																						
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NOTES: BGT = BELOW-GRADE TANK; E.D. = EXCAVATION DEPRESSION; B.G. = BELOW GRADE; B = BELOW; T.H. = TEST HOLE; ~ = APPROX.; W.H. = WELL HEAD; T.B. = TANK BOTTOM; PBGTL = PREVIOUS BELOW-GRADE TANK LOCATION; SPD = SAMPLE POINT DESIGNATION; R.W. = RETAINING WALL; NA - NOT APPLICABLE OR NOT AVAILABLE; SW - SINGLE WALL; DW - DOUBLE WALL; SB - SINGLE BOTTOM; DB - DOUBLE BOTTOM. NOTES: GOOGLE EARTH IMAGERY DATE: 10/5/2016 ONSITE: 08/04/20																																

Analytical Report

Lab Order 2008125

Date Reported: 8/6/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: 95 BGT 5-Pt @ 7'

Project: Hardie LS 11

Collection Date: 8/4/2020 11:01:00 AM

Lab ID: 2008125-001

Matrix: SOIL

Received Date: 8/5/2020 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	8/5/2020 12:46:15 PM	54179
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/5/2020 1:16:18 PM	54177
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/5/2020 1:16:18 PM	54177
Surr: DNOP	97.1	30.4-154		%Rec	1	8/5/2020 1:16:18 PM	54177
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	8/5/2020 11:35:17 AM	54156
Surr: BFB	106	75.3-105	S	%Rec	1	8/5/2020 11:35:17 AM	54156
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.019		mg/Kg	1	8/5/2020 11:35:17 AM	54156
Toluene	ND	0.039		mg/Kg	1	8/5/2020 11:35:17 AM	54156
Ethylbenzene	ND	0.039		mg/Kg	1	8/5/2020 11:35:17 AM	54156
Xylenes, Total	ND	0.077		mg/Kg	1	8/5/2020 11:35:17 AM	54156
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/5/2020 11:35:17 AM	54156

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order 2008118

Date Reported: 8/6/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: Grab @ 6'

Project: Hardie LS 11

Collection Date: 8/4/2020 11:03:00 AM

Lab ID: 2008118-001

Matrix: SOIL

Received Date: 8/5/2020 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	8/5/2020 11:19:46 AM	54179
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	44000	970		mg/Kg	100	8/5/2020 10:52:31 AM	54177
Motor Oil Range Organics (MRO)	50000	4800		mg/Kg	100	8/5/2020 10:52:31 AM	54177
Surr: DNOP	0	30.4-154	S	%Rec	100	8/5/2020 10:52:31 AM	54177
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	75	21		mg/Kg	5	8/5/2020 9:37:15 AM	54156
Surr: BFB	191	75.3-105	S	%Rec	5	8/5/2020 9:37:15 AM	54156
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.11		mg/Kg	5	8/5/2020 9:37:15 AM	54156
Toluene	ND	0.21		mg/Kg	5	8/5/2020 9:37:15 AM	54156
Ethylbenzene	ND	0.21		mg/Kg	5	8/5/2020 9:37:15 AM	54156
Xylenes, Total	1.8	0.42		mg/Kg	5	8/5/2020 9:37:15 AM	54156
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	5	8/5/2020 9:37:15 AM	54156

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
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	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order 2008118

Date Reported: 8/6/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: 3 Point @ 7'

Project: Hardie LS 11

Collection Date: 8/4/2020 11:20:00 AM

Lab ID: 2008118-002

Matrix: SOIL

Received Date: 8/5/2020 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	8/5/2020 11:32:08 AM	54179
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/5/2020 11:40:16 AM	54177
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2020 11:40:16 AM	54177
Surr: DNOP	95.4	30.4-154		%Rec	1	8/5/2020 11:40:16 AM	54177
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	8/5/2020 10:01:03 AM	54156
Surr: BFB	96.3	75.3-105		%Rec	1	8/5/2020 10:01:03 AM	54156
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	8/5/2020 10:01:03 AM	54156
Toluene	ND	0.036		mg/Kg	1	8/5/2020 10:01:03 AM	54156
Ethylbenzene	ND	0.036		mg/Kg	1	8/5/2020 10:01:03 AM	54156
Xylenes, Total	ND	0.072		mg/Kg	1	8/5/2020 10:01:03 AM	54156
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/5/2020 10:01:03 AM	54156

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
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	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Client: **BLAGG ENGR. / SIMCOE LLC**

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

Phone #: **(505) 632-1199**

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:	
☐ Standard	☒ Rush SAME DAY
Project Name:	
HARDIE LS # 11	
Project #:	
Project Manager:	
STEVE MOSKAL	
Sampler: JEFFREY C. BLAGG	
On Ice:	☒ Yes ☐ No
Sample Temperature: 2.5 ± 0 = 2.5	



www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

[illegible]

Date: 8/4/2020	Time: 1512	Relinquished by: Jeff Blegg	Received by: Christine Bette	Date 8/4/2020	Time 1512
Date: 8/4/2020	Time: 1811	Relinquished by: Christine Bette	Received by: Ekm courier	Date 8/5/20	Time 7:45

Remarks:	BILL DIRECTLY TO SIMCOE LLC USING INFORMATION BELOW.
----------	--

CONTACT: Steve Moskal / Don Buller

PO #: Related to 2H 2020 Spill

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.

Received by OCD: 9/29/2020 9:12:18 AM

Air Bubbles (Y or N)

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 200812506-Aug-20

Client: Blagg Engineering
Project: Hardie LS 11

Sample ID: MB-54179	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 54179	RunNo: 70844
Prep Date: 8/5/2020	Analysis Date: 8/5/2020	SeqNo: 2467698 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-54179	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 54179	RunNo: 70844
Prep Date: 8/5/2020	Analysis Date: 8/5/2020	SeqNo: 2467699 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 93.0 90 110

Qualifiers:

- * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008125

06-Aug-20

Client: Blagg Engineering**Project:** Hardie LS 11

Sample ID: MB-54177	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 54177	RunNo: 70836								
Prep Date: 8/5/2020	Analysis Date: 8/5/2020	SeqNo: 2466546	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.2	30.4	154			

Sample ID: LCS-54177	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 54177	RunNo: 70836								
Prep Date: 8/5/2020	Analysis Date: 8/5/2020	SeqNo: 2466681	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.9	70	130			
Surr: DNOP	4.6		5.000		91.8	30.4	154			

Sample ID: MB-54143	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 54143	RunNo: 70836								
Prep Date: 8/4/2020	Analysis Date: 8/6/2020	SeqNo: 2467336	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		109	30.4	154			

Sample ID: LCS-54143	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 54143	RunNo: 70836								
Prep Date: 8/4/2020	Analysis Date: 8/6/2020	SeqNo: 2467342	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.1		5.000		103	30.4	154			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 2008125
06-Aug-20

Client: Blagg Engineering
Project: Hardie LS 11

Sample ID: mb-54156	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 54156	RunNo: 70843								
Prep Date: 8/4/2020	Analysis Date: 8/6/2020	SeqNo: 2467044		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	75.3	105			

Sample ID: lcs-54156	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 54156	RunNo: 70843								
Prep Date: 8/4/2020	Analysis Date: 8/5/2020	SeqNo: 2467045		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.5	72.5	106			
Surr: BFB	1100		1000		111	75.3	105			S

Qualifiers:

- *

Value exceeds Maximum Contaminant Level.
- D

Sample Diluted Due to Matrix
- H

Holding times for preparation or analysis exceeded
- ND

Not Detected at the Reporting Limit
- PQL

Practical Quantitative Limit
- S

% Recovery outside of range due to dilution or matrix
- B

Analyte detected in the associated Method Blank
- E

Value above quantitation range
- J

Analyte detected below quantitation limits
- P

Sample pH Not In Range
- RL

Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008125

06-Aug-20

Client: Blagg Engineering**Project:** Hardie LS 11

Sample ID: mb-54156	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 54156	RunNo: 70843								
Prep Date: 8/4/2020	Analysis Date: 8/6/2020	SeqNo: 2467092	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			

Sample ID: LCS-54156	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 54156	RunNo: 70843								
Prep Date: 8/4/2020	Analysis Date: 8/5/2020	SeqNo: 2467093	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.2	80	120			
Toluene	0.96	0.050	1.000	0	95.9	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.3	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.2	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit



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

Sample Log-In Check List

Client Name: **Blagg Engineering**Work Order Number: **2008125**

RcptNo: 1

Received By: **Emily Mocho** **8/5/2020 7:45:00 AM**Completed By: **Emily Mocho** **8/5/2020 8:38:52 AM**Reviewed By: **cm 8/5/20**

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. Received at least 1 vial with headspace $<1/4"$ for AQ VOA? Yes ☐ No ☐ NA ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. 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: SPA 8/5/20

Special Handling (if applicable)

15. 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: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	Good	No			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2008118

06-Aug-20

Client: Blagg Engineering

Project: Hardie LS 11

Sample ID: MB-54179	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 54179	RunNo: 70844
Prep Date: 8/5/2020	Analysis Date: 8/5/2020	SeqNo: 2467698 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-54179	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 54179	RunNo: 70844
Prep Date: 8/5/2020	Analysis Date: 8/5/2020	SeqNo: 2467699 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 93.0 90 110

Qualifiers:

- *

Value exceeds Maximum Contaminant Level.
- D

Sample Diluted Due to Matrix
- H

Holding times for preparation or analysis exceeded
- ND

Not Detected at the Reporting Limit
- PQL

Practical Quantitative Limit
- S

% Recovery outside of range due to dilution or matrix
- B

Analyte detected in the associated Method Blank
- E

Value above quantitation range
- J

Analyte detected below quantitation limits
- P

Sample pH Not In Range
- RL

Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008118

06-Aug-20

Client: Blagg Engineering**Project:** Hardie LS 11

Sample ID: MB-54177	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 54177	RunNo: 70836								
Prep Date: 8/5/2020	Analysis Date: 8/5/2020	SeqNo: 2466546	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.2	30.4	154			

Sample ID: LCS-54177	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 54177	RunNo: 70836								
Prep Date: 8/5/2020	Analysis Date: 8/5/2020	SeqNo: 2466681	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.9	70	130			
Surr: DNOP	4.6		5.000		91.8	30.4	154			

Sample ID: MB-54143	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 54143	RunNo: 70836								
Prep Date: 8/4/2020	Analysis Date: 8/6/2020	SeqNo: 2467336	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		109	30.4	154			

Sample ID: LCS-54143	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 54143	RunNo: 70836								
Prep Date: 8/4/2020	Analysis Date: 8/6/2020	SeqNo: 2467342	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.1		5.000		103	30.4	154			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 2008118
06-Aug-20

Client: Blagg Engineering
Project: Hardie LS 11

Sample ID: mb-54156	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 54156	RunNo: 70843								
Prep Date: 8/4/2020	Analysis Date: 8/6/2020	SeqNo: 2467044	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	75.3	105			

Sample ID: lcs-54156	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 54156	RunNo: 70843								
Prep Date: 8/4/2020	Analysis Date: 8/5/2020	SeqNo: 2467045	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.5	72.5	106			
Surr: BFB	1100		1000		111	75.3	105			S

Qualifiers:

- *

Value exceeds Maximum Contaminant Level.
- D

Sample Diluted Due to Matrix
- H

Holding times for preparation or analysis exceeded
- ND

Not Detected at the Reporting Limit
- PQL

Practical Quantitative Limit
- S

% Recovery outside of range due to dilution or matrix
- B

Analyte detected in the associated Method Blank
- E

Value above quantitation range
- J

Analyte detected below quantitation limits
- P

Sample pH Not In Range
- RL

Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008118

06-Aug-20

Client: Blagg Engineering**Project:** Hardie LS 11

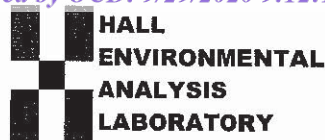
Sample ID: mb-54156	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: 54156			RunNo: 70843						
Prep Date: 8/4/2020	Analysis Date: 8/6/2020			SeqNo: 2467092		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			

Sample ID: LCS-54156	SampType: LCS			TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch ID: 54156			RunNo: 70843						
Prep Date: 8/4/2020	Analysis Date: 8/5/2020			SeqNo: 2467093		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.2	80	120			
Toluene	0.96	0.050	1.000	0	95.9	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.3	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.2	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit



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

Sample Log-In Check List

Client Name: **Blagg Engineering**Work Order Number: **2008118**RcptNo: **1**Received By: **Emily Mocho** **8/5/2020 7:45:00 AM**Completed By: **Emily Mocho** **8/5/2020 8:14:21 AM**Reviewed By: **Em 8/5/20**

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. Received at least 1 vial with headspace $<1/4"$ for AQ VOA? Yes ☐ No ☐ NA ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. 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? 10 eme

Checked by: Em 8/5/20

Special Handling (if applicable)

15. 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: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	Good	No			

SITING AND HYDRO-GEOLOGICAL REPORT FOR HARDIE LS 011

Siting Criteria 19.15.17.10 NMAC

Depth to groundwater at the site is estimated to be greater than 100 feet. This estimation is based on data from Stone and others (1983), and depth to groundwater data obtained from water wells permitted by the New Mexico State Engineer's Office (OSE, Figure 1). Local topography and proximity to adjacent water features are also considered. A topographic map of the site is provided as Figure 2 and demonstrates that the below grade tank (BGT) is not within 300 feet of any continuously flowing watercourse or within 200 feet of any other significant watercourse, lakebed, sinkhole or playa lake as measured from the ordinary high water mark. Figure 3 demonstrates that the BGT is not within 300 feet of a permanent residence, school, hospital, institution or church. Figure 4 demonstrates, based on a search of the OSE database and USGS topographic maps, that there are no freshwater wells or springs within 1000 feet of the BGT. Figure 5 demonstrates that the BGT is not within a municipal boundary or a defined municipal freshwater well field. Figure 6 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not in an area overlying a subsurface mine. The BGT is not located in an unstable area. Figure 8 demonstrates that the BGT is not within the mapped FEMA 100-year floodplain.

Local Geology and Hydrology

This particular site is located on a slope close to Jasis Canyon a tributary of Largo Wash. Regional topography of Largo Canyon is composed of mesas dissected by deep, narrow canyons and arroyos. The more resistant cliff-forming sandstones of the San Jose Formation cap the interbedded siltstones, shales and sandstones of the Nacimiento Formation. Accumulations of talus and eroded sands at the base of canyon walls form steep to gentle slopes that transition into flat-bottomed arroyos within the canyons. Deposits of Quaternary alluvial and eolian sands occur prominently near the surface of Largo Canyon, especially near streams and washes.

Regional Geology and Hydrology

The San Juan Basin is situated in the Navajo section of the Colorado Plateau and is characterized by broad open valleys, mesas, buttes and hogbacks. Away from major valleys and canyons topographic relief is generally low. Native vegetation is sparse and shrubby. Drainage is mainly by the San Juan River, the only permanent stream in the Navajo Section of the Colorado Plateau. The San Juan River is a tributary of the Colorado River. Major tributaries include the Animas, Chaco and La Plata Rivers. Flow of the San Juan River across the basin is regulated by the Navajo Dam, located about 30 miles northeast of Farmington, New Mexico. The climate is arid to semiarid with an average annual precipitation of 8 to 10 inches. Soils within the basin consist of weathered parent rock derived from predominantly physical means mostly from eolian depositional system with fluvial having a lesser impact.

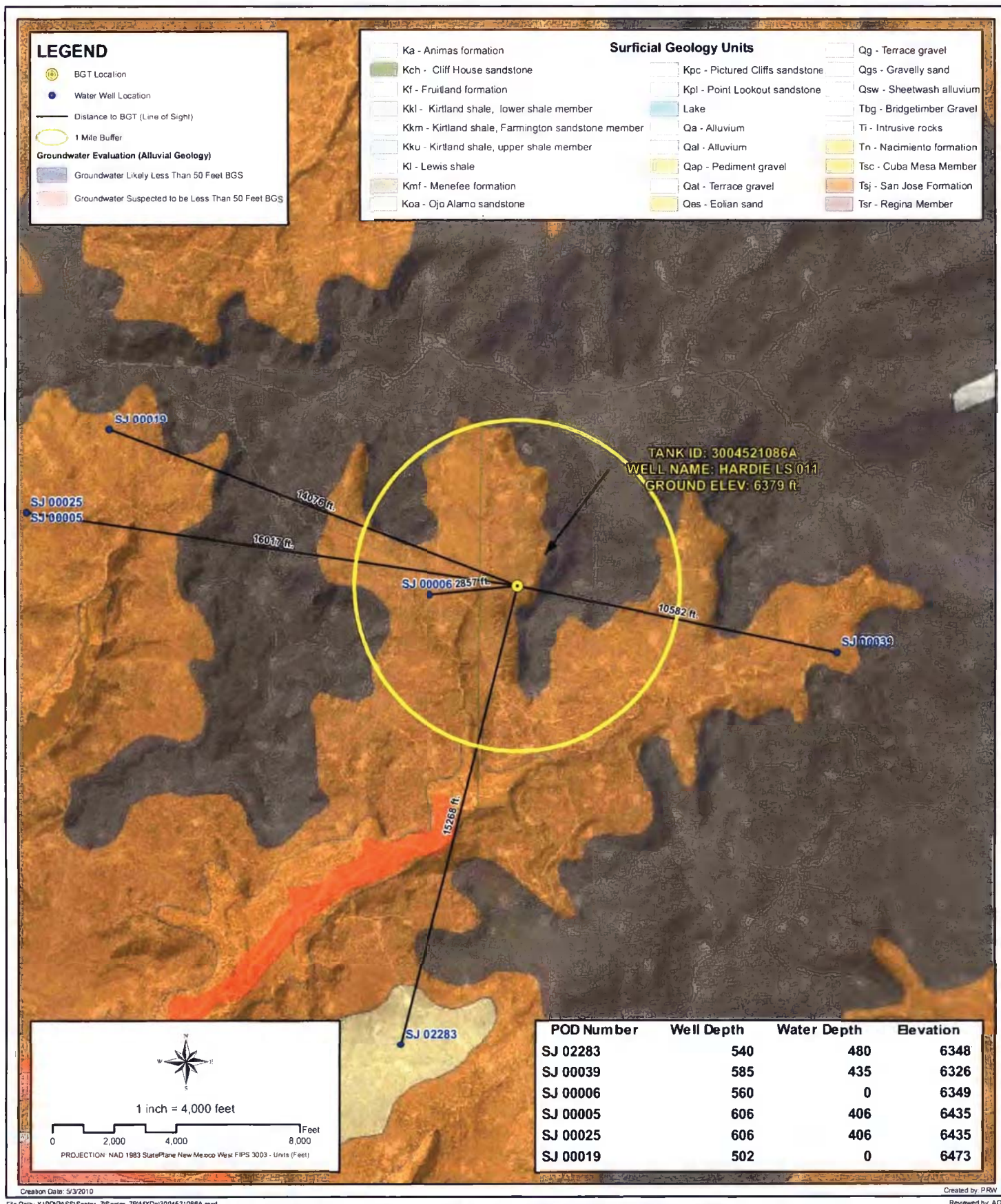
Cretaceous and Tertiary sandstones, as well as Quaternary Alluvial deposits, serve as the primary aquifers in the San Juan Basin (Stone et al., 1983). The San Jose Formation of Eocene age occurs in both New Mexico and Colorado, and its outcrop forms the land surface over much of

the eastern half of the central basin. It overlies the Nacimiento Formation in the area generally south of the Colorado-New Mexico border and overlies the Animas Formation in the general area north of the State Line. The San Jose Formation was deposited in various fluvial-type environments. In general, the unit consists of an interbedded sequence of sandstone, siltstone, and shale. Thickness of the San Jose Formation increases from west to east. Groundwater is associated with alluvial and fluvial sandstone aquifers. The occurrence of groundwater is mainly controlled by distribution of sandstone in the formation. The reported or measured discharge from numerous water wells completed in the formation range from 0.15 to 61 gallons per minute (gpm) and with a median of 5 gpm. Most of the wells provide water for livestock and domestic purposes. The formation is suitable for recharge from precipitation due to overlying soils being sandy, highly permeable and absorbent. Low annual precipitation, relatively high transpiration and evaporation rates and deep dissection of the formation by the San Juan River and its main tributaries all tend to reduce the effective recharge to the formation. Aquifers within the coarser and continuous sandstone bodies of the Nacimiento Formation of Paleocene age are between 0 and 1000 feet deep in the majority of the basin as well (Stone et al., 1983).

References

Circular 154—Guidebook to coal geology of northwest New Mexico By E. C. Beaumont, J. W. Shomaker, W. J. Stone, and others, 1976

Stone, et al., 1983, Hydrogeology and Water Resources of the San Juan Basin, New Mexico, Socorro, New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 p



bp



GROUNDWATER LESS THAN 50 FT.

WELL NAME: HARDIE LS 011

API NUMBER: 3004521086 TANK ID: 3004521086A

SECTION 25, TOWNSHIP 29.0N, RANGE 08W, P.M. NM23

FIGURE

1



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Well Drill Dates & Depths)

										(R=POD has been replaced and no longer serves this file, C=the file is closed)		(quarters are 1=NW 2=NE 3=SW 4=SE)											
(acre ft per annum)																						(in feet)	
WR File Nbr	Sub					Well				q q q										Depth	Depth		
	basin	Use	Diversion	County	POD Number	Tag	Code	Grant	Source	6416 4	Sec	Tws	Rng	X	Y	Start Date	Finish Date	Well	Water				
SJ 00039	SJ	IND	32	RA	SJ 00039				Shallow	2	3	29	29N 07W	268022	4064208*		05/26/1953	06/04/1953	585	435			

Record Count:

POD Search:

POD Number: SJ 00039

Sorted by: File Number

*UTM location was derived from PLSS - see Help

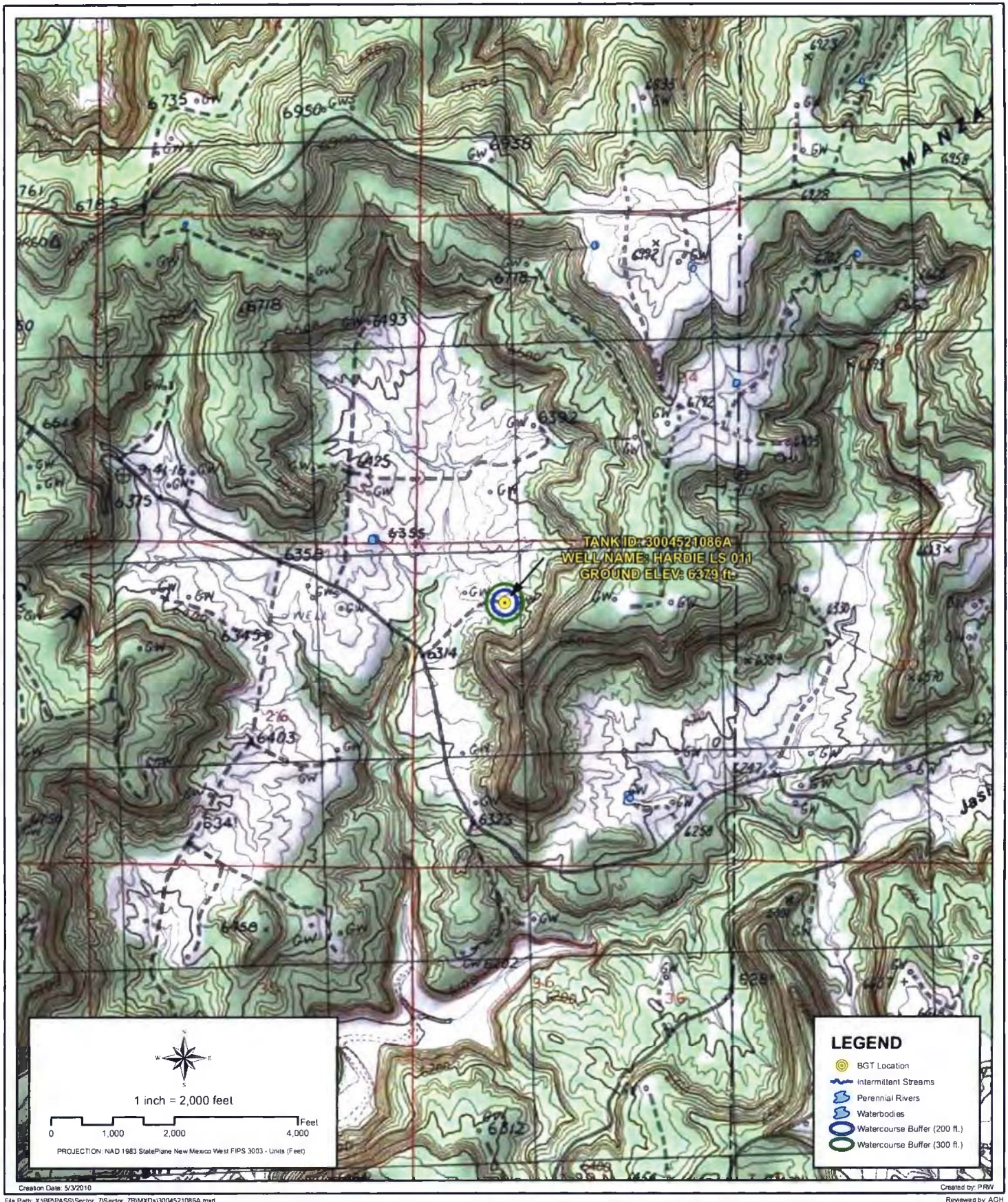
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

9/22/20 1:27 PM

ACTIVE & INACTIVE POINTS OF DIVERSION

SJ00039: GL Elev. - 6,326 ft., GW Elev. - 5,891 ft.

Hardie LS 001: GL Elev. - 6,379 ft.



PROXIMITY TO WATERCOURSES
WELL NAME: HARDIE LS 011
 API NUMBER: 3004521086 TANK ID: 3004521086A
 SECTION 25, TOWNSHIP 29.0N, RANGE 08W, P.M. NM23

FIGURE
2



PROXIMITY TO WATER WELLS

WELL NAME: HARDIE LS 011

API NUMBER: 3004521086 TANK ID: 3004521086A

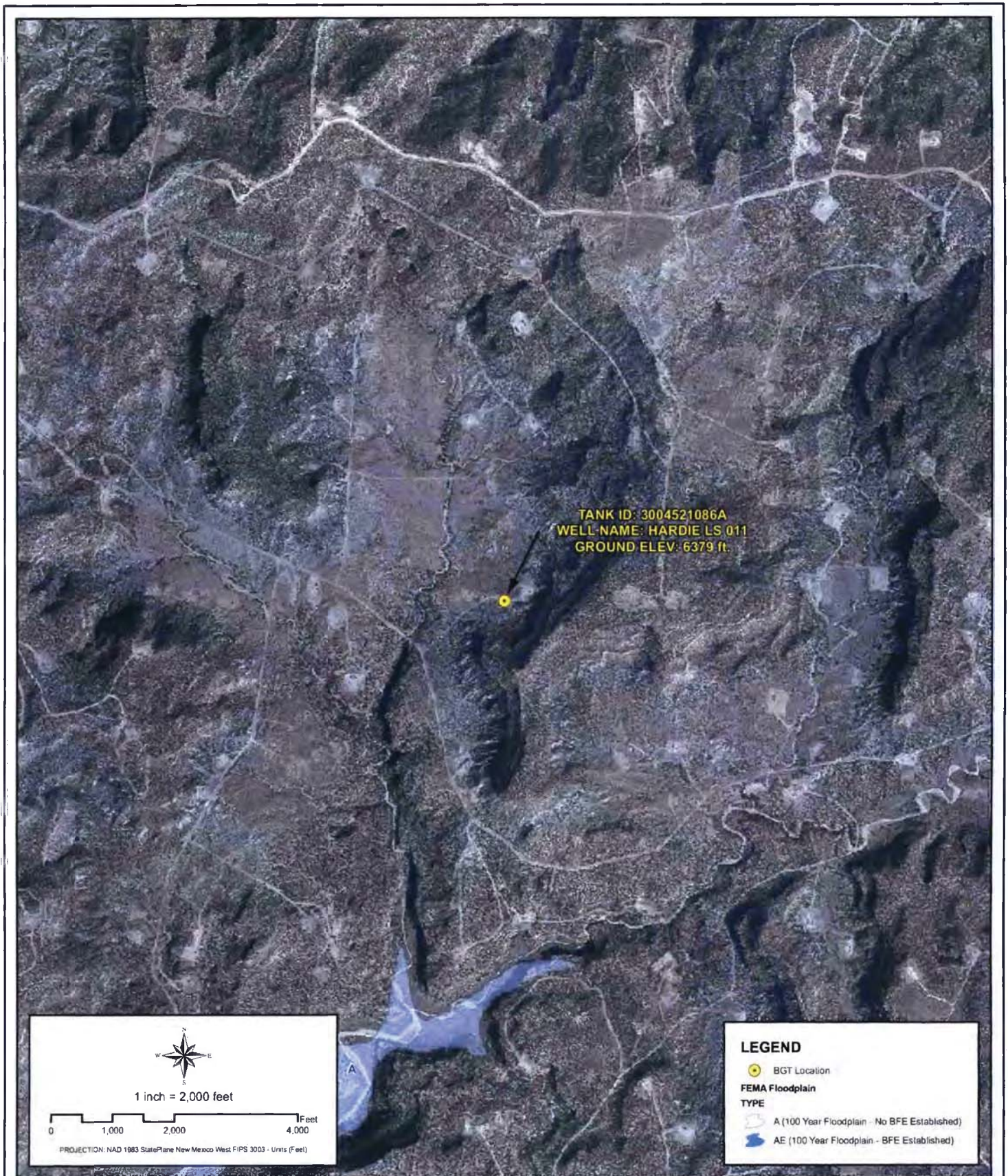
SECTION 25, TOWNSHIP 29.0N, RANGE 08W, P.M. NM23

FIGURE
3



PROXIMITY TO WETLANDS
WELL NAME: HARDIE LS 011
API NUMBER: 3004521086 TANK ID: 3004521086A
SECTION 25, TOWNSHIP 29.0N, RANGE 08W, P.M. NM23

FIGURE
4



PROXIMITY TO FLOODPLAIN

WELL NAME: HARDIE LS 011

API NUMBER: 3004521086 TANK ID: 3004521086A
SECTION 25, TOWNSHIP 29.0N, RANGE 08W, P.M. NM23

FIGURE
5



(viewing East direction)



3 point composite
sample at 7 ft.



August 4, 2020

