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	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: BPX Energy	OGRID: 778	Initial
Contact Name: Steve Moskal	Contact Telephone: (505) 330-9179	
Contact email: steven.moskal@bpx.com	Incident # *(assigned by OCD)*	
Contact mailing address: 1199 Main St., Suite 101, Durango CO, 81301	NCS1917554179	

NMOCD
JUN 04 2019
DISTRICT III

Location of Release Source

Latitude: 36.79198° Longitude: -107.75695°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: FLORANCE # 56	Site Type: Natural Gas Production Well Pad
Date Release Discovered: April 2, 2019	API#: 30-045-11659

Unit Letter	Section	Township	Range	County
M	23	T30N	R09W	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)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls): Undetermined	Volume Recovered (bbls):
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls): Undetermined	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: During closure of the 45 bbl BGT, soil impacts were found containing total petroleum hydrocarbons with all others (BTEX and Chlorides) non-detect. The concentration of hydrocarbons is below the spill and release guidance action levels. TPH as follows: GRO – ND, DRO – 710 ppm, MRO – 930 ppm. Total petroleum hydrocarbons 1,640 ppm.

The closure of the BGT followed regulation and provided proper notification for closure sampling.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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: June 3, 2019

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
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?	>100 (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

Incident ID	
District RP	
Facility ID	
Application ID	

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: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
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: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

BPX ENERGY INC.

(*Formerly BP America Production Company*)

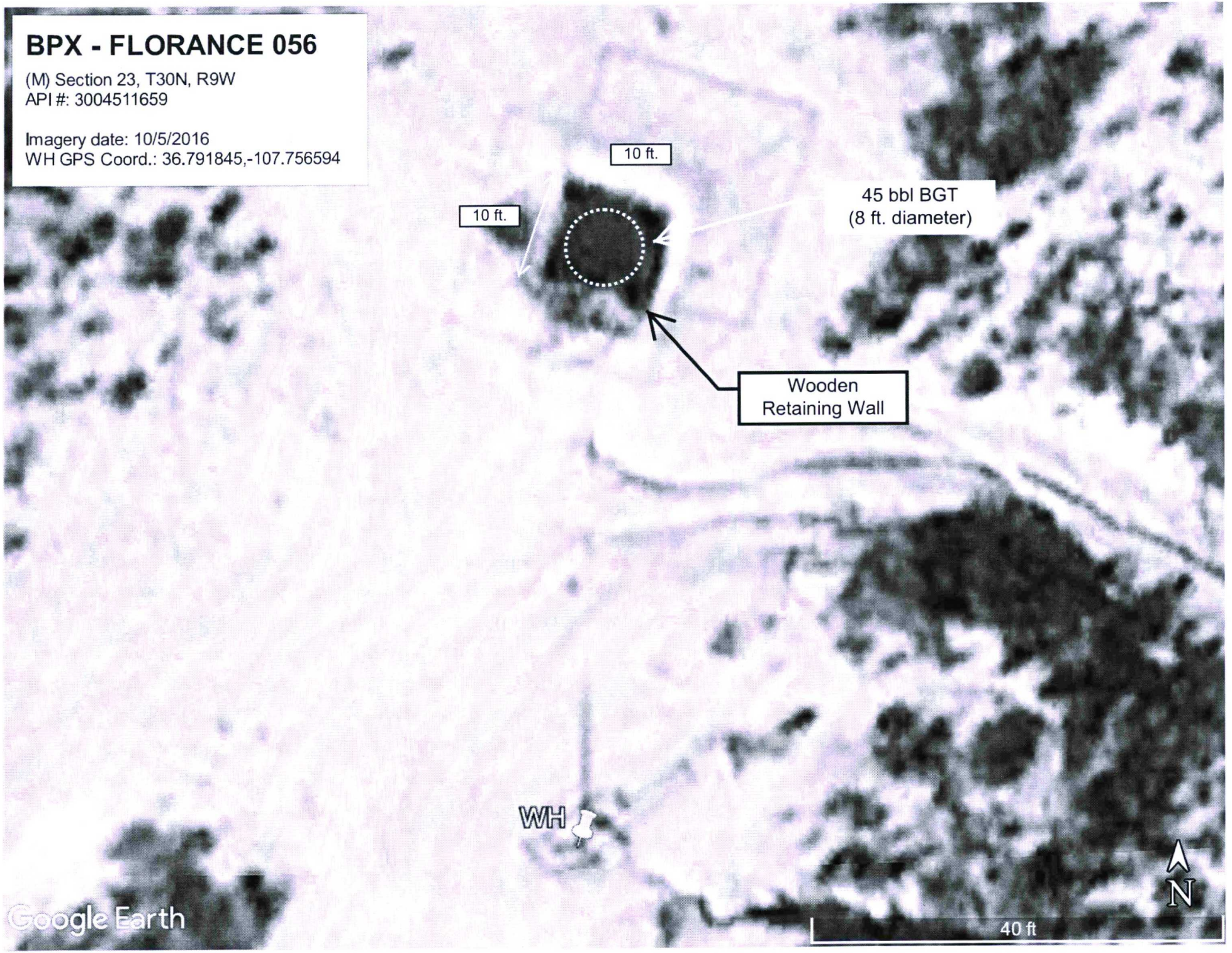
Executive Summary

Well Site: Florance 056
API #: 30-045-11659
Unit Letter M, Section 23, T30N, R9W, NMPM
Soil Impacts Discovered Beneath 45 barrel Below-grade Tank (BGT)

1. **(Wednesday) March 27, 2019** – BPX submitted 72 hour notification to the New Mexico Oil Conservation Division (**NMOCD**) District III Office in Aztec, NM for closure of its 45 barrel BGT.

2. **(Wednesday) April 3, 2019** – BPX scheduled a construction contractor to remove the BGT and a 3rd party engineering contractor to collect a confirmation sample as per rule 19.15.17 NMAC.
   a. The engineering contractor field report indicated the BGT bottom at five (5) feet (**ft.**) below grade (**b.g.**) and observed bedrock sandstone at 5.5 ft. b.g. The report also noted that no evidence of an apparent release was evident. Since there was no visual or other field indication of a release from the BGT no photographs were taken. Photographs are collected if there are any indicators of a potential release, but in this particular matter, none were taken due to the physical appearance not revealing any threat to human health or the environment. Subsequently, the excavation was backfilled immediately after sampling was completed.

3. **(Thursday) April 4, 2019** – BPX received the preliminary lab report indicating no detection of chloride or any of the BTEX constituents (benzene, toluene, ethylbenzene, or total xylenes). In addition, there was no detection of the gasoline range organics within the Total Petroleum Hydrocarbons (**TPH**) analysis. The only detection from the required lab analyses were in the diesel and motor oil range organics in TPH. Most often, these "heavier" components will not reveal any physical characteristics (visual or odor) of a release from natural gas producing wells.


BPX - FLORANCE 056
(M) Section 23, T30N, R9W
API #: 3004511659
Imagery date: 10/5/2016
WH GPS Coord.: 36.791845,-107.756594
10 ft.
10 ft.
45 bbl BGT
(8 ft. diameter)
Wooden
Retaining Wall
WH
N
40 ft
Google Earth

CLIENT: BP

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

API #: 3004511659
TANK ID (if applicble): A

FIELD REPORT:

(circle one): BGT CONFIRMATION / RELEASE INVESTIGATION / OTHER:

PAGE #: 1 of 1

SITE INFORMATION:

SITE NAME: FLORANCE # 56

QUAD/UNIT: M SEC: 23 TWP: 30N RNG: 9W PM: NM CNTY: SJ ST: NM

1/4 -1/4/FOOTAGE: 900'S / 790'W SW/SW LEASE TYPE: FEDERAL / STATE / FEE / INDIAN

LEASE #: SF080005 PROD. FORMATION: PC CONTRACTOR: CROSSFIRE - K. CANTERBURY

DATE STARTED: 04/03/19
DATE FINISHED:
ENVIRONMENTAL SPECIALIST(S): NJV

REFERENCE POINT:

WELL HEAD (W.H.) GPS COORD.: 36.79186 X 107.75665 GL ELEV.: 6,106'

1) 45 BGT (SW/DB)	GPS COORD.: 36.79198 X 107.75659	DISTANCE/BEARING FROM W.H.: 53', N3E
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

	SAMPLE ID:	SAMPLE DATE:	SAMPLE TIME:	LAB ANALYSIS:	OVM READING (ppm)
1)	5PC-TB @ 5' (45)	04/03/19	1010	8015B/8021B/300.0 (Cl)	NA
2)					
3)					
4)					
5)					

SOIL DESCRIPTION:

SOIL TYPE: SAND / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER BEDROCK (SANDSTONE)

SOIL COLOR: DARK YELLOWISH ORANGE

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 -

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 -

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:

EQUIPMENT SET OVER RECLAIMED AREA: YES / NO EXPLANATION -

OTHER: NMOCD OR BLM REPS. NOT PRESENT TO WITNESS CONFIRMATION SAMPLING. BEDKROCK EXPOSED AT APPROXIMATELY 5.5 FT. BELOW GRADE.

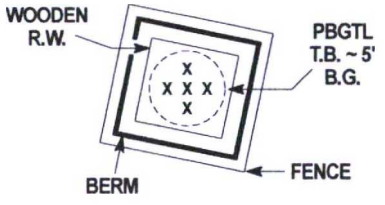
SOIL IMPACT DIMENSION ESTIMATION: NA ft. X NA ft. X NA ft. IMPACTED SOIL ESTIMATION (Cubic Yards) : NA

DEPTH TO GROUNDWATER: > 100' NEAREST WATER SOURCE: > 1,000' NEAREST SURFACE WATER: 300' < X < 1,000' NMOCD TPH CLOSURE STD: 2,500 ppm

SITE SKETCH

BGT Located : off / on site

PLOT PLAN circle: attached



X - S.P.D.

OVM CALIB. READ. = NA ppm RF =0.52
OVM CALIB. GAS = NA ppm
TIME: NA am/pm DATE: NA

MISCELL. NOTES

PO: 4301062122
AFE #:
SIO #:
GL #:
Permit date(s): 06/03/10
OCD Appr. date(s): 03/22/18

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

Magnetic declination: 10° E

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: 04/03/19

Analytical Report
Lab Order **1904241**
Date Reported: **4/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Florence 56
Lab ID: 1904241-001
Client Sample ID: 5PC-TB@ 5' (45)
Collection Date: 4/3/2019 10:10:00 AM
Matrix: MEOH (SOIL)
Received Date: 4/4/2019 8:14:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	4/4/2019 11:12:47 AM	44103
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	4/4/2019 11:59:43 AM	GS5889
Surr: BFB	101	70-130		%Rec	1	4/4/2019 11:59:43 AM	GS5889
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **lrm**
Diesel Range Organics (DRO)	710	94		mg/Kg	10	4/4/2019 10:58:17 AM	44102
Motor Oil Range Organics (MRO)	930	470		mg/Kg	10	4/4/2019 10:58:17 AM	44102
Surr: DNOP	0	70-130	S	%Rec	10	4/4/2019 10:58:17 AM	44102
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **RAA**
Benzene	ND	0.018		mg/Kg	1	4/4/2019 11:59:43 AM	SLS588
Toluene	ND	0.036		mg/Kg	1	4/4/2019 11:59:43 AM	SLS588
Ethylbenzene	ND	0.036		mg/Kg	1	4/4/2019 11:59:43 AM	SLS588
Xylenes, Total	ND	0.071		mg/Kg	1	4/4/2019 11:59:43 AM	SLS588
Surr: 1,2-Dichloroethane-d4	88.3	70-130		%Rec	1	4/4/2019 11:59:43 AM	SLS588
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/4/2019 11:59:43 AM	SLS588
Surr: Dibromofluoromethane	86.4	70-130		%Rec	1	4/4/2019 11:59:43 AM	SLS588
Surr: Toluene-d8	92.1	70-130		%Rec	1	4/4/2019 11:59:43 AM	SLS588

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitative 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 at testcode

Chain-of-Custody Record

Client: BLAGG ENGR. / BPX ENERGY

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:
FLORANCE #56

Project #:

Project Manager:
STEVE MOSKAL

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.3° 3.1° 4/4/19

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904241	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
4/3/19	1010	SOIL	5PC - TB @ 5' (45)	4 oz. - 1	Cool	- 001	✓		✓									✓			✓	

Analysis Request

Remarks: BILL DIRECTLY TO BPX USING THE CONTACT(S) BELOW. PO DELIVERED VIA EMAIL OR IS PENDING.

CONTACT: STEVE MOSKAL

Date	Time	Relinquished by:	Received by:	Date	Time
4/3/19	1445		Christine Walt	1445	4/3/19
4/3/19	1810	Christine Walt	Jule Carrier	4/4/19	8:14

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904241

08-Apr-19

Client: Blagg Engineering

Project: Florence 56

Sample ID: MB-44103	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 44103	RunNo: 58880
Prep Date: 4/4/2019	Analysis Date: 4/4/2019	SeqNo: 1980991 Units: mg/Kg

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

Sample ID: LCS-44103	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 44103	RunNo: 58880
Prep Date: 4/4/2019	Analysis Date: 4/4/2019	SeqNo: 1980992 Units: mg/Kg

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.1	90	110			

Qualifiers:

- H Holding times for preparation or analysis exceeded
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904241

08-Apr-19

Client: Blagg Engineering

Project: Florence 56

Sample ID: MB-44102	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID: PBS	Batch ID: 44102			RunNo: 58882					
Prep Date: 4/4/2019	Analysis Date: 4/4/2019			SeqNo: 1979496		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	8.5		10.00		85.0	70	130			

Sample ID: LCS-44102	SampType: LCS			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID: LCSS	Batch ID: 44102			RunNo: 58882					
Prep Date: 4/4/2019	Analysis Date: 4/4/2019			SeqNo: 1979734		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	63.9	124			
Surr: DNOP	4.2		5.000		84.1	70	130			

Sample ID: LCS-44126	SampType: LCS			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID: LCSS	Batch ID: 44126			RunNo: 58882					
Prep Date: 4/4/2019	Analysis Date: 4/4/2019			SeqNo: 1980513		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		88.3	70	130			

Sample ID: MB-44126	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID: PBS	Batch ID: 44126			RunNo: 58882					
Prep Date: 4/4/2019	Analysis Date: 4/4/2019			SeqNo: 1980514		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.1		10.00		91.4	70	130			

Qualifiers:

- H Holding times for preparation or analysis exceeded
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904241

08-Apr-19

Client: Blagg Engineering

Project: Florence 56

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: Volatiles Short List
Client ID: LCSS	Batch ID: SLS58893	RunNo: 58893
Prep Date:	Analysis Date: 4/4/2019	SeqNo: 1979912 Units: mg/Kg

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.81	0.025	1.000	0	80.6	70	130			
Toluene	0.98	0.050	1.000	0	98.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.43		0.5000		85.4	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		105	70	130			
Surr: Dibromofluoromethane	0.41		0.5000		82.4	70	130			
Surr: Toluene-d8	0.48		0.5000		96.5	70	130			

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles Short List
Client ID: PBS	Batch ID: SLS58893	RunNo: 58893
Prep Date:	Analysis Date: 4/4/2019	SeqNo: 1979913 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: 1,2-Dichloroethane-d4	0.42		0.5000		83.5	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	70	130			
Surr: Dibromofluoromethane	0.42		0.5000		83.6	70	130			
Surr: Toluene-d8	0.47		0.5000		94.3	70	130			

Qualifiers:

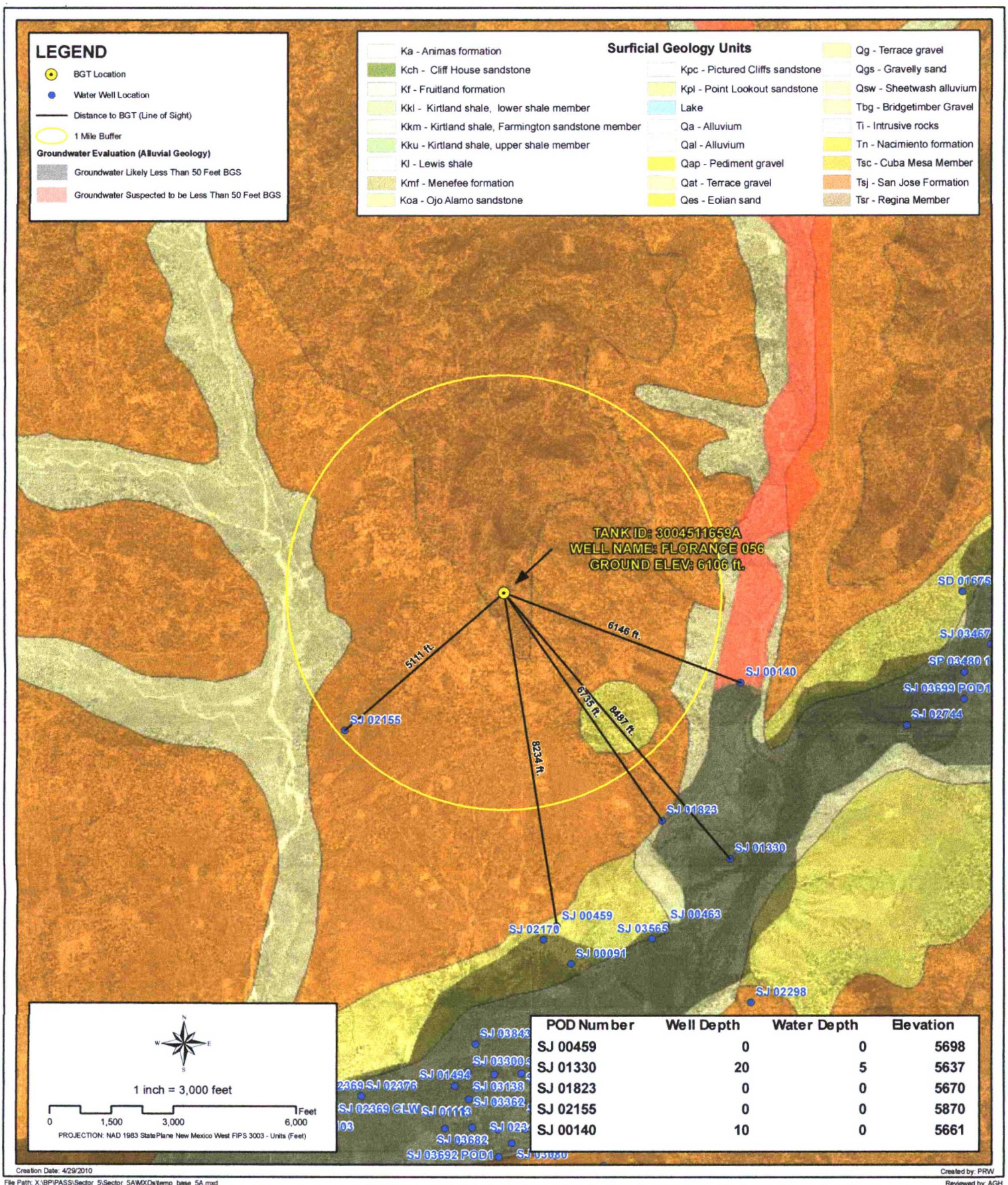
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

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



POD Number	Well Depth	Water Depth	Elevation
SJ 00459	0	0	5698
SJ 01330	20	5	5637
SJ 01823	0	0	5670
SJ 02155	0	0	5870
SJ 00140	10	0	5661

Creation Date: 4/29/2010
Created by: PRW
File Path: X:\BP\PASS\Sector_5\Sector_5A\MXDs\temp_base_5A.mxd
Reviewed by: AGH

GROUNDWATER LESS THAN 50 FT.

WELL NAME: FLORANCE 056

API NUMBER: 3004511659 TANK ID: 3004511659A

SECTION 23, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

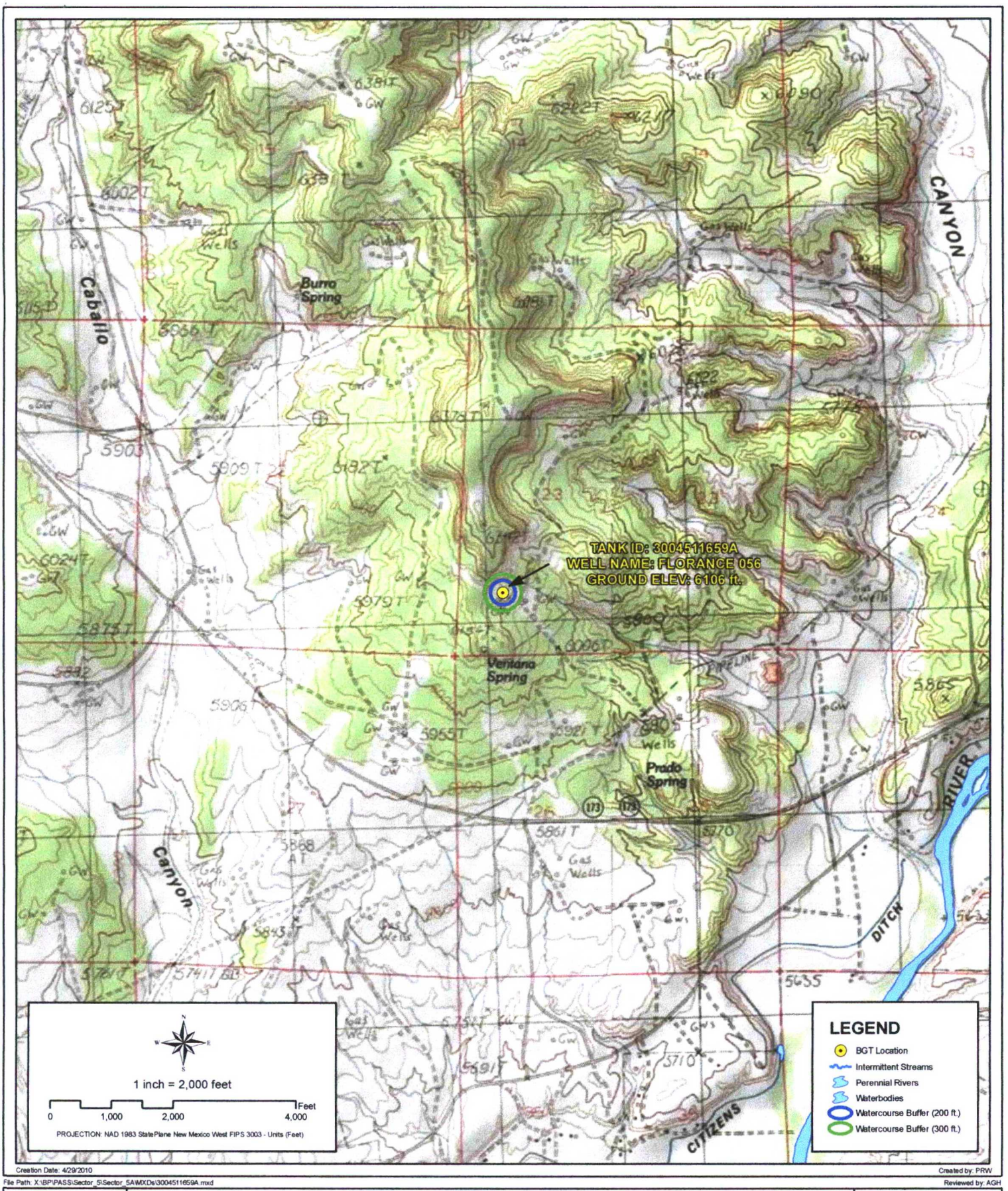
FIGURE 1

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Twn	Rng	(NAD83 UTM in meters) X	Y
	SJ 01330	2	1	1	36	30N	09W	255654	4073322*

Driller License:		**Driller Company:**			
Driller Name:	JOE LOVATO				
Drill Start Date:		**Drill Finish Date:**	12/31/1958	**Plug Date:**	
Log File Date:		**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	6.00	**Depth Well:**	20 feet	**Depth Water:**	5 feet

***UTM location was derived from PLSS - see Help**



Creation Date: 4/29/2010
Created by: PRW
File Path: X:\BP\PASS\Sector_5\Sector_5AMXDs\3004511659A.mxd
Reviewed by: AGH

bp

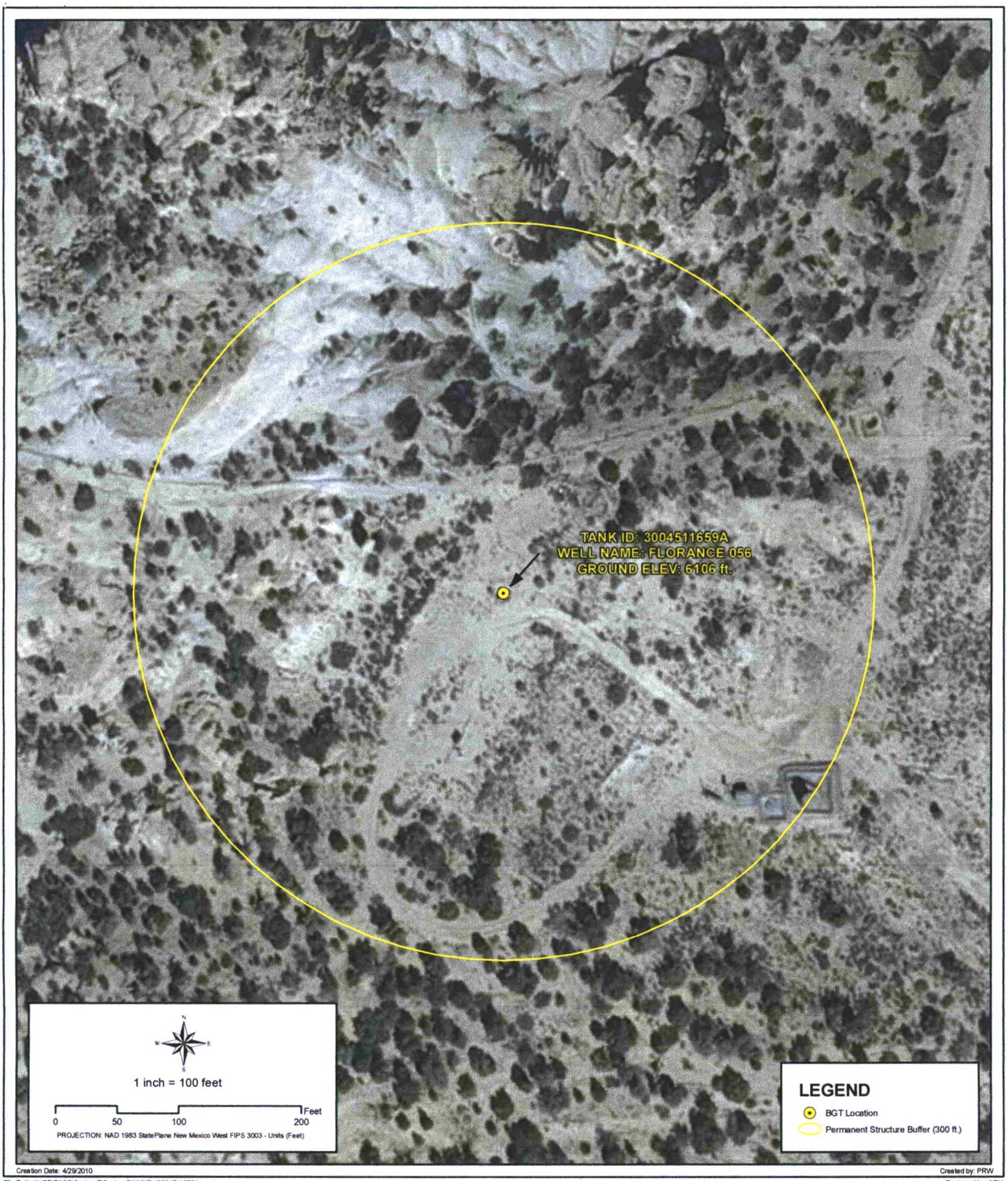
PROXIMITY TO WATERCOURSES

WELL NAME: FLORANCE 056

API NUMBER: 3004511659 TANK ID: 3004511659A

SECTION 23, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 2



Creation Date: 4/29/2010 Created by: PRW

File Path: X:\BP\PASS\Sector_5\Sector_5A\MXDs\3004511659A.mxd Reviewed by: AGH

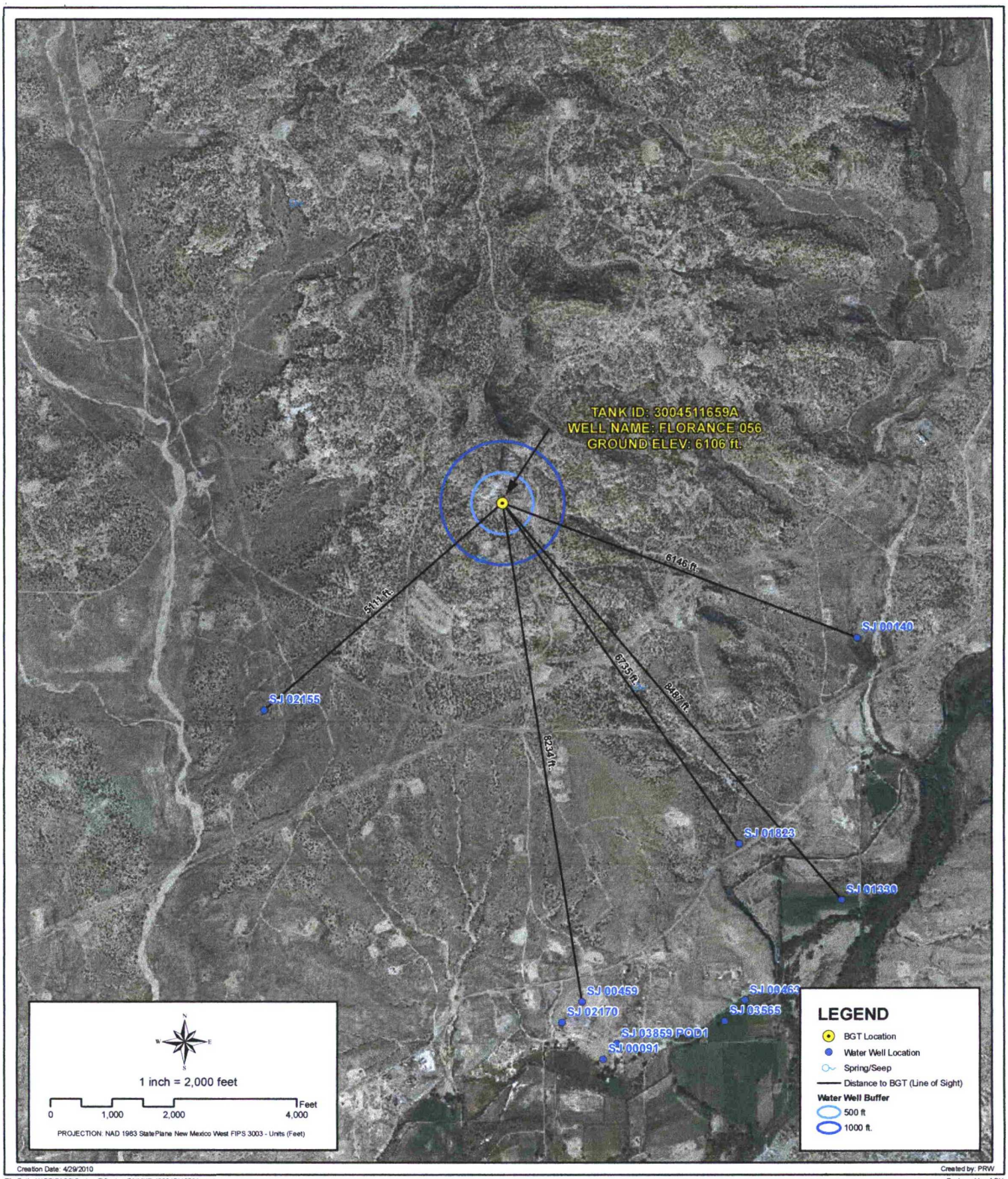
PROXIMITY TO PERMANENT STRUCTURE

WELL NAME: FLORANCE 056

API NUMBER: 3004511659 TANK ID: 3004511659A

SECTION 23, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 3



Creation Date: 4/29/2010
Created by: PRW
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Reviewed by: AGH

bp

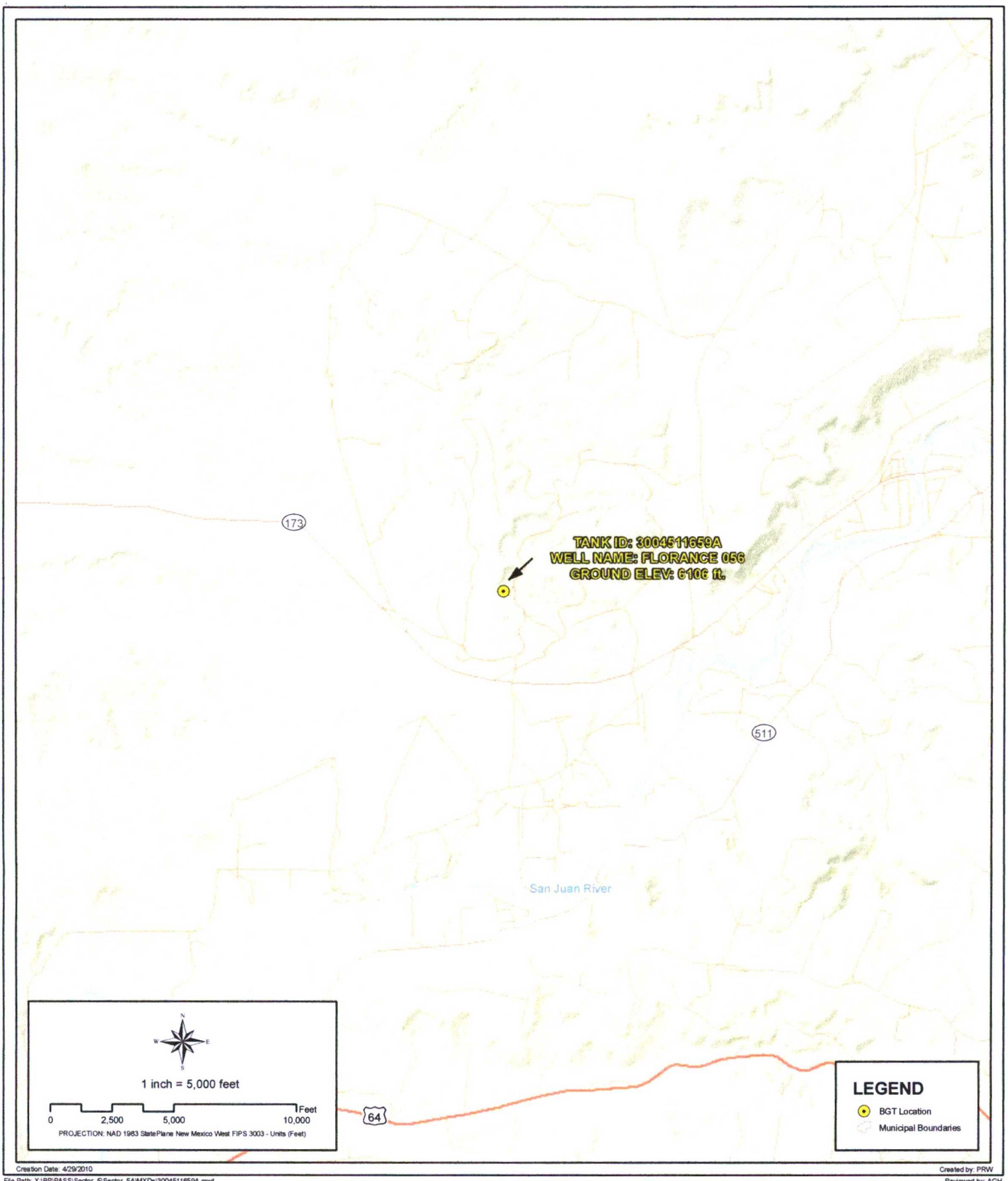
PROXIMITY TO WATER WELLS

WELL NAME: FLORANCE 056

API NUMBER: 3004511659 TANK ID: 3004511659A

SECTION 23, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 4



Creation Date: 4/29/2010
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File Path: X:\BP\PASS\Sector_5\Sector_5A\MXDs\3004511659A.mxd
Reviewed by: AGH

bp

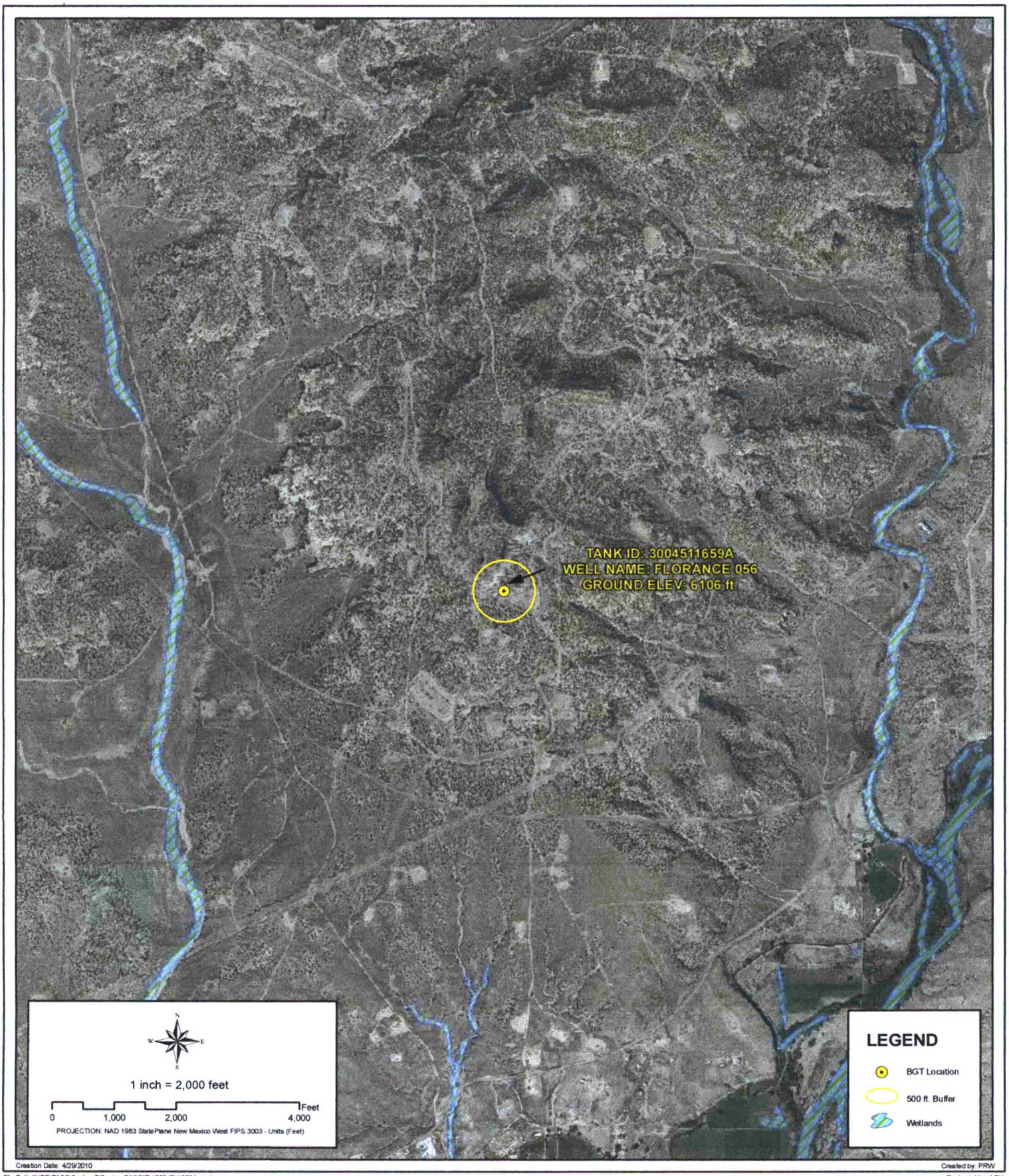
PROXIMITY TO MUNICIPAL BOUNDARY

WELL NAME: FLORANCE 056

API NUMBER: 3004511659 TANK ID: 3004511659A

SECTION 23, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 5



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Created by: PRW

File Path:X:\BP\PASS\Sector_5\Sector_5A\MXDs\3004511659A.mxd

Reviewed by: AGH

bp

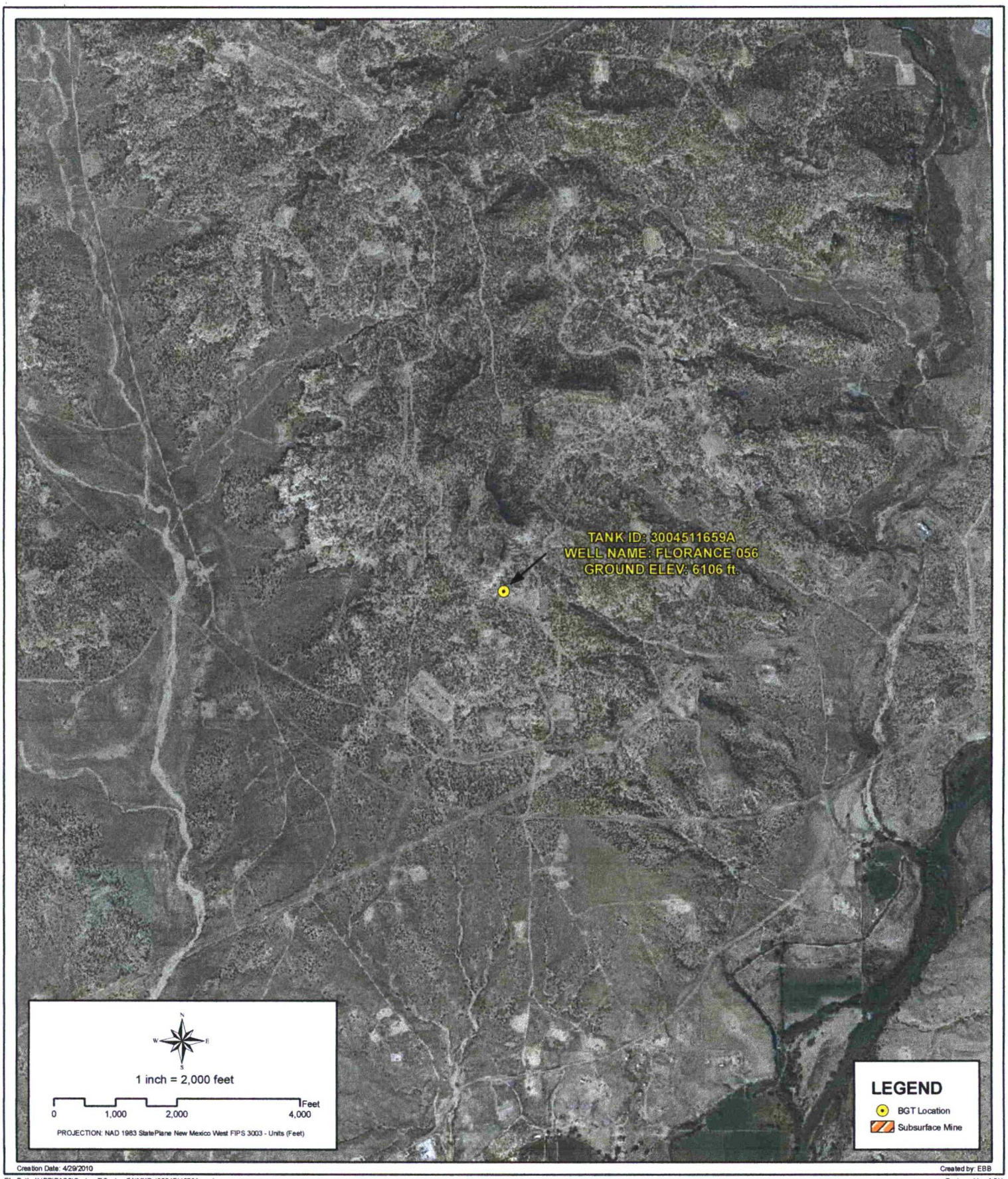
PROXIMITY TO WETLANDS

WELL NAME: FLORANCE 056

API NUMBER: 3004511659 TANK ID: 3004511659A

SECTION 23, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 6



Creation Date: 4/29/2010 Created by: EBB

File Path: X:\BP\PASS\Sector_5\Sector_5A\MXDs\3004511659A.mxd Reviewed by: AGH

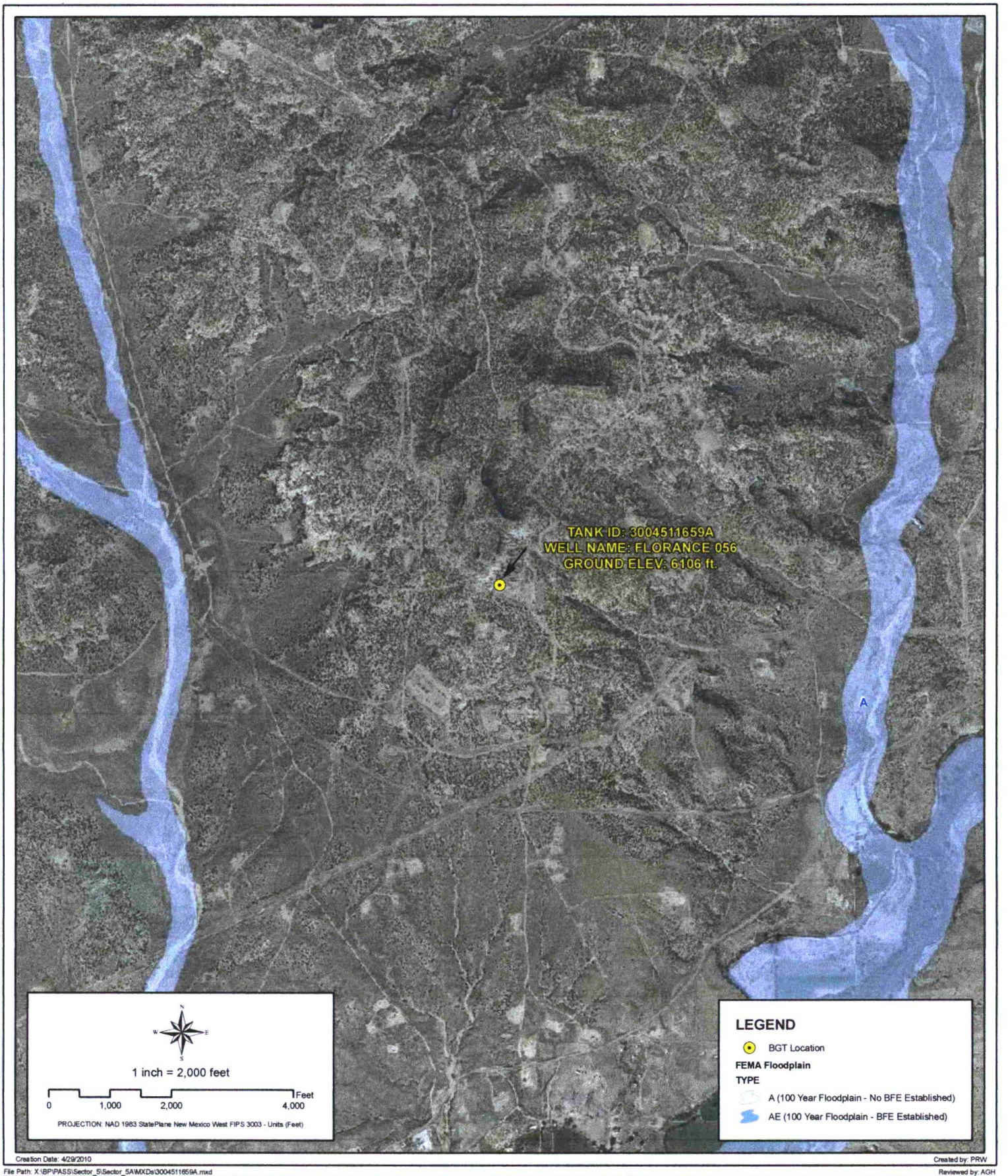
PROXIMITY TO SUBSURFACE MINES

WELL NAME: FLORANCE 056

API NUMBER: 3004511659 TANK ID: 3004511659A

SECTION 23, TOWNSHIP 30.0N, RANGE 09W, P.M.NM23

FIGURE 7



Creation Date: 4/29/2010 Created by: PRW

File Path: X:\BP\PASS\Sector_5\Sector_5A\MXDs\3004511659A.mxd Reviewed by: AGH

PROXIMITY TO FLOODPLAIN

WELL NAME: FLORANCE 056

API NUMBER: 3004511659 TANK ID: 3004511659A

SECTION 23, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 8

SOUTHERN SAN JUAN BASIN (SSJB)

Figure Citation List

March 2010

Figure 1: Groundwater Less Than 50 ft.

Layers:

Water Wells: **iWaters Database: NMOSE/ISC (Dec. 2009)**

New Mexico Office of the State Engineer (OSE) /ISC iWaters database. (Data updated: 12/2009. Data received: 03/09/2010). Data available from: http://www.ose.state.nm.us/waters_db_index.html.

Cathodic Wells: **Tierra Corrosion Control, Inc. (Aug. 2008)**

Tierra Corrosion Control, Inc. 1700 Schofield Ln. Farmington, NM 87401. Driller's Data Log. (Data collected: All data are associated with cathodic protection wells installed at BP facilities between 2008-2009. Data received: 05/06/2010).

Hydrogeological Evaluation: **Wright Water Engineers, Inc. (2008)**

Evaluation completed by Wright Water Engineers, Inc. Durango Office. Data created using digital statewide geology at 1:500,000 from USGS in combination with 10m Digital Elevation Model (DEM) from NRCS. (Data compiled: 2008.)

Results: Spatial Polygons representing "Groundwater likely to be less than 50 ft." and "Groundwater suspected to be less than 50 ft.".

Surficial Geology: **USGS (1963/1987)**

Data digitized and rectified by Geospatial Consultants. (Data digitized: 03/23/ 2010). Original hard copy maps sourced from United States Geological Survey (USGS). Data available from: http://pubs.er.usgs.gov/.

Geology, Structure and Uranium Deposits of the Shiprock Quadrangle, New Mexico and Arizonia. 1:250,000. I - 345. Compiled by Robert B. O'Sullivan and Helen M. Beikman. 1963.

Geologic Map of the Aztec 1 x 2 Quadrangle, Northwestern New Mexico and Southern Colorado. 1:250,000. I - 1730. Compiled by Kim Manley, Glenn R. Scott, and Reinhard A. Wobus. 1987.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name:
NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 2: Proximity to Watercourses

Layers:

Perennial Streams: **NHD, USGS (2010)**

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital Representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

Intermittent Streams: **NHD, USGS (2010)**

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital Representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

Water Bodies: **NHD, USGS (2010)**

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

USGS Topographic Maps: **USGS (2007)**

USGS 24k Topographic map series. 1:24000. Maps are seamless, scanned images of USGS paper topographic maps. Data available from: http://store.usgs.gov.

Figure 3: Proximity to Permanent Structure

Layers:

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name:
NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 4: Proximity to Water Wells

Layers:

Water Wells: **iWaters Database: NMOSE/ISC (Dec. 2009)**

New Mexico Office of the State Engineer (OSE) /ISC iWaters database. (Data updated: 12/2009. Data received: 03/09/2010). Data available from: http://www.ose.state.nm.us/waters_db_index.html.

Springs/Seeps: **NHD, USGS (2010)**

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/ 2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name:
NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 5: Proximity to Municipal Boundary

Layers:

Municipal Boundary: **San Juan County, New Mexico (2010)**

Data provided by San Juan County GIS Division. (Data received: 03/25/2010).

Shaded Relief: **NED, USGS (1999)**

National Elevation Dataset (NED). U.S. Geological Survey, EROS Data Center. (Data created: 1999. Data downloaded: April, 2010). Resolution: 10 meter (1/3 arc-second). Data available from: http://ned.usgs.gov/.

StreetMap North America: **Tele Atlas North America, Inc., ESRI (2008)**

Data derived from Tele Atlas Dynamap/Transportation North America, version 5.2. (Data updated: annually. Data series issue: 2008).

Figure 6: Proximity to Wetlands

Layers:

Wetlands: **NWI (2010)**

National Wetlands Inventory (NWI). U.S Fish and Wildlife Service. (Data last updated: 09/25/2009. Data received: 03/21/2010). Data available from: http://www.fws.gov/wetlands/.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name:
NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 7: Proximity to Subsurface Mine

Layers:

Subsurface Mine: **NM Mining and Minerals Division (2010)**

New Mexico Mining and Minerals Division. (Data received: 03/12/2010). Contact: Susan Lucas Kamat, Geologist. Provided PLSS NM locations (Sections) for the two subsurface mines located in San Juan and Rio Arriba counties.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name:
NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 8: Proximity to FEMA Floodplain

Layers:

FEMA Floodplain: **FEMA (varying years)**

Data digitized and rectified by Wright Water Engineers, Inc. (Data digitized: August 2008). Digitized from hard copy Flood Insurance Rate Maps (FIRMs) (varying years) of San Juan County.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name:
NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.