TIA – Townsite Information Access

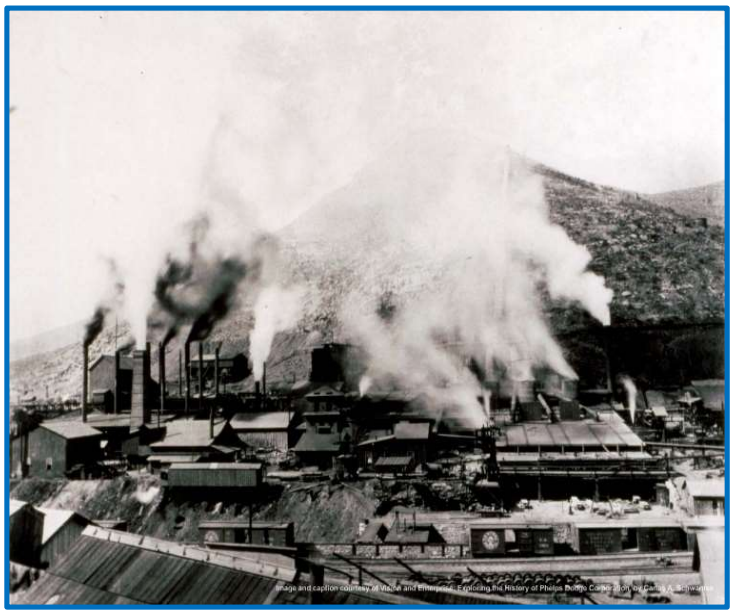
(A Centralized Data Solutions Approach)

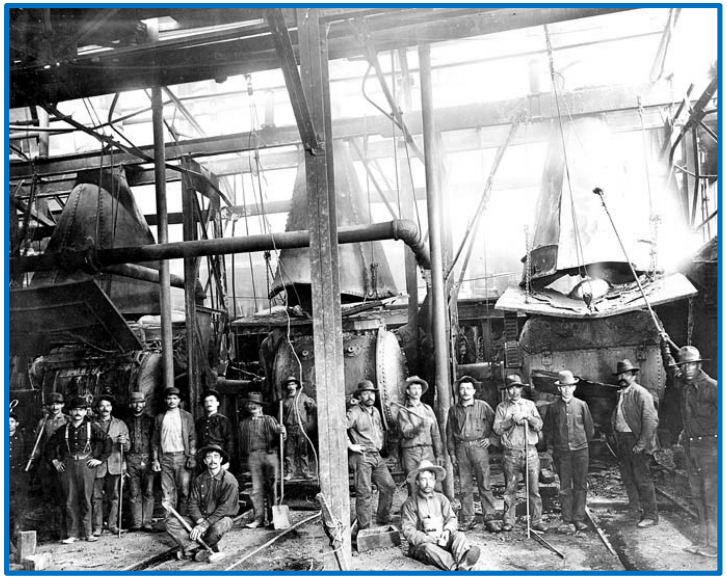
CoNsIsTeNcY – Consistancy – Consistency

Program Background

- Corporate Directive:
  - Eliminate “Legacy” Environmental Issues
  - Reduce Environmental Exposure
  - Improve Long-term Balance Sheet

- “Townsite” Program Identified
  - Towns with Historic Mining & Smelting Activities
  - Inadequate Work/Documentation Historically
  - Potential for Class Action Litigation
  - Multiple Towns in Several States were identified





Townsite Program Elements

“Create a Program to Ensure a Consistent Approach to the Implementation of Assessment, Remediation and Data Management for Townsite Projects.”

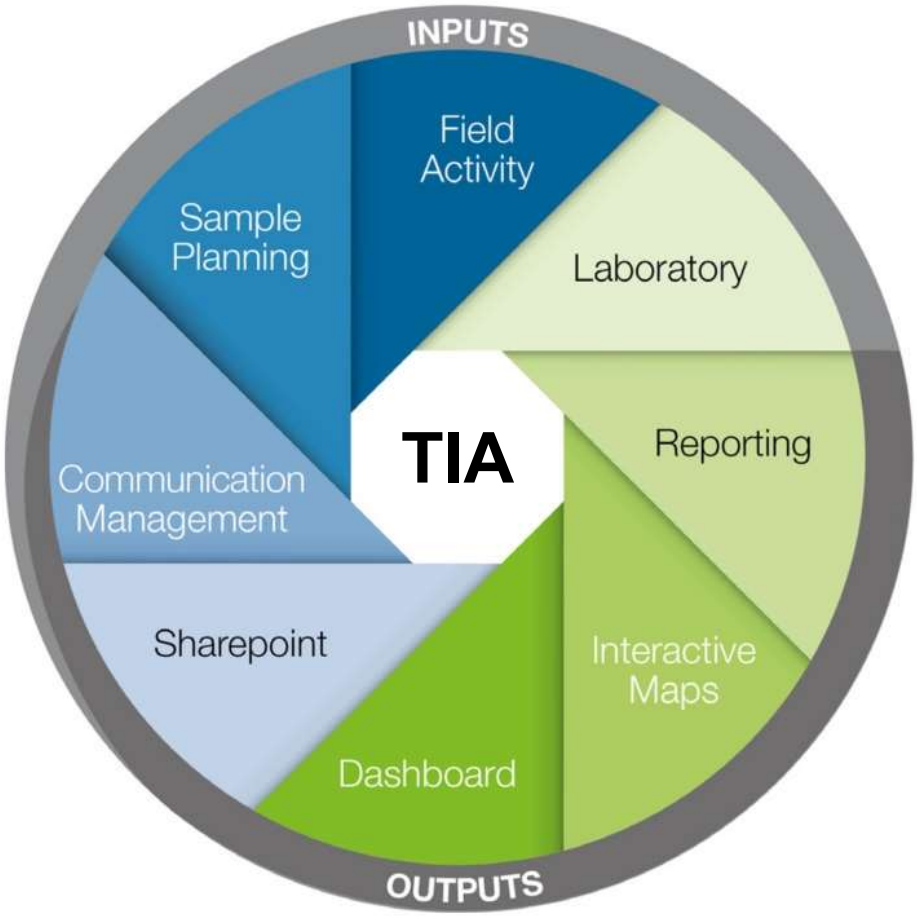
Project Statistics

- Manages data for all sites regardless of implementing consultant
- Database Records: 20+ million
- 16 Townsites & 4 States
- Properties Sampled: ~60,000
- Soil Samples Collected: ~950,000
- Properties Remediated: ~3,000
- Excavated Soil Volume: ~750,000cy
- Treated Soil Volume: ~250,000cy
- Interior Cleaning Performed: 300 Properties

Townsite Information Access - TIA

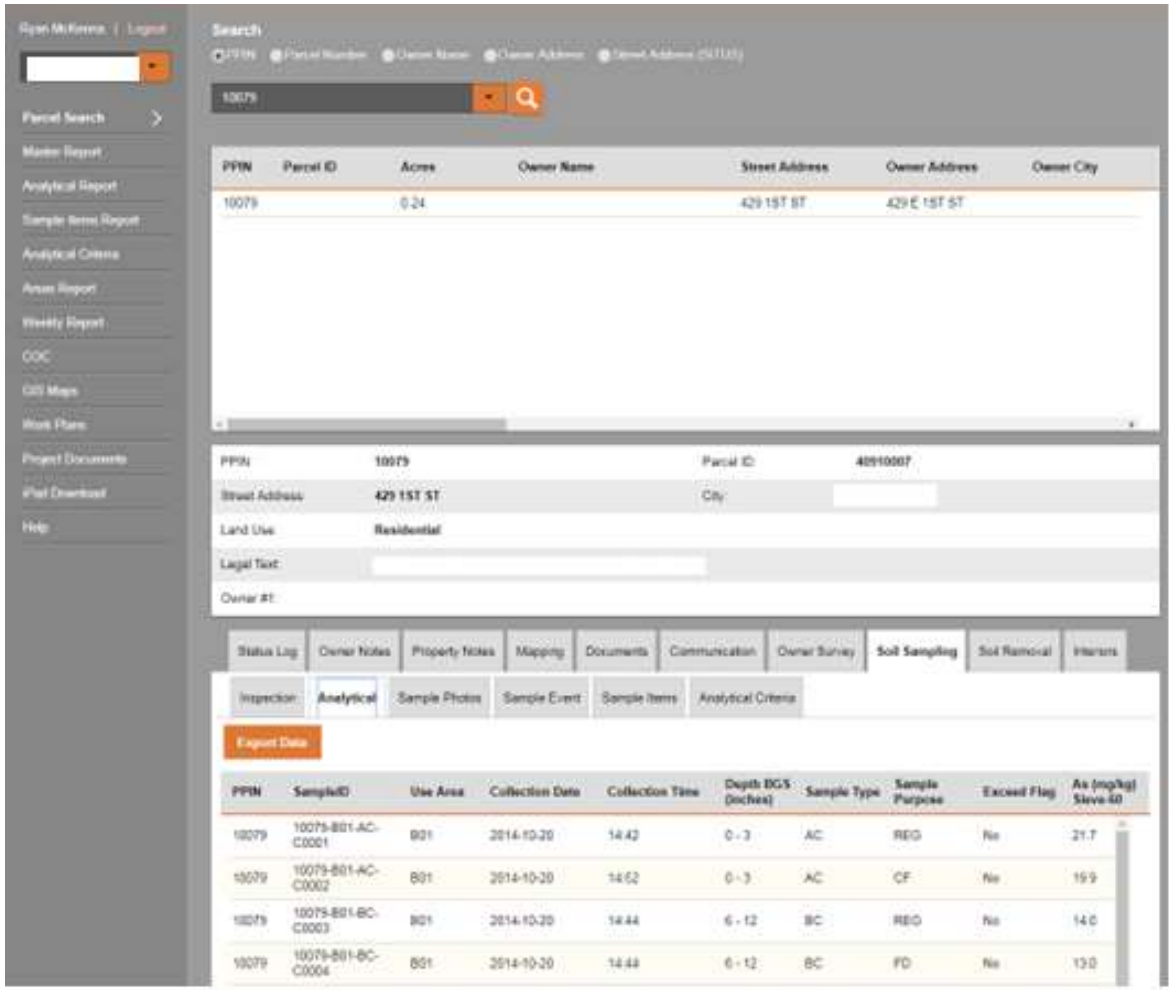
- Set up centralized SQL database
  - Manages all project data
  - Standardized data formats
  - Promotes **Consistency**
- Developed robust scalable frame work that integrates:
  - Dashboard
  - Document Management
  - GIS/Online Mapping
  - Mobile Data Collection
  - Lab data direct from laboratory
  - Reporting
  - Other project specific requirements

- Unified credentials allow customizable access



Project Dashboard

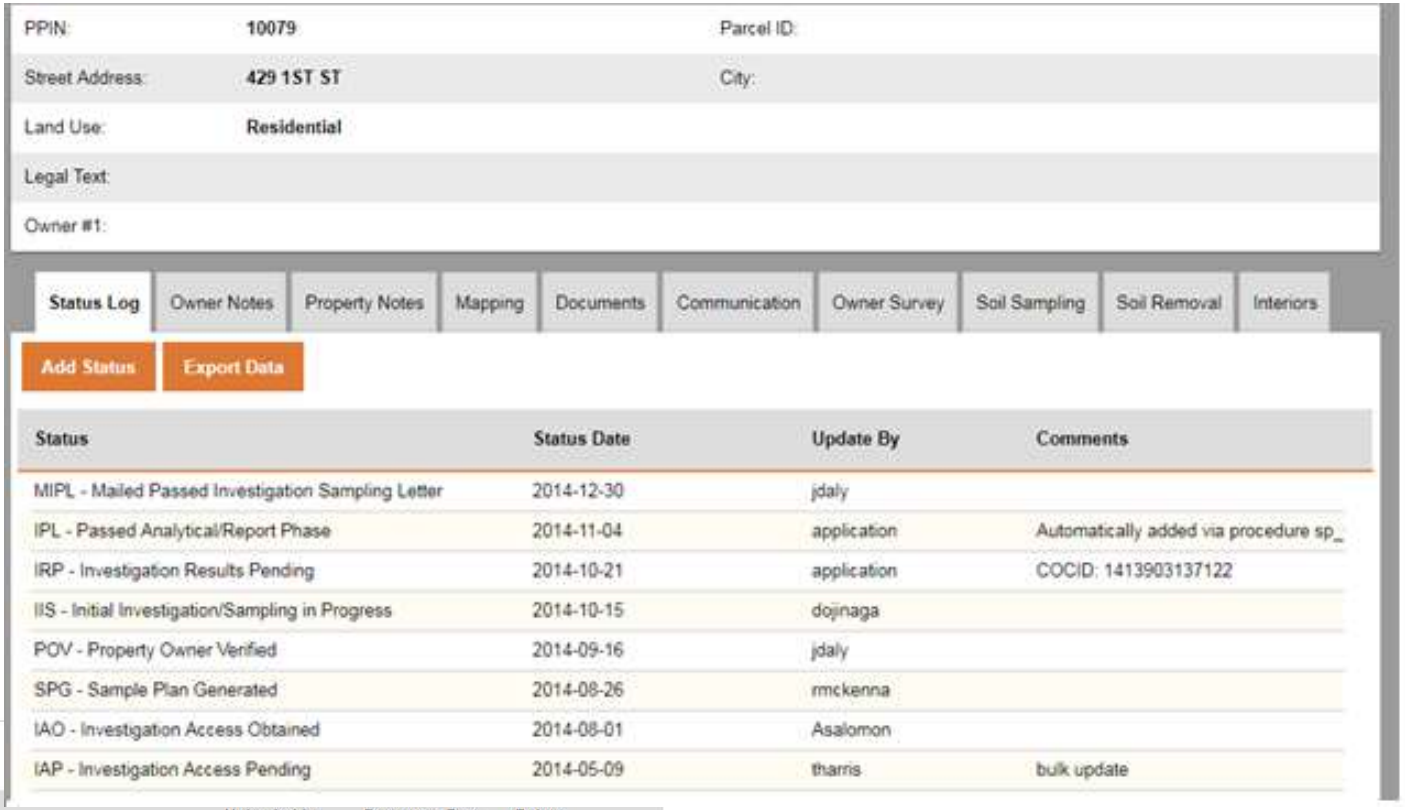
- Access to all parcel specific data
- Consistent layout yet customizable to specific project needs
- User-friendly intuitive design = minimal training



Project Dashboard

Manage parcel specific data

- Owner Info
- Property Status
- Documents
- Communication
- View analytical results

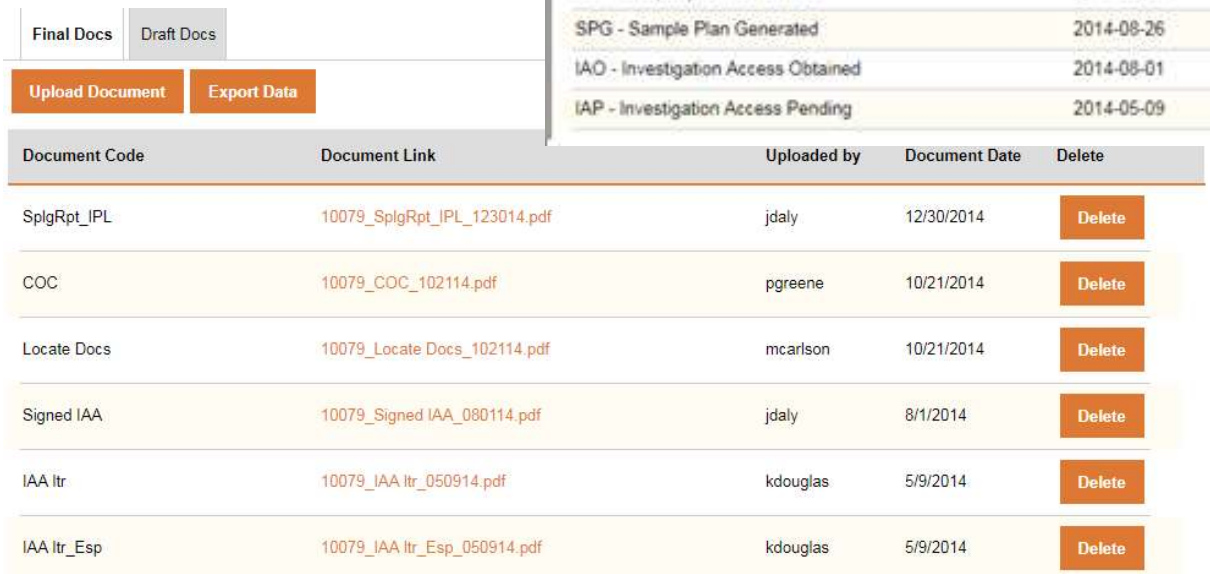


PPIN:	10079	Parcel ID:	
Street Address:	429 1ST ST	City:	
Land Use:	Residential		
Legal Text:			
Owner #1:			

Status Log | Owner Notes | Property Notes | Mapping | Documents | Communication | Owner Survey | Soil Sampling | Soil Removal | Interiors

Add Status | Export Data

Status	Status Date	Update By	Comments
MIPL - Mailed Passed Investigation Sampling Letter	2014-12-30	jdaly	
IPL - Passed Analytical/Report Phase	2014-11-04	application	Automatically added via procedure sp_
IRP - Investigation Results Pending	2014-10-21	application	COCID: 1413903137122
IIS - Initial Investigation/Sampling in Progress	2014-10-15	dojinaga	
POV - Property Owner Verified	2014-09-16	jdaly	
SPG - Sample Plan Generated	2014-08-26	rmckenna	
IAO - Investigation Access Obtained	2014-08-01	Asalomon	
IAP - Investigation Access Pending	2014-05-09	tharris	bulk update



Final Docs | Draft Docs

Upload Document | Export Data

Document Code	Document Link	Uploaded by	Document Date	Delete
SplgRpt_IPL	10079_SplgRpt_IPL_123014.pdf	jdaly	12/30/2014	Delete
COC	10079_COC_102114.pdf	pgreene	10/21/2014	Delete
Locate Docs	10079_Locate Docs_102114.pdf	mcarlson	10/21/2014	Delete
Signed IAA	10079_Signed IAA_080114.pdf	jdaly	8/1/2014	Delete
IAA ltr	10079_IAA ltr_050914.pdf	kdouglas	5/9/2014	Delete
IAA ltr_Esp	10079_IAA ltr_Esp_050914.pdf	kdouglas	5/9/2014	Delete

Automated tasks

- Insert Statuses
- Generate sample labels and COC
- Flag Exceedances

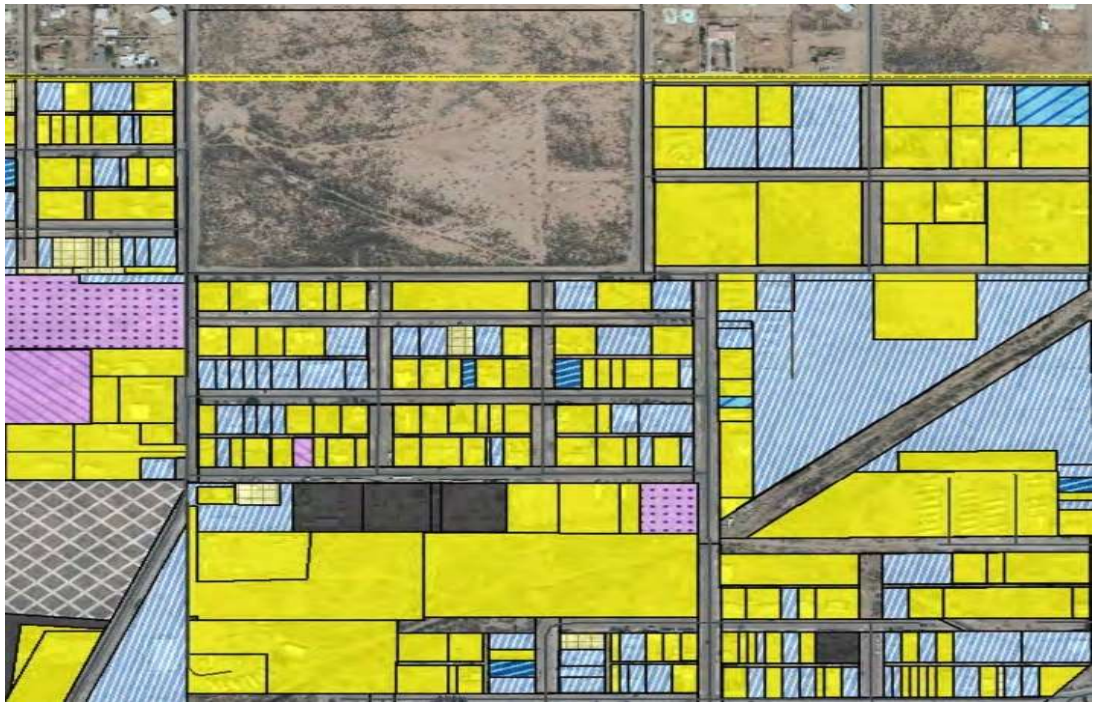
Project Dashboard

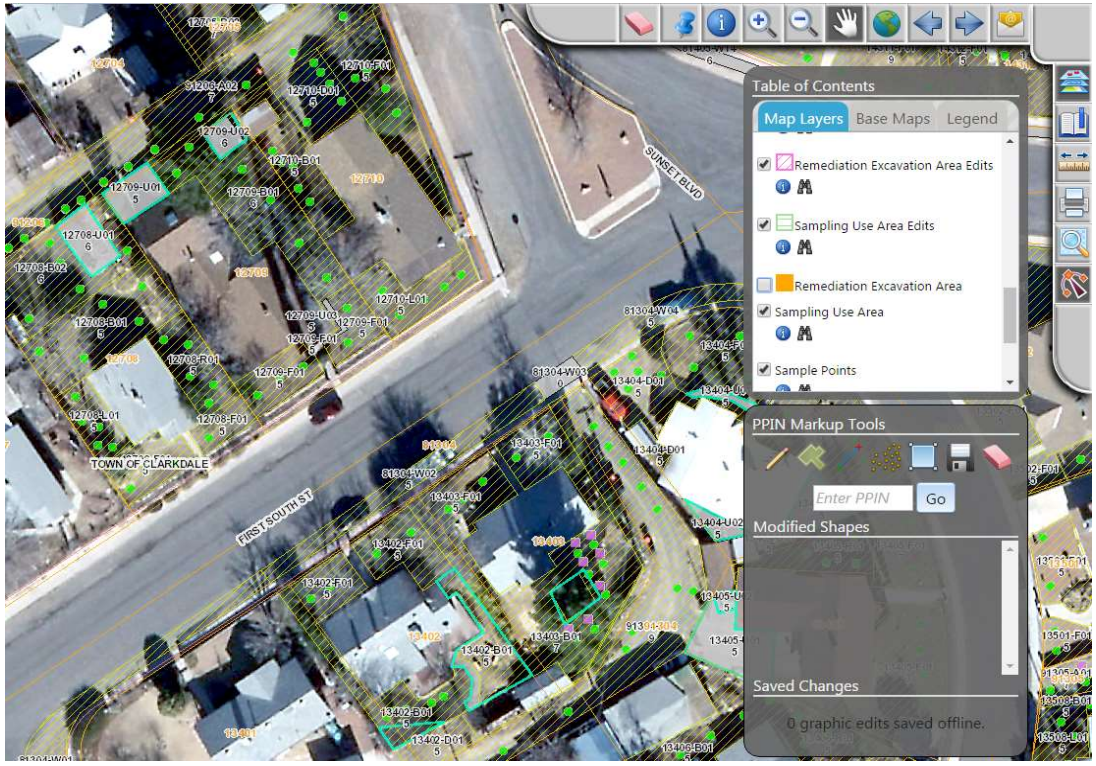
- Run/export site wide reports
- Add Customized reports as needed

PPIN	SampleID	Use Area	Collection Date	Collection Time	Depth BGS (inches)	Sample Type	Sample Purpose	Exceed Flag	As (mg/kg) Sieve-60	Cu (mg/kg) Sieve-60	Pb (mg/kg) Sieve-60	Sample Comment	Landuse classification	Neighbourhood
				No filter applied										
10163	10163-F01-AC-C0006	F01	2014-10-07	15:40	0 - 3	AC	REG	No	8.68	464	139		Residential	NH1.6
10163	10163-F01-BC-C0007	F01	2014-10-07	15:43	6 - 12	BC	REG	No	9.71	339	91.5		Residential	NH1.6
10165	10165-B01-AC-C0001	B01	2015-02-04	09:15	0 - 3	AC	REG	Yes	11.1	1060	**464**		Residential	NH1.7
10165	10165-B01-BC-C0002	B01	2015-02-04	09:18	6 - 12	BC	REG	Yes	20.4	1410	**471**		Residential	NH1.7
10165	10165-B01-CC-C0003	B01	2015-02-04	09:20	12 - 18	CC	REG	No	18.9	549	200		Residential	NH1.7
10173	10173-B01-AC-C0001	B01	2014-07-11	14:40	0 - 3	AC	REG	No	13.6	1130	126		Residential	NH1.3
10173	10173-B01-BC-C0002	B01	2014-07-11	14:45	6 - 12	BC	REG	No	13.5	725	83.7		Residential	NH1.3
10173	10173-F01-AC-C0005	F01	2014-07-11	14:10	0 - 3	AC	REG	No	14.9	1300	182		Residential	NH1.3
10173	10173-F01-BC-C0006	F01	2014-07-11	14:15	6 - 12	BC	REG	No	15.2	711	105		Residential	NH1.3
10184	10184-B01-AC-C1	B01	2014-09-19	09:08	0 - 3	AC	REG	No	10.2	930	164		Residential	NH1.4
10184	10184-B01-BC-C2	B01	2014-09-19	09:10	6 - 12	BC	REG	Yes	13.9	1140	**514**		Residential	NH1.4
10184	10184-B01-CC-C3	B01	2014-09-19	09:24	12 - 18	CC	REG	No	15.6	838	176		Residential	NH1.4
10184	10184-B02-AC-C7	B02	2014-09-19	10:06	0 - 3	AC	REG	No	9.45	454	87.6		Residential	NH1.4
10184	10184-B02-BC-C8	B02	2014-09-19	10:08	6 - 12	BC	REG	Yes	16.1	1200	**462**		Residential	NH1.4
10184	10184-B02-CC-C9	B02	2014-09-19	10:15	12 - 18	CC	REG	No	20.0	1180	310		Residential	NH1.4
10184	10184-R01-AC-C12	R01	2014-09-19	08:30	0 - 3	AC	REG	No	12.8	1230	243		Residential	NH1.4
10184	10184-R01-BC-C13	R01	2014-09-19	08:32	6 - 12	BC	REG	No	13.9	749	359		Residential	NH1.4
	10185-G01-AC-													

Online Mapping Tool

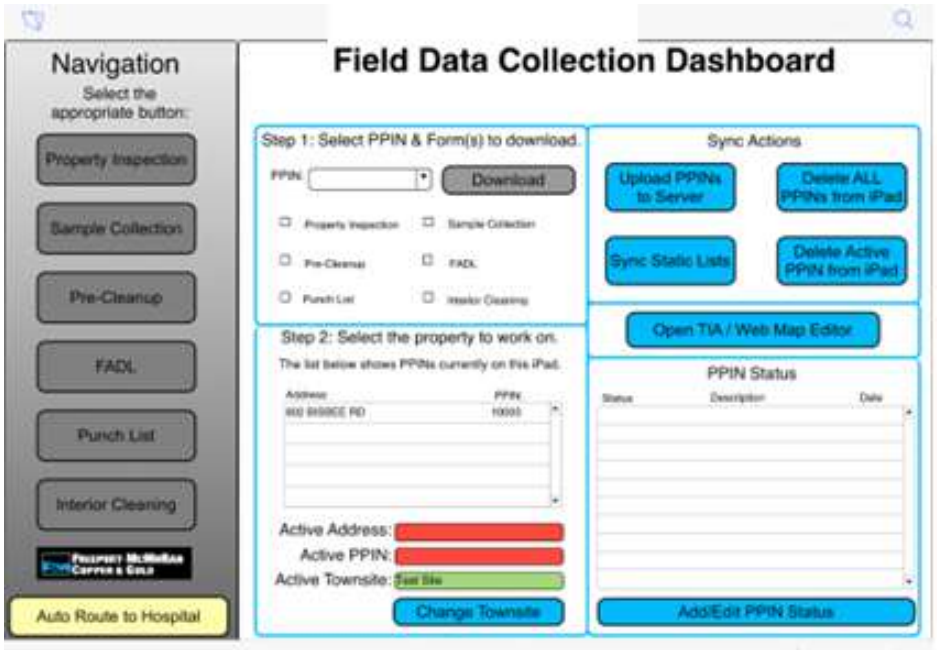
- GIS integrated into database
- Data hosted in central location – can be accessed by users outside GHD
  - Consistent data = consistent products
- Platform based customizable web maps
  - User can review spatial data
  - Field users can create GIS features remotely – no more marking paper maps

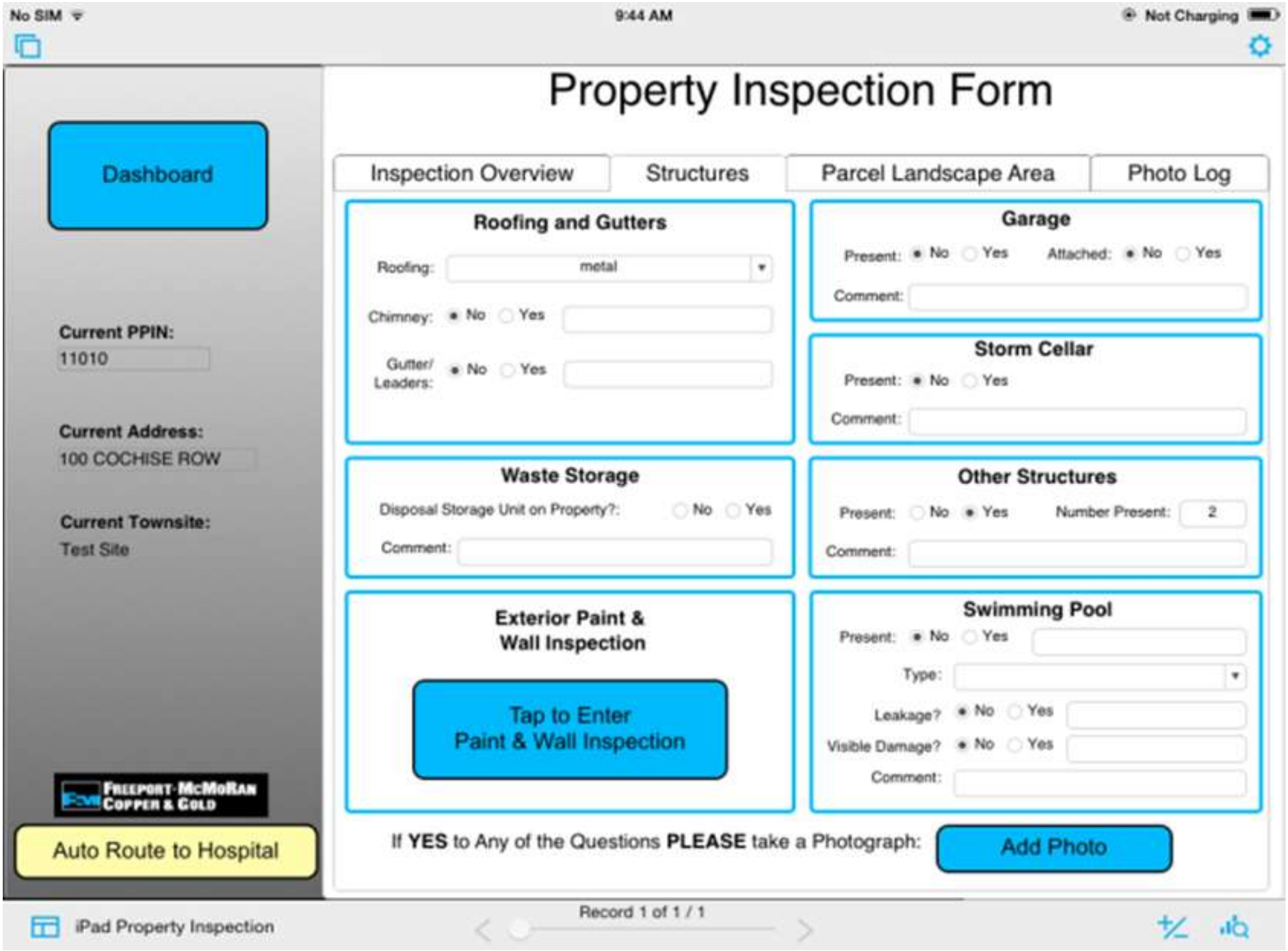




Mobile Data Collection

- FileMaker Go on iPad
- Customizable to project needs
- One file covers entire life cycle of project
- Data syncs directly to project database



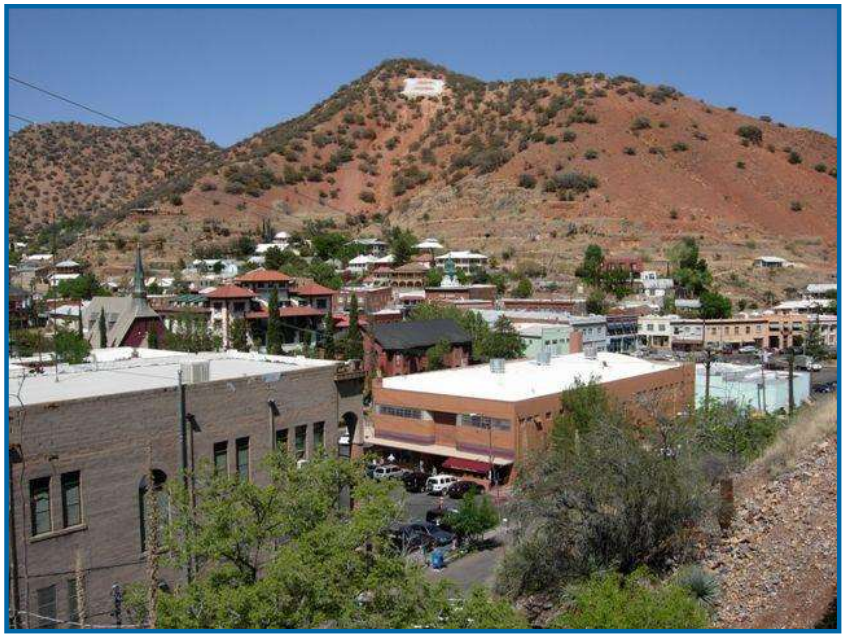

No SIM
9:44 AM
Not Charging
Property Inspection Form
Dashboard
Current PPIN:
11010
Current Address:
100 COCHISE ROW
Current Townsite:
Test Site
Inspection Overview
Structures
Parcel Landscape Area
Photo Log
Roofing and Gutters
Roofing:
metal
Chimney:
No
Yes
Gutter/ Leaders:
No
Yes
Garage
Present:
No
Yes
Attached:
No
Yes
Comment:
Storm Cellar
Present:
No
Yes
Comment:
Waste Storage
Disposal Storage Unit on Property?:
No
Yes
Comment:
Other Structures
Present:
No
Yes
Number Present:
2
Comment:
Exterior Paint & Wall Inspection
Tap to Enter Paint & Wall Inspection
Swimming Pool
Present:
No
Yes
Type:
Leakage?
No
Yes
Visible Damage?
No
Yes
Comment:
If YES to Any of the Questions PLEASE take a Photograph:
Add Photo
Freeport-McMoRan Copper & Gold
Auto Route to Hospital
iPad Property Inspection
Record 1 of 1 / 1

No SIM
11:07 AM
96%
Dashboard
Current PPIN:
10101
Current Address:
Current Townsite:
Test Site
Freeport-McMoRan Copper & Gold
Auto Route to Hospital
Pre-Planned
Soil Sample Collection Entry
Return to Sample Event Log
Previous Sample
Next Sample
Create New Ad-Hoc Sample
Use Area ID: L01 i.e. L01, G01, F01, W01....
Depth Interval: 0-4 inches
Sample Type: SSC
Sample Purpose: REG
Sample Status:
Tap to Update Status Log
Collection Method: Soil Composite
Sample Collected?: No Yes
Reason for Sample Not Collected:
Sample Matrix: SO
Sample Number: 1 i.e. 0001, 0002, 0003...
Collected By:
Collection Date & Time: 2014-06-06 10:52:35 AM
Sample ID: 10101-L01-SSC-C1
Sample Description: 10101-L01-SSC-C1-REG
Lithology:
Notes:
Bottle Information
Sample ID 10101-L01-SSC-C1
Test Type Metals (As, Cu, Mn, Pb)
Container Type Clear
Container Size 4
Container Unit oz
Preservative none
No of Containers 1
Comments From QAPP
iPad Exterior Samples - Import fro...
Record 2 of 4 / 4

GHD

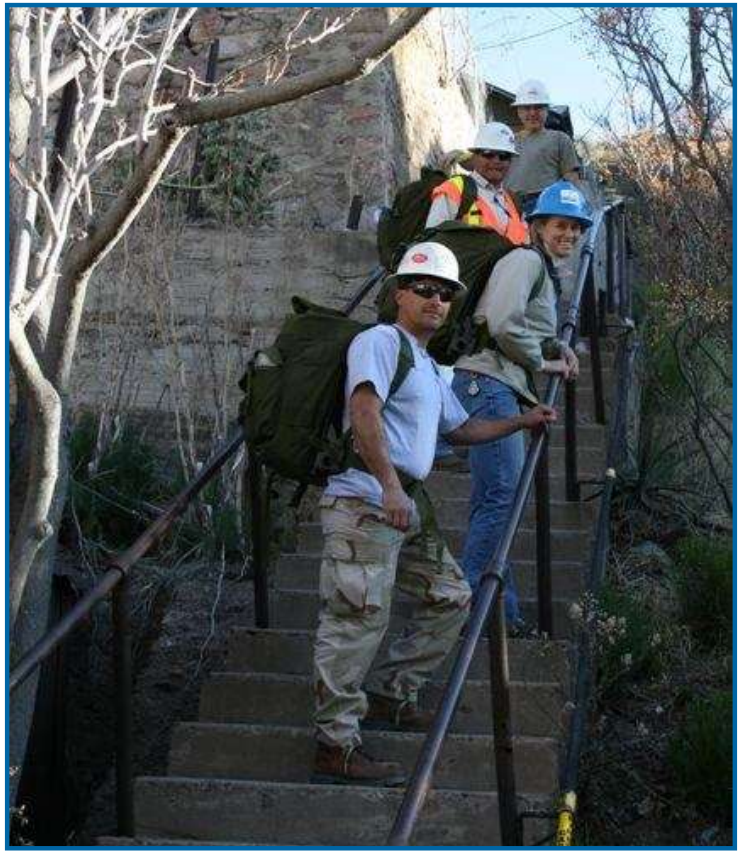
Lessons Learned

- Data In Drives Data Out
  - Consistency is Key
- Consistency is Relative
- Learn to say **NO**
  - Follow client directives



Benefits

- Elevated Profile with Client
  - GHD now a top tier Preferred Consultant
- Improved Risk Management
- Checks and Balances
- Cost Savings
- Increased Stakeholder Confidence



www.ghd.com